



REPORT ON ENERGY EFFICIENCY PORTFOLIO PURSUANT TO PUC SECTION 913.5

REPORT TO GOVERNOR AND LEGISLATURE, 2018-2020 RESULTS

JULY 2022



**California Public
Utilities Commission**

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Executive Summary

California has been at the forefront of energy efficiency (EE) advancement for decades, and every day, Californians save energy in a cost-effective way to reduce utility bills and combat climate change. The numbers bear this out: in total, the 2018-2020 EE program portfolio saved 1,885 gigawatt-hours of electricity, 354 megawatts of demand, and 108 million therms of natural gas, exclusive of energy savings attributed to codes and standards advocacy savings. According to [US EPA's Greenhouse Gas Equivalencies Calculator](#), the CO2 emissions from 1,885 gigawatt-hours of electricity savings equates to the annual electricity use of roughly 260 thousand homes. These savings were achieved by \$1.6 billion in EE spending over three years by the major investor-owned utilities (IOUs) – they spent \$639.4 million in 2018, \$558.5 million in 2019, and \$408.1 million in 2020 – on a total three-year budget of \$2.0 billion.

This report complies with Public Utilities Code Section 913.5 by addressing the progress in electricity and natural gas EE programs for the years 2018-2020. Additionally, this report describes the California Public Utilities Commission's (CPUC) specific strategies for maximizing the contribution of energy efficiency savings in disadvantaged communities. Section 1 identifies electricity and natural gas efficiency savings based on the established efficiency goals set by the CPUC, as well as associated program expenditures. Section 2 outlines relevant CPUC decisions and studies related to EE programs. Section 3 highlights the CPUC's broader contributions towards advancing energy efficiency in disadvantaged communities, including an update on the Environmental and Social Justice Action Plan, as well as the Energy Savings Assistance Program (ESA), which provides no-cost weatherization services and energy efficiency programs to low-income consumers.

Introduction

Scope of this report

This report complies with Section 913.5 of California’s Public Utilities Code, which states:

(a) Before July 1, 2022, and every three years thereafter, the commission shall submit a report to the Legislature on the energy efficiency and conservation programs it oversees. The report shall include information regarding authorized utility budgets and expenditures and projected and actual energy savings over the program cycle.

(b) In the report submitted pursuant to subdivision (a), the commission shall also report to the Legislature on the progress toward achieving the targets established pursuant to subdivision (a) of Section 454.55 and subdivision (a) of Section 454.56. The commission shall include specific strategies for, and an update on, progress toward maximizing the contribution of energy and electricity efficiency savings in disadvantaged communities identified pursuant to Section 39711 of the Health and Safety Code.

Goals and Overview of 2018-2020 Portfolio Activities

This report summarizes the accomplishments of the CPUC’s 2018-2020 EE programs based on evaluation studies conducted during and after the three-year cycle. Dozens of studies measured and verified the electricity and gas savings across a sample of roughly 460 programs implemented during the 2018-2020 period. It is important to note that part of the 2020 EE program year was not evaluated in time for this report and the numbers for that year are proxy values based on previous results and not the final evaluated results. Numbers from 2021 are not provided as these programs are still being evaluated.

The CPUC provides direction and oversight of the EE programs, while program administrators (PAs) implement and administer the programs. The PAs covered in this report include the following Investor-Owned Utilities (IOUs): Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), Southern California Gas Company (SCG), and San Diego Gas & Electric Company (SDG&E). Other California PAs like Community Choice Aggregators (CCAs) and Regional Energy Networks (RENs) are not included in this report as they make up less than two percent of statewide savings.

The report is organized into three sections. Section 1 identifies electricity and natural gas efficiency expenditures and savings based on the established efficiency goals set by the CPUC. Section 2 outlines relevant CPUC decisions and studies related to EE. Section 3 provides an update on the Energy Savings Assistance Program (ESA) and highlights the CPUC’s contributions towards advancing energy efficiency in disadvantaged communities.

A Note on the Numbers

This report focuses on energy savings goals and progress for IOUs under the residential, commercial, industrial, and agricultural sectors. Savings figures throughout the report are exclusive of energy savings achieved through advocacy efforts for new building codes, appliance standards, and ESA, except where explicitly stated.

Our analysis of energy savings often compares data *reported* from the PAs with data *evaluated* and verified by the CPUC. Reported energy savings are provided immediately after the close of the program year. However, evaluated savings are not available until evaluation studies are completed on the reported savings. Evaluated savings may differ from reported savings due to several factors, including the EE equipment being installed improperly, the use of incorrect hours of operation, or the use of incorrect baseline assumptions for the reported values.

The discussion of energy savings at the portfolio level considers *net* savings as opposed to *gross* savings. Some program incentives are provided to customers who would have adopted the EE equipment or practice even without a utility program or rebate. Gross savings estimates represent energy savings regardless of program influence, whereas net savings estimates determine what savings occurred as a result of the EE program's existence.

Additionally, we state whether figures are *first year* savings or *lifecycle* savings. First year savings are the savings that EE equipment accrues in the first year after installation. Lifecycle savings accrue over the entire useful lifetime of the installed equipment. The CPUC sets energy savings goals based on first year savings.

Section 1 – Energy Efficiency Goals, Savings & Expenditures

Investor-Owned Utility 2018-2020 Energy Savings Goals vs. Evaluated Savings

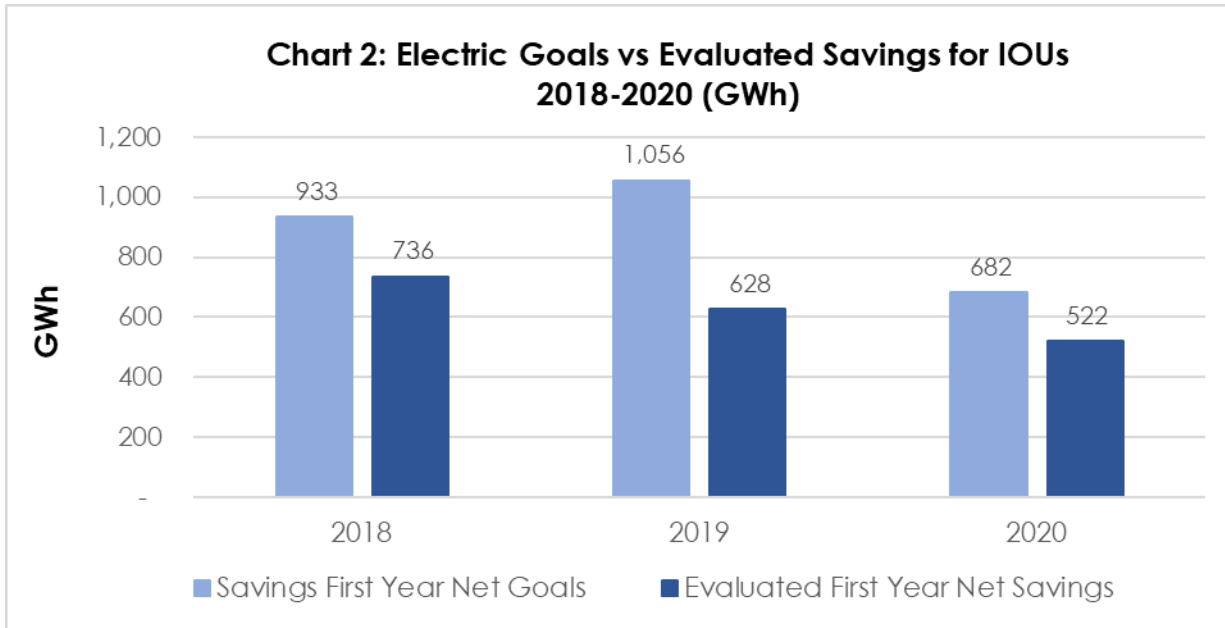
The CPUC’s electric and gas efficiency savings goals for the IOUs are displayed in Table 1 below for 2018-2020. The overall portfolio net savings goals for the three years were 2,671 GWh for electric and 109 million therms for natural gas usage. Total IOU program portfolio evaluated net savings in the period measured nearly 1,885 GWh for electric and 108 million therms for gas usage.

