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SDG&E Comments on EE Strategic Plan

Additional submitted attachment is included below.

San Diego Gas & Electric Company
Response to California Energy Commission's (CEC) Solicitation for Comments on the
Development of the 2019 California Energy Efficiency Action Plan

SDG&E has over the past years been actively working towards achieving the California's AB 32 goals. SDG&E's power-generation emissions rate (pounds of CO₂ per megawatt hour of energy generated) is roughly half the U.S. national average. Approximately 45 percent of the electricity SDG&E delivered to its customers in 2017 was from renewable energy sources. By 2021, we intend to achieve a power-generation emissions rate of 35 percent below our 2010 baseline. Our power generation portfolio is 50-percent emissions-free. By 2022, it is projected to be 69-percent emissions-free. with SDG&E being on track to meet the California target of 50 percent-renewable by 2030.

For our customers, SDG&E's EcoChoice program offers customers the option to get up to 100% of their energy from renewable sources, even if they don't own their own home, or cannot install solar on their roof. Customers can get their energy from clean or renewable sources every month. SDG&E also offers EV time-of-use pricing plans to help customers who own electric or plug-in hybrid vehicles save money.

On the Energy Efficiency (EE) front, over the last 10 years, SDG&E EE programs have helped customers cumulatively save 3.5 million MWh ~ enough to supply energy to over 584,000 homes for one year. With respect to its EE natural gas programs, over the last 10 years, SDG&E EE programs have helped customers cumulatively save over 21 million therms, this is enough to supply energy to over 35,000 homes for one year. These gas and electric savings have resulted in avoiding approximately 2,146,281 metric tons of CO₂, the equivalent of avoiding Greenhouse Gas emissions from over 450,000 cars.¹

San Diego Gas & Electric Company (SDG&E) appreciates this opportunity to provide responses to questions issued by the CEC as part of its development process for their 2019 California Energy Efficiency Action Plan.

Building Standards

One goal from the *2016 Existing Buildings Energy Efficiency Plan Update* was to make the 2019 Building Energy Efficiency Standards easier to use/understand than previous iterations. In your view, was this goal achieved?

Response: Compared to previous Code cycle changes, the 2019 Building EE Standards have been easier to use/understand. The Statewide IOU Codes and Standards – Compliance Improvement team works collaboratively with the CEC's Outreach team on developing strategies tools, resources, and classes to meet the outreach and educational solutions for all market stakeholders in the permitting process. In the development of the CEC's code language and their supporting joint appendices, the 2019 Building Energy Efficiency Standards have delivered precise direction on what is required for all market actors to deliver the code on all new construction, retrofits, and equipment change outs for the required permit. Market actors have multiple solutions to understand and interpret the code requirements. However, SDG&E believes that it is necessary to continue providing support through training offerings and other resources to educate the market and building officials to improve compliance and educate/train the market participants as new updates are adopted in the future. (Please see response to question regarding Standards Compliance below.)

¹ Conversion from metric tons of CO₂ to emission from cars was developed using the EPA calculator available at <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

What are the immediate steps you recommend taking to improve compliance with building energy standards?

Response: The Building Energy Standards can be enhanced by providing continuous education to all stakeholders to better understand the code requirements and compliance. The education path would include online, in class and in field training. This training can be coordinated through the Workforce Education & Training (WE&T) program.

Benchmarking

Are building owners looking at their energy consumption or just reporting to benchmarking?

Response: Building owners use their energy consumption information in different ways. Some building owners review their consumption coupled with their benchmarking score and decide they want to take action by looking into available Energy Efficiency programs that will improve their efficiency and potentially their future benchmark score.

What type of encouragement or support, beyond monetary, would lead to improved benchmarking scores over time?

Response: SDG&E is aware of customers performing Benchmarking, based on AB 802 requirements and portal users who request consumption data for Energy Star Portfolio Benchmarking. With this knowledge, we can customize our outreach efforts and program promotion to these customers. Providing education on the value of energy efficiency and the return on investment (ROI) that EE actions may deliver to owners would help lead to improved benchmarking scores over time. If a property owner is aware of the increased value of asset generated by Energy Efficiency and ZNE, as well as the benefits of promoting energy efficient buildings to prospective renters, a building owner may be more likely to continue making improvements to their properties.

SDG&E continues to offer a free service, allowing business owners to easily receive reports on their building's energy efficiency and usage

Market Transformation

How can local governments continue to support and/or expand energy efficiency efforts?

Response: Developing Climate Action Plans has been an effective way for local governments to formalize goals and implementation plans towards zero net energy outcomes, including energy efficiency. Now that most local governments have approved CAPs, the focus can shift towards establishing organizational structures, governance, reporting methodology, and budget mechanisms to accelerate the progress these plans are making in their communities. Also, many local governments have benefited from capacity-building initiatives and are now more prepared to implement next generation energy efficiency measures and programs.

Have you seen improvements in energy efficiency marketing, outreach, and education efforts? If not, what areas are still undeveloped? Please provide examples.

