BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Concerning Energy Efficiency Rolling Portfolios, Policies, Programs, Evaluation, and Related Issues.	Rulemaking 13-11-005 (Filed November 14, 2013)

SOUTHERN CALIFORNIA GAS COMPANY (U 904 G)
ENERGY EFFICIENCY PROGRAMS 2021 ANNUAL REPORT

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SOUTHERN CALIFORNIA GAS COMPANY (U 904 G) ENERGY EFFICIENCY PROGRAMS 2021 ANNUAL REPORT

Southern California Gas Company (SoCalGas) submits its 2021 Annual Report for energy efficiency programs and accomplishments. The Annual Report is prepared in accordance with the Administrative Law Judge's Ruling Adopting Annual Reporting Requirements for Energy Efficiency and Addressing Related Reporting Issues (August 8, 2007),[1] and Decision (D.) 18-01-001 and 18-05-041. The Ruling requires "each utility to file its annual report on May 1 of the year following the end of a given program year."[2] Due to the significant volume of statewide claims that need to be processed, an email ruling was issued granting an extension to file the Energy Efficiency Annual Reports on June 1, 2022.[3]

Pursuant to Ordering Paragraph (OP) 8 of D.18-01-004, the dollar amounts of third-party contracts (provided in aggregate) are included in Appendix C. As directed by the Commission, particular contract dollar amounts will be provided confidentially to the Commission. Additional detail regarding third-party programs and statewide programs directed by the Commission is provided in Appendix C.[4] Pursuant to OP 11 of D.18-05-041, SoCalGas's progress towards metrics and indicators can be found on the Commission's Energy Efficiency

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1 Per the Ruling, issued in Rulemaking 06-04-010, filing and serving the Annual Report would apply to successor proceedings, which includes this docket. *See* Ruling, p. 4 (OP 2).

2 *Id.*

3 Email ruling granting Extension Request for Energy Efficiency Annual Report Submittal (March 25, 2022).

4 OP 17 of D.18-05-041 directed the investor-owned utilities (IOUs) to track the number and proportion of third parties that forego the option of using utility account representatives. Conclusion of Law 19 directed the IOUs to develop an agreed-upon annual report to facilitate ongoing statewide program funding-level management.

Reporting website at https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/energy-efficiency/energy-efficiency-reporting.

The Annual Report is attached and will also be uploaded and available on SoCalGas's website at https://www.socalgas.com/regulatory/efficiency.

Respectfully submitted on behalf of SoCalGas,

By: */s/ Holly A. Jones*
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ATTACHMENT

SOUTHERN CALIFORNIA GAS COMPANY

ENERGY EFFICIENCY PROGRAMS ANNUAL REPORT

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2021 ENERGY EFFICIENCY PROGRAM PORTFOLIO SUMMARY

Executive Summary

At Southern California Gas Company (SoCalGas), sustainability and environmental stewardship are fundamental elements of doing business. SoCalGas actively works to reduce the environmental impact of our operational practices and assists customers in reducing their impact by showing them how to use energy more efficiently. SoCalGas accomplishes this by offering a comprehensive suite of energy efficiency (EE) programs, strategies, and solutions to meet the dynamic energy needs of our customers. In 2021, SoCalGas continued the programmatic successes achieved in previous program cycles, and further refined its program delivery and implementation processes to actively seek EE opportunities and adapt to its diverse customer base. Additionally, SoCalGas continued the implementation of its 2018-2025 EE Business Plan approved in Decision (D.) 18-05-041 and continued its EE third-party solicitation process approved in D.18-01-004. SoCalGas demonstrated the success of its programs by saving customers more than 43.7 million net therms in 2021, which represents 121% of the energy efficiency goal established by the California Public Utilities Commission (Commission or CPUC) in D.17-09-025. SoCalGas cost-effectively administered EE savings to customers, providing ratepayers over $473 million in resource benefits. In addition, as part of SoCalGas's commitment to help California meet its goal of greenhouse gas (GHG) emission mitigation, its EE programs avoided over 254,000 tons (net) of carbon dioxide (CO_2).

SoCalGas continues to work closely with the Commission and other stakeholders to achieve California's strategic vision and goals to ensure: (1) maximum achievement of all cost-effective and feasible energy efficiency savings in the natural gas sector, (2) programs, strategies, and offerings that provide deep, long-term energy savings, and (3) energy efficiency programs that will generate quick and low-cost reductions in greenhouse gas emissions, as adopted in the California Long-Term Energy Efficiency Strategic Plan and Energy Action Plan (CLTEESP or Strategic Plan), and contribute to a doubling of energy efficiency by 2030, as adopted by Senate Bill (SB) 350. Approved through D.18-05-041, SoCalGas's 2021 EE portfolio activities also focused on achieving the following goals of its Energy Efficiency Business Plan to: (1) facilitate, sustain, and transform the long-term delivery and adoption of energy-efficient products and services, (2) cultivate, promote, and sustain lasting energy-efficient operations and practices; and (3) meet customers' energy efficiency adoption preferences through a range of simplified offerings that address customer energy efficiency needs.

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

Notable successes during program year 2021

Residential Programs

In 2021, the Residential Energy Efficiency programs offered a variety of sub-programs targeting existing single and multi-family markets and residential new construction. Although the lingering effects the COVID-19 pandemic made 2021 a challenging year, SoCalGas was successful in its program offerings and strived to meet its customer needs and achieve program goals. Highlights of program performance are listed below.

Residential Energy Efficiency Program
The Residential Energy Efficiency Program (REEP), which offers deemed, downstream gas measure rebates increased outreach and educational efforts for customers by increasing retail partner store visits from 78 to 177 visits in 2021. The effort increased visibility in the hard to reach (HTR) retail stores through instore marketing communication, transferred Energy Efficiency knowledge to the customer as well as making the application process easier for the customer with use of the SoCalGas mobile application.

The Whole Building Multifamily Program
In 2021, the Multifamily Whole Building Program worked with industry partners to create awareness and increase participation through contractors promoting the program which resulted in 18 completed projects and 132 pipeline projects. In total, the program served over 750 dwelling units, including 4 Hard to Reach/Disadvantaged Communities (HTR/DAC) properties.

The program team refined collaboration practices with SoCalREN and 3C REN. The program team also collaborated with SoCalGas Account Executives to continue to refer projects from Energy Savings Assistance Program Common Area Measures (CAM) to MF Whole Building as needed. Streamlined program review practices through Engineering Services ensure accurate and timely program review prior to Custom Measure Project Archive (CMPA) submittal.

Multi-Family Energy Efficiency Rebates
The SoCalGas Residential Advanced Clean Energy (ResACE) Program is a comprehensive advanced clean energy solution for single-family customers. The program leverages IOU electric, municipal electric, and local agency clean energy single-family opportunity offerings, in addition to natural gas clean energy, electric, and carbon emission reduction clean energy solutions.

In its first full year of implementation, the program served 12,502 customers, which all customers were offered a complimentary walkthrough audit with an accompanying energy efficiency consultation. The audits were used to identify comprehensive EE retrofit opportunities available in the home. Upon completion of the audit, customers are presented with energy efficiency, financing, and next step program participation opportunities for more comprehensive energy savings

Commercial Programs

California Foodservice Instant Rebates Program

This program launched on April 1st, 2021, offering statewide coverage to all CA IOU non-residential customers and employed increased incentives, enrollment bonuses, and new measure offerings. Despite the pandemic and significant supply chain disruption, the program launched on time and had a successful first year. The program has performed strategic outreach to encourage participation from sales channels and market actors that historically have not participated in rebate programs including design-build firms, manufacturers, and chain accounts. These additional sales channels represent nearly 30% of the total units sold through the Program in 2021. The Instant Rebates Program achieved nearly 90% of its natural gas and over 100% of its electric energy savings goal. The Program launched manufacturer representative bonus incentives to further influence the sale of high-efficiency equipment and HTR and DAC financing incentives to make high-efficiency equipment more accessible to customers in need.

Statewide Midstream Water Heating Program

The Statewide Midstream Water Heating Program works with midstream market actors to offer point-of-sale (POS) rebates to contractors serving California Investor Owned Utility (IOU) end-use customers. The implementer launched the Program in May 2021, and by year-end had enrolled nearly 40 distributors associated with over 70 different store locations statewide. Two Diversity Business Enterprise (DBE) organizations support the Program. The implementer's online midstream portal has also provided innovation through a streamlined implementation process. The portal was developed to minimize the time it takes distributors to enter transactions and receive their payments, minimize the risk that transactions will be rejected, and help distributors connect with their market. In 2021, the Program achieved more than half a million in gross therm savings and over a third of a million in net therm savings, and distributors received more than $1M in incentives.

More than a quarter of the total therm savings reported in 2021 were in Disadvantaged Communities (DAC). One-eighth of the installation addresses sampled during quality assurance (QA) process were identified to be within Hard-to-Reach (HTR) markets.

Industrial Sector

Strategic Energy Management (SEM)

This program launched the first-of-its-kind gas-only cohort in the country, with five participants focused on gas savings. The cohort launched in February 2021 and will report savings in 2022. Participants have built a pipeline of 171 savings projects and have implemented several key changes to energy management practices. The program completed the full two years of Cycle 1 with six participants, in a cohort jointly funded with SCE. This cycle achieved 116% of the savings goal. Participants implemented 24 projects and demonstrated energy management skills in delivering incremental savings from their first year in the program. The program also developed a pipeline of SEM-influenced custom capital projects. One of these projects completed implementation review and incentive delivery, generating more than 100,000 therms in savings. The program maintained customer satisfaction ratings above 85% based on regular

evaluations during workshops. This program was a positive show of support to industrial customers, especially during difficult times, such as with the COVID-19 pandemic.

Workforce Education & Training

Integrated Energy Efficiency Training (IEET)
IEET successfully facilitated its training classes utilizing an online platform and continued providing training resource to our customers. Delivering webinar trainings primarily utilizing the online platform allowed for the continuous and effective integration of traditional and new methods of providing training. IEET delivered its' HVAC/R portfolio industry classes utilizing the new online platform. The online delivery of classes was integrated with hands-on training sessions through video & online demonstrations. In 2021, the IEET team collaborated with the SoCal Regional Energy Networks (SoCalREN) & Energy Solutions Center (ESC) to deliver online workshops & skill enhancing green building virtual boot camp to HVAC contractors.

Home Energy Rating System
In 2021, the HERS Program worked in collaboration with our training sub-contractor, Wollin Group, to deliver online versions of the Program curriculum. Online instruction was implemented for the entire 2021 schedule. Cross-marketing of classes with venue partners and other SoCalGas programs increased awareness and enrollment during the year. Leveraging our relationships with HVAC Distributors in Southern California has also proved to be effective in increasing awareness for professional training opportunities offered by the HERS program. In 2021 Performance Plus was new curriculum developed and delivered as part of the HERS program. This full day class offers advanced residential HVAC system testing that conforms with ANSI/ASHRAE Standard 221-2020. DBE spending remained strong with a yearly average of 24.2%. This demonstrates the continued commitment to working with DBE vendors, whenever possible, in alignment with SoCalGas overall goals. The 2021 Q3 DBE spend achieved 28% which was the highest quarterly gain for the year. The highest monthly DBE spend of 41.5% occurred in September.

Career Connections
The Career Connections program was still challenged with campus closings in the first half of 2021 and continued with online training. The Energy Coalition maintained the PEAK@Home series for distance learning and required little to no materials for the students. Strategic Energy Innovations worked with teachers to provide customized learning solutions to the students for distance learning with student-facing materials. The Energy Coalition offered multiple sessions of online, interactive, and engaging zoom training, as well as self-paced online training. Educators participated in The Energy Coalition's highly effective "train the trainer" model as they learned about our PEAK program, which provides a no-cost, high quality, environmentally focused STEM curriculum to educators in schools. The total amount of schools included over 60% of Title 1 schools.

The SoCalGas Workforce Education & Training (WE&T) Program team collaborates to meet California's clean energy goals. These Collaborations include, but are not limited to, technical

education and training, curriculum materials development, and training trainers on building equipment, maintenance, and performance.

Program Descriptions and Strategies

Residential Energy Efficiency Programs

The Residential energy efficiency sector programs offer and promote both specific and comprehensive energy solutions for residential customers. By encouraging adoption of economically viable energy efficiency technologies, practices, and services, these programs employ strategies and tactics to overcome market barriers while delivering services that support the CPUC's Strategic Plan and the Energy Efficiency Business Plan.
SoCalGas's Residential Energy Efficiency Programs focus is to:

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

Residential Energy Efficiency Programs include a number of statewide subprogram elements that together comprise the core product and service offerings. These subprograms and efforts include Midstream Plug Load & Appliance, Residential Upstream Heating Ventilation and Air Conditioning (HVAC), and Residential New Construction.

Additional residential energy efficiency programs include the HOPPs (High Opportunity Projects or Programs) Central Water Heater Multifamily Building Solution Program and AB793 Residential Energy management Technology Solution Program.

SCG3701 Residential – Energy Advisor

This program is a continuation of the existing statewide Energy Advisor Program within the residential energy efficiency portfolio. SoCalGas's Energy Advisor Surveys were delivered to customers through the Universal Audit Tool (UAT). Through these tools, customers were afforded information regarding their energy use while empowering them to better manage consumption. SoCalGas exceeded program goals in 2021. The annual goal in 2021 was 15,000 completed online surveys. There were 23,154 online SoCalGas Energy Advisor Surveys completed in 2021. This represents a 108% increase over the 7,322 online surveys completed via the universal audit tool in 2020. In 2021, thousands of SoCalGas customers have adopted the online platform and are using it actively to manage their energy use. Over 350,000 customers (about half the population of Vermont) interacted with the Analyze Usage page within the Energy Advisor Program which represents a 216% increase over the 171,295 customers who engaged with the tool in 2020.

While the program did reach customers in the first three months, one of the hindrances faced includes Energy Advisor survey completion rate via the Universal Audit Tool (UAT). This occurred only in the first three months due to the distress in completing the survey due to its length. The replacement of the new audit tools in August proved to be faster, more simplified, and easier for customers to complete. For the last three years, the completion rate remained flat until the implementation of the new simplified online audit tool in 2020.

While the program was utilized by a substantial number of customers through the Universal Audit Tool (UAT) compared to previous years, the number of customers who started the survey and those that completed was in the 55% range. A factor contributing to this is the lack of clarity of some of the questions. SoCalGas is evaluating and working on improving some of these questions. The completion rate of 23,154 compared to customers who started the survey (43,876) is at about 55% completion rate. The program utilized the expertise of SoCalGas's Research Team to identify customers' pain points in relation to online survey completion. Improvement recommendations included streamlined and enhanced survey questions which can help facilitate program enrollment. SoCalGas is working with a third-party to implement the changes which can result to an increase completion rate of 55%.

The Energy Advisor Surveys continue to provide energy efficiency education to help customers understand and manage their energy use. Customers acquire valuable energy efficiency information and tools which can help improve their energy use. In 2021, 356,492 customers (about half the population of Vermont) have interacted with the Analyze Usage function within the Universal Audit Tool (UAT) compared with 171,295 customers engaged in 2020. This represents a 108% increase over last year. Additionally, the number of customers who completed the online audit increased from 7,332 in 2020 to 23,154 in 2021 which represents a 216% from 2020.

SCG3702 Residential – Residential Energy Efficiency Program

The Residential Energy Efficiency Program (REEP) is a deemed, downstream gas measure rebate program that offers incentives to single and multifamily customers, as well as to new construction residential projects, encouraging the installation of the most efficient gas appliances available. REEP incorporates the best downstream practices to its three subprograms: the Home Energy Efficiency Rebate Program (HEER), the Multifamily Energy Efficiency Rebate Program (MFEER) and new construction appliance rebates provided through the Energy Efficiency New Homes Program (EENH).

The Multifamily Energy Efficiency Rebate (MFEER) program offers cash rebates available for the installation of qualified energy efficiency products in apartment dwelling units and in the common areas of apartment complexes, condominiums, and mobile home parks. Residential multifamily complexes with two or more dwelling units may qualify. Dwelling units must be fully constructed and occupied. New construction does not qualify for this subprogram.

In 2021, MFEER faced challenges due to stay-at-home restrictions, working from home mandates for many employees and distance academic learning for youth necessitated by COVID-19. These challenges were very specific to the multifamily (MF) program since many tenants of

rental housing were hesitant or resistant to allow MF property owners and contractors to enter their dwelling units for conduct retrofit work due to health concerns. However, the program succeeded in achieving notable MF customer participation in 2021 which help confirm rental housing's interest in energy efficiency improvements at their properties. The success of the program in 2021 was based on several factors: SoCalGas.com providing dedicated web pages on MF programs for customer education and participation. SoCalGas offering Single Points of Contact to help guide customers step-by-step to participate and benefit from SoCalGas programs. SoCalGas maintaining and forging new relationships with external partners like manufacturers and contractors to act as "ambassadors" for the rebate and incentive program which facilitated MF customer's participation in MFEER and to help promote increased year-end rebates. Overall, MFEER made a significant contribution to REEP in 2021.

The Home Energy Efficiency Rebate (HEER) program was successful in 2021. The HEER program achieved its success due to the continued and improved efforts, with participating retail partners through retail personnel education of the SoCalGas mobile application. SoCalGas was also able to maintain visibility in hard to reach (HTR) retail stores through instore marketing communication. In-store visits more than doubled in 2021 from 78 to 177. The MyAccount link to the rebate application went live in Q3. This platform allows customers to easily apply for a rebate without having to manually enter their account information.

The SoCalGas HEER program experienced several barriers due to the COVID-19 pandemic. As a result of the problematic economy, decreased stimulus checks, port delays resulting in stock issues and customers returning to the office, the amount of rebate applications received decreased overall. Midway through the year, the SoCalGas HEER program had to modify the Storage Water Heater rebate specifications due to customer confusion. Rather than requiring UEF and draw, the measure was changed to specify that the unit had to be ENERGY STAR, up to 55 gallons and the rebate amount was decreased. The Natural Gas Gravity Wall Furnace was removed due to the measure going statewide. The Solar Thermal Water Heating measure was implemented in Q4.

The EENH Program provides energy efficiency rebates to builders of eligible new construction projects that are built to exceed compliance of the State of California Title 24 Energy Efficiency Standards and equipped with energy efficient qualifying natural gas equipment. Participation is open to production and custom single-family homes as well as low-rise and high-rise multi-family projects built in the SoCalGas service territory and served by SoCalGas. The EENH program did not experience any barriers or major problems in 2021. In 2021 the EENH program added two new measure offerings to its list of qualifying equipment. At the beginning of Q3 2021 rebates on energy efficient residential natural gas ovens and a Tankless Combination Space and Water Heaters were made available to EENH program participants.

In 2021, SoCalGas launched MF Vending Machine Clothes Washer Rebate to significant customer interest and participation. Plus, SoCalGas provided a special initiative for MF customers to receive increased rebate amounts for year-end equipment retrofits of central domestic hot water systems.

The SoCalGas HEER, MFEER, and EENH programs met overall program objectives for 2021. The MF programs saw an increase in customer program participation and energy efficiency retrofit improvements as a result of the use of new tools that facilitated remote, virtual and safe communications to customers' satisfaction.

SCG3705 Residential – Multifamily Whole Building Program

In 2021, SoCalGas succeed in providing MF customers energy efficiency offerings on a continuum from individual rebate(s) to comprehensive whole building (property wide) retrofits. SoCalGas was able present MF customers with capital improvement solutions through its MF Whole Building program to meet a MF property's needs and cross-promote other value-added services like On Bill Financing to help MF customers layer or bundling offerings to achieve the maximum energy savings at a property site.

The Multifamily Whole Building Program seeks to deliver comprehensive energy efficiency upgrades tailored to the needs of existing multifamily dwellings and their owners, tenants and management companies. The program promotes long-term energy benefits through comprehensive retrofit measures including building shell upgrades, high-efficiency HVAC units, central heating and cooling systems, central domestic hot water heating and other deep energy reduction opportunities. These energy measures are identified through an investment grade assessment. A performance-based approach is intended to assist property owners and managers with making informed decisions, identify measures for energy savings, and to maximize energy reductions for each property owner, manager, and tenant, as applicable.

The Multifamily Program Whole Building worked with industry partners to create program awareness and increase participation through contractors promoting the program. Additionally, the Program Team refined collaboration practices with SoCalREN and 3C REN. The program also had streamlined review through SoCalGas Engineering Services to ensure accurate and timely project review prior to parallel review submittal on the Custom Measure Project Archive (CMPA).

For 2021, the challenges to the Multifamily program continue to be:

1. Lack of awareness regarding comprehensive energy efficiency and other available programs.
2. "Split-incentive": the property owner invests capital, but the savings primarily benefit the tenants.
3. Access to investment capital and insufficient return on investment (ROI). Up-front out-of-pocket costs and extended payback periods pose a significant participation barrier for property owners and managers.
4. Complications while coordinating installation and interaction through multiple contractors and visits necessary.
5. Time burden for tenants and owners along with safety and access to dwelling units. This continued through 2021, as COVID-19 made interactions among program participants difficult, due to restrictions to in-person gatherings/visits and safety concerns.

6. Other challenges specific to 2021, due to COVID-19, standard outreach practices and events were canceled, thus caused a change in the way the program communicated with the Multifamily segment.

There were no program changes made in 2021. For 2021, the Program was able to increase the pipeline of projects and potential energy savings, however the Program did not meet its goal.

SCG3706 Residential – Residential HVAC

The Residential Upstream High-Efficiency Furnace Rebate Program provides incentives to distributors for stocking and selling high-efficiency furnaces. By offering equipment incentives at the upstream, the Program maximizes the opportunities to influence the repair/replace or purchase decision and transform the furnace market through the supply chain. Manufacturers and distributors influence furnace purchases and stocking and may use the incentives at their discretion to promote high-efficiency product sales.

The Residential HVAC Upstream program experienced continued success carried over from PY 2020 through early 2021 due to early engagement of manufacturers and distributors in the program along with increased central furnace rebates. Upstream participation from a major gravity wall furnace manufacturer and existing distributors participating in the program also contributed to the success of the program in 2021.

The Residential HVAC Upstream program transitioned to the SW Residential Upstream HVAC program in Q2 of 2021 with SDG&E as the lead utility for the program.

The SoCalGas Res HVAC program objectives were met in 2021.

SCG3707 Residential – Residential New Construction

The California Advanced Homes Program (CAHP) is a comprehensive residential new construction concept with a cross-cutting focus on sustainable design and construction, green building practices, energy efficiency, and emerging technologies. Through a combination of education, design assistance and financial support, the CAHP works with building and related industries to exceed compliance with the California Code of Regulations, Title 24, Part 6, Building Energy Efficiency Standards for Residential and Nonresidential Buildings (Standards), to prepare builders for changes to the Standards and to create future pathways beyond compliance and traditional energy savings objectives. Participation is open to single-family as well as low-rise and high-rise multi-family residential new construction built in an Investor-Owned Utility (IOU) service area.

The Program was closed at the end of 2019 in anticipation for the launch of the statewide residential new construction program to be implemented by a third party under PG&E Lead. CAHP activities in 2021 were focused on closing projects, processing and paying incentives for projects submitted in prior years.

SCG3764 Residential – LivingWise

LivingWise is a residential energy education and savings program delivered through schools. Southern California Gas Company (SoCalGas) collaborated with seven different California municipalities, utilities or water agencies (Golden State Water, California American Water Co. [Los Angeles and Ventura], City of Torrance, City of Santa Barbara, Mission Springs Water District, and Moreno Valley Utilities) to implement this program.

The Program is a 6th grade Education model built on a proprietary Measure-Based Education (MBE) methodology. This results in students who readily engage in the teacher-led education within their school and are empowered by the hands-on, lab-based take-home measure installations within their homes. This personalized education program delivers increased energy literacy, optimum installation rates, and a deeper understanding of energy efficiency concepts, including Integrated Demand Side Management (IDSM). Teachers are incentivized to implement the program in its entirety and return Student Surveys for EM&V reporting. The program optimizes energy savings and behavior change while supporting California state standards-based core classroom curriculum while enabling teachers to control the timing and pace of the program delivery.

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

The 2021, LivingWise Program, along with the rest of the planet, faced unprecedented challenges posed by the Coronavirus. These challenges did not allow the program to reach its annual goal of serving 84,531 sixth grade students. The total participants reached in 2021 was 28,283 participants, a 64.1% increase in participants from 2020. This uptick in participation indicates a slight return to normalcy and a desire from the community to see the program continued, which bodes very well for the program's future.

AM Conservation implemented a number of immediate solutions to allow program delivery despite the pandemic. In 2020, the program was implemented direct to student shipment options, residential bulk shipment options for teachers, bolstered online resources and increased our digital resource library specific to the LivingWise Program. Each of these offerings were still in place in 2021 and will continue to be.

2021 posed similar challenges as 2020, with unexpected and unprecedented difficulties, the LivingWise program was not immune to these impacts. Outreach activities in 2021 were considerably more difficult than had been historically seen. Email communications were often ineffective due to teachers' inundated inboxes. Phone calls were less effective due to schools often being closed or the targeted teacher being out sick or working remotely. Towards the end of 2021, some of these observations began to subside until the emergence of the Delta and Omicron variants which allowed these difficulties to reemerge. With the hopeful end of the pandemic on the horizon in hand with lessons learned, 2022 will be an opportunity for success.

Material updates were completed for 2021-2022 School Year Program; this includes SoCalGas branding with the recently updated LivingWise branding within every distributed kit. Each Kit incorporates the new SoCalGas logo along with two (2) low flow showerheads, two (2) 0.5 GPM Bathroom Faucet Aerators, one (1) 1.5 GPM Kitchen Faucet Aerator, FilterTone® Alarm, and outdoor Rain/Drip Gauge. Completed required educational content modifications to the LivingWise program's student education materials while maintaining incorporation of Integrated Demand Side Management (IDSM) concepts throughout the Student Guide. AM Conservation, recently updated from AM Conservation Group, continues to contract with Southern California Cities and Municipalities – Water Partners – to serve as co-sponsors with SoCalGas. Simi Valley was the newest municipality added to the portfolio in 2021.

SCG3810 Residential – Smart Home Optimization Program

The Smart Home Optimization Program (SHOP) is a comprehensive energy savings program which installs energy management technologies in single-family residential homes which meet the eligibility requirements of the program. Program measures which include a WiFi thermostat, a cloud optimization protocol (controlling the thermostat), water heater controller, and a thermostatic control valve. Program measures were selected based on their ability to deliver high energy savings for their cost and persistent savings over time. To encourage persistency of savings, Program Installation Contractors (PIC) will educate homeowners on the benefits of the measures and how they work. Energy savings will be derived monthly by an SCG-contracted third party using the CalTRACK normalized metered energy consumption (NMEC) methodology.

Some program successes in 2021 include the following:

- **COVID-19 Response –** In 2021, the pandemic continued to impact the program due to health concerns, state/local mandated lockdowns and social distancing. However, in late January the Program Implementation Contractor (PIC) was able to resume in-person installations. The program's PIC did exceptional at navigating the changing COVID-19 safety guidelines throughout the year
- **Program Website and Tools –** The customer facing website continued to be streamlined to improve the ease of applying to the program, while also providing the program staff adequate information to confirm customer eligibility.

Some implementation barriers or problems encountered in 2021 include the following:

- **Supply Chain Issues–** Due to COVID-19, the SHOP Program encountered several supply chain issues in 2021 including increasing costs and extremely long lead times on installation materials. This increased the cost of implementing the program and at times left PICs without materials to install.
- **Customer Enrollment –** The primary outreach strategy for the SHOP program was email campaigns to a targeted segment of residential customers that demonstrate higher than average Therm usage. Early in the year, the marketing campaigns had a slow uptake, and the ideal customers were not responding as expected. As a result, project enrollment was slow to start. In May, the Program received a new master customer list, which tripled the number of customers the program could market to and when coupled with an

improved email campaign message, there was a massive uptake in enrollments beginning in August.

A change made to the program in 2021 was the Comparison Group Adjustment methodology, which was introduced by Recurve to counteract the effect COVID has on savings calculations.

SCG3823 Residential – HVAC QI/QM

The Residential High-Efficiency Furnace Quality Installation Program provides incentives to Participating SoCalGas Customers for the installation of high efficiency gas furnaces when installed according to the ENERGY STAR HVAC Quality Installation guidelines by a Participating Contractor. By offering incentives according to the quality of installation, a greater potential of the efficiency of a particular gas furnace can be recognized.

High efficiency heating equipment is expensive. The initial investment is costly and becomes more so when higher efficiency equipment is purchased. The rebates are not high enough to offset the cost of the qualifying equipment. Installation practices require extensive training and are difficult to achieve and maintain. The low incentive does not appear to be great enough to support the costs of training, commissioning, and participation in general. Inconsistencies on offerings by neighboring utilities make it difficult to partner for a more effective implementation.

Title 24 enforcement and Program permitting requirements – Because permitting rates remain low, it is believed that the majority of HVAC installations are performed without a permit. These installations are typically less expensive which can lead to customers choosing a less expensive installation over a quality installation.

Contract agreement issues, lack of an electric utility partner, contractor enrollment, potential transition to statewide HVAC program and COVID 19 pandemic were barriers to launching the Quality Installation program in 2021. Data research for Quality Maintenance workpaper continued through 2021 but the COVID 19 pandemic continued to create a delay with data collection and any such launch of a local residential Quality Maintenance program in 2021.

The SoCalGas Residential QI/QM program objectives were not met in 2021.

SCG3824 Residential – Behavioral Program

Behavioral based energy efficiency programs focus on energy savings as a result of changes in customer usage. Behavioral programs hereinafter are mandated by the CPUC to follow three basic components: they (1) must employ comparative energy usage and disclosure, (2) must be measured ex post, and (3) must utilize an experimental design (Random Control Trial, RCT design). Randomly selected customers referred hereinafter as “treatment groups” are defaulted to receive natural gas usage feedback in the form of paper mail, email, and/or alerts utilizing Advanced Meter Usage Data. Advanced Meters remotely read and transmit customers’ hourly

natural gas usage information back to SoCalGas. Advanced Meter Usage Data collected together with other demographic factors are utilized in the development of personalized natural gas usage feedback communication.

The Behavioral Program successfully reached 1,939,045 million residential customers from November 2020 through October 2021. 4 program implementers; Oracle, Aclara, Bidgely and Javelin delivered various types of Home Energy Reports to a total of 15 residential treatment cohorts.

There were no significant changes made in 2021. Oracle, Aclara, Bidgely and Javelin continued to deliver various Home Energy Reports to treatment customers. Oracle and Aclara mailed paper reports during the winter months and deployed emails year-round. Bidgely provided email alerts monthly for 12 months while Javelin's efforts were limited to year-round emails only. In prior years, Javelin mailed paper reports during the winter months.

Compared to PY2020, the PY2021 savings reflect an 8% decrease in per-customer savings on average. While the COVID-19 global pandemic resulted in a brief pause in treatment in 2020, the overall savings from the program was largely unaffected in PY2020. The winter months of PY2021, however, had some of the highest rates of COVID-19 cases and may have led to lower-than-expected savings. Additionally, the continued lack of paper reports and potential comparison group issues may have caused lower savings in the Javelin cohorts.

Overall, the Residential Behavioral Program continues to be successful in contributing significant natural gas savings to the SoCalGas energy efficiency portfolio.

SCG3829 Residential – Marketplace

SoCalGas's Marketplace website features incentives for energy-efficient home appliances and consumer electronics. The products featured at the site include gas water heaters, thermostats, connected home applications, gas dryers and washers. The site is mobile-optimized, so it can be viewed on a variety of devices including smart phones, tablets, and desktops. Customers who visit the site can: Create their own personalized accounts; View product energy scores; View a calculation of the energy savings that can be achieved by using more energy efficient products; View a calculation of the total cost of product ownership; Save any of their searches for future use; Sign-up to receive price change alerts; And find rebate information.

SoCalGas's Marketplace experienced a slight decrease in the number of customer visits and unique visitors to the website in 2021 but showed a large increase in the number of page views, page views per visit and more importantly, the time spent on the website compared to 2020. Added Marketplace features such as e-commerce, instant rebates and financing on select appliances contributed to the large visits and pageviews in Q4 2021. SoCalGas Marketplace was marketed to over 3 million customers in 2021.

Purchase and financing options on qualifying ovens, clothes washers, clothes dryers and dishwashers. Inclusion of instant rebates on qualifying ovens and clothes dryers. SoCalGas Marketplace objectives were met in 2021.

SCG3830 Residential – Retail Partnering

In support of the Home Energy Efficiency Rebate and the PLA POS program, retail store service visits are needed to provide a comprehensive overview of SoCalGas residential energy efficiency programs to retailer personnel. Retail store visits include placement of promotional and marketing materials as well as store personnel training and program reinforcement throughout SoCalGas service territory. This service is not limited to appliance retailers, but extends to manufacturers, distributors, contractors, and residential associations that can benefit from energy efficiency education and rebates.

Integrated SoCalGas rebate information/support on new product launch tours for pool heater manufacturers. Mobile display units brought products/sales team directly to retailers providing an outdoor option to many Covid-restricted locations. Worked with a large number of manufacturers who are now including SoCalGas rebate information in their marketing materials. Increased program visibility with retailers and increased quarterly store visits and sales associate training to ensure current rebate materials remained visible and correctly placed. Over 4,000 retail store visits were made in 2021.

The Covid pandemic proved to be a significant barrier to participation in industry shows/events in 2021. Historically show/event attendance has proven to be more effective and will reach more customers, distributors and manufacturers with in-person contact vs virtual seminars. Participation at in-person events were limited and dropped significantly in 2021.

Customer complaints increased in Q4, possibly due to technology making it easier for customers to respond to denied rebate applications (by replying to emails from SCG Rebate Processing?)

In providing rebate training to sales associates and store personnel it is observed that:

- Store personnel prefer a paper Qualifying Model list to refer to (which is provided at each service), but frequently misplace these lists
- Limited interaction with floor sales staff when placing materials due to the rotation of store personnel with scheduling, and the information provided not getting transferred to the next staff member that may come on duty
- Temporary staff who often cover the Department due to required breaks, shift change, coverage due to illness, vacations, etc. These temporary sales staff support personnel are not always knowledgeable about the products and/or rebates attached to qualifying models
- At stores where qualifying units are not tagged, many sales associates leave it up to the customer to figure out if their unit qualifies for a rebate. Most sales associates don't want to give out wrong information, so they will advise customers that the unit 'may qualify' for a rebate and to check the SCG website where they can also apply online
- Some customers are just unhappy when the product they purchase does not qualify for rebate and will complain to the store and/or try to submit a rebate application anyway

The SoCalGas retail partnering objectives were met in 2021.

SCG3831 Residential – EE Kits

To help customers with continued water energy savings and conservation, SoCalGas is offering no-cost EE kits to eligible SoCalGas customers. The EE kit contains a low flow showerhead, kitchen aerator and bathroom faucet aerators. The EE kit is available to customers through the SoCalGas website, outreach events and partnership activities throughout the year.

The SoCalGas EE kit program was able to distribute over 80,000 EE kits in 2021 throughout our service territory with a large focus on hard to reach and disadvantaged communities in the San Bernardino and Riverside counties in Q4 2021.

There were no program implementation barriers or problems encountered and no changes were made to the program in 2021. Additionally, the SoCalGas EE kit program met its objectives in 2021.

SCG3832 Residential – Pasadena Home Upgrade

The Pasadena Home Upgrade Program is a direct install program that offers a variety of energy efficiency services to residential customer residing or owning homes in the City of Pasadena and served by Southern California Gas Company (SoCalGas) and Pasadena Water and Power (PWP). Services include in-home energy and water efficiency survey and weatherization services. A participant in the program can have energy and water savings measures installed at no cost. Measure cost and installation are funded by SoCalGas and PWP. No changes to the program were made in 2021.

The Pasadena Home Upgrade program treated 96 homes with a variety of energy efficiency measures. However, program participation was less than expected due to COVID-19. This is a POU-led program with SoCalGas as a joint partner. Annual program objectives were not met due to challenges attributed to COVID-19.

SCG3833 Residential – Burbank Home Upgrade

The Burbank Home Improvement Program offers a whole house approach to efficiency. All of Burbank's 20,000 single family and 23,000 multifamily homes are eligible to participate and will receives various levels of electric, water, and natural gas efficiency measures at no cost. This program is made possible by the unique partnership between Burbank Water & Power (BWP) and Southern California Gas Company (SoCalGas). SoCalGas and BWP jointly implement, within shared SoCalGas and City territory, the installation of eligible and feasible water and energy saving measures BWP implements, manages, and administers contracting of installer and is responsible for administering day-to-day coordinating with the other Parties.

Though the program served a little over a hundred homes, no gas measures were incented due to the current design of bundled measures for program participation.

No changes were made to the program in 2021, however, a redesign of the program will occur in 2022. This is a POU-led program with SoCalGas as a joint partner. Annual program objectives were not met.

SCG3836 Residential – LADWP HVAC

LADWP's HVAC Optimization Program provides no-cost installation of smart thermostats for Los Angeles residents and businesses which is supported by LADWP's Technical Support Services Provider. SoCalGas agrees to co-fund the installation of qualifying smart thermostats for joint eligible customers. The SoCalGas rebate dollars for the smart thermostat helped stretch the HVAC Optimization budget to help more customers participate in the program and enjoy the savings benefit from the smart thermostat unit.

Due to the COVID-19 pandemic in 2021, the LADWP HVAC program was suspended for a majority of 2021. Therefore, there were no program changes made and the LADWP HVAC program objectives were not met in 2021.

SCG 3861 Residential – Community Language Efficiency Outreach – Direct Install (CLEO - DI)

The 2021 Community Language Efficiency Outreach – Direct Install (CLEO-DI) Program, hereinafter referred to as "the program," is a 100% in-language, resource, local, highly-targeted, and residential energy efficiency marketing, outreach, education, and direct install program, that targets hard-to-reach, Vietnamese, Indian, Chinese, Korean, Hispanic and African American (VICK-HA) speaking residential customers of Southern California Gas Company (SoCalGas).

The program markets SoCalGas's EE programs with energy efficiency education and training, through faith-based organizations, schools and community events. The program's marketing efforts garner interest and lead to participation in CLEO-Direct Install (CLEO-DI). The CLEO-DI targets SoCalGas customers of Los Angeles, San Bernardino, Riverside and Orange Counties, with higher densities of CLEO demographic customers.

The CLEO emphasized on working with faith-based organizations and community-based organizations especially with Covid-19 threat and lack of access to customers. The program met its goals.

The program successfully integrated different measures such as the tankless water heater. The program also reached out to different water agencies to include water saving measures, which took on an added importance in light of the drought situation.

The significant impact of COVID-19 was clearly felt by the program on its marketing and outreach efforts. The absence of larger community booths affected the generation of leads for the direct installation of measures. This impacted the direct install of measures.

The CLEO school program received participation interests from more schools than the program goals and budget allowed. The CLEO schools program had to put a few schools on the waitlist for the future offerings.

The CLEO-DI program added additional measures including the Tankless water heater program. The CLEO-DI program had the most significant impact on middle to low-income customers who clearly demonstrated a stronger interest in energy efficiency program offerings. This also extended to increased participation in the incentives and services offered by the SoCalGas.

In 2021, the CLEO-DI clearly met its program goals. CLEO-DI provided 3 in-language seminars, 51 booths and 21 schools. In addition, the CLEO-DI, also met its resource goals by installing 850 bathroom aerators, 561 low flow showerheads, 459 tub-spout diverters, 503 Nest thermostats and 1355 hot-water pipe sleeves, 127 efficient water heaters and 72 Tankless water heaters.

SCG3883 Residential – Residential ACE Program

SoCalGas Residential Advanced Clean Energy (Res ACE) is a comprehensive advanced clean energy solution for single family customers. The advanced clean energy path begins with the delivery of cost-effective therm-rich direct install measures that transitions to an advanced clean energy opportunity for the single family customer that can be financed by outside sources. Res ACE leverages IOU electric, municipal electric, and local agency clean energy single family opportunities offerings, in addition to natural gas clean energy solutions.

Res ACE delivered cost-effective energy savings and advanced clean energy technologies in 2021. The proposed delivery model of leading with cost-effective direct install measures to awake the customer's interest in Tier 2 advanced clean energy technologies, such as tankless waters, proved to be successful. There were thousands of complimentary walkthrough energy assessments and sales consultations performed that resulted in hundreds of Tier 2 advanced clean energy technologies installed.

The COVID-19 pandemic created challenges for the implementer to hire program outreach staff and technicians. The implementer utilized outreach and technicians from other programs to reach program goals.

The Tier 2 advanced clean energy incentives were adjusted in 2021.

The program objectives met include cost-effective energy savings, disadvantaged community program participation, hard-to-reach program participants served, and Tier 2 advanced clean energy measures installed.

SCG3884 Residential – Comprehensive Manufactured Home Program

The Southern California Gas Company Comprehensive Manufactured Homes Program (CMHP) is one of two manufactured home programs offered by SoCalGas. CMHP is a comprehensive

advanced clean energy solution for manufactured home customers that reside in Ventura, Los Angeles, Orange, Riverside, San Bernardino, and Imperial Counties. The program path begins with the delivery of cost-effective therm-rich direct install measures that transitions to an advanced clean energy opportunity for the manufactured homes customers that can be financed by outside sources. The Comprehensive Manufactured Homes Program delivers natural gas energy efficiency, clean energy, and carbon emission solutions.

CMHP participants are screened for eligibility in the SoCalGas Energy Savings Assistance Program (ESA). Qualified ESA customers receive both SoCalGas CMHP direct install measures and ESA weatherization measures resulting in a more comprehensive experience for the customer.

CMHP delivered cost-effective energy savings and advanced clean energy technologies in 2021. The proposed delivery model of leading with cost-effective direct install measures to awake the customer's interest in tier 2 advanced clean energy technologies, such as tankless waters, proved to be successful. There were thousands of complimentary walkthrough energy assessments and sales consultations performed that resulted in hundreds of tier 2 advanced clean energy technologies installed.

Many manufactured housing communities are home to senior citizens who are considered to have an elevated risk of health complications due to COVID-19. As a result, the COVID-19 pandemic shut down access to these communities for much of 2021 even with the implementer strictly abiding COVID-19 safety protocols. The program implementer overcame the COVID-19 implementation barrier through strategically marketing to non-senior citizen manufactured housing communities to achieve program goals.

SCG 3885 Residential – Residential Manufactured Home Program

The SoCalGas Residential Manufactured Homes program will use a tiered, direct install, approach to provide residents and manufactured home park owners with convenient and cost-effective measures with low upfront costs, while giving them the option to install deeper energy savings measures which would require a customer co-pay. The program will use a targeted approach to identify and enroll parks and customers while informing all parties of the benefits of participation. The program includes a physical assessment of manufactured homes, and community shared facilities, within a manufactured homes park to identify energy efficiency opportunities.

In this program, the most success was in the outlining areas of Ventura and Santa Barbara counties. In these areas, the program was able to install more tier 1 measures as this market had not been as saturated by other contractors. Additionally, the Park Managers were very eager to save energy and water.

The program utilized a canvassing approach to where our canvasser goes out and meets with Park Managers to get their permission to walk the park. The canvasser can explain the program to the customers and sign them up for an appointment on the spot to best fit the customers'

schedule. This was found to be the most successful way to approach master metered parks since there was no customer data to perform outreach.

The program faced challenges in the northern areas due to previous customer participation in income qualified programs as well as supply chain cost issues due to Covid-19.

The tier 2 incentives were adjusted in 2021.

The program objectives additionally served the hard-to-reach and disadvantaged program participants as well as tier 2 energy measures installed.

SCG3888 Residential – MF Space and Water Heating Controls

The objective of Multifamily Space and Water Heating Controls (MF SAWH) Program is to surmount the dichotomy of split incentives and maximize energy efficiency measure installation in targeted MF apartment buildings that have the dual-function (Raydronics) central water heaters (water heating and hydronic space heating) through a Direct Install EE program. These systems were installed in the 1970s-1980s in Southern California. The patented, Dual Set Point Controller, tested and evaluated by SoCalGas ET program, for the Raydronics system lowers the storage tank temperature during summer season and during nights when space heating is not required and turns off the summer pump realizing significant energy savings (11%-25%).

The program proposes to leverage this effort with the installation of variable frequency drive (VFD) on the Raydronics system pump which results in additional savings. The program also includes installation of a limited number of flow restrictors in the common areas of MF buildings. With these measures, the program participants can reduce combined natural gas and electricity energy consumption in these types of apartment buildings as much as 15%-20%. The program addresses both space heating and water heating with ancillary savings in electricity use. This is a limited measure program

Rebated measures installed in 2021 are as follows:

- 20 Dual Set Point Controllers in two multifamily sites.
- 65 under counter flow restrictors in the two sites.
- No VFD controllers were installed.

No changes to the program were made in 2021. The program did not meet its therm goals in 2021 due to the barriers and challenges, such as supply chain issues due to the COVID-19 pandemic.

SCG3889 Residential – Multifamily Energy Alliance (MEA)

In 2021, SoCalGas introduced a new, innovative third-party program (3PP) especially aimed at its multifamily customers called the Multifamily Energy Alliance (MEA). This 3PP will offer customers a one-stop shop (“OSS”) approach to driving energy efficiency upgrades in multifamily properties, existing construction, 5 units or greater. MEA will target properties

from large, corporate-owned portfolios to small, individually owned and managed. It will focus on successfully moving as many projects as possible to the maximum level of energy savings through a combination of energy efficiency equipment installations including no-cost direct installations inside the residential dwelling units and/or in the common areas of the properties and by providing rebates on qualifying equipment. MEA will also promote other SoCalGas programs like On Bill Financing etc. to help achieve even deeper interventions. The MEA program has a notable distinction that it will work to secure its energy savings goals from enrollments, half of which are Hard to Reach (HTR) and/or Disadvantage Community (DAC) properties.

The 2021 program year for MEA did not start until mid-year, when SoCalGas established procedures, configured systems, developed logistics to be able to bring the program to the multifamily market at the start of 2022.

Program infrastructure and logistics were developed along filing the required MEA program Implementation Plan with CPUC in 2021.

MEA did not go out to market in 2021 due to a mid-year start date. However, all program planning and development was handled in 2021 for a market launch in 2022.

Commercial Energy Efficiency Programs

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

The CEE Programs consist of six core statewide subprogram elements, including: Commercial Energy Advisor, Commercial Calculated Incentives, Commercial Deemed Incentives, Continuous Energy Improvement, and Nonresidential HVAC. Additional programs in the Commercial sector include the Commercial Direct-Install program and the HOPPs (High Opportunity Projects or Programs) Commercial Restaurant Retrofit program. IOU offerings also include local program elements such as third-party programs, Mid-Stream Water Heating Rebates, Commercial Direct Install, and local government partnerships that have close ties to Business Improvement Districts.

SCG3708 Commercial – Commercial Energy Advisor (CEA) Program

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

The CEA program was able to perform 267 audits in 2021. These audits were achieved through various 3rd party contracted Energy Consultants. While there were lingering challenges due to COVID-19 restrictions, consultants became innovative and resourceful by implementing new processes that could help deliver audits regardless of restrictions in place; some Level 1 audits within the food service sector were conducted by phone or electronically. Such new practices helped customers feel at ease and reassured that energy efficiency solutions remain available regardless of the challenges presented by COVID-19.

SoCalGas will continue to deliver audit reports and hand-hold customers with the rebate application process. SCG strives to be a source for gas related Energy Efficiency solutions by providing Financing options and bundled DSM offerings.

In 2022, SoCalGas looks forward to onboarding a 3rd party implementer with the expertise and knowledge to conduct informative audits in the Commercial sector.

SCG3710 Commercial – Calculated Incentives

The SoCalGas Commercial Calculated Incentives program offers financial incentives for customized new construction, retrofit and retro-commissioning energy efficiency projects. Incentives are paid on the energy savings for both existing baseline and above baseline energy performance, which include state-mandated codes, federal-mandated codes, industry accepted performance standards, or other baseline energy performance standards.

SoCalGas participated and led the small project subgroup for the Custom Project Stakeholders Engagement process. The purpose of this subgroup is to address barriers for commercial customers with small or very small projects to participate in the custom process.

The Commercial Calculated Incentive program continues to experience a decline. COVID-19 pandemic impacted customers experienced delayed project start dates. Limited operational data. Effects on project savings from the pandemic could be positive or negative depending on the customer's facility and operations. Return to normal/pre-pandemic operations timing remained uncertain in 2021.

The Commercial Calculated Incentive program was discontinued in 2021 and set in place a transition timeline to third party implementers. Projects may be eligible for the newly launched program.

SoCalGas is actively managing the pipeline, by maintaining existing reserved projects and reserve new projects until completion of transition.

SCG3711 Commercial – Deemed Incentives

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

In 2021, marketing outreach for both foodservice equipment vendors as well as non-foodservice equipment in conjunction with SoCalGas's TradePro directory continues to contribute to program participation. Using itemized EE measures was intended to overcome barriers that prevent many business customers from adopting EE alternatives.

The barriers were addressed by itemizing common EE measures and rebates, stimulating the supply of high efficiency equipment and products (through higher demand), and offering rebates that help offset higher start-up and down payment expenses for energy efficient retrofits.

Program terms and conditions changed from the purchase date of products within 18 months of the installed date to purchase and install products within the same calendar year.

Commercial fryers and combination ovens were the focus for the deemed energy savings in 2021 for the commercial sector.

SCG3809 Commercial – AB793-CEMTL Program

The commercial lodging sector represents a significant contributor in terms of participation in SoCalGas's energy programs. Although the large lodging customers sector participates actively in energy programs, small and medium-sized lodging customers do not usually employ an integrated whole building Energy Management Technology (EMT) approach when implementing energy efficiency in their establishments. A whole-building integration approach focuses on the overall building energy performance and involves installing a mix of energy-efficiency measures that interact together to reduce total energy consumption. Lodging facility operators may identify areas of cost reduction in their daily activities; however, there are missed opportunities to incorporate best practices in equipment operations and maintenance, staff behavior modifications, and energy efficiency upgrades applicable to the whole building. Lodging owners and operators typically only upgrade single-room equipment on an as-needed basis and fail to observe the potential for integrated energy savings.