Table 1: IOU 2018-2020 Energy Efficiency Portfolio First Year Savings Compared to Goals

	2018 Net Savings			2019 Net Savings			2020 Net Savings		
	Electric (GWh)	Demand (MW)	Natural Gas (MMTherms)	Electric (GWh)	Demand (MW)	Natural Gas (MMTherms)	Electric (GWh)	Demand (MW)	Natural Gas (MMTherms)
Program Goals ¹	933	182	39	1,056	210	43	682	138	27
Evaluated Savings	736	149	30	628	115	35	522	91	43
Difference	(197)	(33)	(9)	(428)	(95)	(8)	(160)	(47)	16
Savings vs Goals, Percent Difference	-21%	-18%	-22%	-41%	-45%	-19%	-24%	-34%	60%

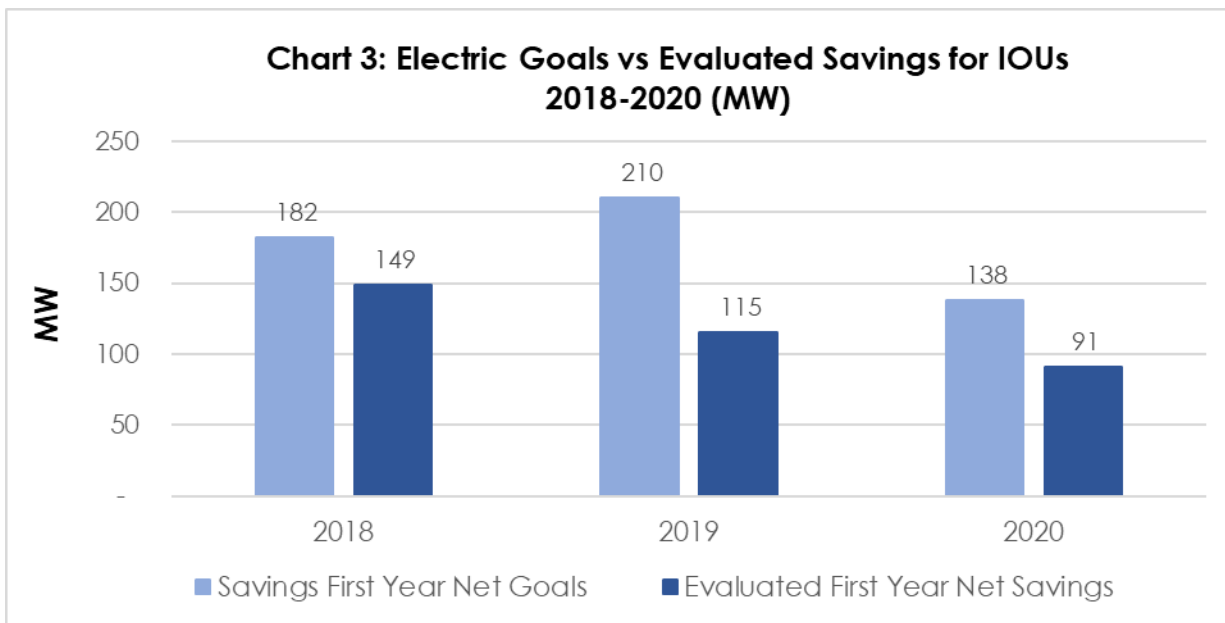
¹2018 & 2019 figures are from D.17-09-025, pp. 37-39. 2020 figures are from D.19-08-034, pp. 23-24.

Evaluated electricity savings totals for the four IOUs were short of the goal target in each year, which equated to a 197 GWh gap in 2018 (-21 percent), 428 GWh in 2019 (-41 percent), and 160 GWh in 2020 (-24 percent). The gap between goals and evaluated savings in 2018-2020 was heavily influenced by negative adjustments due to unaccounted light bulb shipments to small grocery and discount stores in SCE and SDG&E territories in 2017-2019, discovered by our evaluation field studies. These large adjustments resulted in a \$57 million settlement between SDG&E and stakeholder advocacy groups in 2021. The issue of unaccounted light bulbs in SCE’s territory is currently being considered by the CPUC. Lighting as an end use accounted for a much smaller amount of energy efficiency savings in 2020, which can be seen in the lifecycle by end use analysis (Chart 11) below.



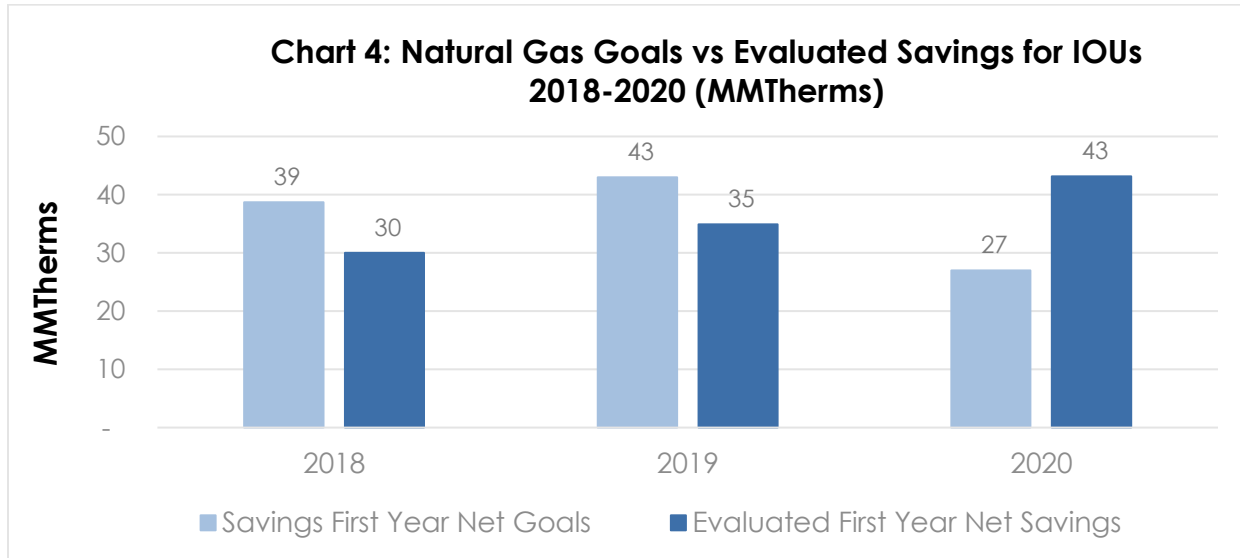
Note: Exclusive of IOUs’ statewide codes and standards program and ESA program

Electric demand (MW) did not meet the goal by about 33 MW (-18 percent) in 2018, 95 MW (-45 percent) in 2019, and 47 MW (-34 percent) in 2020. As stated previously, evaluated savings were heavily influenced by lower than anticipated savings for the primary lighting program.



Note: Exclusive of IOUs’ statewide codes and standards program and ESA program

Natural gas evaluated savings missed their goals by 9 MMTherms (-22 percent) in 2018 and 8 MMTherms (-19 percent) in 2019, but greatly surpassed it by 16 MMTherms (60 percent) in 2020. The drastic change in year-over-year savings levels versus goals for natural gas is related to goals decreasing by 24 percent from 2019 to 2020. In addition, less lighting savings in the portfolio translate to more overall therms savings through the “interactive effects” associated with electric lighting, i.e., more efficient lamps produce less heat and have a secondary impact on heating and cooling loads, which impacts heating and cooling energy consumption.



Note: Exclusive of IOUs’ statewide codes and standards program and ESA program

Investor-Owned Utility 2018-2020 Evaluated Savings by Sector

This section compares California’s EE savings at the sector level. Most EE savings came from the residential sector, with the commercial sector being the second largest contributor of savings. The “Cross-Cutting” identifier refers to programs that targeted multiple sectors, for example, on-bill financing.