Response:

Through the efforts of both Statewide and local marketing education and outreach efforts, customers are more informed about energy efficiency than ever before. That said, customers still spend little time

thinking about their energy management options and investments in EE. It's imperative that we continue to educate customers on the benefits of investing in energy efficient and IDSM technologies as well as the enabling devices that allow them to manage their use and comfort with ease and little time investment.

The Statewide Energy Upgrade California (EUC) branding campaign is important to promote continuous awareness of the importance of energy efficiency. It uses emotion to promote sustainability and importance of taking action for the sake of the environment. On the other hand, local utility marketing drives participation by encouraging customers to take action by connecting them with the right programs, services, tools and rates. The combination of these complimentary campaigns is crucial for ongoing success.

In your opinion, what retrofit programs (please specify sector) are most successful? What makes the program successful?

Response: Rebate programs have always been the foundation of EE programs. It allows customers to work directly with contractors to identify their EE needs, purchase and install equipment and have the certainty of rebates available to offset first costs. Several of these programs are moving upstream/midstream which should make access to EE equipment easier. The Marketplace approach is another mechanism that improves accessibility, for example, easy product comparison and improvements to customer application processes.

SDG&E's Commercial Retrocommissioning program has been successful and is fully subscribed. This allows for working with customers helping with benchmarking, recommendations and final retrocommissioning contributes to identifying EE opportunities, particularly with our larger customers. With respect to the Industrial Sector the Strategic Energy Management (SEM) program is in its nascency stage since it was implemented over 2 years ago. With regular monitoring and feedback process for customers, we expect that it provides customer support for them to have EE ingrained in their operations.

What barriers remain for energy efficiency to be a reliable grid resource? Are there data limitations, lack of quality results, lack of awareness, etc.? What immediate steps do you recommend the Energy Commission take to resolve these barriers?— Hillary/Arnab

Building Decarbonization

What are the main concerns with implementing programs that focus on reducing carbon emissions from buildings?

Response: SDG&E has three concerns with any effort by the CEC to reduce carbon emissions in buildings through program implementation:

(1) The CEC needs to take cost containment (including cost effectiveness metrics and effective cost recovery) into account when designing and implementing building decarbonization programs. Measures associated with building decarbonization often have high capital costs, which deter customer adoption and require incentives to ensure program participation. Any incentives directed toward these building decarbonization efforts must be coordinated through this cost containment lens.

(2) The CEC must design and model any building decarbonization efforts alongside other DER resources and in coordination with the larger Integrated Resource Plan (IRP) in order to ensure that de-carbonization and DER efforts across the State are not duplicated.

(3) The CEC must design and implement technology neutral programs to achieve building decarbonization and customer's needs and preferences must be represented. This "customer choice" approach will lead to cost-effective programs for building decarbonization.

Any decarbonization effort should take a global perspective and develop solutions that are scalable to discourage moving the emissions outside the state. A program focused on building decarbonization should be designed to complement programs for all sectors (transportation, electricity, industry, agriculture) and infrastructure costs need to be included.

Heat pump water heaters and space conditioners are expected to play a role in building decarbonization, they currently occupy a small portion of the market; what actionable steps do you think are viable to improve the market potential of the technology?

Response: SDG&E would like to clarify the question by stating that adoption of heat pump water heaters and space conditioners are only one path to building decarbonization. There are other paths to building decarbonization, which includes pairing renewable natural gas with more efficient gas end use devices, and SDG&E encourages that the CEC employ a technology neutral approach when deciding how to reduce emissions in buildings.

High up-front capital costs are a key barrier to decarbonization efforts led by water heaters and space conditioners. The CEC will have to design programs for heat pump water heaters and space conditioners that smooth out the up-front costs for customers. Additionally, rate structures must also be addressed to provide the right price signals and reflect actual costs.

Low Income and Disadvantaged Communities

What type of energy efficiency programs are shown to be most successful in low-income and disadvantaged communities? Please cite any evidence such as program results or customer testimonials.

Response: The Energy Savings Assistance Program (ESA) has high customer satisfaction ratings. According to the 2018 Q3&Q4 Customer Survey Results, overall perception of the ESA program is positive, with the vast majority (95%) giving "excellent", "very good", or "good" ratings to the program.

In the commercial market area, our Business Energy Services Program target hard to reach businesses in the disadvantaged areas of our community. It is a highly successful and well received program.

Moving forward, SDG&E has EE metrics related to addressing disadvantaged communities (DACs) , in addition to Hard-to-Reach (HTR) customers. In addition, the ongoing EE solicitations also requests bidders provide their program approaches to addressing DACs and HTR customers.

Although these programs are highly valued by customers, the CEC must also consider program cost effectiveness and avoid duplication of efforts.

Standards Compliance

In your experience, what are the primary drivers of non-compliance with building standards?

Response: SDG&E believes there are several issues that contribute to non-compliance:

(1) Some market actors are challenged with the amount of paperwork, processes and applications necessary for complying with the building standards. These factors play a role in their ability to meet construction schedules causing delays that impact them contractually with sub-contractors and financially due to delays in construction.