The CEMTL Program targets owners or lessors of existing, stand-alone, commercial lodging buildings—incentivizing customers to implement EMTs and whole-building measures. Through the CEMTL Program, customers will install EMT measures to capture behavior-based savings. In addition, customers will be able to proactively identify equipment problems prior to failure and apply integrated energy savings strategies through whole building approaches. By

implementing this whole building approach, the SoCalGas CEMTL Program expects to achieve an average of a 10% reduction in baseline consumption in projects that are implemented.

In 2020, five projects were installed after being incentivized through CEMTL. In 2021, the Program was focused on Measurement and Verification of these projects. Hourly interval gas data, and partial occupancy data, was collected for these sites for the purpose of proving normalized energy savings from each project. The M&V analysis is being performed over a one-year period based on the data that was collected to confirm persistency of savings.

Since 2020, the COVID-19 pandemic led to a steep decline in the hotel industry's occupancy rates and revenue. Consequently, the Program faced challenges both in recruiting new enrollments and in retaining customers who had already been approved. For 2021, the primary challenge was collecting occupancy data from the enrolled hotels. Per the contract terms, new customers could not be recruited after December 2020 despite the hotel industry's gradual recovery throughout 2021. For 2021, the primary challenge was collecting occupancy data from the enrolled hotels.

No significant program changes were made in 2021. 2021 was focused on energy savings M&V as opposed to marketing and outreach.

Willdan had the objective of collecting all the necessary data in 2021 to complete M&V early in 2022. Willdan was able to collect all the energy data necessary for measuring savings; however, collecting occupancy data from each hotel proved more challenging. Nonetheless, due to options available in the M&V Plan, all participating sites will have sufficient data to complete M&V analysis. However, since M&V analysis has not been completed, exact percentage of the savings goals that were achieved is not available. It is clear, however, that the program fell significantly short of its savings goals. This will be reported in 2022.

SCG3813 Commercial – Savings By Design

Savings by Design (SBD) promotes integrated design by providing owner incentives, design team incentives, and design assistance to participants who design spaces that perform at least 10% better than Title 24. SBD encourages energy-efficient building design and construction practices. SBD offers in collaboration with SCE and LADWP in their respective shared territories. Within the joint SoCalGas/SCE territory, SCE acts as the lead utility, and SoCalGas buys back therms associated with dual electric and gas projects.

Despite restrictions imposed by the ongoing COVID-19 pandemic, eight projects were completed, and incentives were paid to customers. Additionally, the program maintains and progresses projects in its pipeline through construction completion, installation verification, and customer incentive payment phases.

No program implementation barriers or problems encountered in 2021.

No changes to the program were made in 2021.

The program was ramped down and closed to new enrollments at the end of 2020.

SCG3834 Commercial – Commercial LADWP Direct Install Program

The SoCalGas Commercial Los Angeles Department of Water and Power (LADWP) Direct Install Program establishes a relationship between third-party contractor(s) and the LADWP to enhance the program's offerings of natural gas energy efficiency equipment. This program is available to small, medium, and large commercial sector customers. The Commercial LADWP Direct Install Program offers no-cost direct install measures.

The program was inactive as of the end of the first quarter of 2020 due to COVID-19.

Due to the COVID-19 outbreak, the Commercial LADWP Direct Install Program activity was paused at the end of the first quarter of 2020. The program was inactive for the remainder of 2020 and entirely in 2021.

SCG3835 Commercial – Commercial Pasadena Direct Install Program

The SoCalGas Commercial Pasadena Direct Install Program establishes a relationship between third-party contractors and the City of Pasadena Water & Power Company to enhance the program's offerings of natural gas energy efficiency equipment. This program is available to small and medium commercial sector customers. The Commercial Pasadena Direct Install Program offers no-cost direct install measures.

This program was inactive throughout all of 2021.

SCG3917 Commercial – Statewide California Foodservice Instant Rebates Program

The California Foodservice Instant Rebates Program (Program) enables non-residential SoCalGas®, Pacific Gas and Electric Company (PG&E®), Southern California Edison Company (SCE®) and San Diego Gas & Electric Company (SDG&E®) (together, the CA IOUs) end-use customers to receive point-of-sale rebates when they purchase eligible, high-efficiency Commercial Foodservice (CFS) equipment from Program participants. The Program implementer provides turnkey program implementation services to SoCalGas.

The Program launched on April 1st, 2021 and offers statewide coverage to all CA IOU non-residential customers, increased incentives, enrollment bonuses, and many new measure offerings. This new Program also includes an expanded suite of marketing initiatives including direct outreach to Hard-to-Reach (HTR) and Disadvantaged Community (DAC) customers, ad placements in industry publications, sponsorships of CFS related events, and post-purchase communications sent to all customers who have received incentives through the Program.

Despite the pandemic and significant supply chain disruption, the Program launched on time and had a successful first year. This was due to targeted and consistent program outreach throughout

the supply chain to help Program participants source high-efficiency equipment to sell to their customers. Additionally, the Program has performed strategic outreach to encourage participation from sales channels and market actors that historically have not participated in rebate programs including design-build firms, manufacturers, and chain accounts. These additional sales channels represent nearly 30% of the total units sold through the Program in 2021.

The Instant Rebates Program faced many challenges in 2021 driven by the effects of the pandemic. The CFS industry was drastically affected by pandemic-related shutdowns of dine-in and outdoor dining and the supply chain disruptions that followed. The Program implementer proactively initiated comprehensive outreach to global, national, and regional market actors during this disruption. This outreach allowed the Program implementer to gather data from the CFS supply chain to understand the barriers that dealer participants are experiencing and provide guidance on how to best source equipment for their customers. Throughout the year, product availability varied, and lead times increased. Factories were still operational but equipment and parts orders from overseas were delayed. Some of the Program's most popular equipment faced lead times of greater than one year.

The Instant Rebates Program achieved nearly 90% of its natural gas and over 100% of its electric energy savings goal. The Program launched manufacturer representative bonus incentives to further influence the sale of high-efficiency equipment and HTR and DAC financing incentives to make high-efficiency equipment more accessible to customers in need. The Program implementer also enrolled 19 dealers that had never participated in a midstream rebate program before. These new dealers helped expand the program's geographical coverage and customer reach across the state and across sales channels. 130 dealer locations are currently enrolled in the Program.

SCG3918 Commercial – Statewide Midstream Water Heating Program

The Statewide Midstream Water Heating Program works with midstream market actors to offer point-of-sale (POS) rebates to contractors serving California Investor-Owned Utility (IOU) end-use customers. All customers with a non-residential rate structure served by one of the four IOUs, Southern California Gas Company (SoCalGas), Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E), are eligible for POS rebates and the Program is offered consistently across all IOU territories. The Program offers deemed, POS rebates to contractors serving customers and incentives to midstream market actors for facilitating and driving sales of high-efficiency natural gas and electric water heating equipment. Additionally, the Program advocates for increased awareness and sales of high-efficiency equipment through a variety of outreach, training, advertising, and engagement activities.

The implementer launched the Program in May 2021, and by year-end they enrolled nearly 40 distributors associated with over 70 different store locations statewide. Two Diversity Business Enterprise (DBE) organizations support the Program, one provides marketing services and the other provides quality assurance. Marketing efforts included the development of 4 collateral materials as well as ongoing enhancements of the program website. An innovative marketing sell

sheet was developed to allow individual manufacturers to list high-efficiency water heaters with high incentives. The implementer also launched a campaign to help drive contractor traffic towards participating distributor locations.

The implementer's online midstream portal provides innovation through a streamlined implementation process. The portal was developed to minimize the time it takes distributors to enter transactions and receive their payments, minimize the risk that transactions will be rejected, and help distributors connect with their market. The tool achieves these benefits through a design focused on three design principles: responsive process flow, smart data validation, and data integration.

When the Program launched in May 2021, California's economy was halted due to COVID, which caused uncertainty in the market. Distributors faced supply chain issues, labor workforce shortages impacted trucking and shipping, as well as in-store support at the distributor level to execute sales.

No program changes were made in 2021.

In 2021, the Program achieved more than half a million in gross therms savings and over a third of a million in net therms savings, and distributors received more than $1M in incentives.

More than a quarter of the total therms savings reported in 2021 were in Disadvantaged Communities (DAC).

One-eighth of the installation addresses sampled during the quality assurance (QA) process were in Hard-to-Reach (HTR) markets.

SCG3882 Commercial – Small and Medium Commercial EE Program

The Small and Medium Commercial EE Program will target SoCalGas's small and medium commercial business ("SMB") customer facilities in San Bernardino and Riverside counties (therm usage up to 50,000 therms per year) with an emphasis on customer segments, such as restaurants, lodging, dry cleaning, retail, office, and others.

Program Successes include:

- **Staffing**: In Q1 of 2021, Franklin Energy Services (FES) successfully staffed and trained two full-time Energy Advisors. During the year, FES also reassigned an internal project specialist from a different program to support the Small Business Savings Program (SBSP) team. And lastly, FES successfully renewed its contract with FCI, its subcontracted Diversity Business Enterprise (DBE).

- **Implementation**: In early 2021, FES worked to complete its final start-up tasks and launched the program by the end of Q1. The launch included the following: FES developed its 2.0 website, developed internal project trackers and dashboards, prepped program fleet vehicles, procured DI equipment for assessments, developed and enrolled contractor network with participation terms and conditions, completed EECP data mapping, refined On-Bill Financing procedures (OBF), and created a new Terms and Conditions for the program landing page.

- **Marketing**: During the year, FES created the following documents as per its marketing plan: rebate application, assessment report, transactional emails, customer feedback surveys, and lead generation emails. FES also launched multiple marketing campaigns that focused on kit distribution and no-cost energy assessments. In terms of customer engagement, FES conducted in-field canvassing using SCG customer data file, and participated in the 2021 SoCal Hotel Conference in Anaheim, CA.

There were challenges to overcome in 2021. First, the launch of EECP was later than expected. Post-launch, FES and SCG realized there were errors within EECP and during the data migration, which required SCG to make corrections. This caused delays in invoicing and slowed program implementation. Naturally, the delayed invoicing affected FES' ability to payout contractors for work completed in 2021. Other challenges included finding limited success with offering no-cost assessments and no-cost kits, and low conversion of measures that require customer copay.

Towards the end of Q3 2021, FES adjusted its approach and marketing, and pivoted from offering no-cost assessments and DI, to focus on installation of deemed measures.

FES built a network of participating contractors who canvassed and brought projects to the program. FES Energy Advisors also shifted tasks from performing audits to functioning as account managers.

Program Objectives Met:

- In 2021, FES completed the following milestones:
    - launched the program,
    - enrolled 9 participating contractors,
    - installed both no-cost measures and measures with high customer capital needed,
    - developed a marketing plan and produced marketing material,
    - executed a contract amendment,
    - completed energy assessments and delivered energy-saving kits
    - worked with SCG to learn and complete invoicing

SCG3887 Commercial – Commercial Building Energy Solutions and Technologies Program (CBEST)

Commercial Building Energy Solutions and Technologies (CBEST) delivers energy savings to SoCalGas business customers outside of San Bernardino and Riverside counties that use under 50,000 therms. The program can help pinpoint energy-efficiency improvements that could reduce overhead operating costs, improve customer and employee comfort, reduce maintenance time and costs, as well as help save money and energy.

Given program delays there were few program successes to report on in terms of quantifiable project enrollments and achieved savings. By end of 2021 the program was positioned for a full launch with marketing collateral, customer and contractor applications submitted to

SoCalGas. The outreach team was structured with a senior outreach manager overseeing all programs, a trade ally manager to support trade allies, and an account manager.

The Program, originally intended to launch in February, was delayed until the partial launch of the direct install offering in September. The direct install offering faced challenges due to an inexperienced direct install contractor that was not able to successfully meet program objectives. An alternative contractor with experience in SoCalGas territory was identified. Contracting activities are underway for the direct install offering to resume in 2022.

There were no significant program changes made in 2021. Budgets and goals unused in 2021 will be made available to the program upon exhausting the 2022 budget and goals.

Due to program launch delays the program was not positioned to achieve key performance indicators associated with project enrollments, customer engagement, or savings.

SCG3891 Commercial – Service RCx+

Service RCx+ provides population-level NMEC-based energy savings through the direct implementation of RCx and Optimization services at large and very large commercial facilities throughout the SoCalGas service territory, prioritizing the specific segments of commercial office, health care, and laboratories. The program targets participation using interval data analytics. Individual project savings will be measured and verified following the initial treatment by comparing actual energy consumption over a reporting period with a normalized metered energy consumption baseline model specific to the facility. Energy data and analytics used during the performance maintenance period will promote and ensure persistence, detect unexpected changes, and (if necessary) coordinate with facility personnel to provide additional training and corrective action.

The program is active in the California Energy Data and Reporting System (CEDARS). The program is in the ramp-up stage and the program implementer is working with SoCalGas to meet cybersecurity and data privacy requirements which will support the program launch. Working through the cybersecurity assessment and gaining access to customer information data has taken longer than expected.

The program's Implementation Plan, M&V Plan, Marketing Plan, and Program Operations Manual are complete. The program has prepared a list of customers based upon the targeted market for customer recruitment.

SCG3892 Commercial – Large Commercial Program

The Large Commercial Program (LCP) is an energy efficiency program that offers financial incentives for the implementation and verification of natural gas-saving technologies. The program supports a comprehensive list of upgrades and provides technical assistance and financing options. The LCP serves large and very large commercial customers with annual gas

consumption of more than 50,000 therms in the Southern California Gas Company (SoCalGas) service territory.

Services performed under the LCP are offered at no-cost to the customer and include project identification with energy-saving forecasts including energy efficiency and return-on-investment calculations, energy engineering and technical assistance, design and procurement advice, measurement and verification (M&V) with normalized metered energy consumption (NMEC) techniques, assistance with obtaining financing and when applicable, building and energy audits.

In 2021, Willdan completed the Implementation Plan for the program. Cybersecurity requests, such as the Attestation Review and the Customer Privacy Third Party Review Questionnaire have been initiated and are currently awaiting review and approval from SoCalGas. The Energy Efficiency Collaboration Platform (EECP) has been configured for program invoicing and access has been granted to Willdan.

Due to delays with Cybersecurity, there have been no enrollments in the program to date. This has prevented the transfer of any customer data from SoCalGas to Willdan. Willdan is unable to determine customer eligibility inhibiting the development of a program and project pipeline and forecast.

Industrial Energy Efficiency Programs

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

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

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

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

SCG3713 Industrial – Industrial Energy Advisor (IEA) Program

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

The IEA program was able to perform 1 audit in 2021, with performance hindered by the challenges faced during the COVID-19 pandemic.

The IEA program was able to adapt through utilization of 3rd party contracted Energy Consultants in 2020 to resume on site customer audits. However, finding consultants effective at auditing industrial customers with specialization in gas applications is an on-going challenge visible in 2021.

SoCalGas will continue to deliver audit reports and hand-hold customers with the rebate application process. SoCalGas strives to be a source for gas related Energy Efficiency solutions by providing financing options and bundled DSM offerings.

Furthermore, through the 3rd party program solicitation process, SoCalGas looks forward to onboarding a 3rd party implementer with the expertise and knowledge to conduct informative audits within the Industrial sector.

SCG3714 Industrial – Strategic Energy Management

The Industrial Strategic Energy Management (SEM) Program engages cohorts of large industrial customers in two-year cycles to drive persistent energy savings across an entire facility. Specifically, the program includes a full spectrum of services: Cohort workshops; On-site "Energy Treasure Hunts" to identify, track, and prioritize energy saving opportunities; On-site and remote support for: goal development, employee engagement, energy data collection, project savings, and persistence strategies; and Implementation of an "Energy Management System Assessment" to assess progress on each participant's management approach and to plan future improvements.

Energy savings opportunities in the SEM program include low-cost behavioral, retro-commissioning, and operational (BRO) measures as well as capital projects. The program measures savings at the meter level, using a normalized regression model that accounts for factors such as production volume and weather, which affect energy consumption. Customers receive incentives for BRO measures, for capital projects, and for achieving key milestones. This program complies with the California Industrial SEM Design Guide and the California Industrial SEM Measurement and Verification (M&V) Guide (updated in 2020), which have been accepted by the California Public Utilities Commission.

These first two cohorts in the program were jointly funded with SCE. In Q4 2020, the program began recruitment for a gas-only cohort to be launched in 2021.

Despite the interruptions of COVID-19, the program met key objectives: Generate substantial BRO savings from a variety of gas-using equipment; Show persistence of savings from year one to year two; Improve evaluation procedures and policies; Improve administrative processes; and Improve relationships between customers and their SoCalGas account executives.

SCG3715 Industrial – Calculated Incentives

The SoCalGas Industrial Calculated Incentive program offers incentives for customized energy efficient projects. This program covers new construction, retrofit and retro-commissioning energy efficiency projects. Incentives are paid on the energy savings above and beyond baseline energy performance, which include state-mandated codes, federal-mandated codes, industry accepted performance standards, or the other baseline energy performance standards.

The Industrial Calculated Incentive program continued to use a process put into place in 2019 which led to the program meeting the requirements upload for selected projects.

Program barriers included projects with possible higher savings, although the number of applications has decreased. COVID-19 pandemic related obstacles included access restrictions for on-site visits, customer staff furloughs, budget restraints due to shifting priorities, equipment delays from manufacturers, and contractor scheduling delays.

The Industrial Calculated Incentive program did not make any changes in 2021 but set in place a transition timeline to third party implementers. Projects may be eligible for the newly launched program.

SoCalGas successfully engaged customers, maintained, and progressed projects from the pipeline through to the fully installed phase. SoCalGas is actively managing the pipeline, by maintaining existing reserved projects and reserve new projects..

SCG3716 Industrial – Deemed Incentives

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

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

In 2021, marketing outreach in conjunction with SoCalGas's TradePro directory continues to contribute to program participation.

The barriers were addressed by itemizing common EE measures and rebates, stimulating the supply of high efficiency equipment and products (through higher demand), and offering rebates that help offset higher start-up and down payment expenses for energy efficient retrofits.

Program terms and conditions changed from the purchase date of products within 18 months of the installed date to purchase and install products within the same calendar year.

Process Heating Boilers were the focus for the deemed energy savings in 2021 for the industrial sector.

SCG3757 Industrial – Small Industrial Facility Upgrades

The Small Industrial Facility Upgrades Program (SIFU) is implemented by CLEAResult Consulting Inc. SIFU assists Southern California Gas Company (SoCalGas) industrial customers across all sizes and industrial segments in becoming more energy efficient and productive through the implementation of efficient technologies and processes. It is designed to help industrial customers reduce their energy consumption by providing an incentive to invest in energy efficiency measures. SIFU offers proven measures currently used in SoCalGas's Energy Efficiency Calculated Incentive Program (EECIP) and Energy Efficiency Rebates for Business (EERB) program. These measures include calculated custom process improvements as well as deemed measures and include measures and technologies with low market penetration.

The Program is managed by CLEAResult, whose expertise in California energy markets, extensive experience in finding and delivering energy savings, and thorough understanding of SoCalGas's programs helps ensure that customers maximize the benefits of efficiency initiatives and program participation.

Over the last year marketing activities included customer introductions led by SoCalGas Account Executives, and follow-ups with end-use customers. SIFU focused last year on the existing pipeline and completing encumbered projects with customer and Account Executive meetings to keep up with installation timelines and progress. Field visits included pre- and post-inspection activities as well as customer education on program benefits, rule changes and potential opportunities.

CLEAResult continues to expend great efforts to develop and maintain customer engagement compensating for challenges in identifying and providing acceptable, available documentation for custom project influence, baseline determinations and free ridership screening. Increased scrutiny and screening of project and service requests are applied in order to reduce resource expense on activities that do not yield energy savings. This includes focused program resources in regions that have high potential for energy savings.

SIFU follows any changes made to process, eligible measures, documentation requirements, etc. per SoCalGas program and policy guidance. SIFU successfully engaged customers, maintained, and progressed projects from the pipeline through to the fully installed phase and paid customer incentives based on the completed projects. Additionally, CLEAResult is actively managing SIFU pipeline, both by maintaining existing reserved projects and by continuing to develop and reserve new projects, positioning SIFU for success in 2022.

Agricultural Energy Efficiency Programs

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

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

SCG3717 Agricultural – Agricultural Energy Advisor (AEA) Program

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

The AEA program did not meet its yearly audit goals; no audits were conducted within the agricultural sector in 2021.

The seasonal application of natural gas equipment for the agricultural sector continues to be a barrier on rate of return, and timing. Sector driven flexibility from governing bodies would help engage the agricultural community by providing leniency on custom project implementation and extending their respective ISP (industry standard practice) implementation. Customers are reluctant to act and commit to energy efficiency if not persuaded by any other enforcement than simply being energy efficient. Although air quality agencies provide a beneficial support to equipment upgrade, the proportionality between combustion efficiency and energy efficiency prevent the choosing of an energy efficient option. Along with these existing barriers, securing audits was challenging due to COVID-19 safety policies to which internal resources had to adhere. Furthermore, finding 3rd party contracted Energy Consultants with specialization in gas

applications in agriculture has proven to be difficult, resulting in the halt of all agricultural audits entirely.

SoCalGas expects to continue to deliver audit reports to customers in the Agricultural sector and will deliver comprehensive Energy Efficiency solutions by providing: Financing options and bundled DSM offerings. The AEA program will strive to find new ways to perform audits for agricultural customers in expectation of continuing customer contact restriction policies.

Furthermore, through the 3rd party program solicitation process, SoCalGas looks forward to onboarding a 3rd party implementer with the expertise and knowledge to conduct informative audits to the Agricultural sector.

The AEA program did not meet its audit goal, with performance hindered by the challenges faced during the COVID-19 pandemic.

SCG3719 Agricultural – Calculated Incentives

The SoCalGas Agricultural Calculated Incentive program offers incentives through a customized approach for energy efficiency. This program covers new construction, retrofit and retro-commissioning energy efficiency projects. Incentives are paid on the energy savings above and beyond baseline energy performance, which include state-mandated codes, federal-mandated codes, industry accepted performance standards, or the other baseline energy performance standards.

The Agricultural Calculated Incentive program continues to use a process refined in 2019 to meet the required deadlines for selected projects. The Agricultural Calculated Incentive program continued to participate in the statewide subgroups to streamline the custom process.

COVID-19 pandemic continued to present challenges, including access to customer sites and obstacles to traditional M&V.

The Agricultural Calculated Incentive was discontinued in 2021 with a transition timeline to third party implementers set in place and had no new enrollments. Projects may be eligible in the newly launched program.

SoCalGas is actively managing the pipeline, by maintaining existing reserved projects until completion.

SCG3720 Agricultural – Deemed Incentives

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

The program kept focus on replacing existing energy efficient natural gas equipment and encouraging customers to move up to higher-than-standard efficiency models when purchasing additional equipment. The deemed rebate offering provided utility representatives, equipment vendors, and customers an easy-to-use mechanism to cost-effectively subsidize and encourage adoption of mass market efficiency measures through fixed incentive amounts per unit or measure.

The program also coordinated its activities with SoCalGas account executives and Commercial and Industrial service technicians to present energy efficiency program details to their customers.

The barriers were addressed by itemizing common EE measures and rebates, stimulating the supply of high efficiency equipment and products (through higher demand), and offering rebates that help offset higher start-up and down payment expenses for energy efficient retrofits.

Program terms and conditions changed from the purchase date of products within 18 months of the installed date to purchase and install products within the same calendar year.

Greenhouse heat curtains were the focus for the deemed energy savings in 2021 for the agricultural sector.

SCG3890 Agricultural – Agriculture Energy Efficiency (AgEE)

The Agriculture Energy Efficiency Program (AgEE) seeks to accelerate the uptake of energy efficient cost-effective solutions through delivering technical assistance to drive customer awareness of both energy efficiency (EE) and non-EE measure benefits. AgEE is open to all agricultural SoCalGas customers classified under NAICS code 11 and emphasizes adoption of measures with long useful life and high TRCs. AgEE also seeks to identify and pursue grants to further drive customer adoption of new and underutilized technologies.

Program successes include the creation of marketing materials to support outreach and the program launch. A full selection of materials was created, and many were translated to languages such as Hmong, Simplified Chinese, and Spanish. Materials included:

- Program Application
- Sector Fact Sheets
- Conditional Incentive Reservation (CIR) form for Custom and NMEC

The AgEE team attended the 3C-REN: Greenhouse Optimization Conference in December and promoted AgEE. They also conducted AgEE training and initiated engagement with Account Executives (AEs) in August 2021 to enable effective coordination between the AgEE and AE team. This is a critical step towards reaching customers.

The customer-facing website was developed and approved through collaboration between SoCalGas and ICF Marketing and IT. The website is a one-stop-shop that provides a host of information for different audiences. It is in alignment with how today's consumers seek out information and provides a streamlined process for the customer to understand program eligibility, the enrollment process, and to search for installation contractors.

A barrier to program implementation was the identification of a cybersecurity risk within the proposed AgEE website portal. This risk delayed the program launch in 2021 but was mitigated by the development of a cybersecurity remediation plan, enabling AgEE to launch in 2022.

Due to the delayed launch of AgEE, no program changes were identified or enacted in 2021. Budgets and goals unused in 2021 will be made available to the program if the 2022 budget is exhausted and 2022 goals are met.

Due to delays in program launch, the program was not positioned to achieve key performance indicators associated with project enrollments, customer engagement, or savings. However, the required pre-launch deliverables were completed in 2021 as shown below.

Deliverable	**Month Delivered**
Program Kick off	April
Stakeholder Presentation	April
Marketing Plan	May
Implementation Plan	June
QA Plan	June
M&V	June
Program Manual	June

Statewide Emerging Technologies Program

The Statewide Emerging Technologies Program (ETP) supports the California Investor-Owned Utility (IOU) Energy Efficiency (EE) programs and helps California meet its energy reduction goals by identifying and screening potential technologies, assessing them to validate performance and customer acceptance, performing in-situ demonstrations, gathering actionable information for use by EE programs and publishing the results of these activities. Well performing technology is recommended for inclusion in IOU customer education and rebate programs for wide use by utility customers. The information below summarizes key activities across all three subprograms: Technology Development Support, Technology Assessment Support and Technology Implementation Support. Additionally, in late 2021 SoCalGas launched the SW Gas Emerging Technologies Program which will replace the three subprograms in 2022, however, SoCalGas will be carrying over and finishing a few projects from prior cycles.

ETP worked closely with EE program managers and engineering to initiate two projects to support technology introduction in 2021 (Technology Introduction Support):

- Co-funding a CEC research and demonstration project, integrating a solar thermal subsystem and a natural gas engine-driven heat pump subsystem to a traditional hot water boiler system in a multi-family apartment complex. Adding booster fans to enhance the engine cooling is expected to increase system performance efficiency.
- Heat Recovery Ventilation for Single Family Residences, Phase 2 – a paper study in collaboration with SW ETP peers, as well as Customer Programs engineering that built on a prior CEC project assessing energy efficiency of HRV. Driven by interest in improving indoor air quality during the pandemic with fewer detriments to home energy

efficiency. The analysis used California compliance specific software, different from the Phase 1 spreadsheet model.
- Radiant Tube Inserts in an industrial steel heat treatment plant – cofounding a research and demonstration project with SoCalGas RD&D. Funding commitment was accomplished by ETP, although the completion and findings will occur in 2022.

ETP worked closely with EE program managers and engineering to execute three on-going and mostly significant field demonstration programs to support technology introduction that started in the 2019 (Technology Introduction Support):

- Combi System Technology Introduction – in collaboration with builders, manufacturers, contractors, and customers, ETP demonstrated high efficiency combination heating and water heating in single family residence new construction. This technology became a measure in 2020 with support from ETP projects completed in 2019/2020. This demonstration project intends to provide information to stakeholders about the products, the distribution chain, design and installation needs and any barriers to adoption.
- Advanced Fryer Technology Introduction – in collaboration with program managers, demonstrate the benefits of new, highly efficient, advanced fryer technologies for commercial food service. Program managers identified a need to reassess and possibly adjust existing measure incentives. This demonstration will be performed at several restaurants and seeks to identify and measure all customer benefits that would drive adoption, e.g., increased oil savings, improved food quality, kitchen environment improvements). The project progress project was significantly delayed due to the port shipping delays in 2021, however, majority of work was accomplished in 2021, with very positive results expected in Q2, 2022.
- Commercial Bakery Rack Oven Replacement – in collaboration with SW program managers, demonstrate the benefits of new, highly efficient, rack oven technologies for commercial food service which operates 24/7. The COVID-19 pandemic has caused delays. However, the results are expected in Q2, 2022.

Completed assessments in coordination with EE programs managers and engineering and engaged in other technology assessment support activities (Technology Assessment Support):

- Heat Recovery Ventilation for Single Family Residences, Phase 2 – a paper study in collaboration with Customer Programs engineering that built on a prior CEC project assessing energy efficiency of HRV. Collaborated with SW stakeholders, including SCE, SDG&E and PG&E. Driven by interest in improving indoor air quality during the pandemic with fewer detriments to home energy efficiency. The analysis used California compliance specific software, different from the Phase 1 spreadsheet model. Results are provided to Engineering for workpaper use.
- Collaborated with IOU and non-IOU partners in scanning a wide variety of sources for assessment candidates. Identified, screened, and prioritized technologies or strategies for TA.
- Engaged the various EE programs and other program stakeholders.
- Coordinated intake ideas and assessments and shared technology information through the virtual ET Summit 2020 and coordinated webinars with the Emerging Technologies

Coordinating Council (ETCC) on various topics for the commercial building, industrial, agricultural, and residential sectors.

Completed the following activities to aid private industry and technology actors in developing or improving technologies and communicating utility program needs (Technology Development Support):

- Collaborated with the industry directly and through partners such as the Gas Technology Institute Emerging Technologies Program, Consortium for Energy Efficiency Emerging Technologies Consortium, American Council for an Energy Efficient Economy (ACEEE), American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE), Association of Energy Engineers, among others.
- Collaborated with innovators from universities and other research institutions.
- Supported early-stage companies through SW ETP membership in the California Institute of Technology (Caltech) Rocket Fund program.
- Continued ongoing relationships with technology developers and manufacturers interested in developing or refining products of value to energy efficiency programs and customers.

Provided support and input for Customer Programs Engineering for potential high value savings measure workpaper development and identification of need for further ETP assessments or demonstrations:

- Combi System Using High Efficiency Tankless Water Heater for Single Family Residences
- Steam Tables for Commercial Food Services

ETP completed the following outreach activities:

- In collaboration with ETCC leadership and partners, the Statewide ETP program successfully conducted a virtual ET Summit in 2021, which attracted over 300 registrants and over 200 attendees over two days.
- Collaborated with ETCC on its website management and capabilities, as the site is critical for communicating ET project results and outreach events, primarily for the benefit of program implementers, administrators, and technology actors.

Statewide Gas Emerging Technologies (GET) Program

- SoCalGas, the lead Program Administrator for the Statewide Gas Emerging Technologies program (GET), completed its third-party solicitation for a SW Implementer. The SW GET program began start-up and program activities in September and October 2021 and officially launched in November 2021. The initial program activities include updating the technology priority maps (TPMs), developing the 2022 annual research plan, and conducting initial scanning and screening to select technologies for further study and evaluation.

Due to pandemic restrictions, ETP encountered delays in ongoing projects and the start of new projects as well as noticed reductions in new technology identification and intake likely due to cancellation of or transition to online trade shows and associated technology showcases. Despite these impacts, ETP was able to initiate and complete high value projects, communicating project results, supporting technology transfer, and supporting technology development by working closely with program managers, technology actors and industry groups.

SoCalGas ETP met its IP objectives through the activities and results highlighted above.

Statewide Codes & Standards Program

Codes and Standards

In accordance with D.18-05-041, D.22-03-010, and D.22-04-034, SoCalGas's role in Statewide Codes & Standards Advocacy Programs is limited to the transfer of funds to the statewide codes and standards lead for program implementation.[5] The Compliance Improvement, Reach Codes, and Planning Coordination subprograms were only active from January 1, 2021 to April 20, 2021..

Compliance Improvement Subprogram

This C&S sub-program supports increased compliance with adopted Title 24, Part 6, Title 20, and federal EE regulations. The C&S Compliance Improvement (CI) subprogram targets market actors throughout the entire compliance chain, providing education, outreach, and technical support and resources to improve compliance with Title 24, Part 6, and Title 20. CI subprogram activities complement other C&S subprogram work by maximizing persistent savings from C&S advocacy activities.

In 2021, SoCalGas did not have any program activities.

Reach Codes Subprogram

The C&S Reach Codes (RC) subprogram provides technical support to local governments that wish to adopt local energy ordinances (reach codes) that exceed statewide Title 24, Part 6 minimum requirements for new buildings, additions, or alterations. Reach codes support for local governments includes:

- Conducting research and analysis to establish performance levels and cost effectiveness relative to fundamental Title 24, Part 6 requirements by climate zone
- Drafting model ordinance templates to encourage regional consistency
- Assistance completing and expediting the application process required for approval by the Energy Commission
- Supporting ordinance implementation once effective
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[5] D.18-05-041 at p. 144; D.22-03-010; D.22-04-034.

In 2021, SoCalGas did not have any program activities.

Planning and Coordination Subprogram

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 DR programs; b) policy, regulatory, and corporate affairs; and c) emerging technology and product teams.

Since codes and standards impact the entire state and almost all building types, occupancy categories, and related technologies, external harmonization activities encompass: 1) California Public Utilities Commission, California Energy Commission, Air Resources Board, 2) other IOUs, municipal utilities, and utilities in other states, 3) national advocates such as the Appliance Standards Awareness Project (ASAP), Natural 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, 4) representatives of various manufacturing companies and industry groups such as the Association of Home Appliance Manufacturers (AHAM), Consumer Technology Association (CTA), NEMA, Air-Conditioning, Heating and Refrigeration Institute (AHRI), American Gas Association (AGA), and 5) water utilities and local governments, and 6) other parts of the compliance improvement supply chain: building inspectors, Title 24 consultants, Contractor State Licensing Board (CSLB), and others.

In 2021, SoCalGas did not have any program activities.

Statewide Workforce Education & Training (WE&T) Program

SCG3729 WE&T – Integrated Energy Efficiency Training

The Statewide Workforce Education and Training (WE&T) Program represents a portfolio of education, training, and collaborative engagement between the Investor-Owned Utilities (IOUs): Southern California Gas (SoCalGas), Pacific Gas and Electric (PG&E), Southern California Edison (SCE), San Diego Gas & Electric (SDG&E) and other stakeholders involved in energy education and training. SoCalGas WE&T targets an audience of incumbent workers and new workers entering the workforce through technical upskill and core energy education.

SoCalGas's Integrated Energy Efficiency Training (IEET) continued providing relative industry-related trainings to attract audiences representing various occupations. These trainings allowed

immediate application of increased knowledge and skills to trades & professions, defining the value of the SoCalGas IEET program portfolio. During 2021, SoCalGas IEET conducted 121 seminar/webinar/training sessions, 137 outreach consultations, and 50 equipment demonstrations. In 2021, SoCalGas IEET training classes had a total of 4,242 attendees, with 19% identified as Disadvantaged Workers. In keeping with COVID-19 protocols, WE&T - IEET primarily delivered online webinars to continue providing learning resources to our customers. Delivering webinar trainings primarily utilizing the online platform allowed for the continuous and effective integration of traditional and new methods of providing training. As the training portfolio continues to evolve, the WE&T team continues to develop and implement best practices into the operation of the new platform.

SoCalGas Integrated Energy Efficiency Training (IEET) delivered its' HVAC/R portfolio industry classes utilizing the new online platform. The online delivery of classes was integrated with hands-on training sessions through video & online demonstrations as part of its portfolio with plans to return to in-person sessions when conditions permit. The training is important to new and incumbent workers in efforts to achieve industry certifications which include HVAC/R Support Training and North American Technician Excellence (NATE) certification courses and exam requirements. The SoCalGas WE&T team collaborated with the SoCal Regional Energy Networks (SoCalREN) & Energy Solutions Center (ESC) to deliver online workshops & skill enhancing green building virtual boot camp to HVAC contractors.

SoCalGas Integrated Energy Efficiency Training (IEET) effectively adapted to unforeseen events & evolving circumstances to continue delivering quality webinars, consultations & demonstrations throughout the year. As in previous years, the events delivered high quality and informative course material designed to address gaps in new & incumbent workers & industry educational needs. Examples include Building Operator Certification (BOC) training for commercial building operators, Commercial Building Science, Distributed Energy Resources (Combined Heat & Power), Steam License Preparation & Boiler Water Treatment webinars emphasizing compliance with building code design, energy-efficiency, and resource conservation.

SCG3760 WE&T – HERS Rater Training Advancement

The HERS Advanced Rater Training Program promotes, develops, and delivers training to currently certified Home Energy Rating System (HERS) raters, energy analysts, HVAC technicians, building department officials, other building trade professionals, residential homeowners, and technical students. The program focuses on participants involved in new and existing engineering and construction in the Southern California Gas (SoCalGas) service territory. The curriculum addresses technical and administrative elements of energy ratings, energy-efficiency standards including changes based on updated Title 24 requirements, and industry best practices.

This program is implemented by CLEAResult.

In 2021, the Program continued to adapt its delivery to address the health and safety mandates required by local and state governments in response to COVID-19. Working in collaboration with our training sub-contractor, Wollin Group, delivered online versions of the Program

curriculum. In 2021, the program added updates and curriculum to expand the online options for students.

In 2021, twenty-eight (28) classes were delivered. This was the same number of classes delivered in 2020. In total 436 students attended classes over the year with an average attendee rate of 15.6 students per class. While this represents a decrease in overall attendance from 2020 due the continued challenges of the COVID-19 pandemic, the Program delivered 94.6% of its yearly goal.

DBE spending remained strong with a yearly average of 24.2%, which is a small increase over 2020. This demonstrates the continued commitment to working with DBE vendors, whenever possible, in alignment with SoCalGas overall goals. The 2021 Q3 DBE spend achieved 28% which was the highest quarterly gain for the year. The highest monthly DBE spend of 41.5% occurred in September.

The Program website, www.advancedratertraining.com received a few updates through the year and provided a reliable internet marketing presence in 2021. There are significant changes to update the website for browser compatibility, security and appearance planned for 2022.

Cross-marketing of classes with venue partners and other SoCalGas programs increased awareness and enrollment during the year. Marketing efforts included phone outreach, augmented by e-mail marketing efforts through the website and online enrollments. While the website remains the Program hub for marketing and enrollments, phone outreach and e-mail has continued to prove highly valuable in recruiting students and gaining support for the Program. This type of outreach provides timely information, awareness, and Program visibility at a highly effective level.

Leveraging relationships with HVAC Distributors in Southern California has also proved to be effective in increasing awareness for professional training opportunities offered by the HERS program.

Changing the Program format to online classes allowed to overcome some of the usual barriers faced during in-person classes and provided students with an easily accessible alternative. However, the COVID-19 impact on the workforce contributed to attrition rates in 2021.

In 2021 implementation barriers correlated with COVID-19 effects that persisted in the state and most significantly in Southern California. The online, streaming learning environment is a reliable alternative to in-person classes. Adapting existing curriculum to the new, instructional format has been successful. Rotating the highest demand classes worked to achieve high registration and strong attendance for most classes. The unpredictability of COVID-19 in the general population in addition to normal attrition rates, affected attendance in 2021. Despite our best marketing efforts, attrition rates for classes were high during certain periods of the year.

Direct marketing to distributors, technical schools, and businesses to improve awareness and information regarding training opportunities was ongoing in 2021.

Online, streaming instruction was implemented for the entire 2021 schedule to comply with health and safety protocols at the corporate, local, and state levels. In 2021, the trainings

included a three-question survey at the end of each session which students were encouraged to complete. Overall, ratings for the classes were consistently high.

Two (2) updated and one (1) new curriculum were developed and delivered in 2021. California Residential Title 24, Part 6 was updated and modified for delivery online. Hands-on Refrigerant required an update to address changes in refrigerant types and safe refrigerant handling.

Performance Plus was the new curriculum developed for 2021. This full day class offers advanced residential HVAC system testing that conforms with ANSI/ASHRAE Standard 221-2020.

Program objectives were met and/or exceeded in 2021. Costs were kept within budget and additional efficiencies were achieved to keep the Program operating in a steady fashion despite delivery obstacles.

2021 Program Stats	
Total Number of Classes in 2020	28 classes (goal met)
Average Number of Students per Class	15.6 students (goal exceeded)
DBE Yearly Spend	24.2%*

**DBE Spend = The Diversity Business Enterprise (DBE) hiring goal established by* SoCalGas® *is 40%. The Program's DBE hiring level and associated spend, with current subcontractors and vendors, was 24.2% in 2021.*

The Program evolved over the years allowing the development of relevant and timely curriculum while delivering classes in a more efficient manner. The primary focus is to provide students with quality training which conforms to codes and standards while adhering to Program budget guidelines. Delivery adaptation continued to be the overarching theme of 2021. Online training methods illustrating hands-on procedures have proven to be effective among most participants and a generous Q&A opportunity at the end of these sessions provides in-depth, individual instruction for those students who require more attention.

The Program continues to refine and improve its delivery as it determines methods to align with the Workforce Education and Training goals of SoCalGas strategically and operationally.

SCG3729-3730 SW WET CC WE&T – SW-WE&T Career Connections

The WE&T Connections subprogram works in partnership with educational sectors, community-based organizations, and state education agencies to facilitate implementation of energy efficiency strategic planning for K-12. This subprogram combines efforts to promote energy efficiency within these educational sectors while simultaneously providing energy-related education and career awareness information to students. There is coordination with the Department of Education to ensure the IOU educational materials are in alignment with California content standards. Schools are provided interactive programs, materials, and teacher workshops at no cost to schools or teachers. In 2021, the WE&T Career Connections program managers continued implementation of programs targeted towards the K-8 and 9-12 grade levels.

The K-8 program is implemented by The Energy Coalition and the 9-12 program is implemented by Strategic Energy Innovation.

The Energy Coalition (K-8) reached 6,393 students (83% categorized as Title 1 schools). Strategic Energy Innovations (9-12) reached 1,225 students directly and 1,200 students indirectly totaling 2,425 (76% categorized as Title 1 schools).

The Career Connections program was still challenged with campus closings in the first half of 2021 and continued with online training. In August of 2021, The Energy Coalition and Strategic Energy Innovations went back to some in-person activities as California schools opened for in-person instruction.

The Energy Coalition maintained the PEAK@Home series for distance learning and required little to no materials for the students. Strategic Energy Innovations worked with teachers to provide customized learning solutions to the students for distance learning with student-facing materials when internet access wasn't available. Both programs face barriers of time with teachers to access the training and fit the material into the curriculum.

The Energy Coalition continued to use their YouTube Channel to house all recorded PEAK@Home STEM Hero and lesson webinars. This platform, created to house the PEAK library of videos and webinars permanently, will also house the PEAK@Home series. Undaunted by the challenges of 2020, The Energy Coalition continued to support educators as they transitioned to virtual learning. While in-person educator training was not possible, The Energy Coalition offered multiple sessions of online, interactive, and engaging zoom training, as well as self-paced online training. Educators participated in The Energy Coalition's highly effective "train the trainer" model as they learned about our PEAK program, which provides a no-cost, high quality, environmentally focused STEM curriculum to educators in underserved schools. PEAK@Home My Energy Future Webinars was developed to walk students through STEM career paths based on the STEM career that is highlighted.

Strategic Energy Innovations has observed a wide range of responses to the situation, making it challenging to provide one-size fits all solutions. Curriculum was redeveloped for virtual learning and hands-on activities for students and teachers. Material has been redesigned for those that do not have access to the internet.

The Career Connections subprogram is aligned with the California Long-Term Energy Efficiency Strategy plan and contributes directly to the Workforce Education and Training goals of establishing energy-efficiency education and training at all levels of California's educational system and engaging minority, low-income and disadvantaged communities in the subprogram.

The program ended in 2021 with the anticipation of the new Statewide Third-Party program that started in December 2021. The new program, named Energy is Everything, served the K-12 population statewide and PG&E is the lead administrator.

The SoCalGas Workforce Education & Training (WE&T) Program team collaborates to meet California's clean energy goals.

These Collaborations include, but are not limited to, technical education and training, curriculum materials development, and training trainers on building equipment, maintenance, and performance.

SoCalGas reports the number of WE&T Program collaborations it initiates annually to the California Public Utilities Commission.

There are five collaborations to report for 2021:

- International Association of Plumbing and Mechanical Officials (IAPMO) - SoCalGas partnered with IAPMO to host Certified Installer Training Courses. These courses were newly developed to include new technical understanding of energy efficiency and skills for the future.
- Fe3 – SoCalGas partnered with Frontier Energy to expand the reach of the current certification program to foodservice sales representatives and equipment manufacturers to further their energy-efficiency knowledge.
- Vermont Slauson Economic Development – SoCalGas partnered with the Vermont Slauson Economic Development Corporation to provide workforce training and individual consulting services to disadvantaged restaurant owners in the Los Angeles area.
- National Theater for Children (NTC) – SoCalGas partnered with NTC to educate high school students about the benefits of natural gas and how to cook with natural gas. The collaboration has a target of reaching 50% of schools that are hard to reach or disadvantaged.
- Stanford University Certificate Program – SoCalGas offered a subsidiary for fees attached to the Stanford Energy Innovation & Emerging Technologies Certificate where the prior years audience was expanded in number. The participants were required to take 3 courses in sustainability and 1 course in energy efficiency.

Finance

SCG3735 Finance – On-Bill Financing

On-Bill Financing (OBF) offers interest-free, unsecured, repayment of loans on-the-utility-bill that work in conjunction with SoCalGas energy efficiency programs. It is designed primarily to facilitate the purchase and installation of qualified energy efficiency measures by non-residential customers who may lack up-front capital to invest in real and sustainable long-term energy cost reductions.

Loan terms range from up to ten years for commercial customers and up to fifteen years for government agency customers. The eligible loan amount is based on the project cost, less incentives, or rebates, up to the loan maximum of the OBF product and within the loan term thresholds. Customer loans are calculated to approximately equal the monthly energy savings

and repaid through a fixed monthly installment on their utility bills. There is no prepayment penalty and loans are non-transferable. Partial or non-payment of loans could result in shutting off gas service.

On-Bill Financing (OBF) program features:

- Zero percent interest
- No closing costs
- Unsecured loan
- Loan repayment added directly to SCG utility-bill
- Works in conjunction with utility energy efficiency rebate programs

Loan Terms:

Customer Segment	Loan Amounts	Loan Terms
Business	Up to 10 years	Min- $5,000- Max $100,000
Multi-Family	Up to 10 years	Min- $5,000- Max $100,000
Local Government/Public Sector	Up to 15 years	Min- $5,000- Max $250,000
State of California	Up to 15 years	Min- $5,000- Max $1,000,000

The eligible loan amount is based on the project cost, less incentives or rebates, up to the loan maximum of the OBF product and within the loan table above.

The OBF program continued working with SoCalGas customer account representatives and external partners to create awareness of the program and encourage customers participation. The OBF program closely coordinated with the Local Government Partnerships and Institutional Partnerships on potential local and state government projects. The program team successfully pre-approved three energy efficiency projects requiring financing.

The OBF team facilitated monthly meetings with the other IOU program leads to collaborate on administrative, policy, regulatory, and program changes.

The COVID-19 pandemic caused many businesses to put a hold on Energy Efficiency projects throughout 2021.

Converted from wet signature loan agreements to electronic signatures to provide more streamlined process for program participants. In 2021, OBF continued to serve as a funding mechanism to eliminate the barrier of upfront cash required for customers to move forward with deeper energy efficiency retrofits.

SCG3737 Finance – SW-New Financing Offerings

Decision 13-09-044 authorized the development of statewide financing pilot programs leveraging third-party capital products to increase the availability of financing for underserved sectors and encouraging deeper energy savings. A key feature of the financing pilots is

providing credit enhancements and an on-bill repayment (OBR) option to attract private capital support for financing energy improvement projects. The pilots were developed to reach residential, affordable multifamily, and small business sectors. Ratepayer-supported credit enhancements are made available to participating lenders offering financing for these programs. Credit enhancements provide additional security to participating lenders to mitigate loan default and provide more attractive borrowing terms for the customers.

The California Hub for Energy Efficiency (CHEEF) is administered by the California Alternative Energy and Advance Transportation Financing Authority (CAEATFA), a state agency in the California State Treasurer's Office. CAEATFA is responsible for designing and developing program regulations for the Financing Pilots through an existing public rulemaking process with support from the investor-owned utilities (IOUs). The Residential program was the first pilot to launch in 2016 and was followed by the small business pilot and Multifamily pilots that launched in 2019.

SoCalGas, as the lead utility program administrator, along with the other IOUs continued to support CAEATFA in the implementation and marketing of the financing programs. During 2021, SoCalGas launched an option to finance energy efficient measures through its' online Marketplace utilizing the residential program and enrolled over 300 loans with a large portion reaching underserved borrowers.

The residential program surpassed $28 million dollars in loan originations and has enrolled over 1,700 loans. The program has enrolled 8 lenders and enrolled over 550 contractors. At the end of 2021, the Business financing program had enrolled 10 loans with $1.7 million in loan originations. SBF program had 56 enrolled contractors and 3 participating lenders.

Marketing strategies for the financing programs were paused during most of 2021 given the economic impact from COVID-19 on jobs and small businesses. The program requires larger projects to utilize a licensed contractor enrolled in the GoGreen program. Private capital lenders require the customer income and credit to qualify for the loans.

Program names were updated to align with the public-facing platform GoGreen Financing.

- **GoGreen Home Energy Financing**, or **GoGreen Home**, replaced the Residential Energy Efficiency Loan Assistance Program (REEL)
- **GoGreen Business Energy Financing**, or **GoGreen Business**, replaced the Small Business Energy Efficiency Financing Program (SBF)
- **GoGreen Affordable Multifamily Energy Financing**, or **GoGreen Multifamily**, replaced the Affordable Multifamily Energy Efficiency Financing Program (AMF)

The GoGreen Home Program continues to reach underserved communities. Over half of the loans originated are made to properties in Low to Moderate income census tracts.

