Demand Side Analytics
DATA DRIVEN RESEARCH AND INSIGHTS

REPORT

CALMAC ID: SCE0455

SCE 2020 Demand Response Executive Summary

Submitted to Southern California Edison

By Demand Side Analytics, LLC

April 1, 2021

Confidential information is redacted and denoted with black highlighting: [redacted]

TABLE OF CONTENTS

Figures

Tables:

1 INTRODUCTION

This report summarizes the findings of Southern California Edison's (SCE) demand response load impact evaluations from program year 2020 (PY2020). The purpose of this report is twofold: first, to provide a high-level overview of the history, methods, impacts, and forecasts of each demand response program, and second to comply with the relevant decision[1] by the California Public Utilities Commission (CPUC or Commission) to provide a summary of PY2020 ex post and ex ante impacts.

There were seven demand response programs and one time-of-use pilot evaluated in 2020, some involving multiple customer segments, dispatch strategies, or notification strategies. They are grouped into three overall categories in Table 1. The composition of SCE's DR portfolio has changed over time, with programs such as Optional Binding Mandatory Curtailment (OBMC) and Scheduled Load Reduction Program (SLRP) not evaluated[2]. The Permanent Load Shifting, Demand Bidding Program, and Aggregator Managed Program are no longer available to customers and have not been evaluated since 2017. In 2014, the Commission issued Decision (D.) 14-12-024, which established steps toward full implementation of the bifurcation of demand response into load modifying and supply side resources, as well as the full integration of supply side resources into the California Independent System Operator (CAISO) energy market by 2018. In 2015, SCE began integration of its demand response resources into the California Independent System Operator (CAISO) wholesale energy market and began working towards bifurcation of its DR portfolio. In a move towards bifurcation, the Commission adopted new budget categories in D.17-12-003, thereby removing the old reliability and price-responsive categories.

[1] Decision D 10-04-006

[2] OBMC is not considered a demand response program by SCE as it is a program of last resort. SLRP has no participants enrolled and no expected future enrollment.

Table 1: Categorization of SCE DR Programs

Supply Side	Load Modifying	Pilot
Base Interruptible Program with 15-minute advance notice (BIP-15)	Critical Peak Pricing (CPP) - Large	Residential Time-of-Use Pricing Pilot Rate 4 (D-TOU 4)
Base Interruptible Program with 30 minute advance notice (BIP-30)	Critical Peak Pricing (CPP) - Medium	Residential Time-of-Use Pricing Pilot Rate 5 (D-TOU 5)
Agricultural and Pumping Interruptible Program (AP-I)	Critical Peak Pricing (CPP) - Small	
Capacity Bidding Program with Day-ahead Notification (CBP-DA)	Real Time Pricing (RTP)	
Capacity Bidding Program with Day-of Notification (CBP-DO)		
Summer Discount Plan – Commercial (SDP-C)		
Summer Discount Plan – Residential (SDP-R)		
Smart Energy Program (SEP)		

Each evaluation for the programs and pilot listed above was done in compliance with the California Demand Response Load Impact Protocols[3], which specify the frequency, format, and results required when performing a load impact evaluation. This framework is intended to provide regulators, program staff, and other interested parties key facts about the performance of each program in a consistent manner. While the load impact protocols do not specify the exact analysis to be performed for each program, they do specify the required results of each analysis. At a high level, these requirements include:

- **Ex Post Impacts:** an estimate of demand reduction by hour for each program and event day, subset in to key segments;
    - Impact estimates for each of the 24 hours on various event day types for event based resource options and other day types for non-event based resources;
    - Estimates of the change in overall energy use in a season and/or year;
- **Uncertainty adjusted impacts**, reported for the 10th, 30th 50th, 70th, and 90th percentiles, reflecting the uncertainty associated with the precision of the model parameters and potentially reflecting uncertainty in key drivers of demand response, such as weather;
- **Ex Ante estimates:** using prior performance to provide a 11-year forecast of program demand response capability under standard weather scenarios;
    - Ex ante estimates that utilize all relevant information from ex post evaluations whenever possible, even if it means relying on studies from other utilities or jurisdictions;

[3] Relevant decisions can be found here: CPUC Rulemaking (R.) 07-01-041, D.08-04-050, and the full load impact protocols can be found here: http://www.calmac.org/events/FinalDecision_AttachementA.pdf

- **Documented methods:** Various statistical measures so that reviewers can assess the accuracy, precision and other relevant characteristics of the impact estimates;
    - Standardized outputs that utilize a common format;
    - Ex Post and Ex Ante estimates rely on slightly different formats, however they are consistent across programs;
    - Detailed reports that document the evaluation objectives, impact estimates, methodology, and recommendations for future evaluations.

This report compiles the results of each evaluation and presents the high-level methodology, ex post impacts, ex ante impacts, and recommendations for each program and pilot. Much more detail for each evaluation can be found in the evaluation reports:

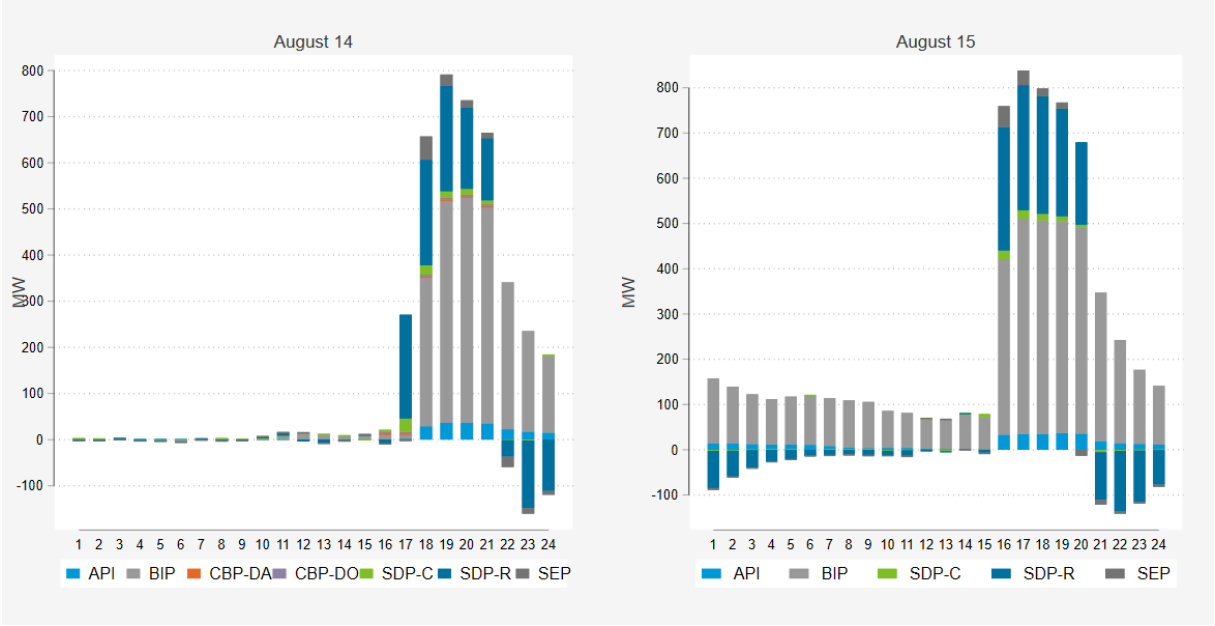
- 2020 Statewide Load Impact Evaluation of California Capacity Bidding Programs, *Applied Energy Group*
- 2020 Statewide Load Impact Evaluation of California Non-Residential Critical Peak Pricing Programs, *Applied Energy Group*
- 2020 Load Impact Evaluation of California Statewide Base Interruptible Programs (BIP) for Non-Residential Customers: Ex Post and Ex Ante Report, *Christensen Associates Energy Consulting*
- 2020 Smart Energy Program Load Impact Evaluation, *Demand Side Analytics*
- 2020 SCE Summer Discount Plan Program Year 2019 Load Impact Evaluation, *Demand Side Analytics*
- 2020 SCE Real Time Pricing Demand Response Evaluation, *Demand Side Analytics*
- 2020 SCE Agricultural & Pumping Interruptible Demand Response Evaluation, *Demand Side Analytics*
- 2020 Load Impact Evaluation of Southern California Edison's Default Time of Use Pilot, *Nexant*

1.1 2020 SYSTEM EMERGENCY DAYS

The summer of 2020 brought two large heat waves to California. On August 14 and August 15, almost the entire SCE DR portfolio was dispatched to assist with the system's recovery[4]. The figure below portrays the aggregate hourly impacts from the SCE portfolio on August 14 and August 15 for all hours of the day. For more detail on program ex post impacts see Section 4.

[4] CPP was not dispatched on either day, and CBP (DA and DO) was dispatched on August 14 only. All other programs were dispatched on both days.

Figure 1: SCE Portfolio Delivery on System Emergency Days



The remainder of this report proceeds as follows:

- Section 2 provides an overview of each DR program, including key facts about program eligibility, incentives, and dispatch method;
- Section 3 reviews key evaluation methods relevant to all programs, and then reviews program-specific evaluation methods;
- Section 4 provides a summary of ex post impacts;
- Section 5 summarizes ex ante results for each portfolio-level DR program;
- Section 6 provides program-specific recommendations; and
- Additional impact estimates and other evaluation materials can be found in the appendices.

2 OVERVIEW OF DEMAND RESPONSE PROGRAMS

SCE has a variety of residential, commercial, agricultural, and industrial demand response programs available for eligible customers. For reporting purposes, they are grouped in to three categories: supply side programs, load modifying programs, and pilots.

The following sections will summarize the eligibility and dispatch conditions for each program, but at a high level, the programs can be grouped as follows:

- **Supply Side Programs:** Programs that are bid into the CAISO wholesale energy market. Dispatch is based upon CAISO market awards.
- **Load Modifying Programs:** Tariffed dynamic pricing programs that reshape or reduce the net load curve.
- **Pilots:** Programs or activities that may be deployed for longer time horizons and typically include permanent load shifting either from a device or through rate-based mechanisms.

2.1 SUPPLY SIDE PROGRAMS

SCE has five supply side programs that are dispatched based upon CAISO market awards. These programs are bid into the CAISO market as Reliability Demand Response Resources (RDRR) or Proxy Demand Response (PDR) resources.

BASE INTERRUPTIBLE PROGRAM

The Base Interruptible Program (BIP) is a statewide voluntary program that offers customers a monthly capacity bill credit in exchange for the commitment to reduce their energy consumption to an amount that meets the customer's minimum operational requirements, also known as a Firm Service Level ("FSL"), when notified of an emergency situation or M&E event. Notification is provided 15 or 30 minutes before an event based on the program option selected by the customer.

All three of California's IOUs offer BIP. SCE's BIP is designed for customers and aggregators with demands of 200 kW and above. The program includes two participation options:

- Option A, which requires a customer or Aggregated Group to reduce its demand to its FSL within 15 minutes of a Notice of Interruption; and
- Option B, which requires a customer or Aggregated Group to reduce its demand to its FSL within 30 minutes of a Notice of Interruption.

Interruption events for an individual BIP customer or aggregated group are limited to one event per day (lasting no more than 6 hours), ten in any calendar month, and 180 hours per calendar year. BIP differs from price-responsive DR programs in that incentive payments are provided regardless of whether events are called, and excess energy charges are assessed if customers fail to reduce consumption to their FSL. Non-performing customers may also have their FSL reset or be removed from the program. An interruption event may be called by the California Independent System Operator ("CAISO") or SCE at any time during the year.

Agricultural and Pumping Interruptible Program

The Agricultural & Pumping Interruptible (AP-I) program is a longstanding demand response program in SCE's territory. In exchange for a monthly bill credit, customers agree to participate in DR events with no notice. During an event, a signal is sent to a switch installed on customer pumps or other agricultural load. At the end of an event, SCE sends another signal to switch pumps back on; however, a subset of pumps must be manually restarted. Events can be called for CAISO Emergencies, SCE load reduction, system contingencies, or program evaluation. Events can be called for up to 6 hours per each, up to 40 hours per month, or up to 150 hours per year. Events cannot be called more than once per day or more than four times in a week. Participation incentives are dependent on customer size and take the form of monthly demand charge credits.

Summer Discount Plan

The Summer Discount Plan (SDP) program is a voluntary demand response program that provides incentives to customers who allow SCE to curtail or reduce the use of their central air conditioner on summer days with high energy usage or high energy prices. All SDP participants have a load cycling switch device installed on at least one air conditioner unit. The device enables SCE to cycle the customer's air conditioner off and on to reduce load during an SDP event. SCE initiates events by sending a signal to all participating devices through radio frequency transmission. The signals instruct the switch devices to either fully curtail the use of the air conditioning system or to cycle the air conditioner on and off, reducing the run time of the unit during events, thus reducing demand. While the underlying technology for load control is the same, the program has multiple program options which allow participants to choose the extent of their commitment. Residential customers can elect to have their central air conditioning units cycled 50% or 100% of the time during an event and commercial customers have the option of choosing between 30%, 50% or 100% cycling. The incentive payments vary based on their level of commitment and the ability of residential customers to opt-out of any given event (commercial and residential customers with a rooftop A/C cannot opt out).

SCE may dispatch SDP any month of the year, but total program dispatch is limited to 180 event hours annually. On a single day, dispatch of SDP is limited to a maximum of 6 hours. While the program is designed to deliver flexible resources under system peaking conditions, SDP resources may be dispatched due to: grid operator warnings or emergencies; adverse reliability conditions on SCE's electric system such as high peak demand of loss of key transmission lines; high wholesale energy prices (based on CAISO bid awards); and program evaluation.

Smart Energy Program

The Smart Energy Program (SEP) is a technology-enabled program in which residential customers with a qualified smart thermostat are provided a monthly bill credit in exchange for allowing their smart thermostat provider to temporarily adjust their temperature set point. During SEP events, thermostat providers can adjust cooling set points upward by as much as four degrees (F) to limit air conditioning usage during peak hours. Multiple events can be called on a single day, but the number of hours of

control cannot exceed four hours in a given day. Dual enrollment in Critical Peak Pricing (CPP), dispatchable pricing tariffs, or the Summer Discount Plan (SDP) program is prohibited.

SEP has evolved considerably in recent years from its predecessor program, Save Power Day (SPD). It now relies exclusively on direct load control of central air conditioning systems through Wi-Fi connected smart thermostats. Participants may be sent a courtesy notification up to three hours prior to event dispatch, but are not expected to take any action in response to the event signal.

Events can be called year-round, though customers only receive bill credits for June through September participation. SEP events can be dispatched, or triggered, for multiple reasons: CAISO emergency conditions; at the discretion of SCE's grid control center for load relief in SCE service territory; in response to high wholesale energy prices (e.g. economic dispatch); for program measurement and evaluation or system contingencies. SEP economic dispatch is limited to 40 hours per year and can only be activated on non-holiday weekdays from 11:00 am to 9:00 pm. SEP dispatch for triggers emergency conditions, load relief, and form measurement and evaluation can be activated at any time including weekends and holidays. No more than 180 hours of SEP events can be called in a calendar year for all dispatch triggers combined.

Capacity Bidding Program

The Capacity Bidding Program (CBP) is a statewide price-responsive program launched in 2007. In CBP, aggregators are entities that contract with eligible residential[5] and non-residential utility customers to act on their behalf with respect to all aspects of the demand response program, including the receipt of notices (day-ahead, DA, or day-of, DO) from the utility under this program, the receipt of incentive payments, and the payment of penalties to the utility. Each aggregator forms a portfolio of individual customers who then participate on an aggregate basis to provide load reduction during events. The aggregators enroll participants under the terms of their own contracts to provide the load reduction capacity. The utilities are not directly involved in the contracts between the aggregators and the participating customers. A few customers are enrolled as individual participants in CBP and are classified as self-aggregated. Participating aggregators must have Internet access. Enrolled customers must have a qualifying interval meter and receive Bundled, Direct Access, or Community Choice Aggregation service. Customers enrolled in CBP may participate in another DR program, so long as it is an energy-only program (e.g. cannot have a capacity payment component) and does not have the same notification type (Day Ahead or Day Of).

[5] Since PY2018, the program was open to residential customer enrollment statewide, but SCE does not yet have a residential option for CBP.

CBP provides monthly capacity payments ($/kW) to aggregators based on the nominated kW load, the specific operating month, the event duration, and the event notice option. Delivered capacity determines performance. If a CBP aggregator's delivered capacity is less than 60% for SCE, the aggregator is assessed a penalty. If no events are called, CBP aggregators receive the full monthly capacity payment in accordance with their nominations, but no energy payments.[6] Additional energy payments ($/kWh) are made to the aggregator[7] based on the measured kWh reductions (relative to the program baseline) that are achieved when an event is called.

For SCE, CBP events can be triggered by any of the following conditions: high temperatures, resource limitations, a generating unit outage, transmission constraints, a system emergency, an alert called by the CAISO, or market prices go above a given price threshold. Events can be called on any non-holiday weekday year-round, between the hours of 3 PM and 9 PM, with a maximum of five events and 30 event hours per month.

2.2 LOAD MODIFYING PROGRAMS

Load modifying programs are dispatched for economic, weather, or other conditions, instead of CAISO market awards. Load modifying programs are defined as resources that reshape or reduce the net load curve.[8]

CRITICAL PEAK PRICING

The Critical Peak Pricing (CPP) program offers a peak-hour energy price or demand charge reduction in exchange for higher CPP-period energy prices. For SCE, there are 12 events per year called between 4 PM and 9 PM. Customers are provided advanced notice so that they can adjust behavior and schedules. Large commercial customers were defaulted on to CPP rates in 2010, while small and medium businesses (SMB) could opt in to the program starting in 2014[9]. A default rollout to the remaining non-participant SMB customers was completed in 2019.

REAL TIME PRICING

The Real Time Pricing (RTP) program is a variable tariff-based demand response program for commercial and industrial customers in SCE's territory. Each day, the next days' hourly prices are tied directly to the daily maximum temperature in Downtown Los Angeles, grouped in to one of seven day types: Hot Summer Weekday, Moderate Summer Weekday, Mild Summer Weekday, High Cost Winter Weekday, Low Cost Winter Weekday, High Cost Weekend and Low Cost Weekend. The rate is available

[6] Customers participating directly receive up to 80% of the available capacity payment; aggregators receive 100% of the capacity payment for the load reduction received. Note that all of SCE's CBP customers participate through an aggregator.
[7] Customers participating directly receive any additional energy payments directly.
[8] D.17-12-003, page 36.
[9] There is a very small population of residential customers enrolled in the CPP programs, but not reported separately.

to commercial, industrial, and agricultural customers on rates TOU-8, TOU-8 Standby, TOU-GS1, TOU-GS2, TOU-GS3, TOU-PA2 and TOU-PA3. Customers may be dually enrolled in AP-I or BIP.

2.3 PILOTS

These tariffed programs or activities are quite different from the others in that they provide continuous load reductions rather than solely on event days or event "dispatch". Often these are rate-based in that they provide a financial incentive to shift usage away from the peak on each day.

RESIDENTIAL DEFAULT TIME-OF-USE PRICING PILOT

The default TOU pilot tested two different TOU rate options: Rate 4 and Rate 5. Approximately 400,000 households were assigned to one of the TOU rates (200,000 to each rate), and an additional 200,000 were retained in the study on the standard tiered rate to act as a control group for those who were placed on the new tariffs. After receiving multiple notifications regarding the fact that their rate will change if they did not take action by a certain date, customers had the option of opting out prior to the rate change and staying either on their otherwise applicable tariff or choosing an alternative rate plan other than the one they were to be defaulted on. If a customer took no action, they were placed on the default rate associated with their assigned group. At the end of the summer period in 2020, there were approximately 118,000 pilot customers still enrolled on each rate.

2.4 PROGRAM ENROLLMENT

Program enrollment is a big driver of aggregate ex ante portfolio impacts in the demand response portfolio. Table 2 summarizes SCE-projected enrollment from 2021 through 2031. In general, total portfolio program enrollment is projected to increase, driven primarily by the default of residential customers on to Time of Use rates, and by large increases in the SEP. Legacy AC cycling programs such as SDP-R and SDP-C will decline over time, while the RDRR programs – AP-I and BIP – will see moderate increases in enrollment as the programs are currently under SCE's reliability cap[10].

[10] Appendix 10 summarizes progress toward the reliability cap.

Table 2: SCE DR Portfolio Projected Enrollments for 2021-2031 by Program

Type	Program	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Supply Side Programs	AP-I	1,067	1,153	1,239	1,325	1,411	1,497	1,583	1,669	1,755	1,841	1,927
	BIP15	46	47	48	49	50	51	52	53	54	55	56
	BIP30	305	312	319	326	333	340	347	354	361	368	375
	CBP DA	410	410	410	410	410	410	410	410	410	410	410
	CBP DO	380	380	380	380	380	380	380	380	380	380	380
	SDPC	7,457	6,776	6,163	5,611	5,113	4,664	4,259	3,892	3,559	3,258	2,985
	SDPR	189,795	191,614	183,372	173,446	164,345	155,979	148,270	141,145	134,541	128,402	122,677
	SEP	59,498	77,727	92,015	104,372	115,060	124,303	132,298	139,212	145,192	150,364	154,838
	Subtotal	**258,958**	**278,419**	**283,946**	**285,919**	**287,102**	**287,624**	**287,599**	**287,115**	**286,252**	**285,078**	**283,648**
Load Modifying Programs	CPP Large	1,841	1,858	1,928	1,996	2,065	2,134	2,134	2,134	2,134	2,134	2,134
	CPP Medium	28,543	28,823	29,884	30,946	32,006	33,068	33,068	33,068	33,068	33,068	33,068
	CPP Small	225,091	227,293	235,660	244,027	252,395	260,763	260,763	260,763	260,763	260,763	260,763
	RTP	74	71	68	65	65	65	65	65	65	65	65
	Subtotal	**255,549**	**258,045**	**267,540**	**277,034**	**286,531**	**296,030**	**296,030**	**296,030**	**296,030**	**296,030**	**296,030**
Pilots	Residential TOU	700,556	2,569,105	2,520,691	2,477,821	2,439,860	2,406,246	2,376,481	2,350,125	2,326,787	2,306,121	2,287,821
	Subtotal	**700,556**	**2,569,105**	**2,520,691**	**2,477,821**	**2,439,860**	**2,406,246**	**2,376,481**	**2,350,125**	**2,326,787**	**2,306,121**	**2,287,821**
Total	**Total**	**1,215,063**	**3,105,569**	**3,072,177**	**3,040,774**	**3,013,493**	**2,989,900**	**2,960,110**	**2,933,270**	**2,909,069**	**2,887,229**	**2,867,499**

2.5 IMPACT OF COVID-19 ON SCE DEMAND RESPONSE PROGRAMS

In March of 2020, the COVID pandemic created mass shutdowns across the United States. As many businesses in the SCE territory closed, residents were forced into spending more time at home. Lockdowns varied in severity over the course of 2020, but many of SCE's DR participants were affected by the pandemic throughout the PY2020 DR season. The impact of COVID on program participants varied depending on the type of customers enrolled in the program. An overview of the effect of COVID-19 on each program is summarized in the remainder of this section.

BASE INTERRUPTIBLE PROGRAMS (BIP)

BIP customers are largely industrial and generally exhibited a reduction in load in response to the COVID-19 pandemic, likely due to reduced production or occupancy as a result of shutdowns.

AGRICULTURAL AND PUMPING INTERRUPTIBLE PROGRAM (AP-I)

Overall, COVID-19 did not have a significant impact on AP-I customer loads. Customer load profiles are marginally higher in the post-COVID period. Since the agricultural businesses that participate in the AP-I program were essential businesses, their operations were likely not as affected by the pandemic as other industries, such as retail or schools.

SUMMER DISCOUNT PLAN PROGRAM (SDP)

Residential peaks were slightly higher in 2020 compared to prior years, likely due to shelter-in-place orders that had a portion of the workforce working from home and many schools pivoting to distance learning. Daily energy use shows a similar trend – slightly higher in 2020, especially at higher temperature ranges.

On the commercial side, it is important to keep in mind that the majority of SDP-C devices and tonnage are in schools. Perhaps more so than any other customer segment, COVID-19 disrupted typical load patterns in schools because most school districts pivoted to distance learning. In a distance learning framework, the school buildings themselves are without students. Instead, students log in and follow along from home. As a result, peak SDP-C participant loads were more than 25% lower in 2020 relative to prior years. Daily energy use for SDP-C participants was also down considerably in 2020 relative to pre-COVID years.

CRITICAL PEAK PRICING (CPP)

On average, COVID conditions resulted in a 13% reduction in on-peak consumption for SCE's CPP participants. The COVID effects are approximately 10% for both the large and medium customers groups, while the effect for the small group is slightly larger at 13%. This aligns with the expectation that the shutdowns and stay-at-home orders impacted small businesses more than larger businesses in 2020. It is also possible that COVID-19 conditions affected how customers responded to CPP events. Given the depressed economic conditions across the country, it is possible that participants had

additional incentive to save energy (and money) over the summer of 2020. Reduced capacities at many retail and restaurant locations may have also facilitated an additional response to prices.

Capacity Bidding Program (CBP)

AEG worked collaboratively with the IOUs to determine the most appropriate approach for addressing COVID-19 effects within the analysis. In this case, because CBP is an aggregator nomination-based program, which effectively causes the population to change dramatically from year to year, AEG determined the most appropriate approach was not to make any assumptions about how COVID-19 conditions affected CBP participants.

Smart Energy Program (SEP)

Residential reference loads were generally higher during the pandemic. The shape of the reference loads also changed slightly, with higher usage during the peak period (4-9 PM) and a smoother ramp-up in usage in the mornings. Due to extreme heat and COVID stay-at-home orders, weekend days also look more similar to weekdays in the summer of 2020.

Real Time Pricing Program (RTP)

RTP customers are mainly large industrial customers who saw moderate declines in consumption. The participant loads in the summer of 2020 were lower than in the prior year. The relationship between temperature and loads, where temperature is a proxy for the RTP rate schedule that a customer experienced, is consistent from year to year, albeit starting from a lower base in 2020.

Residential Default Time of Use Rate Pilot (TOU)

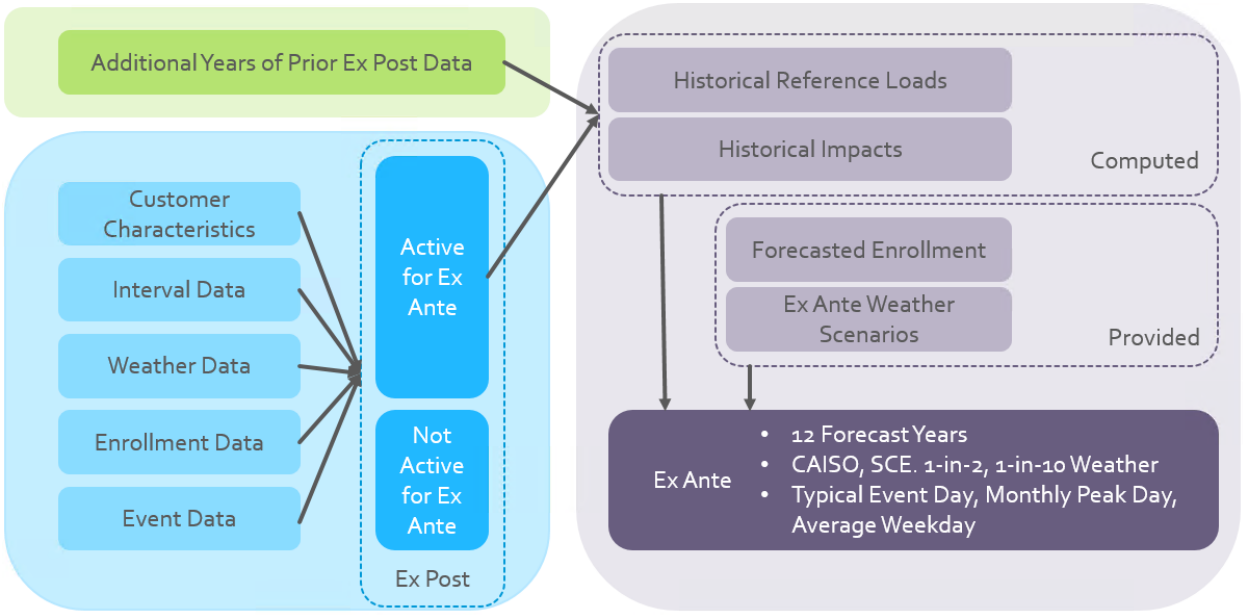
For both TOU rates, it is possible that the COVID-19 pandemic had an effect on customers' abilities to shift consumption because of changing work schedules or home occupancy levels throughout the day.

3 METHODOLOGY

The primary goal of any load impact evaluation is to answer two key questions: what were the historic ex post load impacts in the prior evaluation period (i.e. – what are the *ex post* impacts), and what are the estimates of program load impacts going forward (i.e. – what are the *ex ante* impacts)? This second question is of particular importance, as it can be leveraged for long-term resource planning, DR impacts for resource adequacy, and other progress reporting. Ex post impacts can similarly be leveraged for customer settlement payments; however, it is our understanding that none of SCE's programs rely on ex post impacts for customer settlement.

Figure 2 summarizes the general process of generating both ex post and ex ante impacts. The process begins with ex post impact estimation, which begins with answering the question of what load reductions were generated as a result of program dispatch in the prior year. This analysis requires several key pieces of information, including customer characteristics and enrollments, granular customer load data, weather and system load data, and historic event data. For customers who will remain enrolled in the program, impacts are combined with prior years of ex post data and results. The inclusion of additional data is recommended to be able to model a wider range of program conditions for ex ante. Using the provided ex ante weather conditions, along with that year's ex post results and historical results, ex ante impacts are modeled for a standard set of weather scenarios. Enrollment forecasts are provided to scale up per-customer results to their aggregate capability.

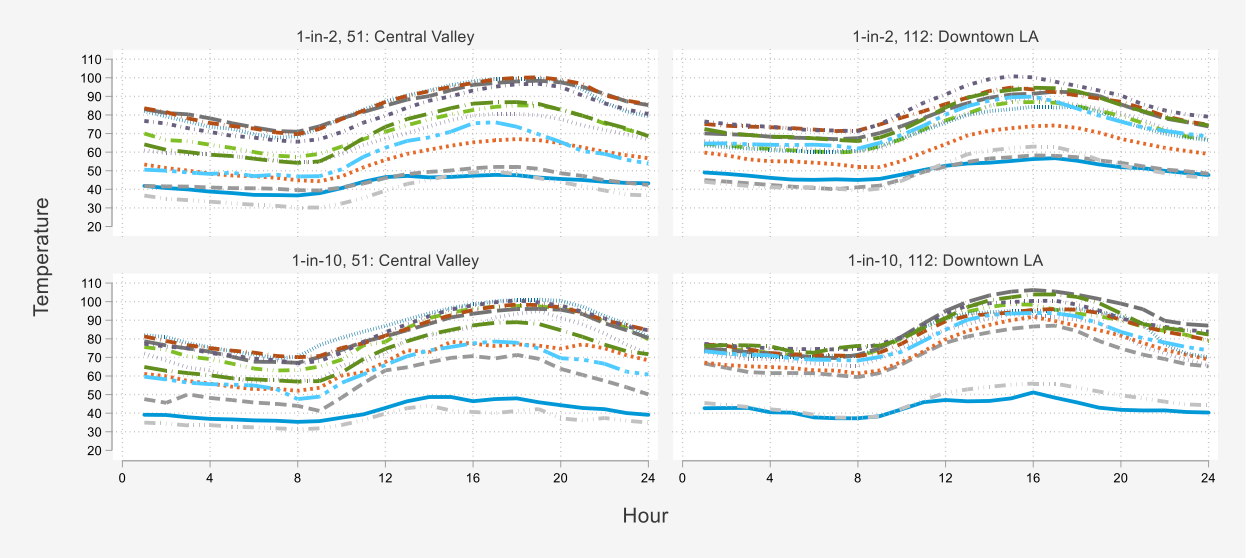
Figure 2: High Level Impact Evaluation Process



3.1 SELECTION OF EX ANTE WEATHER CONDITIONS

To produce ex ante impacts under standard conditions, four weather scenarios are used to predict reference loads and impacts for each program. These weather scenarios are generated to reflect temperature conditions under peaking conditions for either SCE or CAISO in an average year (1-in-2) and an extreme year (1-in-10). Figure 3 summarizes ex ante weather conditions for each month for two SCE weather stations during average or extreme weather years. While the ranges represented in this figure vary slightly from scenario to scenario, 1-in-10 summer days are hotter overall than 1-in-2 summer days. Temperature profiles also vary from station to station and scenario to scenario, with Downtown Los Angeles reaching its daily maximum temperature earlier in the day than the station located in the Central Valley. Ex ante weather scenarios were produced for both CAISO and SCE average and extreme conditions for each SCE weather station, for the average monthly weekday, a monthly system peak day, and for a typical August event day.

Figure 3: Ex Ante Weather Conditions on SCE 1-in-2 and 1-in-10 Monthly Peak Days



3.2 OVERVIEW OF EVALUATION METHODS

The primary challenge of impact evaluation is the need to accurately detect changes in energy consumption while systematically eliminating plausible alternative explanations for those changes, including random chance. Did the dispatch of demand response resources cause a decrease in hourly demand? Or can the differences be explained by other factors? To estimate demand reductions, it is necessary to estimate what demand patterns would have been in the absence of dispatch – this is called the counterfactual or reference load. At a fundamental level, the ability to measure demand reductions accurately depends on four key components:

- **The effect or signal size** – The effect size is most easily understood as the percent change. It is easier to detect large changes than it is to detect small ones. For most DR programs, the percentage change in demand is relatively large.

- **Inherent data volatility or background noise** – The more volatile the load, the more difficult it is to detect small changes. Energy use patterns of homes with air conditioners tend to be more predictable than industrial load patterns.
- **The ability to filter out noise or control for volatility** – At a fundamental level, statistical models, baseline techniques, and control groups – no matter how simple or complex – are tools to filter out noise (or explain variation) and allow the effect or impact to be more easily detected.
- **Sample/population size** – For most of the programs in question, sample sizes are irrelevant because we plan to analyze data for the full population of participants either using AMI data or thermostat runtime. Sample size considerations aside, it is easier to precisely estimate average impacts for a large population than for a small population because individual customer behavior patterns smooth out and offset across large populations.

A key factor for many, but not all, demand response resources is the ability to dispatch the resource. The primary intervention – demand response dispatch – is introduced on some days and not on others, making it possible to observe energy use patterns with and without demand reductions. This, in turn, enables us to assess whether the outcome – electricity use – rises or falls with the presence or absence of demand response dispatch instructions.

In general, there are seven main methods for estimating demand reductions, as summarized in Table 3. The first four only makes use of usage patterns during days when DR is not dispatched to calculate the baseline. The latter three methods incorporate non-event data but also use an external control group to establish the baseline. The control group consists of customers who are similar to participants, experienced the same event day conditions, but are not dispatched during events (or were not transitioned to time-varying pricing). Control and participant groups should have similar energy usage patterns when the intervention is not in place and diverge when the intervention is in effect. The only systematic difference between the two groups should be that one is dispatched for events (or transitioned to time-varying prices) while the other group is not.

Table 3: Methods for Demand Response Evaluation

General Approach		Method	Method Description
Use non-event days only to establish the baseline	1	Day matching baseline	This approach relies on electricity use in the days leading up to the event to establish the baseline. A subset of non-event days in close proximity to the event day are identified (e.g., Top 3 of 10 prior days). The electricity use in each hour of the identified days is averaged to produce a baseline. Day matching baselines are often supplemented with corrections to calibrate the baseline to usage patterns in the hours preceding an event – usually referred to as in-day or same-day adjustments.
	2	Weather matching baseline	The process for weather matching baselines is similar to day-matching except that the baseline load profile is selected from non-event days with similar temperature conditions and then calibrated with an in-day adjustment.
	3	Regression models (interrupted time series)	Regression models quantify how different observable factors such as weather, hour of day, day of week, and location influence energy use patterns. Regression models can be informed by electricity use patterns in the day prior (day lags) and in the hours before or after an event (lags or leads) and can replicate many of the elements of day and weather matching baselines.
	4	Machine learning (w/o external controls)	Most machine learning approaches (e.g., random forest, neural networks, etc.) rely exclusively on non-event day data to establish the baselines. The algorithms test different model specifications and rely on a training and testing datasets (out-of-sample testing) to identify the best model and avoid overfitting.
Use non-event days plus a control group to establish the baseline	5	Matched control groups	Matching is a method used to create a control group out of a pool of nonparticipant customers. This approach relies on choosing customers who have very similar energy use patterns on non-event days and a similar demographic and geographic footprint. The non-event day data is incorporated by either analyzing the data using a regression model, a difference-in-differences model, or both.
	6	Synthetic control groups	This approach is similar to matching except that multiple controls are used and weighted according to their predictive power during a training period. A key advantage of this approach is that it can be used to produce results for individual customers.
	7	Randomized control trials	Participants are randomly assigned to different groups, and one group (the "control" group) is withheld from dispatch to establish the baseline. The control group provides information about what electricity use would have been in the absence of DR dispatch – the baseline. The estimate is refined by netting out any differences between the two groups on hot non-event days (difference-in-differences).

Approaches that use an external control group typically provide more accurate and precise results on an aggregate level when there are many customers (i.e., several hundred). They also make use of non-event days to establish the baseline but have the advantage of also being informed by the behavior of the external control group during both event and non-event days. Except for synthetic controls, the two fundamental limitations to control groups have been: the limited ability to disaggregate results, and the inability to use control groups for large, unique customers. The precision of results for control group

methods rapidly decrease when results are disaggregated, and a control group cannot be used to estimate outcomes for individual customers (except for synthetic controls).