Chart 5: Evaluated First Year Savings for IOUs by Sector (GWh), 2018-2020

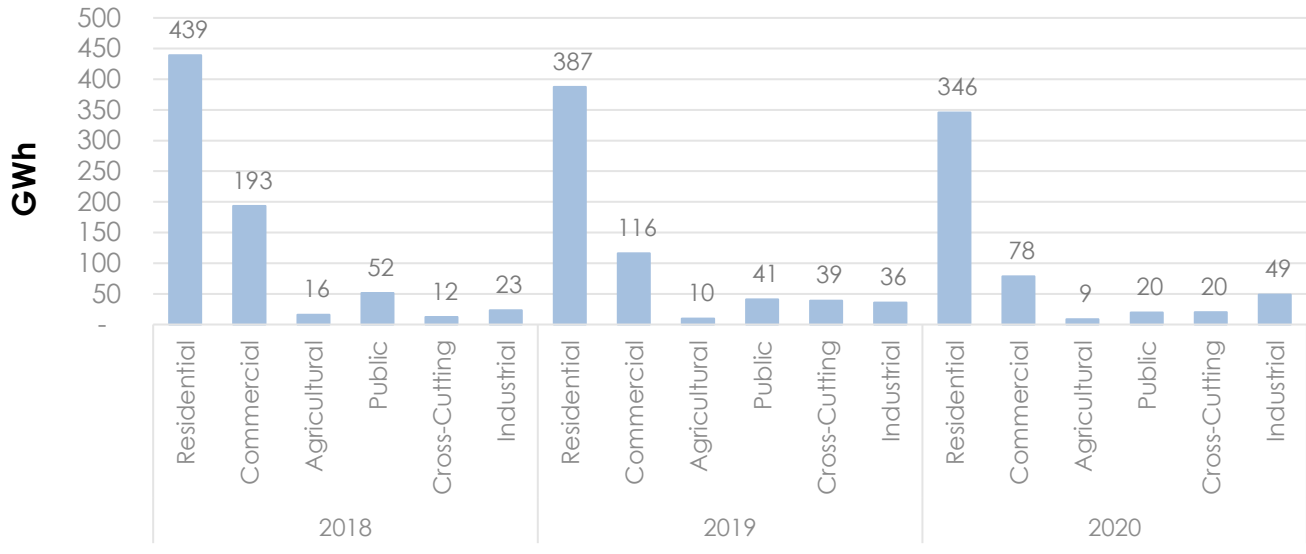


Chart 6: Evaluated First Year Savings for IOUs by Sector (MW), 2018-2020

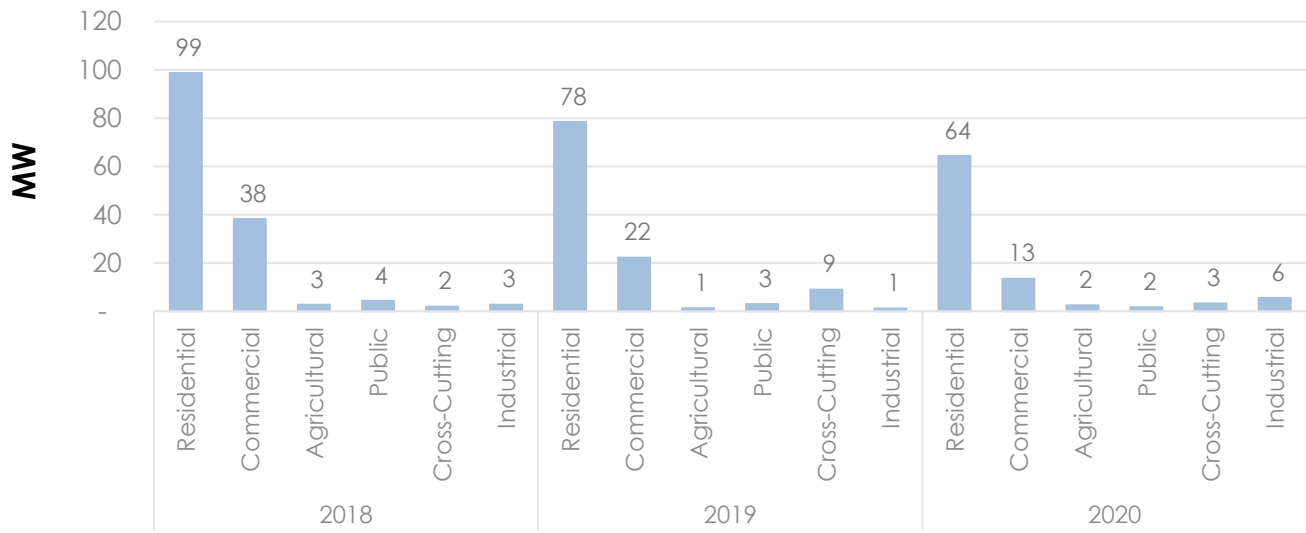
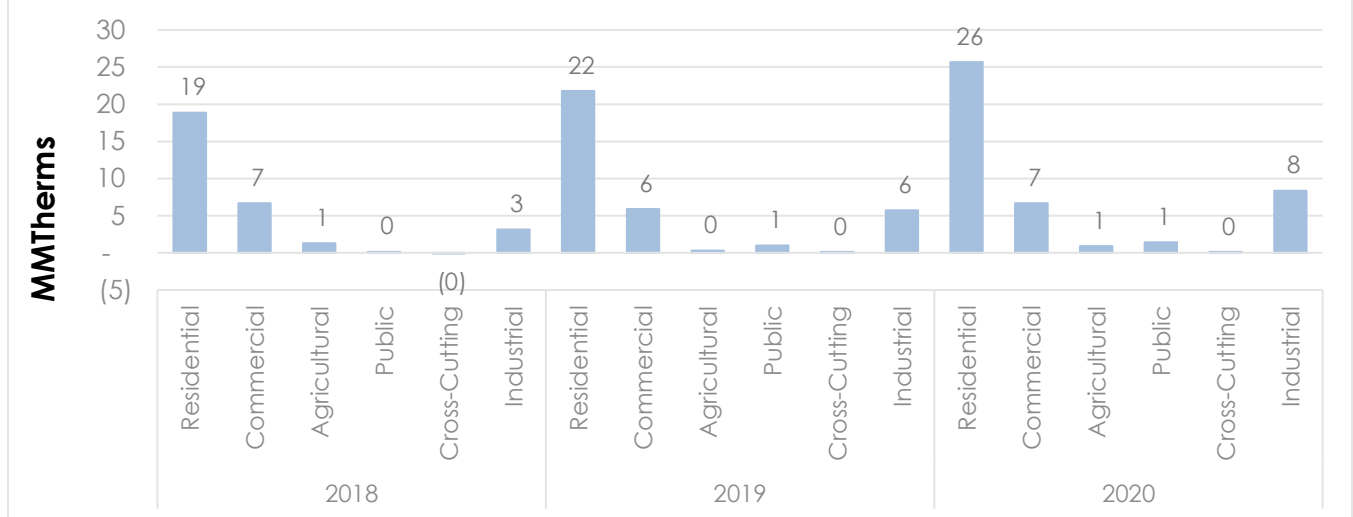


Chart 7: Evaluated First Year Savings for IOUs by Sector (MMTherms), 2018-2020



Investor-Owned Utility 2018-2020 Lifecycle Evaluated Savings

In comparison to first year EE savings, lifecycle savings accrue over the useful lifetime of the equipment installed. On the electric side, due to the long lifetime of LEDs, lighting measured the largest GWh and MW evaluated savings over the course of 2018-2020 despite issues with the primary lighting program in 2018 and 2019. Despite the issues and a much smaller program in 2020, lighting contributed nearly four times the GWh savings of Heating, Ventilation and Air-conditioning (HVAC) installations over the three-year span. The “Other” grouping – which includes offerings like on-bill financing (OBF), strategic energy management, plug load and appliances, and building retro-commissioning – measured a meaningful increase in 2019, largely due to a surge in OBF, while HVAC’s decline was led by data centers, residential direct install, commercial HVAC, and hospitality.