SCG3803 Finance – SW-California Hub for EE Financing

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

In Decision (D.) 13-09-044, the Commission requested the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) to take on the role as CHEEF manager. CAEATFA is responsible for administering the CHEEF which includes developing program regulations for the Financing Pilots through a public rulemaking process, operationalizing program processes and forms, and managing outreach efforts to both contractors and financial institutions. A contract was executed by the investor-owned utilities (IOUs) and CAEATFA in September 2014 with the most recent amendment executed in 2020. SoCalGas (SCG) is the lead utility for the Financing Pilots Program and lead contract administrator for the CHEEF agreement. SoCalGas extended the CHEEF agreement through 2022 and administers monthly invoicing and reporting activities to the commission and IOU's.
In August 2021, the commission issued D 21-08-006 which amongst other things restated the Commission's approval for CAEATFA to continue administering the pilots. Moreover, the decision ordered the IOU's to provide up to an additional $75.2 million in ratepayer funding to CAEAFTA for implementation of the programs through 2027. The decision authorized IOU's to request additional funding to support the programs through either utilization of unspent funds, Annual Budget Advice Letter (ABAL), submittal of tier 2 advice letter, or through future business plan filings. The IOU funds would support operational activities including marketing and designated SoCalGas to continue as the lead utility partner.

In 2021, the IOU's assisted CAEATFA in the marketing of the GoGreen Home Small GoGreen Business, and GoGreen Multifamily. The IOUs utilized each organization's Trade Pro Networks to promote the Business and Multifamily programs through "lunch n learns" and newsletters. CAEATFA and the IOU's also worked on finalizing implementation of the On-Bill Repayment (OBR) secure cash flow data exchange with the servicing bank. This process will allow customers to remit their Business Financing or Multifamily loan repayments directly on their utility bills.

SoCalGas is engaged in coordination meetings with CAEATA, Energy Division, the state-wide marketing implementer CSE, and facilitated meetings with the Finance leads from the other IOU's. GoGreenFinancing is the IOU co-branded website and contains lender, contractor, and partner information for customers to learn and apply for the loan programs. SCG extended the CHEEF agreement through 2022 and administers monthly invoicing and reporting activities to the Commission and IOU's.

Public Sector Programs

Institutional Partnerships

Institutional Partnerships are designed to create dynamic and symbiotic working relationships between IOUs, state or local governments and agencies or educational institutions. The objective is to reduce energy usage through facility and equipment improvements, share best practices, and provide education and training to key personnel. In 2021 the Institutional Partnerships addressed programmatic challenges impacting energy efficiency projects at the campuses and state facilities as well as providing a concentrated effort to support shared energy efficiency, ZNE, and environmental goals. As described in the energy efficiency business plan, Institutional Partnerships will be considered part of the Public Sector Program portfolio. Through the energy efficiency Business Planning process, SoCalGas worked with partners to engage them in identification of challenges facing higher education and state agencies, as well as included them in the development of Public Sector strategies.

SCG3738 Public – CA Department of Corrections Partnership

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

The program capitalizes on the vast opportunities for efficiency improvements and utilizes the resources and expertise of CDCR and IOU staff to ensure a successful and cost-effective program that meets all objectives of the CPUC. The IOUs and the Program Administration Manger (PAM) supported development of the new projects, ensuring that they reached maximum efficiency and incentive potential.

The Partnership effectively provided technical support, project tracking, and coordination with CDCR. To help streamline efforts and bolster CDCR's ability to save energy, the Partnership identified and shared best practices across agencies – such as use of revolving loan funds and best approaches for procuring and working with ESCOs. The partnership set the groundwork and established the relationships between CDCR and IOUs that will continue to benefit all parties after the Partnership's end.

The COVID-19 pandemic continued to impact implementation. A new third-party program launched, and the Partnership ramped down and closed, including handing off in-progress projects to the respective IOUs.

Given AESC was the current PAM and the 3rd party Statewide stakeholder, the transition to the new model was smooth. Knowledge of active projects, understanding of the partnership model and various stakeholders contacts allowed for an almost seamless transition.

SCG3739 Public – California Community College Partnership

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. The program was established in previous program cycles for sustainable, comprehensive energy management at campuses served by California's four IOUs.

The Partnership 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 districts, and IOU management on an ongoing basis.

The teams met 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 CA Community College market; and (3) planning and participation in CCC conferences and regional Campus Forums.

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

The COVID-19 pandemic created challenges in 2021 for all parties involved in the Partnership. The Partners adapted to virtual operations, and project delays, while in-person operations were suspended. In 2021, all efforts for CCC districts were focused on the complete utilization of any available funding. However, note that significant funding increases for energy projects are expected in 2022-23 due to increases in Scheduled Maintenance and Special Repairs Program (SMSR). The California Community College Chancellor's Office is advocating a push for energy efficiency and sustainability projects using SMSR funding to repair or replace existing HVAC equipment in the upcoming year.

The Partnership provided extensive outreach and technical support through virtual formats to the districts within the CCC system in support of their efforts to identify, develop, and implement projects funded through Scheduled Maintenance & Special Repairs Program (SMSR). The IOUs worked closely with the Chancellor's Office to develop resources and infrastructure for IOU Programs that could be leveraged with CCC Programs to create a mechanism to support California Community College Energy Efficiency Projects statewide. Typical project types proposed were replacement of inefficient lighting with LED lighting, HVAC, controls, and Retro-commissioning (RCx). In addition, the Partnership identified and prioritized the needs of the CCC districts, which were organized in a matrix by Program, Communication, and Management focused. The needs were met or addressed through providing Outreach

Management support to districts as requested. Accomplishments toward meeting these needs primarily included the addition of IOU resources and offerings to the Partnership website for CCC districts to access.

The third-party solicitation process for the Statewide Higher Education program progressed as planned during 2021. The UC/CSU Partnership is estimated to transition to a third-party program during the third quarter of 2022. Overall, the CCC Partnership made progress towards the 2021 program cycle goals.

SCG3740 Public – UC/CSU/IOU Partnership

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), 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.

As the transition to the new third-party programs has taken longer than anticipated, the Partnership team decided to look at ways the current Partnership could be reinvigorated and incorporate current priorities to enhance its value over its final years. The following five priority areas were identified as offering the most value to UC and CSU: Carbon Reduction, Meter-Based Savings Methodologies, Financing, Resiliency, and Human Resources. The team discussed potential opportunities, as well as monitor progress of ongoing initiatives, in these priority areas.

The COVID-19 pandemic continued to create challenges in 2021 for all parties involved in the Partnership. Projects remained on hold as in-person operations were suspended. The pandemic created additional strain on campus budgets preventing the development and implementation of new and ongoing projects. Additionally, utilities and campuses faced engineering challenges to address the pandemic as a non-routine event.

In 2021, LADWP was unable to renew their contracting mechanism which enabled their participation in the UC/CSU Partnership. LADWP projects with executed agreements continued implementation, however, without a Partnership contract in place, campuses in LADWP territory were unable to apply for new projects through the Partnership.

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

The Partnership closed out its final Saving by Design projects in the first quarter of 2021, as the program transitioned to a new statewide third-party program. As a result of this transition, new

construction projects are no longer eligible for incentives through the UC/CSU Partnership Program.

The Partnership focused widely on efforts surrounding normalized metered energy consumption (NMEC) in compliance with AB-802. In addition to NMEC projects, UC and CSU focused on addressing barriers to energy efficiency, developing new contracting mechanisms, looking into opportunities for financing projects via OBF, and continuing work on a CEC Grant to develop a Master Enabling Agreement for energy efficiency at UC and CSU campuses.

The 3rdparty solicitation process for the Statewide Higher Education program progressed as planned during 2021. The UC/CSU Partnership is estimated to transition to a third-party program during the third quarter of 2022.

Overall, the UC/CSU/Utility Partnership made progress towards the 2021 program cycle goals.

SCG3741 Public – State of CA/IOU Partnership

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

DGS leverages Department of Finance Energy $mart program, along with the IOU's On Bill Financing, incentives and rebates to provide financing for project opportunities. The State/IOU Partnership Program Administration Manager (PAM) continues to coordinate between the IOUs and the DGS through regular meetings to ensure that project documentation is shared as needed, projects are tracked, project momentum is maintained, new project approaches are identified, and customer concerns/support items are addressed in a coherent and sympathetic fashion.

DGS uses all financing mechanisms available for energy savings projects: operations budgets, revolving loan funds, third-party financing, on-bill financing and on-bill repayment. Energy resiliency continued to be a major focus for critical sites impacted by PSPS events. The IOU's, together with the PAM and Statewide 3rd party stakeholders, worked closely to sunset the partnership and transition to new model.

In 2021, the SOC partnership ramped down and closed, including handing off in-progress projects to the respective IOU. Efforts for energy efficient audits on State hospitals and projects had to be assessed and transferred to the new Statewide stakeholder.

Successful transition from IOU Partnership to the new Statewide State of California model.

Given AESC was the current PAM and the 3rd party Statewide stakeholder, the transition to the new model was smooth. Knowledge of active projects, understanding of the partnership model and various stakeholders contacts allowed for an almost seamless transition.

Local Government Partnerships

SoCalGas's Local Government Partnerships (LGP) are unique, complex, and multi-dimensional partnerships with select local government customers. Local governments are a distinct customer segment that operate with their own unique challenges and needs related to energy efficiency. Local governments have a unique role as leaders in their communities and can play a role as a delivery channel to help share core IOU programs to the communities and businesses they serve. Increasingly, local governments are interpreting their responsibility for community well-being to include reducing GHG emissions, increasing renewable energy usage, protecting air quality, creating green jobs, and making the community more livable and sustainable.

Local Government Partnerships are designed to serve and support local governments by increasing energy efficiency in municipal facilities, provide programs and services to local communities that can help them reduce both operating costs, and greenhouse gas emission levels through energy-efficiency. SoCalGas supported Partnerships in achieving their energy efficiency and climate goals. SoCalGas worked with partners to engage them in the identification of challenges faced by local governments, as well as included them in the development of Public Sector strategies.

SCG3742 Public – LA County Partnership

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

The Partnership collaborated with Los Angeles County Internal Services Department (ISD) and its Energy Environmental Services (EES) to capitalize on EE opportunities by working with representatives from the 38 County Departments served by ISD for energy management services. Moreover, the Partnership interacted with ISD, Public Works, Parks and Recreation, Metropolitan Department of Transportation, and Sheriff's Department on strategies to develop energy savings opportunities and strategic implementation forecasts.

The Partnership coordinated with Los Angeles County in identifying EE projects throughout County facilities, including Pitchess Detention Center, Central Heat Plant, Department of Public Health, and Olive View Hospital, and informed Los Angeles County departments on programs and workshops offered to improve awareness of EE incentives and rebates.

The Partnership continued to provide data to Los Angeles County Enterprise Energy Management Information System (EEMIS) to support local governments enrolled in the County offering. Additionally, the Partnership supported Los Angeles County's pursuit of operational effectiveness, fiscal responsibility, and accountability through EE programs.

The Coronavirus or COVID-19 impacted the 2021 project identification and assessment as priorities and resources shifted to manage the evolving pandemic. The County's fiscal stance remained impacted. Moreover, the County continues to share concerns over measures being removed from custom incentive program due to standard industry practice policies. Thus, making it difficult to justify projects moving forward due to limited measures, and higher implementation costs for higher efficiency products.

SoCalGas continued its partnership with the County and agreed to use joint RCx program to complete RCx projects with SCE's assistance. Projects in SCE territory will be processed through SCE's program and SoCalGas will reimburse SCE for the saved therms through the custom incentive program. SoCalGas will process projects outside of SCE territory.

The partnership prioritized EE retrofits across Los Angeles County facilities and identified potential 2022 EE projects within Los Angeles County facilities.

SCG3746 Public – Santa Barbara County Partnership

The Santa Barbara County Energy Watch Partnership is a joint effort between SoCalGas and the Santa Maria Valley Chamber of Commerce. The Partnership's participating municipalities are Buellton, Solvang, Guadalupe, Santa Maria, and the County of Santa Barbara. The program generates energy savings through identification of municipal Energy Efficiency (EE) projects, projects with Special Districts, and projects associated with K-12. The program also provides access to resources and outreach for all Utility Core Programs within Energy Efficiency and Customer Assistance.

The program transitioned from Pacific Gas and Electric (PG&E) as an included utility partner, to Southern California Gas Company as the exclusive utility partner, which allowed additional flexibility by adding the City of Lompoc to the area served.

The North Santa Barbara Energy Watch Partnership connected regional partners with webinars, education, training, and resource opportunities that were available from Southern California Gas Company. In addition, the Partnership forwarded COVID-19 updates to its regional partners that were proved by Sothern California Gas Company and its representatives.

The North Santa Barbara Energy Watch Partnership continued to use the resources of the Santa Maria Valley Chamber of Commerce to reach municipalities, K-12, and Special Districts as part of the Energy Watch Partnership strategy.

In spite of COVID-19 and associated obstacles, the North Santa Barbara Energy Watch Partnership was still able to successfully connect Southern California Gas Company representatives with K-12 school districts and municipalities.

The North Santa Barbara County Energy Watch Partnership continued its mission of outreach on Energy Efficiency (EE) and doing everything possible to facilitate assistance and projects with municipalities, school districts and special districts within the Partnership area.

SCG3747 Public – South Bay Cities Partnership

The South Bay Cities Council of Governments (SBCCOG) Energy Efficiency Partnership Program provides integrated technical and financial assistance to help the South Bay cities effectively lead their communities to increase energy efficiency, reduce greenhouse gas emissions, protect air quality, and ensure that their communities are more livable and sustainable. The Program provides access to all Southern California Gas Company (SoCalGas) core programs and incentives for member cities and school districts to increase energy efficiency in their facilities through energy saving actions.

Benchmarking initiatives continued in 2021 and all utility accounts in ENERGY STAR Portfolio Manager were updated with historical energy usage. Total Marketing and Outreach achieved in 2021 included: 112 Combined Presentations, In Person Community Events, Virtual Workshops, Networking opportunities, Virtual Business Events/Community Events.

The largest program barrier was the continued COVID-19 restrictions. Additionally, connecting city ENERGY STAR Portfolio Manager (ESPM) accounts to SoCalGas Web Services proved challenging. The turnaround time to acquire monthly billing data and use it to connect properties in ESPM is very short, discrepancies on the process caused further delays.

The program goal was surpassed in 2021.

SCG3748 Public – San Luis Obispo County Partnership

The San Luis Obispo Energy Watch (SLOEW) is a Local Government Partnership (LGP) between Southern California Gas Company (SCG) and local governments in San Luis Obispo County (San Luis Obispo County; cities of Arroyo Grande, Atascadero, Grover Beach, Morro Bay, Paso Robles, Pismo Beach, and San Luis Obispo; community service districts Avila Beach, Cambria, Cayucos, Heritage Ranch, Los Osos, Nipomo, Oceano, Port San Luis, San Miguel, San Simeon, South County Sanitation, and Templeton. The SLOEW Partnership exists to aid in efficiency and sustainable ventures for local governments, create and support clean energy efforts

The SLOEW Partnership worked in coordination with the Tri-County Regional Energy Network (3C-REN) for benchmarking and analysis or different agencies that steam from K-12 to cities within the County. The partnership also participated in meeting with The Energy Coalition (TEC) to engage in future offerings where all parties can align to enhance program offerings for Energy Efficiency and Benchmark efforts

COVID-19, which restricted travel and in person engagement with customers, remained a major hurdle for projects put on hold due to the pandemic.

SLOEW did not have an implementer for 2021. SoCalGas tried focusing more on other Public Sector customers like K-12 and Colleges in the County of San Luis Obispo. 2021 was a transitional year into a new Public Sector model that will utilize agencies like REN and TEC to help support the local governments achieve their goals

SCG3749 Public – San Joaquin Valley Partnership

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

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

SoCalGas held one joint Local Government Partnership webinar with VIEW, Gateway Cities and San Gabriel Valley Council of Governments. The webinar had 21 attendees and received a lot of positive feedback from partners. Hosted and participated in four Rural Hard to Reach Working Group meetings. VIEW did not participate in public outreach events due to COVID-19 protocols. In order to continue keeping partners engaged, VIEW moved informational content to online channels and created work from home bundles. In total 12 bundles were sent to partners focused on gas project/saving opportunities.

The only known barrier as for many was COVID-19.

VIEW changed from bi-monthly in person partnership meetings to 1:1 energy coaching due to COVID-19 protocols. Change allowed partners to have more in-depth conversation on past energy needs and current opportunities.

The partnership helped contribute to the overall portfolio goal by connecting partners to the Direct Install program which had great success in the San Joaquin Valley.

SCG3750 Public – Orange County Cities Partnership

The Orange County Cities (OCC) Energy Partnership is a Southern California Gas Company (SoCalGas) Local Government Partnership focused on achieving energy savings and behavior change in residential, non-residential, and municipal sectors. The OCC Energy Partnership's three core program elements are consistent with the Master Program Implementation Plan:

Government Facilities, California Long Term Energy Efficiency Strategic Plan Activities (Strategic Plan), and Core Program Coordination, and enhancing the leadership role of local governments in energy management.

The OCC Energy Partnership consists of SoCalGas, the eight cities of Brea, Buena Park, Fullerton, La Habra, La Palma, Orange, Placentia, Yorba Linda, Newport Beach, Irvine, Huntington Beach, Westminster, Santa Ana, Fountain Valley, Newport Beach, Costa Mesa and The Energy Coalition. OCC has annual therm savings targets that are achieved through municipal energy efficiency projects

In 2021, the partnership discussed energy projects with city partners through meetings and offline and tracked progress; promoted and coordinated participation of Direct Install Program; promoted partner networking through the Exchange Bingo activity; provided program collateral for partner cities to share with residents at outreach events; distributed Local Government Partnership e-blasts for partner education and training; facilitated bi-annual partnership meetings and city check-in calls with partner cities; maintained partnership website to serve as a resource for city and utility partners; worked with peer implementers to host a webinar focused on therm saving opportunities at agency facilities; coordinated delivery of SoCalGas residential program materials at various community outreach events; and offered office hours for partners to discuss program support.

In 2021, there were limited opportunities for energy efficiency project development due to relatively low natural gas loads at municipal facilities. The COVID-19 pandemic affected opportunities for in-person meetings, event attendance and workshops. However, TEC was able to adapt and shift to virtual engagement in the form of webinars, zoom meetings, and virtual toolkits.

Program changes in 2021 included the addition of new cities into the partnership and expanded eligibility to all cities located in Orange County.

SCG3754 PUB-Ventura County Partnership

Ventura County Regional Energy Alliance (VCREA) is as the Local Government "implementing partner" for the Ventura County Partnership Program with SoCalGas. VCREA works to coordinate efforts among public agencies, including local jurisdictions (County of Ventura, cities of Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, Santa Paula, Simi Valley, Thousand Oaks, and Ventura), schools, and special districts. The Partnership Program has been the cornerstone of the VCREA program, providing a strong connection to public agencies to establish Ventura County, its communities, and neighboring regions as the leader in developing and implementing durable, sustainable energy initiatives that support sensible growth, healthy environment and economy, enhanced quality of life, and greater self-reliance for the region by reducing energy demand and increasing energy efficiency practices.

VCREA identified and coordinated EE projects with both the utility and the SoCalREN. This included leveraging 3rd party program such as the Direct Install (free measures) for K-12 projects for therm savings. VCREA conducted more than 20 community outreach events and

presentations, both virtually and in-person. VCREA collaborated with Central Coast Climate Collaborative, local Chambers of Commerce, Electric Drive 805 Coalition, County Public Health, The Energy Coalition/Southern California Regional Energy Network (SoCalREN), Community Environmental Council, South County Energy Efficiency Partnership, ICLEI, Institute for Local Government, Local Government Sustainable Energy Coalition (LGSEC), and Local Government Commission throughout the year. VCRE cohosted a webinar with SoCalREN, titled "The Road to Net Zero: For Hard-to-Reach, Low-income, and Disadvantaged Communities" which focused on opportunities for hard-to-reach, low-income, and disadvantaged communities to integrate energy efficiency and distributed energy resources. SoCalGas representative were in attendance to answer questions. VCREA launched a successful Do-It-Yourself (DIY) Home Energy Savings Toolkit program in collaboration with County Libraries. The DIY toolkits include guidebooks in both English and Spanish and free energy efficiency measures to install at home. The Ventura County Green Business Program (VCGB) had its fifth successful year in operation. VCREA staff continue to build relations with businesses through virtual certifications. In 2021, VCGB completed 52 certifications, 9 recertifications, and registered 138 businesses in the GreenBiz Tracker. VCREA reported annual benchmarking data for municipal facilities per the Energy Commission's Building Energy Benchmarking Program requirements and continued to work on Strategic Planning efforts for developing Energy Action Plans (EAPs) for the cities of Ventura, Moorpark, and Thousand Oaks. The EAPs included GHG inventories, methodology, forecasts for 2025 and 2030, and EAP strategies for six energy related sectors. All of these efforts reported eliminating 346,549 lbs of GHGs, savings of 40,142 kWh of energy, 2,181,057 gallons of water saved, 21,431 natural gas them savings and diverted 415,231 of solid waste.

Due to the continuation of the COVID-19 pandemic, community engagement was less than desired. Furthermore, engagement with partners as well as city staff was challenging as well due to the lack of traditional in person activities. Additionally, however not necessarily program implementation related but rather an administrative barrier that VCREA encountered was registration for Lavante Connect. This platform is designed for SoCalGas suppliers and registering as a LGP was difficult and time consuming. The platform was not versatile, making the process lengthy and delayed the payment of invoices.

In response to the COVID-19 pandemic, VCGBP program activity continued to be online or in-person outdoor gatherings when suitable. During outreach, VCREA directed questions about SoCalGas programs to SoCalGas's website.

VCREA provided outreach and support to customers via phone calls and virtual outreach during the pandemic on energy efficiency best practices as well as programs relevant to pandemic programs from SoCalGas. Numerous virtual events and meetings assisted with continued outreach to local government staff answering their questions and meeting their needs on efficiency and program availability.

SCG3776 Public – Gateway Cities Partnership

The Gateway Cities Energy Partnership Program (GCELP) is a local government partnership between the Cities of South Gate, Norwalk, Downey, Lakewood, Lynwood, and Santa Fe

Springs (the "Cities" or "Partners") along with and Southern California Gas (SCG). The partnership program works to raise energy efficiency awareness, promote long-term energy reduction goals within municipal building stock and coordinates with partner cities to cross promote residential and business/commercial utility energy efficiency programs. In addition, the partnership program assists local governments in driving targeted retrofit and retro-commissioning projects in municipal facilities.

The following administrative activities were completed for the Gateway Cities energy Partnership. Regular monthly update meetings were held with partner cities and program administrators every month. Continued development of the program infrastructure. The partnership initiated 10 one on one meetings with the cities to check-in for status and discuss specific projects. The Partnership worked with peer implementers to host 2 webinars focused on therm savings opportunities for agency facilities.

The Partnership did not participate in any community events in 2021 due to current stay-at-home orders. The Partnership had limited opportunities for energy efficiency project development due to the lingering effects of the COVID-19 pandemic. The partner city staffs work hours were diminished and some moved to part-time. However, they were able to adapt and shift to virtual engagements in the form of webinars and virtual meetings. In response to the COVID-19 response, Gateway Cities Program activity continued to be online. Gateway Cities promoted SoCalGas programs and referred any questions to the SoCalGas website

The Partnership provided specialized energy efficiency offerings to participating local governments, residential and business communities. The Partnership informed partners and their communities about the wide variety of energy efficiency and demand reduction offerings by SoCalGas.

SCG3777 Public – San Gabriel Valley Energy Wise Partnership

The San Gabriel Valley Energy Wise Partnership (SGVEWP) is a collaboration between the San Gabriel Valley Council of Governments (SGVCOG), and SoCalGas. The Partnership strived to identify opportunities for municipal building energy efficiency retrofits and assist cities in implementing these projects and accessing SoCalGas financial incentives and technical resources; The partnership encouraged participation of San Gabriel Valley cities and public agencies with regards to SoCalGas rebate opportunities and energy efficiency and conservation programs. The partnership developed specialized energy efficiency offerings to local governments as well as residential and business customers.

The Partnership updated the website, www.sgvenergywise.org, to include recent news, updates, and events, as well as pertinent information. New webpages were added to highlight the San Gabriel Valley Energy Champion Awards. Coordinated distribution of information about the Partnership to member agencies by leveraging existing communication channels. The Partnership hosted two Energy Efficiency Twitterchat events with several San Gabriel Valley Cities and two external stakeholders. The Partnership hosted 2 Energy Efficiency webinars in collaboration with several implementers. The Partnership hosted monthly meetings, bi-monthly Energy Work Group meetings, and One on One meetings with our San Gabriel Valley Cities.

The Partnership also presented several Energy Champion awards to the following cities: City of Arcadia, City of Duarte, City of Claremont, City of El Monte, City of Irwindale, and City of Pomona. The City of Covina, Irwindale and Sierra Madre successfully completed their pool cover projects in 2021.

Due to COVID-19, attending community events and hosting in-person meetings were limited in 2021. The Partnership was able to adapt and shift to virtual engagement in the form of webinars, zoom meetings

The Partnership revamped its Energy Champion Awards structure in 2021. The award structure provided additional opportunities for San Gabriel Valley cities and agencies to receive recognition, while also incentivizing them to meet with the Partnership, share best practices, undergo benchmarking and projects, and attend Partnership events. Representatives from SoCalGas also utilized the Energy Champion Awards to provide relevant updates, tips, and resources for cities and agencies to implement energy efficiency projects and actions in their facilities.

The Partnership implemented the Energy Champions Awards that resulted in increased engagement with the Cities of Arcadia, Claremont, Duarte, Irwindale, Monrovia, Montebello, San Gabriel, and Walnut, Foothill Transit, and South Coast Air Quality Management District. The Partnership conducted several EASY home energy assessments for residential homes. The Partnership maintained and updated a database that contains information on San Gabriel Valley cities and public agencies' potential energy efficiency projects.

SCG3779 Public – West Side Community Energy Partnership

The West Side Cities Partnership (WSCP) is SoCalGas's Local Government Partnership focused on achieving energy savings and behavior change in residential, commercial, and municipal sectors. The partnership's three core program elements are consistent with the Master Program Implementation Plan: Government Facilities, California Long Term Energy Efficiency Strategic Plan Activities (Strategic Plan), and Core Program Coordination, and enhancing the leadership role of local governments in energy management. The partnership consists of SoCalGas, the City of Beverly Hills, Culver City, Malibu, Santa Clarita, Santa Monica, West Hollywood, and The Energy Coalition. In addition, the partnership has annual therm savings targets that are achieved through municipal energy efficiency projects.

The Partnership discussed energy projects with city partners through meetings and offline and tracked progress. The Partnership promoted and coordinated participation of Direct Install Program and promoted partner networking through the Exchange Bingo activity. The Partnership provided program collateral for partner cities to share with residents at outreach events. The partnership developed a SoCalGas program toolkit to house resources and information to inform partner cities, chamber of commerce staff, and community stakeholders of programs that can support their residents and businesses. The Partnership coordinated delivery of SoCalGas residential program materials at various community outreach events and offered office hours for partners to discuss program support. The Partnership facilitated bi-annual meetings, check-in calls with the cities, and maintained partnership website to serve as a resource for city and utility

partners. The Partnership worked with peer implementers to host several webinars focused on therm savings opportunities for agency facilities. The City of Beverly Hills successfully completed a boiler replacement project.

The Partnership had limited opportunities for energy efficiency project development due to relatively low natural gas loads at municipal facilities. The COVID-19 pandemic affected opportunities for in-person meetings, event attendance and workshops. However, the Partnership was able to adapt and shift to virtual engagement in the form of webinars, zoom meetings, and virtual toolkit. In response to the COVID-19, WSCP program activity continued to be online and the Partnership promoted SoCalGas programs and referred any questions to the SoCalGas website.

The Partnership worked with partner cities to identify and develop energy efficiency projects to build an energy savings pipeline for future years.

SCG3783 Public – Western Riverside Energy Partnership

The Western Riverside Energy Partnership (WREP) is a Partnership between Southern California Gas Company (SoCalGas), Western Riverside Council of Governments (WRCOG) and 19 of its member jurisdictions (Banning, Beaumont, Calimesa, Canyon Lake, Corona, Eastvale, Hemet, Jurupa Valley, Lake Elsinore, Menifee, Moreno Valley, Murrieta, Norco, Perris, Riverside, San Jacinto, Temecula, Wildomar, and the County of Riverside). The purpose of WREP is to help members identify and implement energy efficiency (EE) projects in municipal facilities as well as provide sustainable best practices to the community.

WREP continued to grow the Partnership by adding Western Municipal Water District and Eastern Municipal Water District as new members to the Partnership. WREP was able to keep members engaged even through the challenges that the pandemic presented by conducting virtual meetings. One of them was done in collaboration with neighboring Local Government Partnership (LGP), San Bernardino Regional Energy Partnership (SBREP). This opportunity included participation from dozens of representatives from cities, counties, and special districts across the Inland Empire. Additionally, WREP jointly collaborated with three other Local Government Partnerships (South Bay, San Gabriel, and Orange County partnerships) to provide additional resources to member jurisdictions. WREP was also able to increase its outreach and program support through virtual touchpoints and increased promotion of SoCalGas programs/webinars. Two of these channels included WRCOG's quarterly Future Forward series as well as participating with the subregion's Western Riverside Clean Cities Coalition, through their virtual meetings. Overall WREP was able to keep members engaged and informed even through the challenges presented by the pandemic

A few of the goals that WREP was looking to achieve during 2021 were put on hold due to the limitations brought on by the COVID-19 pandemic. Audits, implementation of various SoCalGas programs and community events were put on hold for the duration of 2021.

The transition of the LGP at the end of 2021 was an initial concern but WRCOG and SoCalGas worked closely together to coordinate and communicate to our member jurisdictions that

resources would still be available through SoCalGas's Public Sector Energy Pathways program and the newly CPUC approved Inland Regional Energy Network (I-REN) offering that will both begin in 2022.

Program changes included transitioning to virtual meetings for the entirety of 2021 due to the continuation of the COVID-19 pandemic. As such, audits and community events were put on hold as well.

SCG3802 Public – San Bernardino Regional Energy Partnership

The San Bernardino Regional Energy Partnership (SBREP) is a joint partnership between Southern California Gas Company (SoCalGas), San Bernardino Council of Governments (SBCOG) and 14 of its member jurisdictions within the San Bernardino Valley and Morongo Valley portions of the SBCOG region (Chino, Chino Hills, Colton, Fontana, Highland, Montclair, Rancho Cucamonga, Redlands, Rialto, San Bernardino, Twentynine Palms, Upland, Yucca Valley and County of San Bernardino). The primary objectives for the Partnership include 1) Promoting integrated EE through the coordination of opportunities for cost-effective implementation of natural gas technologies; 2) Coordinating community outreach and training efforts to educate consumers and promote programs; and 3) Identifying opportunities that bundle practical utility incentives, with various monetary incentives aimed at improving the participations of residents, businesses and local government agencies.

As a result of the ongoing COVID-19 pandemic continued, the program was met with a variety of limitations and the Partnership's outreach and coordination efforts with its cities had to be modified throughout 2021. Even through these challenges, SBREP continued to engage virtually with the cities regarding a number of SoCalGas programs, webinars and energy savings opportunities.

One of the ways the partnership kept cities engaged was by partnering with Western Riverside Energy Partnership to host a joint virtual regional energy partnership meeting. The agenda included presentations of core SoCalGas programs. The webinar was a great success as it included participation from dozens of representatives from cities, counties, and special districts across the Inland Empire. In addition, SBREP and SoCalGas had the opportunity to work with the City of Rialto's Public Works Department to implement and promote an Energy Efficiency (EE) starter kit exchange event. The Public Works Department with the City of Rialto made themselves available for the exchange for SoCalGas customers from December 1 through December 17.

Due to the ongoing COVID-19 pandemic and the various limitations/restrictions that were put in place to reduce the transmission of the virus, the Partnership worked to promote outreach and energy efficiency information to the SBREP cities through various virtual and electronic channels such as emails, phone calls, webinars and newsletters.

Also due to ongoing COVID-19 concerns and limitations, program outreach with the SBREP cities was addressed through a variety of emails, phone calls and virtual meetings.

The Partnership met and exceeded its goal to funnel projects to rebates and incentives. Additionally, the Partnership continued to engage actively with partner cities through various virtual channels.

Non-Partnership Public Sector Programs

SCG3815 Public – Calculated Incentives

The SoCalGas Public Calculated Incentive program focuses on customized incentives for the public sector. Incentives are paid on the energy savings above and beyond baseline energy performance, which include state-mandated codes, federal-mandated codes, industry accepted performance standards, or the other baseline energy performance standards.

The Public Calculated Incentives program leveraged improvements made in 2020 to continue to make the required package uploads for selected projects. The Public Calculated Incentives program participated in the small project subgroup in 2021.

The Public Calculated Incentive program continued to see a decree in the number of applications. Limited funding and competing priorities make it difficult for public sector customers to invest in energy efficiency. The COVID-19 pandemic impacted customers as they experienced delayed project start dates and cancellation of committed projects. Return to normal/pre-pandemic operations timing remained uncertain in 2021.

The Public Calculated Incentive program did not experience any change in 2021 but set in place a transition timeline to third party implementer. Projects may be eligible for newly launched program. SoCalGas is actively managing the pipeline, by maintaining existing reserved projects and reserve new projects until completion of transition.

SCG3816 Public – Deemed Incentives

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

SoCalGas's TradePro directory continues to contribute to program participation. Using itemized EE measures was intended to overcome barriers that prevent many business customers from adopting EE alternatives. The barriers were addressed by itemizing common EE measures and rebates, stimulating the supply of high efficiency equipment and products (through higher demand), and offering rebates that help offset higher start-up and down payment expenses for energy efficient retrofits.

In 2021, a 50% kicker were offered to all public sector customers to offer monetary support as a response to the COVID-19 pandemic.

Program terms and conditions changed from the purchase date of products within 18 months of the installed date to purchase and install products within the same calendar year. Pipe insulation and space heating boilers were the focus for the deemed energy savings in 2021 for the public sector.

SCG3886 Public – Public Direct Install Program

The SoCalGas Public Direct Install Program (PDIP) is a turnkey cost-effective end-to-end solution for SoCalGas that serves very small, small, and medium local government, federal government, and education (K-12) facilities. In addition to no cost direct install technologies, the program offers advanced energy efficiency improvements that can be financed.

SoCalGas PDIP had a successful launch in Q3 of 2021 amidst the challenges of COVID-19. In spite of these challenges, the program secured relationships and projects with K-12 facilities and county public facilities. Another noteworthy success is the PDIP implementer passed the rigorous cybersecurity and California Consumer Privacy Act reviews to ensure program and customer data are handled securely and properly.

The contagious Omicron COVID-19 variant resulted in committed K-12 projects cancelling their project schedules with the PDIP implementer. The affected period has been December 2021 into Q1 of 2022.

There were no program changes made in 2021. The implementer began working with the PDIP program advisor to include unserved public market segments to the program in 2022.

With a start in Q3 2021 and the impact of COVID-19, PDIP was not able to meet all the program objectives forecast for 2021. The on-again off-again mode of operation as a result of COVID-19 has made it difficult to get market traction with the public sector. The program implementer is hopeful that 2022 will be stable and optimal for program success and objectives to be met.

Energy Atlas

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.

Recent Developments

In D.18-05-041, the Commission directed the IOU Program Administrators, under the leadership of Southern California Edison, to oversee the statewide deployment of a tool akin to the Energy Atlas, now referred to as "CATALENA." The program’s goal is to competitively solicit a third party to implement CATALENA’s deployment, maintain its data quality, consistency, and security, and continue development of the Energy Atlas's capabilities. D.18-05-041 also directs the IOU PAs to:

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

SoCalGas continues to collaborate with a working group of IOU, REN, and Commission representatives to develop CATALENA.

Statewide Programs

Under the context of the energy efficiency rolling portfolio overseen by the investor-owned utilities, D.18-01-004 approved the solicitation process for procurement of energy efficiency programs for the next several years and beyond. The decision requires the utilities to have at least 60 percent of their energy efficiency portfolio budgets designed and implemented by third party implementers by the end of 2022.

SoCalGas is the program administrator for three statewide programs in the Statewide Food Service Point of Sale (SW FS POS), the Statewide Mid-Stream Water Heating (SW MS WH), and the Statewide Gas Emerging Technologies (SW GET) sectors.

The program for SW FS POS is called the California Foodservice Instant Rebates Program. The program works with midstream market actors to offer POS rebates to California IOU end use customers. All customers with a commercial rate structure served by one of the four IOUs are eligible for POS rebates. Foodservice equipment dealers, manufacturers, contractors, distributors who make sales directly to end use customers are eligible to enroll in the Program.

The program for the SW MS WH sector is the SW WH Program. It is a distributor-centric model design, which will collaborate with a network of distributors that specialize in the sale of efficient electric and natural gas measures. Point-of-sale discounts and incentives will be paid at the midstream level to distributors based on transactions and sales to contractors. All customers with commercial rate structures served by one of California's four IOUs are eligible for program participation.

SoCalGas's GET Program is designed to rapidly identify, prioritize, screen and advance promising energy efficient gas technologies into the EE program portfolio and support their increased adoption by customers. GET is based on a collaborative effort with targeted markets and technology actors to provide program implementers and administrators with eligible technologies for program inclusion, information on barriers to their adoption and, where applicable, potential strategies to overcome such barriers.

Advice Letters for SW FS POS and SW MS WH programs were filed with the Commission on December 15, 2020, and December 4, 2020, respectively. The SW FS POS Advice Letter was approved January 14, 2021. The SW MS WH Advice Letter, following two protests by stakeholders, was suspended on December 30, 2020, and was approved on March 18, 2021. The Advice Letter for SW GET program was filed with the Commission on July 23, 2021, and approved on August 24, 2021.

Below is a list of the SW programs. SoCalGas provides funding to the Lead Program Administrators as shown in Tables 3 and 4 of D.18-05-041. SoCalGas receives the proportional benefits from the Statewide Program through the CPUC's CEDARS reporting system. Please refer to the Lead Program Administrators' 2021 Energy Efficiency Annual Report for the performance for the respective Statewide Program.

APPENDIX A – SOCALGAS PORTFOLIO SUPPORTING DATA

Please review the file: "SoCalGas 2021 Annual Report Template," uploaded to the Commission's Energy Efficiency Reporting Website (https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/energy-efficiency/energy-efficiency-reporting), to view 2021 Supporting Data including the following tables:

Tab	Content
T-1 Savings&Goals	Net First Year Savings, Goal Attainment and Fuel Sub Load Reduction Adjustments
T-2 Fuel Sub	Fuel Substitution Savings
T-3 EnvImpacts	Environmental Impacts of EE Portfolio by Measure Use Category
T-4 Expenses	Expenditures (including Expenditures on Past Cycle Commitments paid in 2021)
T-5 Programs	EE Programs
T-6 NET CE	Cost Effectiveness (Net)
T-7 Bill Impacts	Average Billpayer Impacts from Net Savings
T-8 SavingsUseCategory	Annual Savings By Use Category
T-9 Commitments	Funding commitments
T-10 ESPI	Shareholder Incentives (ESPI) [Not Applicable this Program Year]
T-11 Cap & Target	Energy Efficiency Quarterly Cap And Target Expenditure Performance
T-12 BP Metrics	Business Plan Metrics
T-13 3P Calculation	Third-Party Calculations
T-14 PG&E Marketplace Metrics	PG&E Marketplace Metrics [Not Applicable to SoCalGas]

APPENDIX B.1 – UPDATED MONTHLY REPORT

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

APPENDIX B.2 – UPDATED QUARTERLY REPORT

The Updated Quarterly Report can be found on the CPUC's energy efficiency reports website: https://cedars.sound-data.com/upload/dashboard/list/

APPENDIX C – THIRD-PARTY SOLICITATIONS INFORMATION

See tab T-13 3P Calculation as referenced above for information regarding SoCalGas's third-party programs budget and contract information.

Compliance with D.18-05-041

- Program administrators must also assess the relative success of implementers' strategies, for purposes of identifying lessons learned and best practices for maximizing the contribution of energy efficiency in disadvantaged communities. These assessments shall be included in the program administrators' annual reports. (OP 11, p. 184).

    - *SoCalGas is still actively undergoing solicitations to meet the third-party program percentage requirements. Information regarding lessons learned and best practices in disadvantaged communities will be forthcoming in SoCalGas's 2022 Annual Report.*

- Investor owned utilities must track the number and proportion of third parties that forego the option of using utility account representatives. The utilities must include this information in their annual reports. (OP 17, p. 185)

    - *All third-party programs that target customers with SoCalGas account representatives are provided with basic support that includes providing general information of relevant energy efficiency programs, referring program-related inquiries to respective implementers, and coordinate with implementers to address basic customer questions and concerns. Thus far, one implementer has chosen to utilize SoCalGas account representatives that goes beyond the basic support described.*

APPENDIX D – METRICS

Appendix D – Metrics; see tab T-12 BP Metrics as referenced above.

APPENDIX E – STATEWIDE TRUE-UP REPORT

Per Advice Letter 3268-E-A/2701-G-A, the annual true-up, which provides each IOUs status of statewide program payments, expenses and related interest for the programs administered is included below.

SoCalGas | Statewide EE Programs, 2021
YE True-Up Reports, Refund Summary

Program	SDG&E	SCG	SCE	PG&E	Total
SW Gas Emerging Technology	$2,497.93	$13,388.90	$-	$16,143.51	$32,030.34
SW Food Services	$478,974.57	$1,104,117.49	$706,142.03	$2,113,143.93	$4,402,378.02
SW Water Heating	$1,066,255.68	$2,457,904.26	$1,571,961.38	$4,704,116.86	$9,800,238.18
Total Refund	**$1,547,728.18**	**$3,575,410.65**	**$2,278,103.41**	**$6,833,404.30**	**$14,234,646.54**

SW Gas Emerging Technology

	SDG&E	SCG	SCE	PG&E	Total
Proportional Contribution per Load-Share	7.80%	41.80%	0.00%	50.40%	100.00%
Total Monthly Payments made	$11,257.00	$60,328.00	$-	$72,740.00	$144,325.00
Total Interest Payment Accrued*	$2.28	$12.75	$-	$15.31	$30.34
Program Costs actually spent	$8,761.35	$46,951.85	$-	$56,611.80	$112,325.00
Annual True-Up Payment accrued	$2,497.93	$13,388.90	$-	$16,143.51	$32,030.34

SW Food Services

	SDG&E	SCG	SCE	PG&E	Total
Proportional Contribution per Load-Share	10.88%	25.08%	16.04%	48.00%	100.00%
Total Monthly Payments made	$1,277,864.00	$2,945,664.00	$1,883,909.00	$5,637,634.00	$11,745,071.00
Total Interest Payment Accrued*	$384.72	$912.73	$583.93	$1,741.49	$3,622.87
Program Costs actually spent	$799,274.15	$1,842,459.24	$1,178,350.90	$3,526,231.56	$7,346,315.85
Annual True-Up Payment accrued	$478,974.57	$1,104,117.49	$706,142.03	$2,113,143.93	$4,402,378.02

SW Water Heating

	SDG&E	SCG	SCE	PG&E	Total
Proportional Contribution per Load-Share	10.88%	25.08%	16.04%	48.00%	100.00%
Total Monthly Payments made	$1,352,870.00	$3,118,565.00	$1,994,489.00	$5,968,545.00	12,434,469.00
Total Interest Payment Accrued*	$581.36	$1,367.52	$874.81	$2,611.59	$5,435.28
Program Costs actually spent	$287,195.68	$662,028.26	$423,402.43	$1,267,039.73	$2,639,666.10
Annual True-Up Payment accrued	$1,066,255.68	$2,457,904.26	$1,571,961.38	$4,704,116.86	$9,800,238.18

APPENDIX F – 2023 JOINT COOPERATION MEMORANDUMS

See attachment 2 "2023 3C-REN JCM" and attachment 3 "2023 SoCalREN JCM" for the 2023 3C-REN, SoCalREN, SCE, and SoCalGas Joint Cooperation Memorandums (JCM). No JCM was developed for I-REN for program year 2023.

ATTACHMENT 2

3C-REN, SoCalGas, SCE, AND PG&E
2023 JOINT COOPERATION MEMORANDUM

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I. 3C-REN PORTFOLIO SUMMARY OF PROGRAMS OFFERED FOR 2023

Table 1. 3C-REN Summary of Programs

3C-REN Program Unique ID	Sector	Approved Annual Budget	Eligible Measures
3C-REN WE&T (TCR-WET-001)	Cross-cutting	$1,910,021	N/A
3C-REN C&S (TCR-CS-001)	C&S	$1,884,021	N/A
3C-REN RES (TCR-Res-002 and TCR-Res-003)	Residential	$8,380,011	Air sealing, insulation, HVAC measures, water flow controls, smart thermostat, power strip, duct system servicing, appliances, HVAC servicing, and water heating measures.[1]

II. SUMMARY AND COORDINATION OF 3C-REN AND IOU(s) SoCalGas, SCE, AND PG&E PROGRAMS OFFERED FOR 2023 THAT ARE COMPARABLE

A. 3C-REN WE&T Program [TCR-WET-001]

The 3C-REN will continue to offer a cross-cutting WE&T program designed to fill gaps in current investor-owned utilities[2] (IOU) offerings for the 3C-REN territory. The 3C-REN Building Performance Training program offers career pathways and enrichment by providing access to in-person, on-demand, and on-line trainings; mentorship opportunities; and cross promotion of IOU workforce trainings, engaging hard-to-reach (HTR) workers and those in identified disadvantaged communities (DACs).

Building professionals living and working in the 3C-REN territory face unique challenges given the dispersed nature of communities within the Tri-County Region. The region, and its building professional workforce, have historically struggled to fill key positions in energy efficiency, including the retrofit market and energy code compliant new construction. The 3C-REN WE&T activities

[1] This is a preliminary list of measure types; final measures are provided in the program Implementation Plan.
[2] For the purposes of this Joint Cooperation Memorandum, the IOUs consist of SoCalGas, SCE and PG&E.

address these challenges through collaboration with existing providers and programs; apprenticeship-style learning; targeted management, technical and soft-skill trainings for building professionals; and integrated resources for design and compliance professionals.

The 3C-REN territory is in need of high-performance buildings (i.e., energy efficient and resilient buildings) and a workforce of building professionals able to:

- Market, design, build, and retrofit buildings for high performance;
- Learn about, install, and maintain new technologies essential for high performance;
- Grow customer demand for energy efficiency (EE) by communicating the value of high-performance buildings; and
- Access local training and services customized to address the challenges above.

The 3C-REN delivers technical and soft skill trainings and certifications focused on high performance buildings. The program supports building professionals and those seeking career pathways in residential and commercial design, construction, and related industries. Trainings are delivered locally and designed to meet the unique needs of the Tri-County region.

The 3C-REN WE&T program has a goal to expand its partnerships to develop local career pathway options in building performance. This will be done by talking to career pathway programs established in the Tri-County area and identifying opportunities for collaboration and cross promotion. The program seeks to expand its engagement with career pathway stakeholders, such as community colleges, high schools, and workforce investment boards.

The 3C-REN applies a holistic approach to the market with highly targeted training events, using apprenticeship and mentoring style models to enhance the workforce within the 3C-REN territory. 3C-REN's workforce training program goes beyond the classroom setting and skills are reinforced with real world on-the-job applications, while simultaneously influencing direct energy savings. As a result of a stronger workforce skills base, building professionals will increase efficiency and efficacy with existing resources.

The program budget for 3C-REN WE&T, TCR-WET-001, is $1,190,021.

The program targets local public and private building professionals needing more in-depth training, such as: contractors, HVAC technicians, engineers, architects, designers, certified energy managers, local jurisdictions' building & safety department staff, lighting professionals, real estate professionals, raters, including professionals in DACs and HTR areas, and educational institutions (e.g. community colleges, universities, adult ed, trade schools, & K-12), as well as other key market actors. The program leverages relationships with industry such as architectural and contractor associations to ensure broad engagement.

The 3C-REN's WE&T program is non-resource and serves to support 3C-REN and IOU programs in the region by training the workforce that can deliver resource programs and meet code. The program is designed to be complementary to IOU programs and to fill gaps in existing IOU programs while integrating with C&S compliance support.

1. Comparable SoCalGas, SCE and/or PG&E Programs

Table 2: WE&T Program Comparison

WE&T	3C-REN	PG&E	SCE	SoCalGas
Non-Resource Program Name	3C-REN WE&T Building Performance Training	PG&E WE&T Integrated Energy Education & Training (IEET)[3]	SCE WE&T Integrated Energy Efficiency Training (IEET)[4]	SoCalGas WE&T Integrated Energy Education Training (IEET)
Eligible Measures	N/A	N/A	N/A	N/A
2023 Budget	$1,910,021	$8,155,242	$8,840,814	$4,350,000

[3] The C&S Compliance Improvement subprogram is also a comparable program. More information on this program is listed in Section B

[4] The C&S Compliance Improvement subprogram is also a comparable program. More information on this program is listed in Section B

WE&T	3C-REN	PG&E	SCE	SoCalGas
Target Audience	Locally licensed public and private building professionals needing more in-depth training, such as contractors, HVAC, engineers, architects, designers, certified energy managers, local jurisdictions' building & safety department staff, lighting professionals, real estate professionals, raters, entry-level workers, students, and professionals in DACs and HTR areas, and educational institutions, as well as other key market actors.	Any person who designs, builds, maintains, plan checks, inspects, and/or operates buildings including engineers, architects, contractors, lighting designers, HVAC technicians, real estate professionals, building operators, facility managers, energy consultants, plans examiners, building inspectors, and more. Additionally, this program supports other organizations' instructors who are training a similar audience.	Workers who are in or are pursuing occupations in the energy efficiency and other related professional fields that provide the technical capabilities that are needed to support the attainment of CAs and IOU Energy Saving and sustainability targets	Workers in, or pursuing careers and occupations in energy efficiency, gaining and providing professional and technical capabilities, specifically useful for achieving CA-IOU energy savings targets. Training will be conducted at Energy Center, alternative site locations and distribution channels in collaboration as appropriate, with non-IOU sources, feasible for reaching target audiences.