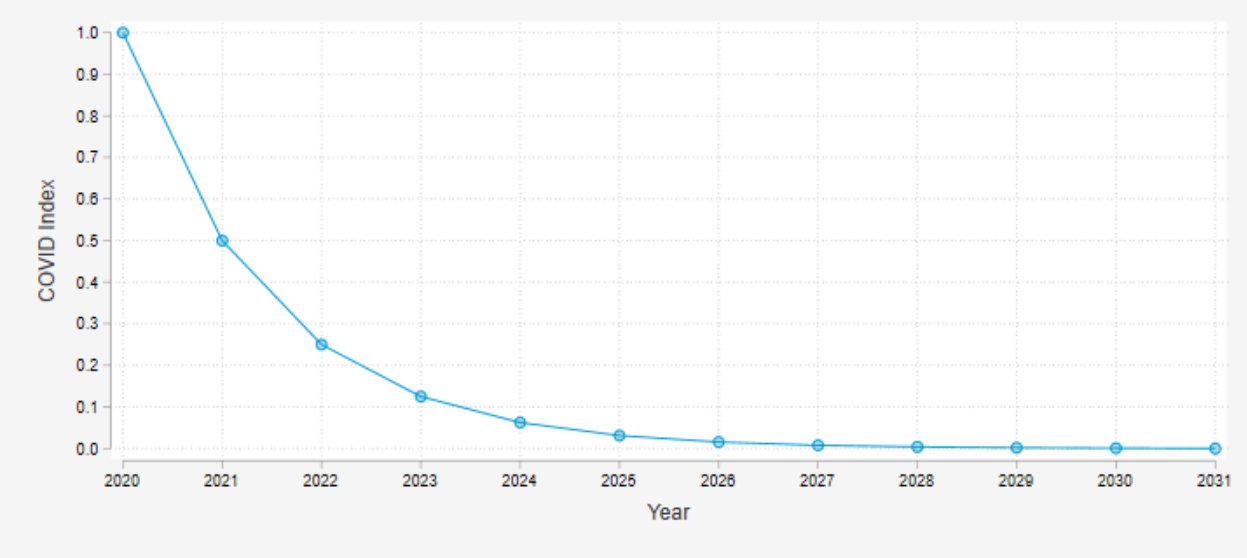
Methods that rely only on non-event days to establish the baseline – such as individual customer regressions – are typically more useful for more granular segmentation. Individual customer regressions have the benefit of easily producing impact estimates for any number of customer segments. Because they are aggregated from the bottom up, the results from segments add up to the totals. However, the success of individual customer regression hinges on having non-event days comparable to event days. When most of the hottest days are event days, as has been the case historically, estimating the counterfactual requires extrapolating trends to temperature ranges that were not experienced during non-event days. This produces less accurate and less reliable demand reduction estimates for the hottest days when resources are needed most.

3.3 INCORPORATING COVID-19 EFFECTS

In March of 2020, the COVID pandemic created mass shutdowns across the United States. As many businesses in the SCE territory closed, residents were forced into spending more time at home. Lockdowns varied in severity over the course of 2020, but all PY2020 events after March 20 are assumed to have occurred under a full COVID scenario. The impact of COVID on program performance varied depending on the type of customers enrolled in the program and the program dispatch method. Residential programs, such as SEP and SDP-R, saw significant changes in customer reference loads. For programs that included essential businesses, such as AP-I, there was not a significant change in customer reference loads.

For programs that were affected by COVID, evaluators needed to incorporate the lasting impact of COVID into their forecasts. In order to ensure that these assumptions were consistent across all of the evaluations, SCE provided a "glide path" which details their assumptions for how COVID effects will linger in years to come. This effect, called the "COVID Index" is shown in Figure 4.

Figure 4: COVID Glide Path



The glide path was used by the evaluators as an ex ante input to allow them to phase out the impact of COVID on their programs over time[11]. In this framework, a value of 1 indicates that 100% of the effect of the pandemic applies to participant loads (and/or impacts, depending on the program). A value of 0.5 indicates that only 50% of the pandemic-related changes remain in the loads, while 50% of the load is similar to pre-pandemic levels.

3.4 PROGRAM SPECIFIC ANALYSIS METHODS

The following section will review analysis methodology specific to each program. Regression specifications for each evaluation can be found in Section 8.

BASE INTERRUPTIBLE PROGRAMS (BIP)

Ex post load impacts were estimated from regression analysis of customer-level hourly load data, where the equations modeled hourly load as a function of variables that controlled for factors affecting consumers' hourly demand levels. BIP load impacts for each event were obtained by summing the estimated hourly event coefficients across the customer-level models. Individual-customer regression equations modeled hourly load as a function of several variables designed to control for factors affecting consumers' hourly demand levels, including:

- Seasonal and hourly time patterns (*e.g.*, year, month, day-of-week, and hour, plus various hour/day-type interactions);

[11] See the program evaluation reports for more detail on how each evaluation incorporated the glide path into their ex ante impacts.

- Weather (*e.g.*, cooling degree hours, including hour-specific weather coefficients);
- Event indicator (dummy) variables. A series of variables was included to account for each hour of each event day, allowing us to estimate the load impacts for each hour of each event day.

Scenarios of ex ante load impacts were developed by combining enrollment forecasts with per-customer reference loads and load impacts, which were developed using the results of the ex post load impact evaluation. Because BIP events may be called in any month of the year, separate regression models were estimated to simulate winter reference loads. The winter model differed from the summer model in two ways: it included different weather variables and the month dummies related to a different set of months.

Agricultural and Pumping Interruptible Program (AP-I)

To estimate load impacts, individual customer regressions were estimated which related pumping consumption with seasonal and weather factors and a synthetic control group comprised of similar agricultural customers who were not enrolled in AP-I. Each customer's model was used to predict what that customer would have done had they not been dispatched. The difference between this predicted load and what was observed was the impact of the event.

To estimate ex ante impacts for AP-I, a regression model, fitting historical consumption patterns to historical weather was estimated, then reference loads for the ex ante 1-in-2 and 1-in-10 weather forecasts were predicted using the same relationship. Impacts are related to the overall switch success rate – because any paged switch will set the load on that circuit to essentially 0 kW, the percentage of load associated with switches that are successfully triggered is the overall ex ante percentage reduction. As part of its switch upgrade process, SCE provided the evaluation team a switch paging success rate forecast alongside the enrollment forecast.

Summer Discount Plan Program (SDP)

SDP ex post impacts were estimated by constructing a control group using a blocked propensity score matching process. Propensity score matching is a data pre-processing technique that identifies statistically similar non-participants for each participating customer. It relies on a probit model that relates observed characteristics such as geography, load shapes, industry, and size to whether a given customer has enrolled in a given demand response program – in this case, SDP. The matched control group for the residential component was successful, and matches were found for each SDP participant. On the commercial side, however, some SDP participants have very large and unique loads and did not have any strong matches. Rather than leaving the candidates with poor matches in the ex post analysis data set, the team elected to remove them and simply scale the results (counterfactual estimates, observed load, impact estimates, standard errors, confidence intervals) based on the tonnage of the sites that were removed from the analysis.

There were two key steps in developing ex ante impacts. First, historical participant loads were modeled as a function of key weather variables. Using ex ante weather forecasts provided by SCE for both 1-in-2 and 1-in-10 weather years, ex ante reference loads were predicted using the same

regression function. Second, a similar process was followed for historical demand response impacts – the impacts were modeled as a function of key weather variables, then the estimated model was used to predict impacts under ex ante weather conditions.

Critical Peak Pricing (CPP)

To estimate ex post impacts, AEG developed a matched control group for subgroups where it was feasible. For subgroups where it was not feasible, AEG employed a within subjects' design leveraging event-like days in 2020. Then, AEG estimated subgroup level models for each size and industry. In some cases, AEG also estimated separate models for those who were notified of events and those who were not notified of events. All subgroup level models were ultimately selected using the optimization process. Finally, AEG estimated the ex-post impact for each customer so that they could be aggregated easily into the various reporting subgroups required for the analysis.

AEG developed ex ante load impact forecasts by first determining the appropriate weather-adjusted and COVID-adjusted reference loads and per-customer impact for each of the segments of interest, and then multiplying that impact by the number of participants for each year specified by the enrollment forecast.

Capacity Bidding Program (CBP) (Day-Ahead (DA) and Day Of (DO))

AEG used customer-specific regression models as the primary evaluation method for both the ex post and ex ante load impact analysis. Customer-specific regressions allow for granularity in the results and can readily be used to control for variables such as weather, geography, and time, as well as for unobservable customer-specific effects.

The regression models capture variation in hourly customer loads as a function of several primary factors:

- Weather, using hourly weather variables such as cooling and heating degree days.
- Seasonal patterns, such as month of year, day of week, and interactions between seasonal and other variables.
- Events, including CBP event days and events called in other DR programs.
- Daily fluctuations in load unrelated to other variables, captured by an appropriate load adjustment, which can be in an average load in the morning or evening.

After developing a set of customer-specific regression models to estimate the ex post impacts, AEG developed the ex-ante forecasts using the following general steps:

- AEG first provided the IOUs with the appropriate weather-adjusted, per-customer impacts for each subgroup.
- The IOUs used the per-customer impacts, along with contractual MW agreements and adjustments based on historical load reduction performance and/or the latest development of the program, to determine the enrollment forecasts.

SMART ENERGY PROGRAM (SEP)

For ex post load impacts, DSA utilized a matched control group and regression analysis for the 2020 SEP program evaluation. The program was evaluated across all customers as well as at a segment level for a variety of categories including sub-LAP, size, tariff rate, and more. The matched control group was selected through the use of proxy days and propensity score matching and the regression analysis incorporated a difference-in-difference (DiD) panel regression model to estimate the hourly load impacts for SEP. With minor differences between the treatment and matched control group, the DiD approach netted out any unobserved differences from the two groups and the resulting coefficient will indicate the event impact. To capture the best results for each event, DSA individually regressed each event with its three proxy days. Every hour is separately regressed to avoid any heteroscedastic errors. Hourly impacts are then appended to form full event impacts.

Ex ante load impacts were estimated by developing two separate models: one to estimate the reference loads for each customer group and one to estimate load impacts for each hour as a function of weather. DSA selected the reference load model by analyzing model fit statistics at the "All Customers" level. Upon determining the final model, the model specification was also applied to the subcategories of the LCA, Low Income (CARE Status), NEM, sub-LAP, Tariff, and Zone Name categories. The regression coefficients estimated for each model run were then used to predict average hourly demand for electricity for the array of ex ante weather conditions. DSA fitted the impacts model using the PY2019 and PY2020 ex post impacts as the dependent variable and temperature and a COVID indicator as the independent variables. A separate linear regression model was fitted for each of the four observed SEP event hours as well as the three hours of post-event snapback.

REAL TIME PRICING (RTP)

RTP impacts were modeled using individual customer regressions that related price variations on a tariff to changes in hourly consumption. The first step in performing this estimation was to determine the prices that customers face on an RTP and otherwise-applicable rate. Rates have several components that add up to what a customer must respond to in each hour. The appropriate counterfactual is the customer's consumption patterns on the otherwise applicable tariff (OAT). For example, a customer on the GS-2 RTP tariff would otherwise be metered on the standard TOU-GS2 tariff. The final matching model was identified based on out-of-sample metrics for bias and fit. The process relied on splitting the dataset into training and testing data. The models were developed using the training data and applied, out-of-sample, to the testing data. For each of models specified, DSA produced standard metrics for bias and goodness of fit. The best model was identified by first narrowing the candidate models to the three with the least bias and then selecting the model with the highest precision.

For the ex post analysis, nine different models were tested, including last year's model. Weather variables, even for weather sensitive customers, can introduce bias in the estimates and should be avoided. The best model for each customer was then used to predict ex post loads on the withheld days. A synthetic control profile comprised of an average of a stratified control pool was also included in the ex post modeling.

To estimate ex ante impacts, first a regression model fitting historical consumption patterns to historical price response and season is estimated, then reference loads for the ex ante 1-in-2 and 1-in-10 weather forecasts were predicted using the same relationship.

Residential Default Time of Use Rate Pilot (TOU)

The pilot was designed as a Randomized Encouragement Design (RED), where the study sample is randomly divided into two groups. One group is offered the treatment and the other is not. The group offered the treatment is referred to as the encouraged group and the group not offered the treatment is referred to as the control group. Some people in the encouraged group will accept the treatment and others will not. With a RED, impacts for those who accept the treatment offer are estimated through a two-step process. In the first step, loads by time period for the encouraged group are subtracted from loads for the control group. The estimated load impact based on these two groups of customers is referred to as the intention-to-treat (ITT) effect. In the second analysis step, the ITT estimate is divided by the percent of the encouraged group who take up the treatment offer. This value represents the impact for those who took the treatment (referred to as the impact of the treatment on the treated).

For the pilot, the first stage ITT impact was estimated using what is called a difference-in-differences (DiD) analysis. This method estimates impacts by subtracting treatment customers' loads (or in this first stage, the encouraged customers' loads) from control customers' loads in each hour or time period after the treatments are in place and subtracts from this value the difference in loads between treatment and control customers for the same time period in the pretreatment period. Subtracting any difference between treatment and control customers prior to the treatment going into effect adjusts for any difference between the two groups that might occur due to random chance. Ex ante impacts are estimated by modeling average weekly load impacts from March 2018 through September 2020 as a function of mean17, mean17 squared, a COVID indicator, and calendar month. Mean17 is equal to the average temperature from midnight to 5 PM. The estimated model is used to predict load impacts for 1-in-2 and 1-in-10 weather conditions.

4 EX POST LOAD IMPACT ESTIMATES

This section summarizes load impacts for events that occurred in the summer of 2020. Events were called according to dispatch criteria, program rules, and weather conditions. As discussed above, ex post impacts were estimated using a variety of methods.

4.1 SUMMARY OF 2020 EVENTS

Table 4 shows the frequency, time, and duration of each dispatchable demand response program during the summer of 2020. Note that because neither Real Time Pricing nor Residential Time of Use rates are dispatchable, they are not included in this table. In some cases, multiple dispatches were called in a single day; these are denoted with asterisks and the hour ranges represent the widest duration of event hours. All times are denoted in hour-ending convention, and include partial event hours.

The CBP programs were called the most often, followed by SEP and CPP. Due to the large heat waves over the summer, the AP-I and BIP programs were each dispatched a total of 8 days between August 14 and September 7. The two CBP programs were often called on the same days, but not consistently so. We also see one day where all SCE DR programs are dispatched (Monday, August 17).

Table 4: Dispatch Times by Program

Date	AP-I	BIP	CBP-DA	CBP-DO	CPP	SDP-C	SDP-R	SEP
Tue Jun 2, 2020			20 - 20	20 - 20				
Wed Jun 3, 2020			19 - 21*	19 - 21*				
Thu Jun 4, 2020			20 - 20	20 - 20				
Wed Jun 10, 2020			20 - 20	20 - 20				
Mon Jul 6, 2020								20 - 20
Wed Jul 8, 2020					17 - 21			
Thu Jul 9, 2020			20 - 20	20 - 20				
Fri Jul 10, 2020			19 - 20	19 - 20	17 - 21			18 - 21
Mon Jul 13, 2020			19 - 20	19 - 20	17 - 21			20 - 20
Wed Jul 15, 2020					17 - 21			
Mon Jul 20, 2020					17 - 21			
Mon Jul 27, 2020			20 - 20	20 - 20				
Tue Jul 28, 2020				20 - 20				
Wed Jul 29, 2020				19 - 20				20 - 20
Thu Jul 30, 2020				18 - 21				20 - 20
Fri Jul 31, 2020				18 - 21		17 - 17	17 - 17	19 - 20
Mon Aug 3, 2020			20 - 20	20 - 20	17 - 21			
Tue Aug 4, 2020					17 - 21			
Fri Aug 7, 2020						17 - 17	17 - 17	
Wed Aug 12, 2020			20 - 20	20 - 20	17 - 21			
Thu Aug 13, 2020			18 - 21	18 - 21	17 - 21	19 - 20*	19 - 20*	20 - 20
Fri Aug 14, 2020	18 - 21	18 - 21	16 - 21	16 - 21		17 - 22*	17 - 22*	18 - 21
Sat Aug 15, 2020	16 - 20	16 - 20				16 - 20	16 - 20	16 - 19
Sun Aug 16, 2020	18 - 20	18 - 20				18 - 20	18 - 20	18 - 20
Mon Aug 17, 2020	16 - 20*	16 - 20	16 - 21	16 - 21	17 - 21	16 - 20*	16 - 20*	16 - 20
Tue Aug 18, 2020	14 - 20	14 - 20		16 - 21	17 - 21	14 - 20*	14 - 20*	14 - 18*
Wed Aug 19, 2020					17 - 21			
Thu Sep 3, 2020			19 - 20*	19 - 20*				
Fri Sep 4, 2020			16 - 21*	16 - 21*				
Sat Sep 5, 2020	18 - 21	18 - 21				18 - 21	18 - 21	18 - 21
Sun Sep 6, 2020	17 - 21	17 - 21				17 - 21	17 - 21	17 - 21
Mon Sep 7, 2020	17 - 20	17 - 20						
Tue Sep 8, 2020			16 - 21*	16 - 21				
Wed Sep 9, 2020			19 - 20*	19 - 20				
Thu Sep 10, 2020			19 - 19	19 - 19				
Thu Oct 1, 2020			16 - 20*	16 - 20*				
Fri Oct 2, 2020			17 - 20*	17 - 20				
Mon Oct 5, 2020			18 - 19	18 - 19				
Tue Oct 6, 2020			18 - 19	18 - 19				
Wed Oct 7, 2020			18 - 19*	18 - 19*				

Table 5 summarizes the ex post impacts for the average event for each dispatchable program in PY2020. The largest impacts came from BIP and SDP-R, which provided approximately 514MW and

217MW, respectively. Of course, these programs could not be more different; BIP enrolls 469 customers that each provide over 1MW during an event, while the average SDP-R customer provides 0.88kW but with almost 200,000 participants. BIP and AP-I customers also deliver the highest percentage load reduction – around 77% and 78% respectively, compared to other programs. Some programs shown below – AP-I and BIP for example – had dispatches that did not start and end on the hour, meaning that the first and last hours of the event were perturbed with non-event loads. Therefore, Table 5 reports only full event hours in the average ex post impacts. Additional information can be found in the respective program's reports, which can provide further context on the performance of each program over the summer of 2020.

Table 5: Average Event Day Program Ex Post Impacts

Program Type	Program	Type	Ref (kW)	Obs (kW)	Imp (kW)	% Imp	Agg. Imp (MW)	Enrolled
Supply Side Programs	AP-I	Avg.(19 - 20)	42.5	9.4	33.2	78.0	33.1	998
	BIP15	Avg.(17 - 19)	4,102.2	254.5	3,847.7	93.8	200.1	52
	BIP30	Avg.(17 - 19)	1,094.3	340.5	753.7	68.9	314.3	417
	CBPDA	Avg.(20 - 20)	90.7	80.7	10.1	11.1	3.9	387
	CBPDO	Avg.(20 - 20)	XXX	XXX	XXX	XXX	XXX	XXX
	SDPC	Avg.(17 - 19)	41.4	39.3	1.8	4.4	14.7	8,094
	SDPR	Avg.(17 - 19)	3.7	2.6	1.1	29.9	216.9	195,521
	SEP	Avg.(18 - 21)	2.7	2.3	0.5	16.7	23.6	51,426
	SEP	Avg.(20 - 20)	2.4	1.7	0.8	30.6	38.6	51,437
Load Modifying Programs	CPP Large	Avg.(17 - 21)	174.1	169.7	4.4	2.5	8.3	1,895
	CPP Medium	Avg.(17 - 21)	22.6	22.5	0.1	0.5	3.4	29,581
	CPP Small	Avg.(17 - 21)	1.3	1.3	0.0	0.3	0.8	212,615

Both the RTP program and TOU pilot are not dispatchable for a given event day. Nevertheless, they do provide impacts during peak periods as reported in Table 6. RTP is capable of providing load reductions when customers are subjected to 'Hot Summer Weekday' prices. The residential TOU pilot can provide small but significant impacts during the 4pm-9pm window, which in aggregate can provide between 2.1 and 4.8 MW of load reduction during summer peak periods.

Table 6: Peak Period Impacts for Monthly Peak Days for Non-Dispatchable Programs

Program	Month	Detail	Ref (kW)	Obs (kW)	Imp (kW)	% Imp	Agg Imp (MW)	Enrolled
RTP	Jan	Low Cost Winter Weekday	535.1	544.6	-9.5	-1.8	-1.0	103
	Feb	Low Cost Winter Weekday	512.3	522.6	-10.3	-2.0	-1.1	103
	Mar	Low Cost Winter Weekday	536.3	545.8	-9.5	-1.8	-1.0	103
	Apr	High Cost Winter Weekday	462.1	467.8	-5.7	-1.2	-0.6	109
	May	Low Cost Winter Weekday	444.8	453.8	-9.1	-2.0	-1.0	109
	Jun	Hot Summer Weekday	377.8	321.5	56.3	14.9	6.2	111
	Jul	Moderate Summer Weekday	336.5	368.2	-31.6	-9.4	-3.5	112
	Aug	Moderate Summer Weekday	164.1	169.5	-5.3	-3.2	-0.6	109
	Sep	Moderate Summer Weekday	209.5	214.9	-5.4	-2.6	-0.6	103
	Oct	High Cost Winter Weekday	489.1	495.1	-6.0	-1.2	-0.6	98
	Nov	High Cost Winter Weekday	443.2	449.8	-6.6	-1.5	-0.6	97
	Dec	Low Cost Winter Weekday	459.8	469.3	-9.5	-2.1	-1.0	104
Res TOU	Jun	Rate 4	1.74	1.72	0.01	0.8	1.6	120,215
	Jun	Rate 5	1.79	1.77	0.02	1.4	3.0	120,834
	Jul	Rate 4	1.91	1.89	0.02	1.3	2.9	119,304
	Jul	Rate 5	1.98	1.95	0.03	1.5	3.5	119,910
	Aug	Rate 4	2.25	2.23	0.02	1.1	2.8	118,370
	Aug	Rate 5	2.28	2.26	0.03	1.1	3.0	119,002
	Sep	Rate 4	2.57	2.54	0.03	1.2	3.6	117,435
	Sep	Rate 5	2.57	2.55	0.03	1.1	3.3	118,098

4.2 PERFORMANCE ON SYSTEM EMERGENCY DAYS

Summer 2020 brought two large heat waves to California. On August 14 and August 15, almost the entire SCE DR portfolio was dispatched to assist with the system's recovery[12]. Figure 5 shows the aggregate hourly impacts from the SCE portfolio on August 14 and August 15 for all hours of the day.

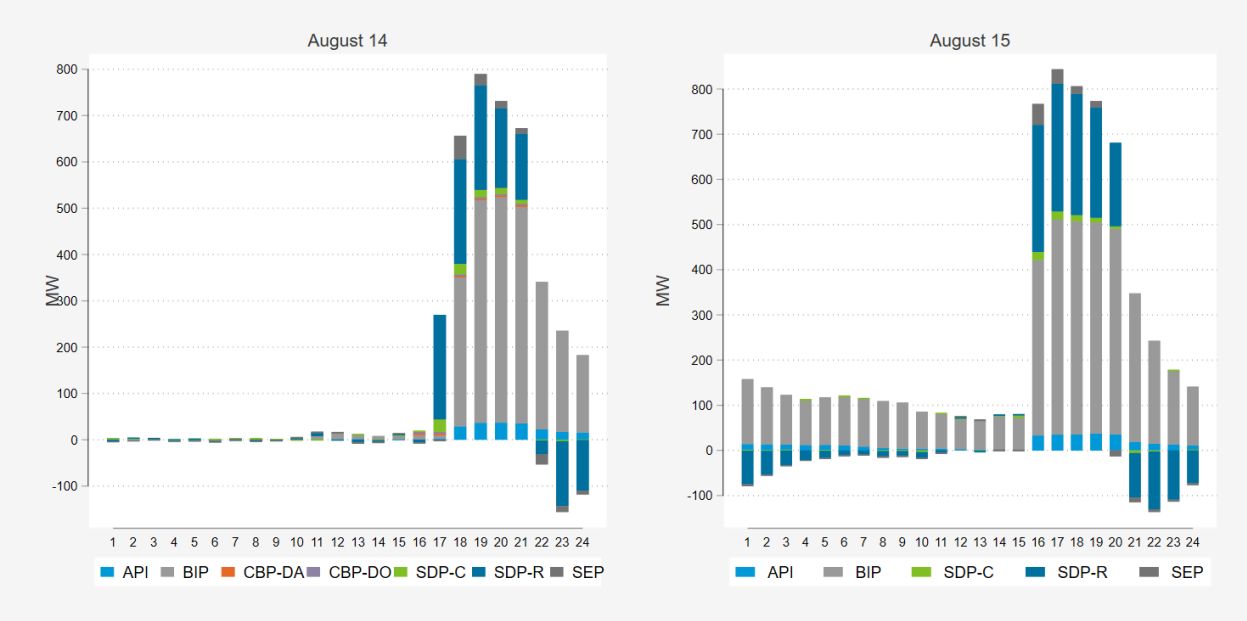
On August 14, over 264,000 SCE DR participants were dispatched between 5 PM and 9 PM, providing 706 MW of demand reduction on average during the event window. CBP dispatch began 3 PM and the remaining programs began their dispatch between 4 PM and 6 PM. The peak delivery hour was from 6-7 PM, with impacts decreasing for the residential programs after 7 PM. After the event window, there is

[12] CPP was not dispatched on either day, and CBP (DA and DO) was dispatched on August 14 only. All other programs were dispatched on both days.

snapback for the residential cooling programs (SDP-R and SEP) and residual impacts for the RDRR programs (AP-I and BIP).

On August 15 over 263,000 SCE DR participants were dispatched between 3 PM and 7 PM, providing 797 MW of demand reduction on average during the event window. Early in the day, the snap-back from residential programs and the residual impacts from the non-residential programs carried over from the August 14 event. All program dispatch began between 3 PM and 4 PM. The peak delivery hour was from 4-5 PM, with impacts decreasing for the residential programs after 5 PM. After the event window, there is snapback for the residential cooling programs (SDP-R and SEP) and residual impacts for the RDRR programs (AP-I and BIP).

Figure 5: SCE Portfolio Delivery on System Emergency Days



4.3 CHANGES COMPARED TO PRIOR EVALUATION YEAR

BASE INTERRUPTIBLE PROGRAMS (BIP)

One BIP event was called in PY2019, on September 4, 2019, while eight events were called in PY2020. (The PY2020 typical event day represents the August 17th event day.) The PY2019 event was called during the hours 3:20 to 7 p.m. while the average PY2020 event was called from 3:10 to 7:40 p.m.

Between PY2019 and PY2020 enrollment decreased from 484 accounts to 469. There were 32 customers that unenrolled and provided 44 MW load impact in PY2019, while there were 17 newly enrolled customer that provided 5MW load impact in PY2020. There were 484 enrolled and 479 called customers during the PY2019 event day (five customers were exempt). [redacted]. The load impact of the 447 customers that were called in both program years was 47 MW lower in 2020 because of a 52 MW reduction in the reference load in response to COVID-19.

These customers' FSL achievement rate was similar in both years; however, their aggregate FSL slightly increased from 83 MW to 89 MW.

Agricultural and Pumping Interruptible Program (AP-I)

In PY2019, 941 customers participated in one AP-I event on September 4th, 2019 from 3:55pm to 6:44pm. The average reference load was 34.9kW and an impact of 72% yielded 23.7MW, or 25.2kW per customer. In PY2020, per-customer and aggregate impacts were higher, although the reference load was higher as well. This could be due to switch repairs and improvements performed by SCE. The 2020 results may also be a better representation of program capability, since they show program performance over multiple events, rather than in prior years where there are only one or two events to represent the entire event season. Despite higher reference loads, percent impacts were also larger in 2020, indicating that customers dropped a higher percentage of their load on average than they did in 2019. The average event window in 2020 is also later in the day than the event window in 2019. At the event level, all full dispatch event aggregate impacts outperformed the 2019 event, with the lowest 2020 aggregate impact of 26.9MW, on September 6th.

Summer Discount Plan Program (SDP)

In comparing SDP-R event performance in 2020 to performance in prior years, there are three key differences between the two years:

- Several of the 2020 events were dispatched due to CAISO emergencies. This was not the case in 2018 or 2019 as there were no CAISO emergencies.
- Whereas the 2019 summer was mild, the 2020 summer saw extreme heat waves. Cooling loads were elevated due to these heat waves – this spurred the aforementioned CAISO emergencies.
- The COVID-19 pandemic was ongoing during the 2020 summer DR season. SDP-R reference loads were slightly higher due to the pandemic, but we have found that the pandemic did not have a statistically significant effect on the magnitude of 2020 SDP-R impacts. Thus, it should be expected that 2020 ex post percent impacts are slightly lower than percent impacts in prior years.

SDP-C peak loads on non-event days were down by more than 25% in 2020. The clear difference in the magnitude of the ex post impacts in 2020 can be explained by the COVID-19 pandemic. A large portion of SDP-C participants are schools, and reduced school attendance due to distance learning led to a large reduction in school reference loads. As a result SDP-C reductions in 2020 are smaller than they were in prior years.

Critical Peak Pricing (CPP)

SCE's non-residential CPP program has seen a decrease in participation, but a substantial increase in total impacts and percent impacts compared to PY2019. In addition, it is important to note that SCE's large default population in the small and medium groups also entered their second year of participation on CPP. After twelve months, these participants lost their bill protection guarantee and were exposed

to the full monetary impacts of the rate. This may have encouraged customers to increase their response to the rate.

The weather was more extreme in PY2020. While the overall average temperatures were similar across the whole summer relative to PY2019, a significant heatwave hit the state in late August and early September bringing record temperatures. For weather sensitive customers the increased heat also resulted in increased impacts. Additionally, having more extreme days in the underlying data allowed for more accurate modeling of weather relationships which may also have contributed to the increase impacts.

It is also possible that COVID-19 conditions may have affected how customers responded to CPP events. Given the depressed economic conditions across the country, it is possible that participants had additional incentive to save energy (and money) over the summer of 2020. Reduced capacities at many retail and restaurant locations may also have facilitated additional response.

Capacity Bidding Program (CBP)

Aggregate ex post impacts are larger than the prior year, largely due to higher levels of enrollment in PY2020 compared to PY2019. SCE's non-residential program has varied in participants, total impacts, and percent impacts over the past three years. However, average per customer impacts and percent impacts have remained relatively stable.

Smart Energy Program (SEP)

SEP PY2020 events were called during similar event windows as the PY 2019 events. There were slightly fewer events in 2020, but 2020 events were more likely to be dispatched to all sub-LAPs compared to 2019. For all 2020 events, at least five of the six sub-LAPs were dispatched, whereas 2019 included events that were only dispatched to single sub-LAPs. Summer 2020 also experienced hotter temperatures. For the territory wide events in 2019, average event temperatures ranged from 80.4°F to 86.2°F. In 2020, the average event temperatures spanned from 81.5°F to 104.7°F. With a wider range of event temperatures, 2020 events provided deeper insight for ex ante forecasting across a wide range of temperatures.

The overall SEP population grew slightly from 2018 to 2019, but decreased in 2020. The decrease may be due to lower enrollments caused by COVID, or higher opt-outs during the season. The customer counts vary over the course of the season as customer participation is different for every event. The SEP participant population was smaller in PY2020 by about 800 customers, when comparing the average 5 to 9pm event days. The average reference load is larger in 2020 than any other year, with COVID being a contributing factor. The load impacts are smaller in 2020 (0.46kW) than in 2019 (0.53kW), but larger than in 2018 (0.42 kW). On a percent basis, 2020 exhibited the smallest percent impact of all four years, but the highest reference loads.

There were 14 SEP events in 2020. Weather conditions, opt out patterns, population differences, and the COVID pandemic contributed to differences in the impact estimates, but the dispatch challenges

are the most effectual difference between PY2019 and PY2020. The PY2020 effect indicates that across all enrolled thermostats, the average impact was 0.46 kW. Given only about 85% of thermostats were available for dispatch over the course of the summer, this impact could be scaled up to 0.54 kW per dispatched customer, which is in line with the PY2019 average impact estimate.

Real Time Pricing Program (RTP)

Overall, the program-level ex post impacts on Hot Summer weekdays are lower in PY2020 than they were in PY2019. The main difference between PY2019 and PY2020 results is the impact of COVID-19. In particular, one large customer changed their operating schedule during the summer of 2020, and consequently reductions can be seen in the reference loads associated with the aggregate program. In June, for example, loads for PY2019 and PY2020 ex post are very similar; however over time the PY2020 ex post reference loads diminish. Portfolio impacts (which exclude dually-enrolled customers) are very similar when comparing PY2019 and PY2020.

Residential Default Time of Use Rate Pilot (TOU)

Several factors contribute to differences in load impacts from year to year. A key driver is weather and the effect of the COVID-19 pandemic on residential energy consumption and participants' ability or motivation to respond to TOU rates. On average, temperatures were warmest in 2018 (and were similar between 2019 and 2020).

For temperatures over 80 degrees Fahrenheit, Rate 4 impacts were slightly smaller in 2020 than they were in 2019. The inverse was true at temperatures below 80 degrees. For Rate 5, 2020 peak period impacts were lower than those in both 2018 and 2019 at all peak period summer temperatures. For both rates, it is possible that the COVID-19 pandemic had an effect on customers' abilities to shift consumption because of changing work schedules or home occupancy levels throughout the day.

5 EX ANTE LOAD IMPACT ESTIMATES

As described in the methodology section, ex ante impacts are a combination of several inputs; including the ex post impacts, enrollment forecasts, and expected weather conditions. While more detail on each of these topics can be found in the respective programs' load impact report, this section will summarize key results that form the basis of SCE's demand response portfolio. The results reported in this section represent average resource adequacy window impacts – what the program could deliver from 4pm to 9pm year-round. In all cases, a simple average of the 4pm-9pm hours is used to compute this value.

Unless otherwise noted in this report, all results are reported at the portfolio level. This method avoids double counting program impacts for customers who may be enrolled in two or more demand response programs. As a result, the values can be summed up to represent SCE's portfolio capability under a given set of weather conditions and event day types. In a fairly significant change from prior years, the amount of observed dual enrollment is minimal across programs, due to a decision[13] from the CPUC that prohibited new dual enrollment between CPP or RTP to any of CBP, BIP, AP-I, or SDP for customers. Legacy dual-enrollment is still permitted. Residential customers similarly can only be enrolled in ether SDP or SEP. When assigning impact credit for dually enrolled customers, the load impacts of the second program are attributable to the RDRR programs – BIP or AP-I. A key question for future years is the extent to which the default TOU rates interact with SDP and SEP programs for residential customers. Some differences were found in SDP and SEP impacts for customers on flat or dynamic pricing, however these cannot yet be attributed to the difference in tariff due to the design of the pilot. See the SEP evaluation report for fuller treatment of this topic.

A summary of ex ante enrollments is shown in Table 7. In general, total portfolio program enrollment is projected to increase, driven by large increases in residential TOU, the SEP program, and to a smaller extent the CPP programs. Legacy AC cycling programs such as SDP-R and SDP-C will decline over time, while the RDRR programs – AP-I and BIP – will see moderate increases in enrollment as the programs are currently under SCE's reliability cap[14].

[13] Decision D18-11-029

[14] Appendix 10 summarizes progress toward the reliability cap.

Table 7: SCE DR Portfolio Projected Enrollments for 2021-2031 by Program

Type	Program	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Supply Side Programs	AP-I	1,067	1,153	1,239	1,325	1,411	1,497	1,583	1,669	1,755	1,841	1,927
	BIP15	46	47	48	49	50	51	52	53	54	55	56
	BIP30	305	312	319	326	333	340	347	354	361	368	375
	CBPDA	410	410	410	410	410	410	410	410	410	410	410
	CBPDO	380	380	380	380	380	380	380	380	380	380	380
	SDPC	7,457	6,776	6,163	5,611	5,113	4,664	4,259	3,892	3,559	3,258	2,985
	SDPR	189,795	191,614	183,372	173,446	164,345	155,979	148,270	141,145	134,541	128,402	122,677
	SEP	59,498	77,727	92,015	104,372	115,060	124,303	132,298	139,212	145,192	150,364	154,838
	Subtotal	**258,958**	**278,419**	**283,946**	**285,919**	**287,102**	**287,624**	**287,599**	**287,115**	**286,252**	**285,078**	**283,648**
Load Modifying Programs	CPP Large	1,841	1,858	1,928	1,996	2,065	2,134	2,134	2,134	2,134	2,134	2,134
	CPP Medium	28,543	28,823	29,884	30,946	32,006	33,068	33,068	33,068	33,068	33,068	33,068
	CPP Small	225,091	227,293	235,660	244,027	252,395	260,763	260,763	260,763	260,763	260,763	260,763
	RTP	74	71	68	65	65	65	65	65	65	65	65
	Subtotal	**255,549**	**258,045**	**267,540**	**277,034**	**286,531**	**296,030**	**296,030**	**296,030**	**296,030**	**296,030**	**296,030**
Pilots	Residential TOU	700,556	2,569,105	2,520,691	2,477,821	2,439,860	2,406,246	2,376,481	2,350,125	2,326,787	2,306,121	2,287,821
	Subtotal	**700,556**	**2,569,105**	**2,520,691**	**2,477,821**	**2,439,860**	**2,406,246**	**2,376,481**	**2,350,125**	**2,326,787**	**2,306,121**	**2,287,821**
Total	**Total**	**1,215,063**	**3,105,569**	**3,072,177**	**3,040,774**	**3,013,493**	**2,989,900**	**2,960,110**	**2,933,270**	**2,909,069**	**2,887,229**	**2,867,499**

5.1 PROJECTED CHANGE IN PORTFOLIO LOAD IMPACTS FROM 2021 TO 2031

Figure 6 shows how the enrollment forecast affects aggregate portfolio impacts going forward. Impacts steadily increase over the forecast horizon, largely driven by the steady increase in enrollment in the RDRR Programs (BIP and AP-I) as these programs have some of the largest overall impacts in the portfolio. While this forecast shows a steady increase in impacts, it is masking a substantial change in the two residential programs. As shown in Table 7, SEP enrollments are forecasted to increase quite dramatically over time, while SDP-R enrollments wane. In effect, the growth in one program will offset the decline in the other. Because both are residential AC programs, they have very similar load reduction potential, so the substitution over time nets out to no change. Table 8 shows the same results from the figure in tabular format.