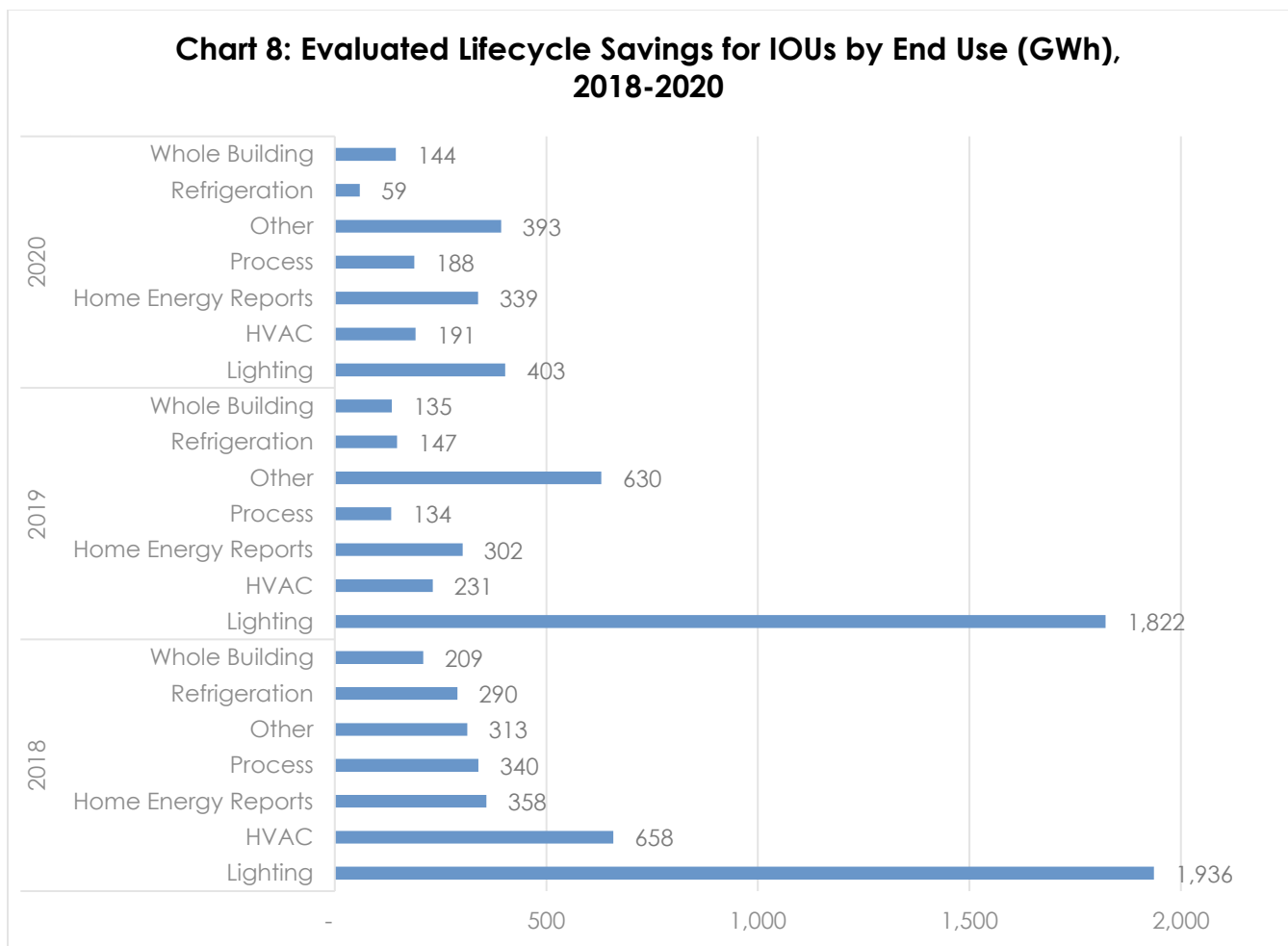
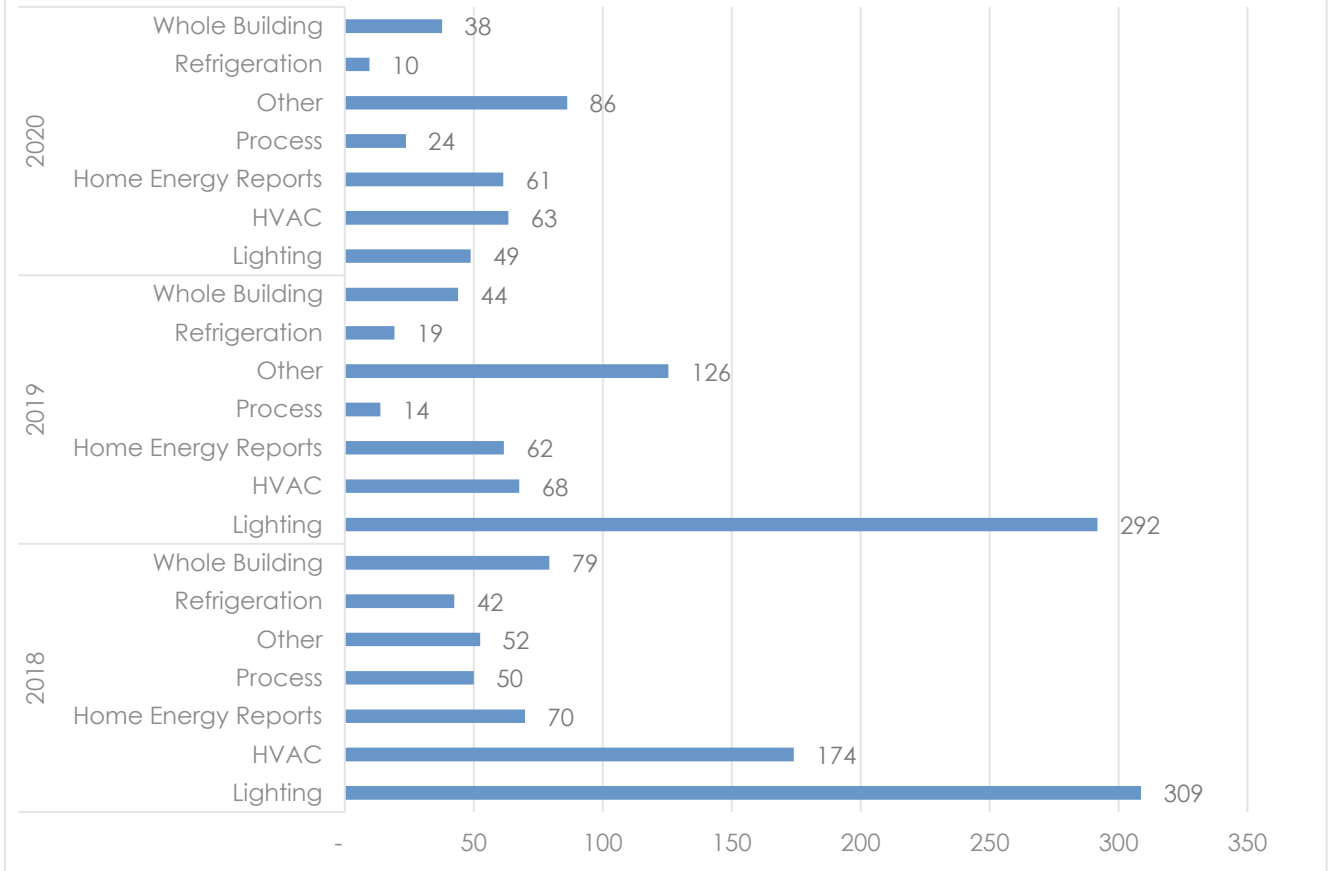
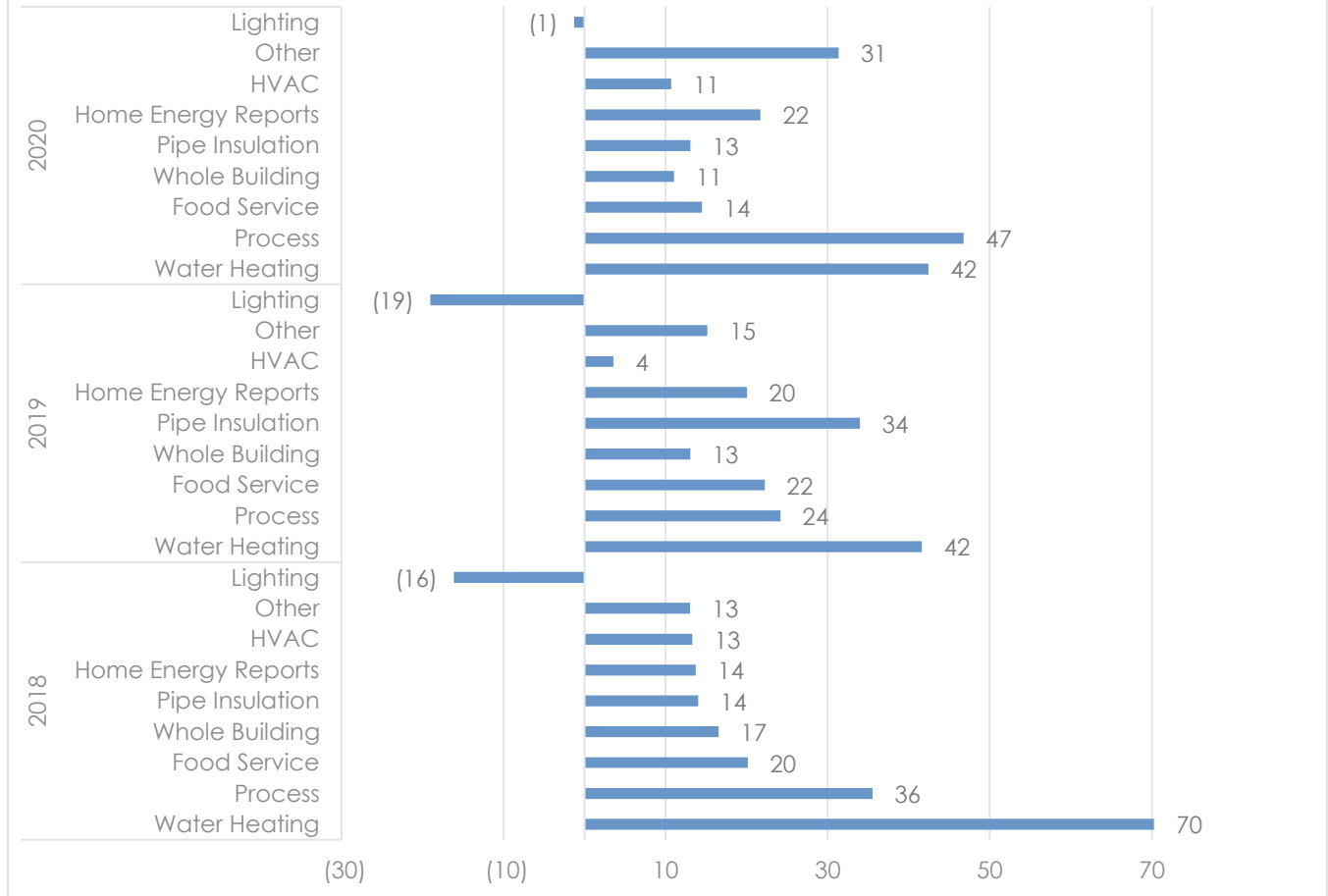


Chart 9: Evaluated Lifecycle Savings for IOUs by End Use (MW), 2018-2020



For natural gas savings, water heating accounted for the largest share of lifecycle savings over the 2018-2020 period. “Process” savings was the second largest group, which includes process boilers, greenhouse heat curtains, and ozone laundry. Lighting shows negative MMTherms savings due to “interactive effects” associated with electric savings.