Pacific Gas and Electric Company

PG&E WE&T Integrated Energy Education Training (IEET) - [PG&E21071]

The PG&E WE&T IEET subprogram offers hundreds of technical workforce trainings per year with the goal of equipping a California workforce with the tools, resources, and skills to meet the State's climate goals. Appendix B includes a categorized list of the residential, multi-family, and/or small business trainings conducted in 2021 and 2022 scheduled to date as an illustration of our potential 2023 offerings in the three areas that appear of greatest interest to the 3C-REN. Appendix B also includes a full list of the in-person, simulcast, webinar classes and on-demand classes in the same period.

Some of the classes listed in Appendix B are restricted to PG&E's Energy Training Center (ETC) in Stockton, the Food Service Technology Center (FSTC) in San Ramon, or other specific locations due to the need to use large teaching

props or laboratories. However, the majority of classes can be offered at off-site locations and/or via online simulcast or webinar, especially if a local organization will assist with marketing and outreach to ensure good attendance from the appropriate target audience. A class being offered at other locations is also dependent on the instructor being willing and able to travel. PG&E's WE&T program also has an online on-demand learning platform, where many classes are focused on residential construction and contractors. See Appendix B for a list of on-demand classes. Appendix B also includes more information on additional C&S training provided by the IOUs.

PG&E has a Tool Lending Library (TLL) with thousands of energy diagnostic tools available to borrow at no-cost to the borrower for short-term (~ 2 weeks) loans. The TLL addresses an up-front cost barrier faced by many small businesses and energy consultants. Once local health ordinances allow, tools will be available from the ETC in Stockton or from San Ramon. PG&E can also ship tools anywhere in California if the borrower or 3C-REN covers shipping costs.

The PG&E WE&T team does not offer soft skills training such as interviewing skills, resume writing, etc. A third-party implementer will coordinate with organizations that offer soft skills training as part of the statewide Career and Workforce Readiness (CWR) program launched in late 2021 (See Section 3 below).

PG&E WE&T does not offer the certifications listed in the 3C-REN Business Plan – BPI, HERS, or NATE; however, PG&E supports these certifications by providing classes that prepare students to take the tests and complete them successfully. Examples include PG&E's IHACI NATE Series, an 8-part class that prepares technicians to take the test. IHACI is an approved NATE testing proctor. Another example is PG&E's Combustion Safety and Depressurization class that prepares workers to take the BPI examination.

Southern California Edison

SCE WE&T Integrated Energy Education & Training Program – [SCE-13-SW-010A]

The SCE WE&T Integrated Energy Education & Training Program (IEET) offers resources and training programs that are aimed at shaping the current and future energy workforce through a series of occupational, employer, and technology-focused workshops and seminars, combined with workplace-based and hands-on technical training. This program aims to provide pathways to and training for certifications and credentials in energy efficiency-related industries

that also support California's clean energy objectives. Appendix B includes a list of trainings offered or scheduled for 2021 as an example of potential offerings for 2023.

In addition to the trainings offered, the Foodservice Technology Center conducts standards-based equipment testing and evaluation that enhance commercialization of emerging energy-efficient technologies and programs. These services are delivered with technical integrity and scientific rigor to ensure our partners stay competitive and maintain cost effectiveness.

The Energy Centers provide additional value-added customer programs and services such as the Tool Lending Library, tours, all of which are available at no-cost to the customer.

Southern California Gas Company

SoCalGas WE&T Integrated Energy Education Training (IEET) – [SCG3729]

The SoCalGas WE&T Integrated Energy Education Training (IEET) subprogram (formerly Centergies) offers both technical and foodservice workforce trainings that can leverage 3C-REN local contacts to inform and equip workforce talent with skills to assist in meeting the State's energy and climate goals. Appendix B includes a non-comprehensive list of expected trainings for 2023.

The WE&T Program contributes to the investor-owned utilities' (IOUs') energy efficiency goals by empowering customers and market actors with the knowledge to make energy reduction decisions. WE&T's primary target audience includes market actors who design, build, maintain, and operate buildings and building systems—engineers, technicians, building operators, designers, contractors, etc. Because these market actors have the potential to shape a building's energy use, WE&T teaches them how to recognize energy savings and balanced energy solutions to address GHG-reduction, and then provides them skills, tools, and resources to act upon those opportunities. Additionally, WE&T supports post-secondary institutions that are training future generations of the energy workforce by providing them energy efficiency, sustainability, and green career awareness classes, internships, materials and resources.

2. Coordination Protocol Between Programs

The goal of coordination between 3C-REN and the IOU WE&T programs, is to ensure that ratepayer funds deliver resources efficiently and effectively across the shared territories. The IOUs and 3C-REN will approach coordination with the

goal of offering transparency through regular communication, efficiency through a collaborative approach to any shared resources, and support for the success of programs across the service area. The IOUs and 3C-REN will meet regularly to coordinate the WE&T and C&S programs.

3C-REN aims to provide workforce, education, and training not currently being provided by the IOUs within the 3C-REN territory, as well as services targeting hard-to-reach markets that may complement existing IOU resources. To ensure 3C-REN can meet these eligibility categories, the IOUs will ensure their current list of scheduled WE&T trainings are available in their respective website for 3C-REN to use or provide 3C-REN with their list of scheduled WE&T trainings. Whenever feasible, 3C-REN will leverage existing IOU curriculum and training by communicating training needs via email or in regular coordination meetings with IOU partners. A clear chain of communication and identified contacts will be exchanged for each program and/or sub-program.

IOUs will provide their list of trainings to 3C-REN on a quarterly basis, and 3C-REN will provide a similar list to the four IOUs. The list of trainings will include the following information:

- Class name(s)
- Description(s)
- Instructor name(s)
- Whether IOUs owns content (as opposed to licensing it)
- Mode of access and location (ex: in-person, training center/city, online)
- Class schedule (if one exists) and URL for class calendar(s)

Each IOU and 3C-REN shall distribute this quarterly list of classes to the appropriate internal staff and/or consultant(s).

Additionally, a standing agenda item at the quarterly meeting will be to discuss the topics of trainings in development, even if only at a high level. This will reduce the potential of duplication of efforts.

Once 3C-REN reviews this list, 3C-REN will determine which of the IOUs' existing offerings should be leveraged and coordinate with the IOUs to deliver these resources. If 3C-REN determines there is a training gap, 3C-REN will develop additional training resources and communicate that to the IOUs, working to avoid duplication by leveraging any existing resources. The IOUs and 3C-REN will administer a post-course evaluation to course participants to assess the quality of the courses.

3. Coordination Between Statewide (SW) Program(s)

Working with PG&E as the statewide administrator for the Career and Workforce Readiness (CWR) and Career Connections (CC) WE&T subprograms, 3C-REN will leverage the coordination protocol described above to include any statewide considerations. The 3C-REN program is expanding and will include a career exploration series and would coordinate with the Career Connection sub-program team. The CWR implementer will be responsible for the design, implementation, and geographic distribution of the CWR program. Once the CWR implementer is under contract, PG&E will provide 3C-REN with the implementer's contact information.

B. 3C-REN C&S PROGRAM [TCR-CS-001]

The 3C-REN will continue to offer a cross-cutting C&S program designed to fill gaps in current IOU offerings for the 3C-REN territory. The 3C-REN C&S Energy Code Connect program offers local, in-person and on-line person-to-person trainings; Regional Forums; an Energy Codes Coach service that provides in-person, over the phone, texting, and online expert assistance for energy codes and green building standards; and a reach code support services in the northern portion of the 3C-REN territory (PG&E) that provides technical assistance and public outreach coordination similar to what SCE is offering in the lower half of the 3C-REN territory with Franklin Energy as a subcontractor. The use of Franklin Energy for this work was intentional and aids in offering a contiguous service without interruption throughout the territory. 3C-REN has had conversations with the SCE and PG&E Codes and Standards team to ensure the service is complimentary and not duplicative.

Through this program and its suite of services, public and private sector building professionals in the Tri-County region receive Energy Code and California Green Building Standards training and support for plan review and field compliance. All design and construction stakeholders, from architects to building inspectors and from mechanical engineers to plans examiners, are encouraged to attend these trainings. The Energy Codes Coach service, having local in-person and on-call experts for the region, fosters an environment where stakeholders have a deeper understanding of building performance, code compliance, and interrelated building practices. The goal is to increase comprehension, compliance, and enforcement of the Energy Code and Green Building Standards throughout the Tri-County region, providing the workforce with a more stable business climate and known code compliance resources. Lastly, the reach code

support service is designed to help jurisdictions develop and implement building codes that go beyond the current California energy code (Title 24, Part 6). This service will deliver support to jurisdictions in the northern Santa Barbara County and San Luis Obispo County with Franklin Energy as the implementer. 3C-REN will focus on these jurisdictions because SCE already delivers reach code support with Franklin Energy as an implementer in southern Santa Barbara County and Ventura County.

The program budget for 3C-REN C&S, TCR-CS-001 is $1,884,021

The target audience is all public and private sector building professionals including construction and design-side stakeholders, architects and designers, building departments, contractors, architects, field inspectors, mechanical engineers, plans examiners checkers, and other stakeholders impacted by energy code. This is a non-resource program.

1. Comparable SCE and/or PG&E Programs

The IOU Compliance Improvement subprogram[5] (of which Energy Code Ace is a key component) targets actors within the building and appliance energy code supply chains to maintain comprehensive statewide compliance with energy codes and appliance standards, such as: manufacturers, distributors, retailers, architects, energy consultants, contractors, plans examiners, building inspectors, etc. Whereas the California Energy Commission is responsible for implementing state policy by establishing new Codes and Standards, others (architects, energy consultants, mechanical engineers, IOUs, builders, contractors, etc.) are responsible for interpreting the code and completing compliance forms while jurisdictions' building departments are responsible for enforcing the code. Building codes and appliance standards can be difficult to understand and time consuming to implement, therefore some industry actors fail to comply with regulatory requirements fully.

Compliance improvement program needs are determined through a performance-based solution approach to identify training, tools, resources and outreach necessary to narrow the gap between actual and desired performance, and principals of adult learning theory are employed to improve knowledge swings during training and increase long-term retention. Multiple training modalities are used to maximize student participation. With a few exceptions, a consistent curriculum, featured on EnergyCodeAce.com, is developed by the compliance improvement program and delivered statewide by a team of subject

[5] Note: The Compliance Improvement subprogram is administered statewide by PG&E, SCE, and SDG&E

matter experts.

The Reach Codes Subprogram, implemented by PG&E, SDG&E, and SCE, responds directly to California's policy goal to significantly reduce greenhouse gas emissions and helps jurisdictions throughout the state leverage their unique authority to adopt ordinances that require increased efficiency and performance beyond the state's minimum requirements. In addition to differentiating the jurisdiction as an efficiency leader, local energy ordinances accelerate the adoption of new equipment, technologies, code compliance, and energy-savings strategies to help pave the way for future code cycles. The subprogram experts develop robust toolkits as well as provide specific technical assistance to local jurisdictions (cities and counties) considering adopting energy reach codes. These include cost-effectiveness research and analysis, model ordinance language and other code development and implementation tools, and specific technical assistance throughout the code adoption process. The Reach Codes subprogram is a resource available to any local jurisdiction located throughout the state of California, regardless of who their energy providers are.

As mentioned, SCE also offers reach code support for jurisdictions with Franklin Energy as the implementer. This service is exclusive to SCE's territory which includes southern Santa Barbara County and Ventura County.

Table 3: C&S Program Comparison

C&S	3C-REN	PG&E	SCE	SoCalGas
Non-Resource Program Name	3C-REN C&S Energy Code Connect	Statewide C&S Compliance Improvement Subprogram Statewide C&S Reach Codes Subprogram	Statewide C&S Compliance Improvement Subprogram Statewide C&S Reach Codes Subprogram	N/A
Eligible Measures	N/A	N/A	N/A	N/A
2023 Budget	$1,884,021	Compliance Improvement: $ 5,297,606 Reach Codes: $2,074,846	Compliance Improvement: $3,051,711 Reach Codes: $1,379,860	N/A

C&S	3C-REN	PG&E	SCE	SoCalGas
Target Audience	All stakeholders impacted by energy code	Compliance Improvement: All stakeholders impacted by the energy code Reach Codes: Jurisdiction staff that develop energy ordinances; other market actors involved in the process	All stakeholders impacted by the energy code	N/A

2. Coordination Protocol between programs

The same coordination protocol as mentioned above for WE&T applies to C&S classroom and online trainings. Again, the goal of coordination between 3C-REN and the IOUs is to ensure that ratepayer funds deliver resources efficiently and effectively across the shared territories. With that in mind, the IOUs and 3C-REN will approach coordination with the goal of offering transparency through regular communication, efficiency through a collaborative approach to any shared resources, and support for the success of programs across the service area. The IOUs and 3C-REN will meet regularly to coordinate the WE&T and C&S programs.

3C-REN aims to provide coverage not currently being provided by the IOUs, as well as services targeting hard-to-reach markets that may complement existing IOU resources. The majority of 3C-REN's Energy Code Connect program activities are related to offering Energy Code and Green Building Standards trainings, Regional Forums, and the Energy Codes Coach service. This is also applicable for reach code support services in the PGE territory covered by 3C-REN. 3C-REN will deliver reach code support services to interested jurisdictions in northern Santa Barbara County and San Luis Obispo County while directing jurisdictions in southern Santa Barbara County and Ventura County to SCE and Franklin Energy for similar services.

The IOUs will provide 3C-REN with their respective lists of available C&S trainings including those in development stages. Whenever feasible, 3C-REN will leverage existing IOU curriculum and training by communicating training needs via email or in regular coordination meetings with the IOU. A clear chain

of communication and identified contacts will be exchanged for each program and/or sub-program.

IOUs' Compliance Improvement team representative will provide a list of trainings to 3C-REN on a quarterly basis and will include the following information:

- Class name(s)
- Description(s)
- Instructor name(s)
- Course length time
- Mode of access and location (ex: in-person, training center/city, online)
- Class schedule (if one exists)
- Course agenda

Additionally, a standing agenda item at the quarterly meeting will be to discuss the topics of trainings in development, even if only at a high level. This will reduce the potential for duplication of efforts.

Once 3C-REN reviews this list, 3C-REN will determine which existing offerings should be leveraged and coordinate with the IOUs to deliver these resources. 3C-REN will develop a calendar with potential dates, of when these offerings can be delivered to various audiences in the Tri-County region. This calendar will be shared with the IOU's and scheduled based on the availability and resource requirements. When 3C-REN determines there is a training gap, 3C-REN will develop additional training resources and communicate that to the IOUs, working to avoid duplication by leveraging any existing resources.

The IOUs will make the 3C-REN aware of resources available as courses are scheduled for delivery and new job aides (Energy Code Ace "resources" or "tools") are developed. A portion of the Statewide C&S Team's training schedule is set at the beginning of the year while the rest remains flexible since most courses are offered upon request as a result of the team's outreach efforts. All offerings are posted on the Energy Code Ace website training page as courses are scheduled.

3C-REN and the IOUs will plan to meet quarterly on reach codes, with the option of combining with the Compliance Improvement meeting for efficiency as needed. The IOUs will make the 3C-REN aware of Reach Code subprogram cost-effectiveness research and analysis, model ordinance language and other code development and implementation tools. The IOUs will invite the 3C-REN to statewide Reach Codes meetings where other RENs are included. The Reach

Code subprogram representatives will provide updates to the 3C-REN on relevant reach codes activities, at check-in meetings when reach codes are on the agenda or in ad hoc meetings as needed. The 3C-REN will reciprocate with updates on regional progress in supporting jurisdictions interested in developing energy ordinance and direct customers to IOU subprogram work products when they can be utilized in lieu of duplicating efforts.[6]

3. Coordination Between Compliance Improvement Subprogram(s)

As noted above, in addition to training offerings and Regional Forums, 3C-REN's C&S activities are also related to the Energy Codes Coach service which will refer customers who may benefit from statewide programs.

There is an extensive list of classes offered by the C&S team. The IOU Compliance Improvement team representative will provide their list of trainings to 3C-REN per the protocol listed above.

Should the need to coordinate efforts arise, 3C-REN will follow similar protocols as defined under the coordination protocol between programs. Specifically, 3C-REN will work with the local IOU administrators to identify appropriate program contacts, confirm existing resources, share existing resources, and collaboratively determine if resources should be jointly offered or if 3C-REN should build upon resources.

C. 3C-REN Residential Home Energy Savings Multifamily [TCR-Res-002] and Single Family NMEC [TCR-Res-003]

3C-REN will continue to target hard-to-reach (HTR) single-family residential customers in Ventura, Santa Barbara and San Luis Obispo Counties but will shift from direct install to a pay-for-performance model. The program will deliver incentives based on metered savings, using a population Normalized Metered Energy Consumption (NMEC) Measurement and Verification (M&V) approach. The program implementer, Recurve, will deliver energy upgrades utilizing a network of energy efficiency installers (aggregators) who will be paid incentives based on the metered savings achieved with their installations.

The aggregators will work directly with single-family residents to sell and install EE measures. The aggregators will be paid incentives based on the metered savings following the EE upgrades, allowing for flexibility in the measures offered and customer acquisition strategy not seen in prescriptive programs. The aggregators can offer a suite of measures that generate kWh, kW, and Therm

[6] Example: Cost Effectiveness Explorer tool, https://explorer.localenergycodes.com

savings, which could include lighting, HVAC, water heaters, insulation, smart thermostats, water heater controls, storage, etc. The program will not have a list of eligible measures, but rather allow for customized solutions. The flexibility of the approach will allow aggregators to work directly with customers to meet their needs in designing a scope of work that leads to metered energy savings.

HTR customers will be prioritized in this program through an incentive design that pays more for the energy savings of HTR customers; the program will create the market forces to drive implementers to deliver comprehensive energy upgrades to those that need it most. Additionally, the program will seek to enlist local contractors as aggregators to support local economic growth and recognizing that local people are most connected to the target HTR customers. Efforts to engage the local workforce will also be aligned with 3C-REN's WET program goals.

The PAs are exploring the potential for the IOUs to provide both program participant and non-program participant data which 3C-REN views as integral to program delivery and calculating savings, identify HTR customers, determine eligibility, and create comparison groups. The PAs are in the process of investigating whether and what confidential data the IOUs are authorized and enabled to provide to 3C-REN and its third-party implementer for this program.

The program budget for 3C-REN Residential Home Energy Savings Single Family NMEC in 2023 will be $4,949,974

In addition to serving single-family customers, 3C-REN launched its Multifamily Home Energy Savings program in October 2021. The program serves hard-to-reach (HTR) multi-family building owners, renters, and Disadvantaged Communities (DACs) in Ventura, Santa Barbara and San Luis Obispo Counties.

The program is a multi-measure, whole-building energy efficiency rebate program marketed to multifamily property owners and managers with the intent that the investments in multifamily properties will benefit both the manager/owner and the residents of the properties who often pay the energy bills directly.

Multifamily properties with five or more units are eligible to participate. The program includes site assessments, technical assistance, and a rebate structure that is based on the number of units in the complex. To qualify for the rebates, the project scope of work must achieve a minimum of 0.25MT CO2e savings per apartment unit. The incentive structure also includes enhanced incentives for underserved properties, and adders for higher performance measures, such as

heat pumps.

To participate in the program, property owners/managers (participants) can sign up on the 3C-REN website. Marketing efforts to drive participants to sign up will include events, calls, emails, etc. Following sign up, participants will work with a Technical Assistant (TA) to conduct an energy assessment to identify energy upgrades and associated GHG savings predictions and develop a project scope. Once the scope has been developed (that meets the GHG savings requirements), a rebate will be reserved for the participant. The participant is responsible for implementing the project scope. It is expected that participants will work with contractors that they already have relationships with, or to review quotes from other area contractors. Although the responsibility lies with the participant to implement the project scope, the TA will provide assistance throughout the bid process and construction of the project. Technical assistance will also include support in identifying financing and accessing additional incentives beyond those offered in this program. Once construction is completed, the TA will verify the project and process incentive payments, which are paid directly to the participant.

The project scopes for each property will vary based on energy assessments, but can include whole building, common area, and in-unit measures. The program does not provide a prescriptive list of eligible measures but will allow energy-saving upgrades for domestic hot water, HVAC, building envelope, appliances, and lighting.

The 2023 program budget for 3C-REN Residential Home Energy Savings Multifamily will be $3,430,037

The total budget for 3C-REN Residential Programs in 2023 will be $8,380,011

1. Comparable IOU Programs

Table 4: RES DI Program Comparison

DI	3C-REN	SCE		PG&E		SoCalGas
Resource Program Name	TCR-Res-002 and TCR- RES -003 -Home Energy Savings Program	SCE_3P_2020RCI_004 Willdan Multifamily Energy Efficiency Program (MFEEP)	SCE-13-SW-001G SCE Residential Direct Install Program	PGE Pay For Performance Programs: 1) Comfortable Home Rebates (PGE_Res_001a) 2) Home Intel (PGE_Res_001b),	PGE_Res_003 Multifamily Energy Savings Program (MESP)	SCG3861 – Residential – Community Language Efficiency Outreach SCG3883 – ResACE- Residential Advanced Clean Energy Program SCG3885 – Residential – Manufactured Mobile Homes

DI	3C-REN	SCE		PG&E		SoCalGas
Eligible Measures	The Multifamily Home Energy Savings program offers site-specific measures that achieve energy savings both in-unit and in common areas. The Single Family Home Energy Savings program's population NMEC design pays incentives for any project that achieves metered kWh or therm savings. Therefore, there is not a measure list associated with the program; envelope, HVAC, lighting, water heating, and other measures may all be part a project.	The program offers deemed, customized calculated, and NMEC-based site-specific approach measures for energy-saving equipment for both common and in-unit areas of multifamily properties; end uses include HVAC and Lighting, and Water Heating, , Pool pump, High efficiency kitchen appliances, Showerheads and Faucets and Energy Management Technologies.	Fan Controller, Duct Seal, Smart Thermostat, Brushless Fan Motor, Faucet Aerators and Efficient Showerhead.	Customers across PG&E territory are eligible who have 12 month energy data: 1) Comfortable Home Rebates: Home maintenance and upgrade program focused on Heating, cooling, water heating, insulation, duct work, air sealing, lighting, and pool pumps. Cost varies depending on measures selected, rebates from $585 to $3,500 depending on measures selected and CEC Climate Zone 2) Home Intel: No cost to customer, In-depth analysis of home's energy use, customized behavioral recommendations and energy coaches to help customers. Includes monthly energy efficiency progress report.	PG&E's Multifamily Energy Savings Program includes a direct install program option for multifamily properties within PG&E's service territory. Eligible measures include Low flow and thermostatic showerheads, Low flow sink/lavatory aerators, Smart Thermostats, Hot water pipe Insulation, Refrigerators and freezers, High efficiency furnaces, and common area Energy Star clothes washers, and NGAT testing where applicable.	Exhaust Venting (Kitchen/Bath) – cut opening with vent (Done in conjunction with attic insulation), Vent – Eave (Done in conjunction with attic insulation), Duct Repair – (Done in conjunction with attic insulation), Duct Testing, Duct Sealing, Duct Board Installation, Low Flow Kitchen Faucet Aerator, Low Flow Bathroom Faucet Aerator, Low Flow Showerhead, Low Flow Handheld Showerhead, Showerhead adaptor, Shower Diverter Valve (in conjunction with Low Flow Showerhead), Thermostatic Shower Valve, Smart Thermostat, Natural Gas Appliance Testing (NGAT) (done in conjunction with Duct Sealing).

DI	3C-REN	SCE		PG&E		SoCalGas
2023 Budget	$8,380,011	$19,595,052	$15,124,543	$4,903,644 PGE_Res_001b: Home Intel - $1,906,631	$5,063,137	$7,466,511
Target Audience	Will target hard-to-reach (HTR) residential customers, including single-family, multifamily renters and owners, and moderate-income families not currently being served by, nor meeting the criteria of current ESA and LIHEAP in Ventura, Santa Barbara and San Luis Obispo Counties.	All multifamily customer (small, medium and large) segments of the residential sector across SCE's service territory including hard-to-reach (HTR) customers and/or those in disadvantaged communities (DACs). Property owners and managers of existing multifamily properties. The program targets all levels of multifamily buildings (i.e., low-income).	Residential single-family home customers within SCE's service territory.	Single Family Residential with 12 months energy use data, within PG&E's service territory. Some Multifamily customers may be eligible for the Home Intel program. Some 2-4 unit buildings may be eligible for Comfortable Home Rebates. Home Intel and Home Energy Rewards are no-cost to customers and therefore customers of all incomes, above ESA eligibility, can be supported by these programs.	MESP has a target audience of all types of multifamily buildings that have 5 or more units. MESP has HTR and DAC goals	Mainstream, market rate homeowners.

Southern California Edison

SCE-13-SW-001G - SCE Residential Direct Installation Program (RES DI)

The RES DI program targets single-family residential customers. The program allows customers to realize the value of energy efficiency through a variety of no-cost products and services to meet individual customer needs and enable continuous energy management. Additionally, the services offered through the RES DI program are leveraged by various Water District agencies that deploy water conservation program offerings to deliver a comprehensive water energy nexus solution.

Target marketing is performed in select areas to create customer awareness and engagement. Customers are provided with education on the measures installed in their homes, other measures that could further improve their energy savings, and a general understanding about the importance of saving energy and the large impact everyday behavior has on conservation.

The program is integrated with the Demand Response (DR) Smart Energy Program (SEP) to deliver an Integrated Demand Side Management (IDSM) offering. Smart Thermostat installations performed under Res DI are leveraged to enroll eligible customers in SEP.

SCE_3P_2020RCI_004 - Willdan Multifamily Energy Efficiency Program (MFEEP)

SCE has contracted with Willdan Energy Solutions (Third-Party) to develop, implement, and offer this Energy Efficiency (EE) Program to SCE customers. This Third-Party program provides comprehensive EE for all multifamily (MF) customer segments of the residential sector across SCE's service territory. This program seeks to influence a significant increase in the adoption of EE technology and/or measures among the end-users of this market sector using the Deemed, Custom Calculated and Normalized Metered Energy Consumption approaches. The Program offers a consolidated approach that includes segment-specific marketing, technical assistance, technologies, whole-facility opportunities, financing, and measurement and verification (M&V).

The program goes beyond basic EE to include Demand Response (DR), energy management technologies and fully Integrated Demand-Side Management (IDSM) solutions. IDSM and electrification upgrades are offered to customers, excluding any storage technology. This approach minimizes the barriers for

customer participation.

This program will offer a single point of contact (SPOC) and a significant share of program services will be provided through Channel Partners, Trade Pros, Installers, and community-based organization (CBO) networks. The program's primary objective is to meet SCE's business plan goals and achieve deeper savings through comprehensive energy management solutions. An additional objective is to increase EE adoption rates by targeting MF residential sub-segments including hard-to-reach (HTR) customers and/or those in disadvantaged communities (DACs). An integrated team with extensive MF experience will develop tailored responses that align with SCE's objectives and draws on existing customer relationships with property owners to increase the number of completed projects.

Southern California Gas Company

SCG 3861 Community Language Efficiency Outreach (CLEO)

The CLEO program is a highly targeted residential EE Marketing, Education and Outreach (ME&O) and Direct Install (DI) program specifically targeted to the Vietnamese, Indian, Chinese Korean, Hispanic and African American (VICK-HA) speaking customers of SoCalGas. The CLEO has a unique, 100% in-language strategy which serves a key role in overcoming the English as a second language market barrier and targets hard-to-reach, low- and medium-income customers. The CLEO markets SoCalGas programs and offers energy efficiency education and training and participates in community events, where customers are encouraged to fill up energy efficiency surveys and sign up for direct install of EE measures. The CLEO's marketing efforts encourage and create participation in SoCalGas energy efficiency programs. The CLEO also targets SoCalGas customers in other Southern California Power Producers Association (SCPPA) municipal cities.

SCG3883 Residential Advanced Clean Energy Program

SoCalGas Residential Advanced Clean Energy Program is a comprehensive advanced clean energy solution for single-family customers. The advanced clean energy path begins with the delivery of cost-effective therm-rich direct install measures that transitions to an advanced clean energy opportunity for the single-family customer that can be financed by outside sources. The Residential Advanced Clean Energy Program leverages IOU electric, municipal electric, and local agency clean energy single-family opportunities offering, in addition to

natural gas clean energy, electric, and carbon emission reduction clean energy solutions.

SCG 3885 Manufactured Homes Program

The Manufactured Homes Program provides no- and low-cost energy-efficiency improvements and replacement appliances to SoCalGas customers living in mobile or manufactured homes. Qualifying manufactured home customers will be provided with energy conservation evaluations, installations of low-flow showerheads and faucet aerators and natural gas energy efficiency improvements, such as duct test and seal of HVAC systems and smart thermostats all at no cost. In addition to the no-cost energy-efficiency improvements, the program also provides incentives and financing to upgrade and replace inefficient gas appliances with advanced energy-efficiency technologies. These include high efficiency furnaces, high efficiency storage water heaters, and tankless water heaters. This program is currently available to residents of Fresno, Kern, Kings, San Luis Obispo, Santa Barbara, Tulare, and Ventura (CA) Counties

Pacific Gas and Electric Company

PGE_Res_001a, PGE_Res_001b, Pay for Performance (P4P) Programs (Comfortable Home Rebates, Home Intel

Customers across PG&E territory who have 12 months of energy data are eligible to participate in PG&E's P4P programs, among other eligibility criteria. Under the Comfortable Home Rebates program, home maintenance and upgrades are focused on heating, cooling, water heating, insulation, duct work, air sealing, lighting, and pool pumps. Costs vary depending on measures selected by the customers and rebates vary between $585 and $3,500 depending on measures selected and CEC Climate Zone. Through the Home Intel program, there is no cost to customer. Energy coaches provide an in-depth analysis of a home's energy use and customized behavioral recommendations help customers. Customers receive a monthly energy efficiency progress report.
PG&E_Res_003 Multifamily Energy Savings Program

PG&E's Multifamily Energy Savings Program (MESP) is a third-party implemented program by TRC Solutions to serve multifamily properties of units five or greater within PG&E's service territory. MESP offers energy efficiency upgrade services to multifamily buildings through deemed and custom projects

as well as a direct install delivery channel. The direct install component offers multifamily properties low-cost/no-cost measures. Participation in the direct install track may serve as a springboard to a property participating in deemed or custom upgrade projects.

TRC began MESP ramp up activities following CPUC approval of the contract in October 2020, following the completion of the first wave of PG&E's third-party, multi-sector solicitations. MESP aims to serve multifamily customers, inclusive of smaller properties and underserved regions that will most benefit from property upgrades.

2. Coordination Protocol Between Programs

As described for previous programs, the IOUs and 3C-REN approach coordination with the goal of offering transparency through regular communication, efficiency through a collaborative approach to any shared resources, and support for the success of programs across the service area.

For its residential programs, 3C-REN and the IOUs will communicate via email or in regular coordination meetings. A clear chain of communication and identified contacts will be exchanged for each program. 3C-REN and the IOUs have also developed a protocol to verify customer eligibility to prevent "double dipping" and will use this protocol going forward.

The IOUs will make the 3C-REN aware of programs and resources available for multifamily and single family residential programs. The IOUs will provide written notice once advice letters have been filed and implementation plans have been uploaded to CEDARS of any new program similar to 3C-REN's residential programs. 3C-REN will determine whether resources, such as those for low and moderate- income families, should be jointly offered or if the 3C-REN will build upon IOU resources to offer such programs independently. This will assist with market penetration and afford both the IOU and 3C-REN cross promotion and continuity of services.

There may be instances where a customer may contact 3C-REN for resources, and 3C-REN may identify that the customer would be best served by an IOU program. 3C-REN and the IOUs have established a protocol for customer handoff should either program identify a referral opportunity for another organization's resources. The handoff protocol minimizes the number of customer touchpoints to maximize the potential for program participation. Ideally, 3C-REN will be able to provide a "warm" or immediate handoff to the IOUs or third-party implementer while the customer is actively engaged by email/phone,

so that the customer experiences a seamless service offering between 3C-REN and the IOUs.

3. Coordination Between SW Program(s)

The 3C-REN residential program offerings are not substantially similar to any statewide programs and therefore the parties to this JCM have determined that regular coordination to avoid duplication is unnecessary. However, there are some portions of the program that may allow for and require coordination among programs. In particular, 3C-REN will provide referrals to statewide financing programs to program participants when appropriate. 3C-REN will follow similar established coordination protocols for coordination with utility programs to ensure coordination with statewide programs.

III. 3C-REN PROGRAM COMPLIANCE WITH D.12-11-015

A. 3C-REN UNDERTAKING ACTIVITIES THAT UTILITIES CANNOT OR DO NOT INTEND TO UNDERTAKE.

Although the IOUs do offer C&S and WE&T resources, the IOUs are not currently delivering localized, hands-on services in the 3C-REN service area. The majority of the IOU trainings are offered virtually or at IOU training facilities, which are not located in 3C-REN service area. As noted in D.18-05-041 "3C-REN's proposed activities for WE&T and code compliance have value in terms of the significant distance of its service area to the IOUs' training centers."[7]

For WE&T, the 3C-REN program offers regional, on-the-ground resources to address this gap. As noted in the 3C-REN Business Plan, "the current IOU training and education programs require substantial travel to energy centers outside of the area and are often not designed to meet the needs of a residential home performance workforce." Specifically, the 3C-REN program helps build career pathways by providing access to in-person trainings and mentorships, including HTR workers and those in identified DACs. This includes local Energy Advisor services for in-field training to build capabilities and on-the-job skills, a service not offered by the IOUs. Separately, 3C-REN offers in-person training on technical and soft skills, a service not offered locally by the IOUs.

For C&S, the 3C-REN established a regional Energy Code Coach offering service to run concurrent to and alongside other training efforts. This approach provides

[7] D.18-05-41, Finding of Fact 63

hands-on and locally relevant resources. Building departments professionals in the Region receive building performance support and mentoring for plan review and field compliance. All design-side stakeholders, from the architect to field inspector and from the mechanical engineer to the plan checker, are encouraged to attend trainings. The Code Coach approach, having local counter-to-counter and on-call experts for the region, fosters an environment where stakeholders have a deeper understanding of building performance and interrelated concerns.

B. **3C-REN UNDERTAKING PILOTS ACTIVITIES WHERE THERE IS NO CURRENT UTILITY UNDERTAKING, AND WHERE THERE IS A POTENTIAL FOR SCALABILITY TO A BROADER GEOGRAPHIC REACH, IF SUCESSFUL.**

At this time, 3C-REN is not proposing a program using this threshold criteria for compliance with D.12-11-015. Instead, 3C-REN is proposing programs that both fill in gaps to IOU services and that target HTR markets.

C. **3C-REN UNDERTAKING PILOT ACTIVITIES IN HARD TO REACH MARKETS, WHETHER OR NOT THERE IS A CURRENT UTILITY PROGRAM THAT MAY OVERLAP.**

As noted in D.18-05-041, the CPUC intends to "authorize 3C-REN's proposed business plan activities for residential programs that target hard to reach customers."[8] Through its residential programs, 3C-REN targets hard-to-reach residential customers, including single family and multifamily, renters and owners, and DACs in Ventura, Santa Barbara and San Luis Obispo Counties.

3C-REN addresses this hard-to-reach market through its intervention strategies of "Strategy 1." Build trust and interest in energy savings over time," and "Strategy 2." Apply neighborhood approaches to achieve scale in reach and savings." Under the first strategy, activities include offering a direct install program targeting hard-to-reach customers, as well as simple upgrade packages offered for cost to streamline easy installation and adoption of deeper retrofits in hard to reach customers. Under the second strategy, 3C-REN deploys a neighborhood-based approach to engage hard-to-reach customers and integrate workforce development opportunities to build skills and community buy-in.

As noted in the Business Plan, "3C-REN intends to offer services to all residents in the three counties, however, the hard to reach populations of

[8] D.18-05-41, Conclusion of Law 54

moderate income and rural areas will be targeted in marketing and outreach, as well as in program design." There may be instances where a customer may contact 3C-REN, but the customer would be best served by an IOU program. 3C-REN and the IOUs established and use a protocol for customer handoff, as described above.

Table 5. 3C-REN CROSS-CUTTING & RESIDENTIAL D. 12-11-015 Compliance, by program

D.12-11-015 Threshold Criteria that apply for each program.	Comparable IOU Program if applicable.	1. Activities that utilities cannot or do not intend to undertake.	2. Pilot activities where there is no current offering, and where there is potential for scalability to a broader geographic reach, if successful.	3. Pilot activities in hard to reach markets, whether or not there is a current utility program that may overlap.
3C-REN WE&T **TCR-WET-001**	PG&E Integrated Energy Education & Training (IEET) SCE WE&T IEET (SCE-13-SW-010A) SoCalGas WE&T Integrated Energy Efficiency Training (SCG3729).	Strategy 3. Establish local, targeted training for building professionals. • Local Energy Advisor for in-field training to build capabilities and on-the-job skills • In-person training, hosted locally, on technical and soft skills.		
3C-REN C&S **TCR-CS-001**	Statewide C&S Compliance Improvement Subprogram Statewide C&S Reach Codes Subprogram	Strategy 4. Provide Regional assistance to Building Departments and Jurisdictions to help comply and adjust to Codes and future updates. Local Energy Code Coach service to provide ongoing technical training for building departments		

D.12-11-015 Threshold Criteria that apply for each program.	Comparable IOU Program if applicable.	1. Activities that utilities cannot or do not intend to undertake.	2. Pilot activities where there is no current offering, and where there is potential for scalability to a broader geographic reach, if successful.	3. Pilot activities in hard to reach markets, whether or not there is a current utility program that may overlap.
3C-REN Residential **TCR-Res-002 and TCR-Res-003**	SoCalGas Residential Energy Efficiency Program (SCG3702) SoCalGas Home Upgrade Program (SCG3705) SoCalGas RES ACE (SCG 3820) SCE RES DI (Formerly Energy Upgrade California – MIDI) (SCE-13- SW-001G) SCE Willdan Multifamily Energy Efficiency Program (MFEEP) (SCE_3P_2020RCI_004) PG&E Multifamily Energy Savings Program (MESP) (PGE_Res_003) PG&E Pay for Performance (P4P) Programs (PGE_Res_001a, PGE_Res_001b)			Strategy 1. Build trust and interest in deeper energy savings over time. • Offer a programs targeting hard- to-reach customers • Develop simple upgrade packages to streamline and offer easy installation and adoption of deeper retrofits Strategy 2. Employ neighborhood approaches to achieve scale in reach and savings. • Integrate workforce development into neighborhood programs to build skills and community buy- in

IV. DATA SHARING PROTOCOL

The IOUs have data governance and protection obligations for sharing any customer data. Before the IOUs share data that they are authorized to share by applicable law and/or tariff for double-dip check purposes or to support a 3C-REN program, the following minimum data security and privacy protocols need to be completed:

- The party seeking customer data has a contract with the County of Ventura on behalf of 3C-REN or with the lead contractor for a 3C-REN program that includes acceptable privacy and data protection and liability provisions.
- The party seeking data has executed a Non-disclosure Agreement (NDA) with the IOU.
- The party seeking data has completed an IOU's Third-Party Security Review (TSR) and TSR renewals.

For avoidance of doubt, these requirements are non-exhaustive, and the parties will develop additional protocols.

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APPENDIX A - IOU(s) PORTFOLIO SUMMARY OF PROGRAMS OFFERED FOR 2023

For information on IOUs portfolio of programs, please refer to the California Energy Data and Reporting System https://cedars.sound-data.com/programs/list/.

Table 1. PG&E Summary of Comparable Programs

IOU Program Unique ID	Sector	Annual Budget	Eligible Measures
PG&E Integrated Energy Education & Training **[PGE21071]**	Cross-cutting: WE&T	$8,155,242	Not applicable. Non-resource program
PG&E Compliance Improvement Program **[PGE21053]**	Cross Cutting: C&S	$5,297,606	Not applicable. Non-resource program
PG&E Reach Codes Program **[PGE21054]**	Cross Cutting: C&S	$2,074,846	Not applicable. Non-resource program
PG&E Multifamily Energy Savings Program (MESP) **[PGE_Res_003]**	Residential	$5,063,137	Low flow and thermostatic showerheads, Low flow sink/lavatory aerators, Smart Thermostats, Hot water pipe Insulation, Refrigerators and freezers, High efficiency furnaces, and common area Energy Star clothes washers, and NGAT testing where applicable.
PG&E Pay for Performance (P4P) Programs **[PGE_Res_001a, PGE_Res_001b]**	Residential	$4,903,644[9]	This program claims savings through NMEC methodology and not deemed measures. However, the current measures are: behavioral, LEDs, Low flow sink/lavatory aerators, smart thermostats, Heating, cooling, water heating, insulation, duct work, air sealing, lighting, and pool pumps.

[9] This total reflects the combined 2021 ABAL program budgets of three PG&E Residential P4P programs: Comfortable Home Rebates ($3,478,918), Home Intel ($667,404), Home Energy Rewards ($757,322)The 2022 budget will be provided in the 2022-2023 BBAL. .

Table 2. SCE Summary of Comparable Programs

IOU Program Unique ID	Sector	Annual Budget [10]	Eligible Measures
SCE WE&T Integrated Energy Education & Training Program (formerly Centergies) **[SCE-13-SW-010A]**	Cross-cutting: WE&T	$8,840,814	Not applicable. Non-resource program
SCE C&S – Compliance Improvement **[SCE-13-SW-008C]**	Cross Cutting: C&S	$3,051,711	Not applicable. Non-resource program
SCE C&S – Reach Codes	Cross Cutting: C&S	$1,379,860	Not applicable. Non-resource program
SCE Residential Direct Install **[SCE-13-SW-001G]**	Residential	$15,124,543	Fan Controller, Duct Seal, Smart Thermostat, Brushless Fan Motor, Faucet Aerators and Efficient Showerhead.
SCE Willdan Multifamily Energy Efficiency Program (MFEEP) **(SCE_3P_2020RCI_004)**	Residential	$19,595,052	The program offers deemed, customized calculated, and NMEC-based site-specific approach measures for energy- saving equipment for both common and in-unit areas of multifamily properties; end uses include HVAC and Lighting, and Water Heating, Pool pump, High efficiency kitchen appliances, Showerheads and Faucets and Energy Management Technologies.

[10] 2023 Budgets are based on approved 2022-2023 Annual Budget Advice Letter (ABAL) filings (SCE AL 4633-E).

Table 3. SoCalGas Summary of Comparable programs

IOU Program Unique ID	Sector	Annual Budget	Eligible Measures
SCG3729 – WE&T-Integrated Energy Education Training (IEET)	Cross Cutting	$4,350,000	Not applicable.
SCG3702 – RES-Residential Energy Efficiency Program **SCG3705 – RES-Home Upgrade Program** **SCG3764 – RES-LivingWise** **SCG3861 – RES-Community Language Efficiency Outreach-Direct Install** **SCG3883 – RES-Residential Advanced Clean Energy** **SCG3885 – RES-Manufactured Home Program (Staples)** **SCG3888 – RES-Multi Family Space and Water Heating Controls** **SCG3889 – RES-Multifamily Energy Alliance**	Residential	$35,580,979	The residential programs listed encompasses various delivery channels and measures. These programs can have integrated direct install, co-pay, rebates, education, and whole building attached to these programs. For example, SCG 3705, uses approved a CEC software to create a whole building incentive program towards multifamily buildings. Listed below are some of the measures that are used by SCG's contractors. • Smart Thermostat (installation & setup) • Duct Sealing and Testing • Water Heater Pipe Wrap • Low-flow Showerheads • Faucet Aerators • Tub Spout & Thermostatic Shut-off Showerhead • Thermostatic Shower Valves • Premium High Efficiency Toilets • Smart Irrigation Water Controller with Weather-Based Capabilities • Smart Hose Bib with Weather-Based Capabilities • High Efficiency Furnaces • Tankless Water Heaters • Fireplace Inserts • Education • Insulation

[11].