Figure 6: SCE Portfolio August Monthly Peak Day Load Impacts

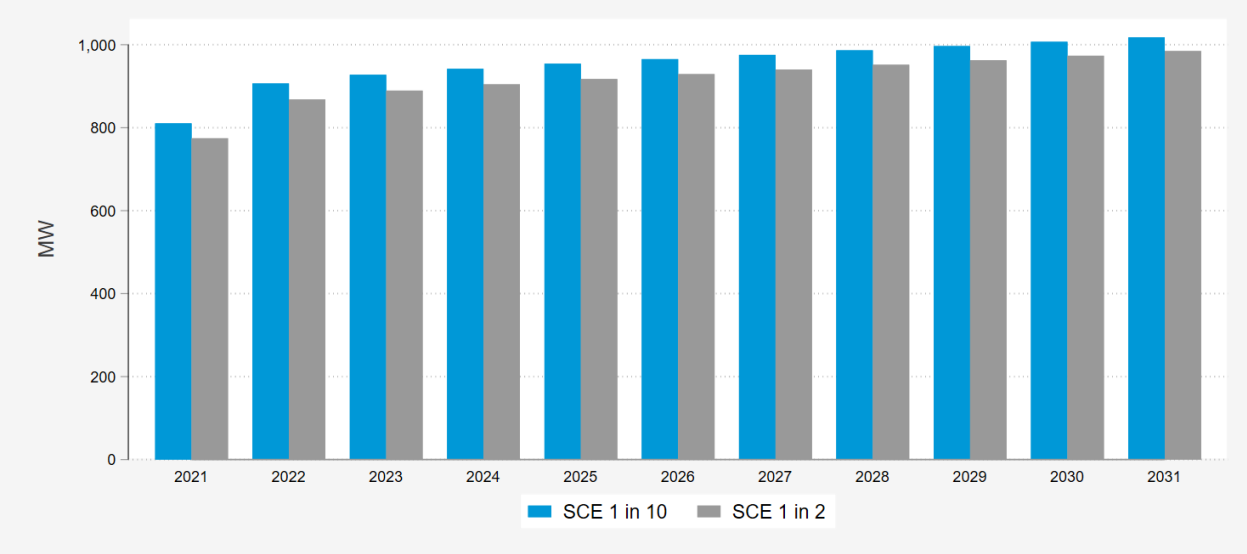


Table 8: Portfolio August Peak Day Impacts by Weather Year and Forecast Year

Weather Year	August 2021	August 2022	August 2023	August 2024	August 2025	August 2026	August 2027	August 2028	August 2029	August 2030	August 2031
SCE 1-in-2	774.6	867.9	889.4	904.5	917.3	929.1	940.0	951.6	962.4	973.4	984.6
SCE 1-in-10	810.3	906.4	927.6	942.0	954.2	965.3	975.5	986.5	996.6	1007.0	1017.5

5.2 2021 PORTFOLIO AGGREGATE LOAD IMPACTS BY MONTH

Unsurprisingly, impacts delivered by the portfolio of programs varies throughout the year, peaking in the summer months. This is shown in Figure 7. In all cases, load impacts are higher in the SCE 1-in-10 scenario than the 1-in-2 SCE scenario, with a more sustained and hotter summer overall observed under

1-in-10 conditions. Weather-sensitive residential AC cycling and thermostat programs can only deliver load reductions during periods of cooling which contributes to the peak observed in the June-September months. However, the majority of SCE's portfolio comes from the BIP program, which is able to be dispatched any time of the year. BIP customers are typically large customers with industrial processes that dominate any cooling loads that they have, meaning that seasonal changes other than temperature tend to influence the amount of load shed available. Table 9 shows the results of the figure in tabular format.

Figure 7: 2021 Portfolio Impacts by Monthly Peak Day

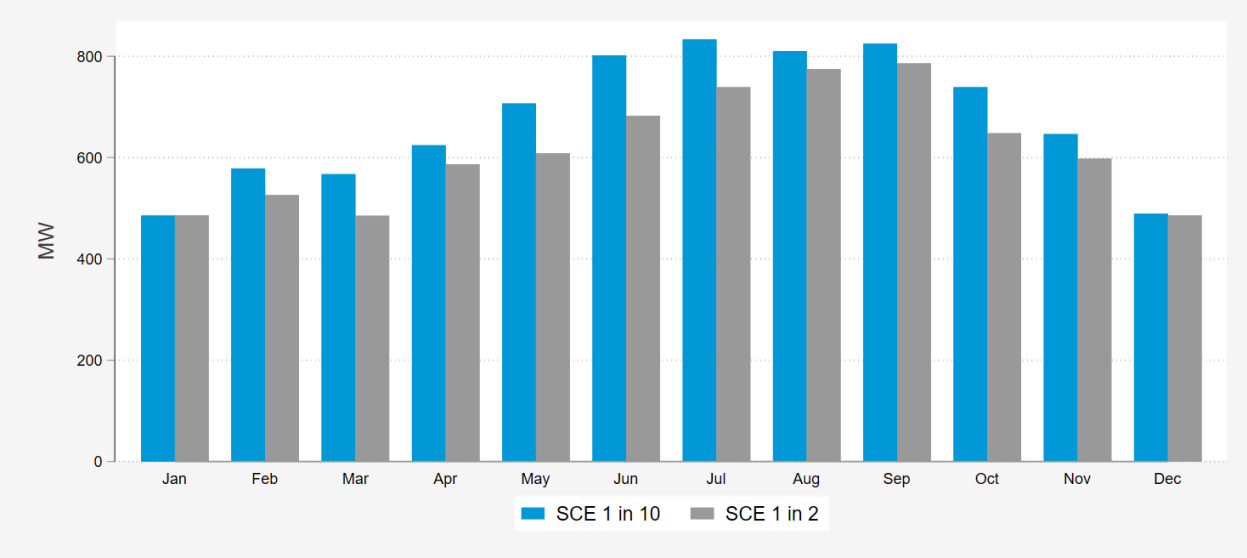


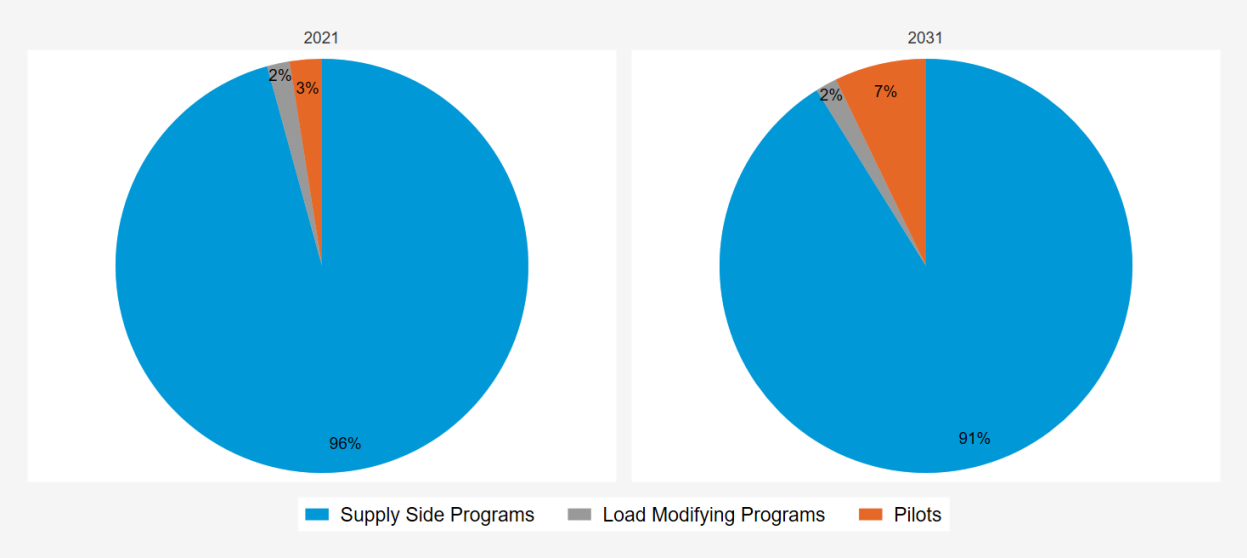
Table 9: 2021 Portfolio Impacts by Monthly Peak Day

Weather Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SCE 1-in-2	486.2	525.9	485.3	586.6	608.5	682.3	738.9	774.6	786.1	648.0	598.1	486.0
SCE 1-in-10	485.7	578.4	567.2	624.3	706.8	801.9	833.2	810.3	824.7	738.9	646.4	489.3

5.3 PORTFOLIO LOAD IMPACTS BY PROGRAM TYPE

Figure 8 shows the components of portfolio load impacts on an August monthly peak day under SCE 1-in-2 conditions for both 2021 and 2031.In both years, the vast majority of load impacts are provided by supply side programs including BIP and SDP. Over time Pilots increase their share of the total impacts as customers are defaulted onto TOU.

Figure 8: 2021 & 2031 Portfolio Impacts on August SCE 1-in-2 Peak Day by Program Type



This result can be seen more clearly when looking at the same result broken down by program, not type, as in Figure 9. AP-I, BIP-15 and BIP-30 remain relatively stable over the eleven-year horizon, while SDP-R declines and is substituted nearly 1:1 for SEP portfolio impacts. Residential TOU impacts increase as more customers are defaulted onto TOU.

Figure 9: 2021 & 2031 Portfolio Impacts on August SCE 1-in-2 Peak Day by Program

[IMAGE REDACTED]

Table 10 shows a snapshot of one year of the ex ante forecast on SCE 1-in-2 Monthly Peak Days. These results corroborate the results shown in the previous figures. While the BIP program can deliver consistent load impacts at any time of the year, the residential AC cycling and thermostat programs only truly provide load reductions during times of the year when there is cooling load.

Table 10: Ex Ante Impacts – 2021 Portfolio SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	8.5	8.4	12.8	20.7	26.9	34.9	35.0	35.0	32.1	24.7	14.6	5.9
	BIP15	144.6	155.7	143.9	158.2	168.4	170.0	171.6	173.2	174.3	172.5	178.0	154.8
	BIP30	306.4	335.3	304.1	318.5	312.8	318.1	299.4	317.3	321.4	306.8	319.7	293.6
	CBP DA	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
	CBP DO	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
	SDPC	13.7	14.1	10.0	13.3	13.5	14.2	18.2	17.1	19.8	16.1	10.4	13.3
	SDPR	0.0	0.0	1.8	37.4	41.1	100.2	153.7	164.6	166.6	65.9	30.8	0.0
	SEP	0.0	0.0	0.6	21.0	22.0	21.9	29.0	29.4	33.2	29.2	21.1	0.0
	Subtotal	473.2	513.6	473.1	569.1	589.5	664.1	711.6	741.4	752.1	620.1	574.6	467.6
Load Modifying Programs	CPP Large	7.8	7.8	7.8	9.0	9.0	8.9	9.5	9.3	9.5	9.1	8.7	7.8
	CPP Medium	1.4	1.4	1.5	3.0	3.0	3.0	3.8	3.8	4.2	3.7	2.6	1.4
	CPP Small	0.5	0.5	0.5	0.6	0.6	1.0	0.6	0.6	0.5	0.6	0.5	0.5
	RTP	-1.0	-1.0	-0.3	-0.3	-0.4	-1.1	-0.5	-0.0	0.9	-0.4	-2.3	-1.4
	Subtotal	8.8	8.7	9.5	12.2	12.3	11.7	13.4	13.7	15.1	12.9	9.6	8.3
Pilots	Residential TOU	4.2	3.6	2.7	5.2	6.7	6.5	13.9	19.5	18.9	15.0	13.9	10.1
	Subtotal	4.2	3.6	2.7	5.2	6.7	6.5	13.9	19.5	18.9	15.0	13.9	10.1
Total	**Total**	486.2	525.9	485.3	586.6	608.5	682.3	738.9	774.6	786.1	648.0	598.1	486.0

5.4 CHANGES COMPARED TO PRIOR EVALUATION YEAR

BASE INTERRUPTIBLE PROGRAMS (BIP)

The enrollment numbers decreased by 101 customers between the previous and current studies. The aggregate load impact decreased by 53 MW and is caused by a mixture of effects. First, the reference load is lower in the current study as a result of customers that left the program with 83 MW of load. Second, the reference load for customers that were on the program both years have a 22 MW reduction in the current study forecast as a result of COVID. The reference load will increase over time as the COVID assumption is lessened. Third, the aggregate FSL increased from 95 MW to 109 MW. Fourth, the FSL achievement rate increase from 91% to 94% (contributing to a larger load impact). The customers that remain on the program in the current study are, on average, larger and have a larger FSL achievement rate. Without COVID, the per-customer reference load is 1.85 MW compared to the average 1.5 MW reference load in the previous study forecast.

AGRICULTURAL AND PUMPING INTERRUPTIBLE PROGRAM (AP-I)

Compared to PY2019, enrollment is projected to increase over the next 10 program years rather than decreasing and then stabilizing. This is due to program efforts to enroll new customers and anticipation of new enrollment in future years. On the other hand, paging success is projected to increase, but at a slower rate than predicted in 2019. This change is reflective of the increase in switch success between 2019 and 2020, which incorporated the program's efforts to improve switch technology for customers as well as the impact of newly enrolled customers.

SUMMER DISCOUNT PLAN PROGRAM (SDP)

The SDP-R 2018-2020 ex ante impacts are similar. Still, differences do exist. The differences can be attributed to a few factors. One of the main factors is the ex ante weather conditions, which were updated in 2019, and the new data is about one degree cooler for the 1-in-2 August monthly peak conditions. Changing the weather conditions should (and does) result in different ex ante impacts. Other key differences include: lower enrollments, differences in the customer mix, differences in which historical ex post impacts are used in developing the ex ante impacts, differences in how ex post impacts are calculated, and differences in ex ante regression model specifications.[15]

The SDP-C PY2020 impacts are generally lower than the PY2019 impacts but are still generally higher than PY2018 impacts. The differences can likely be attributed to a few factors. One of the main factors is the ex ante weather conditions were updated in 2019. Second, additional non-performing sites were removed from the program in 2019. Such a change would necessarily result in higher average impacts per participant. Other key differences include: differences in the customer mix, differences in which historical ex post impacts are used in developing the ex ante impacts, differences in how ex post impacts are calculated, and differences in ex ante regression model specifications.

CRITICAL PEAK PRICING (CPP)

When comparing PY2019 and PY2020 ex ante forecasts for CPP, a couple of key highlights include the following.

- Comparing the aggregate load impacts in MW between the two 2020 forecasts we see an increase from 8.0 MW to 13.2 MW. This is coming primarily from the additional measurable impacts in the small and medium group. Increases in per-customer percent impacts across all groups also contribute to the increase.
- Comparison of the reference loads between the PY2019 - 2020 and PY2020 - 2025 forecasts we see that the per-customer reference loads return to very close to PY2019 (pre-COVID) levels as a result of the COVID adjustments.

CAPACITY BIDDING PROGRAM (CBP)

CBP ex ante reference loads and impacts are higher in PY2020 compared to PY2019. These changes are due to the following:

[15] Like the prior evaluation, our ex post evaluation relied on a difference-in-differences framework. The 2018 ex post model relied mainly on pre-event load variables. The 2019-2020 approach leveraged one pre-event load term, but also a weather variable and time variables. Regarding ex ante model specifications, there were several differences. One key distinction between the 2018 and 2019-2020 approaches was the inclusion of a temperature spline. This was included to capture the effect of temperature on load and demand reductions at different temperature ranges (e.g., increasing the temperature from 65 to 70 does not have the same effect on load as increasing the temperature from 80 to 85). The 2020 ex ante model also accounted for the effects of the COVID-19 pandemic.

- Enrollment forecast and average customer loads were updated based on PY2020 participation, which involved larger customers and higher enrollment.
- Assumptions on RA window impacts were updated based on events called for longer durations. This resulted in a lower average RA impact relative to PY2019 assumptions, but impacts are still higher due to the change in program participation.

SMART ENERGY PROGRAM (SEP)

When comparing PY2019 and PY2020 ex ante, the 2021 forecasted impacts are very similar between the two evaluation years. PY2020 impacts tend to be about 0.01-0.03 kW lower than PY2019. Weighted average temperatures are slightly cooler in PY2020 due to changes in customer distribution in the territory, and there is a 50% COVID impact in the PY2020 forecast. The COVID impact increases reference loads and decreases impacts, leading to smaller percent impacts in three of the four weather scenarios.

While both sets of ex ante results show the largest impact during the first event hour with decaying impacts each subsequent hour, the PY2020 ex ante impacts show a steeper decline in impacts across the event than the PY2019 impacts. Opt outs are a potential explanation for the steeper decline. One hypothesis is that participants are more likely to be home and opt-out of an SEP due to COVID (PY2020) than during an SEP event in the prior to lockdowns (PY2019). DSA was able to gather opt-out data for approximately 30% of SEP thermostats in 2020, but the calculation methodology was inconsistent across providers. For the PY2021 impact evaluation it will be important to explore the possibility of collecting device-level opt out data from all thermostat providers in a consistent format for analysis.

REAL TIME PRICING PROGRAM (RTP)

As with the ex post analysis, comparisons between the PY2019 and PY2020 results are challenging due to the extent that the patterns of large customers on any given year can dominate the results. In 2020, of course, all customers were impacted by the effects of the COVID-19 pandemic on their operations as well. In general, ex ante impacts in PY2020 were lower than PY2019 despite reference loads being the same or higher. This effect is diluted by the price signal discussion referenced above, where customers must now focus their load reductions on Hot Summer Weekdays between 6pm and 9pm specifically. As last summer was the first time for RTP participants to experience this new rate regime, they may have adjusted their schedules to more deeply target those specific hours instead of the broader peak with which they were historically billed. The customer mix between PY2019 and PY2020 ex ante also affected the size and price responsiveness of customers on the program: with only roughly 110 participants in PY2020, a turnover or even a few large customers can have a dramatic effect on loads and impacts.

6 RECOMMENDATIONS

6.1 SUPPLY SIDE PROGRAMS

BASE INTERRUPTIBLE PROGRAM (BIP)

BIP continues to perform well, with its customers providing substantial load impacts with short notice. PG&E and SCE called seven and eight events, respectively, including weekends and multiple consecutive events. Load decreases persisted into the morning hours of consecutive event days. Load impacts did not appear to diminish as a result of consecutive event days. However, load impacts on consecutive event days look somewhat different than those of the first event in a series (or a stand-alone event day) because a portion of the event-hour impact is due to persistence from the prior day's event. A key implication is that the within-day load drop on a consecutive event day will appear lower than the total impact of the program. For example, if 70 MW of load impact persists during the hours in between two events, the load drop (not to be confused with the load impact) during the second event day will be 70 MW lower than it was on the first event day (all else equal) even though the total program load impact is the same on both days

AGRICULTURAL AND PUMPING INTERRUPTIBLE PROGRAM (AP-I)

The AP-I program has consistently delivered load reductions during periods of peak demand. This year, the program experienced several changes that have important implications for how the program will operate going forward.

- The COVID-19 pandemic did not cause significant impacts to program performance.
  - ✓ Agricultural business were deemed to be essential and their operations were likely not as affected by the pandemic as other industries such as retail or education.
- The number of events called in 2020 revealed that program impacts do not fade over consecutive dispatch days and are consistent across weekdays and weekends.
- Increases in paging success and forecasted enrollments will grow the AP-I program over time to produce higher load reductions during periods of grid stress.
- Pumping and agricultural loads are driven by on/off operation and not by temperature. Pump operating is highly seasonal.
  - ✓ This fundamentally limits the available load shed in winter months as fewer pumps are in operation.
  - ✓ Conversely, the program is more valuable in July through August when the percentage of customers pumping is higher.

CAPACITY BIDDING PROGRAM (CBP):

AEG has the following recommendations for future research and evaluation related to the Capacity Bidding Programs.

- Incorporate monthly average event days in reporting. A monthly average event day is not required under the DR Load Impact Protocols. However, given that CBP participation is driven by monthly MW nominations, we believe that monthly average events can facilitate better conclusions. Examples of reporting items that can be done at the monthly level are identifying system-level events v. localized events and meeting or exceeding capacity nominations. Although these reporting items are still required for the entire program year (via the average event day), having these monthly comparisons are also quite telling of the program's success.

Summer Discount Plan (SDP):

DSA has the following recommendations for the SDP program. We recognize that our recommendations do not incorporate costs and may not be funded under current budgets.

- Develop a time-temperature matrix to address differences between operations and planning conditions.
- Add weekend days to the load impact protocol ex-ante tables and include weekend test events, if needed.
- Include "test" event operations to fully assess the load reduction capability.

Smart Energy Programs (SEP)

Based on the 2020 ex post and ex ante load impact evaluation results, we highlight the following considerations for program design and future load impact evaluations.

- Contract issues with one of the participating thermostat manufacturers led to approximately 15% of participating households being unavailable for dispatch during summer 2020 DR events. This led to lower average customer ex post impacts compared to prior years. It will be important for SCE to monitor contract terms and conditions with all participating vendors and thermostat manufacturers to ensure the lack of availability observed in 2020 doesn't happen in the future.
- The extreme weather conditions of summer 2020 highlighted the value of weather-sensitive programs like SEP as a grid resource. SEP load impacts increase with temperature so its capability is greatest during emergency conditions like the ones observed in California during the August and September heat waves.
    - ✓ All four weekend events were called at extreme temperatures when SEP load impacts are the largest. In order to better understand the weekday versus weekend performance of SEP, it would be beneficial to call some weekend measurement and evaluation events at milder temperatures in 2021.
- The COVID-19 pandemic affected all aspects of life in 2020. In the ex ante modeling of reference loads and impacts, we included a COVID indicator variable to capture the differences between summer 2020 and prior years.
    - ✓ For the 2021 ex ante evaluation, it will be important to decide what to set the COVID term equal to for 2021 loads and event impacts. The COVID glide path provided by SCE sets the index to 50% for 2021, but this assumption should be revisited based on the success of vaccinations and other factors.

- The most important predictor of SEP load impact is not time of day or weather, but the position of an hour within an event. SEP does not hold load shed under the current event profile. Event impacts are largest during the first hour of dispatch and deteriorate in each subsequent hour. During summer 2020, several vendors tested strategies to produce a more consistent load impact across dispatch hours.
    - ✓ This type of testing is incredibly valuable for selected the optimal dispatch profile for the SEP program to maximize economic benefits while limiting customer fatigue and discomfort.
    - ✓ If additional testing is planned for summer 2021, we recommend SCE allow the evaluation team to work with the thermostat vendors to design the testing plan.
    - ✓ Once a preferred profile or profiles is determined, we can include this dimension in the ex ante analysis.

6.2 LOAD MODIFYING

The following recommendations were made for the load-modifying programs:

CRITICAL PEAK PRICING (CPP):

AEG has developed four recommendations for future research and evaluation related to the non-residential CPP programs.

- **Investigate the experiences of small and medium participants**. Through future or ongoing process evaluations, ensure that special care is taken to better understand the experiences of small and medium customers on the CPP rates. Participant surveys and focus groups can be used to understand aspects of participation including, awareness and understanding of the rate, awareness of participation, awareness of events, ability to respond to events, and actions taken during events. Conducting research while maintaining statistically significant samples by key industry group and size may provide invaluable insights for both program staff and future impact evaluations.
- **Investigate the effect of notifications on customer impacts**. Again, through the use of participant surveys and/or focus groups, conduct research to better understand participant choices regarding notification, their awareness of notifications, and how they respond to notifications on event days.
- **Consider opportunities to improve robustness of within-subjects designs.** For most of the subgroups, we elected not to develop a matched control group for this evaluation because of the small ratios of participants to non-participants and the opt-out nature of the CPP, or PDP, rates which would likely lead to poor matches and introduce self-selection bias. Unfortunately, the within-subjects design may also have led to the introduction of bias, particularly among those groups with very small impacts due to a lack truly comparable event like days. Since all utilities expect their participant population to grow (and the non-participant pools to continue to shrink) we recommend considering the following opportunities to mitigate this bias in the future. We propose two options for consideration:
    - ✓ Intentionally call test events on cooler days and, unless absolutely necessary, try not to call events on all the hottest days of the season. This will provide the models with

better information as to how participants would behave during events on a wider range of temperatures and improve their performance.

- ✓ Consider using the non-notified participants as a control group for the notified participants when appropriate. This would accurately estimate the incremental effect of notification, rather than the overall program impact, but this may not be undesirable given that we know the impacts for non-notified customers are very small.

- **Consider utilizing customer-specific models for the large groups.** In PY2019, PG&E's and SCE's large groups utilized subgroup level models with matched control groups. As previously stated, the opt-out nature of the CPP, or PDP, rates can introduce self-selection bias. For the large groups, very high variation in customer usage can lead to both poor matches and poor model estimations. This is especially true for groups with extremely large customers. We recommend utilizing customer-specific models for all large customers or only the extremely large (outlier) customers. For groups with very high variation, customer-specific regression models can better estimate weather response, seasonal usage, and load impacts and control for unobservable customer-specific effects that are more difficult to account for in subgroup level models.

REAL TIME PRICING (RTP):

The RTP program can provide a small but measureable amount of demand response impacts during the 6pm-9pm period on Hot Summer Weekdays, when prices relative to the otherwise applicable tariff are high. The program has many customers who are dually enrolled in other demand response programs, making attribution of impacts challenging. Similarly, the program is dominated by several large industrial accounts that provide the majority of the load shed for the program.

As a result, portfolio impacts averaged across the RA window tend to be small. The effects of the COVID-19 pandemic on customers was substantial, and the effect thereof is expected to persist over the 11 years of the forecast horizon.

6.3 PILOTS

RESIDENTIAL DEFAULT TIME OF USE

Overall, the default TOU pilot was successful.

Key findings pertaining to the ex post analysis include:

- Default customers on both Rates 4 and 5 produced statistically significant, peak-period load reductions during the summer and winter seasons. Summer peak period load reductions were equal to 1.1% for Rate 4 and 1.3% for Rate 5. Winter peak period load reductions were slightly smaller, and averaged 0.6% for Rate 4 and 0.9% for Rate 5.
- Load reductions for the common hours shared by the two rates (5 to 8 PM) were greater for Rate 5 than for Rate 4 in both seasons, likely because of the higher peak period price per kWh. It's also possible the shorter peak period of Rate 5 allowed for greater flexibility in customer response to the price signal. The difference was statistically significant in the winter months but not during the summer.

- Rate 4 and Rate 5 NEM customers had statistically significant peak period load reductions equal to 2.2% and 3.4%, respectively, in the summer months. NEM customers on Rate 4 had small but statistically significant load increases in the winter (0.7%). Rate 5 NEM customers, on the other hand, had statistically significant peak load reductions in the winter (3.3%).

Key findings pertaining to the ex ante analysis include:

- Enrollment on Rate 4 and Rate 5 will reach approximately 2.5 million by 2023 and then slowly decline to about 2.3 million by 2031 through natural attrition (approximately 1% per month). New enrollees will come from large waves of default enrollments (1.8 million) and new SCE customers (21,600 per month).
- Generally speaking, ex post and ex ante load impacts are larger under higher temperatures. As such, the largest ex ante impacts (0.019 to 0.027 kW per customer) are forecasted for 1-in-10 weather conditions during the hottest summer months (July, August, and September) for both Rate 4 and Rate 5. Winter ex ante load impacts are expected to be similar under 1-in-2 and 1-in-10 weather conditions.
- Ex ante forecasts account for the potential effects of the COVID-10 pandemic on customer demand and load impacts. Per-customer load impacts are expected to increase as the COVID-19 effect diminishes.
- The ex post load impacts fall between the ex ante load impacts under SCE 1-in-2 and SCE 1-in-10 weather conditions. This finding is expected as the average monthly temperatures between October 2019 and September 2020 are warmer than 1-in-2 conditions but cooler than 1-in-10 conditions.
- In 2022, after the default is completed, Rate 4 impacts are forecasted to reach 33.5 MW on the average August weekday under SCE 1-in-10 weather conditions and 26.6 MW under SCE 1-in-2 weather conditions. Rate 5 impacts during the RA window under SCE 1-in-10 weather conditions decline from a peak of 29.4 MW in August 2022 to 13.6 MW in August 2031 as the population grows smaller.
- For the default TOU rates as a whole (Rate 4 and Rate 5), aggregate impacts are expected to reach a maximum under August 1-in-2 conditions of 51.1 MW in 2024, and a maximum under August 1-in-10 conditions of 63.6 MW in 2023.

7 APPENDIX: REGRESSION SPECIFICATIONS

7.1 BASE INTERRUPTIBLE PROGRAM

The following is a general form of the model that was separately estimated for each enrolled BIP customer.

$$
\begin{aligned}
Q_t = & \sum_{i=1}^{24}(b_i^h \times h_{i,t}) + \sum_{Evt=1}^{E}\sum_{i=1}^{24}(b_{i,Evt}^{BIP} \times h_{i,t} \times BIP_t) + \sum_{DR}\sum_{i=1}^{24}(b_i^{DR} \times h_{i,t} \times OtherEvt_{i,t}^{DR}) \\
& + \sum_{i=1}^{24}(b_i^{Weather} \times h_{i,t} \times Weather_t) + \sum_{i=1}^{24}(b_i^{MornLoad} \times h_{i,t} \times MornLoad_{i,t}) \\
& + \sum_{j=2}^{5}(b_j^{DTYPE} \times DTYPE_{j,t}) + \sum_{i=2}^{24}(b_i^{MON} \times h_{i,t} \times MON_t) + \sum_{i=2}^{24}(b_i^{FRI} \times h_{i,t} \times FRI_t) \\
& + \sum_{i=6}^{10}(b_i^{MONTH} \times MONTH_{i,t}) + \sum_{i=2}^{24}(b_i^{SUMMER} \times h_{i,t} \times SUMMER_t) + e_t
\end{aligned}
$$

Variable Name	Variable Description
Q_t	the demand in hour *t* for a BIP customer
The various b's	the estimated parameters
$h_{i,t}$	an indicator variable for hour *i*, equal to one when *t* corresponds to hour *i* of a given day
BIP_t	an indicator variable for program event days
E	the number of program event days that occurred during the program year
$OtherEvt_{i,t}^{DR}$	an indicator variable for event day *DR* of other demand response programs in which the customer is enrolled (e.g. *DR* = CPP Event 1, CPP Event 2, …)
$Weather_t$	the weather variables selected using our model screening process
$MornLoad_t$	a variable equal to the average of the day's load in hours 1 through 10 (may be excluded via model screening)
$DTYPE_{j,t}$	a series of indicator variables for each day of the week
MON_t, FRI_t,	indicator variables for Monday and Friday (Sunday hourly indicator variables are included in models that include weekend dates)
$MONTH_{j,t}$	a series of indicator variables for each month (model screening may include separate hourly profiles by month)
$SUMMER_t$	an indicator variable for the summer pricing season[16]
e_t	the error term

[16] The summer pricing season is June through September for SCE, May through October for SDG&E, and May through October for PG&E.

Ex ante regression specifications:

$$
\begin{aligned}
Q_t = & \sum_{i=1}^{24}(b_i^h \times h_{i,t}) + \sum_{Evt=1}^{E}\sum_{i=1}^{24}(b_{i,Evt}^{BIP} \times h_{i,t} \times BIP_t) + \sum_{DR}\sum_{i=1}^{24}(b_i^{DR} \times h_{i,t} \times OtherEvt_{i,t}^{DR}) \\
& + \sum_{i=1}^{24}(b_i^{Weather} \times h_{i,t} \times Weather_t) + \sum_{j=2}^{5}(b_j^{DTYPE} \times DTYPE_{j,t}) \\
& + \sum_{i=2}^{24}(b_i^{MON} \times h_{i,t} \times MON_t) + \sum_{i=2}^{24}(b_i^{FRI} \times h_{i,t} \times FRI_t) \\
& + \sum_{j=2-4,11-12}(b_j^{MONTH} \times MONTH_{j,t}) + e_t
\end{aligned}
$$

Variable Name	Variable Description
Q_t	the demand in hour *t* for a customer enrolled in BIP prior to the last event date
The various b's	the estimated parameters
$h_{i,t}$	an indicator variable for hour *i*, equal to one when *t* corresponds to hour *i* of a given day
BIP_t	an indicator variable for program event days
E	the number of program event days that occurred during the program year
$OtherEvt_{i,t}^{DR}$	an indicator variable for event day *DR* of other demand response programs in which the customer is enrolled (e.g. *DR* = CPP Event 1, CPP Event 2, …)
$Weather_t$	the weather variables selected using our model screening process
$DTYPE_{j,t}$	a series of indicator variables for each day of the week
MON_t, FRI_t,	indicator variables for Monday and Friday
$MONTH_{j,t}$	a series of indicator variables for each month
e_t	the error term

7.2 AGRICULTURAL AND PUMPING INTERRUPTIBLE PROGRAM

A variety of models were used to predict reference loads for the AP-I program. Each customer had a similar model selected based on individual out of sample testing. The variables included in the set of models are summarized below.

Model Term	Description
month	Month (1-12)
week	Week of the year (1-52)
firsthalf	Binary flag for first half or second half of month. Intended to capture intra-month pump-load shifts
dow	Day of week
avgtemp	Daily average temperature
tempf	Temperature
cdh_60	Cooling degree hours – base 60
cdh60_sq	CDH squared
hhd60	Heating degree hours – base 60

hhd6_sq	HDH squared
cdd	Cooling degree days – base 60
cdd_sq	CDD squared
ctrl_kwh	Average kWh of the synthetic control customer group by date and hour

The next table shows which models included each variable listed above, as well as the number of customers for whom a given model was their best model, based on out of sample testing. Each column represents a model, and the inclusion of a variable in a given model is denoted with blue highlighting. That is, model 13 includes *month*, *CDD*, *CDDsquared* and *Ctrl_kWh*.

Model	1	2	3	4	5	6	7	8	9	10	11	12	13	14
month	■	■	■	■	■	■	■	■	■	■	■	■	■	■
week			■		■			■		■		■		■
firsthalf	■	■	■	■	■									
dow	■	■	■	■	■	■	■	■	■	■				
avgtemp	■	■	■	■	■	■	■	■	■	■				
tempf	■	■	■	■	■	■	■	■	■	■				
cdh_60		■	■				■	■				■		■
cdh60_sq				■	■				■	■		■		■
hdh60		■	■				■	■						
hdh6_sq				■	■				■	■				
cdd											■		■	
cdd_sq											■		■	
ctrl_kwh	■	■	■	■	■	■	■	■	■	■			■	■
Customer Count	109	57	85	82	65	79	63	48	70	45	79	46	102	87

7.3 CRITICAL PEAK PRICING

We developed a set of candidate models which were fit to all subgroups and utilized an algorithm developed in previous Statewide DR evaluations to select the best model for each subgroup.

We can think of regression models as being made up of building blocks, which are in turn made up of one or more explanatory variables. These different sets of variables can be combined in different ways to represent different types of customers. The blocks can be generally categorized into either "baseline" variables, or "impact" variables and could be made up of a single variable (e.g., cooling degree hours, CDH), or a group of variables (e.g., days of the week). The baseline portion of the model explains variation in usage unrelated to demand response events, while the impact portion explains the variation in usage related to a DR event.

The candidate models fit into two basic categories:

- Weather sensitive models which include weather effects and calendar effects.
- Non-weather sensitive models that include the morning load adjustment and calendar effects.

The table below presents the listing of the different variables and variable combinations we used to develop the candidate models. The table below presents the listing of the different variables and variable combinations used to develop the candidate models.

Variable	Description
kWh $_{i,t}$	Hourly consumption for customer *i* in hour/day *t*
α_i	Indicator variable for each customer *i*
Day of Week $_t$	Indicator variable for each day of the week
Weekday $_t$	Indicator variable taking on the value of 1 for each weekday and 0 for weekends and holidays
Month of Year t	Indicator variable for each month of the year
CDH $_{i,t}$	Cooling degree hours (base 65) for customer *i* in hour/day *t*
Meantemp $_{i,t}$	Mean temperature for customer *i* on day *t*
Average Load $_{,t}$	Average hourly load for a specified window for customer i on day t
Other DR $_{i,t}$	Indicator variable that takes on a value of 1 if a customer *i* is dually enrolled and participated in another DR event on day *t*
Event $_{i,t}$	Indicator that takes on a value of 1 if customer *i* participated in event *t*
(Event * Notification) $_{i,t}$	Interaction between event and notification that takes on a value of 1 if customer *i* was notified of event *t*
(Event * CDH) $_{i,t}$	Interaction between event and CDH for customer *i* on event *t*
(Event * month) $_{i,t}$	Interaction between event and month for customer *i* on event *t*

The following example illustrates the process of estimating the impacts from the final model for a single subgroup. There were ultimately 64 subgroups in the actual analysis, each with their own final model specification determined by the optimization process.

$$kwh_{it} = \beta_0 + \alpha_t + \delta_t + CDH_t + EVNT + (\alpha_t * EVNT) + \varepsilon_{it} \quad (1)$$

Where:

- kwh_{it} is the consumption of customer i in hour t
- β_0 is the intercept
- α_t is a vector of segment indicators, i.e. AutoDR, LCA, etc
- δ_t is a vector of calendar variables, i.e. month, year, and day of week
- CDH_t represents the cooling degree hours for hour t
- $EVNT$ is a dummy variable indicating that hour t was on a CPP or PDP event day
- $(\alpha_t * EVNT)$ is an interaction between the event indicator and the segment indicator variables
- ε_{it} is the error for participant i in time t

7.4 CAPACITY BIDDING PROGRAM

With the different variables presented, sets of candidate models were created that represent a wide variety of customers and their impacts. Each IOU has customized sets of candidate models, but in general, the candidate models fit into two basic categories:

- Weather-sensitive models include weather effects and calendar effects. These models are less likely to require a load adjustment since much of the day-to-day variation in load is captured by weather terms.
- Non-weather sensitive models include the load adjustment and calendar effects.

Simple weather sensitive example:

$$kwh_{i,d} = \alpha_{i,d} + Month_{i,d} + Weather_{i,d} + P_{i,d} + (P_{i,d} * Month_{i,d}) + (P_{i,d} * EventHour_{i,d}) + \varepsilon_{i,d}$$

where:

- $kwh_{i,d}$ is the customer's consumption in hour i on day d.
- $\alpha_{i,d}$ is the intercept.
- $\varepsilon_{i,d}$ is the error for participant in hour i on day d.

Simple non-weather sensitive example:

$$kwh_{i,d} = \alpha_{i,d} + MornLoad_{i,d} + DayofWeek_{i,d} + P_{i,d} + \varepsilon_{i,d}$$

where:

- $kwh_{i,d}$ is the customer's consumption in hour i on day d.
- $\alpha_{i,d}$ is the intercept.
- $\varepsilon_{i,d}$ is the error for participant in hour i on day d.