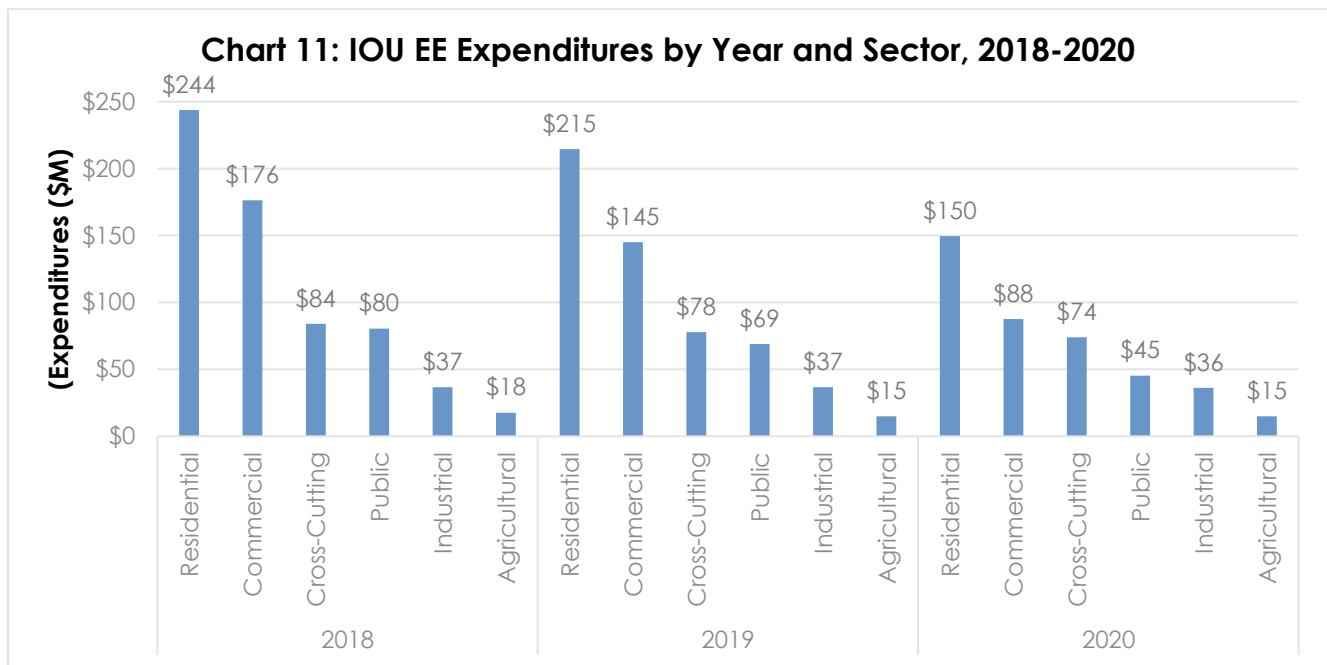
Chart 10: Evaluated Lifecycle Savings for IOUs by End Use (MMTherms), 2018-2020



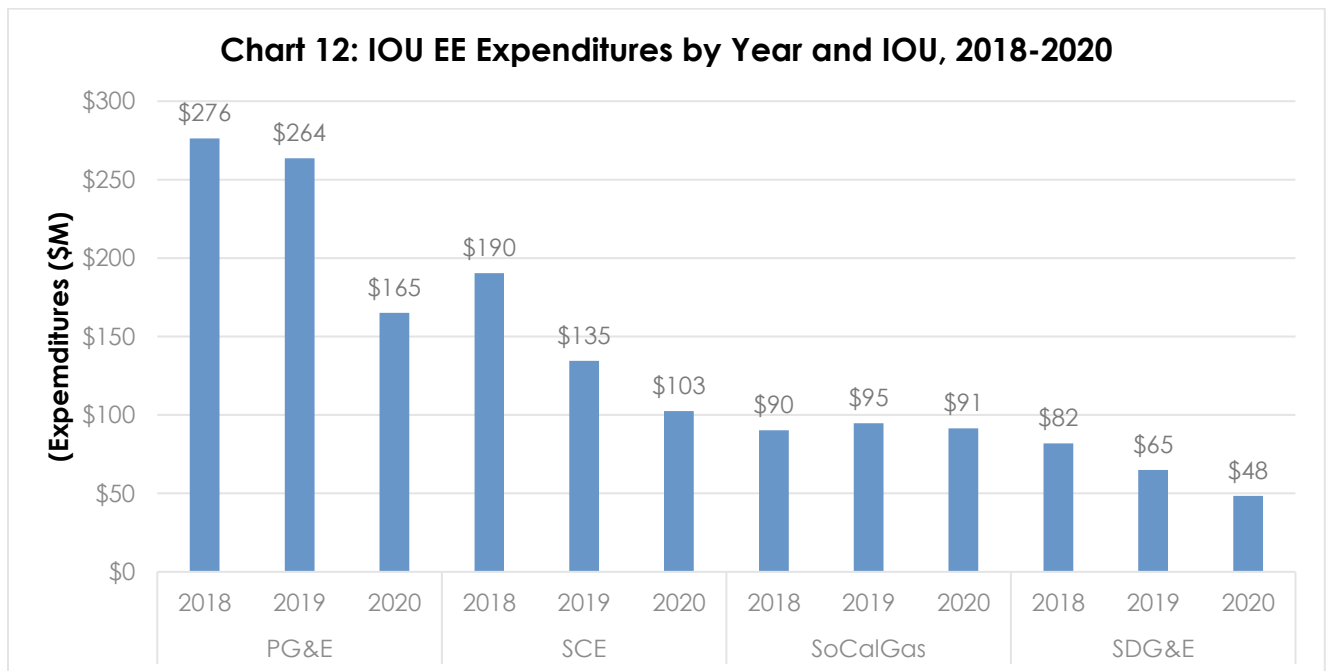
Program Administrator Energy Efficiency Expenditures, 2018-2020

To utilize energy efficiency funds, PAs first must submit a multi-year business plan that outlines the high-level strategies and approaches that will result in real energy savings for California. Once the CPUC adopts these plans, the PAs request annual budgets through regulatory filings with the CPUC. IOU PAs had a total budget of \$2.0 billion for 2018-2020¹ – their spending on EE programs totaled \$638.8 million in 2018, \$558.0 million in 2019, and \$407.5 million in 2020. The residential sector recorded the largest expenditures, totaling \$608 million over the three-year span, followed by the commercial sector, which totaled \$409 million over the same time period.

¹ <https://cedars.sound-data.com/filings/list/>



IOU EE expenditures varied greatly each year, with PG&E spending the largest amount, followed by SCE. IOUs spent \$1.6 billion on EE programs between 2018 and 2020, with annual spending levels decreasing over time. Four programs accounted for more than a \$100 million decrease in annual EE expenditures between program years 2018 and 2020: Primary lighting, Commercial Direct Install, Energy Upgrade California, and Commercial HVAC.



Section 2 – CPUC Energy Efficiency Decisions and Studies

This section includes a summary of the major EE decisions adopted by the CPUC since 2018, including decisions from 2021 that will affect the portfolio going forward. The CPUC also conducted dozens of evaluation studies between 2018 and 2020, and this section highlights three recently completed evaluation studies.

CPUC Decisions, 2018-2020

Decision Imposing Moratorium on Efficiency Savings and Performance Incentive Program

The CPUC approved [Decision 20-11-013](#) in November of 2020, which imposed a moratorium on award payments under the Efficiency Savings and Performance Incentive Mechanism (ESPI) beginning with program year 2021 advice letter earnings claims. It was found that ESPI was not necessary to ensure the continued achievement of energy savings, with the EE portfolio’s shift to more third-party programs and statewide programs being cited as a significant reason.