(2) For equipment changeouts requiring permits like water heaters and HVAC systems, some market actors have indicated that they are unaware of the permit requirements with the building standards.

(3) The process of completing the HERS (Home Energy Rating Systems) forms and documentation has been a challenge to some market actors. The HERS (Home Energy Rating System) raters are involved in the third-party inspection process of building standards compliance. Situation have been brought to light through training both HERS raters, building inspectors, and plans examiners at the SDG&E Energy Innovation Center. Examples show market actors delivering documentation to the local jurisdiction IOU Codes and Standards trainers have been given examples of errors in calculations recorded at the construction site. Some other situations that have been developed

Workforce Development

Have state efforts resulted in workforce improvements to install energy efficiency measures?

Response: The Statewide WE&T programs have provided a variety of programs that are geared towards workforce improvements, e.g., training programs, school (different grade levels and college levels) programs. These programs are successful for what they were intended for but SDG&E believes that more can be done to support SB 350 direction. A more detailed discussion is presented in response to the next question.

Provide examples of effective energy efficiency workforce training efforts.

Response: SDG&E's Energy Efficiency Business Plan² include a chapter on WE&T programs and plans to support the goals outlined in SB 350 (see program future look below)..

² A.17-01-014 Application of San Diego Gas & Electric Company (U 902 M) to Adopt Energy Efficiency Rolling Portfolio Business Plan Pursuant to Decision 16-08-019 available at https://www.sdge.com/sites/default/files/SDGE%2520EE%2520BP%2520Application%2520FINAL%2520with%2520BP_2.PDF.

Figure 8.18 Future Look

Program Component	A. SW – Career Connections: Job/Career Awareness & Basic Green Energy Ed	B. SW – Career & Workforce Readiness (CWR): Job and Career Readiness	C. Integrated Energy Education & Training (IEET)	
			Core Energy Education	Technical Upskill
Primary Audience	People unaware of energy jobs and careers: <ul style="list-style-type: none"> • K-12 students • K-12 instructors • Energy job/career seekers • Energy education seekers 	People not prepared to enter a traditional energy job/career higher education path: <ul style="list-style-type: none"> • Disadvantaged communities • Disadvantaged workers 	People on a chosen educational track toward a job/career: <ul style="list-style-type: none"> • Post-secondary students • Adults • Retraining for those who have identified an energy career path 	People in a job/career seeking energy-focused upskilling: <ul style="list-style-type: none"> • Engineering & design professionals • Technical trades/journeymen
Offerings and Purpose	<ul style="list-style-type: none"> • Career awareness • Green energy and sustainability teaching materials and support (green energy/sustainability) 	<ul style="list-style-type: none"> • Career prep/job readiness services (via partnerships) • Gain skills that may lead to employment and/or advancement in a job in the energy efficiency field 	<ul style="list-style-type: none"> • Track-specific technical education and training • Support for teaching materials development • Train-the-Trainer • “Kick-Start / early stage” initiatives support • Building performance measurement tools 	<ul style="list-style-type: none"> • High-level and in-depth training • Targeted offerings for specific occupations • Certification program support
Primary Organizations for Strategic Partnerships	<ul style="list-style-type: none"> • K-12 schools • WIBs, CBOs 	<ul style="list-style-type: none"> • Workforce Investment Boards • Community-based organizations • Job-training organizations 	<ul style="list-style-type: none"> • Community and 4-year Colleges • Job-training organizations • Vocational Schools • Labor/Unions • Trade Associations • Apprenticeship & Pre-apprenticeship • Community-based orgs. 	<ul style="list-style-type: none"> • University Extension Programs • Certification agencies & programs • Professional and Trade Associations and Agencies
Outcomes	Knowledge gain, using gained knowledge and skills on the job, expanding/enhancing other organizations' curricula. Combined outcomes should lead to EE savings and support SDG&E portfolio goals			

However, it's important to recognize the many organizations – private and public – that are needed to build a skilled and trained workforce. These include community and four year colleges, vocational schools, apprenticeship programs, organized labor and more. Utility programs play an important role, but there is danger that by placing too much burden on these programs, it may have a negative impact on programs – both from a cost perspective and from participation. For example – having defined workforce standards is necessary and important for California – but this should not just be limited to EE program participation. Otherwise, it may drive customers away from programs to avoid “red tape”. The state should focus efforts on bring together organizations and agency who have expertise in various areas to work together to solve programs without extending beyond their scope and purview. For example, licensing boards already exist to regulate qualifications and permitting – who can those agencies work with utilities and other entities to ensure work is performed properly. Workforce development agencies are already funded to provide support services and job placement activities. These organizations versus utility WE&T programs should be leveraged to support disadvantaged workers. If the state can serve as a broker to bring these various groups together, it will allow organizations to focus on their specific mission and goals, while maximizing resources to benefit the California rate payers.