APPENDIX B - WORKFORCE, EDUCATION, AND TRAINING CLASS LIST

Classes in Alignment with 3C-REN Focus Areas, Full Class List and On-demand Class List

PG&E Full Class List

Building Envelope	
1.	Advanced Framing for Energy and Resource Efficiency
2.	Air Sealing and Insulating Existing Homes: Addressing Air Leakage and Thermal Performance in Ceilings without Attics
3.	Air Sealing and Insulating Existing Homes: Addressing Common Hazards During Energy Upgrades
4.	Air Sealing and Insulating Existing Homes: Air Leakage Control for Interstitial Cavities
5.	Air Sealing and Insulating Existing Homes: Attic Ventilation for Efficiency, Access, and Wildfire Safety
6.	Air Sealing and Insulating Existing Homes: Creating Continuity in Ceiling Air Barrier
7.	Air Sealing and Insulating Existing Homes: Developing a Work Scope for Attic Efficiency Upgrades
8.	Air Sealing and Insulating Existing Homes: Improving the Thermal Performance of Attic Knee Walls
9.	Air Sealing and Insulating Existing Homes: Interpreting and Prioritizing Infrared and Blower Door Results
10.	Air Sealing and Insulating Existing Homes: Recessed Fixtures in Vented Attics
11.	Air Sealing and Insulating Existing Homes: Ventilation Terminations and the Enclosure
12.	Air Sealing Strategies for Zero Net Energy Homes
13.	Air Sealing with Low VOC Materials
14.	Balanced Ventilation for Better Health, Comfort, and Energy Efficiency: IAQ, OAQ, Ventilation and Filtration
15.	Balanced Ventilation for Better Health, Comfort, and Energy Efficiency: System Types, Install Strategies, Duct Design and Critical Details
16.	Basics of Photovoltaic (PV) & Energy Storage Systems (ESS) for Grid-Tied Applications (2-Part)
17.	Building Envelope Commissioning Case Studies (Previously Recorded)
18.	Building Science 1.0: Overview and Introduction to Control Layers
19.	Building Science 2.1: Introduction to Heat Transfer
20.	Building Science 2.2: Airtightness and Air Barriers
21.	Building Science 2.3: Understanding and Limiting Thermal Bridging
22.	Building Science 2.4: Introduction to Continuous Insulation and Cladding Attachment
23.	Building Science 2.5: Introduction to Windows, Curtain Walls, Window Walls and Shading Design
24.	Building Science 2.6: Introduction to Moisture and Buildings
25.	Building Science 2.7: Understanding the Psychrometrics of Condensation
26.	Building Science 2.8: Introduction to the Control of Rain and Groundwater Penetration
27.	Carbon Free Homes: Features, Benefits, Valuation
28.	Design Tools, Methods and Case Studies on the Design of High-Performance Facades - (Previously Recorded)
29.	Enclosure Systems and Materials: Architectural Precast
30.	Enclosure Systems and Materials: Portland Cement Plaster on Framed Walls
31.	Enclosure Systems and Materials: Unitized Curtainwall
32.	Energy Efficiency and Solar For Homeowners

33.	Energy Resiliency for Homes (Previously recorded)
34.	Energy Savings through Process Improvement and Optimization
35.	Home Electrification Retrofits Without Upsizing the Electric Panel - (Previously Recorded)
36.	Home Energy Series: Session 2: Home Systems: Understanding Your Home's Building Enclosure and its Major Systems
37.	How to Design and Build High-Performance Attics
38.	How to Design and Build High-Performance Walls
39.	How to Plan and Build Multifamily Passive House for Less
40.	Introduction to Passive House Trades
41.	Introduction to the Passive House Standard
42.	Modular Construction & Panelized Facades
43.	Retrofitting Crawlspaces: Air Barrier and Thermal Barrier Alignment in Crawlspaces
44.	Retrofitting Crawlspaces: Air Sealing and Insulating Crawlspace Subfloors
45.	Retrofitting Crawlspaces: Installing Ground Cover for Vapor, Air, and Thermal Control
46.	Retrofitting Crawlspaces: Insulation Systems for Stem Walls
47.	Retrofitting Crawlspaces: Prepping Crawlspaces for Moisture Management and Efficiency
48.	Retrofitting Crawlspaces: Updating Foundation Vents for Efficiency, Rodent Control, and Wildfire Safety
49.	Retrofitting Homes for Electrification and Decarbonization
50.	Selling High Performance Homes: How Realtors Earn Stellar Referrals While Boosting Profits -
51.	Window Installation Procedures to Provide Real World Performance and Prevent Water Intrusion
52.	Window Selection for New and Existing Homes
Energy Code and Standards	
53.	The Architecture 2030 ZERO Code and California (Previously Recorded)
54.	The Quest for Performance and California Code Commissioning Requirements (Previously Recorded)
55.	Title 24 (2019): Where We're Headed With the Residential Standards
56.	Title 24 Documentation for Architects: EUI, 2030 Goals, and Getting the Most from Consultants (Previously Recorded)
HVAC/R	
57.	3D Residential HVAC Design (No CAD Required) (2-Part)
58.	ACCA CCA Dry Climate Nonresidential Manual N, CS, and QD Series with Wright soft (3-Part)
59.	ACCA Manual D Part 1, Duct Design
60.	ACCA Manual D Part 2, Duct Design with WrightSoft
61.	ACCA Manual H, Residential Heat Pump, Design and Installation
62.	ACCA Manual J and S
63.	ACCA Manual J and S, Equipment Selection & Sizing
64.	ACCA Manual J Mobile-Cool Calc
65.	ACCA Manual J Mobile-Wrightsoft
66.	Advanced HVAC Control Approaches for Variable-Air-Volume Systems (Previously Recorded)
67.	Airflow Testing and Diagnostics Live Online (2-Part)
68.	Basic Heating, Ventilating, & Air Conditioning
69.	Case Studies for Residential Electrification Retrofits

70.	COVID-19 Series, Session 1: Human Health & the Built Environment in the Endemic Era
71.	COVID-19 Series, Session 3: The Role of HVAC Systems - (Previously Recorded)
72.	Ductless Mini Split Design, Installation, & Performance
73.	Electric Heat Pumps for Space Heating and Cooling
74.	Electric Heat Pumps for Water Heating
75.	Gas Heating CAQI/QM/QS
76.	Heat Pump Technologies for Space Conditioning and Water Heating
77.	Heat Pump Water Heater Retrofit - Energy Cost Estimator: Overview and Demonstration (Previously Recorded)
78.	Heat Pumps in Retrofit Construction - Space Conditioning and Water Heating
79.	Heating Hot Water and Steam Systems: Design, Performance, and Commissioning (2-Part)
80.	HVAC - Chilled Water Systems (4-Part)
81.	HVAC Fundamentals: New Ideas for Novices (2 Day Class)
82.	HVAC Heat Pump Retrofit - Energy Cost Estimator: Overview and Demonstration (Previously Recorded)
83.	HVAC System Testing for Energy Efficiency (3-Part)
84.	IHACI: AC-HP Refrigeration Module (4-Part)
85.	IHACI: Air Distribution Module (4-Part)
86.	IHACI: Electrical Module (4-Part)
87.	IHACI: Gas Heating CAQI/QM/QS (2-Part)
88.	IHACI: NATE AC-HP Refrigeration & Air Distribution Training (4-Part)
89.	IHACI: NATE Core & Gas Heating Training (4-Part)
90.	IHACI: NATE HVAC-R New Hire (4-Part)
91.	IHACI: NATE HVAC-R Support Training (4-Part)
92.	IHACI: System Diagnostics Module (4-Part)
93.	Implementing Heat Pumps Water Heaters in Replacement Scenarios: Why They Make Sense
94.	Intro to Residential HVAC Design in 3D
95.	Kicking Carbon Out of Buildings - Design for Decarbonized Building
96.	NATE HVAC-R New Hire (4-Part)
97.	NATE HVAC-R Support Training (4-Part)
98.	Noninvasive Refrigerant Charge Testing and Low GWP Refrigerants
99.	Optimizing Residential Forced-Air HVAC Systems: Airflow for Comfort and Efficiency
100.	Optimizing Residential Forced-Air HVAC Systems: Load Calculations, Equipment Selection and Layout
101.	Optimizing Residential Forced-Air HVAC Systems: Low-Loss Duct Systems
102.	Overcoming Installation Challenges for Heat Pump Water Heater Retrofits
103.	Overcoming Installation Challenges for Heat Pumps in HVAC Retrofits
104.	Packaged Terminal Heat Pumps: Benefits and Best Practices
105.	Selling Heat Pumps for HVAC Retrofits System Efficiencies, Costs, and Why They’re Ideal for California
Other: Integrated Building Design, Renewable Energy, Software, Water and Energy	
106.	2020 WCS: Analysis of MWELO: Is It Working? (Previously Recorded) Water Conservation Showcase

107.	2020 WCS: Emerging Technologies in the Water Sector (Previously Recorded) Water Conservation Showcase
108.	2020 WCS: How to Build Your Career in the Water Industry (Previously Recorded) Water Conservation Showcase
109.	2020 WCS: Laundry to Landscape (Previously Recorded) Water Conservation Showcase
110.	2020 WCS: New California Conservation Framework (Previously Recorded) Water Conservation Showcase
111.	2020 WCS: Plant Talk (Previously Recorded) Water Conservation Showcase
112.	2020 WCS: Qualified Water Efficient Landscaper (QWEL) Certification Program (Previously Recorded) Water Conservation Showcase
113.	2020 WCS: Stormwater Bioretention Systems (Previously Recorded) Water Conservation Showcase
114.	2020 WCS: The California State of Onsite Water Reuse (Previously Recorded) Water Conservation Showcase
115.	2020 WCS: Water and Energy Nexus: Applications and Outcomes (Previously Recorded) Water Conservation Showcase
116.	2020 WCS: Watersheds as Engagement Tool (Previously Recorded) Water Conservation Showcase
117.	2020 WCS: Workshop - Smart Controllers - Wi-Fi Controllers - Secrets to Success (Previously Recorded) Water Conservation Showcase
118.	2021 WCS: Climate Positive Landscape Design: Going Beyond Neutral (Previously recorded)
119.	2021 WCS: Connecting with Nature through Citizen Science (Previous Recording)
120.	2021 WCS: Plant Talk #2 (Previously Recorded)
121.	2021 WCS: Trends in Water Use, Efficiency Technologies, and Conservation Priorities (Previously Recorded)
122.	2021 WCS: Water/Energy Interactions: Covid-19 and Other Factors Impacting the Water/Energy Nexus (Previously Recorded)
123.	2021 WCS: Watershed Stewardship from Snowflake to the Bay (Previously Recorded)
124.	Ag Irrigation Technology Virtual Field Day
125.	Ag Tech Day-Innovations in Ag Irrigation Technology Demonstration and Showcase
126.	Ag. Power Quality Workshop (Previously Recorded)
127.	Basic Excel for Energy Professionals
128.	Basics of Solar Electric Systems
129.	Carbon Sequestration in the Landscape Series: #1 Nurture Soil to Sequester Carbon (Previously Recorded)
130.	Carbon Sequestration in the Landscape Series: #2 Protect Water & Air Quality to Reduce Emissions (Previously Recorded)
131.	Carbon Sequestration in the Landscape Series: #3 Save Water for Climate Resilience (Previously Recorded)
132.	Carbon Sequestration in the Landscape Series: #4 - Act Local to Mitigate Climate Change (Previously Recorded)
133.	Carbon Sequestration in the Landscape Series: #5 - Conserve Energy to Reduce GHG's (Previously Recorded)
134.	Carbon Sequestration in the Landscape Series: #6 - Reduce Waste to Reduce Greenhouse Gas Emissions (Previously Recorded)
135.	Carbon Sequestration in the Landscape Series: #7 - Carbon Sequestration to Mitigate Climate Change (Previously Recorded)
136.	Carbon Sequestration in the Landscape Series: #8 - Protect Habitat for Climate Resilience (Previously Recorded)
137.	Clean Energy Homes: Key Systems & Energy Modeling

138.	Cost-Effective Approaches for Energy Efficient Remodels
139.	Decarbonizing the Built Environment Day (2-Part)
140.	Electric Vehicle Chargers: Design and Installation Strategies for New and Existing Homes - (Previously Recorded)
141.	Electric Vehicles (EVs): What you need to know
142.	Electric Vehicles (EVs): What you need to know - 2022
143.	Electrification for Small Houses: ADU-s, Tiny Homes, and Manufactured Homes
144.	Flowmeters: You need to measure water to manage water!
145.	Getting a Multi-Condition Pump Efficiency Test
146.	Getting Your Deep Well and Booster Pump on a Single Smart Meter Tested
147.	Graphic Representation of Data: Making Charts that Matter
148.	High-Efficiency Laundry Dryers for All-Electric Homes (Previously Recorded)
149.	Home Energy Series: Session 3: Home Energy: Creating Your Whole Home- Based Solar Strategy
150.	How to Get Started with an EE Survey
151.	How To Interpret Pump Efficiency Results and Track Pump Performance
152.	Inspecting Photovoltaic (PV) & Energy Storage Systems (ESS) for Code Compliance (2-Part)
153.	Inspecting Photovoltaic (PV) Systems for Code Compliance (2-Part)
154.	Integrated Design for Non-Residential and Multi-Unit Residential: Projects of All Sizes and Delivery Methods
155.	Integrated Thinking: Early Stage Building Science for Enclosure & Mechanical Systems
156.	Latest Information on California Water Regulations: SGMA and ILRP
157.	Lawn Conversion Workshop
158.	Mechanical Rooms: Strategies for Electrification Retrofits in Homes
159.	Model Water Efficient Landscape Ordinance (MWELO) and the New Normal for California Landscaping (Previously Recorded)
160.	MWELO Enforcement Workshop for Local Agencies
161.	Novel Energy and Water Use Tracking Technology in Agriculture
162.	Pathways to a Zero Net Energy Home
163.	Plant Talk #3 (Previously Recorded)
164.	Photovoltaic (PV) Site & Energy Storage Systems (ESS) Analysis and System Sizing (2-Part)
165.	Plant Talk IV
166.	Practical Efficient Hot Water Delivery: Structured Plumbing Applied in Retrofit and New Construction
167.	Pump Tester Training
168.	PV + Batteries: Integrating Storage with Grid-Tied Photovoltaic Systems (3-Part)
169.	SGMA Updates - Water Infrastructure in California
170.	Solar PV: Technology and Valuation
171.	Spring Irrigation System Field Maintenance
172.	Surviving Drought An example on the Fresno State Farm for Better Water Management
173.	VFDs for Pumping Applications
174.	Water Audit Basics for Small to Medium Size Businesses

PG&E On-Demand Class List

1. 2020 WCS: Watersheds as Engagement Tool (Previously Recorded) Water Conservation Showcase
2. 2020 WCS: Analysis of MWELO: Is It Working? (Previously Recorded) Water Conservation Showcase
3. 2020 WCS: Emerging Technologies in the Water Sector (Previously Recorded) Water Conservation Showcase
4. 2020 WCS: How to Build Your Career in the Water Industry (Previously Recorded) Water Conservation Showcase
5. 2020 WCS: Laundry to Landscape (Previously Recorded) Water Conservation Showcase
6. 2020 WCS: New California Conservation Framework (Previously Recorded) Water Conservation Showcase
7. 2020 WCS: Plant Talk #1 (Previously Recorded) Water Conservation Showcase
8. 2020 WCS: Qualified Water Efficient Landscaper (QWEL) Certification Program (Previously Recorded) Water Conservation Showcase
9. 2020 WCS: Stormwater Bioretention Systems (Previously Recorded) Water Conservation Showcase
10. 2020 WCS: The California State of Onsite Water Reuse (Previously Recorded) Water Conservation Showcase
11. 2020 WCS: Water and Energy Nexus: Applications and Outcomes (Previously Recorded) Water Conservation Showcase
12. 2020 WCS: Workshop - Smart Controllers - Wi-Fi Controllers - Secrets to Success (Previously Recorded) Water Conservation Showcase
13. 2021 WCS: Water Efficiency Standards: National and California Legislative Update (Previously Recorded)
14. 2021 WCS: Water Equity: Collaboration, Capacity Building and Capital (Previously Recorded)
15. 2021 WCS: Climate Positive Landscape Design: Going Beyond Neutral (Previously recorded)
16. 2021 WCS: Connecting with Nature through Citizen Science (Previous Recording)
17. 2021 WCS: Plant Talk #2 (Previously Recorded)
18. 2021 WCS: Trends in Water Use, Efficiency Technologies, and Conservation Priorities (Previously Recorded)
19. 2021 WCS: Water/Energy Interactions: Covid-19 and Other Factors Impacting the Water/Energy Nexus (Previously Recorded)
20. 2021 WCS: Watershed Stewardship from Snowflake to the Bay (Previously Recorded)
21. ADR 101: Understanding Automated Demand Response (Previously Recorded)
22. ADR 102: Automated Demand Response Deep Dive (Previously Recorded)
23. Advanced HVAC Control Approaches for Variable-Air-Volume Systems (Previously Recorded)
24. Affordable and Sustainable Multi-Family Housing: Strategies and Case Studies (Previously Recorded)
25. Ag. Industrial Refrigeration Systems Efficiency (Previously Recorded)
26. Ag. Power Quality Workshop (Previously Recorded)
27. Air Tight Buildings
28. Air-Sealing for an Efficient New Home
29. At the Frontiers of Sustainable Urban Housing (Previously Recorded)
30. Attic-Roof Insulation and Air Sealing

31. Automation, EMS Systems, and PLCs
32. Basics of Solar Electric Systems
33. Best Practices in Residential Water Heating
34. Blower Door Testing
35. Building Envelope Commissioning Case Studies (Previously Recorded)
36. Building Envelope Retrofit Strategies
37. Building Science 1.0: Overview and Introduction to Control Layers
38. Building Science 2.1: Introduction to Heat Transfer
39. Building Science 2.2: Airtightness and Air Barriers
40. Building Science 2.3: Understanding and Limiting Thermal Bridging
41. Building Science 2.4: Introduction to Continuous Insulation and Cladding Attachment
42. Building Science 2.5: Introduction to Windows, Curtain Walls, Window Walls and Shading Design
43. Building Science 2.6: Introduction to Moisture and Buildings
44. Building Science 2.7: Understanding the Psychrometrics of Condensation
45. Building Science 2.8: Introduction to the Control of Rain and Groundwater Penetration
46. California Greenin': How the Golden State Became An Environmental Leader (Previously Recorded)
47. Carbon Sequestration in the Landscape Series: #1 Nurture Soil to Sequester Carbon (Previously Recorded)
48. Carbon Sequestration in the Landscape Series: #2 Protect Water & Air Quality to Reduce Emissions (Previously Recorded)
49. Carbon Sequestration in the Landscape Series: #3 Save Water for Climate Resilience (Previously Recorded)
50. Carbon Sequestration in the Landscape Series: #4 - Act Local to Mitigate Climate Change (Previously Recorded)
51. Carbon Sequestration in the Landscape Series: #5 - Conserve Energy to Reduce GHG's (Previously Recorded)
52. Carbon Sequestration in the Landscape Series: #6 - Reduce Waste to Reduce Greenhouse Gas Emissions (Previously Recorded)
53. Carbon Sequestration in the Landscape Series: #7 - Carbon Sequestration to Mitigate Climate Change (Previously Recorded)
54. Carbon Sequestration in the Landscape Series: #8 - Protect Habitat for Climate Resilience (Previously Recorded)
55. Case Studies for Residential Electrification Retrofits - (Previously Recorded)
56. Combination Ovens, the Key to the Energy-Effective Kitchen of the Future (Previously Recorded) CEW Attendance
57. Combustion Safety and Efficiency
58. COVID-19 Series, Session 1: Human Health & the Built Environment in the Endemic Era - (Previously Recorded)
59. COVID-19 Series, Session 3: The Role of HVAC Systems - (Previously Recorded)
60. Deep Energy Retrofits
61. Design Professional's Guide to Zero Net Energy Buildings (Previously Recorded)
62. Design Strategies for New Buildings
63. Design Tools, Methods and Case Studies on the Design of High-Performance Facades - (Previously Recorded)
64. Designing Commercial Spaces with Modern Ceiling Fans
65. Designing for Light and Health - What You Need to Know (Previously Recorded)
66. Electric Vehicle Chargers: Design and Installation Strategies for New and Existing Homes - (Previously Recorded)
67. Electric Vehicles (EVs): What you need to know

68. Electric Vehicles (EVs): What you need to know - 2022
69. Emerging Smart Building Technology & Enhanced Building Performance (Previously Recorded)
70. Energy Audit Bootcamp Day 1 (Previously Recorded)
71. Energy Audit Bootcamp Day 2 (Previously Recorded)
72. Energy Efficiency 101 for Culinary Students: Mission College
73. Energy Efficiency and Storage Opportunities for PG&E Hospitality Customers - (Previously Recorded)
74. Energy Math
75. Energy Resiliency for Homes (Previously recorded)
76. Energy Resiliency for Non-Residential Facilities (Previously Recorded)
77. Fault Detection and Diagnostics Demo Series: Buildings IoT onPoint (Previously Recorded)
78. Fault Detection and Diagnostics Demo Series: ClimaCheck's ClimaCheck Online (Previously Recorded)
79. Fault Detection and Diagnostics Demo Series: Clockworks Analytics‘FDD Platform (Previously Recorded)
80. Fault Detection and Diagnostics Demo Series: Ezenics' FDD Platform (Previously Recorded)
81. Full Scale Induction for Commercial Kitchens (Previously Recorded) CEW Attendance
82. Grid-Interactive Efficient Buildings (Previously Recorded)
83. Heat Pump Technologies for Space Conditioning and Water Heating
84. Heat Pump Water Heater Retrofit - Energy Cost Estimator: Overview and Demonstration (Previously Recorded)
85. Heat Recovery Dishmachines and Heat Pump Water Heaters: The Hidden Keys to a Zero Net Carbon Kitchen (Previously Recorded) CEW Attendance
86. High-Efficiency Laundry Dryers for All-Electric Homes (Previously Recorded)
87. Home Electrification Retrofits Without Upsizing the Electric Panel - (Previously Recorded)
88. Home Heating and Cooling Basics
89. How to Use Energy Efficient Countertop Equipment to Increase Production (Previously Recorded) CEW Attendance
90. How to Use the Common App
91. HVAC Heat Pump Retrofit - Energy Cost Estimator: Overview and Demonstration (Previously Recorded)
92. Induction Cooking and Holding - Energy Efficiency and Performance for Commercial Kitchens
93. Induction Cooking and Holding - Energy Efficiency and Performance for Residential Kitchens
94. Induction Woks - Types, Uses, Performance and Efficiency in Mandarin - (Previously Recorded)
95. Kitchen Makeover: Replacement Equipment to Boost Profits and Cut Carbon (Previously Recorded) CEW Attendance
96. Low-Cost Hot Water System Retrofits (Previously Recorded) CEW Attendance
97. Model Water Efficient Landscape Ordinance (MWELO) and the New Normal for California Landscaping 2020 (Previously Recorded)
98. Model Water Efficient Landscape Ordinance (MWELO) and the New Normal for California Landscaping 2021- (Previously Recorded)
99. Needs, Wants and Expectations: A Panel Discussion on Building Commissioning (Cx) Services (Previously recorded)
100. New Developments in Fault Detection and Diagnostics (Previously Recorded)

101. NMEC 1: Measurement and Verification (M&V) and Normalized Metered Energy Consumption (Previously Recorded)
102. NMEC 10: Normalized Metered Energy Consumption: Calculator Demonstrations 8: Bill Koran's ECAM - 2.25.2021 (Previously Recorded)
103. NMEC 2: Normalized Metered Energy Consumption 2 Calculator Demonstrations (Previously Recorded)
104. NMEC 3: Normalized Metered Energy Consumption: Calculator Demonstrations 1: kW Engineering's nmecr - 01.21.2021 (Previously Recorded)
105. NMEC 4: Normalized Metered Energy Consumption: Calculator Demonstrations 2: Recurve's Resource Planner, Fleet Manager and Flex Ledger - 01.28.2021 (Previously Recorded)
106. NMEC 5: Normalized Metered Energy Consumption: Calculator Demonstrations 3: Cascade Energy's Energy Sensei Platform - 02.02.2021 (Previously Recorded)
107. NMEC 6: Normalized Metered Energy Consumption: Calculator Demonstrations 4: AESC's Praxis - 02.04.2021 (Previously Recorded)
108. NMEC 7: Normalized Metered Energy Consumption: Calculator Demonstrations 5: Evergreen's AMICS Tool - 2.10.2021 (Previously Recorded)
109. NMEC 8: Normalized Metered Energy Consumption (NMEC) Calculator Demonstrations 6: Enpira's Building Portfolios - 2.16.2021 (Previously Recorded)
110. NMEC 9: Normalized Metered Energy Consumption: Calculator Demonstrations 5: EnergyRM's Insights, DeltaMeter and Transactions- 2.23.2021 (Previously Recorded)
111. Optimizing Kitchen Ventilation and Restaurant HVAC for Maximum Health and Safety and Minimum Cost-to-Operate (Previously Recorded) CEW Attendance
112. Plant Talk #3 (Previously Recorded)
113. Plant Talk #4 (Previously Recorded)
114. Plant Talk #5 (Previously Recorded)
115. Public Safety Power Shutoffs and PG&E Demand Response: 2021 Updates for Hospitality Customers (Previously Recorded)
116. RCx101: Identifying and Assessing Common Retro-Cx Opportunities (Previously Recorded 5/5/21)
117. RCx101: Identifying and Assessing Common Retro-Cx Opportunities (Previously recorded)
118. Recent Insights on Building Science Research from UC Berkeley's Center for the Built Environment - (Previously Recorded)
119. Re-designing Good Design: High-performance Architecture for a Low-carbon World (Previously Recorded)
120. Residential Energy Auditing
121. Restaurant Rebound - Operating an Energy Efficient Kitchen (Previously Recorded) CEW Attendance
122. Specifying Efficient Equipment for Production Kitchens (Previously Recorded) CEW Attendance
123. Symposium on Research and Design Practice Related to Window Views (Previously Recorded)
124. Testing Range Tops: Anatomy of a Test Method and Range Performance Comparisons - Previously Recorded) CEW Attendance
125. The Architecture 2030 ZERO Code and California (Previously Recorded)
126. The Benefits and Challenges of R290 as a Refrigerant (Previously Recorded) CEW Attendance
127. The Quest for Performance and California Code Commissioning Requirements (Previously Recorded)
128. Title 24 (2019): Where We're Headed With the Nonresidential Standards

129. Title 24 (2019): Where We're Headed With the Residential Standards
130. Title 24 Documentation for Architects: EUI, 2030 Goals, and Getting the Most from Consultants (Previously Recorded)
131. Using Building Energy Simulation
132. Using Energy Efficiency to Decarbonize Commercial Kitchens (Previously Recorded)CEW Attendance
133. Using Personal Comfort Devices to Save Energy and Improve Comfort (Previously Recorded)
134. Where are we with Integrating Lighting and Whole Building Controls? (Previously Recorded)
135. Window Selection and Replacement
136. Zero Net Energy Introduction & Project Showcase

SCE Full Class List:

1. 2019 Title 24 Requirements for Non-Residential Lighting (WEBCAST)
2. 2019 Title 24 Requirements for Non-Residential Lighting (WEBCAST)
3. 2019 Title 24 Requirements for Non-Residential Lighting (WEBCAST)
4. 2019 Title 24 Requirements for Non-Residential Lighting (WEBCAST) for AIA Chapters
5. 2019 Title 24 Requirements for Residential Lighting (WEBCAST)
6. 2019 Title 24 Requirements for Residential Lighting (WEBCAST)
7. 2019 Title 24 Requirements for Residential Lighting (WEBCAST)
8. 2019/2022 Title 24 Requirements for Non-Residential Lighting (Webcast)
9. 2019/2022 Title 24 Requirements for Residential Lighting (Webcast)
10. 3D Residential HVAC Design (No CAD Required) - Part 1 (WEBCAST)
11. 3D Residential HVAC Design (No CAD Required) - Part 2 (WEBCAST)
12. A Class for Control Freaks: Getting the Most from your Building Automation System (Webcast)
13. ACCA Manual H, Residential Heat Pump, Design and Installation (WEBCAST)
14. ACCA Manual J and S, Equipment Selection & Sizing (WEBCAST)
15. Accessory Dwelling Units (ADU) and the California Energy Code for AIA Chapters (Webcast)
16. ADR 101: Understanding Automated Demand Response
17. ADR 102: Automated Demand Response Deep Dive
18. Advanced Concepts in Designing and Retrofitting Energy Efficient Data Centers
19. Advanced Energy Management Strategies Part 1
20. Advanced Energy Management Strategies Part 2
21. Advanced EnergyPro 8 Non-Residential (WEBCAST)
22. Advanced EnergyPro 8 Non-Residential (WEBCAST)
23. Advanced EnergyPro 8 Non-Residential (WEBCAST)
24. Advanced EnergyPro 8 Non-Residential (WEBCAST)
25. Advanced EnergyPro 8 Residential (WEBCAST)
26. Advanced EnergyPro 8 Residential (WEBCAST)
27. Advanced EnergyPro 8 Residential (WEBCAST)
28. Advanced EnergyPro 8 Residential (WEBCAST)
29. Advanced Framing for Energy and Resource Efficiency
30. Advanced Lighting Control Systems: No Longer Relays & Occ Sensors (WEBCAST)
31. Advanced Lighting Control Systems: No Longer Relays & Occ Sensors (Webcast)
32. Advanced Lighting Control Systems: No Longer Relays & Occ Sensors (Webcast)
33. Advanced Lighting Control Systems: No Longer Relays & Occupant Sensors (WEBCAST)
34. Ag Irrigation Technology Virtual Field Day - 3 hours Nitrogen Management Self-Certification CEUs/ 3 hours of Certified Crop Advisor CEUs
35. Air Sealing and Insulating Existing Homes: Addressing Common Hazards During Energy Upgrades (WEBCAST)
36. Air Sealing and Insulating Existing Homes: Creating Continuity in Ceiling Air Barrier (WEBCAST)
37. Air Sealing and Insulating Existing Homes: Interpreting and Prioritizing Infrared and Blower Door Results (WEBCAST)
38. Air Sealing and Insulating Existing Homes: Recessed Fixtures in Vented Attics (WEBCAST)
39. Balanced Ventilation for Better Health, Comfort, and Energy Efficiency: IAQ, OAQ, Ventilation and Filtration (WEBCAST)
40. Balanced Ventilation for Better Health, Comfort, and Energy Efficiency: System Types,

Install Strategies, Duct Design and Critical Details (WEBCAST)
41. Basic Heating, Ventilating and Air Conditioning (HVAC) (WEBCAST)
42. Basic Heating, Ventilating and Air Conditioning (HVAC) (WEBCAST)
43. Basic Heating, Ventilating and Air Conditioning (HVAC) (WEBCAST)
44. Basic Heating, Ventilating and Air Conditioning (HVAC) (WEBCAST)
45. Basic Pump Efficiency
46. Basic Pump Efficiency in English (Webcast)
47. Basic Pump Efficiency Translated to Hmong (WEBCAST)
48. Basic Pump Efficiency Translated to Spanish (Webcast)
49. Basics of Photovoltaic (PV) & Energy Storage Systems (ESS) for Grid-Tied Applications (Part 1)
50. Basics of Photovoltaic (PV) & Energy Storage Systems (ESS) for Grid-Tied Applications (Part 2)
51. Beginning EnergyPro 8 Non-Residential (WEBCAST)
52. Beginning EnergyPro 8 Non-Residential (WEBCAST)
53. Beginning EnergyPro 8 Non-Residential (WEBCAST)
54. Beginning EnergyPro 8 Non-Residential (Webcast)
55. Beginning EnergyPro 8 Residential (WEBCAST)
56. Beginning EnergyPro 8 Residential (WEBCAST)
57. Beginning EnergyPro 8 Residential (WEBCAST)
58. Beginning EnergyPro 8 Residential (WEBCAST)
59. Calculating Photometric Lighting Solutions - Learning Units: BOC 3.5
60. CALGreen Title 24 Part 11 (WEBCAST)
61. CALGreen Title 24 Part 11 with 2021 Updates (WEBCAST)
62. CALGreen Title 24 Part 11 with 2021 Updates (WEBCAST)
63. California Energy Wise Foodservice – Frontier
64. California Energy Wise Foodservice – Frontier
65. California Energy Wise Foodservice – Frontier
66. California Energy Wise Foodservice – Frontier
67. California Energy Wise Foodservice – Frontier
68. California Energy Wise Foodservice – Frontier
69. California Energy Wise Foodservice – Frontier
70. California Energy Wise Foodservice – Frontier
71. California Energy Wise Foodservice – Frontier
72. California Energy Wise Foodservice – Frontier
73. California Energy Wise Foodservice – Frontier
74. California Energy Wise Foodservice – Frontier (Webcast)
75. California's Title 24 Energy Code: What, Why and Where is it Going? (Webcast)
76. Carbon Free Homes: Features, Benefits, Valuation (WEBCAST)
77. Carbon Free Homes: Features, Benefits, Valuation (Webcast)
78. Case Studies for Calculating Lighting Solutions - Learning Units 3.5 AIA-HSW / 3.5 BOC
79. Central Heat Pump Water Heaters (HPWHs): Engineering Deep Dive Part 1 of 2 (WEBCAST)
80. Central Heat Pump Water Heaters (HPWHs): Engineering Deep Dive Part 2 of 2 (WEBCAST)
81. Central Heat Pump Water Heating Systems for Clinical and Hospital Settings (WEBCAST)
82. Central Heat Pump Water Heating Systems for Clinical and Hospital Settings (WEBCAST)
83. Central Heat Pump Water Heating Systems for Multifamily Buildings (WEBCAST)

84. Central Heat Pump Water Heating Systems for Multifamily Buildings (WEBCAST)
85. Clean Energy Homes: Key Systems & Energy Modeling (WEBCAST)
86. Clean Energy Homes: Key Systems & Energy Modeling (WEBCAST)
87. Clean Energy Homes: Key Systems & Energy Modeling (Webcast)
88. Clean Energy Homes: Key Systems & Energy Modeling (WEBCAST)
89. Clean Energy Homes: Key Systems & Energy Modeling Santa Monica
90. Commercial & Multifamily Heat Pump Water Heating Engineering and Design Deep Dive (Part 1 of 2) (WEBCAST)
91. Commercial & Multifamily Heat Pump Water Heating Engineering and Design Deep Dive (Part 2 of 2) (WEBCAST)
92. Commercial HVAC Bootcamp Part 1 of 6 (WEBCAST)
93. Commercial HVAC Bootcamp Part 2 of 6 (WEBCAST)
94. Commercial HVAC Bootcamp Part 3 of 6 (WEBCAST)
95. Commercial HVAC Bootcamp Part 4 of 6 (WEBCAST)
96. Commercial HVAC Bootcamp Part 5 of 6 (WEBCAST)
97. Commercial HVAC Bootcamp Part 6 of 6 (WEBCAST)
98. Commercial Quality Maintenance and Installation of Economizers (Part 2 of 2) (WEBCAST)
99. Commercial Quality Maintenance and Installation of Economizers Part 1 Learning Units: NATE – 3 credits / BOC – 2 credits
100. CoolSave - Saving Energy in Grocery Refrigeration (WEBCAST)
101. Daylighting Metrics (WEBCAST)
102. Decarbonizing the Built Environment Day 1 (WEBCAST)
103. Decarbonizing the Built Environment Day 2 (WEBCAST)
104. Demand Control Ventilation (DCV) and Variable Speed Fans Non-Residential (WEBCAST)
105. Demand Control Ventilation (DCV) and Variable Speed Fans Non-Residential (WEBCAST)
106. (WEBCAST)
107. Designing for Light and Health - What You Need to Know (WEBCAST)
108. Direct Digital Controls (DDC) Bootcamp Part 1 of 6 (WEBCAST)
109. Direct Digital Controls (DDC) Bootcamp Part 2 of 6 (WEBCAST)
110. Direct Digital Controls (DDC) Bootcamp Part 3 of 6 (WEBCAST)
111. Direct Digital Controls (DDC) Bootcamp Part 4 of 6 (WEBCAST)
112. Direct Digital Controls (DDC) Bootcamp Part 5 of 6 (WEBCAST)
113. Direct Digital Controls (DDC) Bootcamp Part 6 of 6 (WEBCAST)
114. Don't Touch That Thermostat
115. Ductless Mini Split Design, Installation, & Performance (WEBCAST)
116. Ductless Mini Split Design, Installation, & Performance (WEBCAST)
117. Electric Vehicle Chargers: Design and Installation Strategies for New and Existing Homes (Webcast)
118. Embodied Carbon vs. Operational Carbon: The Lesser of the Two Evils (Webcast)
119. Emergency Lighting and Power Systems: Codes, Circuits, Controls and Calculations (WEBCAST)
120. Emergency Lighting and Power Systems: Codes, Circuits, Controls and Calculations (WEBCAST)
121. Emergency Lighting and Power Systems: Codes, Circuits, Controls and Calculations (WEBCAST)
122. Enclosure Systems and Materials: Architectural Precast
123. Enclosure Systems and Materials: Portland Cement Plaster on Framed Walls

(WEBCAST)
124. Enclosure Systems and Materials: Unitized Curtainwall (WEBCAST)
125. Energy and Financial Calculations for Lighting Retrofits
126. Energy and Financial Calculations for Lighting Retrofits (Webcast)
127. Energy Auditing Bootcamp Part 1
128. Energy Auditing Bootcamp Part 2
129. Energy Auditing Techniques for Small & Medium Commercial Facilities - Day 1 of 3 ('Webcast)
130. Energy Auditing Techniques for Small & Medium Commercial Facilities - Day 2 of 3 (Webcast)
131. Energy Auditing Techniques for Small & Medium Commercial Facilities - Day 3 of 3 (Webcast)
132. Energy Auditing Techniques for Small & Medium Commercial Facilities (3-Day Class)
133. Energy Auditing Techniques for Small & Medium Commercial Facilities (Day 2 of 3)
134. Energy Auditing Techniques for Small & Medium Commercial Facilities (Day 3 of 3)
135. Energy Efficiency and Solar for Homeowners
136. Energy Efficient Design and Control of Chilled Water Plants (WEBCAST)
137. Energy Efficient Design and Retrofit of Laboratory Buildings (WEBCAST)
138. Energy Impact from ASHRAE COVID-19 HVAC Recommendations (WEBCAST)
139. Energy Management Systems (EMS) Part 1 of 2 (WEBCAST)
140. Energy Management Systems (EMS) Part 2 of 2 (WEBCAST)
141. Energy Resiliency for Homes
142. Energy Resiliency for Non-Residential Facilities
143. Energy Savings Through Process Improvement and Optimization
144. Evaluating and Selecting Luminaires -WEBINAR
145. Evaluating and Selecting Luminaires Workshop (Webcast)
146. Evaluating and Selecting Luminaires Workshop -WEBINAR
147. Evaluating Pump Efficiency Results with Pump Curves
148. Evaluating Pump Efficiency Results with Pump Curves (WEBCAST)
149. Exploring Ventless Technologies: High Tech Equipment for the Modular Kitchen (Webcast)
150. Exterior Insulation and Designing and Building High Performance Walls (Webcast)
151. Field Data Collection for Lighting Audits and Retrofits
152. Field Data Collection for Lighting Audits and Retrofits (Webcast)
153. Flowmeters: You Need to Measure Water to Manage Water! (Webcast)
154. Full-Scale Induction for Commercial Kitchens (Webcast)
155. Fundamental Concepts in Operating and Retrofitting Energy Efficient Data Centers
156. Green Building: Hype or Help? (Webcast)
157. Heat Pumps in Retrofit Construction - Space Conditioning and Water Heating (WEBCAST)
158. Heat Pumps in Retrofit Construction - Space Conditioning and Water Heating (WEBCAST)
159. Heat Pumps in Retrofit Construction - Space Conditioning and Water Heating (WEBCAST) for SoCal REN
160. Heat Recovery Dishmachines and Heat Pump Water Heaters: The Hidden Keys to a Zero Net Carbon Kitchen (Webcast)

161. High Performance Chilled Water Plant Design Workshop
162. High Performance Homes: Valuation 2 (Webcast)
163. High Performance Homes: Valuation 2 (Webcast)
164. Home Performance for Solar Professionals (Webcast)
165. Horticulture and Indoor Agricultural Lighting (Webcast)
166. How to Design and Build High-Performance Walls
167. How to Get Started with an EE Survey (Webcast)
168. How to Interpret Pump Efficiency Results & Tracking Pump Performance
169. How to Interpret Pump Efficiency Results & Tracking Pump Performance (Webcast)
170. How to Use Energy Efficient Countertop Equipment to Increase Production (Webcast)
171. IAQ - How to Prepare Your Commercial HVAC for Pandemics/Wildfires (WEBCAST)
172. IAQ - How to Prepare Your Commercial HVAC for Pandemics/Wildfires (WEBCAST)
173. Identifying Existing Lighting Technologies - Knowing What to Replace and How - Learning Units: 3.5 AIA - HSW
174. IHACI NATE AC/HP & Air Distribution Training Part 1 (WEBCAST)
175. IHACI NATE AC/HP & Air Distribution Training Part 2 (WEBCAST)
176. IHACI NATE AC/HP & Air Distribution Training Part 4 (WEBCAST)
177. IHACI NATE Core & Gas Heating Training Part 1 (WEBCAST)
178. IHACI NATE Core & Gas Heating Training Part 2 (WEBCAST)
179. IHACI NATE Core & Gas Heating Training Part 3 (WEBCAST)
180. IHACI NATE Core & Gas Heating Training Part 4 (WEBCAST)
181. IHACI Non-Res ATE Acceptance Testing Employer Training Part 1 (WEBCAST)
182. IHACI Non-Res ATE Acceptance Testing Employer Training Part 2 (WEBCAST)
183. IHACI Non-Res ATT Acceptance Testing Technician Training Part 1 (Webcast)
184. IHACI Non-Res ATT Acceptance Testing Technician Training Part 2 (Webcast)
185. IHACI: (CAQI/QM/QS) AC/HP Refrigeration Part 1 - Practical Fundamentals and Theory of the Refrigeration Circuit (WEBCAST)
186. IHACI: (CAQI/QM/QS) AC/HP Refrigeration Part 2 - CAQI of Air Conditioning and Heat Pump Systems (WEBCAST)
187. IHACI: (CAQI/QM/QS) AC/HP Refrigeration Part 3 - CAQM of Air Conditioning and Heat Pump Systems (WEBCAST)
188. IHACI: (CAQI/QM/QS) AC/HP Refrigeration Part 4 - CAQS of Air Conditioning and Heat Pump Systems (WEBCAST)
189. IHACI: (CAQI/QM/QS) Air Distribution Module Part 1 - Practical Fundamentals and Physical Properties of Air (WEBCAST)
190. IHACI: (CAQI/QM/QS) Air Distribution Module Part 1 - Practical Fundamentals and Physical Properties of Air (Webcast)
191. IHACI: (CAQI/QM/QS) Air Distribution Module Part 2 - Practical Fundamentals and Theory of Proper Air Distribution Design (WEBCAST)
192. IHACI: (CAQI/QM/QS) Air Distribution Module Part 2 - Practical Fundamentals and Theory of Proper Air Distribution Design (WEBCAST)
193. IHACI: (CAQI/QM/QS) Air Distribution Module Part 3 - Fundamental Theory and Techniques of Air Side Design and Installation (WEBCAST)
194. IHACI: (CAQI/QM/QS) Air Distribution Module Part 3 - Practical Fundamental Theory and Techniques of Air Side Design and Installation (WEBCAST)
195. IHACI: (CAQI/QM/QS) Air Distribution Module Part 4 - Advanced Theory and Techniques of Air Side Design and Installation (WEBCAST)

196. IHACI: (CAQI/QM/QS) Air Distribution Module Part 4- Advanced Theory and Techniques of Air Side Design and Installation (WEBCAST)
197. IHACI: (CAQI/QM/QS) Electrical Module Part 1 - Practical Fundamentals and Theory of HVAC/R Systems (WEBCAST)
198. IHACI: (CAQI/QM/QS) Electrical Module Part 2 - Essential HVAC/R System Motor Theory for the Field Technician (WEBCAST)
199. IHACI: (CAQI/QM/QS) Electrical Module Part 3 - Different Electrical Components Found in the HVAC/R Industry (WEBCAST)
200. IHACI: (CAQI/QM/QS) Electrical Module Part 4 - Electrical Schematics: A Roadmap to Diagnosing a HVAC/R System (WEBCAST)
201. IHACI: (CAQI/QM/QS) Gas Heating Module Part 1- Practical Fundamentals and Theory of Gas Heating (WEBCAST)
202. IHACI: (CAQI/QM/QS) Gas Heating Module Part 2- Quality Installation, Maintenance, and Service of Gas Heating Systems (WEBCAST)
203. IHACI: (CAQI/QM/QS) HVAC System Diagnostics Part 1 - Practical Fundamentals, Theory, Methodology and Mind-set of True System Diagnostics (WEBCAST)
204. IHACI: (CAQI/QM/QS) HVAC System Diagnostics Part 1 - Practical Fundamentals, Theory, Methodology and Mind-set of True System Diagnostics (WEBCAST)
205. IHACI: (CAQI/QM/QS) HVAC System Diagnostics Part 2 - Essential Field Techniques Required to Investigate the HVAC/R System (WEBCAST)
206. IHACI: (CAQI/QM/QS) HVAC System Diagnostics Part 2 - Essential Field Techniques Required to Investigate the HVAC/R System (WEBCAST)
207. IHACI: (CAQI/QM/QS) HVAC System Diagnostics Part 3 - Evaluating, Analyzing and Ultimately Identifying the Root Causes of the HVAC/R System (WEBCAST)
208. IHACI: (CAQI/QM/QS) HVAC System Diagnostics Part 3 - Evaluating, Analyzing and Ultimately Identifying the Root Causes(s) of the HVAC/R System(WEBCAST)
209. IHACI: (CAQI/QM/QS) HVAC System Diagnostics Part 4 - Accurate Elimination and Verification of the Root Causes(s) of the HVAC/R System (WEBCAST)
210. IHACI: (CAQI/QM/QS) HVAC System Diagnostics Part 4 - Accurate Elimination and Verification of the Root Causes(s) of the HVAC/R System (WEBCAST)
211. IHACI: (CAQI/QM/QS) System Performance Module Part 1 - Thermodynamics: Heat In Motion (WEBCAST)
212. IHACI: (CAQI/QM/QS) System Performance Module Part 2 - A Sub-System of the Building (WEBCAST)
213. IHACI: (CAQI/QM/QS) System Performance Module Part 3 - Heating System: Comfort with Energy Efficiency (WEBCAST)
214. IHACI: (CAQI/QM/QS) System Performance Module Part 4 - Cooling System: Comfort with Energy Efficiency (WEBCAST)
215. IHACI: AC/HP Refrigeration Module Part 1 - Practical Fundamentals and Theory of the Refrigeration Circuit (WEBCAST)
216. IHACI: AC/HP Refrigeration Module Part 2 - CAQI of Air Conditioning and Heat Pump Systems (WEBCAST)
217. IHACI: AC/HP Refrigeration Module Part 3 - CAQM of Air Conditioning and Heat Pump Systems (WEBCAST)
218. IHACI: AC/HP Refrigeration Module Part 4 - CAQS of Air Conditioning and Heat Pump Systems (WEBCAST)
219. IHACI: Boiler Module Part 1 - Fundamental Theory & Basic Operation of Commercial Boiler Systems (WEBCAST)
220. IHACI: Boiler Module Part 2 - Installation, Operation and Service Practices of

Commercial Boiler Systems (WEBCAST)
221. IHACI: CA 2019 Title 24 Module Part 1 (WEBCAST)
222. IHACI: CA 2019 Title 24 Module Part 2 (WEBCAST)
223. IHACI: Chiller Module Part 1 - Fundamental Theory & Basic Operation of Commercial Chillers (WEBCAST)
224. IHACI: Chiller Module Part 2 - Installation, Operation and Service Practices of Commercial Chillers (WEBCAST)
225. IHACI: Commercial Refrigeration Module Part 1 - Fundamental Theory and Basic Operation of Commercial Refrigeration Systems (WEBCAST)
226. IHACI: Commercial Refrigeration Module Part 2 - Installation, Operation and Service Practices of Commercial Refrigeration Systems (WEBCAST)
227. IHACI: Cooling Tower Module Part 1 – Fundamental Theory & Basic Operation of Commercial Cooling Towers (WEBCAST)
228. IHACI: Cooling Tower Module Part 2 – Installation, Operation and Service Practices of Commercial Cooling Towers (WEBCAST)
229. IHACI: HVAC/R New Hire Module Part 1 (WEBCAST)
230. IHACI: HVAC/R New Hire Module Part 2 (WEBCAST)
231. IHACI: HVAC/R New Hire Module Part 3 (WEBCAST)
232. IHACI: HVAC/R New Hire Module Part 4 (WEBCAST)
233. IHACI: NATE AC/HP & Air Distribution Training Part 3 (WEBCAST)
234. IHACI: NATE Certification Training Series - Air Conditioners and Heat Pumps: Part 1 (Introduction) (WEBCAST)
235. IHACI: NATE Certification Training Series - Air Conditioners and Heat Pumps: Part 2 (Installation & Service) (WEBCAST)
236. IHACI: NATE Certification Training Series - Air Distribution: Part 1 (Introduction) (WEBCAST)
237. IHACI: NATE Certification Training Series - Air Distribution: Part 2 (Installation & Service) (WEBCAST)
238. IHACI: NATE Certification Training Series - Core: Part 1 (General Skills) (WEBCAST)
239. IHACI: NATE Certification Training Series - Core: Part 2 (Electrical Skills) (WEBCAST)
240. IHACI: NATE Certification Training Series - Gas Heating: Part 1 (Introduction) (WEBCAST)
241. IHACI: NATE Certification Training Series - Gas Heating: Part 2 (Installation & Service) (WEBCAST)
242. IHACI: NATE HVAC/R Support Training Module Part 1 (WEBCAST)
243. IHACI: NATE HVAC/R Support Training Module Part 2 (WEBCAST)
244. IHACI: NATE HVAC/R Support Training Module Part 3 (WEBCAST)
245. IHACI: NATE HVAC/R Support Training Module Part 4 (WEBCAST)
246. Induction Woks - Types, Uses, Performance and Efficiency
247. Industrial Lighting Workshop – WEBINAR
248. Industrial Lighting Workshop – WEBINAR
249. Industrial Lighting Workshop (Webcast)
250. Inspecting Photovoltaic (PV) Systems for Code Compliance Part 1 of 2
251. Inspecting Photovoltaic (PV) Systems for Code Compliance Part 2 of 2
252. Integrated Thinking: Early Stage Building Science for Enclosure & Mechanical Systems (Webcast)
253. Integrating Building Performance Simulation into the Design Process (Webcast)
254. Intro to Hands-On Lighting Controls (WEBCAST)
255. Intro to Residential HVAC Design in 3D (WEBCAST)

256. Intro to Supermarket CO2 Systems (WEBCAST)
257. Introduction to Passive House Trades (Webcast)
258. Introduction to Programmable Logic Controllers: Energy Efficiency Applications (WEBINAR)
259. Introduction to Programmable Logic Controllers: Energy Efficiency Applications (WEBINAR)
260. Introduction to the Passive House Standard
261. Irrigation Scheduling: How Long Should I Run My Pump?- Learning Units: 2 BOC
262. Irrigation System Field Maintenance - Learning Units: Nitrogen Management Plan self certificaiton 2 Hours/ CCA CEUs 2 Hours
263. It'sAboutQ Online HVAC/R Training
264. It'sAboutQ Online HVAC/R Training
265. It'sAboutQ Online HVAC/R Training
266. It'sAboutQ Online HVAC/R Training
267. Let SCE help Make You Ready for Fleet Electrification (Webcast)
268. Lighting Fundamentals - Part 1: Terminology, Vision and Color
269. Lighting Fundamentals Part 2: Light Sources, Luminaires and Controls
270. Lighting Fundamentals Part 3: Design Process, Light Measurement, Codes & Standards
271. Low GWP (A2L) Refrigerants Part 1 - Introduction (WEBCAST)
272. Low GWP (A2L) Refrigerants Part 2 – Application (WEBCAST)
273. Low-Cost Hot Water System Retrofits for Commercial Food Service
274. Manitowoc Ice Machine Service Training (WEBCAST)
275. Multifamily Electrification: Introduction
276. Multifamily Electrification: Retrofit Applications and Electrical Assessments (WEBCAST)
277. Multifamily Electrification: Space Conditioning and Water Heating (WEBCAST)
278. Multifamily Electrification: Space Conditioning Deep Dive & Emerging Technologies (WEBCAST)
279. Municipal Pump and Well Efficiency with an Emphasis on Variable Frequency Drives
280. MWELO Enforcement Workshop for Local Agencies (Webcast)
281. Navigating Lighting Design Decisions
282. Navigating SCE Programs, Rates, and Services - What you really need to know (Webcast)
283. NCI: Airflow Testing & Diagnostics Live Online Day 1 of 2 (WEBCAST)
284. NCI: Airflow Testing & Diagnostics Live Online Day 1 of 2 (WEBCAST)
285. NCI: Airflow Testing & Diagnostics Live Online Day 1 of 2 (WEBCAST)
286. NCI: Airflow Testing & Diagnostics Live Online Day 1 of 2 (WEBCAST)
287. NCI: Airflow Testing & Diagnostics Live Online Day 2 of 2 (WEBCAST)
288. NCI: Airflow Testing & Diagnostics Live Online Day 2 of 2 (WEBCAST)
289. NCI: Airflow Testing & Diagnostics Live Online Day 2 of 2 (WEBCAST)
290. NCI: Airflow Testing & Diagnostics Live Online Day 2 of 2 (WEBCAST)
291. NCI: Carbon Monoxide & Combustion Recertification Live Online Day 1 of 2 (WEBCAST)
292. NCI: Carbon Monoxide & Combustion Recertification Live Online Day 2 of 2 (WEBCAST)
293. NCI: Combustion Performance and Carbon Monoxide Safety Certification Program Part 1 - CO Safety Testing & Diagnostics
294. NCI: Combustion Performance and Carbon Monoxide Safety Certification

Program Part 1 - CO Safety Testing & Diagnostics
295. NCI: Combustion Performance and Carbon Monoxide Safety Certification Program Part 2 - Combustion Performance & Diagnostics
296. NCI: Combustion Performance and Carbon Monoxide Safety Certification Program Part 2 - Combustion Performance & Diagnostics
297. NCI: Combustion Performance and Carbon Monoxide Safety Certification Program Part 3 - CO/Combustion Review & Certification
298. NCI: Combustion Performance and Carbon Monoxide Safety Certification Program Part 3 - CO/Combustion Review & Certification
299. NCI: Commercial Air Balancing Certification Program Part 1 - The Key Elements of Air Balancing
300. NCI: Commercial Air Balancing Certification Program Part 1 - The Key Elements of Air Balancing
301. NCI: Commercial Air Balancing Certification Program Part 1 - The Key Elements of Air Balancing
302. NCI: Commercial Air Balancing Certification Program Part 2 - Balancing Principles, Techniques and Reporting
303. NCI: Commercial Air Balancing Certification Program Part 2 - Balancing Principles, Techniques and Reporting
304. NCI: Commercial Air Balancing Certification Program Part 2 - Balancing Principles, Techniques and Reporting
305. NCI: Commercial Air Balancing Certification Program Part 3 - Economizers & Kitchen Exhaust Systems: Certification Exam
306. NCI: Commercial Air Balancing Certification Program Part 3 - Economizers & Kitchen Exhaust Systems: Certification Exam
307. NCI: Commercial Air Balancing Certification Program Part 3 - Economizers & Kitchen Exhaust Systems: Certification Exam
308. NCI: Commercial System Performance Certification Program Part 1 - The Key Elements of HVAC System Performance
309. NCI: Commercial System Performance Certification Program Part 2 - Measure, Diagnose and Improve Poor Performance
310. NCI: Commercial System Performance Live Online Certification Program – Day 1 of 4 Day Series (WEBCAST)
311. NCI: Commercial System Performance Live Online Certification Program – Day 1 of 4 Day Series (WEBCAST)
312. NCI: Commercial System Performance Live Online Certification Program – Day 2 of 4 Day Series (WEBCAST)
313. NCI: Commercial System Performance Live Online Certification Program – Day 2 of 4 Day Series (WEBCAST)
314. NCI: Commercial System Performance Live Online Certification Program – Day 3 of 4 Day Series (WEBCAST)
315. NCI: Commercial System Performance Live Online Certification Program – Day 3 of 4 Day Series (WEBCAST)
316. NCI: Commercial System Performance Live Online Certification Program – Day 4 of 4 Day Series (WEBCAST)
317. NCI: Commercial System Performance Live Online Certification Program – Day 4 of 4 Day Series (WEBCAST)
318. NCI: Duct System Optimization Certification Program Part 1 - Introduction to Air Distribution Upgrade
319. NCI: Duct System Optimization Certification Program Part 2 - Optimize the Duct System: Certification Exam