The decision stated that the moratorium is to remain in effect until subsequent actions to assess whether, how, or when a new version of ESPI, or a new incentive mechanism, could be devised and implemented.

Decision Regarding Frameworks for Energy Efficiency Regional Energy Networks and Market Transformation

The CPUC approved [Decision 19-12-021](#) in December of 2019, which authorized the continued operation of existing RENs and invited new REN proposals to be filed with the CPUC. This decision also clarified that any geographic overlap between more than one REN and other PAs may be permitted; that RENs are designed to fill PA gaps and service hard to reach customers; that there is no upfront cost effectiveness threshold required for RENs; and that RENs are not confined to a particular program or customer segment.

Additionally, the decision adopted market transformation framework elements that were proposed by the California Energy Efficiency Coordinating Committee (CAEECC) and directed PG&E to hire a third-party EE administrator to oversee market transformation initiatives.

Decision Adopting Energy Efficiency Goals for 2020-2030

CPUC’s August 2019 [Decision 19-08-034](#) adopted new energy savings goals for EE program portfolios for 2020-2030 based on an assessment of market potential using the Total Resource Cost test. This decision adopted goals that were lower than previous potential studies, due to California’s successful transformation of the lighting market, with efficient lighting technologies now considered standard practice.

Decision Modifying the Energy Efficiency Three-Prong Test Related to Fuel Substitution

The CPUC approved [Decision 19-08-009](#) in August of 2019, which modified the formulation of the EE three-prong test that was originally established in Decision 92-02-075 and changed it to the Fuel Substitution Test. With the State of California increasingly focused on the potential for replacement of appliances that use natural gas with appliances that use electricity to address emissions reduction goals, the decision reformulated the test for fuel substitution savings to use the same baseline as other equipment in the EE portfolio. Additionally, the decision-imposed requirements for fuel substitution equipment to save energy and not harm the environment, as measured by greenhouse gas emissions. The decision also removed the requirement for fuel substitution to pass a cost-effectiveness threshold at the individual installation level and instead allows the cost-effectiveness calculation to be rolled into a PA's overall EE portfolio.

Decision Adopting Standard Contract for Energy Efficiency Local Government Partnerships

CPUC's August 2019 [Decision 19-08-006](#) adopted a standard contract for EE local government implementers, and associated implementation details.

Decision Addressing Workforce Requirements and Third-Party Contract Terms and Conditions

CPUC's October 2018 [Decision 18-10-008](#) required workforce standards for EE programs that involve large non-residential HVAC and lighting projects. The requirements were intended as a starting point that could grow into more far-reaching requirements in the future, including coordination with the California Energy Commission and the adoption of a "responsible contractor policy" as set forth by Senate Bill 350 (De Leon, 2015). The decision also required certain standard and modifiable terms and conditions that utility PAs must include in their contracts with third party designers and implementers of EE programs.

Decision Addressing Energy Efficiency Business Plans

CPUC's May 2018 [Decision 18-05-041](#) approved the EE business plans of the following PAs: PG&E, SDG&E, SCG, SCE, BayREN, SoCalREN, Tri-County REN and Marin Clean Energy. The business plans, sector strategies, and associated approved budgets run between 2018 and 2025. The decision included a required set of metrics to track progress and provided policy guidance in several areas, including incentive design.

Decision Addressing Third Party Solicitation Process for Energy Efficiency Programs

CPUC's January 2018 [Decision 18-01-004](#) approved a two-stage solicitation approach to soliciting third party program design and implementation services as part of the EE portfolio. The decision requires all IOUs to conduct a Request for Abstract solicitation followed by a full Request for Proposal stage.

Additionally, IOUs were required to utilize procurement review groups for design and conduct of solicitations, as well as hire an independent evaluator specifically for their EE expertise.

CPUC Decisions From 2021

While the following decisions do not impact the energy savings reported in this report, they will impact energy efficiency portfolios going forward.

Decision Regarding Energy Efficiency Actions to Enhance Summer 2022 and 2023 Electric Reliability

Developed in response to Governor Newsom's July 30, 2021 Emergency Proclamation, the CPUC approved [Decision 21-12-011](#) in December of 2021, which adopted several initiatives designed to produce emergency peak demand (during 4:00 p.m. - 9:00 p.m.) and/or net peak demand (during 7:00 p.m. - 9:00 p.m.) reductions through energy efficiency actions by the summers of 2022 and 2023.

This decision approved \$180 million in incremental energy efficiency budgets for program years 2022 and 2023 for two initiatives: a Market Access program funded at \$150 million statewide, to deliver peak and/or net peak demand savings using the normalized metered energy consumption method of measurement; and \$30 million statewide for third-party solicitations designed to produce peak and/or net peak demand savings.

Decision Adopting Energy Efficiency Goals for 2022-2032

[Decision 21-09-037](#) was approved by the CPUC in September 2021 and adopted energy savings goals for ratepayer-funded energy efficiency program portfolios for 2022-2032. It also provided updated guidance to PAs for 2022-2023 budget advice letters and 2024-2027 applications.

Based on the draft potential and goal study – a technical analysis for assessing the cost-effective energy savings, and associated system benefits, potentially available in the state's residential and commercial building stocks, residential and commercial equipment and processes, industrial sector, agricultural sector, and mining sector – this decision utilized a relatively new metric, total system benefit, for setting goals beginning in 2024. Total system benefit reflects the lifecycle energy, capacity, and greenhouse gas benefits of a measure in dollar terms, in contrast to the separate energy and peak demand (i.e., kilowatt-hour, kilowatt, and therm) goals that were traditionally adopted.

Decision Adopting Settlement Agreement on San Diego Gas & Electric Company's Upstream Lighting Program 2017-2019

The CPUC approved [Decision 21-09-002](#) in September of 2021, approving the settlement agreement between SDG&E, the Public Advocates Office of the California Public Utilities Commission, and The Utility Reform Network, related to SDG&E's administration of an upstream lighting energy efficiency program between 2017 and 2019. The settlement agreement provides for refunds to SDG&E customers in the amount of \$45.44 million, a return to customers of \$6.162 million in shareholder awards associated with

the program, and a fine in the amount of \$5.5 million for SDG&E knowingly submitting inaccurate information to the California Public Utilities Commission.

Decision Assessment of Energy Efficiency Potential and Goals and Modification of Portfolio Approval and Oversight Process

The CPUC approved [Decision 21-05-031](#) in May of 2021, which addressed policy issues surrounding the identification of energy efficiency potential and the setting of goals for PAs to achieve in the design and implementation of EE programs.

The decision adopted a new metric, called Total System Benefit, which combines and optimizes the energy and peak demand savings goals, along with greenhouse gas benefits of energy efficiency, into one metric.

The decision included a new approach to segmenting the energy efficiency program portfolios into programs whose primary purposes are resource acquisition, market support, or equity. A cost-effectiveness threshold will be applied to the resource acquisition programs, since those have readily identifiable costs and benefits that can be quantified.

The decision also addressed changes to the rolling portfolio framework and regulatory processes, with PAs required to file a budget advice letter covering program years 2022 and 2023 by September 1, 2021, and a new energy efficiency business plan (covering 2024-2031) and program portfolio filing (covering 2024-2027) due by February 15, 2022.

Decision Providing Directions for Implementation of School Energy Efficiency Stimulus Program

[Decision 21-01-004](#) was approved by the CPUC in January of 2021 and provided authorization and directions to the IOUs for accounting, seeking recovery, and reporting of funds for the School Energy Efficiency Stimulus Program enacted by the California Legislature in Assembly Bill 841, which was signed into law on September 30, 2020. The Stimulus Program aimed generally at improving ventilation and replacing old or inefficient plumbing fixtures to safely prepare schools for operating during the COVID-19 pandemic.

The decision reinforced language from AB 841 establishing requirements for the funding and transfer of funds from the IOUs to the PA, the California Energy Commission, including the deadline for IOUs to submit a joint filing by no later than February 1, 2021, and for the Commission to approve the joint filing no later than March 1, 2021.

Select CPUC Studies

For a list of all CPUC studies please visit: <https://pda.energydataweb.com/#/>

Impact Evaluation of Residential HVAC Measures – Program Year 2020

This [report](#) evaluated HVAC programs that installed smart thermostats, fan motor replacements, fan controls, and duct testing and sealing measures in program year 2020. The study found overall savings of 3.1

GWh and 141.7 MMTherms, and compared similar measures for 2019 and 2020, which showed that most of the individual savings estimates were broadly consistent over time. The study uses a “realization rate” as a metric to compare the evaluated savings as a percentage of the savings originally reported by PAs. Smart thermostats were found to have improved realization rates in 2020; duct testing and sealing continued to have high realization rates; and direct installs of smart thermostats, fan motor replacements, and fan motor controls continued to have low gross realization rates.