Explanatory Variables Included in Candidate Regression Models

Variable Name	Variable Description
	Baseline Variables
$Weather_{i,d}$	Weather related variables including average daily temperature, cooling degree hour (CDH) terms with base value of 70, heating degree hour (HDH) with base value of 60, and lagged versions of various weather-related variables
$Month_{i,d}$	A series of indicator variables for each month
$DayOfWeek_{i,d}$	A series of indicator variables for each day of the week
$OtherEvt_{i,d}$	Equals one on event days of other demand response programs in which the customer is enrolled
$AvgLoad_{i,d}$	The average of each day's load in specified window
	Impact Variables
$P_{i,d}$	An indicator variable for aggregator program event days
$P * Month_{i,d}$	An indicator variable for aggregator program event days interacted with the month
$P*EventHour_{i,d}$	An indicator variable for aggregator program event days interacted with an indicator for the hour the event is called

P*EventWindow$_{i,d}$	An indicator variable for aggregator program event days interacted with an indicator for the window the event is called

7.5 SUMMER DISCOUNT PLAN

The following is a form of the model that was estimated for both residential and commercial customers for ex post analysis.

$$kW_{ih} = \beta_{0h} + \beta_{1h} * date + \beta_{2h} * treat * eventDay + \beta_{3h} * preadj + \beta_{4h} * CDD + \beta_{5h} * DOW + v_{ih} + \varepsilon_{ih}$$

Model Term	Description
kW_{ih}	Net electrical demand in kW for customer i, in hour h
β_0	Mean demand for all customers on proxy days in hour h
β_1	Regression coefficient for the date variable for hour h. Captures date-specific departures from the mean.
date	Set of indicator variables for event day and selected proxy days
β_2	Regression coefficient of interest
$treat$	Indicator variable for the SDP participant group
$eventDay$	Indicator variable for the SDP event day
$treat * eventDay$	Interaction term equal to 1 for treated customers on the event day and 0 otherwise
β_3	Regression coefficient for the pre-event hours to calibrate differences between the treatment and matched control groups on the event and proxy days
preadj	Average kW during pre-event hours. Because customers are given little notice, including this term does not affect the validity of the estimates
β_4	Regression coefficient for the customers's cooling degree day – which accounts for differences in heat buildup between treatment and matched control
CDD	Cooling degree day using set point defined for the customer
β_5	Regression coefficient capturing different load shapes for each day of the week
DOW	Day of week
v_{ih}	Customer fixed effects variable for customer i in hour h
ε_{ih}	Error term

The Ex ante reference load regression model specification for residential customers can be found in the equation below. The commercial reference model was the same, except it also included an indicator for whether or not the commercial customer was a school. The model terms and base temperatures for degree day and degree hour terms were selected based on model fit statistics (adjusted R-squared, root mean square error) and the statistical significance of model parameters (standard error and t-statistic). Model terms further defined in table below.

$$Net\ kW_i = \beta_0 + \beta_1 * CDH65 + \beta_2 * bins\_60 + \beta_3 * bins\_65 + \beta_4 * bins\_70 + \beta_5 * bins\_75 + \beta_{6-10} * DayOfWeek + \varepsilon_i$$

Model Term	Description
Net kW_i	Average net electrical demand in kW during interval i
β0	The model intercept
CDH65	Cooling degree hours base 65 degrees (F)
β1	Regression coefficient for the CDD65 term
β1bins_60, bins_65, bins_70, bins_75	Quantile smoothing spline which allows for different temperature slopes at different temperature ranges
β2-β5	Regression coefficients for the spline terms
DayOfWeek	Indicator variables for each of the 5 weekdays
B6-10	Regression coefficients for five weekday variables
ε_i	Error term

7.6 SMART ENERGY PROGRAM

The Ex Post difference-in-difference panel regression model specification can be found in the equation below and the components are described in table below. The equation shows the regression implemented for every event and every hour of the day.

$$kW_{ih} = \beta_{0h} + \beta_{1h} * date + \beta_{2h} * treat * eventDay + \beta_{3h} * same\ day\ adj_i + v_{ih} + \varepsilon_{ih}$$

Model Term	Description
kW_{ih}	Net electrical demand in kW for customer i, in hour h
β_0	Mean demand for all customers on proxy days in hour h
β_1	Regression coefficient for the date variable for hour h. Captures date-specific departures from the mean
date	Set of four indicator variables for event day and three proxy days
β_2	Regression coefficient of interest
$treat$	Indicator variable for the SEP participant group
$eventDay$	Indicator variable for the SEP event day
$treat * eventDay$	Interaction term equal to 1 for treated customers on the event day and 0 otherwise
β_3	Regression coefficient for the same day adjustment for individual i
$same\ day\ adj_i$	Average demand of customer i in event start hour-2 and event start hour -3
v_{ih}	Customer fixed effects variable for customer i in hour h
ε_{ih}	Error term

The Ex ante reference load regression model specification can be found in the equation below. The model terms and base temperatures for degree day and degree hour terms were selected based on model fit statistics (adjusted R-squared, root mean square error) and the statistical significance of model parameters (standard error and t-statistic). Model terms further defined in table below.

$$Net\ kW_i = \beta_0 + \beta_1 * CDD65 + \beta_2 * bins\_60 + \beta_3 * bins\_65 + \beta_4 * bins\_70 + \beta_5 * bins\_75 + \beta_{6-10} * DayOfWeek + \beta_7 * COVID + \varepsilon_i$$

Model Term	Description
Net kW_i	Average net electrical demand in kW during interval i
β0	The model intercept
CDD65	Cooling degree days base 65 degrees (F)
β1	Regression coefficient for the CDD65 term
β1bins_60, bins_65, bins_70, bins_75	Quantile smoothing spline which allows for different temperature slopes at different temperature ranges
β2-β5	Regression coefficients for the spline terms
DayOfWeek	Indicator variables for each of the 5 weekdays
B6-10	Regression coefficients for five weekday variables
COVID	Indicator variable equal to 1 for days on or after March 1, 2020; 0 for days prior to the COVID pandemic
B7	Regression coefficient for the COVID indicator term
ε_i	Error term

7.7 REAL-TIME PRICING

The following equation shows the specifications for the ex post and ex ante analysis. Further explanation of model terms in the following table.

$$kW_{ih} = \alpha_{0h} + (price(s)) + (month\ \&\ day\ of\ week) + (synthetic\ control) + \varepsilon_{ih}$$

Category	Model Term	Description
Base	kW_{ih}	Electricity delivered in kW for customer i, in hour h
	α_0	Intercept
	ε_{ih}	Error term
Price	price	Hourly energy price inclusive of demand charges
	proxy-peak	Indicator variable for on peak hours
	price squared	Square of hourly energy price
	price ratio	Ratio of hourly price to the daily max price
	proxy-offpeak	Indicator variable for off peak hours
	lnprice	Natural log of hourly price
	lnpriceratio	Natural log of the price ratio
	lndailyaverageprice	Natural log of the daily average price
Month/Day of Week	daytype	Day of week indicators grouping Monday, Tuesday-Thursday, Friday, and Weekends/Holidays
	Month	Month indicator variable
	dow	Day of week indicator variables
	covid	Indicator for post-COVID period (March 2020 onward)
Synthetic Control	ctrl_kwh_all	Profile of average RTP-like control customer
	ctrl_kwh_ind_*	Profiles for average RTP-like control customers by industry
	ctrl_kwh_rate_*	Profiles for average RTP-like control customers by rate

7.8 RESIDENTIAL DEFAULT TIME OF USE

A typical regression specification for estimating ex post impacts is shown below:

$$kW_{i,t} = \alpha_i + \delta \text{treat}_i + \gamma \text{post}_t + \beta(\text{treatpost})_{i,t} + v_i + \varepsilon_{i,t}$$

Model Term	Description
$\boldsymbol{kW_{i,t}}$	Electricity usage of customer i during the time period of interest t
$\boldsymbol{\alpha_i}$	Mean usage for each customer for the relevant time period
$\text{treat}_{\boldsymbol{i}}$	Equal to 1 for treatment customers and 0 for control customers
$\text{post}_{\boldsymbol{t}}$	Equal to 1 for days after the TOU rate has been implemented and a value of 0 for days during the pretreatment period
$(\text{treatpost})_{\boldsymbol{i,t}}$	The interaction of treat and post
$\boldsymbol{\beta}$	Difference-in-differences estimator of the treatment effect that makes use of the pretreatment data
$\boldsymbol{v_i}$	Customer fixed effects variable that controls for unobserved factors that are time-invariant and unique to each customer
$\boldsymbol{\varepsilon_{i,t}}$	Error term

A typical regression specification for estimating ex ante impacts is shown below:

$$Impact_h = a + b * mean17 + c * mean17^2 + \sum_{i=1}^{12} d_i * month_{hi} + e * covid + \boldsymbol{\varepsilon}$$

Model Term	Description
$\boldsymbol{Impact_h}$	Customer impact during hour of interest
$\boldsymbol{a}$	Mean usage for each customer for the relevant time period
$mean17$	Average temperature between midnight and 5 PM
$mean17^2$	Mean17 squared
$month_{h,i}$	Month indicator variable
$\boldsymbol{covid}$	Indicator for post-COVID period (March 2020 onward
$\boldsymbol{\varepsilon_{i,t}}$	Error term

8 APPENDIX: EX ANTE IMPACTS BY PROGRAM AND YEAR

Ex Ante Impacts - 2021 Program SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	8.4	14.0	20.2	26.2	33.8	36.1	33.7	34.1	34.0	26.5	18.5	6.6
	BIP15	143.7	156.4	143.8	157.4	170.0	171.3	172.9	173.6	174.8	172.1	177.5	153.8
	BIP30	306.8	338.4	308.9	320.2	319.9	325.2	306.2	319.4	323.8	311.5	322.8	294.3
	CBPDA												
	CBPDO												
	SDPC	13.8	8.7	13.4	13.2	19.0	18.8	26.3	20.9	22.1	20.1	12.1	14.6
	SDPR	0.0	27.6	41.3	62.3	101.8	184.0	214.3	189.4	193.2	127.6	56.9	0.0
	SEP	0.0	17.0	21.5	24.3	31.0	32.0	40.2	33.5	36.1	36.6	27.1	0.0
	Subtotal	472.8	562.0	549.1	603.7	680.2	772.2	798.4	775.7	788.8	699.3	614.8	469.2
Load Modifying Programs	CPP Large	7.7	8.8	9.4	9.6	9.9	10.6	10.7	10.2	10.2	9.9	9.1	7.7
	CPP Medium	1.4	2.5	3.0	3.4	4.2	4.3	5.2	4.3	4.6	4.6	3.3	1.4
	CPP Small	0.2	0.2	0.2	0.3	0.3	0.5	0.0	0.4	0.3	0.3	0.2	0.2
	RTP	-2.0	-2.4	-2.4	-2.6	-2.8	1.4	-0.1	-0.1	5.7	-2.9	-2.6	-3.1
	Subtotal	7.3	9.1	10.3	10.7	11.6	16.7	16.0	14.8	20.8	11.9	10.1	6.2
Pilots	Residential TOU	4.4	6.2	6.0	8.0	13.0	14.9	19.9	20.1	20.4	25.8	21.5	12.1
	Subtotal	4.4	6.2	6.0	8.0	13.0	14.9	19.9	20.1	20.4	25.8	21.5	12.1
Total	Total	484.5	577.3	565.4	622.5	704.8	803.8	834.2	810.6	830.0	737.0	646.5	487.6

Ex Ante Impacts - 2022 Program SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	9.8	16.2	23.5	30.5	36.8	39.4	36.7	37.2	37.0	28.9	20.1	7.2
	BIP15	146.3	159.5	146.8	160.2	173.1	174.8	176.3	177.1	178.2	175.1	180.6	156.6
	BIP30	324.5	356.6	327.0	338.5	338.2	344.1	324.3	338.1	342.6	329.7	341.7	311.5
	CBPDA												
	CBPDO												
	SDPC	12.8	8.9	13.5	13.4	18.8	18.7	25.5	20.6	21.7	19.9	12.4	13.5
	SDPR	0.0	28.1	42.0	63.3	103.2	186.3	216.9	191.8	195.6	129.3	57.8	0.0
	SEP	0.0	21.9	27.8	31.7	40.5	42.0	53.1	44.8	47.7	47.9	35.4	0.0
	Subtotal	493.4	591.4	580.6	637.6	715.3	810.1	837.6	814.3	827.5	735.6	648.0	488.8
Load Modifying Programs	CPP Large	7.9	8.9	9.6	9.8	10.1	10.8	11.0	10.4	10.4	10.1	9.3	7.9
	CPP Medium	1.4	2.5	3.0	3.4	4.2	4.3	5.2	4.3	4.5	4.6	3.3	1.4
	CPP Small	0.2	0.2	0.2	0.2	0.3	0.5	0.0	0.4	0.3	0.3	0.2	0.2
	RTP	-3.1	-3.4	-3.1	-3.1	-3.2	1.5	-0.2	-0.3	5.4	-2.9	-2.4	-3.0
	Subtotal	6.5	8.3	9.8	10.4	11.4	17.0	16.0	14.9	20.7	12.1	10.4	6.5
Pilots	Residential TOU	15.4	24.2	25.9	33.4	51.6	60.7	76.9	77.4	75.4	67.7	42.1	21.5
	Subtotal	15.4	24.2	25.9	33.4	51.6	60.7	76.9	77.4	75.4	67.7	42.1	21.5
Total	Total	515.2	623.8	616.2	681.4	778.3	887.8	930.6	906.6	923.6	815.4	700.5	516.8

Ex Ante Impacts - 2023 Program SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	10.7	17.7	25.6	33.2	39.8	42.7	39.7	40.3	40.1	31.3	21.8	7.8
	BIP15	149.3	162.9	149.9	163.4	176.5	178.4	180.0	180.8	181.7	178.5	184.1	159.7
	BIP30	337.3	370.1	340.1	351.9	351.4	357.7	337.2	351.5	356.1	342.8	355.3	323.9
	CBPDA												
	CBPDO												
	SDPC	11.8	8.6	12.9	12.8	17.8	17.7	24.0	19.5	20.5	18.9	11.9	12.4
	SDPR	0.0	27.0	40.3	60.8	99.0	178.5	207.9	183.8	187.4	124.0	55.4	0.0
	SEP	0.0	27.6	34.6	39.1	49.5	51.0	63.8	53.6	56.8	56.8	41.9	0.0
	Subtotal	509.1	613.9	603.4	661.2	738.8	830.8	857.4	834.2	847.4	757.1	670.5	503.8
Load Modifying Programs	CPP Large	8.2	9.3	10.1	10.2	10.6	11.3	11.5	10.9	10.9	10.6	9.7	8.2
	CPP Medium	1.4	2.6	3.2	3.6	4.4	4.5	5.5	4.5	4.8	4.8	3.5	1.4
	CPP Small	0.2	0.2	0.3	0.3	0.3	0.5	0.0	0.4	0.3	0.3	0.3	0.2
	RTP	-3.0	-3.3	-3.0	-3.0	-3.1	1.5	-0.3	-0.3	5.2	-2.8	-2.3	-2.9
	Subtotal	7.0	8.9	10.5	11.1	12.1	17.7	16.7	15.5	21.1	12.9	11.1	7.0
Pilots	Residential TOU	21.2	28.3	26.2	33.5	51.7	61.6	77.9	78.0	76.4	67.5	42.3	21.9
	Subtotal	21.2	28.3	26.2	33.5	51.7	61.6	77.9	78.0	76.4	67.5	42.3	21.9
Total	Total	537.2	651.1	640.1	705.9	802.6	910.1	952.0	927.8	944.9	837.4	724.0	532.7

Ex Ante Impacts - 2024 Program SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	11.5	19.2	27.8	36.0	43.0	46.0	42.9	43.4	43.2	33.7	23.5	8.4
	BIP15	152.3	166.3	153.0	166.7	180.0	182.1	183.6	184.6	185.4	182.1	187.8	162.9
	BIP30	347.8	381.2	350.7	362.8	362.2	368.7	347.7	362.4	367.0	353.3	366.3	333.9
	CBPDA												
	CBPDO												
	SDPC	10.8	8.0	12.0	12.0	16.6	16.5	22.2	18.1	19.0	17.5	11.1	11.3
	SDPR	0.0	25.6	38.2	57.5	93.7	169.0	196.7	173.9	177.4	117.4	52.5	0.0
	SEP	0.0	32.3	40.2	45.2	57.0	58.5	73.0	61.1	64.6	64.5	47.5	0.0
	Subtotal	522.5	632.6	622.0	680.3	757.1	845.6	870.8	848.3	861.4	773.3	688.8	516.6
Load Modifying Programs	CPP Large	8.6	9.7	10.5	10.6	11.0	11.7	11.9	11.3	11.3	11.0	10.1	8.6
	CPP Medium	1.5	2.7	3.3	3.7	4.6	4.7	5.7	4.7	5.0	5.0	3.6	1.5
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.5	0.0	0.5	0.3	0.3	0.3	0.3
	RTP	-2.9	-3.1	-2.9	-2.9	-3.0	1.4	-0.3	-0.3	4.9	-2.7	-2.3	-2.8
	Subtotal	7.4	9.5	11.1	11.8	12.9	18.3	17.4	16.1	21.5	13.6	11.7	7.5
Pilots	Residential TOU	21.3	28.1	26.2	33.4	51.5	61.8	78.1	77.8	76.6	67.1	42.3	22.0
	Subtotal	21.3	28.1	26.2	33.4	51.5	61.8	78.1	77.8	76.6	67.1	42.3	22.0
Total	Total	551.2	670.2	659.3	725.5	821.5	925.7	966.3	942.2	959.6	854.0	742.9	546.1

Ex Ante Impacts - 2025 Program SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	12.4	20.7	29.9	38.8	46.1	49.4	46.0	46.6	46.4	36.2	25.3	9.0
	BIP15	155.5	169.7	156.2	170.2	183.6	185.8	187.4	188.3	189.2	185.7	191.6	166.2
	BIP30	357.0	391.1	360.0	372.3	371.5	378.2	356.7	371.8	376.5	362.5	375.8	342.6
	CBPDA												
	CBPDO												
	SDPC	9.8	7.4	11.0	11.1	15.2	15.2	20.4	16.6	17.5	16.1	10.2	10.3
	SDPR	0.0	24.3	36.2	54.6	88.8	160.2	186.5	164.9	168.1	111.3	49.8	0.0
	SEP	0.0	36.2	45.0	50.5	63.4	65.0	80.8	67.6	71.3	71.0	52.3	0.0
	Subtotal	534.7	649.4	638.4	697.4	773.4	858.5	882.5	860.5	873.7	787.6	705.0	528.2
Load Modifying Programs	CPP Large	8.9	10.1	10.8	11.0	11.4	12.1	12.3	11.7	11.7	11.4	10.5	8.9
	CPP Medium	1.6	2.8	3.4	3.9	4.8	4.8	5.9	4.9	5.2	5.2	3.8	1.6
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.5	0.1	0.5	0.4	0.3	0.3	0.3
	RTP	-2.8	-3.1	-2.8	-2.8	-3.0	1.4	-0.3	-0.3	4.9	-2.7	-2.3	-2.8
	Subtotal	7.9	10.0	11.7	12.4	13.5	18.9	18.0	16.7	22.1	14.2	12.2	7.9
Pilots	Residential TOU	21.1	27.7	26.1	33.1	51.2	61.3	77.7	77.1	76.2	66.5	42.0	22.0
	Subtotal	21.1	27.7	26.1	33.1	51.2	61.3	77.7	77.1	76.2	66.5	42.0	22.0
Total	Total	563.7	687.2	676.3	742.8	838.1	938.7	978.2	954.4	972.1	868.3	759.3	558.0

Ex Ante Impacts - 2026 Program SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	13.4	22.2	32.1	41.7	49.3	52.8	49.2	49.9	49.7	38.7	27.0	9.6
	BIP15	158.6	173.2	159.4	173.6	187.2	189.5	191.1	192.1	192.9	189.4	195.4	169.5
	BIP30	365.4	400.2	368.5	381.0	380.1	387.0	365.0	380.4	385.2	370.9	384.5	350.6
	CBPDA												
	CBPDO												
	SDPC	9.0	6.8	10.1	10.1	14.0	13.9	18.6	15.2	16.0	14.8	9.4	9.4
	SDPR	0.0	23.0	34.4	51.8	84.3	152.0	177.0	156.5	159.6	105.7	47.3	0.0
	SEP	0.0	39.6	49.1	55.0	68.9	70.5	87.5	73.1	77.0	76.6	56.4	0.0
	Subtotal	546.4	665.1	653.7	713.3	788.6	870.5	893.2	871.9	885.2	800.8	720.0	539.1
Load Modifying Programs	CPP Large	9.2	10.4	11.2	11.4	11.7	12.5	12.7	12.1	12.1	11.8	10.8	9.2
	CPP Medium	1.6	2.9	3.6	4.0	5.0	5.0	6.1	5.1	5.3	5.4	3.9	1.6
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.6	0.1	0.5	0.4	0.3	0.3	0.3
	RTP	-2.8	-3.1	-2.8	-2.8	-3.0	1.4	-0.3	-0.3	4.9	-2.7	-2.3	-2.8
	Subtotal	8.2	10.5	12.2	12.9	14.1	19.5	18.6	17.3	22.7	14.7	12.8	8.2
Pilots	Residential TOU	20.9	27.3	25.8	32.8	50.8	60.6	77.1	76.2	75.6	66.0	41.7	21.8
	Subtotal	20.9	27.3	25.8	32.8	50.8	60.6	77.1	76.2	75.6	66.0	41.7	21.8
Total	Total	575.5	702.9	691.7	759.0	853.5	950.7	989.0	965.5	983.5	881.6	774.5	569.2

Ex Ante Impacts - 2027 Program SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	14.3	23.7	34.3	44.6	52.6	56.3	52.4	53.1	52.9	41.3	28.8	10.3
	BIP15	161.8	176.6	162.6	177.1	190.9	193.2	194.8	195.8	196.7	193.1	199.2	172.8
	BIP30	373.5	409.0	376.6	389.5	388.3	395.4	372.9	388.7	393.6	379.0	392.9	358.2
	CBPDA												
	CBPDO												
	SDPC	8.2	6.2	9.3	9.3	12.8	12.7	17.1	13.9	14.6	13.5	8.6	8.6
	SDPR	0.0	21.9	32.7	49.3	80.2	144.5	168.3	148.8	151.7	100.4	44.9	0.0
	SEP	0.0	42.5	52.7	58.8	73.6	75.3	93.3	77.8	81.9	81.4	59.9	0.0
	Subtotal	557.8	680.1	668.3	728.5	803.1	882.2	903.6	883.0	896.3	813.5	734.4	549.9
Load Modifying Programs	CPP Large	9.2	10.4	11.2	11.4	11.7	12.5	12.7	12.1	12.1	11.8	10.8	9.2
	CPP Medium	1.6	2.9	3.6	4.0	5.0	5.0	6.1	5.1	5.4	5.4	3.9	1.6
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.6	0.1	0.5	0.4	0.3	0.3	0.3
	RTP	-2.8	-3.1	-2.8	-2.8	-3.0	1.4	-0.3	-0.3	4.9	-2.7	-2.3	-2.9
	Subtotal	8.2	10.5	12.2	12.9	14.1	19.5	18.6	17.3	22.7	14.7	12.8	8.2
Pilots	Residential TOU	20.6	27.0	25.6	32.4	50.4	60.1	76.6	75.4	75.1	65.4	41.4	21.7
	Subtotal	20.6	27.0	25.6	32.4	50.4	60.1	76.6	75.4	75.1	65.4	41.4	21.7
Total	Total	586.6	717.6	706.1	773.8	867.6	961.9	998.8	975.7	994.1	893.6	788.5	579.8

Ex Ante Impacts - 2028 Program SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	15.2	25.3	36.6	47.5	55.9	59.8	55.7	56.5	56.2	43.9	30.6	10.9
	BIP15	164.9	180.1	165.8	180.5	194.5	197.0	198.6	199.6	200.5	196.8	203.0	176.1
	BIP30	381.4	417.6	384.6	397.7	396.3	403.6	380.6	396.7	401.7	386.8	401.0	365.6
	CBPDA												
	CBPDO												
	SDPC	7.5	5.7	8.5	8.5	11.7	11.6	15.6	12.8	13.4	12.4	7.9	7.9
	SDPR	0.0	20.9	31.1	46.9	76.3	137.6	160.2	141.6	144.4	95.6	42.8	0.0
	SEP	0.0	45.0	55.7	62.2	77.7	79.4	98.3	81.9	86.1	85.6	62.9	0.0
	Subtotal	569.1	694.7	682.3	743.3	817.3	893.7	913.8	893.9	907.2	825.8	748.3	560.5
Load Modifying Programs	CPP Large	9.2	10.4	11.2	11.4	11.8	12.5	12.8	12.1	12.1	11.8	10.8	9.2
	CPP Medium	1.8	3.2	4.0	4.5	5.5	5.6	6.8	5.6	5.9	6.0	4.3	1.8
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.6	0.1	0.6	0.4	0.3	0.3	0.3
	RTP	-2.8	-3.1	-2.8	-2.8	-3.0	1.4	-0.3	-0.3	4.9	-2.7	-2.3	-2.9
	Subtotal	8.5	10.9	12.6	13.4	14.7	20.2	19.3	18.0	23.4	15.4	13.2	8.4
Pilots	Residential TOU	20.5	26.7	25.4	32.2	50.1	59.5	76.1	74.8	74.6	65.0	41.1	21.5
	Subtotal	20.5	26.7	25.4	32.2	50.1	59.5	76.1	74.8	74.6	65.0	41.1	21.5
Total	Total	598.0	732.2	720.4	788.9	882.0	973.4	1,009.2	986.6	1,005.2	906.2	802.6	590.5

Ex Ante Impacts - 2029 Program SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	16.2	26.9	38.9	50.5	59.2	63.4	59.1	59.8	59.6	46.5	32.4	11.6
	BIP15	168.1	183.5	169.0	184.0	198.2	200.7	202.3	203.4	204.3	200.5	206.8	179.4
	BIP30	389.2	426.2	392.5	405.8	404.3	411.6	388.2	404.7	409.8	394.6	409.1	372.9
	CBPDA												
	CBPDO												
	SDPC	6.9	5.2	7.8	7.8	10.7	10.6	14.3	11.7	12.2	11.3	7.2	7.2
	SDPR	0.0	19.9	29.7	44.7	72.8	131.2	152.7	135.0	137.7	91.2	40.8	0.0
	SEP	0.0	47.2	58.3	65.0	81.2	82.9	102.6	85.5	89.8	89.1	65.5	0.0
	Subtotal	580.3	708.9	696.1	757.8	831.2	905.2	924.0	904.8	918.2	838.0	761.9	571.1
Load Modifying Programs	CPP Large	9.2	10.4	11.2	11.4	11.8	12.5	12.8	12.1	12.1	11.8	10.9	9.2
	CPP Medium	1.8	3.2	4.0	4.5	5.5	5.6	6.8	5.6	5.9	6.0	4.3	1.8
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.6	0.1	0.6	0.4	0.3	0.3	0.3
	RTP	-2.8	-3.1	-2.8	-2.8	-3.0	1.4	-0.3	-0.4	4.9	-2.7	-2.3	-2.9
	Subtotal	8.5	10.9	12.7	13.4	14.7	20.2	19.3	18.0	23.4	15.4	13.2	8.4
Pilots	Residential TOU	20.2	26.3	25.2	31.9	49.8	59.0	75.6	74.0	74.1	64.5	40.9	21.4
	Subtotal	20.2	26.3	25.2	31.9	49.8	59.0	75.6	74.0	74.1	64.5	40.9	21.4
Total	Total	609.0	746.1	734.0	803.1	895.6	984.4	1,018.9	996.8	1,015.7	917.8	816.0	601.0

Ex Ante Impacts - 2030 Program SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	17.2	28.5	41.2	53.5	62.6	67.0	62.4	63.3	63.0	49.2	34.3	12.2
	BIP15	171.3	187.0	172.1	187.5	201.9	204.4	206.1	207.1	208.0	204.2	210.7	182.7
	BIP30	396.9	434.6	400.3	413.9	412.2	419.7	395.8	412.6	417.8	402.3	417.1	380.2
	CBPDA												
	CBPDO												
	SDPC	6.3	4.8	7.1	7.1	9.8	9.7	13.1	10.7	11.2	10.4	6.6	6.6
	SDPR	0.0	19.0	28.3	42.7	69.4	125.2	145.7	128.8	131.4	87.0	38.9	0.0
	SEP	0.0	49.0	60.6	67.5	84.3	86.0	106.3	88.5	93.0	92.2	67.8	0.0
	Subtotal	591.6	723.0	709.7	772.2	845.0	916.8	934.2	915.8	929.2	850.0	775.3	581.8
Load Modifying Programs	CPP Large	9.2	10.4	11.2	11.4	11.8	12.5	12.8	12.1	12.1	11.8	10.9	9.2
	CPP Medium	1.8	3.2	4.0	4.5	5.5	5.6	6.8	5.6	5.9	6.0	4.3	1.8
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.6	0.1	0.6	0.4	0.3	0.3	0.3
	RTP	-2.8	-3.1	-2.8	-2.8	-3.0	1.4	-0.3	-0.4	4.9	-2.7	-2.3	-2.9
	Subtotal	8.5	10.9	12.7	13.4	14.7	20.2	19.3	18.0	23.4	15.4	13.2	8.4
Pilots	Residential TOU	20.1	26.1	25.0	31.6	49.5	58.5	75.1	73.4	73.6	64.1	40.6	21.2
	Subtotal	20.1	26.1	25.0	31.6	49.5	58.5	75.1	73.4	73.6	64.1	40.6	21.2
Total	Total	620.2	759.9	747.4	817.1	909.1	995.4	1,028.7	1,007.2	1,026.2	929.5	829.2	611.4

Ex Ante Impacts - 2031 Program SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	18.1	30.1	43.6	56.5	66.0	70.7	65.9	66.7	66.5	51.9	36.2	12.9
	BIP15	174.4	190.5	175.3	190.9	205.5	208.1	209.8	210.9	211.8	207.9	214.5	186.1
	BIP30	404.7	443.1	408.1	422.0	420.1	427.7	403.4	420.5	425.8	410.0	425.0	387.5
	CBPDA												
	CBPDO												
	SDPC	5.7	4.4	6.5	6.5	9.0	8.9	12.0	9.8	10.3	9.5	6.1	6.0
	SDPR	0.0	18.1	27.1	40.8	66.4	119.6	139.2	123.1	125.6	83.1	37.2	0.0
	SEP	0.0	50.6	62.5	69.7	86.9	88.6	109.5	91.2	95.7	95.0	69.8	0.0
	Subtotal	603.0	736.9	723.2	786.4	858.7	928.5	944.6	927.0	940.4	862.1	788.8	592.5
Load Modifying Programs	CPP Large	9.2	10.4	11.2	11.4	11.8	12.5	12.8	12.1	12.1	11.8	10.9	9.2
	CPP Medium	1.8	3.2	4.0	4.5	5.5	5.6	6.8	5.6	5.9	6.0	4.3	1.8
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.6	0.1	0.6	0.4	0.3	0.3	0.3
	RTP	-2.8	-3.1	-2.8	-2.8	-3.0	1.4	-0.3	-0.4	4.9	-2.7	-2.3	-2.9
	Subtotal	8.5	10.9	12.7	13.4	14.7	20.2	19.3	18.0	23.4	15.4	13.2	8.4
Pilots	Residential TOU	19.9	25.8	24.8	31.4	49.2	58.0	74.7	72.8	73.2	63.8	40.4	21.1
	Subtotal	19.9	25.8	24.8	31.4	49.2	58.0	74.7	72.8	73.2	63.8	40.4	21.1
Total	Total	631.4	773.6	760.6	831.2	922.5	1,006.6	1,038.7	1,017.7	1,037.0	941.3	842.4	622.1

Ex Ante Impacts - 2021 Program SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	8.5	8.4	12.8	20.7	26.9	34.9	35.0	35.0	32.1	24.7	14.6	5.9
	BIP15	144.6	155.7	143.9	158.2	168.4	170.0	171.6	173.2	174.3	172.5	178.0	154.8
	BIP30	306.4	335.3	304.1	318.5	312.8	318.1	299.4	317.3	321.4	306.8	319.7	293.6
	CBPDA												
	CBPDO												
	SDPC	13.7	14.1	10.0	13.3	13.5	14.2	18.2	17.1	19.8	16.1	10.4	13.3
	SDPR	0.0	0.0	1.8	37.4	41.1	100.2	153.7	164.6	166.6	65.9	30.8	0.0
	SEP	0.0	0.0	0.6	21.0	22.0	21.9	29.0	29.4	33.2	29.2	21.1	0.0
	Subtotal	473.2	513.6	473.1	569.1	589.5	664.1	711.6	741.4	752.1	620.1	574.6	467.6
Load Modifying Programs	CPP Large	7.7	7.7	7.8	9.3	9.3	9.1	9.8	9.6	9.9	9.4	8.9	7.7
	CPP Medium	1.4	1.4	1.5	3.0	3.0	3.0	3.8	3.8	4.2	3.7	2.6	1.4
	CPP Small	0.5	0.5	0.5	0.6	0.6	1.0	0.6	0.6	0.5	0.6	0.5	0.5
	RTP	-2.0	-2.4	-3.0	-3.1	-3.4	-9.3	-0.1	-0.1	5.7	-2.9	-2.6	-3.1
	Subtotal	7.6	7.3	6.9	9.7	9.5	3.7	14.2	13.9	20.3	10.8	9.5	6.5
Pilots	Residential TOU	4.2	3.6	2.7	5.2	6.7	6.5	13.9	19.5	18.9	15.0	13.9	10.1
	Subtotal	4.2	3.6	2.7	5.2	6.7	6.5	13.9	19.5	18.9	15.0	13.9	10.1
Total	Total	485.0	524.4	482.7	584.0	605.7	674.3	739.7	774.8	791.3	645.9	598.0	484.2

Ex Ante Impacts - 2022 Program SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	9.8	9.8	14.8	24.0	29.3	38.0	38.1	38.2	34.9	27.0	15.9	6.4
	BIP15	147.2	158.7	146.9	161.1	171.4	173.5	175.0	176.7	177.6	175.5	181.1	157.7
	BIP30	324.0	353.1	321.9	336.7	330.7	336.6	317.0	335.8	340.0	324.7	338.4	310.9
	CBPDA												
	CBPDO												
	SDPC	12.7	13.1	9.5	13.4	13.6	14.2	18.1	17.1	19.6	16.1	10.6	12.3
	SDPR	0.0	0.0	1.9	38.0	41.7	101.5	155.6	166.7	168.7	67.0	31.4	0.0
	SEP	0.0	0.0	0.8	27.5	29.0	29.0	38.5	39.4	43.9	38.4	27.8	0.0
	Subtotal	493.8	534.7	495.9	600.8	620.5	697.7	747.1	778.7	789.4	653.4	605.3	487.4
Load Modifying Programs	CPP Large	7.9	7.9	8.0	9.5	9.5	9.3	10.1	9.8	10.2	9.6	9.1	7.9
	CPP Medium	1.4	1.4	1.5	2.9	3.0	3.0	3.8	3.8	4.1	3.7	2.6	1.4
	CPP Small	0.5	0.5	0.5	0.6	0.6	1.0	0.6	0.6	0.5	0.6	0.5	0.5
	RTP	-3.1	-3.4	-3.8	-3.8	-3.9	-10.0	-0.2	-0.3	5.4	-2.9	-2.4	-3.0
	Subtotal	6.7	6.4	6.2	9.2	9.1	3.2	14.3	14.0	20.2	11.0	9.8	6.8
Pilots	Residential TOU	14.8	14.7	12.8	22.5	27.7	28.6	55.5	75.3	70.9	40.5	27.8	18.3
	Subtotal	14.8	14.7	12.8	22.5	27.7	28.6	55.5	75.3	70.9	40.5	27.8	18.3
Total	Total	515.4	555.8	514.9	632.5	657.4	729.5	816.9	868.0	880.5	704.9	642.9	512.5

Ex Ante Impacts - 2023 Program SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	10.7	10.7	16.1	26.2	31.7	41.2	41.3	41.3	37.9	29.2	17.2	6.9
	BIP15	150.3	161.9	150.0	164.3	174.8	177.1	178.6	180.4	181.1	178.9	184.7	160.8
	BIP30	336.9	366.4	334.8	350.0	343.6	350.0	329.7	349.2	353.3	337.5	351.9	323.3
	CBPDA												
	CBPDO												
	SDPC	11.7	12.0	8.9	12.7	13.0	13.5	17.1	16.3	18.5	15.3	10.2	11.3
	SDPR	0.0	0.0	1.9	36.5	40.1	97.3	149.2	159.7	161.6	64.3	30.2	0.0
	SEP	0.0	0.0	1.1	34.0	35.6	35.4	46.4	47.3	52.3	45.7	33.1	0.0
	Subtotal	509.6	551.0	512.8	623.9	643.5	719.3	767.1	799.0	809.6	675.8	627.3	502.5
Load Modifying Programs	CPP Large	8.2	8.2	8.3	9.9	9.9	9.7	10.5	10.2	10.6	10.1	9.5	8.2
	CPP Medium	1.4	1.4	1.5	3.1	3.2	3.1	4.0	4.0	4.3	3.8	2.7	1.4
	CPP Small	0.6	0.6	0.6	0.6	0.6	1.0	0.7	0.6	0.5	0.6	0.6	0.6
	RTP	-3.0	-3.3	-3.7	-3.7	-3.8	-9.6	-0.3	-0.3	5.2	-2.8	-2.3	-2.9
	Subtotal	7.3	7.0	6.7	9.9	9.9	4.2	14.9	14.6	20.6	11.7	10.5	7.3
Pilots	Residential TOU	20.3	17.4	13.3	22.7	28.0	30.1	56.6	75.9	71.7	40.4	28.1	18.7
	Subtotal	20.3	17.4	13.3	22.7	28.0	30.1	56.6	75.9	71.7	40.4	28.1	18.7
Total	Total	537.1	575.3	532.8	656.5	681.4	753.6	838.5	889.5	901.9	727.9	665.9	528.5

Ex Ante Impacts - 2024 Program SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	11.6	11.6	17.5	28.4	34.2	44.4	44.5	44.6	40.8	31.5	18.6	7.5
	BIP15	153.4	165.2	153.1	167.7	178.2	180.7	182.2	184.1	184.8	182.5	188.4	164.1
	BIP30	347.3	377.3	345.3	360.8	354.1	360.8	339.9	360.0	364.2	347.9	362.8	333.4
	CBPDA												
	CBPDO												
	SDPC	10.7	11.0	8.2	11.9	12.1	12.6	15.9	15.2	17.2	14.2	9.5	10.4
	SDPR	0.0	0.0	1.8	34.6	38.0	92.1	141.2	151.2	153.0	60.9	28.6	0.0
	SEP	0.0	0.0	1.3	39.4	41.1	40.7	53.2	53.9	59.5	51.9	37.6	0.0
	Subtotal	523.0	565.1	527.2	642.8	662.5	736.1	781.7	813.8	824.3	693.7	645.5	515.3
Load Modifying Programs	CPP Large	8.6	8.6	8.6	10.3	10.3	10.1	10.9	10.6	11.0	10.5	9.9	8.6
	CPP Medium	1.5	1.5	1.6	3.2	3.3	3.2	4.1	4.1	4.5	4.0	2.8	1.5
	CPP Small	0.6	0.6	0.6	0.6	0.6	1.1	0.7	0.7	0.5	0.6	0.6	0.6
	RTP	-2.9	-3.1	-3.5	-3.5	-3.6	-9.2	-0.3	-0.3	4.9	-2.7	-2.3	-2.8
	Subtotal	7.8	7.5	7.3	10.6	10.5	5.2	15.5	15.1	21.0	12.4	11.0	7.8
Pilots	Residential TOU	20.3	17.4	13.4	22.7	28.0	30.8	56.9	75.7	71.7	40.2	28.1	18.8
	Subtotal	20.3	17.4	13.4	22.7	28.0	30.8	56.9	75.7	71.7	40.2	28.1	18.8
Total	Total	551.1	590.0	547.9	676.1	701.0	772.0	854.0	904.6	917.0	746.3	684.6	542.0