320. NCI: Duct System Optimization Live Online Certification Program – Day 1 of 4 Day Series (WEBCAST)
321. NCI: Duct System Optimization Live Online Certification Program – Day 1 of 4 Day Series (WEBCAST)
322. NCI: Duct System Optimization Live Online Certification Program – Day 2 of 4 Day Series (WEBCAST)
323. NCI: Duct System Optimization Live Online Certification Program – Day 2 of 4 Day Series (WEBCAST)
324. NCI: Duct System Optimization Live Online Certification Program – Day 3 of 4 Day Series (WEBCAST)
325. NCI: Duct System Optimization Live Online Certification Program – Day 3 of 4 Day Series (WEBCAST)
326. NCI: Duct System Optimization Live Online Certification Program – Day 4 of 4 Day Series (WEBCAST)
327. NCI: Duct System Optimization Live Online Certification Program – Day 4 of 4 Day Series (WEBCAST)
328. NCI: Explore HVAC Field Performance Live Online (WEBCAST)
329. NCI: HVAC Field Training (Adelanto)
330. NCI: HVAC Field Training (Anaheim)
331. NCI: HVAC Field Training (Buena Park)
332. NCI: HVAC Field Training (Chino)
333. NCI: HVAC Field Training (Corona)
334. NCI: HVAC Field Training (Corona)
335. NCI: HVAC Field Training (Fullerton)
336. NCI: HVAC Field Training (Los Alamitos)
337. NCI: HVAC Field Training (Mission Viejo)
338. NCI: HVAC Field Training (San Bernardino)
339. NCI: HVAC Field Training (Santa Ana)
340. NCI: HVAC Field Training P-1 (Chino)
341. NCI: HVAC Field Training P-1 (San Bernardino)
342. NCI: HVAC Field Training P-2 (Chino)
343. NCI: HVAC Field Training P-2 (San Bernardino)
344. NCI: Improve Economizer Performance & Meet Today's Ventilation Standards – Live Online Certification Program Day 1 of 4 (WEBCAST)
345. NCI: Improve Economizer Performance & Meet Today's Ventilation Standards – Live Online Certification Program Day 2 of 4 (WEBCAST)
346. NCI: Improve Economizer Performance & Meet Today's Ventilation Standards – Live Online Certification Program Day 3 of 4 (WEBCAST)
347. NCI: Improve Economizer Performance & Meet Today's Ventilation Standards – Live Online Certification Program Day 4 of 4 (WEBCAST)
348. NCI: Introduction to Hydronic Testing, Adjusting, & Balancing Certification Program Part 1 – Hydronics Overview
349. NCI: Introduction to Hydronic Testing, Adjusting, & Balancing Certification Program Part 2 – Testing, Balancing, Reporting
350. NCI: Performance-Based Selling Live Online - Day 1 of 4 Day Series (WEBCAST)
351. NCI: Performance-Based Selling Live Online - Day 1 of 4 Day Series (WEBCAST)
352. NCI: Performance-Based Selling Live Online - Day 2 of 4 Day Series (WEBCAST)
353. NCI: Performance-Based Selling Live Online - Day 2 of 4 Day Series

(WEBCAST)
354. NCI: Performance-Based Selling Live Online - Day 3 of 4 Day Series (WEBCAST)
355. NCI: Performance-Based Selling Live Online - Day 3 of 4 Day Series (WEBCAST)
356. NCI: Performance-Based Selling Live Online - Day 4 of 4 Day Series (WEBCAST)
357. NCI: Performance-Based Selling Live Online - Day 4 of 4 Day Series (WEBCAST)
358. NCI: Refrigerant-Side Performance Certification Program Part 1 – Equipment Performance of the Air & Refrigerant-Side
359. NCI: Refrigerant-Side Performance Certification Program Part 2 – Refrigerant-Side Basics, Diagnostics, and Opportunities
360. NCI: Refrigerant-Side Performance Live Online Certification Program Day 1 of 4 (WEBCAST)
361. NCI: Refrigerant-Side Performance Live Online Certification Program Day 2 of 4 (WEBCAST)
362. NCI: Refrigerant-Side Performance Live Online Certification Program Day 3 of 4 (WEBCAST)
363. NCI: Refrigerant-Side Performance Live Online Certification Program Day 4 of 4 (WEBCAST)
364. NCI: Residential Air Balancing Certification Training - Testing & Balancing Residential Systems
365. NCI: Residential Air Balancing Certification Training - Testing & Balancing Residential Systems
366. NCI: Residential Air Balancing Live Online Certification Program Day 1 of 2 (WEBCAST)
367. NCI: Residential Air Balancing Live Online Certification Program Day 2 of 2 (WEBCAST)
368. NCI: Residential HVAC System Performance Certification Program Part 1 – The Key Elements of HVAC System Performance
369. NCI: Residential HVAC System Performance Certification Program Part 2 – Measure, Diagnose and Improve Poor System Performance
370. NCI: Residential System Performance Live Online Certification Program – Day 1 of 4 Day Series (WEBCAST)
371. NCI: Residential System Performance Live Online Certification Program – Day 2 of 4 Day Series (WEBCAST)
372. NCI: Residential System Performance Live Online Certification Program – Day 3 of 4 Day Series (WEBCAST)
373. NCI: Residential System Performance Live Online Certification Program – Day 4 of 4 Day Series (WEBCAST)
374. NCI: Test & Certify Ventilation Systems and Economizers – Certification Program Part 1
375. NCI: Test & Certify Ventilation Systems and Economizers – Certification Program Part 2
376. NCI: Test & Certify Ventilation Systems and Economizers– Certification Program Part 1
377. NCI: Test & Certify Ventilation Systems and Economizers– Certification Program Part 2
378. Optimizing Kitchen Ventilation and Restaurant HVAC for Maximum Health and Safety and Minimum Cost-to-Operate

379. Optimizing Kitchen Ventilation and Restaurant HVAC for Maximum Health and Safety and Minimum Cost-to-Operate (WEBCAST)
380. Optimizing Residential Forced-Air HVAC Systems: Airflow for Comfort and Efficiency (WEBCAST)
381. Optimizing Residential Forced-Air HVAC Systems: Low-Loss Duct Systems (WEBCAST)
382. Orosi H.S. Engineering Automation & Technology
383. Orosi H.S. Introduction to Programmable Logic Controllers: Part 1
384. Orosi H.S. Introduction to Programmable Logic Controllers: Part 2
385. Orosi H.S. PLC LEVEL 1, Part 1
386. Orosi H.S. PLC LEVEL 1: Part 2
387. Orosi H.S. PLC LEVEL 1: Part 3
388. Orosi H.S. PLC LEVEL 2: Part 1
389. Orosi H.S. PLC LEVEL 2: Part 2
390. Orosi H.S. PLC LEVEL 2:Part 3
391. Orosi H.S. PLC LEVEL 3: Part 1
392. Orosi H.S. PLC LEVEL 3: Part 2
393. Orosi H.S. PLC LEVEL 3: Part 3
394. Orosi H.S. PLC LEVEL 4: Part 1
395. Orosi H.S. PLC LEVEL 4: Part 2
396. Orosi H.S. PLC LEVEL 4: Part 3
397. Outdoor Lighting Workshop – (WEBCAST)
398. Outdoor Lighting Workshop – (WEBCAST)
399. Outdoor Lighting Workshop – (Webcast)
400. Outdoor Lighting Workshop – (Webcast)
401. Overcoming Installation Challenges for Heat Pump Water Heater Retrofits (WEBCAST)
402. Overcoming Installation Challenges for Heat Pumps in HVAC Retrofits (WEBCAST)
403. Packaging Your Lighting Recommendations
404. Pathways to a Zero Net Energy Home
405. Phenomenal LED
406. Phenomenal LED (WEBCAST)
407. Phenomenal LED 3 Hours BREA/ DRE Continuing Education Units
408. Photovoltaic (PV) Site & Energy Storage Systems (ESS) Analysis and System Sizing Day 1 - Learning Units: NABCEP 2
409. Photovoltaic (PV) Site & Energy Storage Systems (ESS) Analysis and System Sizing Day 2 - NABCEP 2 Learning Units
410. Preparation for Lighting Controls Success - Using an OPR (Owner's Project Requirements), a BOD (Basis of Design) and a SOO (Sequence of Operations)
411. Pump and Well Efficiency for Potable Water Systems
412. Pump Efficiency Testing & Determining OPE
413. Pump Efficiency Testing and Determining OPE (Webcast)
414. Pump Efficiency Testing and Determining OPE (Webinar)
415. PV + Batteries: Integrating Storage with Grid-Tied Photovoltaic Systems (Part 2 of 2)
416. PV + Batteries: Integrating Storage with Grid-Tied Photovoltaic Systems Part 1 of 2
417. Radiant Cooling and Heating Systems for Large Commercial Buildings (WEBCAST)
418. Remote Well and Pump Monitoring using the Smart Meter

419. Residential Energy Efficient Lighting
420. Residential Lighting Controls
421. Restaurant Rebound - Operating an Energy Efficient Kitchen
422. Retrofitting Homes for Electrification and Decarbonization
423. SCE 2021 Annual Water Conference (Online Only Event) (WEBCAST)
424. Selecting Fresh Air Ventilation Systems & Fundamentals of Indoor Air Quality (Webcast)
425. Selecting Retrofit or Replacement Lighting (WEBCAST)
426. Selling High Performance Homes (Webcast)
427. Selling High Performance Homes (Webinar)
428. Solar and Energy Storage for Small Businesses (Webcast)
429. Solar PV: Technology and Valuation (Webcast)
430. Street Lighting 101: Getting Started with the Basics (Webcast)
431. The Benefits and Challenges of R290 as a Refrigerant
432. The Practical Guide to All-Electric, Lower Cost Multi-Family Buildings with Electric-Vehicle Charging (WEBCAST)
433. The Practical Guide to All-Electric, Lower Cost Multi-Family Buildings with Electric-Vehicle Charging (WEBCAST)
434. The Practical Guide to All-Electric, Lower Cost Multi-Family Buildings with Electric-Vehicle Charging (WEBCAST) for AIA Chapters
435. The Worlds of 0-10V, DALI and DMX Dimming (Webcast)
436. Thousands of Hours of Accredited HVAC/R Programs & Courses
437. Thousands of Hours of Accredited HVAC/R Programs & Courses
438. Thousands of Hours of Accredited HVAC/R Programs & Courses
439. Thousands of Hours of Accredited HVAC/R Programs & Courses
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443. Thousands of Hours of Accredited HVAC/R Programs & Courses
444. Title 24 Part 6 Energy Code for SoCalREN (WEBCAST)
445. Title 24: What's New in the 2022 Nonresidential Energy Code (WEBCAST)
446. Title 24: What's New in the 2022 Nonresidential Energy Code (WEBCAST)
447. Title 24: What's New in the 2022 Residential Energy Code (WEBCAST)
448. Title 24: What's New in the 2022 Residential Energy Code (WEBCAST)
449. Title 24: What's New in the 2022 Residential Energy Code (WEBCAST)
450. Title 24: Where We're Headed with the 2019 Standards
451. Title 24: Where We're Headed with the 2019 Standards (WEBCAST)
452. Title 24: Where We're Headed with the 2019 Standards (WEBCAST)
453. Title 24: Where We're Headed with the 2019 Standards (WEBCAST)
454. TRANSFORMERS: Turning Existing Buildings "Green" (Webcast)
455. Transport Energy: Motors, Fans, and Pumps (Webcast)
456. Troubleshooting Commercial Refrigeration Part 1 of 2 (WEBCAST)
457. Troubleshooting Commercial Refrigeration Part 2 of 2 (WEBCAST)
458. Understanding a Pump Efficiency Test
459. Using Soil Moisture Sensors to Inform Irrigation Strategies (Webcast)
460. Variable Frequency Drives (VFDs) for Pumping Application
461. Variable Speed Drives for Agricultural Applications
462. VFDs for Ag Irrigation Applications (Webcast)
463. VFDs for Pumping Applications (WEBCAST)
464. VRF/VRV Install & Service Training (WEBCAST)
465. Welcome to Facility Management (WEBCAST)

466. Window Installation Procedures to Provide Real World Performance & Prevent Water Intrusion
467. Window Installation Procedures to Provide Real World Performance and Prevent Water Intrusion (Webcast)
468. Window Selection for New and Existing Homes
469. Window Selection for New and Existing Homes (WEBCAST)
470. Working with High Glide Refrigerants (WEBCAST)

SoCalGas Prospective Class List:

- IHACI - NATE HVAC/R Support Training – 4 Part Series
- IHACI - Gas Heating Module – 2 Part Series
- IHACI - System Diagnostics Module – 4 Part Series
- IHACI - System Performance Module – 4 Part Series
- IHACI - Air Distribution Module – 4 Part Series
- IHACI - Chiller Module – 2 Part Series
- IHACI - Commercial Cooling Tower Module – 2 Part Series
- NATE Core & Gas Heating Training – 4 Part Series
- NATE AC/HP Refrigeration & Air Distribution Training – 4 Part Series
- NATE Certification Examination
- EnergyPro 9 Software - Residential (Introduction)
- EnergyPro 9 Software - Residential (Advanced)
- EnergyPro 9 Software – Non-Residential (Introduction)
- EnergyPro 9 Software – Non-Residential (Advanced)
- Title 24 - Codes & Standards (Non-Advocacy – Education on Implemented C&S only)
- Manual J – WEBINAR
- Manual S – WEBINAR
- Manual D- WEBINAR
- HVAC Airflow - WEBINAR
- HVAC System Performance Testing PLUS – WEBINAR
- EPA 608 Certification Test Preparation - WEBINAR
- HVAC Airflow – WEBINAR
- 2019 California Residential Code PLUS Intro to 2022 -Webinar
- Refrigerant Charge Basics, for Home Energy Raters and Contractors
- 2022 Residential HVAC System Performance Testing PLUS
- Preventative Maintenance for Commercial Foodservice Equipment
- 2022 Foodservice Industry Outlook
- Culinary Spotlight: Cooking Techniques with Plant-Based Foods
- Preventative Maintenance for Foodservice Facilities
- Garland XHP Foodservice Live Demo Presentation
- Water Conservation in the Kitchen
- Culinary Spotlight: Asian American Pacific Islander Cuisine
- Culinary Comeback: SoCalGas California Community College Symposium
- Commercial Kitchen Ventilation for Safe and Efficient Operation
- Foodservice 2022 Energy Efficiency Programs and Services
- Advanced Water Heating for Foodservice Facilities
- Culinary Spotlight: African American Cuisine
- IAPMO Natural Gas Foodservice Equipment Installer Certification
- Best Practices in Food Safety Operations
- Culinary Spotlight: Hispanic Cuisine
- Foodservice Expo
- Advanced Ventilation: 100% Outdoor Air Handlers for HVAC/CKV systems
- Commercial Kitchen Water Heating Best Practices

ATTACHMENT 3

SoCalREN, 3C-REN, SCE, SoCalGas, and I-REN 2023 Joint Cooperation Memorandum

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I. SUMMARY OF SOCALREN, 3C-REN, I-REN, SCE, AND SOCALGAS PORTFOLIO COORDINATION

The California Public Utilities Commission's (CPUC) Decision (D.)18-05-041 requires energy efficiency (EE) program administrators (PAs) with overlapping service areas to submit a joint cooperation memorandum (JCM) to coordinate program activities. Specifically, the directive states: "We will require the PAs (RENs, IOUs, and CCAs) to develop a joint cooperation memo to demonstrate how they will avoid or minimize duplication for programs that address a common sector (e.g., residential or commercial) but pursue different activities, pilots that are intended to test new or different delivery models for scalability, and/or programs that otherwise exhibit a high likelihood of overlap or duplication and are not targeted at hard-to-reach customers. For such programs, each PA must explicitly identify and discuss how its activities are complementary and not duplicative of other PAs' planned activities."[1]

For their 2023 EE portfolios, Southern California Regional Energy Network (SoCalREN), Tri-County Regional Energy Network (3C-REN), Inland Regional Energy Network (I-REN), Southern California Edison (SCE), and Southern California Gas (SoCalGas) (hereinafter referred to as the "Joint PAs") will continue to collaborate with each other with respect to the Joint PAs' overlapping programs. As part of each of the Joint PAs' focused transition to performance-based and comparatively cost-effective and cost- efficient EE portfolios, the Joint PAs will be continuing to collaborate to ensure that their respective overlapping regional programs do not result in unnecessary duplication or cause customer confusion. The Joint PAs can derive additional value by providing information and referrals to programs across all program implementers, including those outside each other's implementation focus.

In addition, the Joint PAs will use 2023 to continue to conduct ongoing performance assessments, introduce program administrative and implementation adjustments to reduce costs and increase energy savings, and optimize performance of all their portfolios.

[1] D.18-05-041 at p.97

Details on how each of the Joint PA's overlapping sector programs will collaborate, as necessary to comply with the Commission's directives, between each PA are provided below in the following section.

II. SUMMARY OF SOCALREN PORTFOLIO OF PROGRAMS OFFEREDFOR 2023 AND COMPARABLE PARTNER IOU 2023 PROGRAMS

A. RESIDENTIAL - SOCALREN MULTIFAMILY PROGRAM (SCR-RES-A1)

SoCalREN's Multifamily Program provides energy assessments and improvement incentives to building owners for comprehensive EE upgrades to qualifying structures of at least five units. The SoCalREN Multifamily Program offers incentives to drive increased adoption of energy efficiency and program rules that require multi-measure upgrades. The program was developed as a flexible solution, composed of technical assistance, building audits, energy modeling, program implementation, and construction/installation incentives.

In addition, the SoCalREN Multifamily Program utilizes a collaborative approach that provides direct account management services to participating program contractors. This includes regular communication through various channels (e.g., conference calls, emails), as well as ongoing follow-up to develop project scopes, monitor construction progress and verify installation.

A primary objective for all SoCalREN strategies is to meet the needs of underserved, hard-to-reach markets and disadvantaged communities. SoCalREN leverages pre-existing government frameworks specifically designed for underserved and Disadvantaged Communities (DAC), reducing administrative, and delivery costs. SoCalREN leverages regional government partners to promote program services to underserved multifamily market sub-segment and local contractors who serve that market.

Multi-language SPOC

SoCalREN offers the RCC Multilanguage Single Point of Contact (SPOC) as a sub-strategy and the supporting multi-language tools. This strategy is used for direct outreach to small MF property owners and hard-to-reach customers whose primary language is not English.

1. **Summary of SoCalREN's Program Objectives**

   a) To cost-effectively improve the efficiency of multifamily buildings throughcustom comprehensive retrofits.

   b) Provide a turnkey solution with financial incentives so property owners can adopt new and more efficient technologies and/or equipment, thus reducing energy waste.

   c) Leverage cross-cutting companion SoCalREN programs to drive participation in EE upgrades

   d) Offer multi-language strategies such as a multi-language SPOC to engage and support MFproperty owners.

   e) Meet a higher percentage of hard-to-reach and DAC multifamily properties.

2. **Summary of Program Differentiation**

   The following table provides a summary of the Joint PAs' respective multifamily programs.

Table 1: SoCalREN, SCE, SoCalGas, and 3C-REN Multifamily Program Summary

Program Parameters	SoCalREN Whole Building Comprehensive Multifamily Program	SCE Willdan Multifamily Energy Efficiency Program	SoCalGas – under the HUP umbrella	3C-REN Multifamily Home Energy Savings Program
Target Audience(s)	✓ All multifamily customer segments (5 units and larger) of the residential sector across SCE and SoCalGas's service territory ✓ HTR-Multifamily property owners - Primary language spoken is a language other than English ✓ Multifamily property owners within DACs/DAC Communities.	✓ All multifamily customer (small, medium and large) segments of the residential sector across SCE's service territory including hard-to-reach (HTR) customers and/or those in disadvantaged communities (DACs). Property owners and managers of existing multifamily properties within SCE's service area. The program targets all levels of multifamily buildings (i.e., low-income, affordable-to-moderate income, market-rate).	✓ Property owners and managers within the SoCalGas territory who seek to make energy- efficient upgrades to their properties while making well-informed decisions regarding cost and investment for the future. ✓ Low income, affordable-to-moderate income, andmarket rate are eligible to participate. ✓ Property owners of multifamily complexeswithin DAC/DAC communities.	✓ All multifamily residential (5 or more units, existing buildings) customer segments in Ventura, Santa Barbara, and San Luis Obispo Counties ✓ Emphasis on targeting hard-to- reach (HTR) residential customers, including multifamily renters and owners, multifamily properties located in DACs, and moderate- income families not currently being served by, nor meeting the criteria of current ESA and LIHEAP.
Program Delivery Approach	✓ Whole Building (common areas and in-unit) ✓ Custom and Deemed	✓ Whole-building (common areas and in-unit) ✓ NMEC-Based Site-Specific; Customized Calculated and	✓ Whole Building	✓ Whole Building (common areas and in-unit measures)

Program Parameters	SoCalREN Whole Building Comprehensive Multifamily Program	SCE Willdan Multifamily Energy Efficiency Program	SoCalGas – under the HUP umbrella	3C-REN Multifamily Home Energy Savings Program
		Deemed Approaches.		
Differentiating Programmatic Features	✓ 60% IncentiveCost-Cap ✓ 75% IncentiveCost-Cap for DACs/HTR ✓ Incentives based on a $/kWh and $/therm basis ✓ Offers Program with Partner GasMuni's ✓ Multi-language SPOC (concierge-type support) ✓ Targeted marketing collateral ✓ Leverage existing relationships with property management firms ✓ Customer surveys	✓ Provides customers choice of incentive, financing, and/or services. ✓ Full-service building approach delivered through Trade Pros and Community-based Organization networks specializing in MF segment ✓ Integrated delivery team provides comprehensive services ✓ Intelligent outreach using proprietary software and modeling ✓ Simple, customer-friendly offer providing customers choice of financing, technical assistance, and flexible incentives. ✓ Single point of contact (SPOC or concierge-type support ✓ Community blitzes (i.e., door-to-door canvassing) ✓ Strategic partnerships Direct install (DI) and do-it-yourself (DIY) measures ✓ Financing options (i.e., debt or loan financing, lease financing,	The program will implementmaximum incentive levels based on the type of property. ✓ Market Rate Projects will be incentivized up to 50% of total projectcost. ✓ Affordable Projects can be incentivized up to 65% project cost. To qualify for the Affordable Incentive Path, a project must be classified as a Disadvantaged Community(DAC) or Hard to Reach (HTR). Additionally, projects that meet the Energy Savings Assistanceprogram (ESA) guidelines are also eligible for the Affordable Incentive path. Five incentive tiers are available.	✓ Addresses territory that is far removed from other PAs' outreach and implementation efforts in Ventura, Santa Barbara, and San Louis Obispo Counties. ✓ Incentivizes property manager/owner to make EE upgrades by developing personalized energy upgrade plans based on the energy assessment of each property and by allowing them to work with contractors of their choice. ✓ Beneficial to both the resident and manager/owner ✓ Higher incentives for underserved properties ✓ Incentive adders for high performance measures

Program Parameters	SoCalREN Whole Building Comprehensive Multifamily Program	SCE Willdan Multifamily Energy Efficiency Program	SoCalGas – under the HUP umbrella	3C-REN Multifamily Home Energy Savings Program
		performance contracts, property assessed clean energy [PACE], and energy efficiency as a service) ✓ Targeted marketing collateral ✓ Simplified energy management technologies (EMTs) with demand response (DR) capabilities ✓ Leverage existing relationships with property management firms, and ✓ Customer surveys.		
Resource or Non-Resource	Resource	Resource	Resource	Resource
Eligible Measures	The program offers custom incentives for energy- efficiency measures for both common area and tenant units at multifamily properties located within the SoCalREN region. Eligible measures include: Appliances, HVAC, Lighting, Pumping, and Water Heating.	The program offers deemed, customized calculated, and NMEC-based site specific approach measures for energy-saving equipment for both common and in-unit areas; end uses include HVAC and Lighting, and Water Heating, Pool pump, High efficiency kitchen appliances, Showerheads and Faucets and Energy Management Technologies.	Home Upgrade Program- Multifamily Whole Building Program promotes long-term energy benefits through comprehensive EE retrofit measures - including building shell upgrades, high-efficiency HVAC units, central heating and cooling systems, central domestic hot water heating, and other deep energy reduction opportunities.	The Multifamily Home Energy Savings program offers site-specific measures that achieve energy savings both in-unit and in common areas.

Program Parameters	SoCalREN Whole Building Comprehensive Multifamily Program	SCE Willdan Multifamily Energy Efficiency Program	SoCalGas – under the HUP umbrella	3C-REN Multifamily Home Energy Savings Program
Budget	$7,000,000	$19,595,052	$2,783,455	$3,430,037

Similar to the SoCalGas Multifamily Whole Building Program and 3C-REN Multifamily Home Energy Savings Program that are currently offered to customers, SoCalREN's multifamily projects must install at least three EE measures. SoCalREN's Multifamily program includes a 60% total project incentive cost-cap for non-DAC/HTR (75% total project incentive cost-cap for DAC/HTR) multifamily properties.

The program's primary objective is to meet SoCalREN's business plan goals and achieve deeper savings through comprehensive solutions. Most importantly, the program aims to increase EE adoption rates within hard-to-reach (HTR) and/or disadvantaged communities (DACs) properties. An integrated team has been established over the last eight years with extensive MF experience that ensure continued successful delivery of deep energy savings projects.

SoCalGas's Multifamily Whole Building Program has an incentive cost-cap of 50% of total project cost for Market Rate Properties and 65% for properties deemed as Affordable Projects; SoCalGas also promotes its On Bill financing Program (OBF) to be bundled in all projects eligible.

SCE has contracted with Willdan Energy Solutions to develop, implement, and offer an EE program to SCE multi-family customers. This Multifamily Energy Efficiency Program offers technical, engineering, and financial services, flexible incentives, DI or turnkey or DIY solutions for deemed, calculated, and/or NMEC approach EE measures energy-saving. SCE's program offers incentives only for electric measures (i.e., single fuel), whereas SoCalREN's program offers incentives for EE measures utilizing both gas and electric fuels.

3C-REN's Multifamily Home Energy Savings (MHES) Program serves HTR multi-family building owners, renters, and DACs in Ventura, Santa Barbara and San Luis Obispo Counties. The program leverages existing relationships with local government agencies, housing authorities, and

community-based organizations for outreach to properties housing underserved multifamily customers such as farmworkers and formerly unhoused individuals. The incentive structure includes enhanced incentives for underserved properties, and adders for higher performance measures, such as heat pumps. In the Tri-County area, it is common for the resident to pay their energy bills, so property owners have little incentive to implement EE measures on their property. 3C-REN's Multifamily Program aims to target property owners in the Tri-County region with non-prescriptive measure mixes to meet the varied needs of multifamily property owners in 3C-REN territory.

SCE's program goes beyond basic EE and includes Demand Response (DR), energy management technologies, Integrated Demand-Side Management (IDSM) solutions and electrification upgrades offered to customers, excluding any storage technology. This approach minimizes the barriers for customer participation. This Program offers full-service building approach to Multifamily properties throughout SCE's service territory. SoCalREN's Multifamily program will also go beyond basic EE by incorporating external funding resources that will enable multifamily dwellings to incorporate EVSE infrastructure funded by the California Energy Commission. 3C-REN's MHES program will leverage project team connections to layer 3C-REN incentives with other offerings such as TECH Clean California and LIWP, as well as solar and EVSE where appropriate, to increase financial benefits and clean energy impacts for property owners and tenants.

The following table compares the key program parameters of PAs' multifamily programs.

Table 2: Multifamily Program Comparison

Program Parameters	SoCalREN Whole Building Comprehensive Multifamily Program	SCE Willdan Multifamily Energy Efficiency Program	SoCalGas - under the HUP umbrella	3C-REN Multifamily Home Energy Savings Program
Project Delivery Model	Program team and Contractors identify project opportunities, work with program engineers to assess current property conditions and identify project scope. Incentive opportunity is presented to customers. Contractor then completes project installation based upon the agreed scope of work. Engineering team models baseline and as-built energy savings in EnergyPro and incentive is based on energy savings achieved.	Willdan along with its program partners will work with Customers to identify project opportunities. Program engineers will assess current property conditions and identify project scope, provide the customer with estimated kWh savings, customer's enrollment options, measures, the price, and the billing cycle. Incentive opportunity and financing options are presented to the customers. Once the proposed project is accepted by Customer and subsequently approved for installation by SCE and CPUC, the project is installed through Willdan authorized installer or channel partner or customers may also choose to self-install or select contractor of choice for all incentivized measures.	All projects go through SoCalGas Consultant forreview. Consultant provides technical and program assistance to encourage customers to add measures to their scope of work and educate them on the energy savings achieved. Customers install the agreed upon set of measures through the installer of their choice.	MHES program marketing and outreach leverages existing relationships and forming partnerships with local and regional stakeholders, and residents to advocate for the program. Enrolled property owners receive concierge-style technical assistance, site assessments, project scope, and hands-on support through contracting and installation.
Minimum Energy Savings Required per Project	10,000 kWh or 1,000 therms	N/A	5% (gas savings)	0.25MT CO2e savings per apartment unit
Minimum Number of Measures	3 measure minimum. must include both electric and gas efficiency measures	1 measure	3 measure minimum andmust include a core measure (installation of amajor capital improvement).	3 measure minimum
Minimum Number of Dwelling Units	5 units	N/A	3 units	5 units

Program Parameters	SoCalREN Whole Building Comprehensive Multifamily Program	SCE Willdan Multifamily Energy Efficiency Program	SoCalGas - under the HUP umbrella	3C-REN Multifamily Home Energy Savings Program
Deemed vs Calculated	Measures are calculated using a combination of energy modeling resultsand ED approved workpapers or custom calculations.	Deemed, Calculated, NMEC-Based Site Specific Approaches	Measures are calculatedusing a combination of energy modeling resultsand ED approved workpapers or custom calculations. Energy models are calibrated when possible to historical energy use.	The Multifamily Home Energy Savings program will use a combination of energy savings calculations methodologies including EnergyPro Lite, workpapers, EnergyPro Model, and custom calculations.
Program Delivery Approach	Whole Building	Whole-building (common areas and in-unit)	Whole Building	Whole-building (common areas and in-unit)
Total Incentive Project Cost-Cap	60% non-DAC properties, 75% DAC/HTR properties	None	50% Market Rate 65% Affordable (DAC, HTR, ESA qualified).	Project cap of $100,000 for Central HPWH systems
Assessment Structure	Program engineers conduct a property site assessment to inform the baseline energy model. Measure recommendations are provided to the customer in the Assessment Report which includes estimated energy savings and potential incentives available for the project.	SCE Third Party Contractor (Willdan) provides assessment aswell as technical assistance and recommendations to assist customer and or customer's contractor. Willdan verifies customer's facility meets the program participation criteria, performs no-cost consultation/audit of customer's facilities, and provides energy efficiency/savings opportunities.	SoCalGas Consultant and program SPOC provides assessment as well as technical assistance and recommendations to assist customer and or customer'scontractor.	Participants will work with a Technical Assistant (TA) to conduct an energy assessment to identify energy upgrades and associated GHG savings predictions and develop a project scope.

Program Parameters	SoCalREN Whole Building Comprehensive Multifamily Program	SCE Willdan Multifamily Energy Efficiency Program	SoCalGas - under the HUP umbrella	3C-REN Multifamily Home Energy Savings Program

Improvement Incentive Structure	Incentives are based on the energy savings modeled at project completion using the following rates:
	• Properties located in Disadvantaged Communities (DACs) receive:
	  ○ $0.57/kWh
	  ○ $6.00/therm
	• Non-DAC Properties receive:
	  ○ $0.33/kWh
	  ○ $3.50/therm
		Customer's choice of incentive, financing, and/or services as agreed upon between Customer and Third- Party Contractor.	Incentives are tiered based on percent improvement in site gasenergy use, and multiplied times the number of units in the property. Total amountcannot exceed corresponding caps forMarket Rate or Affordable projects.
			 
			Energy Efficiency Incentives
				• $500 per unit for general market properties
				• $750 per unit for underserved properties
				Additional incentives for higher performance measures, such as heat pumps.

CAS Testing Requirements	None	None	Requires diagnostic "test-in" and "test-out" whole house assessments. The "test- in" assessments will generate a comprehensive work scope and the "test-out"assessments will be usedto document that specified improvements have beenproperly sized and installed	• None

Program Parameters	SoCalREN Whole Building Comprehensive Multifamily Program	SCE Willdan Multifamily Energy Efficiency Program	SoCalGas - under the HUP umbrella	3C-REN Multifamily Home Energy Savings Program
Documentation Required	Property energy Assessment Report, EnergyPro simulation files, project and building information, proposed scope of work, Installation Report.	Verification of EE measure eligibility, approved workpaper (forDeemed measures), Pre-Installation Inspection Report and/or Post- Installation Inspection Report, and Early Screening Document, and Project Feasibility Study (for Calculated and NMEC measures).	Paid itemized sales receipt, contractor invoices, paid home improvement contracts, permit closure, product cut sheets, savings calculations workbook generated by consultant,and application forms (Investment Grade Energy Audit Request Form, Energy Audit Report, Energy Report with recommended improvements and cost).	Property project scope that meets the minimum GHG savings requirements, EnergyPro Lite model and report, project summary workbook, invoices for all installed measures, quality assurance report, measure specific calculators and proof of permit closure if applicable.
Project Measures Incentivized	Gas/ water/ electric measures (please see eligible measure list)	Lighting, HVAC, Water Heater, and other technologies, Pool pump, High efficiency kitchen appliances, Showerheads and Faucets and Energy Management Technologies.	All typical gas EE measures are eligible assuming savings can be modeled according to ED guidelines for whole building programs (EP5 simulation engine or outside calculations). No generation measures are eligible (solar thermal, solar PV). No fuel switching measures are eligible.	Eligible measures and services to reduce energy usage may include, but are not limited to, the following: • Domestic Hot Water • HVAC • Envelope improvement • Appliances • Lighting

3. Comparable SoCalGas Program – Home Upgrade Program - Multifamily Whole Building [SCG 3705]

As an extension of the existing Home Upgrade Program, the Multifamily Whole Building Program has as a primary purpose to test performance-based approaches in the multifamily housing

retrofit market. The Multifamily Whole Building Program utilizes professional energy consultants to perform energy audits using approved multifamily audit tools and procedures to evaluate potential EE measures based on a least cost, maximum benefit approach customized to each property's specific needs.

The Multifamily Whole Building Program seeks deeper energy savings through a comprehensiveapproach and provide guidance to customers across all their portfolios, while addressing the energy needs specific to each property. The program collaborates with customers' contractors/installers to address specific opportunities at any given property and develop achievable installation timelines. The program targets property owners/managers with scheduled project rehabilitation who are willing to investin a performance-based whole-building approach. This performance-based approach aims to assist property owners and managers with making informed decisions, identify measures for energy savings, and maximize energy reductions for each property owner, manager, and tenant, as applicable. The incentives are designed to influence the implementation of comprehensive measures, and therefore are based on gas energy reduction achieved.

Furthermore, the Multifamily Whole Building Program recognizes the specific needs of Hard-to-Reach customers and those within Disadvantaged Communities; its incentive structure allows for higher incentive amount to assist with project costs.

SoCalGas team is comprised of a group of experts (internal and external) that meet regularly and work collaboratively for the customer's benefit to help realize maximum energy savings:

- External – Technical Consultant services are offered at no cost to the customer to facilitate program participation and offer meaningful guidance about the Energy Efficient project up front.
- Internal – Program Advisors, Single Point of Contact, Account Executive team, and On Bill Financing team provide information tailored specifically for each property in a comprehensive approach.

The entire team serves as a One Stop Shop to help customers and property management companies participate through the program. This approach is highly supported by the Single Point of Contact, who assists to remove barriers for participation by streamlining communications for customers.

In addition to SoCalGas' Multifamily Whole Building program, direct install and rebate programs are also offered through 3rd party implementers throughout the service territory. These programs will pursue partnership opportunities with other utility companies/municipalities within the service territory, where and when applicable.

The two Third Party Programs offered are as follows:

- *SCG 3889* Multifamily Energy Alliance (MEA): the program seeks to provide accessible solutions to SoCalGas customers through a direct install (no-cost to the customer) approach for thermostats, low flow showerheads, thermostatic shower valves, faucet aerators, and recirculation pump controls. Additionally, the program will aim to deliver a comprehensive deemed approach by also providingrebates for clothes washers, attic insulation, pipe/fitting insulation, energy star dryers, furnaces, tankless water heaters, pool/spa heaters, and boiler controls. One of the goals of the program is to serve Hard to Reach customers and customers in Disadvantaged Communities. The program will direct customers to SoCalGas' Energy Savings Assistance Program and Multifamily Whole Building Program when such programs are determined to represent a best fit solution for a project.
- *SCG 3888* Multifamily Space and Water Heating (MF SAWH): the program is implemented by a third party which specializes in hydronic systems. The program will target multifamily properties with 30 units or more that have combined central domestic hot water and space heating. The program will provide installation of the following measures at no cost to customers through a direct install approach: water heater VFD pump control, dual set point temperature control, pipe insulation, and faucet aerator (or under sink flow restrictor).

Additionally, SoCalGas offers rebates for deemed measures through the SoCalGas'

Multifamily Energy Efficiency Rebate (MFEER) Program for the purchase and installation of EE measures conducted by the property owner or manager. MFEER will coordinate with MEA to ensure all rebate opportunities are covered/offered while maintaining clarify of the options available within each program.

SoCalGas' Single Point of Contact (SPOC) will work with customers to facilitate the customer journey and notify customers of additional programs available that could complement or be a best fit for their property. SoCalGas' SPOC will also direct customers to SoCalREN staff whenever it is identified that the SoCalREN program can provide suitable solutions. Furthermore, SoCalGas will share opportunities with SoCalREN to promote the Multifamily programs together, through webinars or events that could be hosted jointly. This effort will ensure clarity of offerings within the Multifamily market and allow for cost savings.

Lastly, as a response to COVID-19 and to best serve customers during the pandemic, the Multifamily Whole Building Program has implemented virtual inspections as an alternative to in-person inspections. This has removed barriers when onboarding projects and closing them; customers feel empowered to continue to consider energy efficiency projects as they learn about processes that enable them to do so in a safely manner. The program will keep implementing this approach as long as possible to continue to allow for additional cost savings resulting from the removal of travel time/mileage to conduct assessments.

4. Comparable SCE Multifamily Energy Efficiency Program – Willdan [SCE_3P_2020RCI_004-]

SCE has contracted with Willdan Energy Solutions (Third-Party) to develop, implement, and offer this EE Program to SCE customers. This Third-Party program provides comprehensive EE for all multifamily (MF) customer segments of the residential sector across SCE's service territory. This program seeks to influence a significant increase in the adoption of EE technology and/or measures among the end-users of this market sector using the Deemed, Custom Calculated and Normalized Metered Energy Consumption approaches. The program offers a consolidated approach that includes segment-specific marketing, technical assistance, technologies, whole-facility opportunities,

financing, and measurement and verification (M&V).

As stated above, the program goes beyond basic EE to include Demand Response (DR), energy management technologies and fully Integrated Demand-Side Management (IDSM) solutions. IDSM and electrification upgrades are offered to customers, excluding any storage technology. This approach minimizes the barriers for customer participation.

This program will offer a single point of contact (SPOC) and a significant share of program services will be provided through Channel Partners, Trade Pros, Installers, and community-based organization (CBO) networks.

The program's primary objective is to meet SCE's business plan goals and achieve deeper savings through comprehensive energy management solutions. An additional objective is to increase EE adoption rates by targeting MF residential sub-segments including hard-to-reach (HTR) customers and/or those in disadvantaged communities (DACs). An integrated team with extensive MF experience will develop tailored responses that align with SCE's objectives and draws on existing customer relationships with property owners to increase the number of completed projects.

5. Comparable 3C-REN Program: Multifamily Home Energy Savings (MHES) Program [TCR-Res-002]

3C-REN's Multifamily Home Energy Savings (MHES) Program serves hard-to-reach (HTR) multi-family building owners, renters, and Disadvantaged Communities (DACs) in Ventura, Santa Barbara and San Luis Obispo Counties. Multifamily properties with five or more units are eligible to participate. The program includes site assessments, technical assistance, and a rebate structure that is based on the number of units in the complex. To qualify for the rebates, the project scope of work must achieve a minimum of 0.25MT CO2e savings per apartment unit. The incentive structure also includes enhanced incentives for underserved properties, and adders for higher performance measures, such as heat pumps.

To participate in the program, property owners/managers (participants) can sign up on the 3C-REN website. Marketing efforts to drive participants to sign up will include events, calls, emails, etc.

Following sign up, participants will work with a Technical Assistant (TA) to conduct an energy assessment to identify energy upgrades and associated GHG savings predictions and develop a project scope. Once the scope has been developed (that meets the GHG savings requirements), a rebate will be reserved for the participant. The participant is responsible for implementing the project scope. It is expected that participants will work with contractors that they already have relationships with, or to review quotes from other area contractors. Although the responsibility lies with the participant to implement the project scope, the TA will provide assistance throughout the bid process and construction of the project. Technical assistance will also include support in identifying financing and accessing additional incentives beyond those offered in this program. Once construction is completed, the TA will verify the project and process incentive payments, which are paid directly to the participant.

The project scopes for each property will vary based on energy assessments, but can include whole building, common area, and in-unit measures. The program does not provide a prescriptive list of eligible measures, but will allow energy-saving upgrades for domestic hot water, HVAC, building envelope, appliances, and lighting.

6. Coordination Protocol Between Programs

A focus on collaboration among the PAs is critical to all multifamily programs' success. For its residential programs, the Joint PAs will communicate via email or in regular coordination meetings. The Joint PAs also will participate in Energy Division-led Program Coordination Groups (PCG), with the goal of reaffirming clearly defined program goals and messaging.

The Joint PAs realize there is an opportunity to continue and deepen coordination to serve the multifamily segment. Coordination within multifamily programs has the potential to lead to deeper EE retrofits. The Joint PAs will make each other aware of programs and resources available, including multifamily residential programs.The Joint PAs will provide notice once advice letters have been filed and implementation plans have been uploaded to CEDARS of any new program similar to other Joint PAs' programs. Through SoCalREN's Residential Community Coordinator (RCC), all available

information regarding all possible IOU, REN, and third-party program and incentive opportunities will be made available so that the Joint PAs' constituents are informed about all available options,thus gaining deeper energy savings for the state.

7. Coordination Between SW Program(s)

The Joint PAs will continue to participate in Energy Division-led PCGs. The statewide PCG for multifamily programs enables collaborative statewide (SW) discussions regarding all multifamily programs across all PAs throughout the state, not just those in Southern California.

8. Compliance With D.12-11-015, SCR-RES-A1

The following table describes in further detail how SoCalREN's Multifamily Program satisfiesthe REN criteria in D.12-11-015.

Table 3: SoCalREN's 2023 Multifamily Program Compliance With D.12-11-015

REN Criteria	SoCalREN Multifamily Program (SCR-RES-A1)
1. Activities IOU cannot or does not intend to undertake	˅ Leverage public agencies to drive multifamily downstream incentives to property owners. ˅ Will market an incremental installation phase approach to allow multiple measures over time for whole building.
2. Pilot activities where there is no IOU program offering and where there is potential for scalability	N/A
3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap	˅ SoCalREN's multifamily program targets and provides special incentives for hard-to-reach customers and DACs; however, services will be offered to multifamily properties throughout its service territory.

B. SOCALREN KITS FOR KIDS (SCR-RES-A3)

The SoCalREN Kits for Kids program provides energy-saving measures to families within the service area who have third and fourth grade students attending local elementary schools. A set of measures will be offered at no cost to participating students and their families. These no-cost measures will provide realized energy savings for each household. In addition to the energy and cost saving

achieved by the student, Kits forKids will provide educators with a classroom grant. Kits for Kids will generate energy savings and provide relief to families who are impacted by high monthly utility bills, and to educate future household decision-makers to continue prioritizing energy efficiency in the future.

Kits for Kids provides a model wherein families are provided with a home-based educational activity (Energy Efficiency Scavenger Hunt) and kids an interactive online game/tool. The online game and family activity is designed to help the student make connections between concepts learned through third and fourth grade science and how the members of their household use energy at home, in a fun, hands-on fashion. The program's primary objective is to drive knowledge that leads to energy champions within our communities.

1. **Summary of Program Objectives**

- Generate energy savings (kWh and therms) through the installation of measures in the homes of students participating in the Kits for Kids Program
- Provide financial relief to families/households through both energy cost savings and the no-cost measures provided to households
- Educate students, parents, and guardians about energy efficiency to help household members make informed decisions now, and to encourage the continuation of energy efficient behaviors bythe students in the future.
- Drive climate action within residential communities.

2. **Summary of Program Differentiation**

The following table provides a summary of the PAs' respective programs.

Table 4: SoCalREN, SCE, and SoCalGas Similar Program Summary

Program Parameters	SoCalREN	SCE	SoCalGas
Target Audience(s)	3rd and 4th grade students and their families residing in single and multifamily homes	N/A for all rows	6th grade students and their parents.
Resource or Non-Resource	Resource		Resource

Program Parameters	SoCalREN	SCE	SoCalGas
Eligible Measures	(2) LED Light bulbs (1) Showerhead (2) Faucet Aerators -1 Kitchen 1.5GPM -1 bath 1.0GPM		Aerators – lavatory 0.5 Aerators – Kitchen 1.5 Showerheads 1.5 Filter Tone Alarm
Budget	$1,200,000		$1,702,415

SoCalREN's Kits For Kids program goes beyond other educational programs by incorporating an interactive online gaming tool. In addition, information gathered during the program activity will be usedto verify existing conditions in the home (e.g. number of incandescent bulbs, etc.). This information will serve as key EM&V ex-post information and will assist in determining energy savings associated with the free measures provided for installation. These strategies go beyond existing similar programs within the market. Finally, this program will be focused in targeted areas in the SoCalREN service area that are currently underserved, DAC, rural and low-income communities.

The following table compares the key program parameters against similar PA's applicable programs.

Table 5: REN and IOU Program Comparison

Program Parameters	SoCalREN	SCE	SoCalGas
Program Delivery Approach	The Kits for Kids Program utilizes an interactive online game platform to inform kids about the benefits energy savingswhile engaging them on the installation process with the supervision of their parents. Program model also utilizes public agency partners specifically schools, school districts and Counties EducationOffices to promote energy leadership and drive energy efficiency beyond the classrooms.	N/A	The LivingWise (LW) Program is a school-delivered residential energy savings program that provides a blend of classroom activities and take-home retrofit and audit projects which students complete as homework assignments with their parents and families. The LW Program is applied at the 6th Grade level in California to best align with State Learning Standards and is offered to eligible teachers as an elective program.
Deemed vs Calculated	Deemed		Deemed
Incentive Structure	• 65% of Students must installmeasures for classroom incentive • Each classroom receives a $500 or $1,000 grant depending on class size		• N/A
Approval	• Postcard submitted to teacher and online platform • game captures installation progress as kids/family's complete activity; • SoCalREN to process and verify via postcard submittal/online collection.		• Program enrollment occurs when the teacher provides a teacher participation agreement by fax, email or online to receive energy efficiency services for their classroom
Project Measures Incentivized	• Gas/water • Electric measures provided but not qualified for deemed savings at thistime		• Gas/water

Program Parameters	SoCalREN	SCE	SoCalGas
Baseline/Data Collection	• SoCalREN is leveraging this program to collect measures replaced so annually incremental estimation of attributable electric savings can be measures (i.e., CFL replacements)		• Monthly progress report and written report on teacher enrollment activities

3. Comparable SoCalGas Program – LivingWise [SCG 3764]

LivingWise is a residential energy education and savings program delivered through schools. Southern California Gas Company (SoCalGas) collaborated with seven different California municipalities, utilities, or water agencies The Program is a 6th grade Education model built on a proprietary Measure-Based Education (MBE) methodology. This results in students who readily engage in the teacher-led education within their school and are empowered by the hands-on, lab-based take-home measure installations within their homes. This personalized education program delivers increased energy literacy, optimum installation rates, and a deeper understanding of energy efficiency concepts, including Integrated Demand Side Management (IDSM). Teachers are incentivized to implement the program in its entirety and return Student Surveys for EM&V reporting. The program optimizes energy savings and behavior change while supporting California state standards-based core classroom curriculum while enabling teachers to control the timing and pace of the program delivery.

4. Comparable SCE Program – N/A

5. Coordination Protocol Between Programs – N/A

6. Compliance with D.12.-11-015, SCR-RES-A3

The following table describes in further detail how SoCalREN's Kits for Kids Program satisfies theREN criteria in D.12-11-015.

Table 6: SoCalREN's 2023 Kits for Kids Program Compliance With D.12-11-015

REN Criteria	SoCalREN Kits for Kids Program (SCR-RES- A3)
1. Activities IOU cannot or does not intend to undertake	Kits for Kids offers an online platform for students to learn about energy efficiency

2. Pilot activities where there is no IOU program offering and where there is potential for scalability	N/A
3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap	Will emphasize HTR customers, DAC and Rural Communities

C. SOCALREN PUBLIC AGENCY ENERGY EFFICIENCY PROJECTDELIVERY PROGRAM, (SCR-PUBL-B1)

The SoCalREN Public Agency Energy Efficiency Project Delivery Program (EE PDP) offers servicesto identify and complete Public Sector projects that are customized to meet the unique needs of each agency. The Program provides objective, third-party expertise to help agencies implement the best measures to maximize energy cost savings. Savings attribution is channeled through the SCE, SoCalGas, and SoCalREN resource programs such as Metered Savings Program and Streamlined Savings Pathway because the SoCalREN Public Agency EE PDP is a non-resource program. In addition, SoCalREN's EE PDP assists in the development and sharing of tools and resources through a peer-to-peer network to inspire local energy action.