Nonresidential Deemed Lighting Impact Evaluation – Program Year 2020

This [study](#) evaluated energy savings from Light Emitting Diode (LED) indoor tubes and fixtures administered in commercial EE programs from PG&E, SCE, and SDG&E. Evaluators found that indoor LED technologies represented roughly 5.5 percent of total MWh lifecycle savings reported by programs statewide. Fixtures and lamps were found to have predominantly replaced fluorescent tubes and were fairly influential in a customer’s decision to install rebated LEDs. There were some differences in claimed hours of use for when lights were switched “on,” with some differences by sector; evaluators found that retail establishments and hotels/motels generally had higher hours-of-use than was claimed by PAs.

Nonresidential Deemed Pump and Food Service Impact Evaluation – Program Year 2020

This [study](#) evaluated agricultural pumping variable frequency drives (VFDs), energy efficiency water pumps for commercial applications other than wastewater treatment, and gas fryers in commercial food service. Evaluators found that out of the three technologies studied, only energy efficient pumps showed much lower energy savings than reported due to installed equipment efficiency being lower than expected – also, some of the pumps were not yet installed or otherwise inoperable. The agricultural pump VFD technology had lower than reported electric peak demand savings (MW) due to pumps infrequently operating during hours of the day when peak electric demand occurs. Additionally, the programs were found to have only a moderate-to-low influence on the installation of these technologies, although program influence was increasing for high-efficiency fryers.

Section 3 – Energy Efficiency Progress in Disadvantaged Communities

This section highlights the CPUC’s contributions towards advancing energy efficiency in disadvantaged communities (DAC), including an update on EE in the Environmental and Social Justice Action Plan, as well as the Energy Savings Assistance Program (ESA), which provides no-cost weatherization services to low-income consumers.

CPUC Efforts to Maximize EE in Disadvantaged Communities

CPUC Environmental and Social Justice Action Plan

The CPUC’s Environmental and Social Justice (ESJ) Action Plan² serves as both a commitment to furthering principles of environmental and social justice, as well as an operating framework to integrate ESJ considerations throughout the agency’s work. Version 1.0 of the CPUC’s ESJ Action Plan, adopted in February 2019, consisted of nine overarching goals, clear objectives, and 95 concrete action items to ensure agency-wide collaboration, accountability, and forward movement in meeting ESJ principles. Version 2.0 was adopted in April 2022 and made revisions to align itself with the State’s goal on promoting high road careers for economically or environmentally disadvantaged communities and outlined a workplan to achieve each of the nine goals.

The ESJ Action Plan 1.0 established a definition of “Environmental and Social Justice (ESJ) Communities” for the purposes of CPUC policy and programs, as predominantly communities of color or low-income communities that are underrepresented in the policy setting or decision-making process, subject to a disproportionate impact from one or more environmental hazards, and are likely to experience disparate implementation of environmental regulations and socioeconomic investments in their communities. DAC were specifically noted as a target in this definition.

A Status Report on Version 1.0 was published in May 2020, outlining progress made on implementing each of the action items in the ESJ Action Plan. The update noted the following EE impacts:

- IOUs successfully included a portfolio-level indicator to track participation of workers from disadvantaged communities in energy efficiency programs.
- IOUs included assessments of EE program outcomes in DAC within their 2018 annual reports and will continue to track and report on DAC metrics going forward.

² <https://www.cpuc.ca.gov/esjactionplan>

- Commission’s Administrative Law Judge Division to pilot addressing ESJ impacts in the California Alternative Rates for Energy (CARE)/ Energy Savings Assistance Program (ESA) proceeding, with language incorporated into the Scoping Memo.
- Programmable Communicating Thermostat pilots for ESA.
- ESA expanded to include common areas of multifamily buildings.
- Energy Upgrade California program contractor to work closely with community-based organizations on outreach and media, especially those that serve low-income, limited English and faith-based communities.

Version 2.0 of the Action Plan noted some of the following EE actions:

- Conduct more robust outreach to ESJ customer segments to understand EE program interest and satisfaction – set mechanisms to adjust programs based on this feedback.
- Consider streamlined single statewide application for customers to enroll in CARE, Family Electric Rate Assistance Program (FERA), and ESA.
- Leverage scale of CARE and ESA to share information with customers about affordable broadband and other clean energy programs.
- Implement an Equity Segment within EE portfolios that does not have to meet cost effectiveness criteria, with the intent to service historically or currently marginalized communities.

AB 841 (Ting 2020): School Energy Efficiency Stimulus Program

Governor Newsom signed Assembly Bill 841 into law in September 2020. The bill was created in response to the COVID-19 pandemic and economic recession, and provides direct financial support to California schools for building ventilation, energy efficiency, and plumbing fixtures. Bill language directed the program to prioritize underserved communities, with at least 25 percent of projects taking place in those communities.

The California Schools Healthy Air, Plumbing, and Efficiency Program (CalSHAPE), formerly called the School Energy Efficiency Stimulus Program, is funded by IOU rate-based collections, with the California Energy Commission (CEC) implementing the program. CEC’s initial funding round began in August 2021 and was only open to schools in underserved communities. CalSHAPE is expected to make available more than \$700 million through 2026.

Business Plans: CPUC adopts definition for disadvantaged communities and hard-to-reach customers

On May 31, 2018, the CPUC approved Decision (D.) 18-05-041, which authorizes annual funding for energy efficiency business plans for 2018-2025.

To maximize California’s energy efficiency savings goals and ensure no communities are left behind, as dictated by SB 350, the Energy Efficiency Business Plans include a refined definition of disadvantaged communities and hard-to-reach customers as well as the areas of overlap and distinction between communities in order to, among other things, identify unique barriers for each community and establish

appropriate rules when delivering energy savings programs to these customers.³ Different strategies to increase participation and effective delivery of energy efficiency measures in these areas are needed. To address this need and maximize the delivery of energy savings, the Energy Efficiency Business Plans provided the following clarifications:

- ***Disadvantaged communities***

The CPUC uses CalEPA’s method for identifying disadvantaged communities. CalEPA follows the Health and Safety Code Section 39711, which identifies disadvantaged communities as including but not limited to⁴:

Areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation.

*Areas with concentrations of people that are of low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment.*⁵

- ***Hard-to-reach***

The CPUC’s Energy Efficiency Policy Manual previously defined hard-to-reach residential customers as those customers who do not have easy access to program information or generally do not participate in energy efficiency programs due to a language, income, housing type, geographic, or home ownership (split incentives) barrier. Hard-to-reach business customers also include factors such as business size and lease (split incentive) barriers.⁶

However, the CPUC found this definition was too broad and open to interpretation. As a response, the CPUC adopted the hard-to-reach definition in Resolution G-3497. It clarifies that if a “customer does not meet the geographic criterion (i.e., they are not located in one of the identified metropolitan statistical areas), they must meet a total of three criteria to be considered hard-to-reach; and if a customer meets the geographic criterion, they must meet one other criterion to be considered hard-to-reach.”⁷

Disadvantaged Communities Advisory Group (DACAG)

Senate Bill 350 called for the creation of the DACAG, which was codified in Pub. Util. Code § 400(g). The Group held their first meeting in 2018 and is composed of 11 members representing disadvantaged communities from different parts of California. DACAG is charged with advising both the CPUC and California Energy Commission on how the agencies’ programs can reach and benefit communities burdened

³D.18-05-041 Page 3 & 39

⁴ D.18-05-041 Page 40

⁵ D.18-05-041 Page 39

⁶ Energy Efficiency Policy Manual (Version 5, July 2013), accessible from the CPUC’s energy efficiency webpage: <http://cpuc.ca.gov/egyefficiency/>

⁷ D.18-05-041 Page 43

by pollution and socio-economic challenges, including rural and tribal communities. Program areas include renewable energy, energy efficiency, and transportation electrification.

DAC are burdened by poverty and high unemployment⁸, and low-income households spend three times more as a proportion of income on energy than higher-income households, partially due to lack of weatherization.⁹ This emphasizes why energy efficiency programs are a critical need in DAC. Widespread use of efficient appliances, electronics, equipment, and lighting, along with better insulation and other weatherization, could significantly help reduce electric bills. This need is reflected in the DACAG guiding principles¹⁰, which are to:

- 1) Increase access to clean energy technologies for disadvantaged communities.
- 2) Maintain or enhance the affordability of energy service in disadvantaged communities, by considering the potential rate impacts of any proposed program.
- 3) Increase the benefits of clean energy programs in disadvantaged communities.