Ex Ante Impacts - 2025 Program SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	12.5	12.5	18.9	30.6	36.7	47.7	47.8	47.9	43.8	33.8	19.9	8.0
	BIP15	156.5	168.6	156.3	171.1	181.8	184.4	185.9	187.9	188.5	186.2	192.2	167.4
	BIP30	356.5	387.0	354.4	370.3	363.2	370.1	348.7	369.3	373.6	356.9	372.2	342.0
	CBPDA												
	CBPDO												
	SDPC	9.7	10.0	7.5	10.9	11.1	11.6	14.7	14.0	15.8	13.1	8.8	9.5
	SDPR	0.0	0.0	1.7	32.8	36.0	87.3	133.8	143.3	145.0	57.7	27.1	0.0
	SEP	0.0	0.0	1.5	44.0	45.7	45.3	58.9	59.6	65.6	57.2	41.4	0.0
	Subtotal	535.3	578.2	540.3	659.8	679.4	751.1	794.6	826.7	837.2	709.7	661.7	527.0
Load Modifying Programs	CPP Large	8.9	8.9	9.0	10.6	10.6	10.4	11.3	11.0	11.4	10.8	10.3	8.9
	CPP Medium	1.6	1.6	1.7	3.3	3.4	3.4	4.3	4.3	4.7	4.2	2.9	1.6
	CPP Small	0.6	0.6	0.6	0.6	0.6	1.1	0.7	0.7	0.5	0.6	0.6	0.6
	RTP	-2.8	-3.1	-3.5	-3.5	-3.6	-9.1	-0.3	-0.3	4.9	-2.7	-2.3	-2.8
	Subtotal	8.2	8.0	7.8	11.1	11.1	5.8	16.0	15.7	21.6	12.9	11.5	8.2
Pilots	Residential TOU	20.1	17.3	13.4	22.5	27.8	30.8	56.6	75.0	71.2	39.8	27.9	18.7
	Subtotal	20.1	17.3	13.4	22.5	27.8	30.8	56.6	75.0	71.2	39.8	27.9	18.7
Total	Total	563.6	603.5	561.4	693.4	718.3	787.7	867.2	917.4	930.0	762.5	701.1	553.9

Ex Ante Impacts - 2026 Program SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	13.4	13.4	20.2	32.8	39.3	51.0	51.1	51.2	46.9	36.2	21.3	8.6
	BIP15	159.7	172.1	159.5	174.6	185.4	188.1	189.6	191.6	192.3	189.9	196.0	170.7
	BIP30	364.9	396.1	362.8	379.0	371.6	378.7	356.8	377.9	382.3	365.2	380.8	350.0
	CBPDA												
	CBPDO												
	SDPC	8.9	9.2	6.9	10.0	10.2	10.6	13.4	12.8	14.5	12.0	8.1	8.6
	SDPR	0.0	0.0	1.6	31.2	34.2	82.9	127.1	136.0	137.7	54.8	25.7	0.0
	SEP	0.0	0.0	1.6	47.9	49.7	49.1	63.8	64.5	70.9	61.7	44.7	0.0
	Subtotal	546.9	590.7	552.6	675.6	695.2	765.2	806.6	838.8	849.3	724.6	676.7	538.0
Load Modifying Programs	CPP Large	9.2	9.2	9.3	11.0	11.0	10.8	11.7	11.4	11.8	11.2	10.6	9.2
	CPP Medium	1.6	1.6	1.7	3.5	3.6	3.5	4.5	4.5	4.9	4.3	3.0	1.6
	CPP Small	0.6	0.6	0.6	0.7	0.7	1.2	0.8	0.7	0.6	0.7	0.6	0.6
	RTP	-2.8	-3.1	-3.5	-3.5	-3.6	-9.1	-0.3	-0.3	4.9	-2.7	-2.3	-2.8
	Subtotal	8.6	8.4	8.2	11.6	11.6	6.3	16.6	16.2	22.2	13.5	12.0	8.6
Pilots	Residential TOU	19.9	17.0	13.2	22.2	27.5	30.5	56.1	74.1	70.5	39.3	27.6	18.5
	Subtotal	19.9	17.0	13.2	22.2	27.5	30.5	56.1	74.1	70.5	39.3	27.6	18.5
Total	Total	575.4	616.1	574.0	709.4	734.3	802.0	879.3	929.2	942.0	777.4	716.3	565.0

Ex Ante Impacts - 2027 Program SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	14.4	14.3	21.7	35.1	41.9	54.4	54.5	54.6	50.0	38.5	22.7	9.2
	BIP15	162.9	175.5	162.7	178.1	189.0	191.7	193.3	195.4	196.0	193.6	199.8	174.0
	BIP30	373.0	404.8	370.8	387.4	379.7	386.9	364.5	386.1	390.5	373.2	389.1	357.6
	CBPDA												
	CBPDO												
	SDPC	8.1	8.4	6.3	9.2	9.3	9.7	12.3	11.7	13.3	11.0	7.4	7.9
	SDPR	0.0	0.0	1.6	29.6	32.5	78.8	120.8	129.3	130.9	52.1	24.5	0.0
	SEP	0.0	0.0	1.7	51.3	53.2	52.5	68.1	68.7	75.5	65.6	47.4	0.0
	Subtotal	558.4	603.0	564.7	690.7	710.4	778.8	818.3	850.6	861.0	738.8	691.0	548.7
Load Modifying Programs	CPP Large	9.2	9.2	9.3	11.0	11.0	10.8	11.7	11.4	11.8	11.2	10.6	9.2
	CPP Medium	1.6	1.6	1.7	3.5	3.6	3.5	4.5	4.5	4.9	4.3	3.0	1.6
	CPP Small	0.6	0.6	0.6	0.7	0.7	1.2	0.8	0.7	0.6	0.7	0.6	0.6
	RTP	-2.8	-3.1	-3.5	-3.5	-3.6	-9.1	-0.3	-0.3	4.9	-2.7	-2.3	-2.9
	Subtotal	8.6	8.4	8.2	11.6	11.6	6.3	16.6	16.2	22.2	13.5	12.0	8.6
Pilots	Residential TOU	19.6	16.8	13.1	22.0	27.3	30.3	55.6	73.3	69.8	38.9	27.4	18.3
	Subtotal	19.6	16.8	13.1	22.0	27.3	30.3	55.6	73.3	69.8	38.9	27.4	18.3
Total	Total	586.5	628.2	586.0	724.4	749.3	815.4	890.5	940.1	952.9	791.1	730.4	575.6

Ex Ante Impacts - 2028 Program SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	15.3	15.3	23.1	37.4	44.5	57.8	57.9	58.0	53.1	41.0	24.1	9.7
	BIP15	166.0	179.0	165.9	181.6	192.6	195.4	197.0	199.1	199.8	197.3	203.6	177.4
	BIP30	380.8	413.3	378.6	395.6	387.5	394.9	372.1	394.1	398.6	380.9	397.2	365.0
	CBPDA												
	CBPDO												
	SDPC	7.4	7.7	5.7	8.4	8.5	8.9	11.3	10.7	12.1	10.1	6.8	7.2
	SDPR	0.0	0.0	1.5	28.2	31.0	75.0	115.0	123.1	124.6	49.6	23.3	0.0
	SEP	0.0	0.0	1.8	54.2	56.1	55.4	71.7	72.3	79.4	69.0	49.8	0.0
	Subtotal	569.7	615.2	576.7	705.4	725.1	792.1	829.8	862.2	872.4	752.6	704.9	559.4
Load Modifying Programs	CPP Large	9.2	9.2	9.3	11.0	11.0	10.8	11.7	11.4	11.8	11.2	10.6	9.2
	CPP Medium	1.8	1.8	1.9	3.9	4.0	3.9	5.0	5.0	5.4	4.8	3.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.8	0.8	0.6	0.7	0.7	0.7
	RTP	-2.8	-3.1	-3.5	-3.5	-3.6	-9.1	-0.3	-0.3	4.9	-2.7	-2.3	-2.9
	Subtotal	8.8	8.6	8.4	12.1	12.1	6.9	17.2	16.8	22.8	14.0	12.4	8.8
Pilots	Residential TOU	19.4	16.7	13.0	21.8	27.1	30.1	55.2	72.7	69.2	38.5	27.2	18.2
	Subtotal	19.4	16.7	13.0	21.8	27.1	30.1	55.2	72.7	69.2	38.5	27.2	18.2
Total	Total	597.9	640.5	598.1	739.3	764.3	829.1	902.1	951.7	964.4	805.1	744.5	586.4

Ex Ante Impacts - 2029 Program SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	16.3	16.2	24.5	39.8	47.2	61.2	61.3	61.4	56.3	43.4	25.6	10.3
	BIP15	169.2	182.4	169.1	185.1	196.3	199.1	200.7	202.9	203.6	201.0	207.5	180.7
	BIP30	388.6	421.7	386.4	403.6	395.3	402.8	379.6	402.0	406.6	388.5	405.1	372.3
	CBPDA												
	CBPDO												
	SDPC	6.8	7.0	5.3	7.7	7.8	8.2	10.3	9.8	11.1	9.2	6.2	6.6
	SDPR	0.0	0.0	1.4	26.9	29.5	71.5	109.6	117.4	118.8	47.3	22.2	0.0
	SEP	0.0	0.0	1.9	56.7	58.7	57.8	74.9	75.5	82.7	71.9	51.9	0.0
	Subtotal	581.0	627.4	588.6	719.8	739.5	805.4	841.2	873.7	883.9	766.1	718.6	570.0
Load Modifying Programs	CPP Large	9.2	9.2	9.3	11.0	11.0	10.8	11.7	11.4	11.8	11.2	10.6	9.2
	CPP Medium	1.8	1.8	1.9	3.9	4.0	3.9	5.0	5.0	5.4	4.8	3.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.8	0.8	0.6	0.7	0.7	0.7
	RTP	-2.8	-3.1	-3.5	-3.5	-3.6	-9.1	-0.3	-0.4	4.9	-2.7	-2.3	-2.9
	Subtotal	8.8	8.6	8.4	12.1	12.1	6.9	17.2	16.8	22.8	14.0	12.4	8.8
Pilots	Residential TOU	19.2	16.5	12.9	21.5	26.9	29.8	54.8	71.9	68.6	38.1	27.0	18.0
	Subtotal	19.2	16.5	12.9	21.5	26.9	29.8	54.8	71.9	68.6	38.1	27.0	18.0
Total	Total	609.0	652.5	609.9	753.4	778.5	842.1	913.2	962.5	975.3	818.2	758.0	596.8

Ex Ante Impacts - 2030 Program SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	17.2	17.2	26.0	42.2	49.9	64.7	64.8	65.0	59.5	45.9	27.0	10.9
	BIP15	172.4	185.8	172.3	188.5	199.9	202.8	204.4	206.6	207.3	204.7	211.3	184.0
	BIP30	396.4	430.1	394.1	411.7	403.0	410.7	387.0	409.8	414.6	396.1	413.0	379.6
	CBPDA												
	CBPDO												
	SDPC	6.2	6.4	4.8	7.0	7.2	7.5	9.4	9.0	10.2	8.4	5.7	6.0
	SDPR	0.0	0.0	1.4	25.7	28.2	68.2	104.6	112.0	113.3	45.1	21.2	0.0
	SEP	0.0	0.0	2.0	58.8	60.9	60.0	77.6	78.1	85.7	74.4	53.7	0.0
	Subtotal	592.3	639.6	600.5	734.0	753.8	818.6	852.7	885.4	895.4	779.4	732.0	580.6
Load Modifying Programs	CPP Large	9.2	9.2	9.3	11.0	11.0	10.8	11.7	11.4	11.8	11.2	10.6	9.2
	CPP Medium	1.8	1.8	1.9	3.9	4.0	3.9	5.0	5.0	5.4	4.8	3.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.8	0.8	0.6	0.7	0.7	0.7
	RTP	-2.8	-3.1	-3.5	-3.5	-3.6	-9.1	-0.3	-0.4	4.9	-2.7	-2.3	-2.9
	Subtotal	8.8	8.6	8.4	12.1	12.1	6.9	17.2	16.8	22.8	14.0	12.4	8.8
Pilots	Residential TOU	19.0	16.3	12.7	21.3	26.7	29.6	54.3	71.3	68.1	37.8	26.8	17.8
	Subtotal	19.0	16.3	12.7	21.3	26.7	29.6	54.3	71.3	68.1	37.8	26.8	17.8
Total	Total	620.1	664.5	621.6	767.4	792.6	855.1	924.2	973.5	986.2	831.3	771.2	607.3

Ex Ante Impacts - 2031 Program SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	18.2	18.2	27.5	44.6	52.6	68.3	68.4	68.5	62.8	48.4	28.5	11.5
	BIP15	175.6	189.3	175.4	192.0	203.5	206.5	208.1	210.4	211.1	208.4	215.2	187.4
	BIP30	404.1	438.5	401.8	419.7	410.7	418.5	394.4	417.7	422.5	403.7	421.0	386.9
	CBPDA												
	CBPDO												
	SDPC	5.7	5.9	4.4	6.5	6.6	6.8	8.6	8.3	9.3	7.7	5.2	5.5
	SDPR	0.0	0.0	1.3	24.5	26.9	65.2	99.9	107.0	108.3	43.1	20.3	0.0
	SEP	0.0	0.0	2.0	60.7	62.8	61.8	80.0	80.5	88.2	76.6	55.3	0.0
	Subtotal	603.7	651.9	612.5	748.0	767.9	831.9	864.3	897.1	907.0	792.7	745.4	591.3
Load Modifying Programs	CPP Large	9.2	9.2	9.3	11.0	11.0	10.8	11.7	11.4	11.8	11.2	10.6	9.2
	CPP Medium	1.8	1.8	1.9	3.9	4.0	3.9	5.0	5.0	5.4	4.8	3.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.8	0.8	0.6	0.7	0.7	0.7
	RTP	-2.8	-3.1	-3.5	-3.5	-3.6	-9.1	-0.3	-0.4	4.9	-2.7	-2.3	-2.9
	Subtotal	8.8	8.6	8.4	12.1	12.1	6.9	17.2	16.8	22.8	14.0	12.4	8.8
Pilots	Residential TOU	18.8	16.1	12.6	21.1	26.5	29.4	54.0	70.7	67.6	37.5	26.6	17.7
	Subtotal	18.8	16.1	12.6	21.1	26.5	29.4	54.0	70.7	67.6	37.5	26.6	17.7
Total	Total	631.3	676.6	633.5	781.2	806.5	868.2	935.5	984.7	997.4	844.3	784.4	617.9

Ex Ante Impacts - 2021 Program CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	8.4	9.2	20.7	25.7	33.8	36.6	36.1	36.1	35.9	31.1	18.5	6.6
	BIP15	143.2	154.7	143.3	157.0	170.0	171.3	171.9	173.3	174.9	171.3	176.9	153.2
	BIP30	306.3	334.0	309.3	322.8	319.9	325.6	300.1	318.0	324.3	307.1	322.8	294.3
	CBPDA												
	CBPDO												
	SDPC	14.1	12.1	15.1	17.9	19.0	20.1	17.9	19.8	21.5	13.7	12.1	14.6
	SDPR	0.0	0.0	41.2	67.0	101.8	187.4	173.9	178.4	191.6	89.5	56.9	0.0
	SEP	0.0	0.0	22.8	27.6	31.0	33.2	29.7	32.3	34.8	27.5	27.1	0.0
	Subtotal	472.0	510.2	552.4	618.0	680.2	779.0	734.5	762.7	787.7	644.9	614.3	468.7
Load Modifying Programs	CPP Large	7.7	7.7	9.6	9.6	9.9	10.6	9.9	10.1	10.1	9.4	9.1	7.7
	CPP Medium	1.4	1.4	3.3	3.9	4.2	4.4	3.9	4.2	4.4	3.5	3.3	1.4
	CPP Small	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.5	0.4	0.4	0.4	0.4
	RTP	-2.0	-2.4	-2.4	-2.6	-2.8	1.4	-0.1	-0.1	5.7	-2.9	-2.6	-3.1
	Subtotal	7.4	7.1	10.8	11.3	11.7	16.8	14.3	14.6	20.6	10.3	10.3	6.4
Pilots	Residential TOU	4.8	2.8	5.6	9.3	13.0	15.0	16.4	19.0	20.5	18.4	21.5	12.1
	Subtotal	4.8	2.8	5.6	9.3	13.0	15.0	16.4	19.0	20.5	18.4	21.5	12.1
Total	Total	484.3	520.1	568.8	638.6	704.9	810.8	765.2	796.4	828.8	673.7	646.0	487.1

Ex Ante Impacts - 2022 Program CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	9.7	10.7	24.0	29.8	36.8	39.8	39.4	39.4	39.1	33.9	20.1	7.2
	BIP15	145.7	157.7	146.2	159.8	173.1	174.8	175.3	176.9	178.2	174.2	180.0	156.0
	BIP30	324.0	351.9	327.5	341.2	338.2	344.5	317.8	336.5	343.0	324.9	341.7	311.5
	CBPDA												
	CBPDO												
	SDPC	13.1	11.3	15.1	17.8	18.8	19.9	17.9	19.6	21.2	13.9	12.4	13.5
	SDPR	0.0	0.0	41.9	68.0	103.2	189.7	176.1	180.6	194.0	90.8	57.8	0.0
	SEP	0.0	0.0	29.5	35.7	40.5	43.6	39.5	43.2	46.0	36.2	35.4	0.0
	Subtotal	492.5	531.6	584.2	652.4	715.3	817.2	770.7	801.0	826.3	678.7	647.4	488.2
Load Modifying Programs	CPP Large	7.9	7.9	9.8	9.8	10.1	10.8	10.1	10.3	10.3	9.6	9.3	7.9
	CPP Medium	1.4	1.4	3.2	3.8	4.2	4.4	3.9	4.1	4.4	3.5	3.3	1.4
	CPP Small	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.5	0.4	0.4	0.4	0.4
	RTP	-3.1	-3.4	-3.1	-3.1	-3.2	1.5	-0.2	-0.3	5.4	-2.9	-2.4	-3.0
	Subtotal	6.6	6.2	10.3	10.9	11.5	17.1	14.4	14.7	20.5	10.5	10.6	6.6
Pilots	Residential TOU	16.4	11.9	24.2	38.4	51.6	61.2	64.6	73.4	75.0	49.2	42.1	21.5
	Subtotal	16.4	11.9	24.2	38.4	51.6	61.2	64.6	73.4	75.0	49.2	42.1	21.5
Total	Total	515.5	549.8	618.7	701.8	778.4	895.5	849.6	889.1	921.8	738.4	700.0	516.4

Ex Ante Impacts - 2023 Program CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	10.6	11.7	26.2	32.5	39.8	43.2	42.7	42.6	42.3	36.7	21.8	7.8
	BIP15	148.6	160.9	149.3	162.9	176.5	178.5	178.9	180.6	181.8	177.5	183.5	159.1
	BIP30	336.8	365.1	340.5	354.7	351.4	358.1	330.5	349.9	356.5	337.8	355.3	323.9
	CBPDA												
	CBPDO												
	SDPC	12.0	10.4	14.3	16.8	17.8	18.8	17.0	18.6	20.0	13.4	11.9	12.4
	SDPR	0.0	0.0	40.2	65.3	99.0	181.8	168.7	173.1	185.9	87.0	55.4	0.0
	SEP	0.0	0.0	36.7	44.1	49.5	52.9	47.6	51.7	54.8	43.1	41.9	0.0
	Subtotal	508.1	548.1	607.3	676.4	738.8	838.1	790.1	821.3	846.2	700.4	669.9	503.2
Load Modifying Programs	CPP Large	8.2	8.2	10.3	10.2	10.6	11.3	10.5	10.8	10.8	10.0	9.7	8.2
	CPP Medium	1.4	1.4	3.4	4.0	4.4	4.6	4.0	4.3	4.6	3.6	3.5	1.4
	CPP Small	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.5	0.4	0.4	0.4	0.4
	RTP	-3.0	-3.3	-3.0	-3.0	-3.1	1.5	-0.3	-0.3	5.2	-2.8	-2.3	-2.9
	Subtotal	7.1	6.8	11.0	11.7	12.3	17.8	15.0	15.3	20.9	11.2	11.3	7.2
Pilots	Residential TOU	22.6	14.2	24.6	38.5	51.7	62.1	65.6	74.0	76.2	49.1	42.3	21.9
	Subtotal	22.6	14.2	24.6	38.5	51.7	62.1	65.6	74.0	76.2	49.1	42.3	21.9
Total	Total	537.8	569.1	642.9	726.6	802.7	918.0	870.7	910.6	943.3	760.7	723.5	532.3

Ex Ante Impacts - 2024 Program CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	11.5	12.6	28.4	35.2	43.0	46.5	46.0	46.0	45.7	39.6	23.5	8.4
	BIP15	151.7	164.2	152.5	166.3	180.0	182.1	182.5	184.4	185.5	181.1	187.2	162.3
	BIP30	347.3	376.0	351.2	365.7	362.2	369.1	340.7	360.7	367.5	348.2	366.3	333.9
	CBPDA												
	CBPDO												
	SDPC	11.0	9.5	13.3	15.6	16.6	17.5	15.8	17.3	18.5	12.5	11.1	11.3
	SDPR	0.0	0.0	38.1	61.9	93.7	172.1	159.7	163.8	176.0	82.4	52.5	0.0
	SEP	0.0	0.0	42.6	51.0	57.0	60.7	54.5	59.0	62.3	49.0	47.5	0.0
	Subtotal	521.5	562.4	626.1	695.6	757.1	852.8	804.0	835.9	860.3	717.5	688.2	516.0
Load Modifying Programs	CPP Large	8.6	8.6	10.6	10.6	11.0	11.7	10.9	11.2	11.2	10.4	10.1	8.6
	CPP Medium	1.5	1.5	3.5	4.2	4.6	4.8	4.2	4.5	4.8	3.8	3.6	1.5
	CPP Small	0.4	0.4	0.4	0.4	0.4	0.4	0.7	0.5	0.4	0.4	0.4	0.4
	RTP	-2.9	-3.1	-2.9	-2.9	-3.0	1.4	-0.3	-0.3	4.9	-2.7	-2.3	-2.8
	Subtotal	7.6	7.3	11.7	12.4	13.0	18.4	15.6	15.9	21.3	11.9	11.9	7.6
Pilots	Residential TOU	22.6	14.2	24.6	38.4	51.5	62.2	65.8	73.9	76.5	48.7	42.3	22.0
	Subtotal	22.6	14.2	24.6	38.4	51.5	62.2	65.8	73.9	76.5	48.7	42.3	22.0
Total	Total	551.6	584.0	662.4	746.4	821.6	933.4	885.4	925.7	958.1	778.1	742.4	545.6

Ex Ante Impacts - 2025 Program CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	12.3	13.6	30.6	37.9	46.1	50.0	49.4	49.4	49.0	42.5	25.3	9.0
	BIP15	154.8	167.6	155.6	169.7	183.6	185.8	186.2	188.1	189.2	184.7	190.9	165.5
	BIP30	356.4	385.7	360.4	375.2	371.5	378.7	349.6	370.0	377.0	357.2	375.8	342.6
	CBPDA												
	CBPDO												
	SDPC	10.0	8.7	12.3	14.4	15.2	16.1	14.6	15.9	17.1	11.5	10.2	10.3
	SDPR	0.0	0.0	36.1	58.6	88.8	163.1	151.4	155.3	166.8	78.1	49.8	0.0
	SEP	0.0	0.0	47.7	56.9	63.4	67.4	60.4	65.2	68.8	54.0	52.3	0.0
	Subtotal	533.6	575.7	642.8	712.8	773.4	865.8	816.3	848.6	872.6	732.8	704.4	527.5
Load Modifying Programs	CPP Large	8.9	8.9	11.0	11.0	11.4	12.1	11.3	11.6	11.6	10.8	10.5	8.9
	CPP Medium	1.6	1.6	3.7	4.4	4.8	5.0	4.4	4.7	5.0	3.9	3.8	1.6
	CPP Small	0.4	0.4	0.4	0.4	0.4	0.5	0.7	0.5	0.4	0.4	0.4	0.4
	RTP	-2.8	-3.1	-2.8	-2.8	-3.0	1.4	-0.3	-0.3	4.9	-2.7	-2.3	-2.8
	Subtotal	8.0	7.8	12.3	13.0	13.6	19.0	16.1	16.5	21.9	12.4	12.4	8.0
Pilots	Residential TOU	22.4	14.1	24.5	38.1	51.2	61.7	65.4	73.2	76.2	48.2	42.0	22.0
	Subtotal	22.4	14.1	24.5	38.1	51.2	61.7	65.4	73.2	76.2	48.2	42.0	22.0
Total	Total	564.1	597.6	679.6	763.8	838.2	946.5	897.8	938.4	970.8	793.4	758.8	557.5

Ex Ante Impacts - 2026 Program CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	13.3	14.6	32.8	40.7	49.3	53.4	52.8	52.8	52.4	45.5	27.0	9.6
	BIP15	157.9	171.0	158.8	173.1	187.2	189.5	189.9	191.9	193.0	188.3	194.7	168.8
	BIP30	364.9	394.7	369.0	384.1	380.1	387.4	357.7	378.6	385.7	365.5	384.5	350.6
	CBPDA												
	CBPDO												
	SDPC	9.2	8.0	11.2	13.2	14.0	14.7	13.4	14.6	15.6	10.6	9.4	9.4
	SDPR	0.0	0.0	34.3	55.7	84.3	154.8	143.7	147.4	158.3	74.2	47.3	0.0
	SEP	0.0	0.0	52.1	61.9	68.9	73.1	65.4	70.5	74.3	58.3	56.4	0.0
	Subtotal	545.2	588.4	658.2	728.7	788.6	877.9	827.7	860.5	884.2	747.1	719.4	538.5
Load Modifying Programs	CPP Large	9.2	9.2	11.4	11.4	11.7	12.5	11.7	12.0	12.0	11.1	10.8	9.2
	CPP Medium	1.6	1.6	3.8	4.5	5.0	5.2	4.6	4.9	5.2	4.1	3.9	1.6
	CPP Small	0.4	0.4	0.4	0.4	0.5	0.5	0.7	0.6	0.4	0.4	0.4	0.4
	RTP	-2.8	-3.1	-2.8	-2.8	-3.0	1.4	-0.3	-0.3	4.9	-2.7	-2.3	-2.8
	Subtotal	8.4	8.2	12.8	13.5	14.2	19.6	16.7	17.1	22.5	12.9	12.9	8.4
Pilots	Residential TOU	22.2	13.8	24.3	37.7	50.8	61.1	64.8	72.3	75.7	47.7	41.7	21.8
	Subtotal	22.2	13.8	24.3	37.7	50.8	61.1	64.8	72.3	75.7	47.7	41.7	21.8
Total	Total	575.8	610.3	695.4	780.0	853.6	958.6	909.2	950.0	982.4	807.7	774.0	568.7

Ex Ante Impacts - 2027 Program CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	14.2	15.6	35.1	43.6	52.6	56.9	56.3	56.3	55.9	48.5	28.8	10.3
	BIP15	161.1	174.4	162.0	176.6	190.9	193.3	193.6	195.6	196.7	192.0	198.5	172.1
	BIP30	372.9	403.4	377.1	392.6	388.3	395.8	365.5	386.8	394.1	373.4	392.9	358.2
	CBPDA												
	CBPDO												
	SDPC	8.4	7.3	10.3	12.1	12.8	13.5	12.2	13.3	14.3	9.7	8.6	8.6
	SDPR	0.0	0.0	32.6	52.9	80.2	147.2	136.6	140.1	150.5	70.5	44.9	0.0
	SEP	0.0	0.0	55.8	66.2	73.6	78.0	69.8	75.1	79.1	61.9	59.9	0.0
	Subtotal	556.6	600.8	673.0	744.0	803.1	889.6	838.8	872.1	895.4	760.8	733.7	549.2
Load Modifying Programs	CPP Large	9.2	9.2	11.4	11.4	11.7	12.5	11.7	12.0	12.0	11.1	10.8	9.2
	CPP Medium	1.6	1.6	3.8	4.5	5.0	5.2	4.6	4.9	5.2	4.1	3.9	1.6
	CPP Small	0.4	0.4	0.4	0.4	0.5	0.5	0.7	0.6	0.4	0.4	0.4	0.4
	RTP	-2.8	-3.1	-2.8	-2.8	-3.0	1.4	-0.3	-0.3	4.9	-2.7	-2.3	-2.9
	Subtotal	8.4	8.2	12.8	13.5	14.2	19.6	16.7	17.1	22.5	12.9	12.9	8.4
Pilots	Residential TOU	22.0	13.6	24.1	37.4	50.4	60.5	64.3	71.6	75.3	47.3	41.4	21.7
	Subtotal	22.0	13.6	24.1	37.4	50.4	60.5	64.3	71.6	75.3	47.3	41.4	21.7
Total	Total	587.0	622.5	709.9	794.9	867.7	969.7	919.8	960.8	993.2	821.1	788.0	579.3

Ex Ante Impacts - 2028 Program CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	15.1	16.7	37.4	46.4	55.9	60.5	59.8	59.8	59.4	51.5	30.6	10.9
	BIP15	164.2	177.9	165.1	180.0	194.5	197.0	197.3	199.4	200.5	195.7	202.3	175.4
	BIP30	380.8	411.9	385.1	400.9	396.3	404.0	373.0	394.8	402.3	381.2	401.0	365.6
	CBPDA												
	CBPDO												
	SDPC	7.6	6.7	9.4	11.0	11.7	12.3	11.2	12.2	13.1	8.9	7.9	7.9
	SDPR	0.0	0.0	31.1	50.4	76.3	140.1	130.0	133.4	143.3	67.1	42.8	0.0
	SEP	0.0	0.0	59.0	70.0	77.7	82.3	73.5	79.1	83.2	65.1	62.9	0.0
	Subtotal	567.8	613.1	687.2	758.8	817.3	901.1	849.7	883.5	906.5	774.3	747.6	559.8
Load Modifying Programs	CPP Large	9.2	9.2	11.4	11.4	11.8	12.5	11.7	12.0	12.0	11.1	10.8	9.2
	CPP Medium	1.8	1.8	4.2	5.0	5.5	5.8	5.1	5.4	5.8	4.5	4.3	1.8
	CPP Small	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.6	0.5	0.5	0.5	0.5
	RTP	-2.8	-3.1	-2.8	-2.8	-3.0	1.4	-0.3	-0.3	4.9	-2.7	-2.3	-2.9
	Subtotal	8.6	8.4	13.3	14.1	14.8	20.3	17.3	17.7	23.2	13.4	13.4	8.6
Pilots	Residential TOU	21.8	13.4	23.9	37.1	50.1	60.0	63.8	70.9	74.9	46.8	41.1	21.5
	Subtotal	21.8	13.4	23.9	37.1	50.1	60.0	63.8	70.9	74.9	46.8	41.1	21.5
Total	Total	598.2	634.9	724.4	809.9	882.2	981.3	930.8	972.1	1,004.5	834.5	802.1	589.9

Ex Ante Impacts - 2029 Program CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	16.1	17.7	39.8	49.3	59.2	64.1	63.4	63.4	62.9	54.6	32.4	11.6
	BIP15	167.4	181.3	168.3	183.5	198.2	200.7	201.1	203.1	204.3	199.4	206.1	178.7
	BIP30	388.6	420.3	393.0	409.1	404.3	412.1	380.5	402.8	410.3	388.8	409.1	372.9
	CBPDA												
	CBPDO												
	SDPC	7.0	6.1	8.6	10.1	10.7	11.3	10.2	11.2	12.0	8.1	7.2	7.2
	SDPR	0.0	0.0	29.6	48.0	72.8	133.6	124.0	127.2	136.6	64.0	40.8	0.0
	SEP	0.0	0.0	61.8	73.2	81.2	86.0	76.8	82.5	86.7	67.8	65.5	0.0
	Subtotal	579.1	625.4	701.1	773.3	831.2	912.6	860.7	894.9	917.6	787.5	761.2	570.4
Load Modifying Programs	CPP Large	9.2	9.2	11.4	11.4	11.8	12.5	11.7	12.0	12.0	11.1	10.9	9.2
	CPP Medium	1.8	1.8	4.2	5.0	5.5	5.8	5.1	5.4	5.8	4.5	4.3	1.8
	CPP Small	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.6	0.5	0.5	0.5	0.5
	RTP	-2.8	-3.1	-2.8	-2.8	-3.0	1.4	-0.3	-0.4	4.9	-2.7	-2.3	-2.9
	Subtotal	8.6	8.4	13.3	14.1	14.8	20.3	17.3	17.7	23.2	13.4	13.4	8.6
Pilots	Residential TOU	21.6	13.1	23.7	36.8	49.8	59.4	63.3	70.2	74.5	46.4	40.9	21.4
	Subtotal	21.6	13.1	23.7	36.8	49.8	59.4	63.3	70.2	74.5	46.4	40.9	21.4
Total	Total	609.3	646.9	738.1	824.1	895.8	992.2	941.3	982.8	1,015.3	847.3	815.5	600.4

Ex Ante Impacts - 2030 Program CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	17.0	18.8	42.2	52.3	62.6	67.8	67.0	67.0	66.5	57.7	34.3	12.2
	BIP15	170.5	184.7	171.5	186.9	201.9	204.4	204.8	206.9	208.1	203.1	210.0	182.0
	BIP30	396.3	428.6	400.8	417.2	412.2	420.2	387.9	410.6	418.3	396.4	417.1	380.2
	CBPDA												
	CBPDO												
	SDPC	6.4	5.6	7.9	9.2	9.8	10.3	9.4	10.2	11.0	7.4	6.6	6.6
	SDPR	0.0	0.0	28.3	45.9	69.4	127.5	118.3	121.4	130.4	61.1	38.9	0.0
	SEP	0.0	0.0	64.2	76.0	84.3	89.1	79.5	85.4	89.7	70.2	67.8	0.0
	Subtotal	590.3	637.7	714.8	787.5	845.0	924.1	871.7	906.3	928.8	800.7	774.6	581.1
Load Modifying Programs	CPP Large	9.2	9.2	11.4	11.4	11.8	12.5	11.7	12.0	12.0	11.1	10.9	9.2
	CPP Medium	1.8	1.8	4.2	5.0	5.5	5.8	5.1	5.4	5.8	4.5	4.3	1.8
	CPP Small	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.6	0.5	0.5	0.5	0.5
	RTP	-2.8	-3.1	-2.8	-2.8	-3.0	1.4	-0.3	-0.4	4.9	-2.7	-2.3	-2.9
	Subtotal	8.6	8.4	13.3	14.1	14.8	20.3	17.3	17.7	23.2	13.4	13.4	8.6
Pilots	Residential TOU	21.4	13.0	23.5	36.6	49.5	58.9	62.8	69.6	74.1	46.1	40.6	21.2
	Subtotal	21.4	13.0	23.5	36.6	49.5	58.9	62.8	69.6	74.1	46.1	40.6	21.2
Total	Total	620.3	659.1	751.6	838.2	909.3	1,003.3	951.8	993.6	1,026.1	860.2	828.6	610.9

Ex Ante Impacts - 2031 Program CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	18.0	19.8	44.6	55.3	66.0	71.5	70.7	70.7	70.2	60.9	36.2	12.9
	BIP15	173.7	188.1	174.7	190.4	205.5	208.1	208.5	210.7	211.9	206.8	213.8	185.3
	BIP30	404.1	437.0	408.6	425.3	420.1	428.2	395.4	418.5	426.4	404.0	425.0	387.5
	CBPDA												
	CBPDO												
	SDPC	5.9	5.1	7.2	8.5	9.0	9.5	8.6	9.4	10.0	6.8	6.1	6.0
	SDPR	0.0	0.0	27.0	43.8	66.4	121.8	113.0	116.0	124.6	58.4	37.2	0.0
	SEP	0.0	0.0	66.2	78.4	86.9	91.9	81.9	88.0	92.4	72.3	69.8	0.0
	Subtotal	601.6	650.1	728.3	801.7	858.7	935.8	882.9	917.9	940.2	813.9	788.0	591.8
Load Modifying Programs	CPP Large	9.2	9.2	11.4	11.4	11.8	12.5	11.7	12.0	12.0	11.1	10.9	9.2
	CPP Medium	1.8	1.8	4.2	5.0	5.5	5.8	5.1	5.4	5.8	4.5	4.3	1.8
	CPP Small	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.6	0.5	0.5	0.5	0.5
	RTP	-2.8	-3.1	-2.8	-2.8	-3.0	1.4	-0.3	-0.4	4.9	-2.7	-2.3	-2.9
	Subtotal	8.6	8.4	13.3	14.1	14.8	20.3	17.3	17.7	23.2	13.4	13.4	8.6
Pilots	Residential TOU	21.2	12.8	23.4	36.3	49.2	58.4	62.4	69.0	73.7	45.8	40.4	21.1
	Subtotal	21.2	12.8	23.4	36.3	49.2	58.4	62.4	69.0	73.7	45.8	40.4	21.1
Total	Total	631.5	671.3	765.1	852.1	922.7	1,014.5	962.6	1,004.6	1,037.0	873.1	841.8	621.5