Services include:

- Energy portfolio analysis tools and benchmarking support that help identify potentialopportunities.
- Start-to-finish project management support
- Facility energy audit
- Exterior lighting retrofit audit and technical expertise
- Water and wastewater pumping and process optimization retrofits and other measures
- Retro-commissioning support
- Project financing analysis
- Support in access to financing, including EE financing and grant application services
- Development of contractor scope of work elements with EE performance specifications
- Access to competitively bid specialty contractors
- Assistance with utility incentive and rebate processing
- Construction management support
- Project close-out support and training
- Access to EE tools, resources & peer-to-peer learning opportunities
- Customized support to celebrate project success

1. Summary of Program Objectives

a) Fill market gaps in the public sector and provide public agencies with an integrated, objective, and comprehensive EE solution for their

facilities and non-facility infrastructure.

b) Increase the percentage of public agencies that engage their communities in energy actionsand EE strategies, thereby reducing overall community energy consumption, with a focuson disadvantaged and HTR communities.

c) Increase the ability of public agencies to meet local, regional, and state energy targets andpolicy goals.

d) Increase the number of participating public agencies in the SoCalREN EE PDP across theentire regional territory, with an emphasis on HTR and DACs.

e) To position public agencies and strategic regional partners to lead community awarenesscampaigns; engage stakeholders; build public awareness of local, regional, and state efforts; develop energy action plans with shovel ready project scopes; and drive participationin PA core resource programs.

f) Expand the implementation of cost-effective EE projects

2. Summary of Program Differentiation

The following table provides a summary of the PAs' public agency programs.

Table 7: SoCalREN Public Agency Energy Efficiency Project Delivery Program (PDP) and Other PAs' Comparable Programs Summary

Program Parameters	SoCalREN	SCE	SoCalGas	I-REN
Target Audience (s)	Public Agencies: • Cities, counties, tribes, K–12 schools, local government hospitals and hospital districts, water districts, wastewater districts, sanitation districts, ports, airports, and other special districts.	All eligible: • Local Government • Schools (K-12, local public and private primary and secondary education authorities) • Federal and Tribal Government	All eligible: • Cities • Counties • Water/wastewater Districts • K–12 Schools • Special Districts • Tribes • POUs • Any Public Agencies	• Counties of Riverside and San Bernardino • Cities, school districts, water districts, special districts, tribal communities • Disadvantaged, low income, other vulnerable communities • Community centers, libraries, senior centers, schools, fire and police buildings • Educational institutions
Resource or Non-Resource	Non-Resource	Resource	Resource & Non-Resource	Non-resource

Program Parameters	SoCalREN	SCE	SoCalGas	I-REN
Eligible Measures	N/A	Lighting, HVAC, Process, Food Service, Whole Building, Motors,Office Equipment, Building Envelope, Refrigeration	Pipe and Tank Insulation, Boilers, Water Heaters, Pool Covers, Food Service, HVAC, Building envelope,Central Plant, Non-buildingor systems	N/A
Budget	$6,489,000	$6,590,401	$2,051,023	$2,908,219

SoCalREN's EE PDP offers services customized to serve the specialized needs of public sector customers. For example, in SoCalREN's EE PDP, project management and technical support are offered throughout the entire project lifecycle, including technical assistance, procurement assistance, construction management support, financing support, and access to actionable reports on energy data. The IOUs' third-party programs provide public sector customers with technical assistance primarily focused on project technical and financial details but does not include pre-OBF financing support, procurement assistance, or construction management support. SoCalREN EE PDP participants only need to be a SoCalREN enrolled agency to be eligible to participate in the program. In 2019, after an identification of a gap was presented due to the reduction of local government partnerships, the SoCalREN added the regional partnership strategy to its EE PDP. The goal of regional partnership strategy is to increase energy efficiency impacts through enrollments, enhanced engagement, and ultimately increase EE projects and their associated savings through resource program pipelines. The following table compares the key program parameters of PAs' public sector programs.

Table 8: Public Sector Program Comparison

Program Parameters	SoCalREN: EE ProjectDelivery Program	SCE Public Sector Programs	SoCalGas Public SectorPrograms	I-REN Technical Assistance and Strategic Energy Planning Program
Types of Public Agencies Served	All eligible: ● Cities ● Counties ● Water/ wastewater Districts ● K–12 Schools ● Special Districts ● Tribes	All eligible: ● Local Government ● Schools (K-12, local public and private primary and secondary education authorities) ● Federal and Tribal Government	All eligible: ● Cities ● Counties ● State Government ● Federal Government ● Water/wastewater Districts ● K–12 Schools ● Community Colleges &Universities ● Special Districts ● Tribes ● POUs ● Any Public Agencies	• Members of the I-REN COGs, counties, cities, school districts, water districts, special districts, and tribal communities • Hard-to-reach, disadvantaged, low income, and other vulnerable communities • Public sector facilities, community centers, libraries, senior centers, schools, and fire and police buildings • Educational institutions
Resource/ Non-resource	Non-resource	Resource	Resource and Non-Resource	Non-resource
Procurement Assistance	Procurement and project delivery option analysis Access and extensive support to both customized and turnkey procurement approaches for energy projects Proposal and bid analysisDevelopment of contractor scope of workwith performance specifications Contractor cost estimate review	None	None	Support public agency staff in navigating procurement and approval process

Program Parameters	SoCalREN: EE ProjectDelivery Program	SCE Public Sector Programs	SoCalGas Public SectorPrograms	I-REN Technical Assistance and Strategic Energy Planning Program
Technical Assistance	Customized technical engineering support from project identification to completion, including investment grade audits to identify all energy saving opportunities, technical performance specificationsand provide construction management support.	Technical assistance, onsite or virtual assessments, potential for Strategic Energy Management (SEM) coaching	Customized technical assistance to identify all-natural gas energy saving opportunities.	Strategic energy planning; benchmarking; technical support to assess project options
Financial Support	Financial Analysis for projects to compare different financing options Support with financing and incentive applicationsand process Assistance with non-ratepayer funded financing Access to financial advisory services	SCE On-bill financing, alternative funds sourcing, and direct incentives	Enhanced incentives forparticipation in downstream utility programs Support with financing andincentive applications and process through account representatives and/or Third Party implementers when applicable On-Bill Financing	Provide information on I-REN financing options and other PA offerings

Program Parameters	SoCalREN: EE ProjectDelivery Program	SCE Public Sector Programs	SoCalGas Public SectorPrograms	I-REN Technical Assistance and Strategic Energy Planning Program
Access to Energy Data	Access to Utility API and ESPM data and customized reports to communicatedata. Benchmarking support Detailed facility TOU loadprofiles	Agency usage-level dataon request Aggregate community-level data on request (EDRP Process) Green Button ConnectMy Data Energy Star Portfolio Manager Green Button DownloadMy Data Energy Atlas/CATALENA(under development)	Agency usage-level dataon request Aggregate community-level data on request (EDRP) Energy Atlas/CATALENA(under development) Automated electronic bill data delivery via secure file transfer protocol	Benchmarking and energy modeling support
Energy Project Expertise to Implement Projects	Provides support at each stage to each participatingagency through an assigned Project Manageralong with access to engineering and construction support	Provides support at the project identification and development phase through engineering assistance and SEM cohort workshops.	Account Representativesprovide project support Engineering support toall Public Sector customers Program Management support to coordinate technical assistance, leverage applicable Third-Party Program resources and engineering support	Support public agency decisionmakers and staff with concierge-style project management support

Program Parameters	SoCalREN: EE ProjectDelivery Program	SCE Public Sector Programs	SoCalGas Public SectorPrograms	I-REN Technical Assistance and Strategic Energy Planning Program
Community Marketing/ Outreach	Development and sharingof tools and resources to promote regional and local energy action Customized support to engage community stakeholders and inspire regional and local energyaction	Development of a multi-touch, multi-channel approach to nurture customers along their energy efficiency journey in a customized, personalized, and timely way.	Co-branded marketing topromote utility core programs Customized marketing support to engage communities and educate on other IDSM offerings that includes leveraging Core Program and Third-Party Program resources.	Outreach to local jurisdictions and agencies to educate them about the program offerings Create regionally-focused resources on public sector opportunities Collaborate with local governments, tribes, and special districts to design and deliver messaging to the community to promote local leadership in energy efficiency
Sharing of Best Practices for Sustainability Efforts	Sub-regional peer-to-peerworkshops and trainings on relevant topics Access to shared onlineresources and learning communities Regular communication and coordination among Regional Partners and Advisory Committee members to share activities and best practices.	Achieved through SEM cohorts in training workshops and coaching sessions.	Regular communication with customers and regional events, support and coordinate with Third Party programs, Peer-to-peer meetings, Regional meetings	• Convene stakeholders for strategic energy planning • Create local case studies to showcase achievements in the region Create, distribute and promote regionally-focused tools and resources through e-communicators, social media, web, and at in-person events.

3. Comparable SCE Programs – Local Public Sector Third-Party Program and Statewide Water/Wastewater Pumping Efficiency

SCE contracted with CLEAResult to deliver the Public Energy Performance program (PEP) to target the local public sector. PEP combines traditional efficiency programs with supported energy

action plan implementation and Strategic Energy Management. Strategic Energy Management (SEM) is a holistic, whole facility approach that uses Normalized Meter Energy Consumption (NMEC) and dynamic baseline model to determine energy savings from all program activity at the facility, including capital projects, custom and deemed calculated retrofits, maintenance and operation, and retro-commissioning projects. SEM for the public sector requires a multi-year customer commitment to participation in multiple cohort-type training workshops, individual or cohort energy analysis site and Measurement and Evaluation (M&V) activities based on information and characteristics of the facility's specific operations.

SCE's Statewide Water/Wastewater Pumping program is currently in solicitation and is expected to be in market around Q4 2022 to be delivered by the contracted third-party implementer. SCE's existing Water Infrastructure Systems Efficiency Program provides support to water and wastewater system operators (local governments, water and wastewater districts, etc.) to deliver EE in water distribution and treatment systems. The Program offers a comprehensive and turnkey solution, including no-cost project engineering services, project support, and financial incentives. SCE's WISE program stopped taking new program enrollment in 2019 but will continue to service the existing pipeline of projects until the new statewide water/wastewater program(s) begin implementation.

The Statewide Higher Education solicitation concluded in Q1 2022. SCE filed the advice letter and will provide notice once the implementation plan has been uploaded to CEDARS.

4. Comparable SoCalGas Public Sector Programs

SoCalGas Public Sector Programs focus on four major segments: local governments (City, County, Special Districts, other Public Agencies that include POUs), state government (Correctional Facilities, Hospitals, State Agencies & Departments), federal government (Military, Hospitals, Other Federal Agencies, Native American Tribes, and education (K-12, Higher Education, University Hospitals). SoCalGas intends to meet its Public Sector goals by following a comprehensive list of program intervention strategies at various intervals throughout the Rolling Cycle. SoCalGas Public Sector Programs also target jurisdictions with DACs, and rural and HTR communities.

In 2023, SoCalGas Public Sector Programs will transition from the 12 Local Government Partnership Programs (LGP) to a regional model (Public Sector Energy Pathways) that provides services and support to the broader public sector customers along with Public Sector Third Party programs. A Third Party implemented resource program (SCG3846) for small and medium public sector customers has been launched in 2021. This Third Party program is a turnkey cost-effective end-to-end solution for small and medium public sector customers. A Third Party program aimed at large public sector customers is currently being solicited and scheduled to launch in 2023. SoCalGas Public Sector Programs portfolio is designed to support all Public Sector customers including local governments and special districts in the following areas:

Government and Public Agency Facilities
- Retrofit
- Retro-commissioning
- Facility Energy Audit
- Integrated Demand Response
- Technical Assistance
- On-Bill Finance
- Inter-agency Coordination

Sustainability Support
- Benchmarking
- Guiding Document Support
- Peer to Peer Support, Best Practices

Core and Third Party Program Coordination
- Outreach & Education (WE&T, EE Training and Workshop, etc.)
- Third-Party Program Coordination
- Financing for the Community
- Technical Assistance

SoCalGas intends to expand its EE offerings and services in 2023 to all Public Sector customers, including those Public Agencies that are not in the current LGP through a suite of new program designs, improved strategies, offerings, and services, such as EE Direct Install, Public Sector Deemed and Calculated programs and new programs resulting from the Third-Party Solicitation process. Focused or tailored local and regional solutions may be adopted to achieve Public Sector goals. SoCalGas also has partnerships with many municipal utilities to jointly design and deliver EE programs to the shared customer base.

5. Comparable I-REN Program – Public Sector Technical Assistance and Strategic Energy Planning Program – IREN-PUBL-001

I-REN's Public Sector Technical Assistance and Strategic Energy Planning Program will provide short-term and mid-term technical support for local governments, special districts, school districts, and tribes to increase energy efficiency in publicly-owned facilities. The program will provide additional support and technical services to design high performing, energy efficient buildings.

The program will implement a strategy of developing a regional Building Upgrade Concierge (BUC) for local governments, special districts, and tribal communities with technical guidance and tools to inform and enable priority energy improvements. I-REN will provide person-to-person support for local governments to get higher levels of assistance and support for their energy efficiency projects, through concierge-style support to help fill gaps in staff capacity and resources at these local government jurisdictions.

I-REN's technical assistance support will build local government's capacity to tackle complex projects, from helping with benchmarking to navigating options and approaches for maximizing their investments and energy savings. I-REN will offer person-to-person support to help these local governments in making efficient equipment purchases and to implement energy efficiency projects. Resulting energy bill savings will benefit local governments and contribute to both local and statewide goals for energy efficiency and greenhouse gas reduction.

I-REN will also develop or enhance strategic energy plans to connect local government goals related to climate, resilience, and economic development to energy efficiency programs and adoption. Through this tactic I-REN will assess the current state of strategic energy planning and provide technical assistance to begin the process or help move the process forward, working in collaboration with jurisdiction stakeholders.

In addition, I-REN will create resources for the public sector to tap into EE and distributed energy resources programs offered by other providers and IOUs, acting as a clearinghouse for information about energy efficiency programs available in the region for the public sector, and will create and promote tools and resources to increase energy efficiency program participation among

their constituents.

I-REN will offer person-to-person concierge technical support services to serve the needs of public sector customers in its territory, including but not limited to strategic energy planning and procurement and project management assistance. I-REN will focus on underserved local governments including tribal communities with targeted non-resource efforts to drive participation to IOU programs and use information technology to help improve public sector customers' and local governments' access to energy efficiency opportunities. While the program will be open to all public building types, there will be a focus on community-serving buildings such as community centers, libraries, senior centers, schools, and fire and police buildings. I-REN will leverage its existing public sector partnerships and networks across the region to deliver personalized services through this program. Location of services in Riverside and San Bernardino counties, especially in underserved jurisdictions, and a more localized focus will differentiate I-REN's program from other comparable offerings.

6. Coordination Protocol Between Programs

In 2013, the Joint PAs worked closely together to produce a clear, concise project coordination strategy titled "SoCalREN-IOU Coordination Plan for Public Agencies" for SoCalREN's Public Sector Programs. The Coordination Plan is a living document and updated as needs arise for improved and enhanced protocols. This same document will be used as the coordination protocol for the EE PD Program, DER DAC Program, Streamlined Savings Pathway, and Public Agency NMEC Program (discussed in the next sections). This plan is closely followed by all parties and lays out all coordination regarding agency enrollment, commitment, and ongoing SoCalREN project delivery services. This document is provided in Appendix E.

In addition to the SoCalREN-IOU Coordination Plan implemented by the Joint PAs, there is also a monthly "program coordination call" and monthly SCE-specific "project coordination call." A monthly SoCalGas monthly project coordination call will be established in Q2 or Q3 2023. The Joint PAs will make each other aware of programs and resources available, including public sector programs. The IOUs will also provide notice once advice letters have been filed and implementation plans have been uploaded to CEDARS of any new program similar to SoCalREN's public programs.

At that time, the Joint PAs will work to update coordination documents.

SoCalREN coordinates with the IOUs and other relevant third-party or LGP stakeholders prior to any in-person engagement meeting to enroll a new agency. This "pre-coordination" helps to mitigate customer confusion and serves to keep all parties informed of ongoing projects. The Joint PAs will leverage this successful approach for other sectors in their 2023 portfolios.

As mentioned above, SoCalREN works with several “Regional Partners” that provide enhanced and customized outreach and engagement to regions throughout SoCalREN territory within their geographical region of influence. In cases where these Regional Partners support other IOU programs, all parties will work closely together to ensure the appropriate program(s) is being represented and coordinated among parties to eliminate customer confusion.

As a new PA, I-REN has not yet contracted with implementers. Within 60 days of implementer(s) being contracted for the relevant programs, the Joint PAs will reconvene to plan coordination activities specific to any I-REN program(s).

7. Coordination between SW program (s)

The IOUs will also provide notice once advice letters have been filed and implementation plans have been uploaded to CEDARS for the statewide water/wastewater program(s). At that time, the Joint PAs will work to determine best method of coordination with the statewide water/wastewater program(s).

8. Compliance with D.12-11-015, SCR-PUBL-B1

The following table describes in further detail how SoCalREN’s EE PDP programsatisfies the REN criteria in D.12-11-015.

Table 9: SoCalREN's 2023 EE PD Program Compliance with D.12-11-015

REN Criteria	SoCalREN Public Agency EE Project Delivery Program (SCR-PUBL-B1)
1. Activities IOU cannot or doesnot intend to undertake	˅ One-stop, end-to-end service delivery that includes technical assistance, procurement assistance, financial support services, construction management support, and all project management until project completion for electrical and natural gas EE projects. Traditionally, IOU programs' public sector technical assistance primarily focuses on project technical and financial details but does not include procurement assistance or construction management support. ˅ As a public entity, SoCalREN is able to offer valuable third-party advice to agencies as a trusted advisor and can help weigh the benefits and risks of implementing EE projects in their communities.
2. Pilot activities where there isno IOU program offering and where there is potential for scalability	N/A
3. Activities in hard-to-reach markets, whether or not there isan IOU program that may overlap	N/A

D. SOCALREN PUBLIC AGENCY DER DAC PROJECT DELIVERY PROGRAM, (SCR-PUBL-B2)

To further support the Public Sector and to expand on lessons learned from existing strategies utilized by SoCalREN in the Public Sector, the SoCalREN expanded its one-stop EE project delivery to include consideration of Distributed Energy Resources (DER) during EE audits and provide recommendations for the integration of DERs in implementation of EE projects. This Program is offered within DACs, rural, and low-income communities. Similar to SoCalREN's existing Public Agency Energy Efficiency Project Delivery Program, the Distributed Energy Resource Disadvantaged Communities Project Delivery (DER DAC PDP) sub-program will provide all customized EE project management and educational services as listed in the EE PDP section above, but will also provide information and subject matter expertise regarding all aspects of possible DER and sustainability strategy implementation for all public agencies serving DACs, rural, and low-income communities, with

the goal of maximizing EE opportunities, while driving the integration of DERs to enable public agencies to achieve ZNE. SoCalREN DER DAC PDP implements program enhancements to its existing Energy Efficiency Project Delivery platform to include services that deliver DER and sustainability measure opportunity identification during EE audits, high level analysis, and educate agencies on available DER project services and resources.

SoCalREN has learned that for most public agencies that are enrolled in the program, EE retrofits are just the beginning. Many want to achieve deeper energy savings and greater energy self-reliance and resiliency through renewable generation, energy storage, and sophisticated energy management systems as well as greater water efficiency savings.

1. Summary of Program Objectives

a) Increase the percentage of DAC public agencies that engage their communities inDER energy actions and strategies, thereby reducing overall community energy consumption.
b) Increase the ability of public agencies to meet local, regional, and state DER and equityrelated energy goals.
c) Increase the number of public agencies participating in SoCalREN's EE programs, withan emphasis on DACs, rural, and low-income communities.

2. Summary of Program Differentiation

The following table provides a summary of the Public Agency DER DAC PDP. The utilities have a variety of programs that promote DER technologies, but SCE and SoCalGas do not have a Public Agency DER DAC PDP in their EE portfolios.

Table 10: SoCalREN Public Agency DER DAC Project Delivery Program Summary

Program Parameters	SoCalREN	SCE	SoCalGas
Target Audience (s)	Public Agencies in DAC, rural, and low income communities: - Cities, counties, tribes, local government hospitals and hospital districts, K-12 schools, water districts, wastewater districts, sanitation districts, ports, airports, and other	N/A	N/A
Resource or Non-Resource	Non-Resource	N/A	N/A
Eligible Measures	N/A	N/A	N/A
Budget	$3,813,000	N/A	N/A

SoCalREN's DER DAC PDP differs from any within its region. It leverages the Energy Efficiency Project Delivery program (EE PDP) implementation model to educate and inform public agencies on both EE and DER integration strategies. Identification of DER strategies in combination with EE projects will drive greater reductions in Greenhouse Gas (GHG) emissions from public agencies. Unique DER elements of this program enhancement include:

- Education and outreach in regard to DER portfolio services that include the integration of distributed generation, energy storage, demand response, energy management, and water efficiency optimization for public agencies.
- A process protocol of integrating DER activities into the Program's one-stop process.
- Specific strategies, tools, and templates and integrate best industry standards into a project delivery manual.
- Identify the resources and high-level information for each of the DER resource areas so participating agencies are knowledgeable about opportunities to combine DERs and energy efficiency
- Build public agency expertise networks through training and development workshops related to best practices protocols across all DER energy service areas so this can be leveraged to assist current and potential SoCalREN enrolled public agencies.

This Program was launched to demonstrate essential components of the new project delivery system and approaches; so that if this approach proves successful in the integration of distributed energy resource implementation (i.e., EE, DR) for public agencies, it can be scaled or modeled by IOUs in the future. Through the use of non-CPUC funds (California Energy Commission (CEC) American Recovery and Reinvestment Act (ARRA) funding) the program has expanded its services offered to include DER technical assistance, on-site benchmarking, and water efficiency into participating projects.[2] Technical assistance may include DER measure audits and development of technical performance specifications which are not currently offered through the existing EE ratepayer funded programs. Through the County of Los Angeles, SoCalREN can leverage non-ratepayer funds for non-EE related activities, ensuring compliance with CPUC EE guidance and lessening the cost to ratepayers. This non-ratepayer funding capability is unique to SoCalREN.

While there is no current IOU program through the EE portfolio that targets DERs, the following table outlines the differences between the existing IOU custom process and the SoCalREN Public Agency DER DAC PDP.

Table 11: Public Agency DER DAC Program Comparison

Program Parameters	SoCalREN DER DAC PDP	SCG/SCE Customized and Third Party Program
Eligible Facilities	Buildings and Non-building facilities, e.g., exterior lighting (incl. Street lighting)	Buildings and Non-building facilities
Eligible Agencies	Eligible DAC, rural, and low- income Public Agencies only	All non-residential customers
Eligible Measures	Measures that may result in energy savings, energy generation, demand response savings or water savings	Measures that deliver to-code and above-code energy savings

[2] SoCalREN was allotted by the CEC half-million annually for the years 2020 and 2021 in re-purposed ARRA funding to provide full scale DER audits and on-site benchmarking for all program DER DAC participants. Subject to the performance results of the program additional funds may be allocated by the CEC for additional years.

Program Parameters	SoCalREN DER DAC PDP	SCG/SCE Customized and Third Party Program
Technical Assistance	Benchmarking support, Project Management, Financial Analysis & Services, Incentives Support, Auditing, Procurement support, technical specifications, and construction support	Third Party implementer
Performance Payment	No monetary incentives	Monetary incentives
Resource or Non-Resource	Non-resource – this program is similar to SoCalREN's EE PDP– it offers customers a one-stop shop project delivery and will include education and outreach regarding all DERs; EE Funds will be limited to EE in- kind incentives and non-CPUC funds will be utilized for non- EE activities (i.e., DER technical assistance or audits).	Resource
Approval Process	None as the agency would be guided to EE resource programs as well as DER programs, e.g., SGIP, DR participation	Project application process by third-party implementer but with SCE project engineering review.
2023 status	In market since April 2019 and Accepting new projects for 2023	Accepting new projects
Funding	⌄ CPUC EE Ratepayer Funds ⌄ American Recovery and Reinvestment Act (ARRA) and other sources	CPUC EE

3. Comparable Joint PA Program

Currently there is no comparable program to the proposed SoCalREN Public Agency DER DAC PDP in any other Joint PA's EE portfolio. The IOUs do, however, have programs that target various DER technologies outlined in the SoCalREN Public Agency DER DAC PDP. The SoCalREN Public Agency DER DAC PDP is the conduit that helps fuel participation in the IOU programs that target various DER technologies.

4. Coordination Protocol Between Programs

Although there are no current comparable programs in the other Joint PAs' respective EE

portfolios, this Program can serve as a conduit of information between all the IOUs' applicable DER pilots/programs and public agencies. The Joint PAs will leverage the coordination protocol (in Appendix E) for program and project coordination to ensure that all available information is being provided to public agency participants and IOU partner programs. Additionally, should the IOU's third-party solicitation result in a similar program design, the IOUs will notify SoCalREN in the same manner as discussed above.

5. Coordination Between SW Program (s)

The IOUs will also provide notice once advice letters have been filed and implementation plans have been uploaded to CEDARS for the statewide water/wastewater program(s). At that time, the Joint PAs will work to determine best method of coordination with the statewide water/wastewater program(s). SoCalREN will adhere to the coordination protocols (Appendix E) that outline coordination processes. The document may be updated as needed as the parties learn more about the structure of the program.

6. Compliance With D.12-11-015, SCR-PUBL-B2

The following table describes in further detail how SoCalREN's Public Agency DER DAC PDP satisfies the REN criteria in D.12-11-015.

Table 12: SoCalREN's Public Agency DER DAC PD Program Compliance With D.12-11-015

REN Criteria	SoCalREN Public Agency DER DAC PDP(SCR-PUBL-B2)
1. Activities IOU cannot or does not intend to undertake	˅ One-stop end-to-end service delivery focused on all available EE and DER opportunities (energy storage, demand response, energy management, and water efficiency optimization) that improves the customer experience, builds capacity and expertise, and inspires a level of public agency awareness and motivates action.
2. Pilot activities where there is no IOU program offering and where there is potential for scalability	˅ Maximizing EE opportunities, while driving the integration of DERs (energy storage, demand response, energy management, and water efficiency optimization) and increasing understanding of ZNE- pathways. ˅ Assists public agencies in understanding their choices and drives greater participation and higher adoption of DER programs, including all IOU partner programs. ˅ Designed to support upgrades of public agency buildings and facilities with an emphasis on supporting projects that serve DACs, rural, and low-income communities.
3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap	˅ Currently only available to DACs which fall within the recently adopted HTR definition as well as rural and low-income communities; ˅ This program will indirectly support HTR communities by encouraging public agencies to further building decarbonization and drive GHG reductions.

E. SOCALREN PUBLIC AGENCY NMEC PROGRAM, (SCR-PUBL-B3)

Under the Public Agency NMEC Program, SoCalREN employs a NMEC framework and targets projects that are identified by the SoCalREN EE PDP or SoCalREN DER DAC program and are limited by support and incentives through existing EE programs. This Program enables agencies to pursue stranded energy savings potential in public agency facilities and buildings. The NMEC program unlocks ongoing support through energy efficiency project implementation and beyond. It also offers a stop gap program after the closure of SCE's Performance Based Retrofit Program to new applications and ahead of the full launch and implementation of SCE's anticipated Public Sector program.

This Program is a resource program, so EE savings from these projects contribute to SoCalREN program goals and cost-effectiveness calculations. The program targets DAC, rural, and low-income communities by offering increased incentives for these equity communities.

1. Summary of Program Objectives

- To meet multiple NMEC Program objectives, including ensuring savings persistence, reducing multi-measure project complexity, and improving completion timelines in the public sector, with a focus on underserved public agencies.
- Provide training and educational materials to facility personnel to ensure persistence of savings.
- Increase deep energy retrofits, reduce grid impacts, and motivate GHG emission reductions in the public sector.

2. Summary of Program Differentiation

The following table provides a summary of the PAs' Public Sector NMEC-based programs.

Table 13: SoCalREN, SCE, SoCalGas and I-REN NMEC-Based Programs Summary

Program Parameters	SoCalREN PublicAgency NMEC Program, (SCR-PUBL-B3)	SCE CLEAResult Public Energy Performance Program	SoCalGas High Opportunity Projectsand Program - Metered and Performance-Based Retrofits (MPBR) Program	I-REN Public Buildings Normalized Metered Energy Consumption (NMEC) Program – I-REN-PUBL-002
Target Audience (s)	Public Agencies: • Cities, counties, tribes, local government hospitals and hospital districts, water districts, K-12 schools, wastewater districts, sanitation districts, ports, airports, and other special districts.	• Local Government • Schools (K-12, local public and private primary and secondary education authorities)	Public Sector	• Members of the I-REN COGs, counties, cities, school districts, water districts, special districts, and tribal communities • Hard-to-reach, disadvantaged, low income, and other vulnerable communities • Community centers, libraries, senior centers, schools, and fire and police buildings • Educational institutions
Resource or Non-Resource	Resource	Resource	Resource	Resource

Program Parameters	SoCalREN PublicAgency NMEC Program, (SCR-PUBL-B3)	SCE CLEAResult Public Energy Performance Program	SoCalGas High Opportunity Projectsand Program - Metered and Performance-Based Retrofits (MPBR) Program	I-REN Public Buildings Normalized Metered Energy Consumption (NMEC) Program – I-REN-PUBL-002
Eligible Measures	CMPA Methodology – includes whole building retrofits and behavioral andoperational savings	CMPA Methodology – includes whole building retrofits and behavioral andoperational savings	CMPA Methodology – includes whole building retrofits and behavioral and operational savings	Any measure that reduces energy usage including but not limited to HVAC, controls, foodservice, appliances, water heating, lighting
Budget[13]	$1,300,000	$6,590,401	$450,000	$3,283,503

SoCalREN will target agencies who are enrolled in the EE PDP and DER DAC EE PDP and have facilities that have not recently participated in utility programs. Participating agencies also benefit from the SoCalREN Program's project management expertise and technical services. Similar to the partner IOU NMEC programs, engineers with experience in ASHRAE energy savings calculation standards and International Performance Measurement and Verification Protocols (IPMVP) will be prioritized in executing NMEC projects. The SoCalREN Public Agency NMEC Program provides technical assistance, application technical review, staff training, and facility savings reports to ensure persistence of savings while adhering to CPUC NMEC Guidelines that go through the CMPA process. The SoCalREN Public Agency NMEC Program differs from the IOUs NMEC programs by providing staff training, regular savings reports post installation, and a focus on equity through the provision of enhanced incentives for equity communities.

This approach road-tests critical elements of NMEC implementation in a public agency context, such as normalized usage data and metered savings verification, as a comprehensive, whole-building approach to energy upgrades.

The following table compares the key program parameters of PAs' NMEC-based programs.

Table 14: NMEC-Based Program Comparison

Program Parameters	SoCalREN NMEC Program	SCE CLEAResult Public Energy Performance Program	SoCalGas HOPPs Program	I-REN Public Buildings Normalized Metered Energy Consumption (NMEC) Program – IREN-PUBL-002
Eligible Facilities	Buildings	Buildings	Buildings	• Buildings and non-facilities (e.g., exterior lighting) • Special focus on community centers, libraries, senior centers, schools, and fire and police buildings
Eligible Agencies	Eligible sub-segment of Public Agencies (target DACs, rural, low-income communities)	• Local Government • Schools (K-12, local public and private primary and secondary education authorities)	All Public Sector	Counties, cities, school districts, water districts, special districts, and tribal communities
Eligible Measures	Any measure that reduces energy usage	Any measure that reduces energy usage	Any measure that reduces energy usage to achieve 20% savings and a minimum of 7,000 Therms	Any measure that reduces energy usage including but not limited to HVAC, controls, foodservice, appliances, water heating, lighting
Technical Assistance	Modeling and M&V Plan, post implementation training, performance tracking and savings persistence	Technical assistance, onsite or virtual assessments, potential for Strategic Energy Management (SEM) coaching	M&V Plan, facility audits, energy efficiency education related to retrofits, performance tracking and savings persistence	Project scope development, procurement assistance, project management, operations and commissioning
Measurement	CMPA (IPMVP Option C)	CMPA (IPMVP Option C)	CMPA (IPMVP Option C)	TBD
Baseline	Existing conditions	Existing Conditions	Existing Conditions	Existing conditions

Program Parameters	SoCalREN NMEC Program	SCE CLEAResult Public Energy Performance Program	SoCalGas HOPPs Program	I-REN Public Buildings Normalized Metered Energy Consumption (NMEC) Program – IREN-PUBL-002
Performance Payment	Incentives provided in two phases: 1) post-implementation and 2) post-implementation measurement and verification of savings	Incentives dependent on implementer's forthcoming implementation plan	Incentives provided on a post-implementation measurement of energy savings based on meter data.	Incentive payment based on energy savings achieved over 3-5 years
Resource or Non-Resource	Resource	Resource	Resource	Resource
Approval Process	Streamlined Process within CPUC NMEC Guidelines that will go through the CMPA	Approval process dependent on implementer's forthcoming implementation plan but will adhere to NMEC Rulebook	CPUC HOPPS Guidelines	TBD
2023 status	In the market as of April 2019, accepting new projects	Will begin accepting new projects upon approval by CPUC	Accepting new projects	New/launching

3. Comparable SCE Public Sector Program – CLEAResult Public Energy Performance

CLEAResult's PEP program will provide comprehensive solutions for public sector customers throughout SCE's service territory PEP program. As described above, the PEP program will employ a mix of deemed, normalized metered energy consumption (NMEC), and custom measures. In addition to these downstream approaches, the PEP program contains a strategic energy management (SEM) approach in the public sector.

4. Comparable SoCalGas High Opportunity Projects and Program Public Sector Program – Metered and Performance Based Retrofit (MPBR) Program

The SoCalGas MPBR Program assists Public Sector customers in retrofitting existing facilities and incorporating innovative monitoring-based commissioning (MBCs). The Program

established a "proof of concept" that EE equipment retrofits in combination with monitoring-based commissioning of public sector buildings can achieve a higher level of cost-effective energy savings compared to traditional retrofits or retro-commissioning. Customers can streamline project implementation timelines by combining formerly separate EE actions. The MPBR Program is designed to incentivize projects to go from an existing condition baseline to or above code in order to encourage customers to implement retrofits that they would not have completed absent the Program incentive. These incentives are provided both on a pre- and post-measurement of energy savings. In support of participants employing a whole- building retrofit, the program offers other non-resource benefits such as facility audits, technical assistance, and EE retrofit education.

Additionally, SoCalGas provides an NMEC incentive pathway to its nonresidential and Public Sector calculated programs for customers to be able to participate in this approach.

5. Comparable I-REN Program – Public Buildings NMEC Program – IREN-PUBL-002

I-REN's Public Sector—Public Buildings Normalized Metered Energy Consumption (NMEC) Program is a resource program (in year two of I-REN program administration) to provide incentives and financing for savings based on NMEC achieved over three to five years, with a special focus on HVAC improvements to community-serving buildings. The program's objectives are to allow local governments to leverage an innovative approach that goes beyond code to achieve deep energy savings, and to help local governments afford and finance a range of energy efficiency upgrades.

6. Coordination Protocol Between Programs

As part of the Public Sector program coordination call, the Joint PAs will discuss marketing campaigns, continued coordination, any issues impacting the Joint PA implemented programs, and to learn about updates of other programs. The IOUs will also provide notice once advice letters have been filed and implementation plans have been uploaded to CEDARS of any new program similar to SoCalREN's public programs. The Joint PAs developed and maintain an "NMEC Participation Coordination for Public Agencies" document. This document will serve as the coordination protocol for the Joint PAs' in which all REN and IOU NMEC projects can coordinate and is attached in Appendix E. Upon notification, the Joint PAs will work to update coordination documents. As a new

PA, I-REN has not yet contracted with implementers. Within 60 days of implementer(s) being contracted for the relevant programs, the Joint PAs will reconvene to plan coordination activities specifically related to I-REN.

7. Coordination Between SW Program (s)

The Joint PAs will continue to participate in ED-led PCGs. The statewide PCGs for NMEC and Public Sector programs enables collaborative SW discussions regarding all Public Sector programs across all PAs throughout the state, not just those in Southern California.

8. Compliance With D.12-11-015, SCR-PUBL-B3

The following table describes in further detail how SoCalREN's Public Agency NMEC Program satisfies the REN criteria in D.12-11-015.

Table 15: SoCalREN's 2023 Public Agency NMEC Program Compliance with D.12-11-015

REN Criteria	SoCalREN Public Agency NMEC Program (SCR-PUBL-B1)
1. Activities IOU cannot or does not intend to undertake	˅ A program design that offers an alternative to traditional rebate/incentive programs – incentives based on GHG emission reductions with increased incentive levels to equity communities. ˅ Performance incentives based on GHG emission reductions available to underserved and DAC communities.
2. Pilot activities where there is no IOU program offering and where there is potential for scalability	
3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap	˅ Designed to support upgrades of public agency buildings and facilities including prioritizing projects that serve DACs, rural, and low income communities.

F. SOCALREN PUBLIC AGENCY STREAMLINED SAVINGS PATHWAY, (SCR-PUBL-B4)

The SoCalREN Streamlined Savings Pathway (SSP) program serves as a temporary gap-filling program that will supplement the public sector segment while waiting for new third party IOU

programs to be on-boarded and enter the market. The program is designed to leverage both a deemed and custom approach to processing public agency projects that maximizes savings opportunities while minimizing processing times and will focus on electric measures only due to SoCalGas's holistic Third Party public agency program already in place. Public Agencies and the SoCalREN non-resource programs are highly dependent on IOU incentive programs. The SSP's primary objective is to ensure there is no gap in the market and to support the continued momentum of public agency project delivery.

This program is proposed to be piloted in 2022, and if needed 2023. The program will target local public agency projects that emphasize energy efficiency improvements in DACs, rural and underserved communities.

1. Summary of Program Objectives

- Meet REN criteria by addressing market segment gaps left by IOU program closuresand third-party program limitations
- Maximize savings opportunities while minimizing processing times
- Focus on electric measures only due to SCG's holistic Public Sector Third Partyprogram already in market
- Target public agencies with a focus on equity by providing higher incentives, basedon deep energy reductions, to underserved communities
- Increase deep energy retrofits, reduce grid impacts, and motivate GHG emissionreductions in the public sector.

2. Summary of Program Differentiation

The following table provides a summary of the PAs' available programs for 2023 Public Sector.

Table 16: SoCalREN, SCE, and SoCalGas Public Agency-Based Resource Programs Summary

Program Parameters	SoCalREN SSP (SCR-PUBL-B4)	SCE – CLEAResult Public Energy Performance Program	SoCalGas Public – Deemed Public - Calculated 3PP for Public
Target Audience (s)	Public Agencies: Cities, counties, tribes, local government hospitals and hospital districts, water districts, K- 12 schools, wastewater districts, sanitation districts, ports, airports, and other special districts	Local Government Schools (K-12, local public and private primary and secondary education)	All Public Agencies that include but not limit to cities, counties, local governments, public K- 12 schools, special districts, federal governments and agencies, Indian tribes, water districts
Resource or Non-Resource	Resource	Resource	Resource
Eligible Measures	Custom and deemed	Custom, Deemed, NMEC and SEM	Custom, Deemed and Direct Install
Budget	$1,400,000	$6,590,194	$4,300,000

SoCalREN will target agencies who are enrolled in the EE PDP and DER DAC and have facilities that have not recently participated in utility programs. Participating agencies also benefit from the SoCalREN Program's program management expertise and technical services. In addition, this program will build off lessons learned regarding IOU incentive program challenges and institute process improvements regarding incentive application review /processing thus alleviating project lag due to program performance. This streamlined efficiency could become a model for best practices in the future.

Table 17: Public Agency Resource Incentive Programs Comparison

Program Parameters	SoCalREN SSP Program	SCE - CLEAResult Public Energy Performance Program	SoCalGas
Eligible Facilities	Buildings and Non-building facilities; e.g., exterior lighting (incl. Street lighting)	Buildings and Non-buildings, Systems	Buildings and Non-buildings, Systems
Eligible Agencies	Eligible sub-segment of Public Agencies (target DACs, rural, low-income communities)	• Local Government • Schools (K-12, local public and private primary and secondary education)	All Public Agencies
Eligible Measures	HVAC, Lighting, Commercial Refrigeration, Food Service, building envelope, appliance plug load, pumping, process optimization	Lighting, HVAC, Process, Food Service, Whole Building, Motors, Office Equipment, Building Envelope, Refrigeration	HVAC, water heating, steam plant/system, building envelope, food service equipment; gas engine, system optimization
Technical Assistance	Will leverage PDP and DER DAC offerings included above under program details.	Technical assistance, onsite or virtual assessments, potential for Strategic Energy Management (SEM) coaching	Technical assistance and EE audits
Measurement	Deemed and Custom	Custom, Deemed, NMEC and SEM	Custom, Deemed and Direct Install
Approval	Deemed and Custom	Approval process dependent on implementer's forthcoming implementation plan with SCE engineering project technical review	

Program Parameters	SoCalREN SSP Program	SCE - CLEAResult Public Energy Performance Program	SoCalGas
Performance Payment	Incentives based on lifetime GHGs avoided	Incentives will be established in the forthcoming program implementation plan	Incentive and rebate
Resource or Non-Resource	Resource	Resource	Resource

3. Comparable SCE Public Program – SCE Third Party Public Program(s)

CLEAResult's PEP program will provide comprehensive solutions for public sector customers throughout SCE's service territory PEP program. The PEP program will employ a mix of deemed, normalized metered energy consumption (NMEC), and custom measures. In addition to these downstream approaches, the PEP program contains a strategic energy management (SEM) approach in the public sector. SCE's statewide water/wastewater solicitation will be releasing RFP in Q3 2021 with an expected selection by Q2 2022. The statewide higher education solicitation is in the RFP stage with an expected selection by Q1 2022. SCE will provide notice once advice letters have been filed and implementation plans have been uploaded to CEDARS of any new program similar to SoCalREN's public programs.

4. Comparable SoCalGas Public Program – N/A

No gas measures

5. Coordination Protocol Between Programs

A focus on collaboration of the PAs is critical to this program's success. As with SoCalREN's other programs, SoCalREN will include coordination on this program with its monthly program coordination meetings specifically with the other relevant Joint PAs. SoCalREN will also utilize the document titled "SoCalREN-IOU Coordination Plan for Public Agencies" as the coordination protocol for this program as it does for its other programs. This plan is closely followed by all parties and lays out all coordination regarding agency enrollment, commitment, and ongoing

SoCalREN project delivery services. This document is provided in Appendix E.

In addition to the SoCalREN-IOU Coordination Plan implemented by the Joint PAs, there is also a monthly "program coordination call" and monthly IOU-specific “project coordination call” (to be established for SCG in 2023). The Joint PAs will make the e aware of programs and resources available, including public sector programs. The IOU’s will also provide notice once advice letters have been filed and implementation plans have been uploaded to CEDARS of any new program similar to SoCalREN’s public programs. At that time, the Joint PAs will work to update coordination documents.

6. Coordination Between SW Program(s) – N/A

7. Compliance With D.12-11-015, SCR-PUBL – B4

The following table describes in further detail how SoCalREN’s Public Agency Streamlined

Table 18: Savings Program satisfies the REN criteria in D.12-11-015.

REN Criteria	SoCalREN Public Agency Streamlined Savings Program (SCR-PUBL- B4)
1. Activities IOU cannot or does not intend to undertake	
2. Pilot activities where there is no IOU program offering and where there is potential for scalability	• Program addresses gaps left by IOU program closures and third party program limitations; SoCalREN will launch the Streamlined Savings Pathway in Q1 of 2023 and adjust as needed to not duplicate offerings as new third party programs are introduced to the market. • This program offers Public Agencies no loss in available services
3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap	

G. SOCALREN PUBLIC AGENCY REVOLVING LOAN FUND, (SCR-FIN-C1)

The SoCalREN Revolving Loan Fund (RLF) Program serves as a companion to the Public Agency EE PDPs of the SoCalREN Portfolio. The SoCalREN RLF is designed to support upgrades of public agency buildings and facilities with a priority on supporting projects that serve DACs, rural, and

low- income communities. Financing through the RLF Program is designed to be a catalyst for accelerating project implementation. Loans serve as short-term construction financing and help under primarily two scenarios: bridge financing for approved On-Bill Financing (OBF) provided by the utility after project completion and bridge financing for approved but un-budgeted agency projects that would otherwise wait for budget allocation.

This offering serves as a catalyst for agency enrollment and project development, and as a potential magnet for increasing public agency participation in EE programs. The SoCalREN RLF Program will create a unique resource for public agencies in that it will have terms more advantageous than conventional loans and will significantly complement and supplement the IOU OBF Programs.

Loans will be financed by non-ratepayer funds. SoCalREN will leverage EE funds for the management and marketing of the fund.

1. **Summary of Program Objectives**
   a) To stimulate agency enrollment and project development and increase public agencyparticipation in EE programs.
   b) Assist Public Agencies in overcoming the barrier to capital due to rigid funding and budgetrequirements/restrictions.
   c) Provide a low-cost solution for EE short-term project financing for public agencies.

2. **Summary of Program Differentiation**
   The following table summarizes the PAs' Public Sector Financing Programs.

Table 19: SoCalREN, SCE and SoCalGas Public Sector Financing Programs Summary

Program Parameters	SoCalREN Public Agency RLF, (SCR- FIN-C1)	SCE On-Bill Financing [SCE-13- SW-007A]	SoCalGas – On-Bill Financing [SCG3735]
Target Audience (s)	Public Agencies: - Cities, counties, tribes, K-12, local government hospitals and hospital districts, water districts, wastewater districts, sanitation districts, ports, airports, and	All non-residential customers, including all Public Sector customers	All non-residential customers, including all Public Sector customers

	other special districts.		
Resource or Non-Resource	Non-resource	Resource	Resource
Eligible Measures	N/A	N/A	N/A
Budget	$550,000 (CPUC Funds) ($2,200,000 Non CPUC funds)	$781,544 (implementation budget) $14,000,000 (total loan pool)	$658,531 (Implementation Budget) $5,500,000 (total loan pool)

SoCalREN's RLF offers short-term construction and bridge financing available immediately to fund projects while waiting for budget allocation or other longer-term financing options as they become available. This short-term, zero-interest financing is currently not offered by the IOUs. In addition, the SoCalREN's RLF leverages external funds such as ARRA funding, which differs from OBF programs that rely on California ratepayer funds. This will assist in reducing the cost to ratepayers. SoCalREN EE funds will be limited to administration, marketing, and DI costs.

The following table compares the key program parameters of the Joint PAs' Public Sector financing Programs.

Table 20: Public Sector Financing Program Comparison

Program Parameters	SoCalREN:Revolving Loan Fund (RLF)	SCE comparable program: On-Bill Financing (OBF)	SoCalGas comparable program: On-Bill Financing (OBF)
Amount Financed	100% of project costs up to Program cap (no incentive provided)	Qualifying project cost, less approved rebates and incentives, up to Program cap by meter	Qualifying project cost, less approved rebates and incentives, up to Program cap by meter

Program Parameters	SoCalREN:Revolving Loan Fund (RLF)	SCE comparable program: On-Bill Financing (OBF)	SoCalGas comparable program: On-Bill Financing (OBF)
Timing of Loan Funds Distribution	Upfront - before project installation and upon receipt of signed RLF Loan Agreement	Post-Installation - After project installation, Installation Report approval and signed OBF Loan Agreement submitted	Post-Installation - After project installation, installation approval and signed OBF Loan Agreement submitted. Additionally, Public Sector customers are eligible to receive milestone payments during installation. After installation is complete, the prefunded loan amount will convert to a standard OBF loan.
Source of funds leveraged for financing	Non-ratepayer funding (ratepayer funds used for administration)	Ratepayer funding	Ratepayer funding
Term	Up to 5 years, regardless of installed equipment	Up to 10 years or EUL of installed equipment	Up to 15 years or EUL of installed equipment
Eligible Measures	All measures related to an EE project	Measures with Utility rebates and incentives	Measures with Utility rebates and incentives
Annual % interest rate	0%	0%	0%
Other Fees	One-time Administrative Fee	None	None
Repayment	Off-Bill	On-Bill	On-Bill

3. Comparable SCE and SoCalGas – On-BillFinancing [SCE-13-SW-007A and SCG3735]

The On-Bill Financing (OBF) Program offers zero-percent interest financing for the installation of qualifying EE measures. Loans are available to qualifying non-residential customers, including commercial, industrial, government, and institutional customers, and customers repay their loan as a line item on their bill. This Program supports the Strategic Plan's Commercial Sector goals

and strategies.

OBF is offered with other SCE and SoCalGas programs. SoCalGas Public Sector customers are also eligible to receive loan prefunding during installation in the form of milestone payments to contractors. The prefunding provided will then automatically convert an OBF loan upon project completion.

4. Coordination Protocol Between Programs

As part of the Public Sector program coordination call, SoCalREN, SCE, and SoCalGas program teams will discuss marketing campaigns, continued coordination, any issues impacting the programs, and to learn about updates of other programs (i.e., financing) that could benefit financed EE projects.

In addition, these calls will be utilized to discuss project status, updates, and coordination between the projects' participation in SoCalREN's RLF and IOU OBF Programs. These calls will also be utilized to identify any overlaps and mitigate customer confusion. Additionally, should the IOU's third-party solicitation result in a similar program design, the IOUs will notify SoCalREN as above.

5. Coordination Between SW Program(s)

The Joint PAs will continue to coordinate with the SW implemented financing programs so that customers are provided with all possible EE financing options. In addition, the Joint PAs will leverage lessons learned from SW implemented financing programs and provide feedback in public meetings held by the SW implementer for EE financing programs, California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA). The CAEATFA programs focus on small business and residential customers at this time, and thus SoCalREN's program does not substantially overlap.

The Joint PAs will also leverage the coordination protocol (Appendix E) for program and project coordination to ensure all available information is being provided to public agency participants and IOU partner programs.

6. Compliance With D.12-11-015, SCR-FIN-C1

The following table describes in further detail how SoCalREN's Public Agency RLF Program

satisfies the REN criteria in D.12-11-015.