San Joaquin Valley Proceeding-AB 2672 (Perea 2014)

The CPUC opened proceeding R.15-03-010 to implement Assembly Bill 2672, codified as Public Utilities Code Section 783.5.1 to provide clean affordable energy options to disadvantaged communities in the San Joaquin Valley. These communities rely on propane and wood burning as sources of energy and AB 2672 aimed to ensure that these communities get access to clean affordable energy including energy efficiency technologies to maximize energy savings.

The pilot projects offer eligible San Joaquin Valley households that choose to participate in a no-cost replacement of their propane and wood burning appliances. Also, they will benefit from energy efficient appliance upgrades, weatherization, solar, energy storage, workforce training, and bill protection, among other benefits. The eleven pilots are comprised of electric and natural gas projects.

The CPUC is currently on the second phase of the proceeding to assess the scope, feasibility, and cost-effectiveness of the eleven pilots. The San Joaquin Valley Data Gathering Plan Findings Report¹¹ was completed by Opinion Dynamics in August 2021. The pilot projects and data gathering plan will inform Commissioners on the best ways to provide assistance to these communities.

Once the second phase is complete, the third and final phase will focus on a) evaluating progress with implementation of the authorized Pilot Projects and b) reviewing the data collected pursuant to the Data

⁸ <https://www.cpuc.ca.gov/discom/>

⁹ <https://www.nrdc.org/stories/energy-efficiency-clean-facts>

¹⁰ <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/infrastructure/disadvantaged-communities/dacag-charter-updated-march-2020.pdf>

¹¹ https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/infrastructure/disadvantaged-communities/sjv_dac_data-gathering_findings-report_vol1_final.pdf

Gathering Plan created in Phase II. Phase III will also utilize data collected in accordance with the Data Gathering Plan and evaluation of pilot projects to conduct the economic feasibility study required by AB 2672.

Energy Savings Assistance Program

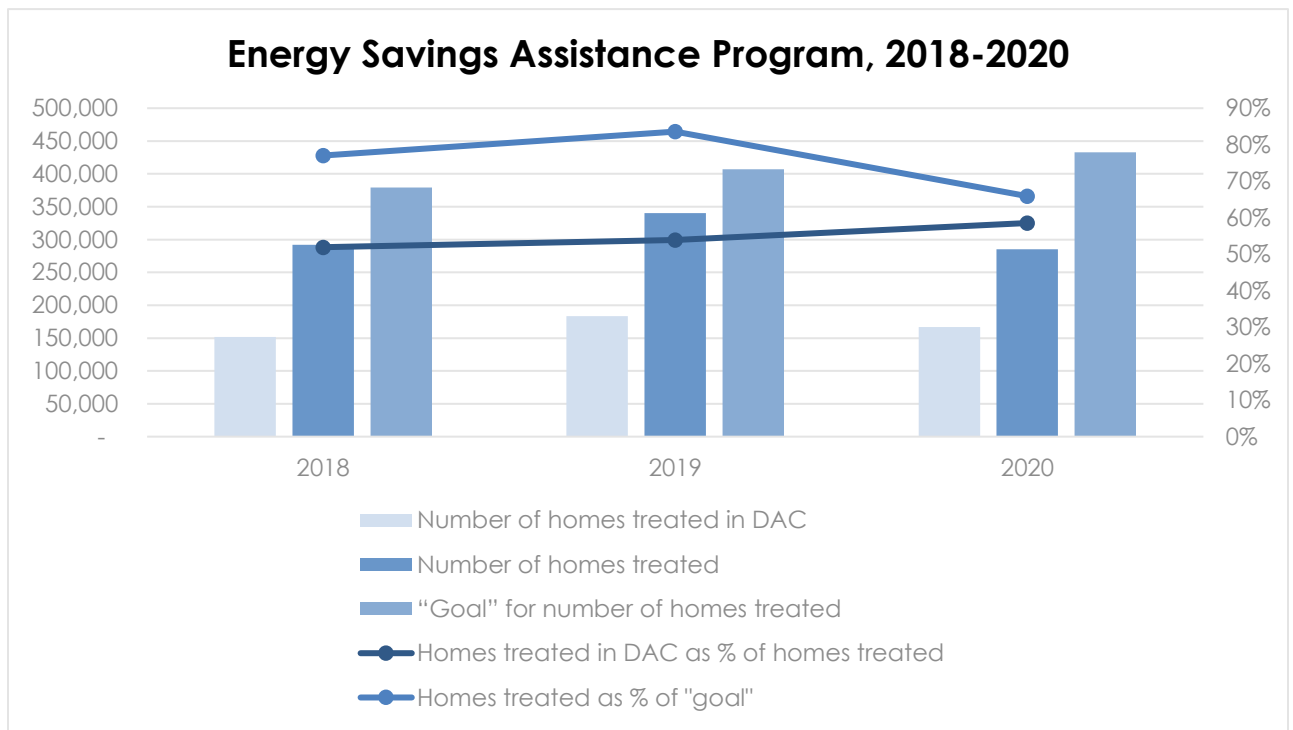
The CPUC established the ESA program to respond to the Public Utilities Code Section 2790 that requires an electrical or gas corporation to perform home weatherization services for low-income customers. A utility must balance the cost-effectiveness of the weatherization services and the policy of reducing the hardships facing low-income households. The ESA Program installs weatherization and energy efficiency equipment and provides minor home repairs and energy education at no cost to income-eligible program participants. Income eligibility for ESA participation is set at 200 percent or less of the Federal Poverty Guidelines (FPG), increasing to 250 percent of FPG starting July 1, 2022.¹²

The goal of ESA is to reduce energy consumption, while also increasing the health, comfort, and/or safety of the household. By December 31, 2020, the CPUC was required to ensure that all eligible low-income electricity and gas customers were given the opportunity to participate in the program.¹³ ESA aimed to treat an average of 406,000 low-income California households annually during the 2018-2020 period. The IOUs treated nearly 1 million homes from 2018-2020, which accounted for 75 percent of the 2018-2020 goal.

Although ESA is based on income eligibility and not determined by region (located in a disadvantaged community), there is often an overlap. Between 2018 and 2020, ESA treated more than 500,000 homes that were located in DAC, which made up more than half of total homes treated.

¹² The expanded eligibility is as a result of Senate Bill 756, approved by the Legislature and signed by the Governor in 2021.

¹³ Public Utilities Code Section 382 (e)



As part of a decision approved by the CPUC in June 2021¹⁴, new ESA budgets and goals were established for the 2022-2026 period. The decision shifted the program to focus on deeper energy savings and make ESA more customer-centric through increased data collection and household prioritization. The IOUs will be required to report regularly on ESA participation for a variety of customer segments, including households in DAC.

¹⁴ Decision 21-06-15

Conclusion

California is well known for its ambitious environmental goals and for developing policies and regulations to bolster the State's clean energy transformation. This report demonstrates the progress being made toward achieving electricity and natural gas efficiency savings for CPUC regulated utilities, as well as the contributions being made by the CPUC towards advancing EE in disadvantaged communities. As shown in the report, during the 2018-2020 period, the IOUs made meaningful headway towards achieving CPUC-established electricity and gas goals, although they did not reach the goals for all metrics. Specifically, IOU program administrators spent a total of \$1.6 billion and the EE program portfolio saved 1,885 gigawatt-hours of electricity, 354 megawatts of demand, and 108 million therms of natural gas, excluding additional energy savings resulting from the IOUs' codes and standards advocacy efforts.

Common Acronyms

- BRO** – Behavior, Retrocommissioning, and Operations
- C&S** – Codes and Standards
- CAEECC** – California Energy Efficiency Coordinating Committee
- CARE** – California Alternative Rates for Energy
- CCA** – Community Choice Aggregator
- CEC** – California Energy Commission
- CPUC** – California Public Utilities Commission
- DACAG** – Disadvantaged Communities Advisory Group
- DAC** – Disadvantaged Communities
- EE** – Energy Efficiency
- ESA** – Energy Savings Assistance Program
- FERA** – Family Electric Rate Assistance Program
- FPG** – Federal Poverty Guidelines
- GWh** – Gigawatt Hours
- HER** – Home Energy Reports
- HTR** – Hard to Reach
- HVAC** – Heating, Ventilation, and Air Conditioning
- IOU** – Investor-Owned Utility
- LED** – Light Emitting Diode
- MMTherms** – Million Therms
- MW** – Megawatt
- OBF** – On-Bill Financing
- PA** – Program Administrator

PG&E – Pacific Gas & Electric Company

REN – Regional Energy Networks

SCE – Southern California Edison

SCG – Southern California Gas Company

SDG&E – San Diego Gas Electric