Ex Ante Impacts - 2021 Program CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	8.7	8.3	12.6	22.5	30.7	36.2	34.3	34.9	31.4	27.7	10.5	6.8
	BIP15	144.8	155.8	143.9	158.2	168.3	170.1	171.7	173.3	174.9	172.5	177.7	155.2
	BIP30	306.2	334.4	304.1	317.0	311.2	317.8	299.7	317.6	323.1	305.1	316.8	293.9
	CBPDA												
	CBPDO												
	SDPC	12.5	14.1	9.9	12.3	12.4	15.3	17.7	16.8	19.0	13.4	8.8	11.2
	SDPR	0.0	0.0	1.8	27.1	43.1	100.6	149.9	163.5	171.1	61.8	9.2	0.1
	SEP	0.0	0.0	0.6	19.1	21.0	22.6	28.2	28.6	32.6	25.1	6.2	0.0
	Subtotal	472.3	512.6	472.8	556.2	591.4	667.5	706.3	739.5	756.8	610.5	529.3	467.2
Load Modifying Programs	CPP Large	7.7	7.7	7.8	8.9	8.9	9.1	9.8	9.5	9.8	9.2	8.0	7.7
	CPP Medium	1.4	1.4	1.5	2.7	2.9	3.0	3.7	3.7	4.1	3.2	1.8	1.4
	CPP Small	0.5	0.5	0.5	0.6	0.6	1.0	0.7	0.7	0.5	0.6	0.5	0.5
	RTP	-2.0	-2.4	-3.0	-3.1	-3.4	-9.3	-0.1	-0.1	5.7	-2.9	-3.3	-3.1
	Subtotal	7.6	7.3	6.9	9.1	9.0	3.8	14.1	13.7	20.1	10.0	7.1	6.5
Pilots	Residential TOU	3.7	3.5	2.7	4.1	6.7	5.6	15.2	20.5	20.8	13.9	9.4	9.4
	Subtotal	3.7	3.5	2.7	4.1	6.7	5.6	15.2	20.5	20.8	13.9	9.4	9.4
Total	Total	483.6	523.4	482.5	569.4	607.1	676.9	735.6	773.7	797.7	634.4	545.7	483.2

Ex Ante Impacts - 2022 Program CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	10.1	9.7	14.6	26.1	33.4	39.5	37.3	38.0	34.2	30.2	11.4	7.4
	BIP15	147.4	158.8	146.9	161.1	171.3	173.5	175.0	176.8	178.2	175.5	180.8	158.2
	BIP30	323.9	352.2	321.9	335.2	329.0	336.3	317.4	336.2	341.9	322.9	335.4	311.2
	CBPDA												
	CBPDO												
	SDPC	11.7	13.1	9.5	12.4	12.5	15.2	17.6	16.9	18.9	13.7	8.7	10.5
	SDPR	0.0	0.0	1.9	27.6	43.8	101.9	151.8	165.5	173.2	62.7	9.5	0.1
	SEP	0.0	0.0	0.8	25.0	27.6	30.0	37.5	38.3	43.1	33.2	8.5	0.0
	Subtotal	493.1	533.7	495.7	587.5	622.5	701.2	741.5	776.6	794.2	642.9	554.3	487.4
Load Modifying Programs	CPP Large	7.9	7.9	8.0	9.1	9.1	9.3	10.0	9.7	10.0	9.4	8.2	7.9
	CPP Medium	1.4	1.4	1.5	2.7	2.9	3.0	3.7	3.7	4.1	3.2	1.8	1.4
	CPP Small	0.5	0.5	0.5	0.6	0.6	1.0	0.7	0.7	0.5	0.6	0.5	0.5
	RTP	-3.1	-3.4	-3.8	-3.8	-3.9	-10.0	-0.2	-0.3	5.4	-2.9	-3.2	-3.0
	Subtotal	6.8	6.4	6.2	8.6	8.7	3.3	14.1	13.7	20.0	10.2	7.4	6.8
Pilots	Residential TOU	13.2	14.1	12.9	18.4	27.4	25.2	60.3	78.6	76.9	37.7	19.3	17.2
	Subtotal	13.2	14.1	12.9	18.4	27.4	25.2	60.3	78.6	76.9	37.7	19.3	17.2
Total	Total	513.0	554.2	514.8	614.5	658.5	729.7	816.0	868.9	891.1	690.8	581.0	511.5

Ex Ante Impacts - 2023 Program CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	11.0	10.5	15.9	28.5	36.2	42.8	40.5	41.2	37.0	32.7	12.4	8.0
	BIP15	150.5	162.0	150.0	164.4	174.6	177.1	178.6	180.5	181.7	178.9	184.4	161.3
	BIP30	336.7	365.4	334.8	348.5	341.9	349.6	330.0	349.5	355.3	335.7	348.7	323.7
	CBPDA												
	CBPDO												
	SDPC	10.7	12.0	8.8	11.8	11.9	14.4	16.8	16.1	17.9	13.1	8.2	9.7
	SDPR	0.0	0.0	1.9	26.5	42.0	97.7	145.5	158.6	166.0	60.2	9.2	0.2
	SEP	0.0	0.0	1.1	31.0	34.0	36.5	45.3	45.9	51.4	39.6	10.2	0.0
	Subtotal	508.9	549.9	512.6	610.6	645.5	722.9	761.4	796.7	814.2	664.9	573.1	502.9
Load Modifying Programs	CPP Large	8.2	8.2	8.3	9.5	9.5	9.7	10.4	10.1	10.4	9.8	8.6	8.2
	CPP Medium	1.4	1.4	1.6	2.8	3.0	3.2	3.9	3.9	4.3	3.3	1.9	1.4
	CPP Small	0.6	0.6	0.6	0.6	0.6	1.0	0.7	0.7	0.5	0.6	0.6	0.6
	RTP	-3.0	-3.3	-3.7	-3.7	-3.8	-9.6	-0.3	-0.3	5.2	-2.8	-3.0	-2.9
	Subtotal	7.3	7.0	6.8	9.3	9.4	4.3	14.7	14.3	20.4	10.9	8.0	7.3
Pilots	Residential TOU	18.3	16.8	13.3	18.6	27.7	26.8	61.3	79.2	77.9	37.7	19.7	17.5
	Subtotal	18.3	16.8	13.3	18.6	27.7	26.8	61.3	79.2	77.9	37.7	19.7	17.5
Total	Total	534.5	573.7	532.6	638.5	682.6	754.0	837.4	890.2	912.4	713.5	600.8	527.7

Ex Ante Impacts - 2024 Program CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	11.9	11.4	17.2	30.8	39.1	46.1	43.6	44.4	39.9	35.3	13.4	8.6
	BIP15	153.6	165.3	153.1	167.7	178.1	180.8	182.2	184.2	185.3	182.5	188.1	164.6
	BIP30	347.2	376.3	345.3	359.3	352.4	360.4	340.2	360.3	366.2	346.0	359.5	333.7
	CBPDA												
	CBPDO												
	SDPC	9.8	11.0	8.1	11.0	11.1	13.4	15.6	15.0	16.6	12.2	7.6	8.9
	SDPR	0.0	0.0	1.8	25.2	39.8	92.5	137.7	150.2	157.1	57.0	8.7	0.2
	SEP	0.0	0.0	1.3	35.9	39.2	42.0	51.9	52.4	58.5	45.0	11.7	0.0
	Subtotal	522.5	564.1	527.0	629.9	664.5	739.9	776.1	811.4	828.6	682.7	589.0	516.0
Load Modifying Programs	CPP Large	8.6	8.6	8.7	9.9	9.9	10.1	10.8	10.5	10.8	10.2	8.9	8.6
	CPP Medium	1.5	1.5	1.6	2.9	3.2	3.3	4.0	4.0	4.5	3.5	2.0	1.5
	CPP Small	0.6	0.6	0.6	0.6	0.6	1.0	0.7	0.7	0.5	0.6	0.6	0.6
	RTP	-2.9	-3.1	-3.5	-3.5	-3.6	-9.2	-0.3	-0.3	4.9	-2.7	-3.0	-2.8
	Subtotal	7.8	7.5	7.3	9.9	10.0	5.2	15.3	14.9	20.8	11.5	8.5	7.8
Pilots	Residential TOU	18.3	16.8	13.5	18.7	27.7	27.5	61.6	79.0	78.0	37.4	19.7	17.5
	Subtotal	18.3	16.8	13.5	18.7	27.7	27.5	61.6	79.0	78.0	37.4	19.7	17.5
Total	Total	548.6	588.4	547.8	658.6	702.2	772.7	853.0	905.3	927.3	731.7	617.2	541.3

Ex Ante Impacts - 2025 Program CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	12.8	12.3	18.6	33.2	41.9	49.5	46.8	47.7	42.8	37.9	14.3	9.3
	BIP15	156.7	168.8	156.3	171.2	181.7	184.4	185.9	188.0	189.1	186.1	191.9	167.9
	BIP30	356.3	386.0	354.4	368.7	361.4	369.7	349.1	369.7	375.7	354.9	368.8	342.4
	CBPDA												
	CBPDO												
	SDPC	9.0	10.0	7.5	10.1	10.2	12.3	14.3	13.8	15.3	11.3	7.0	8.1
	SDPR	0.0	0.0	1.7	23.9	37.8	87.7	130.6	142.3	148.9	54.0	8.3	0.1
	SEP	0.0	0.0	1.5	40.1	43.7	46.7	57.5	58.0	64.6	49.6	13.0	0.0
	Subtotal	534.9	577.1	540.0	647.2	681.5	755.1	789.0	824.3	841.2	698.7	603.3	527.8
Load Modifying Programs	CPP Large	8.9	8.9	9.0	10.3	10.2	10.5	11.2	10.9	11.2	10.5	9.2	8.9
	CPP Medium	1.6	1.6	1.7	3.1	3.3	3.4	4.2	4.2	4.7	3.6	2.0	1.6
	CPP Small	0.6	0.6	0.6	0.6	0.6	1.1	0.8	0.7	0.5	0.6	0.6	0.6
	RTP	-2.8	-3.1	-3.5	-3.5	-3.6	-9.1	-0.3	-0.3	4.9	-2.7	-3.0	-2.8
	Subtotal	8.2	8.0	7.8	10.5	10.6	5.9	15.9	15.4	21.3	12.1	8.9	8.2
Pilots	Residential TOU	18.1	16.7	13.4	18.5	27.5	27.6	61.2	78.3	77.5	37.0	19.6	17.4
	Subtotal	18.1	16.7	13.4	18.5	27.5	27.6	61.2	78.3	77.5	37.0	19.6	17.4
Total	Total	561.2	601.8	561.2	676.2	719.6	788.6	866.0	918.0	940.1	747.7	631.8	553.5

Ex Ante Impacts - 2026 Program CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	13.8	13.2	20.0	35.7	44.9	52.9	50.1	51.0	45.8	40.5	15.3	9.9
	BIP15	159.9	172.2	159.5	174.6	185.2	188.1	189.6	191.7	192.8	189.8	195.7	171.2
	BIP30	364.7	395.0	362.8	377.4	369.8	378.3	357.2	378.3	384.4	363.2	377.4	350.4
	CBPDA												
	CBPDO												
	SDPC	8.2	9.2	6.8	9.3	9.4	11.3	13.1	12.7	14.0	10.4	6.4	7.4
	SDPR	0.0	0.0	1.7	22.7	35.9	83.2	123.9	135.1	141.4	51.3	7.9	0.1
	SEP	0.0	0.0	1.7	43.7	47.5	50.7	62.3	62.7	69.8	53.5	14.0	0.0
	Subtotal	546.6	589.6	552.4	663.4	697.5	769.3	801.0	836.3	853.0	713.5	616.7	539.1
Load Modifying Programs	CPP Large	9.2	9.2	9.3	10.6	10.6	10.8	11.6	11.2	11.6	10.9	9.5	9.2
	CPP Medium	1.6	1.6	1.8	3.2	3.4	3.6	4.3	4.3	4.8	3.7	2.1	1.6
	CPP Small	0.6	0.6	0.6	0.7	0.7	1.1	0.8	0.8	0.6	0.7	0.6	0.6
	RTP	-2.8	-3.1	-3.5	-3.5	-3.6	-9.1	-0.3	-0.3	4.9	-2.7	-3.0	-2.8
	Subtotal	8.6	8.4	8.2	11.0	11.1	6.4	16.4	16.0	21.9	12.6	9.3	8.6
Pilots	Residential TOU	17.8	16.5	13.3	18.2	27.2	27.4	60.6	77.4	76.9	36.5	19.4	17.1
	Subtotal	17.8	16.5	13.3	18.2	27.2	27.4	60.6	77.4	76.9	36.5	19.4	17.1
Total	Total	573.0	614.5	573.9	692.5	735.7	803.1	878.1	929.7	951.9	762.6	645.4	564.8

Ex Ante Impacts - 2027 Program CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	14.7	14.1	21.3	38.2	47.8	56.4	53.4	54.4	48.8	43.2	16.4	10.6
	BIP15	163.1	175.6	162.7	178.1	188.9	191.8	193.3	195.5	196.6	193.5	199.5	174.6
	BIP30	372.8	403.7	370.8	385.7	377.8	386.5	364.9	386.5	392.7	371.1	385.6	358.0
	CBPDA												
	CBPDO												
	SDPC	7.5	8.4	6.2	8.5	8.6	10.3	12.0	11.6	12.8	9.5	5.9	6.8
	SDPR	0.0	0.0	1.6	21.6	34.1	79.1	117.8	128.4	134.4	48.8	7.5	0.1
	SEP	0.0	0.0	1.8	46.8	50.8	54.1	66.4	66.8	74.2	56.9	14.9	0.0
	Subtotal	558.1	601.8	564.4	678.8	712.8	783.0	812.7	848.0	864.5	727.7	629.7	550.0
Load Modifying Programs	CPP Large	9.2	9.2	9.3	10.6	10.6	10.8	11.6	11.2	11.6	10.9	9.5	9.2
	CPP Medium	1.6	1.6	1.8	3.2	3.4	3.6	4.3	4.3	4.8	3.7	2.1	1.6
	CPP Small	0.6	0.6	0.6	0.7	0.7	1.1	0.8	0.8	0.6	0.7	0.6	0.6
	RTP	-2.8	-3.1	-3.5	-3.5	-3.6	-9.1	-0.3	-0.3	4.9	-2.7	-3.0	-2.9
	Subtotal	8.6	8.4	8.2	11.0	11.1	6.4	16.4	16.0	21.9	12.6	9.3	8.6
Pilots	Residential TOU	17.6	16.3	13.1	18.0	27.0	27.2	60.1	76.6	76.3	36.1	19.2	16.9
	Subtotal	17.6	16.3	13.1	18.0	27.0	27.2	60.1	76.6	76.3	36.1	19.2	16.9
Total	Total	584.3	626.5	585.7	707.8	750.9	816.7	889.2	940.6	962.7	776.4	658.2	575.5

Ex Ante Impacts - 2028 Program CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	15.7	15.1	22.7	40.7	50.8	60.0	56.7	57.8	51.9	45.9	17.4	11.2
	BIP15	166.3	179.1	165.9	181.6	192.5	195.5	197.0	199.2	200.4	197.2	203.3	177.9
	BIP30	380.6	412.2	378.6	393.8	385.6	394.5	372.5	394.5	400.9	378.8	393.6	365.4
	CBPDA												
	CBPDO												
	SDPC	6.9	7.6	5.7	7.8	7.9	9.4	11.0	10.6	11.8	8.7	5.4	6.2
	SDPR	0.0	0.0	1.5	20.5	32.5	75.3	112.2	122.3	128.0	46.4	7.1	0.1
	SEP	0.0	0.0	1.9	49.4	53.6	57.1	70.0	70.3	78.1	59.8	15.7	0.0
	Subtotal	569.5	614.0	576.4	693.9	727.7	796.6	824.2	859.5	875.7	741.6	642.4	560.9
Load Modifying Programs	CPP Large	9.2	9.2	9.3	10.6	10.6	10.8	11.6	11.2	11.6	10.9	9.5	9.2
	CPP Medium	1.8	1.8	2.0	3.5	3.8	4.0	4.8	4.8	5.4	4.2	2.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.9	0.9	0.6	0.7	0.7	0.7
	RTP	-2.8	-3.1	-3.5	-3.5	-3.6	-9.1	-0.3	-0.3	4.9	-2.7	-3.0	-2.9
	Subtotal	8.9	8.6	8.5	11.4	11.5	6.9	17.0	16.6	22.5	13.1	9.6	8.8
Pilots	Residential TOU	17.4	16.1	13.0	17.8	26.8	27.1	59.7	76.0	75.8	35.8	19.1	16.8
	Subtotal	17.4	16.1	13.0	17.8	26.8	27.1	59.7	76.0	75.8	35.8	19.1	16.8
Total	Total	595.8	638.7	597.8	723.1	766.0	830.6	900.9	952.1	974.1	790.5	671.2	586.5

Ex Ante Impacts - 2029 Program CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	16.7	16.0	24.2	43.2	53.8	63.6	60.1	61.3	55.0	48.6	18.4	11.9
	BIP15	169.5	182.5	169.1	185.1	196.1	199.2	200.7	203.0	204.1	200.9	207.1	181.3
	BIP30	388.4	420.6	386.4	401.9	393.4	402.4	380.0	402.4	408.9	386.4	401.5	372.7
	CBPDA												
	CBPDO												
	SDPC	6.3	7.0	5.2	7.1	7.2	8.6	10.1	9.7	10.8	8.0	4.9	5.7
	SDPR	0.0	0.0	1.4	19.6	30.9	71.8	106.9	116.6	122.0	44.3	6.8	0.1
	SEP	0.0	0.0	2.0	51.7	56.1	59.6	73.1	73.4	81.4	62.3	16.3	0.0
	Subtotal	580.9	626.1	588.3	708.6	742.3	810.0	835.7	871.1	887.0	755.3	655.1	571.7
Load Modifying Programs	CPP Large	9.2	9.2	9.3	10.6	10.6	10.8	11.6	11.2	11.6	10.9	9.5	9.2
	CPP Medium	1.8	1.8	2.0	3.5	3.8	4.0	4.8	4.8	5.4	4.2	2.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.9	0.9	0.6	0.7	0.7	0.7
	RTP	-2.8	-3.1	-3.5	-3.5	-3.6	-9.1	-0.3	-0.4	4.9	-2.7	-3.0	-2.9
	Subtotal	8.9	8.6	8.5	11.4	11.5	6.9	17.0	16.6	22.5	13.1	9.6	8.8
Pilots	Residential TOU	17.2	15.9	12.9	17.6	26.6	26.9	59.2	75.2	75.2	35.4	18.9	16.6
	Subtotal	17.2	15.9	12.9	17.6	26.6	26.9	59.2	75.2	75.2	35.4	18.9	16.6
Total	Total	606.9	650.7	609.6	737.6	780.5	843.8	911.9	962.8	984.7	803.7	683.6	597.2

Ex Ante Impacts - 2030 Program CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	17.7	17.0	25.6	45.8	56.9	67.2	63.6	64.8	58.2	51.4	19.5	12.6
	BIP15	172.7	186.0	172.2	188.6	199.7	202.8	204.4	206.8	207.9	204.6	211.0	184.6
	BIP30	396.2	429.0	394.0	409.9	401.1	410.2	387.4	410.2	416.9	393.9	409.3	380.0
	CBPDA												
	CBPDO												
	SDPC	5.7	6.4	4.8	6.5	6.6	7.9	9.2	8.9	9.8	7.3	4.5	5.2
	SDPR	0.0	0.0	1.4	18.7	29.5	68.5	102.1	111.2	116.4	42.3	6.5	0.1
	SEP	0.0	0.0	2.1	53.7	58.2	61.8	75.7	76.0	84.3	64.5	16.9	0.0
	Subtotal	592.3	638.3	600.2	723.2	756.8	823.3	847.2	882.7	898.3	768.8	667.6	582.5
Load Modifying Programs	CPP Large	9.2	9.2	9.3	10.6	10.6	10.8	11.6	11.2	11.6	10.9	9.5	9.2
	CPP Medium	1.8	1.8	2.0	3.5	3.8	4.0	4.8	4.8	5.4	4.2	2.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.9	0.9	0.6	0.7	0.7	0.7
	RTP	-2.8	-3.1	-3.5	-3.5	-3.6	-9.1	-0.3	-0.4	4.9	-2.7	-3.0	-2.9
	Subtotal	8.9	8.6	8.5	11.4	11.5	6.9	17.0	16.6	22.5	13.1	9.6	8.8
Pilots	Residential TOU	17.0	15.7	12.8	17.4	26.4	26.7	58.7	74.6	74.7	35.1	18.7	16.4
	Subtotal	17.0	15.7	12.8	17.4	26.4	26.7	58.7	74.6	74.7	35.1	18.7	16.4
Total	Total	618.1	662.7	621.4	752.0	794.7	857.0	922.9	973.8	995.5	816.9	696.0	607.8

Ex Ante Impacts - 2031 Program CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	18.7	17.9	27.1	48.4	60.1	70.9	67.0	68.3	61.3	54.2	20.5	13.3
	BIP15	175.9	189.4	175.4	192.1	203.4	206.5	208.2	210.5	211.7	208.3	214.8	188.0
	BIP30	403.9	437.3	401.7	417.9	408.7	418.1	394.8	418.1	424.9	401.4	417.1	387.3
	CBPDA												
	CBPDO												
	SDPC	5.3	5.9	4.4	6.0	6.1	7.2	8.5	8.1	9.0	6.7	4.1	4.7
	SDPR	0.0	0.0	1.3	17.8	28.2	65.5	97.5	106.3	111.2	40.4	6.2	0.1
	SEP	0.0	0.0	2.1	55.4	60.0	63.7	78.0	78.3	86.8	66.4	17.4	0.0
	Subtotal	603.7	650.6	612.1	737.6	771.2	836.8	858.8	894.4	909.8	782.3	680.2	593.4
Load Modifying Programs	CPP Large	9.2	9.2	9.3	10.6	10.6	10.8	11.6	11.2	11.6	10.9	9.5	9.2
	CPP Medium	1.8	1.8	2.0	3.5	3.8	4.0	4.8	4.8	5.4	4.2	2.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.9	0.9	0.6	0.7	0.7	0.7
	RTP	-2.8	-3.1	-3.5	-3.5	-3.6	-9.1	-0.3	-0.4	4.9	-2.7	-3.0	-2.9
	Subtotal	8.9	8.6	8.5	11.4	11.5	6.9	17.0	16.6	22.5	13.1	9.6	8.8
Pilots	Residential TOU	16.8	15.5	12.7	17.2	26.2	26.5	58.3	74.0	74.3	34.8	18.6	16.2
	Subtotal	16.8	15.5	12.7	17.2	26.2	26.5	58.3	74.0	74.3	34.8	18.6	16.2
Total	Total	629.4	674.7	633.3	766.2	808.9	870.2	934.1	985.0	1,006.6	830.2	708.4	618.5

Ex Ante Impacts - 2021 Portfolio SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	8.4	14.0	20.2	26.2	33.8	36.1	33.7	34.1	34.0	26.5	18.5	6.6
	BIP15	143.7	156.4	143.8	157.4	170.0	171.3	172.9	173.6	174.8	172.1	177.5	153.8
	BIP30	306.8	338.4	308.9	320.2	319.9	325.2	306.2	319.4	323.8	311.5	322.8	294.3
	CBPDA												
	CBPDO												
	SDPC	13.8	8.7	13.4	13.2	19.0	18.8	26.3	20.9	22.1	20.1	12.1	14.6
	SDPR	0.0	27.6	41.3	62.3	101.8	184.0	214.3	189.4	193.2	127.6	56.9	0.0
	SEP	0.0	17.0	21.5	24.3	31.0	32.0	40.2	33.5	36.1	36.6	27.1	0.0
	Subtotal	472.8	562.0	549.1	603.7	680.2	772.2	798.4	775.7	788.8	699.3	614.8	469.2
Load Modifying Programs	CPP Large	7.8	8.5	9.2	9.2	9.5	10.2	10.2	9.8	9.7	9.3	8.8	7.8
	CPP Medium	1.4	2.5	3.0	3.4	4.2	4.3	5.2	4.3	4.6	4.6	3.3	1.4
	CPP Small	0.2	0.2	0.2	0.3	0.3	0.5	0.0	0.4	0.3	0.3	0.2	0.2
	RTP	-1.0	-1.0	-0.3	-0.3	-0.4	-0.2	-0.5	-0.0	0.9	-0.4	-2.3	-1.4
	Subtotal	8.5	10.2	12.1	12.6	13.6	14.8	15.0	14.5	15.5	13.8	10.1	8.0
Pilots	Residential TOU	4.4	6.2	6.0	8.0	13.0	14.9	19.9	20.1	20.4	25.8	21.5	12.1
	Subtotal	4.4	6.2	6.0	8.0	13.0	14.9	19.9	20.1	20.4	25.8	21.5	12.1
Total	Total	485.7	578.4	567.2	624.3	706.8	801.9	833.2	810.3	824.7	738.9	646.4	489.3

Ex Ante Impacts - 2022 Portfolio SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	9.8	16.2	23.5	30.5	36.8	39.4	36.7	37.2	37.0	28.9	20.1	7.2
	BIP15	146.3	159.5	146.8	160.2	173.1	174.8	176.3	177.1	178.2	175.1	180.6	156.6
	BIP30	324.5	356.6	327.0	338.5	338.2	344.1	324.3	338.1	342.6	329.7	341.7	311.5
	CBPDA												
	CBPDO												
	SDPC	12.8	8.9	13.5	13.4	18.8	18.7	25.5	20.6	21.7	19.9	12.4	13.5
	SDPR	0.0	28.1	42.0	63.3	103.2	186.3	216.9	191.8	195.6	129.3	57.8	0.0
	SEP	0.0	21.9	27.8	31.7	40.5	42.0	53.1	44.8	47.7	47.9	35.4	0.0
	Subtotal	493.4	591.4	580.6	637.6	715.3	810.1	837.6	814.3	827.5	735.6	648.0	488.8
Load Modifying Programs	CPP Large	8.0	8.7	9.4	9.4	9.7	10.4	10.4	10.0	9.9	9.6	9.0	8.0
	CPP Medium	1.4	2.5	3.0	3.4	4.2	4.3	5.2	4.3	4.5	4.6	3.3	1.4
	CPP Small	0.2	0.2	0.2	0.2	0.3	0.5	0.0	0.4	0.3	0.3	0.2	0.2
	RTP	-1.4	-1.3	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.9	-0.4	-2.1	-1.3
	Subtotal	8.2	10.1	12.2	12.7	13.7	14.9	15.1	14.7	15.7	14.0	10.4	8.2
Pilots	Residential TOU	15.4	24.2	25.9	33.4	51.6	60.7	76.9	77.4	75.4	67.7	42.1	21.5
	Subtotal	15.4	24.2	25.9	33.4	51.6	60.7	76.9	77.4	75.4	67.7	42.1	21.5
Total	Total	517.0	625.6	618.7	683.7	780.7	885.7	929.7	906.4	918.6	817.3	700.4	518.6

Ex Ante Impacts - 2023 Portfolio SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	10.7	17.7	25.6	33.2	39.8	42.7	39.7	40.3	40.1	31.3	21.8	7.8
	BIP15	149.3	162.9	149.9	163.4	176.5	178.4	180.0	180.8	181.7	178.5	184.1	159.7
	BIP30	337.3	370.1	340.1	351.9	351.4	357.7	337.2	351.5	356.1	342.8	355.3	323.9
	CBPDA												
	CBPDO												
	SDPC	11.8	8.6	12.9	12.8	17.8	17.7	24.0	19.5	20.5	18.9	11.9	12.4
	SDPR	0.0	27.0	40.3	60.8	99.0	178.5	207.9	183.8	187.4	124.0	55.4	0.0
	SEP	0.0	27.6	34.6	39.1	49.5	51.0	63.8	53.6	56.8	56.8	41.9	0.0
	Subtotal	509.1	613.9	603.4	661.2	738.8	830.8	857.4	834.2	847.4	757.1	670.5	503.8
Load Modifying Programs	CPP Large	8.3	9.1	9.8	9.8	10.1	10.9	10.9	10.5	10.4	10.0	9.4	8.3
	CPP Medium	1.4	2.6	3.2	3.6	4.4	4.5	5.4	4.5	4.7	4.8	3.5	1.4
	CPP Small	0.2	0.2	0.3	0.3	0.3	0.5	0.0	0.4	0.3	0.3	0.3	0.2
	RTP	-1.3	-1.3	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.9	-0.4	-2.0	-1.3
	Subtotal	8.7	10.6	12.8	13.3	14.4	15.6	15.8	15.4	16.3	14.7	11.0	8.7
Pilots	Residential TOU	21.2	28.3	26.2	33.5	51.7	61.6	77.9	78.0	76.4	67.5	42.3	21.9
	Subtotal	21.2	28.3	26.2	33.5	51.7	61.6	77.9	78.0	76.4	67.5	42.3	21.9
Total	Total	538.9	652.9	642.4	708.0	804.9	908.0	951.1	927.6	940.1	839.2	723.9	534.5

Ex Ante Impacts - 2024 Portfolio SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	11.5	19.2	27.8	36.0	43.0	46.0	42.9	43.4	43.2	33.7	23.5	8.4
	BIP15	152.3	166.3	153.0	166.7	180.0	182.1	183.6	184.6	185.4	182.1	187.8	162.9
	BIP30	347.8	381.2	350.7	362.8	362.2	368.7	347.7	362.4	367.0	353.3	366.3	333.9
	CBPDA												
	CBPDO												
	SDPC	10.8	8.0	12.0	12.0	16.6	16.5	22.2	18.1	19.0	17.5	11.1	11.3
	SDPR	0.0	25.6	38.2	57.5	93.7	169.0	196.7	173.9	177.4	117.4	52.5	0.0
	SEP	0.0	32.3	40.2	45.2	57.0	58.5	73.0	61.1	64.6	64.5	47.5	0.0
	Subtotal	522.5	632.6	622.0	680.3	757.1	845.6	870.8	848.3	861.4	773.3	688.8	516.6
Load Modifying Programs	CPP Large	8.6	9.4	10.1	10.2	10.5	11.3	11.3	10.9	10.8	10.4	9.7	8.6
	CPP Medium	1.5	2.7	3.3	3.7	4.6	4.6	5.7	4.7	5.0	5.0	3.6	1.5
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.5	0.0	0.5	0.3	0.3	0.3	0.3
	RTP	-1.3	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	9.1	11.2	13.3	13.9	15.0	16.2	16.5	16.0	16.9	15.3	11.6	9.2
Pilots	Residential TOU	21.3	28.1	26.2	33.4	51.5	61.8	78.1	77.8	76.6	67.1	42.3	22.0
	Subtotal	21.3	28.1	26.2	33.4	51.5	61.8	78.1	77.8	76.6	67.1	42.3	22.0
Total	Total	552.9	671.9	661.5	727.6	823.6	923.6	965.4	942.0	954.9	855.7	742.7	547.8

Ex Ante Impacts - 2025 Portfolio SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	12.4	20.7	29.9	38.8	46.1	49.4	46.0	46.6	46.4	36.2	25.3	9.0
	BIP15	155.5	169.7	156.2	170.2	183.6	185.8	187.4	188.3	189.2	185.7	191.6	166.2
	BIP30	357.0	391.1	360.0	372.3	371.5	378.2	356.7	371.8	376.5	362.5	375.8	342.6
	CBPDA												
	CBPDO												
	SDPC	9.8	7.4	11.0	11.1	15.2	15.2	20.4	16.6	17.5	16.1	10.2	10.3
	SDPR	0.0	24.3	36.2	54.6	88.8	160.2	186.5	164.9	168.1	111.3	49.8	0.0
	SEP	0.0	36.2	45.0	50.5	63.4	65.0	80.8	67.6	71.3	71.0	52.3	0.0
	Subtotal	534.7	649.4	638.4	697.4	773.4	858.5	882.5	860.5	873.7	787.6	705.0	528.2
Load Modifying Programs	CPP Large	9.0	9.8	10.5	10.6	10.9	11.7	11.7	11.3	11.2	10.7	10.1	9.0
	CPP Medium	1.6	2.8	3.4	3.9	4.8	4.8	5.9	4.9	5.2	5.2	3.8	1.6
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.5	0.1	0.5	0.4	0.3	0.3	0.3
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	9.6	11.6	13.9	14.4	15.6	16.8	17.2	16.6	17.5	15.8	12.1	9.6
Pilots	Residential TOU	21.1	27.7	26.1	33.1	51.2	61.3	77.7	77.1	76.2	66.5	42.0	22.0
	Subtotal	21.1	27.7	26.1	33.1	51.2	61.3	77.7	77.1	76.2	66.5	42.0	22.0
Total	Total	565.4	688.8	678.4	744.9	840.2	936.6	977.3	954.2	967.4	869.9	759.2	559.7

Ex Ante Impacts - 2026 Portfolio SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	13.4	22.2	32.1	41.7	49.3	52.8	49.2	49.9	49.7	38.7	27.0	9.6
	BIP15	158.6	173.2	159.4	173.6	187.2	189.5	191.1	192.1	192.9	189.4	195.4	169.5
	BIP30	365.4	400.2	368.5	381.0	380.1	387.0	365.0	380.4	385.2	370.9	384.5	350.6
	CBPDA												
	CBPDO												
	SDPC	9.0	6.8	10.1	10.1	14.0	13.9	18.6	15.2	16.0	14.8	9.4	9.4
	SDPR	0.0	23.0	34.4	51.8	84.3	152.0	177.0	156.5	159.6	105.7	47.3	0.0
	SEP	0.0	39.6	49.1	55.0	68.9	70.5	87.5	73.1	77.0	76.6	56.4	0.0
	Subtotal	546.4	665.1	653.7	713.3	788.6	870.5	893.2	871.9	885.2	800.8	720.0	539.1
Load Modifying Programs	CPP Large	9.3	10.1	10.9	10.9	11.3	12.1	12.1	11.6	11.5	11.1	10.4	9.3
	CPP Medium	1.6	2.9	3.6	4.0	5.0	5.0	6.1	5.1	5.3	5.4	3.9	1.6
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.6	0.1	0.5	0.4	0.3	0.3	0.3
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	9.9	12.1	14.3	14.9	16.2	17.4	17.8	17.1	18.1	16.4	12.6	9.9
Pilots	Residential TOU	20.9	27.3	25.8	32.8	50.8	60.6	77.1	76.2	75.6	66.0	41.7	21.8
	Subtotal	20.9	27.3	25.8	32.8	50.8	60.6	77.1	76.2	75.6	66.0	41.7	21.8
Total	Total	577.2	704.5	693.9	761.0	855.6	948.6	988.1	965.3	978.9	883.2	774.4	570.9

Ex Ante Impacts - 2027 Portfolio SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	14.3	23.7	34.3	44.6	52.6	56.3	52.4	53.1	52.9	41.3	28.8	10.3
	BIP15	161.8	176.6	162.6	177.1	190.9	193.2	194.8	195.8	196.7	193.1	199.2	172.8
	BIP30	373.5	409.0	376.6	389.5	388.3	395.4	372.9	388.7	393.6	379.0	392.9	358.2
	CBPDA												
	CBPDO												
	SDPC	8.2	6.2	9.3	9.3	12.8	12.7	17.1	13.9	14.6	13.5	8.6	8.6
	SDPR	0.0	21.9	32.7	49.3	80.2	144.5	168.3	148.8	151.7	100.4	44.9	0.0
	SEP	0.0	42.5	52.7	58.8	73.6	75.3	93.3	77.8	81.9	81.4	59.9	0.0
	Subtotal	557.8	680.1	668.3	728.5	803.1	882.2	903.6	883.0	896.3	813.5	734.4	549.9
Load Modifying Programs	CPP Large	9.3	10.1	10.9	10.9	11.3	12.1	12.1	11.6	11.5	11.1	10.4	9.3
	CPP Medium	1.6	2.9	3.6	4.0	5.0	5.0	6.1	5.1	5.3	5.4	3.9	1.6
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.6	0.1	0.5	0.4	0.3	0.3	0.3
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	9.9	12.1	14.4	14.9	16.2	17.4	17.8	17.2	18.1	16.4	12.6	9.9
Pilots	Residential TOU	20.6	27.0	25.6	32.4	50.4	60.1	76.6	75.4	75.1	65.4	41.4	21.7
	Subtotal	20.6	27.0	25.6	32.4	50.4	60.1	76.6	75.4	75.1	65.4	41.4	21.7
Total	Total	588.3	719.2	708.2	775.8	869.7	959.7	998.0	975.5	989.5	895.3	788.4	581.5

Ex Ante Impacts - 2028 Portfolio SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	15.2	25.3	36.6	47.5	55.9	59.8	55.7	56.5	56.2	43.9	30.6	10.9
	BIP15	164.9	180.1	165.8	180.5	194.5	197.0	198.6	199.6	200.5	196.8	203.0	176.1
	BIP30	381.4	417.6	384.6	397.7	396.3	403.6	380.6	396.7	401.7	386.8	401.0	365.6
	CBPDA												
	CBPDO												
	SDPC	7.5	5.7	8.5	8.5	11.7	11.6	15.6	12.8	13.4	12.4	7.9	7.9
	SDPR	0.0	20.9	31.1	46.9	76.3	137.6	160.2	141.6	144.4	95.6	42.8	0.0
	SEP	0.0	45.0	55.7	62.2	77.7	79.4	98.3	81.9	86.1	85.6	62.9	0.0
	Subtotal	569.1	694.7	682.3	743.3	817.3	893.7	913.8	893.9	907.2	825.8	748.3	560.5
Load Modifying Programs	CPP Large	9.3	10.1	10.9	10.9	11.3	12.1	12.1	11.7	11.5	11.1	10.4	9.3
	CPP Medium	1.8	3.2	4.0	4.5	5.5	5.6	6.8	5.6	5.9	6.0	4.3	1.8
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.6	0.1	0.6	0.4	0.3	0.3	0.3
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.2	12.5	14.8	15.4	16.7	18.0	18.5	17.8	18.7	17.0	13.1	10.2
Pilots	Residential TOU	20.5	26.7	25.4	32.2	50.1	59.5	76.1	74.8	74.6	65.0	41.1	21.5
	Subtotal	20.5	26.7	25.4	32.2	50.1	59.5	76.1	74.8	74.6	65.0	41.1	21.5
Total	Total	599.7	733.8	722.5	790.9	884.1	971.3	1,008.4	986.5	1,000.6	907.9	802.5	592.2