Table 21: SoCalREN's 2023 Public Agency RLF Program Compliance with D.12-11-015

REN Criteria	SoCalREN Public Agency RLF Program (SCR-FIN-C1)
1. Activities IOU cannot or does not intend to undertake	˅ Utilizing both ratepayer and non-ratepayer funds to provide financing forpublic agency EE projects;
2. Pilot activities where there is no IOU program offering and where there is potential for scalability	˅ Provide public agencies short-term financing for EE projects. ˅ Designed to be a catalyst for accelerating EE project implementation. ˅ Terms more advantageous than conventional CEC loans. ˅ Complement and supplement the IOU OBF programs. ˅ Designed to support upgrades of public agency buildings and facilities with an emphasis on supporting projects that serve DACs.
3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap	

H. SOCALREN WORKFORCE EDUCATION & TRAINING, (SCR-WET-D1)

SoCalREN has historically utilized policies and instruments for local hiring and workforce partnerships while developing infrastructure for small and minority contractors to access clean energy investments. SoCalREN's WE&T Program offerings now emphasize a robust regional workforce education and training approach that supports underserved Disadvantaged Workers (DAW), Hard to Reach (HTR) and small, women, minority, and disabled veteran owned business enterprises (SWMDVBE). The primary goal of this Program is to build capacity within the EE industry with a local regional approach. Similar to its other non-resource programs, the SoCalREN WE&T Program leverages public agencies to reach and engage communities while simultaneously building its underserved workforce, thus providing long term workforce supply in the EE industry.

The SoCalREN WE&T Program provides: 1) comprehensive regional workforce education, training, and resources for DAW/HTRs and SWMDVBE contractors of all skill levels; 2) entry-level

workforce skills training for in-school youths 3) SWMDVBE contractors' local government public agency training and capacity building in regard to sustainability projects and RFPs; and 4) a green career pathway for classified at-risk and or homeless individuals, such as transition age at-risk foster youth.

1. Summary of Program Objectives

a) Increase Southern California regional workforce and training infrastructure/partnerships, comprising community-based training organizations, K–12 and higher educational institutions, apprenticeship programs, and workforce investment boards; increase the quantity and skills of entry-level and incumbent workers in all levels of the demand-side management (DSM) and EE industry.
b) Increase entry-level skills training and job opportunities for disadvantaged workers.
c) Develop a regional energy management training program to increase the operational efficiencies of EE retrofit projects.
d) Standardize local contracting policies and protocols into public bid/solicitation documents across the SoCalREN region to increase capacity and the participation of diverse, small, and disabled veteran–owned businesses in EE work.
e) To leverage existing education offerings that provide training and certification support for individuals classified as at-risk youth or homeless.
f) To provide a pathway to a career in the EE marketplace through direct partnerships that assist individuals receive on-the-job training as well as job obtainment support.

2. Summary of Program Differentiation

The following table summarizes the PAs' WE&T Programs.

Table 22: SoCalREN, SCE, SoCalGas, 3C-REN, and I-REN WE&T Programs Summary

Program Parameters	SoCalREN WE&T(SCR-WET-D1)	SCE WE&T Integrated Energy Education & Training Program –[SCE-13-SW-010A]	SoCalGas WE&T Integrated Energy Efficiency Training(IEET) [SCG3729]	3C-REN Workforce Education & Training (TCR-WET-001)	I-REN WE&T Programs
Target Audience (s)	• Architects, designers, engineers, contractors, building operators, technicians, craft/tradesmen, customers, youth, classified disadvantaged workers, and building owners • SWMDVBE that can potentially support IOU resource program sectors and local publicagencies sustainability projects. • Homeless (i.e., at- risk transition youth)	Workers who are in or are pursuing occupations in the energy efficiency and other related professional fields that provide the technical capabilities that are needed to support the attainment of CAs and IOU Energy Saving and sustainability targets.	Workers in or pursuing occupations that can provide professional and technical capabilities needed by IOU resource program sectors.	Locally licensed public and private building professionals needing more in-depth training, such as contractors, HVAC, engineers, architects, designers, certified energy managers, local jurisdictions' building & safety department staff, lighting professionals, real estate professionals, raters, entry-level workers, students, and professionals in DACs and HTR areas, and educational institutions, as well as other key market actors.	**WE&T Training and Education Program—IREN-WET-001** • Local providers, including higher education providers, high schools, adult schools, and professional training companies • Disadvantaged communities (DACs) **WE&T Workforce Development Program—IREN-WET-001** • State, regional, and local stakeholders, including workforce investment boards (WIBs) and economic development departments • Job seekers, including students; individuals who are unemployed, or underemployed; job seekers looking to enter the energy efficiency and advanced energy industry; and job seekers currently working in the industry who seek to make lateral career moves or advance in their fields.

Program Parameters	SoCalREN WE&T(SCR-WET-D1)	SCE WE&T Integrated Energy Education & Training Program –[SCE-13-SW-010A]	SoCalGas WE&T Integrated Energy Efficiency Training(IEET) [SCG3729]	3C-REN Workforce Education & Training (TCR-WET-001)	I-REN WE&T Programs
Resource or Non-Resource	Non-resource	Non-resource	Non-resource	Non-resource	Non-resource
Eligible Measures	N/A	N/A	N/A	N/A	N/A
Budget	$800,000	$8,840,814	$4.350,000	$1,910,021	**WE&T Training and Education Program—IREN-WET-001** $1,032,169 **WE&T Workforce Development Program—IREN-WET-001** $1,361,257

SoCalREN's WE&T Program differs from the IOU WE&T programs by focusing all its WE&T resources on (1) entry-level workforce skills training infrastructure; (2) SWMDVBE contractor training;(3) in-school youth; and (4) at-risk youth (i.e., homeless, transitioning foster youth)so that these segments are enabled with pathways and training for certifications and credentials in energy-related industries. 3C-REN's WE&T program is differentiated from the other Joint PAs' programs by its focus on local building professionals, including those in HTR and DAC areas, within the counties of Ventura, Santa Barbara, and San Luis Obispo.

The following table compares the key program parameters of the PAs' WE&T Programs.

Table 23: WE&T Program Comparison

Program Parameters	SoCalREN WE&T	SCE WE&T Integrated Energy Education & Training Program	SoCalGas WE&T Integrate Energy Education Training Program	3C-REN WE&T	I-REN WE&T Programs
Target Audience	• Targets the most underserved and disadvantaged workers (DAW) and Hard to Reach (HTR) • SWMDVBE that can potentially support IOU resource program sectors and local public agencies sustainability projects. • Homeless (i.e., at- risk transition youth)	Workers who are in or are pursuing occupations in the energy efficiency and other related professional fields that provide the technical capabilities that are needed to support the attainment of CAs and IOU Energy Saving and sustainability targets.	Emphasis on Trade professionals and Workers in occupations supporting IOU resource program sectors, as well as food service commercial sector	• Emphasis on local building professionals needing more in-depth training. • Building professionals targeted include those in DACs and HTR areas, as well as other key market actors to help build a complete workforce.	**WE&T Training and Education Program** • Local providers, including higher education providers, high schools, adult schools, and professional training companies • Disadvantaged communities (DACs) **WE&T Workforce Development Program** Job seekers, including students; individuals who are unemployed, or underemployed; job seekers looking to enter the energy efficiency and advanced energy industry; and job seekers currently working in the industry who seek to make lateral career moves or advance in their fields.
Location of Training	• Through local public agency training channels • In field and online	• Energy Education Centers (Irwindale / Tulare) • Alternative training sites (On Location) • Virtual (Live Instructor Led) • Online On-Demand	Training to be conducted at SoCalGas' Energy Resource Center, alternative training sites, and through other distribution channels such as virtual and on-demand, in collaboration with industry and other training providers, as appropriate, for reaching	• In-person • Online • On-Demand	**WE&T Training and Education Program** • In field/on-the-job • Online **WE&T Workforce Development Program** N/A

Program Parameters	SoCalREN WE&T	SCE WE&T Integrated Energy Education & Training Program	SoCalGas WE&T Integrate Energy Education Training Program	3C-REN WE&T	I-REN WE&T Programs
Training Types	In-person/online	In-person/online	In-person/online	In-person/online	**WE&T Training and Education Program** • In-person/online • Online **WE&T Workforce Development Program** N/A
Statewide/Local	Local	Statewide/local	Statewide/local	Local	Local
Partner Organization	• Public Agencies • Nonprofit organizations • High schools • Community Colleges • Unions • 3rd party implementers • Workforce centers	• Other IOUs • Industry associations • Post-secondary education providers • Business networks • Regional Workforce Services • Non-Profit Organizations	Other IOUs, industry associations, post-secondary education, business networks, regional workforce services, and potential collaborators with common objectives of addressing EE workforce needs	• Job placement entities • Regional educational providers • Local non-profit energy service providers Community Colleges	**WE&T Training and Education Program** • Educational institutions • Trade associations • Industry and non-profit organizations • Certification organizations • Government agencies **WE&T Workforce Development Program** State, regional, and local stakeholders, including workforce investment boards (WIBs) and economic development departments

3. Comparable SoCalGas WE&T Program –SoCalGas WE&T Integrated Energy Efficiency Training (IEET) – [SCG3729]

The SoCalGas WE&T Integrated Energy Efficiency Training (IEET) subprogram (formerly Centergies) offers both technical and foodservice workforce trainings that can leverage SoCalREN local contacts to inform and equip workforce talent with skills to assist in meeting the State's energy and climate goals.

The WE&T Program contributes to the IOUs' EE goals by empowering customers and market actors with the knowledge to make energy reduction decisions. WE&T's primary target audience

includes market actors who design, build, maintain, and operate buildings and building systems—engineers, technicians, building operators, designers, contractors, etc. Additionally, WE&T supports post-secondary institutions who are training future generations of the energy workforce by providing them with energy efficiency, sustainability, and green career awareness materials and resources. Because these market actors have the potential to shape a building's energy use, WE&T teaches them how to recognize energy savings and GHG-reduction opportunities, and then provides them with the skills, tools, and resources to act upon those opportunities.

4. Comparable SCE WE&T Program – Integrated Energy Education& Training Program – [SCE-13-SW-010A]

The SCE WE&T Integrated Energy Education & Training Program (IEET) offers resources and training programs that are aimed at shaping the current and future energy workforce through a series of occupational-, employer-, and technology-focused workshops and seminars, combined with workplace-based and hands-on technical training. This program aims to provide pathways to, and training for certifications and credentials in energy efficiency-related industries that also support California's clean energy objectives.

In addition to the training courses offered, SCE maintains a Foodservice Technology Center where training is conducted, standards-based equipment is tested, and evaluations that further enhance the commercialization of emerging energy efficient technologies and programs. These services are delivered with technical integrity and scientific rigor to ensure our partners stay competitive and maintain cost effectiveness.

The Energy Centers provide a host of other value-added customer programs and services such as the Tool Lending Library, conduct technical tours, provide consultations, and offer on-site energy audits; all of which are available at no-cost to the customer.

5. Comparable 3C-REN WE&T Program – Workforce, Education & Training Program – [TCR-WET-001]

The 3C-REN Building Performance Training program offers career pathways and enrichment by providing access to in-person, on-demand, and on-line trainings; mentorship opportunities; and

cross promotion of IOU workforce trainings, engaging hard-to-reach (HTR) workers and those in identified disadvantaged communities (DACs). The 3C-REN delivers technical and soft skill trainings and certifications focused on high performance buildings. The program supports building professionals and those seeking career pathways in residential and commercial design, construction, and related industries.

The 3C-REN WE&T program has a goal to expand its partnerships to develop local career pathway options in building performance. This will be done by talking to career pathway programs established in the Tri-County area and identifying opportunities for collaboration and cross promotion. The program seeks to expand its engagement with career pathway stakeholders, such as community colleges, high schools, and workforce investment boards. The 3C-REN applies a holistic approach to the market with highly targeted training events, using apprenticeship and mentoring style models to enhance the workforce within the 3C-REN territory. 3C-REN's workforce training program goes beyond the classroom setting and skills are reinforced with real world on- the-job applications, while simultaneously influencing direct energy savings. As a result of a stronger workforce skills base, building professionals will increase efficiency and efficacy with existing resources.

6. Comparable I-REN WE&T Programs

Training and Education Program — IREN-WET-001

For its Cross-cutting Sector Workforce Education & Training (WE&T) Training and Education Program, I-REN will assess the current training marketplace in the Inland Empire and work with local providers, including higher education providers, high schools, adult schools, and professional training companies to tailor content to be relevant to the region's needs and ensure that disadvantaged communities are a focus. I-REN will collaborate with training providers to improve access to a broad spectrum of training opportunities in person, online, and in the field. The program's objective is to create a robust local network of training programs that increase capacity and knowledge related to energy efficiency in the building industry.

Workforce Development Program—IREN-WET-001

I-REN will convene and collaborate with state, regional, and local stakeholders, including workforce investment boards (WIBs) and economic development departments to develop a unified mission around the region's energy efficiency workforce, highlighting pathways for job seekers to enter the green jobs market and to increase access for disadvantaged communities. I-REN will facilitate identifying opportunities for employers and local workforce partners to network and connect. With its governing agencies' existing networks of contractors and training providers, I-REN is well positioned to help bridge the gap between the energy industry and the workforce.

I-REN also brings close connections with local government planning and building departments across the region. I-REN's proposed WE&T initiatives offer important opportunities for collaboration across other sectors through its work in the Public Sector and Codes & Standards (C&S) – both of which are important drivers of energy efficiency and advanced energy activity and employment in the region. I-REN will prioritize HTR, disadvantaged, underserved, and ESJ communities, and the organizations within those communities that support workforce development, and will help to raise the value of energy efficiency career paths within high schools, community colleges, and universities.

7. Coordination Protocol Between REN and IOU Programs

Coordination with the other Joint PAs is key to SoCalREN's intervention strategies, specifically the efforts related to WE&T. In 2013, a Workforce Advisory Committee and Small Business Advisory Committee were formed to create the framework for a collaboration and partnership that would enable SoCalREN to address barriers to education and training for entry- and mid-level workers, as well as competition and skills training for diverse SBE and DVBE firms. These partnership collaborations include labor, industry associations, community-based organizations, community colleges, utilities, and participating agencies. An expansion of these partnerships is ongoing to facilitate regional access as well as access within local communities.

In addition, the Joint PAs have regular coordination calls, on a regular quarterly cadence, so that strategies and tactics can be cross-leveraged and support the core activities the Joint PAs have to

offer. This quarterly coordination also helps to ensure that all constituents served by WE&T programs in the shared service territory are properly covered and receive the optimal level of WE&T opportunities.

As a new PA, I-REN has not yet contracted with implementers. Within 60 days of implementer(s) being contracted for the relevant programs, the Joint PAs will reconvene to plan coordination activities specific to I-REN.

8. Coordination Between SW Program(s)

With PG&E as the statewide administrator for the Career and Workforce Readiness (CWR) and Career Connections WE&T subprograms, the IOUs will coordinate with organizations that offer soft skills training and workforce development support as part of the SW Career and Workforce Readiness (CWR) Program in 2023. This Program will also be leveraged by SoCalREN to support the core WE&T activities of SoCalREN. In addition, the IOU local Integrated EE Training post-secondary program component can be leveraged to collaborate with post-secondary and similarly positioned education and training entities to increase the quantity and competency of all workers at all levels of EE industry sectors.

9. Compliance With D.12-11-015, SCR-WE&T-D1

The following table describes in further detail how SoCalREN's WE&T Program satisfies the REN criteria in D.12-11-015.

Table 24: SoCalREN's 2023 WE&T Program Compliance with D.12-11-015

REN Criteria	SoCalREN WE&T Program (SCR-WE&T- D1)
1. Activities IOU cannot or does not intend to undertake	ˇ Provides local government agency RFP solicitation training for SWMDVBE contractors enabling these small underserved enterprises to participate in government funded EE and sustainability projects.
2. Pilot activities where there is no IOU program offering and where there is potential for scalability	ˇ Provide training for certifications and credentials in energy-related industries for in-school youth and at-risk youth (homeless, transitioning foster youth)

3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap	˅ An organized, comprehensive regional workforce education and training partnership and resource network solely for disadvantaged workers and contractors at all skill levels. ˅ Entry-level workforce skills training infrastructure that solely emphasizes assisting youths and SWMDVBE. ˅ A DBE/WBE/DVBE contractor training program.

III. SOCALREN PROGRAM COMPLIANCE WITH D.12-11-015 AND D.19-12-021

In D.12-11-015 and reaffirmed in D.19-12-021, the CPUC directed the RENs to deliver programs and activities that met a threshold of criteria:[3, 4, 5]

- ˅ Activities that utilities or CCAs cannot or do not intend to undertake.
- ˅ Pilot activities where there is no current utility or CCA Program offering, andwhere there is potential for scalability to a broader geographic reach, if successful.
- ˅ Pilot activities in HTR markets, whether or not there is a current utility orCCA Program that may overlap.

SoCalREN has exercised the power of governments to leverage alternative funding, community networks, and other government programs to enhance portfolio capacity, particularly in support of programs that fill gaps or represent scalable offerings. SoCalREN will continue to utilize this peer driven approach to leverage public agencies, with a focus on serving HTR and DACs in both its Public and Residential Sectors while maintaining a path to increased cost efficiency. SoCalREN's services will continue to complement and supplement IOU programs and fill gaps and find synergies among approaches to maximize opportunities for customers and other market actors, which is in line with all the objectives laid out in D.12-11-015, D.16-08-019 and reaffirmed in D.19-12-021.

A. SOCALREN UNDERTAKING ACTIVITIES THAT UTILITIES CANNOT OR DO NOT INTEND TO UNDERTAKE.

As a peer-driven organization, SoCalREN's portfolio utilizes its local expertise and direct relationship networks to quickly survey the market in which they serve and undertake activities that IOUs cannot or do not intend to undertake, in other words RENs fill the Gap.

[3] D.12-11-015, p. 17.
[4] D.19-12-021, p. 32.
[5] D.16-08-019, pp. 11-12.

Since the inception of SoCalREN, these activities have been developed based on market needs, lessons learned from historical IOU programs and peer-to-peer sharing which has brought innovation at a small replicable scale. Table 25 describes in detail many, but not all, the activities and strategies to be implemented in 2023 that "fill the gap" and define SoCalREN's unique value.

Table 25: SoCalREN's Activities That Fill Gaps and Strategies

SOCALREN PROGRAM	GAP	STRATEGY
EE PD Program	⌄ Local government partnerships diminished or eliminated ⌄ No full scale one stop shop services for the entire project delivery path for all public agencies (including project management and procurement assistance)	➢ Regional Partnerships ➢ Full scale project services offered from project inception to project close out – at no cost to public agencies; Details provided in EE PDP section
DER DAC PD Program	⌄ Comprehensive DER audits not available through EE portfolio	➢ Full Scale project services offered which include DER audits and DER technical services
Public Agency RLF	⌄ No short-term construction financing offered for public agencies	➢ Short term 0% interest loan for public agency EE projects
Multifamily Program	⌄ Currently no regional electric Multifamily whole building retrofits offering	➢ Whole building electric and gas measure retrofits offered
WE&T Program	⌄ No local workforce offering for homeless and DAWs ⌄ No training offered to assist WMDVBE's participate in public agency EE project RFPs	➢ Workforce offering that provides certified pathways for homeless and DAWs ➢ Full-service training offered to assist WMDVBE's in public agency EE project RFPs

SOCALREN PROGRAM	GAP	STRATEGY
Streamlined Savings Pathway	⌄ Program addresses gaps left by IOU program closures and third party program limitations; SoCalREN will launch the Streamlined savings pathway in Q1 of 2023 and adjust as needed to not duplicate offerings as new third party programs are introduced to the market. ⌄ This program offers Public Agencies no loss in available services	➢ Provide a streamlined incentives pathway for public agencies projects ➢ Focus on projects serving or in rural, DAC and low-income communities
Kits for Kids	⌄ Currently no online interactive gaming platform that teaches 3rd and 4th grade students ⌄ EE incentives for classrooms that support, promote EE installations.	➢ Online interactive gaming platform that educates elementary school children and their families while offering them no cost energy savings measures

SoCalREN's RCC Program utilizes resources and local expertise to leverage local government agencies' housing and community development programs and community- based organizations, programs not currently offered by the IOUs. SoCalREN will also organize events based on these government agencies' relationships, that explain multifamily property EE upgrade benefits and connect community property owners and their residents with the education and resources needed to take action.

In addition, the SoCalREN public agencies offerings successfully complement and supplement the activities of existing LGP programs, as well as other Public Sector EE programs administered by partner utilities, SCE, and SoCalGas. Public agencies face unique challenges and barriers that include limited technical resources to identify, develop, and implement projects; inadequate and limited access to data about building performance; financing hurdles; unique procurement requirements; protracted decision-making processes; and managing within a political environment, among others. SoCalREN's Public Agency EE PDP, DER DAC PDP, and NMEC

Program aim to address these unique challenges and provide the necessary services different from or not currently offered by IOU programs for public agencies.

B. SOCALREN UNDERTAKING PILOT ACTIVITIES WHERE THERE IS NO CURRENT UTILITY UNDERTAKING, AND WHERE THERE IS A POTENTIAL FOR SCALABILITY TO A BROADER GEOGRAPHIC REACH, IF SUCCESSFUL.

The SoCalREN strategies for its 2023 portfolio strive to enhance cross-cutting activities, collaboration, and leverage with the IOUs; but to also adjust and reform its overall program portfolio, consistent with and in furtherance of the Commission's mandate for RENs to pilot new approaches and models that are scalable and replicable (D. 12-11-015). These approaches include:

- Public Agency Revolving Loan Fund – short-term construction financing [no current utility undertaking].
- DER DAC Program – comprehensive program that offers technical assistance that include DER energy audits alongside EE project implementation.
- Workforce Education &Training Program – targets homeless (specificallytransition at -risk youth) and provides a certified career path to the EE industry.

These approaches currently are different from or not offered by the IOUs in SoCalREN's overlapping service territory but do have the potential to be scaled and replicated if proven successful. SoCalREN's 2023 Portfolio meets the criteria outlined in D.12-11-015 and D.19-12-021 by utilizing strategies intended to be unique, scalable, and cost-effective, with the potential to be long term.

C. SOCALREN UNDERTAKING PILOT ACTIVITIES IN HARD-TO- REACH MARKETS, WHETHER OR NOT THERE IS A CURRENT UTILITY PROGRAM THAT MAY OVERLAP.

A primary objective for all SoCalREN strategies is to meet the needs of HTR markets and DACs. As a PA managed by a local government, SoCalREN has an inherent duty to serve HTR markets and DACs. Regional government PAs are well-suited to address HTR markets and DACs, through deployment of independent yet parallel programs, initiatives, and actions specifically developed to respond to underserved constituents. As a result, the SoCalREN can cross-cut EE programs onto a number of pre-existing government frameworks specifically designed for underserved and DACs, reducing administrative, development, and other costs.

SoCalREN's Multifamily Program will work in parallel with its RCC to build relationships among its HTR constituents, such as multifamily property owners whose primary language is not English and who currently own properties in DACs. Public agency relationships will help to gain trust and confidence in REN offerings as well as their IOU partner program offerings. Building trust will in turn help these HTR constituents understand the value proposition of EE.

In addition, SoCalREN's WE&T Program market focus emphasizes tactics that reach the most under-represented disadvantaged populations currently in the EE industry, specifically Women Minority Disabled Veteran Business Enterprises (WMDVBE), youths and homeless. Through public agency and community engagement, SoCalREN will continue to identify and establish pathways for entry-level skills training through a network of public and non-profit training programs.

SoCalREN has structured its portfolio strategies to be administratively cost-efficient, with a focus on regional government capacities and systems already in-place to address HTR markets and DACs. These existing custom systems and capacities will further enable and support the State's EE Portfolio goals for the under-served and DACs through the rigorous deployment by REN PAs.

APPENDIX A: SUMMARY OF SOCALREN PROGRAM COMPLIANCE WITHD.12-11-015

Table A-1. SoCalREN D. 12-11-015 Compliance, by Program

Check D.12-11-015 Threshold Criteria that apply for each program	Comparable IOU Program, if applicable	1. Activities that utilities cannot or do not intend to undertake.	2. Pilot activities where there is no current offering,and where there is potential for scalability to a broader geographic reach, if successful.	3. Pilot activities in hard-to-reach markets, whetheror not there is a current utility program that may overlap.
Multifamily Program [SCR-RES-A1]	SCE Willdan Multifamily Energy Efficiency Program (MFEEP) Program [SCE_3P_2020RCI_004] SoCalGas Multifamily Upgrade [SCG3705]	**XX**		**XX**
Kits forKids [SCR-RES-A3]		**XX**		**XX**
Energy Efficiency Project Delivery Program [SCR-PUBL-B1]	SCE - CLEAResult Public Energy Performance SoCalGas Government[6]	**XX**		

[6] This includes all SoCalGas partnership programs with local governments

Check D.12-11-015 Threshold Criteria that apply for each program	Comparable IOU Program, if applicable	1. Activities that utilities cannot or do not intend to undertake.	2. Pilot activities where there is no current offering,and where there is potential for scalability to a broader geographic reach, if successful.	3. Pilot activities in hard-to-reach markets, whetheror not there is a current utility program that may overlap.
DER DAC Project Delivery	Not Applicable	**XX**	**XX**	**XX**
Public AgencyNMEC Program [SCR-PUBL-B3]	SCE - CLEAResult Public Energy Performance SoCalGas High Opportunity Projects and Programs - Meteredand Performance-Based Retrofits (MPBR) Program	**XX**	**XX**	**XX**
Public Agency Streamlined Savings Pathway [SCR-PUBL- B4			**XX**	
Public Agency Revolving Loan Fund [SCR-FIN-C1]	SCE On Bill Financing Program [SCE-13-SW-007A] SoCalGas New Financing Offerings – GoGreen Home [SCG3737]	**XX**	**XX**	**XX**

Check D.12-11-015 Threshold Criteria that apply for each program	Comparable IOU Program, if applicable	1. Activities that utilities cannot or do not intend to undertake.	2. Pilot activities where there is no current offering,and where there is potential for scalability to a broader geographic reach, if successful.	3. Pilot activities in hard-to-reach markets, whetheror not there is a current utility program that may overlap.
Residential Loan Loss Reserve [SCR-FIN-C2]	SCE New Financing Offerings [SCE-13-SW-007C] SoCalGas New Financing Offerings – GoGreen Home [SCG3737]		**XX**	**XX**
Workforce Education &Training [SCR-WET-D1]	SCE WE&T IntegratedEnergy Education & Training Program [SCE-13-SW-010A] SoCalGas' WE&T Integrated Energy Education Training Program [SCG3729]	**XX**	**XX**	**XX**

APPENDIX B: SOCALREN SUMMARY OF PROGRAMS OFFERED FOR 2023

Table B-1. SoCalREN Summary of Programs, 2023

REN Program Unique ID	Sector	Annual Budget	Eligible Measures
Multifamily Program [SCR-RES-A1]	Residential	$8,217,671	Resource program.
Kits for Kids [SCR-RES-A4]	Residential	$1,128,300	Not applicable. Non-resource program
Energy Efficiency Project Delivery Program [SCR-PUBL-B1]	Public	$6,489,000	Not applicable. Non-resource program
DER DAC Project Delivery Program [SCR-PUBL-B2]	Public	$3,813,000	Not applicable. Non-resource program
Public Agency NMEC Program [SCR-PUBL-B3]	Public	$1,300,000	CMPA process; whole building measures
Public Agency Streamlined Savings Pathway [SCR-PUBL-B4]	Public	$1,400,000	Resource Program
Public Agency Revolving Loan Fund [SCR-FIN-C1]	Cross-cutting: Financing	$500,000	Not applicable. Non-resource program
Workforce Education & Training [SCR-WET-D1]	Cross-cutting: WE&T	$800,000	Not applicable. Non-resource program

APPENDIX C: SCE, SOCALGAS, 3C-REN, AND I-REN SUMMARY OF COMPARABLEPROGRAMS

Table C-1. SCE Summary of Comparable 2023 programs

IOU Program Unique ID	Sector	Annual Budget	Eligible Measures
Willdan Multifamily Third- Party Energy Efficiency Program (MFEEP) [SCE_3P_2020RCI_004]	Residential	$19,595,052	The program offers deemed, customized calculated, and NMEC-based site-specific approach measures for energy- saving equipment for both common and in-unit areas of multifamily properties; end uses include HVAC and Lighting, and Water Heating, Pool pump, High efficiency kitchen appliances, Showerheads and Faucets and Energy Management Technologies..
Statewide Finance Program – On-Bill Financing [SCE-13-SW-007A]	Cross-cutting: Financing	$781,554 (implementation budget) $14,000,000 (total loanpool)	Not applicable.
SCE – CLEAResult Public Energy Performance	Public	$6,590,401	Custom, Deemed, NMEC and SEM
WE&T Integrated Energy Education & Training Program [SCE-13-SW-010A]	Cross-cutting: WE&T	$ 8,840,814	N/A

Table C-2. SoCalGas Summary of Comparable 2023 Programs

IOU Program Unique ID	Sector	Annual Budget	Eligible Measures
Home Upgrade Program - Multifamily Home Upgrade Program [SCG3705]	Residential	$2,361,124	Resource program
Residential Direct Install Program[SCG3883]	Residential	$3,150,353	Resource program
Statewide – On-BillFinancing [SCG3735]	Cross-cutting: Financing	$5,500,000 loan pool	Resource
New Financing Offerings [SCG3737]	Cross-cutting: Financing	$43,919,485 in credit enhancements available statewide	Resource
Regional Energy Pathways [SCG3912]	Public	$2,051,023	Resource
WE&T IEET [SCG3729]	Cross-cutting: WE&T	$4,350,000	Not applicable. SW Non-resource program

Table C-3. 3C-REN Summary of Comparable 2023 Programs

IOU Program Unique ID	Sector	Annual Budget	Eligible Measures
3C-REN WE&T [TCR-WET-001]	Cross-cutting: WE&T	$1,190,021	N/A
3C-REN Multifamily [TCR-Res-002]	Residential	$3,430,037	Site-specific measures that achieve energy savings both in-unit and in common areas.

Table C-4. IREN Summary of Comparable 2023 Programs

REN Program Unique ID	Sector	Annual Budget	Eligible Measures
Technical Assistance and Strategic Energy Planning Program [IREN-PUBL-001]	Public	$2,908,219	Not applicable; non-resource program
Public Buildings NMEC Program [IREN-PUBL-002]	Public	$3,283,503	Any energy saving measure
WE&T Training and Education Program [IREN-WET-001]	Cross-cutting: Workforce Education & Training	$1,032,169	Not applicable; non-resource program
WE&T Workforce Development Program [IREN-WET-001]	Cross-cutting: Workforce Education & Training	$1,361,257	Not applicable; non-resource program

APPENDIX D: SOCALREN-IOU (SCE AND SOCALGAS) COORDINATION PLAN FOR PUBLIC AGENCIES

SoCalREN, SCE, SoCalGas Coordination Strategy for Public Agencies

Last Updated: May 2022

To be updated as needed upon completion of utility local public sector solicitations. Document is for current program offerings.

SoCalREN and IOUs will coordinate their respective programs including IOU's core and Third Party Programs (3PP) and resources to minimize duplicative offerings and work in an approach where the SoCalREN complements and supplements the IOU and IOU's 3PPs, yet understanding this is a reciprocal relationship. SoCalREN and IOUs should work toward a goal that minimizes duplication of programs consistent with the approved annual Joint Coordination Memo (JCM) and provides all public agencies a plethora of programs and offerings by Program Administrators allowing the customer to be the decision-maker. This approach is in the best interest of the customer by providing complementary tools that help bridge gaps in meeting their agency's goals.

Coordination laid out in this document is for agency enrollment, commitment, and ongoing delivery of SoCalREN's Public Agency non-resource programs, including:

- Project Delivery Program
- Distributed Energy Resources for Disadvantaged Communities Project Delivery Program, publicly known as the Pathway to Zero Program
- Revolving Loan Fund, publicly known as the Revolving Savings Fund

Additionally, this document outlines coordination protocols for the delivery of SoCalREN's Public Agency resource acquisition programs, including:

- Public Agency NMEC Program, publicly known as Metered Savings Program
- Streamlined Savings Pathway

As the SoCalREN Public Agency Programs continue to grow and evaluate additional services and offerings, this document along with the SoCalREN/IOU NMEC Participation Coordination document and the approved annual JCM will continue to serve as guidance for coordination activities between SoCalREN and the IOUs for agencies interested in and committed to energy efficiency project implementation.

How will SoCalREN and IOUs coordinate services and activities for all public agencies?

SoCalREN, SCE and SoCalGas will work collaboratively to develop coordinated strategies that enrich respective program offerings and elevate services to public agencies. Direct communications between SoCalREN Program Representatives, SCE program leads and representatives, SoCalGas program representatives (Public Sector Regional Program Managers, IOU/REN coordination leads, Account Executives, etc.), and 3PP implementers are intended to successfully drive energy efficiency project delivery and foster public agency satisfaction. Key coordination strategies include the following:

- IOUs will provide regular and timely information and updates to SoCalREN program representatives on core and 3PP available to public agencies.

- SoCalREN will provide regular and timely information and updates to IOU program representatives on SoCalREN Public Agency Programs.
- Any requests for presentations for IOU's core and 3PP should be coordinated through the respective IOU's and/or 3PP lead PM for IOU/REN coordination.

Customer Data & Information

- SoCalREN's preference is to obtain customer information directly from the customer. If requesting customer information directly from the IOUs, SoCalREN must provide the IOU written customer authorization (i.e. signed CISR form or Executed Authorization Form) to obtain additional customer information related to energy efficiency project delivery, as needed for SoCalREN enrolled participants.
- Upon request, IOUs will provide customer authorized project-level data to SoCalREN monthly upon request through the IOU/REN Data Transfer template for projects going through IOU programs and third-party programs.
    - SoCalREN will acquire written documentation of the customer's authorization (i.e., signed CISR Form or Executed Authorization Form) to obtain project-level data or information from an IOU. This documented authorization will be provided by SoCalREN to the appropriate IOU's lead PM for IOU/REN coordination.

Customer Engagement & SoCalREN Enrollment Activities

- If an IOU representative receives an inquiry about SoCalREN program services, the IOU representative will contact SoCalREN representatives and determine how best to set the follow-up meeting with the agency.
- Once the agency is enrolled, SoCalREN will provide quarterly updates to inform the IOU representatives on key project-related SoCalREN activities when the agencies are pursuing IOU core, 3PPs, and SoCalREN programs and keep IOUs informed of activities with those agencies.
    - Ad hoc email updates will be provided by SoCalREN to the IOUs as needed to communicate critical project development updates. These critical updates include the Initial Measures List presentation and incentive application submission updates.
- Once the agency is enrolled, IOU representatives will inform SoCalREN about any key SoCalREN project-related interactions with the agency in which SoCalREN representatives are not present, and keep SoCalREN informed of such activities with agencies.
- SoCalREN will timely inform appropriate SCE Account Managers and SoCalGas program representatives (Public Sector Regional Program Managers, IOU/REN coordination leads, Account Executives, etc.), of any engagement meeting prior to enrollment in EE Project Delivery services, and send an email survey to learn more about the customer's needs and opportunities. Notification of the enrollment meeting should happen typically two weeks prior to a meeting. In some cases, and based on customer needs, meetings may be scheduled with less than two weeks' notice. SoCalREN will make best efforts for advanced notice of enrollment meetings and accommodate utility representative schedules, as feasible, depending on the availability of the agency.
- Agency's past and present participation in utility programs will be addressed through an electronic survey sent to the IOUs to calibrate expectations of energy savings potential and ensure there is no double-dipping. IOUs will have one week to respond to the survey ahead of the enrollment meeting.
    - In the event that the email survey is not sufficient to address customer details, a pre-coordination meeting may be requested within 1 week of survey receipt and held on a case-by-case basis if deemed necessary by all parties.
- IOU attendance at engagement meetings is optional; however, reasonable efforts to arrange for

participation by interested IOU leads will be made by SoCalREN. SoCalREN will notify appropriate IOU partners of the meeting, and they may request to participate.
    - No more than two (2) representatives from each IOU may participate at the engagement meeting (unless additional representatives' participation is identified and discussed prior to the meeting). IOU representatives will confirm ahead of the meeting which participants will attend.
- SoCalREN may elect to conduct the customer meeting during the enrollment process as a remote conference call or webinar. Preference stands for an in-person meeting, but consideration of travel-related resources may lead to remote venues for cost-effective purposes.
    - Enrollment meetings may include multiple eligible agencies to streamline coordination activities.
    - If the meeting is a remote webinar, the meeting should use an application that is accessible to the IOUs.
- Remote facilitation for the engagement meeting may be requested by an agency or SoCalREN at any time. When facilitating a meeting in-person, remote participation may also be coordinated as needed or if an alternative utility representative cannot be identified to attend.

Project Specific Activities

- Efforts will be made to present applicable utility core and 3PPs to customers by SoCalREN representatives when evaluating projects. SoCalREN will connect agencies with appropriate utility or 3PP representatives when interest is expressed, and utility leads will connect interested parties to SoCalREN representatives when interest in SoCalREN is expressed.
- SoCalREN will include the SCE Lead PM and SoCalGas Lead PM on communications to other IOU representatives related to SoCalREN activity as needed for successful project delivery. Conversely, IOU representatives will include SoCalREN PMs and SCE Lead PM and/or SoCalGas Lead PM on agency-directed communications where SoCalREN is supporting project development and implementation.
- SoCalREN will follow established processes for submitting incentive/rebate applications as the Trade Professional for core (SCG only) or 3PPs when the customer has asked SoCalREN to file the incentive/rebate applications on their behalf. SoCalREN will work with the appropriate IOU representative and/or 3PP implementer for timely completion of items such as a Project Feasibility Study and collecting influence documentation to ensure a complete application for submittal.
- SoCalREN will request SoCalGas review of measure specifications and equipment qualifications ahead of submitting rebate and incentive applications through SoCalGas core programs.
- For projects pursuing SoCalGas core programs, SoCalREN will provide a courtesy copy of incentive applications to Account Executives at the time of submittal where SoCalREN is acting as the Trade Professional.
- SoCalREN will hold monthly project coordination meetings with each utility to discuss active projects participating in utility core (SoCalGas only) or 3PP programs.

How will SoCalREN and SoCalGas Public Sector coordinate services and activities? SoCalGas continues to service all public sector customers through its Public Sector Energy Pathways. SoCalGas Public Sector program leads will continue to engage in IOU/REN coordination in 2022 and beyond.

SoCalREN and SoCalGas' program representatives (Public Sector Regional Program Managers, IOU/REN coordination leads, Account Executives, etc.) will prioritize collaboration and reciprocal communication with regards to energy efficiency project delivery services for public agencies as well as

engagement prior to enrollment in SoCalREN programs. Key coordination strategies include the following:

- When engaging agencies within a SoCalREN Regional Partnership territory, SoCalGas will be extended the opportunity to educate agencies on the Public Sector Program availability during appropriate meetings. SoCalREN & SoCalGas will align on the presentation facilitation and content ahead of such meetings.
- SoCalREN will include in the pre-enrollment survey a question to SoCalGas representatives (Public Sector Regional Program Manager and/or Account Executive) about technical assistance offerings to determine how to best collaborate on a strategy that helps meet the customer's needs, leveraging all feasible resources. Pre-coordination calls can be scheduled on an as-needed basis.
- Agency contacts, roles, and responsibilities will be confirmed, and communication strategies discussed during enrollment meetings.
- SoCalGas roles and responsibilities, including primary contact designation for agencies will be confirmed during enrollment meetings.
- If SCG's program representatives (Public Sector Regional Program Managers, IOU/REN coordination leads, Account Executives, etc.), receive an inquiry about SoCalREN program services, SCG's program representatives (Public Sector Regional Program Managers, IOU/REN coordination leads, Account Executives, etc.), will contact SoCalREN representatives and determine how best to set the follow-up meeting with the agency.
- Once the agency is enrolled, SoCalGas program representatives will inform SoCalREN Representatives on any key SoCalREN project-related interactions with the agency in which SoCalREN representatives are not present and keep SoCalREN informed of such activities with agencies.

How will SoCalREN and SCE/SoCalGas/3PPs coordinate services and activities?

SoCalREN may engage and coordinate with additional utility program leads in order to avoid duplication of efforts and offerings. Initial introductions to 3P or other utility Program Leads for coordination purposes will be initiated as follows:

- For SCE 3P programs, SoCalREN will coordinate directly with the 3P implementer and inform SCE lead of such coordination meetings.
- For SCG-led 3P programs, SoCalREN will coordinate directly with SoCalGas first. SoCalGas will lead the coordination effort.
- SoCalREN will need to initiate a coordination meeting with SCG before engaging with existing and new 3P implementers.
- As projects are developed, SoCalREN and SCG will identify which 3PP will be applicable to the measures and sites audited and coordinate with the 3PP implementers as needed for project handoff or coordinated project development.

How will outreach and education related to SoCalREN's Pathway to Zero be communicated to Public Agencies?

SoCalREN shall work with DER Program leads at SoCalGas and SCE on a quarterly basis to ensure that all SoCalREN DER materials are up-to-date and correct. SoCalGas and SCE Coordination leads will be responsible for coordinating with their respective internal contacts to notify SoCalREN of any programmatic changes at an annual check-in. Additionally, when presenting the Pathway to Zero program's Pathway to Zero Report to a local public agency, the SoCalREN PM will include relevant IOU program resources and information that has been identified to be of interest to that public agency.

How will SoCalREN and SCE/SoCalGas Coordinate services for public agency projects pursuing a

SoCalREN incentive program (Streamlined Savings Pathway or Metered Savings Program)?

- SoCalREN and IOU representatives will convene early in the project development process to discuss what gaps in the IOU core program and 3PP offerings are being addressed by the SoCalREN program during the Initial Measures List review.
- If the agency elects to pursue a SoCalREN incentive program, SoCalREN will not include IOU representatives in further project correspondences outside of the quarterly updates unless required for data collection or other project delivery needs.

How will outreach and education related to SoCalREN be communicated to Public Agencies?

Any requests for presentations about SoCalREN should be coordinated through SoCalREN. SoCalREN Program representatives are available to present program offerings to any audience.

How will Public Sector Account Managers and other Program leads learn about SoCalREN?

The IOUs will have lead responsibility for informing their program representatives (Public Sector Regional Program Managers, IOU/REN coordination leads, Account Executives, etc.), about the coordination strategy with SoCalREN.

Opportunities to learn about the program include:

- IOU representatives may visit socalren.org at any time to learn more about the public agency programs. A list of all enrolled agencies can be found on the Public Agencies - Program Information tab of the website.
- Attendance at a Joint IOU / SoCalREN Overview Workshop, which may be offered at various locations throughout the IOU territory or virtually in coordination with the IOUs.
- SCG program representatives (Public Sector Regional Program Managers, IOU/REN coordination leads, Account Executives, etc.), may request to coordinate with SoCalREN to jointly host meetings with public agencies to present SoCalREN's services.
- 3PP Managers may also choose to coordinate with SoCalREN to jointly host meetings with public agencies to present SoCalREN's services. For SCG 3P programs, SoCalREN will coordinate with the SCG 3PP Program Manager ahead of coordination with the 3PP.
- Additional opportunities for SoCalREN presentations will be offered on request.

How will SCE address public sector project delays due to prolonged project application review and approval timelines?

SCE and SoCalREN will work together to reduce project delays for the existing pipeline of projects prior to 3PP implementation. This will be accomplished by:

- Bi-weekly check-in meetings with the Commercial Custom Program Manager to review the status of all project applications.
- SCE will adhere to the below timelines for existing pipeline project Application Reviews:
    - SCE will notify SoCalREN staff of required missing documents/information in the applications within 10 business days
        - SCE will aim for technical review, prior to upload to CMPA, to take no more than 30 business days per the Statewide California Program Administrator Custom Project Review Process Timeline Guide
        - SCE will issue NRDs through the established formal process and will not issue informal requests after technical review has been completed

APPENDIX E: SOCALREN-IOU (SCE AND SOCALGAS) NMEC PARTICIPATION COORDINATION FOR PUBLIC AGENCIES

SoCalREN, SCE, SoCalGas NMEC Participation Coordination for Public Agencies

Last Updated: May 2022

To be updated upon completion of utility local public sector solicitations. Document is for current program offerings.

SoCalREN, IOUs and IOU third party program implementers (3PP) will coordinate their respective program offerings and resources to minimize duplicative offerings and work in an approach where the SoCalREN complements and supplements the programs with the understanding this is a reciprocal relationship. SoCalREN, IOUs, and 3PP implementers should work toward a goal that minimizes duplication of programs consistent with the approved annual Joint Coordination Memo (JCM), increases efficient promotion of existing programs and allows all public agencies a choice amongst all offerings of Program Administrators allowing the customer to be the decision-maker. This approach is in the best interest of the customer providing a range of options to help them meet their agency's goals.

Coordination laid out in this document is for public agency participation in Normalized Metered Energy Consumption (NMEC) resource programs offered by the IOUs and SoCalREN. These currently include:

- SCE High Opportunity Program and Projects (HOPPs), also known as the Public Sector Performance Based Retrofit Program (PBRP)
- SCG High Opportunity Program and Projects (HOPPs), also known as the Metered and Performance-Based Retrofits Program (MPBR)
- SoCalREN Public Agency NMEC program, also known as the Metered Savings Program.

As the SoCalREN Public Agency NMEC Program and IOU NMEC and 3PP programs continue to grow and evaluate additional services and offerings, this document along with the approved annual JCM will continue to serve as guidance for coordination activities between SoCalREN and the IOUs for agencies interested in and committed to energy efficiency project implementation using an NMEC approach.

How will SoCalREN and IOUs coordinate NMEC offerings?

SoCalREN, SCE and SCG will work collaboratively to develop coordinated strategies that elevate services to public agencies. Direct communications between SoCalREN Program Representatives, SCE Account Managers, SCG Account Executives, and IOU 3PPs are intended to successfully drive energy efficiency project delivery and foster public agency satisfaction. A project that is identified within a public agency that is enrolled in the SoCalREN Public Agency Programs will follow the attached *NMEC Decision Tree* with activities led by the SoCalREN Project Manager.

Eligibility for Program Participation

To be eligible for SoCalREN NMEC, the public agency must first be enrolled in the SoCalREN Public Agency Programs following the process described in the *SoCalREN, SCE, SoCalGas Coordination Strategy for Public Agencies.* Both the SCE and SCG HOPPs and/or 3PP programs are available to all public agencies. Project-specific eligibility requirements can be reviewed in each

respective program's Program Manual.

Additional Participation Considerations
Projects that meet the following criteria default to HOPPs and will not be offered the SoCalREN NMEC program unless they drop out of or decline HOPPs:

- They are in the queue for HOPPs prior to June 1, 2019. The queue is defined as receiving predictability analysis[7] through the respective program.
    - Any projects that are not in the HOPPs queue by June 1, 2019 will follow the established process established to jointly present IOU and SoCalREN NMEC programs to the agency using documentation such as the Project Proposal slide deck.
- The IOU has provided audit services within the last 18 months.
    - Going forward, if an agency is enrolled in SoCalREN Public Sector Programs, IOUs should coordinate with SoCalREN prior to performing an audit.

Once an agency has selected a pathway and predictability analysis performed by the program, the agency will not be presented other program options unless they drop out of the selected program. Any project that drops out of an NMEC program, regardless of provider, can pursue a different NMEC program.

Communications with Public Agencies
When having the customer choose which path to pursue, the IOUs will be invited to be at the table, but their attendance is not mandatory. Conversely, when the IOUs are having NMEC program conversations with SoCalREN enrolled public agencies, SoCalREN will be invited to provide their service offerings. In addition, prior to SoCalREN presenting the NMEC program options to an agency for a project, applicable IOUs will receive the draft presentation slides to be presented to the agency. IOUs will have 7 business days to provide feedback, ask questions, or request a pre-coordination call if required. If SoCalREN does not receive a response within those 7 business days, they will move forward with the slides for the scheduled meeting with the agency.

How will SoCalREN and IOUs prevent Double Dipping?
The IOUs and SoCalREN are committed to coordinating to prevent double dipping between the SoCalREN NMEC program and IOU/3rd Party program offerings, including upstream/midstream programs. Early screening and ongoing communication on potential projects will support this activity. Additional protocols will be developed as projects emerge and new programs come online.

Can a single project participate in two NMEC programs?
A facility with one or more electric meters and one or more gas meters may participate in HOPPs for electric savings and SoCalREN Metered Savings Program for gas savings or it may participate in HOPPs for gas savings and SoCalREN Metered Savings Program for electric savings depending on the agency needs and project criteria. This would require additional coordination between the IOU and SoCalREN as a single measure could have both gas and electric savings. The interactive effects of measures would also need to be considered by the IOU and SoCalREN.

What SoCalREN services will be offered to projects that leverage an IOU NMEC or third party program? The SoCalREN Public Agency Energy Efficiency Project Delivery Program (EE PDP)

[7] Analysis of pre-installation energy usage patterns of a facility or site to evaluate the feasibility for an NMEC program approach.

and the Distributed Energy Resources for Disadvantaged Communities Program (DER DAC) are non-resource programs that provide comprehensive support services to energy efficiency projects from identification to completion. The EE PDP and DER DAC programs will continue to support agencies with project identification and audit services, from which NMEC potential projects may be developed. NOTE: Future updates will be included as IOU 3PPs launch in the market. Following the delivery of the project proposal presentation (step 7 on the decision tree), the services will be available as follows to HOPPs projects:

- Projects in the queue prior to June 1, 2019 would continue to receive full EE PDP and DER DAC services through completion.
- Projects without IOU NMEC resources committed (baseline modeling completed) by June 1, 2019 to follow standard protocol
- New IOU NMEC projects identified past June 1, 2019 would no longer receive SoCalREN PDP and DER DAC services after the project proposal is presented and HOPPs pathway is selected by the customer.
- SoCalREN will develop the Form H, full audit calculations, influence narrative and timeline (not a full Project Feasibility Study [PFS]) for projects pursuing HOPPs as a deliverable during the IOU handoff.

How will outreach and education related to SoCalREN NMEC programs be communicated to Public Agencies and utilities?

Inquiries about the SoCalREN NMEC program should be directed to the program implementer. Any questions from utility staff should be directed to SCE/SCG lead PM

NMEC Decision Tree *(*NOTE: Future updates will be included as IOU 3PPs launch in the market.)