Ex Ante Impacts - 2029 Portfolio SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	16.2	26.9	38.9	50.5	59.2	63.4	59.1	59.8	59.6	46.5	32.4	11.6
	BIP15	168.1	183.5	169.0	184.0	198.2	200.7	202.3	203.4	204.3	200.5	206.8	179.4
	BIP30	389.2	426.2	392.5	405.8	404.3	411.6	388.2	404.7	409.8	394.6	409.1	372.9
	CBPDA												
	CBPDO												
	SDPC	6.9	5.2	7.8	7.8	10.7	10.6	14.3	11.7	12.2	11.3	7.2	7.2
	SDPR	0.0	19.9	29.7	44.7	72.8	131.2	152.7	135.0	137.7	91.2	40.8	0.0
	SEP	0.0	47.2	58.3	65.0	81.2	82.9	102.6	85.5	89.8	89.1	65.5	0.0
	Subtotal	580.3	708.9	696.1	757.8	831.2	905.2	924.0	904.8	918.2	838.0	761.9	571.1
Load Modifying Programs	CPP Large	9.3	10.1	10.9	11.0	11.3	12.1	12.1	11.7	11.5	11.1	10.4	9.3
	CPP Medium	1.8	3.2	4.0	4.5	5.5	5.6	6.8	5.6	5.9	6.0	4.3	1.8
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.6	0.1	0.6	0.4	0.3	0.3	0.3
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.2	12.5	14.8	15.4	16.8	18.0	18.5	17.8	18.7	17.0	13.1	10.2
Pilots	Residential TOU	20.2	26.3	25.2	31.9	49.8	59.0	75.6	74.0	74.1	64.5	40.9	21.4
	Subtotal	20.2	26.3	25.2	31.9	49.8	59.0	75.6	74.0	74.1	64.5	40.9	21.4
Total	Total	610.7	747.7	736.1	805.1	897.7	982.3	1,018.1	996.6	1,011.0	919.5	815.9	602.7

Ex Ante Impacts - 2030 Portfolio SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	17.2	28.5	41.2	53.5	62.6	67.0	62.4	63.3	63.0	49.2	34.3	12.2
	BIP15	171.3	187.0	172.1	187.5	201.9	204.4	206.1	207.1	208.0	204.2	210.7	182.7
	BIP30	396.9	434.6	400.3	413.9	412.2	419.7	395.8	412.6	417.8	402.3	417.1	380.2
	CBPDA												
	CBPDO												
	SDPC	6.3	4.8	7.1	7.1	9.8	9.7	13.1	10.7	11.2	10.4	6.6	6.6
	SDPR	0.0	19.0	28.3	42.7	69.4	125.2	145.7	128.8	131.4	87.0	38.9	0.0
	SEP	0.0	49.0	60.6	67.5	84.3	86.0	106.3	88.5	93.0	92.2	67.8	0.0
	Subtotal	591.6	723.0	709.7	772.2	845.0	916.8	934.2	915.8	929.2	850.0	775.3	581.8
Load Modifying Programs	CPP Large	9.3	10.1	10.9	11.0	11.3	12.1	12.1	11.7	11.5	11.1	10.4	9.3
	CPP Medium	1.8	3.2	4.0	4.5	5.5	5.6	6.8	5.6	5.9	6.0	4.3	1.8
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.6	0.1	0.6	0.4	0.3	0.3	0.3
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.2	12.5	14.8	15.4	16.8	18.0	18.5	17.8	18.7	17.1	13.1	10.2
Pilots	Residential TOU	20.1	26.1	25.0	31.6	49.5	58.5	75.1	73.4	73.6	64.1	40.6	21.2
	Subtotal	20.1	26.1	25.0	31.6	49.5	58.5	75.1	73.4	73.6	64.1	40.6	21.2
Total	Total	621.9	761.5	749.5	819.2	911.2	993.3	1,027.8	1,007.0	1,021.6	931.2	829.0	613.1

Ex Ante Impacts - 2031 Portfolio SCE 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	18.1	30.1	43.6	56.5	66.0	70.7	65.9	66.7	66.5	51.9	36.2	12.9
	BIP15	174.4	190.5	175.3	190.9	205.5	208.1	209.8	210.9	211.8	207.9	214.5	186.1
	BIP30	404.7	443.1	408.1	422.0	420.1	427.7	403.4	420.5	425.8	410.0	425.0	387.5
	CBPDA												
	CBPDO												
	SDPC	5.7	4.4	6.5	6.5	9.0	8.9	12.0	9.8	10.3	9.5	6.1	6.0
	SDPR	0.0	18.1	27.1	40.8	66.4	119.6	139.2	123.1	125.6	83.1	37.2	0.0
	SEP	0.0	50.6	62.5	69.7	86.9	88.6	109.5	91.2	95.7	95.0	69.8	0.0
	Subtotal	603.0	736.9	723.2	786.4	858.7	928.5	944.6	927.0	940.4	862.1	788.8	592.5
Load Modifying Programs	CPP Large	9.3	10.1	10.9	11.0	11.3	12.1	12.1	11.7	11.5	11.1	10.4	9.3
	CPP Medium	1.8	3.2	4.0	4.5	5.5	5.6	6.8	5.6	5.9	6.0	4.3	1.8
	CPP Small	0.3	0.3	0.3	0.3	0.3	0.6	0.1	0.6	0.4	0.3	0.3	0.3
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.2	12.5	14.8	15.4	16.8	18.0	18.5	17.8	18.7	17.1	13.1	10.2
Pilots	Residential TOU	19.9	25.8	24.8	31.4	49.2	58.0	74.7	72.8	73.2	63.8	40.4	21.1
	Subtotal	19.9	25.8	24.8	31.4	49.2	58.0	74.7	72.8	73.2	63.8	40.4	21.1
Total	Total	633.1	775.2	762.7	833.2	924.6	1,004.5	1,037.8	1,017.5	1,032.4	943.0	842.3	623.8

Ex Ante Impacts - 2021 Portfolio SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	8.5	8.4	12.8	20.7	26.9	34.9	35.0	35.0	32.1	24.7	14.6	5.9
	BIP15	144.6	155.7	143.9	158.2	168.4	170.0	171.6	173.2	174.3	172.5	178.0	154.8
	BIP30	306.4	335.3	304.1	318.5	312.8	318.1	299.4	317.3	321.4	306.8	319.7	293.6
	CBPDA												
	CBPDO												
	SDPC	13.7	14.1	10.0	13.3	13.5	14.2	18.2	17.1	19.8	16.1	10.4	13.3
	SDPR	0.0	0.0	1.8	37.4	41.1	100.2	153.7	164.6	166.6	65.9	30.8	0.0
	SEP	0.0	0.0	0.6	21.0	22.0	21.9	29.0	29.4	33.2	29.2	21.1	0.0
	Subtotal	473.2	513.6	473.1	569.1	589.5	664.1	711.6	741.4	752.1	620.1	574.6	467.6
Load Modifying Programs	CPP Large	7.8	7.8	7.8	9.0	9.0	8.9	9.5	9.3	9.5	9.1	8.7	7.8
	CPP Medium	1.4	1.4	1.5	3.0	3.0	3.0	3.8	3.8	4.2	3.7	2.6	1.4
	CPP Small	0.5	0.5	0.5	0.6	0.6	1.0	0.6	0.6	0.5	0.6	0.5	0.5
	RTP	-1.0	-1.0	-0.3	-0.3	-0.4	-1.1	-0.5	-0.0	0.9	-0.4	-2.3	-1.4
	Subtotal	8.8	8.7	9.5	12.2	12.3	11.7	13.4	13.7	15.1	12.9	9.6	8.3
Pilots	Residential TOU	4.2	3.6	2.7	5.2	6.7	6.5	13.9	19.5	18.9	15.0	13.9	10.1
	Subtotal	4.2	3.6	2.7	5.2	6.7	6.5	13.9	19.5	18.9	15.0	13.9	10.1
Total	Total	486.2	525.9	485.3	586.6	608.5	682.3	738.9	774.6	786.1	648.0	598.1	486.0

Ex Ante Impacts - 2022 Portfolio SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	9.8	9.8	14.8	24.0	29.3	38.0	38.1	38.2	34.9	27.0	15.9	6.4
	BIP15	147.2	158.7	146.9	161.1	171.4	173.5	175.0	176.7	177.6	175.5	181.1	157.7
	BIP30	324.0	353.1	321.9	336.7	330.7	336.6	317.0	335.8	340.0	324.7	338.4	310.9
	CBPDA												
	CBPDO												
	SDPC	12.7	13.1	9.5	13.4	13.6	14.2	18.1	17.1	19.6	16.1	10.6	12.3
	SDPR	0.0	0.0	1.9	38.0	41.7	101.5	155.6	166.7	168.7	67.0	31.4	0.0
	SEP	0.0	0.0	0.8	27.5	29.0	29.0	38.5	39.4	43.9	38.4	27.8	0.0
	Subtotal	493.8	534.7	495.9	600.8	620.5	697.7	747.1	778.7	789.4	653.4	605.3	487.4
Load Modifying Programs	CPP Large	8.0	8.0	8.0	9.2	9.2	9.1	9.7	9.5	9.7	9.3	8.9	8.0
	CPP Medium	1.4	1.4	1.5	2.9	3.0	3.0	3.8	3.8	4.1	3.7	2.6	1.4
	CPP Small	0.5	0.5	0.5	0.6	0.6	1.0	0.6	0.6	0.5	0.6	0.5	0.5
	RTP	-1.4	-1.3	-0.4	-0.4	-0.4	-1.2	-0.5	-0.0	0.9	-0.4	-2.1	-1.3
	Subtotal	8.5	8.6	9.6	12.3	12.4	11.8	13.6	13.8	15.2	13.1	9.9	8.5
Pilots	Residential TOU	14.8	14.7	12.8	22.5	27.7	28.6	55.5	75.3	70.9	40.5	27.8	18.3
	Subtotal	14.8	14.7	12.8	22.5	27.7	28.6	55.5	75.3	70.9	40.5	27.8	18.3
Total	Total	517.1	558.0	518.3	635.6	660.6	738.1	816.2	867.9	875.5	707.0	643.0	514.2

Ex Ante Impacts - 2023 Portfolio SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	10.7	10.7	16.1	26.2	31.7	41.2	41.3	41.3	37.9	29.2	17.2	6.9
	BIP15	150.3	161.9	150.0	164.3	174.8	177.1	178.6	180.4	181.1	178.9	184.7	160.8
	BIP30	336.9	366.4	334.8	350.0	343.6	350.0	329.7	349.2	353.3	337.5	351.9	323.3
	CBPDA												
	CBPDO												
	SDPC	11.7	12.0	8.9	12.7	13.0	13.5	17.1	16.3	18.5	15.3	10.2	11.3
	SDPR	0.0	0.0	1.9	36.5	40.1	97.3	149.2	159.7	161.6	64.3	30.2	0.0
	SEP	0.0	0.0	1.1	34.0	35.6	35.4	46.4	47.3	52.3	45.7	33.1	0.0
	Subtotal	509.6	551.0	512.8	623.9	643.5	719.3	767.1	799.0	809.6	675.8	627.3	502.5
Load Modifying Programs	CPP Large	8.3	8.3	8.3	9.6	9.6	9.5	10.1	9.9	10.1	9.7	9.3	8.3
	CPP Medium	1.4	1.4	1.5	3.1	3.2	3.1	4.0	4.0	4.3	3.8	2.7	1.4
	CPP Small	0.6	0.6	0.6	0.6	0.6	1.0	0.7	0.6	0.5	0.6	0.6	0.6
	RTP	-1.3	-1.3	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.9	-0.4	-2.0	-1.3
	Subtotal	9.0	9.1	10.0	12.9	13.0	12.5	14.2	14.5	15.9	13.7	10.5	9.0
Pilots	Residential TOU	20.3	17.4	13.3	22.7	28.0	30.1	56.6	75.9	71.7	40.4	28.1	18.7
	Subtotal	20.3	17.4	13.3	22.7	28.0	30.1	56.6	75.9	71.7	40.4	28.1	18.7
Total	Total	538.8	577.4	536.2	659.5	684.5	761.8	837.9	889.4	897.2	729.9	665.9	530.2

Ex Ante Impacts - 2024 Portfolio SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	11.6	11.6	17.5	28.4	34.2	44.4	44.5	44.6	40.8	31.5	18.6	7.5
	BIP15	153.4	165.2	153.1	167.7	178.2	180.7	182.2	184.1	184.8	182.5	188.4	164.1
	BIP30	347.3	377.3	345.3	360.8	354.1	360.8	339.9	360.0	364.2	347.9	362.8	333.4
	CBPDA												
	CBPDO												
	SDPC	10.7	11.0	8.2	11.9	12.1	12.6	15.9	15.2	17.2	14.2	9.5	10.4
	SDPR	0.0	0.0	1.8	34.6	38.0	92.1	141.2	151.2	153.0	60.9	28.6	0.0
	SEP	0.0	0.0	1.3	39.4	41.1	40.7	53.2	53.9	59.5	51.9	37.6	0.0
	Subtotal	523.0	565.1	527.2	642.8	662.5	736.1	781.7	813.8	824.3	693.7	645.5	515.3
Load Modifying Programs	CPP Large	8.6	8.6	8.7	10.0	10.0	9.8	10.5	10.3	10.5	10.0	9.6	8.6
	CPP Medium	1.5	1.5	1.6	3.2	3.3	3.2	4.1	4.1	4.5	4.0	2.8	1.5
	CPP Small	0.6	0.6	0.6	0.6	0.6	1.1	0.7	0.7	0.5	0.6	0.6	0.6
	RTP	-1.3	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	9.5	9.5	10.5	13.4	13.5	13.1	14.8	15.0	16.4	14.3	11.1	9.5
Pilots	Residential TOU	20.3	17.4	13.4	22.7	28.0	30.8	56.9	75.7	71.7	40.2	28.1	18.8
	Subtotal	20.3	17.4	13.4	22.7	28.0	30.8	56.9	75.7	71.7	40.2	28.1	18.8
Total	Total	552.8	592.1	551.1	679.0	704.0	779.9	853.4	904.5	912.4	748.2	684.7	543.6

Ex Ante Impacts - 2025 Portfolio SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	12.5	12.5	18.9	30.6	36.7	47.7	47.8	47.9	43.8	33.8	19.9	8.0
	BIP15	156.5	168.6	156.3	171.1	181.8	184.4	185.9	187.9	188.5	186.2	192.2	167.4
	BIP30	356.5	387.0	354.4	370.3	363.2	370.1	348.7	369.3	373.6	356.9	372.2	342.0
	CBPDA												
	CBPDO												
	SDPC	9.7	10.0	7.5	10.9	11.1	11.6	14.7	14.0	15.8	13.1	8.8	9.5
	SDPR	0.0	0.0	1.7	32.8	36.0	87.3	133.8	143.3	145.0	57.7	27.1	0.0
	SEP	0.0	0.0	1.5	44.0	45.7	45.3	58.9	59.6	65.6	57.2	41.4	0.0
	Subtotal	535.3	578.2	540.3	659.8	679.4	751.1	794.6	826.7	837.2	709.7	661.7	527.0
Load Modifying Programs	CPP Large	9.0	9.0	9.0	10.4	10.4	10.2	10.9	10.7	10.9	10.4	10.0	9.0
	CPP Medium	1.6	1.6	1.7	3.3	3.4	3.4	4.3	4.3	4.7	4.2	2.9	1.6
	CPP Small	0.6	0.6	0.6	0.6	0.6	1.1	0.7	0.7	0.5	0.6	0.6	0.6
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	9.9	9.9	10.9	14.0	14.0	13.6	15.4	15.6	17.0	14.8	11.6	9.9
Pilots	Residential TOU	20.1	17.3	13.4	22.5	27.8	30.8	56.6	75.0	71.2	39.8	27.9	18.7
	Subtotal	20.1	17.3	13.4	22.5	27.8	30.8	56.6	75.0	71.2	39.8	27.9	18.7
Total	Total	565.3	605.5	564.5	696.3	721.2	795.5	866.6	917.3	925.4	764.4	701.1	555.5

Ex Ante Impacts - 2026 Portfolio SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	13.4	13.4	20.2	32.8	39.3	51.0	51.1	51.2	46.9	36.2	21.3	8.6
	BIP15	159.7	172.1	159.5	174.6	185.4	188.1	189.6	191.6	192.3	189.9	196.0	170.7
	BIP30	364.9	396.1	362.8	379.0	371.6	378.7	356.8	377.9	382.3	365.2	380.8	350.0
	CBPDA												
	CBPDO												
	SDPC	8.9	9.2	6.9	10.0	10.2	10.6	13.4	12.8	14.5	12.0	8.1	8.6
	SDPR	0.0	0.0	1.6	31.2	34.2	82.9	127.1	136.0	137.7	54.8	25.7	0.0
	SEP	0.0	0.0	1.6	47.9	49.7	49.1	63.8	64.5	70.9	61.7	44.7	0.0
	Subtotal	546.9	590.7	552.6	675.6	695.2	765.2	806.6	838.8	849.3	724.6	676.7	538.0
Load Modifying Programs	CPP Large	9.3	9.3	9.3	10.7	10.7	10.5	11.3	11.0	11.3	10.7	10.3	9.3
	CPP Medium	1.6	1.6	1.7	3.5	3.6	3.5	4.5	4.5	4.9	4.3	3.0	1.6
	CPP Small	0.6	0.6	0.6	0.7	0.7	1.2	0.8	0.7	0.6	0.7	0.6	0.6
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.3	10.3	11.3	14.5	14.5	14.1	16.0	16.2	17.6	15.4	12.0	10.3
Pilots	Residential TOU	19.9	17.0	13.2	22.2	27.5	30.5	56.1	74.1	70.5	39.3	27.6	18.5
	Subtotal	19.9	17.0	13.2	22.2	27.5	30.5	56.1	74.1	70.5	39.3	27.6	18.5
Total	Total	577.1	618.1	577.1	712.3	737.3	809.8	878.7	929.1	937.4	779.3	716.3	566.7

Ex Ante Impacts - 2027 Portfolio SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	14.4	14.3	21.7	35.1	41.9	54.4	54.5	54.6	50.0	38.5	22.7	9.2
	BIP15	162.9	175.5	162.7	178.1	189.0	191.7	193.3	195.4	196.0	193.6	199.8	174.0
	BIP30	373.0	404.8	370.8	387.4	379.7	386.9	364.5	386.1	390.5	373.2	389.1	357.6
	CBPDA												
	CBPDO												
	SDPC	8.1	8.4	6.3	9.2	9.3	9.7	12.3	11.7	13.3	11.0	7.4	7.9
	SDPR	0.0	0.0	1.6	29.6	32.5	78.8	120.8	129.3	130.9	52.1	24.5	0.0
	SEP	0.0	0.0	1.7	51.3	53.2	52.5	68.1	68.7	75.5	65.6	47.4	0.0
	Subtotal	558.4	603.0	564.7	690.7	710.4	778.8	818.3	850.6	861.0	738.8	691.0	548.7
Load Modifying Programs	CPP Large	9.3	9.3	9.3	10.7	10.7	10.5	11.3	11.0	11.3	10.8	10.3	9.3
	CPP Medium	1.6	1.6	1.7	3.5	3.6	3.5	4.5	4.5	4.9	4.3	3.0	1.6
	CPP Small	0.6	0.6	0.6	0.7	0.7	1.2	0.8	0.7	0.6	0.7	0.6	0.6
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.3	10.3	11.3	14.5	14.6	14.1	16.0	16.2	17.6	15.4	12.0	10.3
Pilots	Residential TOU	19.6	16.8	13.1	22.0	27.3	30.3	55.6	73.3	69.8	38.9	27.4	18.3
	Subtotal	19.6	16.8	13.1	22.0	27.3	30.3	55.6	73.3	69.8	38.9	27.4	18.3
Total	Total	588.3	630.1	589.1	727.2	752.2	823.2	889.8	940.0	948.3	793.0	730.4	577.3

Ex Ante Impacts - 2028 Portfolio SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	15.3	15.3	23.1	37.4	44.5	57.8	57.9	58.0	53.1	41.0	24.1	9.7
	BIP15	166.0	179.0	165.9	181.6	192.6	195.4	197.0	199.1	199.8	197.3	203.6	177.4
	BIP30	380.8	413.3	378.6	395.6	387.5	394.9	372.1	394.1	398.6	380.9	397.2	365.0
	CBPDA												
	CBPDO												
	SDPC	7.4	7.7	5.7	8.4	8.5	8.9	11.3	10.7	12.1	10.1	6.8	7.2
	SDPR	0.0	0.0	1.5	28.2	31.0	75.0	115.0	123.1	124.6	49.6	23.3	0.0
	SEP	0.0	0.0	1.8	54.2	56.1	55.4	71.7	72.3	79.4	69.0	49.8	0.0
	Subtotal	569.7	615.2	576.7	705.4	725.1	792.1	829.8	862.2	872.4	752.6	704.9	559.4
Load Modifying Programs	CPP Large	9.3	9.3	9.3	10.7	10.7	10.5	11.3	11.0	11.3	10.8	10.3	9.3
	CPP Medium	1.8	1.8	1.9	3.9	3.9	3.9	5.0	5.0	5.4	4.8	3.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.8	0.8	0.6	0.7	0.7	0.7
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.5	10.6	11.5	14.9	15.0	14.6	16.6	16.7	18.2	15.9	12.5	10.5
Pilots	Residential TOU	19.4	16.7	13.0	21.8	27.1	30.1	55.2	72.7	69.2	38.5	27.2	18.2
	Subtotal	19.4	16.7	13.0	21.8	27.1	30.1	55.2	72.7	69.2	38.5	27.2	18.2
Total	Total	599.6	642.5	601.2	742.1	767.2	836.9	901.5	951.6	959.8	807.0	744.6	588.1

Ex Ante Impacts - 2029 Portfolio SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	16.3	16.2	24.5	39.8	47.2	61.2	61.3	61.4	56.3	43.4	25.6	10.3
	BIP15	169.2	182.4	169.1	185.1	196.3	199.1	200.7	202.9	203.6	201.0	207.5	180.7
	BIP30	388.6	421.7	386.4	403.6	395.3	402.8	379.6	402.0	406.6	388.5	405.1	372.3
	CBPDA												
	CBPDO												
	SDPC	6.8	7.0	5.3	7.7	7.8	8.2	10.3	9.8	11.1	9.2	6.2	6.6
	SDPR	0.0	0.0	1.4	26.9	29.5	71.5	109.6	117.4	118.8	47.3	22.2	0.0
	SEP	0.0	0.0	1.9	56.7	58.7	57.8	74.9	75.5	82.7	71.9	51.9	0.0
	Subtotal	581.0	627.4	588.6	719.8	739.5	805.4	841.2	873.7	883.9	766.1	718.6	570.0
Load Modifying Programs	CPP Large	9.3	9.3	9.3	10.7	10.7	10.5	11.3	11.0	11.3	10.8	10.3	9.3
	CPP Medium	1.8	1.8	1.9	3.9	4.0	3.9	5.0	5.0	5.4	4.8	3.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.8	0.8	0.6	0.7	0.7	0.7
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.5	10.6	11.5	14.9	15.0	14.6	16.6	16.7	18.2	15.9	12.5	10.5
Pilots	Residential TOU	19.2	16.5	12.9	21.5	26.9	29.8	54.8	71.9	68.6	38.1	27.0	18.0
	Subtotal	19.2	16.5	12.9	21.5	26.9	29.8	54.8	71.9	68.6	38.1	27.0	18.0
Total	Total	610.7	654.5	613.0	756.2	781.4	849.8	912.6	962.4	970.7	820.1	758.0	598.5

Ex Ante Impacts - 2030 Portfolio SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	17.2	17.2	26.0	42.2	49.9	64.7	64.8	65.0	59.5	45.9	27.0	10.9
	BIP15	172.4	185.8	172.3	188.5	199.9	202.8	204.4	206.6	207.3	204.7	211.3	184.0
	BIP30	396.4	430.1	394.1	411.7	403.0	410.7	387.0	409.8	414.6	396.1	413.0	379.6
	CBPDA												
	CBPDO												
	SDPC	6.2	6.4	4.8	7.0	7.2	7.5	9.4	9.0	10.2	8.4	5.7	6.0
	SDPR	0.0	0.0	1.4	25.7	28.2	68.2	104.6	112.0	113.3	45.1	21.2	0.0
	SEP	0.0	0.0	2.0	58.8	60.9	60.0	77.6	78.1	85.7	74.4	53.7	0.0
	Subtotal	592.3	639.6	600.5	734.0	753.8	818.6	852.7	885.4	895.4	779.4	732.0	580.6
Load Modifying Programs	CPP Large	9.3	9.3	9.3	10.7	10.7	10.5	11.3	11.0	11.3	10.8	10.3	9.3
	CPP Medium	1.8	1.8	1.9	3.9	4.0	3.9	5.0	5.0	5.4	4.8	3.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.8	0.8	0.6	0.7	0.7	0.7
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.5	10.6	11.5	14.9	15.0	14.7	16.6	16.7	18.2	15.9	12.5	10.5
Pilots	Residential TOU	19.0	16.3	12.7	21.3	26.7	29.6	54.3	71.3	68.1	37.8	26.8	17.8
	Subtotal	19.0	16.3	12.7	21.3	26.7	29.6	54.3	71.3	68.1	37.8	26.8	17.8
Total	Total	621.8	666.5	624.7	770.2	795.5	862.9	923.6	973.4	981.6	833.2	771.3	609.0

Ex Ante Impacts - 2031 Portfolio SCE 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	18.2	18.2	27.5	44.6	52.6	68.3	68.4	68.5	62.8	48.4	28.5	11.5
	BIP15	175.6	189.3	175.4	192.0	203.5	206.5	208.1	210.4	211.1	208.4	215.2	187.4
	BIP30	404.1	438.5	401.8	419.7	410.7	418.5	394.4	417.7	422.5	403.7	421.0	386.9
	CBPDA												
	CBPDO												
	SDPC	5.7	5.9	4.4	6.5	6.6	6.8	8.6	8.3	9.3	7.7	5.2	5.5
	SDPR	0.0	0.0	1.3	24.5	26.9	65.2	99.9	107.0	108.3	43.1	20.3	0.0
	SEP	0.0	0.0	2.0	60.7	62.8	61.8	80.0	80.5	88.2	76.6	55.3	0.0
	Subtotal	603.7	651.9	612.5	748.0	767.9	831.9	864.3	897.1	907.0	792.7	745.4	591.3
Load Modifying Programs	CPP Large	9.3	9.3	9.3	10.7	10.7	10.5	11.3	11.0	11.3	10.8	10.3	9.3
	CPP Medium	1.8	1.8	1.9	3.9	4.0	3.9	5.0	5.0	5.4	4.8	3.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.8	0.8	0.6	0.7	0.7	0.7
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.5	10.6	11.5	14.9	15.0	14.7	16.6	16.7	18.2	15.9	12.5	10.5
Pilots	Residential TOU	18.8	16.1	12.6	21.1	26.5	29.4	54.0	70.7	67.6	37.5	26.6	17.7
	Subtotal	18.8	16.1	12.6	21.1	26.5	29.4	54.0	70.7	67.6	37.5	26.6	17.7
Total	Total	633.0	678.5	636.6	784.1	809.4	876.0	934.8	984.6	992.8	846.2	784.5	619.6

Ex Ante Impacts - 2021 Portfolio CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	8.4	9.2	20.7	25.7	33.8	36.6	36.1	36.1	35.9	31.1	18.5	6.6
	BIP15	143.2	154.7	143.3	157.0	170.0	171.3	171.9	173.3	174.9	171.3	176.9	153.2
	BIP30	306.3	334.0	309.3	322.8	319.9	325.6	300.1	318.0	324.3	307.1	322.8	294.3
	CBPDA												
	CBPDO												
	SDPC	14.1	12.1	15.1	17.9	19.0	20.1	17.9	19.8	21.5	13.7	12.1	14.6
	SDPR	0.0	0.0	41.2	67.0	101.8	187.4	173.9	178.4	191.6	89.5	56.9	0.0
	SEP	0.0	0.0	22.8	27.6	31.0	33.2	29.7	32.3	34.8	27.5	27.1	0.0
	Subtotal	472.0	510.2	552.4	618.0	680.2	779.0	734.5	762.7	787.7	644.9	614.3	468.7
Load Modifying Programs	CPP Large	7.8	7.8	9.3	9.2	9.5	10.2	9.6	9.8	9.6	9.0	8.8	7.8
	CPP Medium	1.4	1.4	3.3	3.9	4.2	4.4	3.9	4.2	4.4	3.5	3.3	1.4
	CPP Small	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.5	0.4	0.4	0.4	0.4
	RTP	-1.0	-1.0	-0.3	-0.3	-0.4	-0.2	-0.5	-0.0	0.9	-0.4	-2.3	-1.4
	Subtotal	8.6	8.5	12.6	13.1	13.8	14.8	13.6	14.4	15.4	12.5	10.2	8.1
Pilots	Residential TOU	4.8	2.8	5.6	9.3	13.0	15.0	16.4	19.0	20.5	18.4	21.5	12.1
	Subtotal	4.8	2.8	5.6	9.3	13.0	15.0	16.4	19.0	20.5	18.4	21.5	12.1
Total	Total	485.4	521.5	570.6	640.4	707.0	808.8	764.4	796.1	823.6	675.8	646.0	488.9

Ex Ante Impacts - 2022 Portfolio CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	9.7	10.7	24.0	29.8	36.8	39.8	39.4	39.4	39.1	33.9	20.1	7.2
	BIP15	145.7	157.7	146.2	159.8	173.1	174.8	175.3	176.9	178.2	174.2	180.0	156.0
	BIP30	324.0	351.9	327.5	341.2	338.2	344.5	317.8	336.5	343.0	324.9	341.7	311.5
	CBPDA												
	CBPDO												
	SDPC	13.1	11.3	15.1	17.8	18.8	19.9	17.9	19.6	21.2	13.9	12.4	13.5
	SDPR	0.0	0.0	41.9	68.0	103.2	189.7	176.1	180.6	194.0	90.8	57.8	0.0
	SEP	0.0	0.0	29.5	35.7	40.5	43.6	39.5	43.2	46.0	36.2	35.4	0.0
	Subtotal	492.5	531.6	584.2	652.4	715.3	817.2	770.7	801.0	826.3	678.7	647.4	488.2
Load Modifying Programs	CPP Large	8.0	8.0	9.5	9.4	9.7	10.4	9.8	10.0	9.9	9.2	9.0	8.0
	CPP Medium	1.4	1.4	3.2	3.8	4.2	4.4	3.9	4.1	4.4	3.5	3.3	1.4
	CPP Small	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.5	0.4	0.4	0.4	0.4
	RTP	-1.4	-1.3	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.9	-0.4	-2.1	-1.3
	Subtotal	8.3	8.4	12.7	13.2	13.9	15.0	13.7	14.5	15.5	12.7	10.5	8.4
Pilots	Residential TOU	16.4	11.9	24.2	38.4	51.6	61.2	64.6	73.4	75.0	49.2	42.1	21.5
	Subtotal	16.4	11.9	24.2	38.4	51.6	61.2	64.6	73.4	75.0	49.2	42.1	21.5
Total	Total	517.2	551.9	621.0	704.0	780.8	893.4	849.0	888.9	916.8	740.5	700.0	518.1

Ex Ante Impacts - 2023 Portfolio CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	10.6	11.7	26.2	32.5	39.8	43.2	42.7	42.6	42.3	36.7	21.8	7.8
	BIP15	148.6	160.9	149.3	162.9	176.5	178.5	178.9	180.6	181.8	177.5	183.5	159.1
	BIP30	336.8	365.1	340.5	354.7	351.4	358.1	330.5	349.9	356.5	337.8	355.3	323.9
	CBPDA												
	CBPDO												
	SDPC	12.0	10.4	14.3	16.8	17.8	18.8	17.0	18.6	20.0	13.4	11.9	12.4
	SDPR	0.0	0.0	40.2	65.3	99.0	181.8	168.7	173.1	185.9	87.0	55.4	0.0
	SEP	0.0	0.0	36.7	44.1	49.5	52.9	47.6	51.7	54.8	43.1	41.9	0.0
	Subtotal	508.1	548.1	607.3	676.4	738.8	838.1	790.1	821.3	846.2	700.4	669.9	503.2
Load Modifying Programs	CPP Large	8.3	8.3	9.9	9.8	10.1	10.9	10.2	10.4	10.3	9.6	9.4	8.3
	CPP Medium	1.4	1.4	3.4	4.0	4.4	4.6	4.0	4.3	4.6	3.6	3.5	1.4
	CPP Small	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.5	0.4	0.4	0.4	0.4
	RTP	-1.3	-1.3	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.9	-0.4	-2.0	-1.3
	Subtotal	8.8	8.9	13.3	13.8	14.5	15.6	14.4	15.2	16.2	13.3	11.2	8.9
Pilots	Residential TOU	22.6	14.2	24.6	38.5	51.7	62.1	65.6	74.0	76.2	49.1	42.3	21.9
	Subtotal	22.6	14.2	24.6	38.5	51.7	62.1	65.6	74.0	76.2	49.1	42.3	21.9
Total	Total	539.5	571.2	645.2	728.7	805.0	915.8	870.1	910.5	938.5	762.8	723.4	534.0

Ex Ante Impacts - 2024 Portfolio CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	11.5	12.6	28.4	35.2	43.0	46.5	46.0	46.0	45.7	39.6	23.5	8.4
	BIP15	151.7	164.2	152.5	166.3	180.0	182.1	182.5	184.4	185.5	181.1	187.2	162.3
	BIP30	347.3	376.0	351.2	365.7	362.2	369.1	340.7	360.7	367.5	348.2	366.3	333.9
	CBPDA												
	CBPDO												
	SDPC	11.0	9.5	13.3	15.6	16.6	17.5	15.8	17.3	18.5	12.5	11.1	11.3
	SDPR	0.0	0.0	38.1	61.9	93.7	172.1	159.7	163.8	176.0	82.4	52.5	0.0
	SEP	0.0	0.0	42.6	51.0	57.0	60.7	54.5	59.0	62.3	49.0	47.5	0.0
	Subtotal	521.5	562.4	626.1	695.6	757.1	852.8	804.0	835.9	860.3	717.5	688.2	516.0
Load Modifying Programs	CPP Large	8.6	8.6	10.3	10.2	10.5	11.3	10.6	10.8	10.7	10.0	9.7	8.6
	CPP Medium	1.5	1.5	3.5	4.2	4.6	4.8	4.2	4.5	4.8	3.8	3.6	1.5
	CPP Small	0.4	0.4	0.4	0.4	0.4	0.4	0.7	0.5	0.4	0.4	0.4	0.4
	RTP	-1.3	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	9.3	9.3	13.8	14.4	15.1	16.3	15.0	15.8	16.7	13.8	11.8	9.3
Pilots	Residential TOU	22.6	14.2	24.6	38.4	51.5	62.2	65.8	73.9	76.5	48.7	42.3	22.0
	Subtotal	22.6	14.2	24.6	38.4	51.5	62.2	65.8	73.9	76.5	48.7	42.3	22.0
Total	Total	553.3	586.0	664.6	748.4	823.8	931.3	884.8	925.6	953.5	780.1	742.3	547.3

Ex Ante Impacts - 2025 Portfolio CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	12.3	13.6	30.6	37.9	46.1	50.0	49.4	49.4	49.0	42.5	25.3	9.0
	BIP15	154.8	167.6	155.6	169.7	183.6	185.8	186.2	188.1	189.2	184.7	190.9	165.5
	BIP30	356.4	385.7	360.4	375.2	371.5	378.7	349.6	370.0	377.0	357.2	375.8	342.6
	CBPDA												
	CBPDO												
	SDPC	10.0	8.7	12.3	14.4	15.2	16.1	14.6	15.9	17.1	11.5	10.2	10.3
	SDPR	0.0	0.0	36.1	58.6	88.8	163.1	151.4	155.3	166.8	78.1	49.8	0.0
	SEP	0.0	0.0	47.7	56.9	63.4	67.4	60.4	65.2	68.8	54.0	52.3	0.0
	Subtotal	533.6	575.7	642.8	712.8	773.4	865.8	816.3	848.6	872.6	732.8	704.4	527.5
Load Modifying Programs	CPP Large	9.0	9.0	10.7	10.6	10.9	11.7	11.0	11.2	11.1	10.4	10.1	9.0
	CPP Medium	1.6	1.6	3.7	4.3	4.8	5.0	4.4	4.7	5.0	3.9	3.8	1.6
	CPP Small	0.4	0.4	0.4	0.4	0.4	0.5	0.7	0.5	0.4	0.4	0.4	0.4
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	9.7	9.7	14.4	15.0	15.7	16.9	15.6	16.4	17.3	14.4	12.3	9.7
Pilots	Residential TOU	22.4	14.1	24.5	38.1	51.2	61.7	65.4	73.2	76.2	48.2	42.0	22.0
	Subtotal	22.4	14.1	24.5	38.1	51.2	61.7	65.4	73.2	76.2	48.2	42.0	22.0
Total	Total	565.7	599.5	681.7	765.8	840.4	944.4	897.2	938.2	966.2	795.4	758.7	559.2

Ex Ante Impacts - 2026 Portfolio CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	13.3	14.6	32.8	40.7	49.3	53.4	52.8	52.8	52.4	45.5	27.0	9.6
	BIP15	157.9	171.0	158.8	173.1	187.2	189.5	189.9	191.9	193.0	188.3	194.7	168.8
	BIP30	364.9	394.7	369.0	384.1	380.1	387.4	357.7	378.6	385.7	365.5	384.5	350.6
	CBPDA												
	CBPDO												
	SDPC	9.2	8.0	11.2	13.2	14.0	14.7	13.4	14.6	15.6	10.6	9.4	9.4
	SDPR	0.0	0.0	34.3	55.7	84.3	154.8	143.7	147.4	158.3	74.2	47.3	0.0
	SEP	0.0	0.0	52.1	61.9	68.9	73.1	65.4	70.5	74.3	58.3	56.4	0.0
	Subtotal	545.2	588.4	658.2	728.7	788.6	877.9	827.7	860.5	884.2	747.1	719.4	538.5
Load Modifying Programs	CPP Large	9.3	9.3	11.0	10.9	11.3	12.1	11.4	11.6	11.4	10.7	10.4	9.3
	CPP Medium	1.6	1.6	3.8	4.5	5.0	5.2	4.6	4.9	5.2	4.1	3.9	1.6
	CPP Small	0.4	0.4	0.4	0.4	0.5	0.5	0.7	0.6	0.4	0.4	0.4	0.4
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.1	10.1	14.9	15.5	16.3	17.5	16.1	17.0	17.9	14.9	12.8	10.1
Pilots	Residential TOU	22.2	13.8	24.3	37.7	50.8	61.1	64.8	72.3	75.7	47.7	41.7	21.8
	Subtotal	22.2	13.8	24.3	37.7	50.8	61.1	64.8	72.3	75.7	47.7	41.7	21.8
Total	Total	577.5	612.3	697.5	781.9	855.7	956.5	908.6	949.8	977.8	809.7	773.9	570.4

Ex Ante Impacts - 2027 Portfolio CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	14.2	15.6	35.1	43.6	52.6	56.9	56.3	56.3	55.9	48.5	28.8	10.3
	BIP15	161.1	174.4	162.0	176.6	190.9	193.3	193.6	195.6	196.7	192.0	198.5	172.1
	BIP30	372.9	403.4	377.1	392.6	388.3	395.8	365.5	386.8	394.1	373.4	392.9	358.2
	CBPDA												
	CBPDO												
	SDPC	8.4	7.3	10.3	12.1	12.8	13.5	12.2	13.3	14.3	9.7	8.6	8.6
	SDPR	0.0	0.0	32.6	52.9	80.2	147.2	136.6	140.1	150.5	70.5	44.9	0.0
	SEP	0.0	0.0	55.8	66.2	73.6	78.0	69.8	75.1	79.1	61.9	59.9	0.0
	Subtotal	556.6	600.8	673.0	744.0	803.1	889.6	838.8	872.1	895.4	760.8	733.7	549.2
Load Modifying Programs	CPP Large	9.3	9.3	11.0	10.9	11.3	12.1	11.4	11.6	11.5	10.7	10.4	9.3
	CPP Medium	1.6	1.6	3.8	4.5	5.0	5.2	4.6	4.9	5.2	4.1	3.9	1.6
	CPP Small	0.4	0.4	0.4	0.4	0.5	0.5	0.7	0.6	0.4	0.4	0.4	0.4
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.1	10.1	14.9	15.5	16.3	17.5	16.1	17.0	17.9	14.9	12.8	10.1
Pilots	Residential TOU	22.0	13.6	24.1	37.4	50.4	60.5	64.3	71.6	75.3	47.3	41.4	21.7
	Subtotal	22.0	13.6	24.1	37.4	50.4	60.5	64.3	71.6	75.3	47.3	41.4	21.7
Total	Total	588.7	624.5	712.0	796.9	869.8	967.6	919.2	960.7	988.6	823.0	787.9	581.0

Ex Ante Impacts - 2028 Portfolio CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	15.1	16.7	37.4	46.4	55.9	60.5	59.8	59.8	59.4	51.5	30.6	10.9
	BIP15	164.2	177.9	165.1	180.0	194.5	197.0	197.3	199.4	200.5	195.7	202.3	175.4
	BIP30	380.8	411.9	385.1	400.9	396.3	404.0	373.0	394.8	402.3	381.2	401.0	365.6
	CBPDA												
	CBPDO												
	SDPC	7.6	6.7	9.4	11.0	11.7	12.3	11.2	12.2	13.1	8.9	7.9	7.9
	SDPR	0.0	0.0	31.1	50.4	76.3	140.1	130.0	133.4	143.3	67.1	42.8	0.0
	SEP	0.0	0.0	59.0	70.0	77.7	82.3	73.5	79.1	83.2	65.1	62.9	0.0
	Subtotal	567.8	613.1	687.2	758.8	817.3	901.1	849.7	883.5	906.5	774.3	747.6	559.8
Load Modifying Programs	CPP Large	9.3	9.3	11.0	10.9	11.3	12.1	11.4	11.6	11.5	10.7	10.4	9.3
	CPP Medium	1.8	1.8	4.2	5.0	5.5	5.8	5.1	5.4	5.8	4.5	4.3	1.8
	CPP Small	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.6	0.5	0.5	0.5	0.5
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.3	10.4	15.4	16.1	16.9	18.1	16.7	17.6	18.5	15.4	13.3	10.3
Pilots	Residential TOU	21.8	13.4	23.9	37.1	50.1	60.0	63.8	70.9	74.9	46.8	41.1	21.5
	Subtotal	21.8	13.4	23.9	37.1	50.1	60.0	63.8	70.9	74.9	46.8	41.1	21.5
Total	Total	599.9	636.9	726.5	811.9	884.3	979.2	930.2	972.0	999.9	836.4	801.9	591.6

Ex Ante Impacts - 2029 Portfolio CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	16.1	17.7	39.8	49.3	59.2	64.1	63.4	63.4	62.9	54.6	32.4	11.6
	BIP15	167.4	181.3	168.3	183.5	198.2	200.7	201.1	203.1	204.3	199.4	206.1	178.7
	BIP30	388.6	420.3	393.0	409.1	404.3	412.1	380.5	402.8	410.3	388.8	409.1	372.9
	CBPDA												
	CBPDO												
	SDPC	7.0	6.1	8.6	10.1	10.7	11.3	10.2	11.2	12.0	8.1	7.2	7.2
	SDPR	0.0	0.0	29.6	48.0	72.8	133.6	124.0	127.2	136.6	64.0	40.8	0.0
	SEP	0.0	0.0	61.8	73.2	81.2	86.0	76.8	82.5	86.7	67.8	65.5	0.0
	Subtotal	579.1	625.4	701.1	773.3	831.2	912.6	860.7	894.9	917.6	787.5	761.2	570.4
Load Modifying Programs	CPP Large	9.3	9.3	11.0	10.9	11.3	12.1	11.4	11.6	11.5	10.7	10.4	9.3
	CPP Medium	1.8	1.8	4.2	5.0	5.5	5.8	5.1	5.4	5.8	4.5	4.3	1.8
	CPP Small	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.6	0.5	0.5	0.5	0.5
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.3	10.4	15.4	16.1	16.9	18.1	16.7	17.6	18.5	15.4	13.3	10.3
Pilots	Residential TOU	21.6	13.1	23.7	36.8	49.8	59.4	63.3	70.2	74.5	46.4	40.9	21.4
	Subtotal	21.6	13.1	23.7	36.8	49.8	59.4	63.3	70.2	74.5	46.4	40.9	21.4
Total	Total	611.0	648.9	740.2	826.1	897.9	990.1	940.7	982.6	1,010.6	849.3	815.4	602.1

Ex Ante Impacts - 2030 Portfolio CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	17.0	18.8	42.2	52.3	62.6	67.8	67.0	67.0	66.5	57.7	34.3	12.2
	BIP15	170.5	184.7	171.5	186.9	201.9	204.4	204.8	206.9	208.1	203.1	210.0	182.0
	BIP30	396.3	428.6	400.8	417.2	412.2	420.2	387.9	410.6	418.3	396.4	417.1	380.2
	CBPDA												
	CBPDO												
	SDPC	6.4	5.6	7.9	9.2	9.8	10.3	9.4	10.2	11.0	7.4	6.6	6.6
	SDPR	0.0	0.0	28.3	45.9	69.4	127.5	118.3	121.4	130.4	61.1	38.9	0.0
	SEP	0.0	0.0	64.2	76.0	84.3	89.1	79.5	85.4	89.7	70.2	67.8	0.0
	Subtotal	590.3	637.7	714.8	787.5	845.0	924.1	871.7	906.3	928.8	800.7	774.6	581.1
Load Modifying Programs	CPP Large	9.3	9.3	11.0	10.9	11.3	12.1	11.4	11.6	11.5	10.7	10.4	9.3
	CPP Medium	1.8	1.8	4.2	5.0	5.5	5.8	5.1	5.4	5.8	4.5	4.3	1.8
	CPP Small	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.6	0.5	0.5	0.5	0.5
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.3	10.4	15.4	16.1	16.9	18.1	16.7	17.6	18.5	15.4	13.3	10.3
Pilots	Residential TOU	21.4	13.0	23.5	36.6	49.5	58.9	62.8	69.6	74.1	46.1	40.6	21.2
	Subtotal	21.4	13.0	23.5	36.6	49.5	58.9	62.8	69.6	74.1	46.1	40.6	21.2
Total	Total	622.0	661.1	753.7	840.2	911.4	1,001.2	951.3	993.5	1,021.4	862.2	828.5	612.6

Ex Ante Impacts - 2031 Portfolio CAISO 1-in-10

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	18.0	19.8	44.6	55.3	66.0	71.5	70.7	70.7	70.2	60.9	36.2	12.9
	BIP15	173.7	188.1	174.7	190.4	205.5	208.1	208.5	210.7	211.9	206.8	213.8	185.3
	BIP30	404.1	437.0	408.6	425.3	420.1	428.2	395.4	418.5	426.4	404.0	425.0	387.5
	CBPDA												
	CBPDO												
	SDPC	5.9	5.1	7.2	8.5	9.0	9.5	8.6	9.4	10.0	6.8	6.1	6.0
	SDPR	0.0	0.0	27.0	43.8	66.4	121.8	113.0	116.0	124.6	58.4	37.2	0.0
	SEP	0.0	0.0	66.2	78.4	86.9	91.9	81.9	88.0	92.4	72.3	69.8	0.0
	Subtotal	601.6	650.1	728.3	801.7	858.7	935.8	882.9	917.9	940.2	813.9	788.0	591.8
Load Modifying Programs	CPP Large	9.3	9.3	11.0	10.9	11.3	12.1	11.4	11.6	11.5	10.7	10.4	9.3
	CPP Medium	1.8	1.8	4.2	5.0	5.5	5.8	5.1	5.4	5.8	4.5	4.3	1.8
	CPP Small	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.6	0.5	0.5	0.5	0.5
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-0.2	-0.5	-0.0	0.8	-0.4	-2.0	-1.2
	Subtotal	10.3	10.4	15.4	16.1	16.9	18.1	16.7	17.6	18.5	15.4	13.3	10.3
Pilots	Residential TOU	21.2	12.8	23.4	36.3	49.2	58.4	62.4	69.0	73.7	45.8	40.4	21.1
	Subtotal	21.2	12.8	23.4	36.3	49.2	58.4	62.4	69.0	73.7	45.8	40.4	21.1
Total	Total	633.2	673.3	767.1	854.1	924.8	1,012.4	962.0	1,004.5	1,032.4	875.0	841.7	623.2

Ex Ante Impacts - 2021 Portfolio CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	8.7	8.3	12.6	22.5	30.7	36.2	34.3	34.9	31.4	27.7	10.5	6.8
	BIP15	144.8	155.8	143.9	158.2	168.3	170.1	171.7	173.3	174.9	172.5	177.7	155.2
	BIP30	306.2	334.4	304.1	317.0	311.2	317.8	299.7	317.6	323.1	305.1	316.8	293.9
	CBPDA												
	CBPDO												
	SDPC	12.5	14.1	9.9	12.3	12.4	15.3	17.7	16.8	19.0	13.4	8.8	11.2
	SDPR	0.0	0.0	1.8	27.1	43.1	100.6	149.9	163.5	171.1	61.8	9.2	0.1
	SEP	0.0	0.0	0.6	19.1	21.0	22.6	28.2	28.6	32.6	25.1	6.2	0.0
	Subtotal	472.3	512.6	472.8	556.2	591.4	667.5	706.3	739.5	756.8	610.5	529.3	467.2
Load Modifying Programs	CPP Large	7.8	7.8	7.8	8.7	8.7	9.0	9.5	9.1	9.3	8.9	8.0	7.8
	CPP Medium	1.4	1.4	1.5	2.7	2.9	3.0	3.7	3.7	4.1	3.2	1.8	1.4
	CPP Small	0.5	0.5	0.5	0.6	0.6	1.0	0.7	0.7	0.5	0.6	0.5	0.5
	RTP	-1.0	-1.0	-0.3	-0.3	-0.4	-1.1	-0.5	-0.0	0.9	-0.4	-1.4	-1.4
	Subtotal	8.8	8.7	9.6	11.7	11.8	11.8	13.3	13.5	14.9	12.3	8.9	8.3
Pilots	Residential TOU	3.7	3.5	2.7	4.1	6.7	5.6	15.2	20.5	20.8	13.9	9.4	9.4
	Subtotal	3.7	3.5	2.7	4.1	6.7	5.6	15.2	20.5	20.8	13.9	9.4	9.4
Total	Total	484.8	524.8	485.1	572.0	609.9	684.9	734.9	773.5	792.5	636.6	547.6	484.9

Ex Ante Impacts - 2022 Portfolio CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	10.1	9.7	14.6	26.1	33.4	39.5	37.3	38.0	34.2	30.2	11.4	7.4
	BIP15	147.4	158.8	146.9	161.1	171.3	173.5	175.0	176.8	178.2	175.5	180.8	158.2
	BIP30	323.9	352.2	321.9	335.2	329.0	336.3	317.4	336.2	341.9	322.9	335.4	311.2
	CBPDA												
	CBPDO												
	SDPC	11.7	13.1	9.5	12.4	12.5	15.2	17.6	16.9	18.9	13.7	8.7	10.5
	SDPR	0.0	0.0	1.9	27.6	43.8	101.9	151.8	165.5	173.2	62.7	9.5	0.1
	SEP	0.0	0.0	0.8	25.0	27.6	30.0	37.5	38.3	43.1	33.2	8.5	0.0
	Subtotal	493.1	533.7	495.7	587.5	622.5	701.2	741.5	776.6	794.2	642.9	554.3	487.4
Load Modifying Programs	CPP Large	8.0	8.0	8.0	8.9	8.9	9.2	9.7	9.3	9.5	9.1	8.1	8.0
	CPP Medium	1.4	1.4	1.5	2.7	2.9	3.0	3.7	3.7	4.1	3.2	1.8	1.4
	CPP Small	0.5	0.5	0.5	0.6	0.6	1.0	0.7	0.7	0.5	0.6	0.5	0.5
	RTP	-1.4	-1.3	-0.4	-0.4	-0.4	-1.2	-0.5	-0.0	0.9	-0.4	-1.3	-1.3
	Subtotal	8.5	8.6	9.6	11.8	11.9	12.0	13.5	13.6	15.0	12.4	9.2	8.5
Pilots	Residential TOU	13.2	14.1	12.9	18.4	27.4	25.2	60.3	78.6	76.9	37.7	19.3	17.2
	Subtotal	13.2	14.1	12.9	18.4	27.4	25.2	60.3	78.6	76.9	37.7	19.3	17.2
Total	Total	514.8	556.3	518.2	617.7	661.8	738.4	815.3	868.8	886.1	693.0	582.8	513.2

Ex Ante Impacts - 2023 Portfolio CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	11.0	10.5	15.9	28.5	36.2	42.8	40.5	41.2	37.0	32.7	12.4	8.0
	BIP15	150.5	162.0	150.0	164.4	174.6	177.1	178.6	180.5	181.7	178.9	184.4	161.3
	BIP30	336.7	365.4	334.8	348.5	341.9	349.6	330.0	349.5	355.3	335.7	348.7	323.7
	CBPDA												
	CBPDO												
	SDPC	10.7	12.0	8.8	11.8	11.9	14.4	16.8	16.1	17.9	13.1	8.2	9.7
	SDPR	0.0	0.0	1.9	26.5	42.0	97.7	145.5	158.6	166.0	60.2	9.2	0.2
	SEP	0.0	0.0	1.1	31.0	34.0	36.5	45.3	45.9	51.4	39.6	10.2	0.0
	Subtotal	508.9	549.9	512.6	610.6	645.5	722.9	761.4	796.7	814.2	664.9	573.1	502.9
Load Modifying Programs	CPP Large	8.3	8.3	8.4	9.3	9.3	9.6	10.1	9.7	10.0	9.5	8.5	8.3
	CPP Medium	1.4	1.4	1.6	2.8	3.0	3.2	3.8	3.9	4.3	3.3	1.9	1.4
	CPP Small	0.6	0.6	0.6	0.6	0.6	1.0	0.7	0.7	0.5	0.6	0.6	0.6
	RTP	-1.3	-1.3	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.9	-0.4	-1.2	-1.3
	Subtotal	9.0	9.1	10.1	12.3	12.5	12.6	14.1	14.3	15.6	13.0	9.7	9.1
Pilots	Residential TOU	18.3	16.8	13.3	18.6	27.7	26.8	61.3	79.2	77.9	37.7	19.7	17.5
	Subtotal	18.3	16.8	13.3	18.6	27.7	26.8	61.3	79.2	77.9	37.7	19.7	17.5
Total	Total	536.2	575.8	536.0	641.6	685.7	762.3	836.9	890.2	907.7	715.7	602.5	529.4

Ex Ante Impacts - 2024 Portfolio CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	11.9	11.4	17.2	30.8	39.1	46.1	43.6	44.4	39.9	35.3	13.4	8.6
	BIP15	153.6	165.3	153.1	167.7	178.1	180.8	182.2	184.2	185.3	182.5	188.1	164.6
	BIP30	347.2	376.3	345.3	359.3	352.4	360.4	340.2	360.3	366.2	346.0	359.5	333.7
	CBPDA												
	CBPDO												
	SDPC	9.8	11.0	8.1	11.0	11.1	13.4	15.6	15.0	16.6	12.2	7.6	8.9
	SDPR	0.0	0.0	1.8	25.2	39.8	92.5	137.7	150.2	157.1	57.0	8.7	0.2
	SEP	0.0	0.0	1.3	35.9	39.2	42.0	51.9	52.4	58.5	45.0	11.7	0.0
	Subtotal	522.5	564.1	527.0	629.9	664.5	739.9	776.1	811.4	828.6	682.7	589.0	516.0
Load Modifying Programs	CPP Large	8.6	8.6	8.7	9.7	9.6	9.9	10.5	10.1	10.3	9.8	8.8	8.6
	CPP Medium	1.5	1.5	1.6	2.9	3.2	3.3	4.0	4.0	4.5	3.5	2.0	1.5
	CPP Small	0.6	0.6	0.6	0.6	0.6	1.0	0.7	0.7	0.5	0.6	0.6	0.6
	RTP	-1.3	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-1.2	-1.2
	Subtotal	9.5	9.5	10.5	12.9	13.0	13.2	14.8	14.8	16.2	13.6	10.2	9.5
Pilots	Residential TOU	18.3	16.8	13.5	18.7	27.7	27.5	61.6	79.0	78.0	37.4	19.7	17.5
	Subtotal	18.3	16.8	13.5	18.7	27.7	27.5	61.6	79.0	78.0	37.4	19.7	17.5
Total	Total	550.3	590.4	551.0	661.5	705.2	780.6	852.4	905.2	922.7	733.7	618.9	543.0

Ex Ante Impacts - 2025 Portfolio CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	12.8	12.3	18.6	33.2	41.9	49.5	46.8	47.7	42.8	37.9	14.3	9.3
	BIP15	156.7	168.8	156.3	171.2	181.7	184.4	185.9	188.0	189.1	186.1	191.9	167.9
	BIP30	356.3	386.0	354.4	368.7	361.4	369.7	349.1	369.7	375.7	354.9	368.8	342.4
	CBPDA												
	CBPDO												
	SDPC	9.0	10.0	7.5	10.1	10.2	12.3	14.3	13.8	15.3	11.3	7.0	8.1
	SDPR	0.0	0.0	1.7	23.9	37.8	87.7	130.6	142.3	148.9	54.0	8.3	0.1
	SEP	0.0	0.0	1.5	40.1	43.7	46.7	57.5	58.0	64.6	49.6	13.0	0.0
	Subtotal	534.9	577.1	540.0	647.2	681.5	755.1	789.0	824.3	841.2	698.7	603.3	527.8
Load Modifying Programs	CPP Large	9.0	9.0	9.0	10.0	10.0	10.3	10.9	10.5	10.7	10.2	9.1	9.0
	CPP Medium	1.6	1.6	1.7	3.1	3.3	3.4	4.2	4.2	4.7	3.6	2.0	1.6
	CPP Small	0.6	0.6	0.6	0.6	0.6	1.1	0.8	0.7	0.5	0.6	0.6	0.6
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-1.2	-1.2
	Subtotal	9.9	10.0	10.9	13.4	13.5	13.7	15.3	15.4	16.7	14.1	10.6	9.9
Pilots	Residential TOU	18.1	16.7	13.4	18.5	27.5	27.6	61.2	78.3	77.5	37.0	19.6	17.4
	Subtotal	18.1	16.7	13.4	18.5	27.5	27.6	61.2	78.3	77.5	37.0	19.6	17.4
Total	Total	562.9	603.8	564.3	679.1	722.5	796.4	865.5	917.9	935.5	749.7	633.5	555.2

Ex Ante Impacts - 2026 Portfolio CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	13.8	13.2	20.0	35.7	44.9	52.9	50.1	51.0	45.8	40.5	15.3	9.9
	BIP15	159.9	172.2	159.5	174.6	185.2	188.1	189.6	191.7	192.8	189.8	195.7	171.2
	BIP30	364.7	395.0	362.8	377.4	369.8	378.3	357.2	378.3	384.4	363.2	377.4	350.4
	CBPDA												
	CBPDO												
	SDPC	8.2	9.2	6.8	9.3	9.4	11.3	13.1	12.7	14.0	10.4	6.4	7.4
	SDPR	0.0	0.0	1.7	22.7	35.9	83.2	123.9	135.1	141.4	51.3	7.9	0.1
	SEP	0.0	0.0	1.7	43.7	47.5	50.7	62.3	62.7	69.8	53.5	14.0	0.0
	Subtotal	546.6	589.6	552.4	663.4	697.5	769.3	801.0	836.3	853.0	713.5	616.7	539.1
Load Modifying Programs	CPP Large	9.3	9.3	9.3	10.4	10.3	10.6	11.2	10.8	11.1	10.5	9.4	9.3
	CPP Medium	1.6	1.6	1.8	3.2	3.4	3.6	4.3	4.3	4.8	3.7	2.1	1.6
	CPP Small	0.6	0.6	0.6	0.7	0.7	1.1	0.8	0.8	0.6	0.7	0.6	0.6
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-1.2	-1.2
	Subtotal	10.3	10.3	11.3	13.8	14.0	14.3	15.9	15.9	17.3	14.6	11.0	10.3
Pilots	Residential TOU	17.8	16.5	13.3	18.2	27.2	27.4	60.6	77.4	76.9	36.5	19.4	17.1
	Subtotal	17.8	16.5	13.3	18.2	27.2	27.4	60.6	77.4	76.9	36.5	19.4	17.1
Total	Total	574.7	616.4	577.0	695.4	738.7	811.0	877.5	929.6	947.3	764.6	647.1	566.5

Ex Ante Impacts - 2027 Portfolio CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	14.7	14.1	21.3	38.2	47.8	56.4	53.4	54.4	48.8	43.2	16.4	10.6
	BIP15	163.1	175.6	162.7	178.1	188.9	191.8	193.3	195.5	196.6	193.5	199.5	174.6
	BIP30	372.8	403.7	370.8	385.7	377.8	386.5	364.9	386.5	392.7	371.1	385.6	358.0
	CBPDA												
	CBPDO												
	SDPC	7.5	8.4	6.2	8.5	8.6	10.3	12.0	11.6	12.8	9.5	5.9	6.8
	SDPR	0.0	0.0	1.6	21.6	34.1	79.1	117.8	128.4	134.4	48.8	7.5	0.1
	SEP	0.0	0.0	1.8	46.8	50.8	54.1	66.4	66.8	74.2	56.9	14.9	0.0
	Subtotal	558.1	601.8	564.4	678.8	712.8	783.0	812.7	848.0	864.5	727.7	629.7	550.0
Load Modifying Programs	CPP Large	9.3	9.3	9.3	10.4	10.3	10.6	11.2	10.9	11.1	10.6	9.5	9.3
	CPP Medium	1.6	1.6	1.8	3.2	3.4	3.6	4.3	4.3	4.8	3.7	2.1	1.6
	CPP Small	0.6	0.6	0.6	0.7	0.7	1.1	0.8	0.8	0.6	0.7	0.6	0.6
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-1.2	-1.2
	Subtotal	10.3	10.3	11.3	13.8	14.0	14.3	15.9	15.9	17.3	14.6	11.0	10.3
Pilots	Residential TOU	17.6	16.3	13.1	18.0	27.0	27.2	60.1	76.6	76.3	36.1	19.2	16.9
	Subtotal	17.6	16.3	13.1	18.0	27.0	27.2	60.1	76.6	76.3	36.1	19.2	16.9
Total	Total	586.0	628.5	588.9	710.7	753.8	824.5	888.7	940.5	958.1	778.4	659.9	577.2

Ex Ante Impacts - 2028 Portfolio CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	15.7	15.1	22.7	40.7	50.8	60.0	56.7	57.8	51.9	45.9	17.4	11.2
	BIP15	166.3	179.1	165.9	181.6	192.5	195.5	197.0	199.2	200.4	197.2	203.3	177.9
	BIP30	380.6	412.2	378.6	393.8	385.6	394.5	372.5	394.5	400.9	378.8	393.6	365.4
	CBPDA												
	CBPDO												
	SDPC	6.9	7.6	5.7	7.8	7.9	9.4	11.0	10.6	11.8	8.7	5.4	6.2
	SDPR	0.0	0.0	1.5	20.5	32.5	75.3	112.2	122.3	128.0	46.4	7.1	0.1
	SEP	0.0	0.0	1.9	49.4	53.6	57.1	70.0	70.3	78.1	59.8	15.7	0.0
	Subtotal	569.5	614.0	576.4	693.9	727.7	796.6	824.2	859.5	875.7	741.6	642.4	560.9
Load Modifying Programs	CPP Large	9.3	9.3	9.3	10.4	10.3	10.6	11.3	10.9	11.1	10.6	9.5	9.3
	CPP Medium	1.8	1.8	2.0	3.5	3.8	4.0	4.8	4.8	5.4	4.2	2.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.9	0.9	0.6	0.7	0.7	0.7
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-1.2	-1.2
	Subtotal	10.6	10.6	11.6	14.3	14.5	14.8	16.5	16.5	17.9	15.1	11.3	10.6
Pilots	Residential TOU	17.4	16.1	13.0	17.8	26.8	27.1	59.7	76.0	75.8	35.8	19.1	16.8
	Subtotal	17.4	16.1	13.0	17.8	26.8	27.1	59.7	76.0	75.8	35.8	19.1	16.8
Total	Total	597.5	640.7	601.0	725.9	768.9	838.4	900.4	952.0	969.5	792.5	672.8	588.2

Ex Ante Impacts - 2029 Portfolio CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	16.7	16.0	24.2	43.2	53.8	63.6	60.1	61.3	55.0	48.6	18.4	11.9
	BIP15	169.5	182.5	169.1	185.1	196.1	199.2	200.7	203.0	204.1	200.9	207.1	181.3
	BIP30	388.4	420.6	386.4	401.9	393.4	402.4	380.0	402.4	408.9	386.4	401.5	372.7
	CBPDA												
	CBPDO												
	SDPC	6.3	7.0	5.2	7.1	7.2	8.6	10.1	9.7	10.8	8.0	4.9	5.7
	SDPR	0.0	0.0	1.4	19.6	30.9	71.8	106.9	116.6	122.0	44.3	6.8	0.1
	SEP	0.0	0.0	2.0	51.7	56.1	59.6	73.1	73.4	81.4	62.3	16.3	0.0
	Subtotal	580.9	626.1	588.3	708.6	742.3	810.0	835.7	871.1	887.0	755.3	655.1	571.7
Load Modifying Programs	CPP Large	9.3	9.3	9.3	10.4	10.3	10.6	11.3	10.9	11.1	10.6	9.5	9.3
	CPP Medium	1.8	1.8	2.0	3.5	3.8	4.0	4.8	4.8	5.4	4.2	2.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.9	0.9	0.6	0.7	0.7	0.7
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-1.2	-1.2
	Subtotal	10.6	10.6	11.6	14.3	14.5	14.8	16.5	16.5	17.9	15.1	11.3	10.6
Pilots	Residential TOU	17.2	15.9	12.9	17.6	26.6	26.9	59.2	75.2	75.2	35.4	18.9	16.6
	Subtotal	17.2	15.9	12.9	17.6	26.6	26.9	59.2	75.2	75.2	35.4	18.9	16.6
Total	Total	608.6	652.6	612.8	740.5	783.4	851.7	911.3	962.8	980.1	805.7	685.3	598.9

Ex Ante Impacts - 2030 Portfolio CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	17.7	17.0	25.6	45.8	56.9	67.2	63.6	64.8	58.2	51.4	19.5	12.6
	BIP15	172.7	186.0	172.2	188.6	199.7	202.8	204.4	206.8	207.9	204.6	211.0	184.6
	BIP30	396.2	429.0	394.0	409.9	401.1	410.2	387.4	410.2	416.9	393.9	409.3	380.0
	CBPDA												
	CBPDO												
	SDPC	5.7	6.4	4.8	6.5	6.6	7.9	9.2	8.9	9.8	7.3	4.5	5.2
	SDPR	0.0	0.0	1.4	18.7	29.5	68.5	102.1	111.2	116.4	42.3	6.5	0.1
	SEP	0.0	0.0	2.1	53.7	58.2	61.8	75.7	76.0	84.3	64.5	16.9	0.0
	Subtotal	592.3	638.3	600.2	723.2	756.8	823.3	847.2	882.7	898.3	768.8	667.6	582.5
Load Modifying Programs	CPP Large	9.3	9.3	9.3	10.4	10.3	10.7	11.3	10.9	11.1	10.6	9.5	9.3
	CPP Medium	1.8	1.8	2.0	3.5	3.8	4.0	4.8	4.8	5.4	4.2	2.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.9	0.9	0.6	0.7	0.7	0.7
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-1.2	-1.2
	Subtotal	10.6	10.6	11.6	14.3	14.5	14.8	16.5	16.5	17.9	15.1	11.3	10.6
Pilots	Residential TOU	17.0	15.7	12.8	17.4	26.4	26.7	58.7	74.6	74.7	35.1	18.7	16.4
	Subtotal	17.0	15.7	12.8	17.4	26.4	26.7	58.7	74.6	74.7	35.1	18.7	16.4
Total	Total	619.8	664.6	624.6	754.8	797.7	864.8	922.4	973.8	990.9	819.0	697.6	609.5

Ex Ante Impacts - 2031 Portfolio CAISO 1-in-2

Type	Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply Side Programs	AP-I	18.7	17.9	27.1	48.4	60.1	70.9	67.0	68.3	61.3	54.2	20.5	13.3
	BIP15	175.9	189.4	175.4	192.1	203.4	206.5	208.2	210.5	211.7	208.3	214.8	188.0
	BIP30	403.9	437.3	401.7	417.9	408.7	418.1	394.8	418.1	424.9	401.4	417.1	387.3
	CBPDA												
	CBPDO												
	SDPC	5.3	5.9	4.4	6.0	6.1	7.2	8.5	8.1	9.0	6.7	4.1	4.7
	SDPR	0.0	0.0	1.3	17.8	28.2	65.5	97.5	106.3	111.2	40.4	6.2	0.1
	SEP	0.0	0.0	2.1	55.4	60.0	63.7	78.0	78.3	86.8	66.4	17.4	0.0
	Subtotal	603.7	650.6	612.1	737.6	771.2	836.8	858.8	894.4	909.8	782.3	680.2	593.4
Load Modifying Programs	CPP Large	9.3	9.3	9.3	10.4	10.3	10.7	11.3	10.9	11.1	10.6	9.5	9.3
	CPP Medium	1.8	1.8	2.0	3.5	3.8	4.0	4.8	4.8	5.4	4.2	2.4	1.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	1.3	0.9	0.9	0.6	0.7	0.7	0.7
	RTP	-1.2	-1.2	-0.4	-0.4	-0.4	-1.1	-0.5	-0.0	0.8	-0.4	-1.2	-1.2
	Subtotal	10.6	10.6	11.6	14.3	14.5	14.8	16.5	16.5	17.9	15.1	11.3	10.6
Pilots	Residential TOU	16.8	15.5	12.7	17.2	26.2	26.5	58.3	74.0	74.3	34.8	18.6	16.2
	Subtotal	16.8	15.5	12.7	17.2	26.2	26.5	58.3	74.0	74.3	34.8	18.6	16.2
Total	Total	631.1	676.7	636.4	769.1	811.8	878.1	933.6	984.9	1,002.0	832.2	710.1	620.2

9 APPENDIX: AUGUST EX ANTE IMPACTS BY YEAR

August Ex Ante Impacts - Program SCE 1-in-10

Type	Program	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Supply Side Programs	AP-I	34.1	37.2	40.3	43.4	46.6	49.9	53.1	56.5	59.8	63.3	66.7
	BIP15	173.6	177.1	180.8	184.6	188.3	192.1	195.8	199.6	203.4	207.1	210.9
	BIP30	319.4	338.1	351.5	362.4	371.8	380.4	388.7	396.7	404.7	412.6	420.5
	CBPDA											
	CBPDO											
	SDPC	20.9	20.6	19.5	18.1	16.6	15.2	13.9	12.8	11.7	10.7	9.8
	SDPR	189.4	191.8	183.8	173.9	164.9	156.5	148.8	141.6	135.0	128.8	123.1
	SEP	33.5	44.8	53.6	61.1	67.6	73.1	77.8	81.9	85.5	88.5	91.2
	Subtotal	775.7	814.3	834.2	848.3	860.5	871.9	883.0	893.9	904.8	915.8	927.0
Load Modifying Programs	CPP Large	10.2	10.4	10.9	11.3	11.7	12.1	12.1	12.1	12.1	12.1	12.1
	CPP Medium	4.3	4.3	4.5	4.7	4.9	5.1	5.1	5.6	5.6	5.6	5.6
	CPP Small	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6
	RTP	-0.1	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4
	Subtotal	14.8	14.9	15.5	16.1	16.7	17.3	17.3	18.0	18.0	18.0	18.0
Pilots	Residential TOU	20.1	77.4	78.0	77.8	77.1	76.2	75.4	74.8	74.0	73.4	72.8
	Subtotal	20.1	77.4	78.0	77.8	77.1	76.2	75.4	74.8	74.0	73.4	72.8
Total	Total	810.6	906.6	927.8	942.2	954.4	965.5	975.7	986.6	996.8	1,007.2	1,017.7

August Ex Ante Impacts - Program SCE 1-in-2

Type	Program	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Supply Side Programs	AP-I	35.0	38.2	41.3	44.6	47.9	51.2	54.6	58.0	61.4	65.0	68.5
	BIP15	173.2	176.7	180.4	184.1	187.9	191.6	195.4	199.1	202.9	206.6	210.4
	BIP30	317.3	335.8	349.2	360.0	369.3	377.9	386.1	394.1	402.0	409.8	417.7
	CBPDA											
	CBPDO											
	SDPC	17.1	17.1	16.3	15.2	14.0	12.8	11.7	10.7	9.8	9.0	8.3
	SDPR	164.6	166.7	159.7	151.2	143.3	136.0	129.3	123.1	117.4	112.0	107.0
	SEP	29.4	39.4	47.3	53.9	59.6	64.5	68.7	72.3	75.5	78.1	80.5
	Subtotal	741.4	778.7	799.0	813.8	826.7	838.8	850.6	862.2	873.7	885.4	897.1
Load Modifying Programs	CPP Large	9.6	9.8	10.2	10.6	11.0	11.4	11.4	11.4	11.4	11.4	11.4
	CPP Medium	3.8	3.8	4.0	4.1	4.3	4.5	4.5	5.0	5.0	5.0	5.0
	CPP Small	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
	RTP	-0.1	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4
	Subtotal	13.9	14.0	14.6	15.1	15.7	16.2	16.2	16.8	16.8	16.8	16.8
Pilots	Residential TOU	19.5	75.3	75.9	75.7	75.0	74.1	73.3	72.7	71.9	71.3	70.7
	Subtotal	19.5	75.3	75.9	75.7	75.0	74.1	73.3	72.7	71.9	71.3	70.7
Total	Total	774.8	868.0	889.5	904.6	917.4	929.2	940.1	951.7	962.5	973.5	984.7

August Ex Ante Impacts - Program CAISO 1-in-10

Type	Program	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Supply Side Programs	AP-I	36.1	39.4	42.6	46.0	49.4	52.8	56.3	59.8	63.4	67.0	70.7
	BIP15	173.3	176.9	180.6	184.4	188.1	191.9	195.6	199.4	203.1	206.9	210.7
	BIP30	318.0	336.5	349.9	360.7	370.0	378.6	386.8	394.8	402.8	410.6	418.5
	CBPDA											
	CBPDO											
	SDPC	19.8	19.6	18.6	17.3	15.9	14.6	13.3	12.2	11.2	10.2	9.4
	SDPR	178.4	180.6	173.1	163.8	155.3	147.4	140.1	133.4	127.2	121.4	116.0
	SEP	32.3	43.2	51.7	59.0	65.2	70.5	75.1	79.1	82.5	85.4	88.0
	Subtotal	762.7	801.0	821.3	835.9	848.6	860.5	872.1	883.5	894.9	906.3	917.9
Load Modifying Programs	CPP Large	10.1	10.3	10.8	11.2	11.6	12.0	12.0	12.0	12.0	12.0	12.0
	CPP Medium	4.2	4.1	4.3	4.5	4.7	4.9	4.9	5.4	5.4	5.4	5.4
	CPP Small	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6
	RTP	-0.1	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4
	Subtotal	14.6	14.7	15.3	15.9	16.5	17.1	17.1	17.7	17.7	17.7	17.7
Pilots	Residential TOU	19.0	73.4	74.0	73.9	73.2	72.3	71.6	70.9	70.2	69.6	69.0
	Subtotal	19.0	73.4	74.0	73.9	73.2	72.3	71.6	70.9	70.2	69.6	69.0
Total	Total	796.4	889.1	910.6	925.7	938.4	950.0	960.8	972.1	982.8	993.6	1,004.6

August Ex Ante Impacts - Program CAISO 1-in-2

Type	Program	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Supply Side Programs	AP-I	34.9	38.0	41.2	44.4	47.7	51.0	54.4	57.8	61.3	64.8	68.3
	BIP15	173.3	176.8	180.5	184.2	188.0	191.7	195.5	199.2	203.0	206.8	210.5
	BIP30	317.6	336.2	349.5	360.3	369.7	378.3	386.5	394.5	402.4	410.2	418.1
	CBPDA											
	CBPDO											
	SDPC	16.8	16.9	16.1	15.0	13.8	12.7	11.6	10.6	9.7	8.9	8.1
	SDPR	163.5	165.5	158.6	150.2	142.3	135.1	128.4	122.3	116.6	111.2	106.3
	SEP	28.6	38.3	45.9	52.4	58.0	62.7	66.8	70.3	73.4	76.0	78.3
	Subtotal	739.5	776.6	796.7	811.4	824.3	836.3	848.0	859.5	871.1	882.7	894.4
Load Modifying Programs	CPP Large	9.5	9.7	10.1	10.5	10.9	11.2	11.2	11.2	11.2	11.2	11.2
	CPP Medium	3.7	3.7	3.9	4.0	4.2	4.3	4.3	4.8	4.8	4.8	4.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.9
	RTP	-0.1	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4
	Subtotal	13.7	13.7	14.3	14.9	15.4	16.0	16.0	16.6	16.6	16.6	16.6
Pilots	Residential TOU	20.5	78.6	79.2	79.0	78.3	77.4	76.6	76.0	75.2	74.6	74.0
	Subtotal	20.5	78.6	79.2	79.0	78.3	77.4	76.6	76.0	75.2	74.6	74.0
Total	Total	773.7	868.9	890.2	905.3	918.0	929.7	940.6	952.1	962.8	973.8	985.0

August Ex Ante Impacts - Portfolio SCE 1-in-10

Type	Program	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Supply Side Programs	AP-I	34.1	37.2	40.3	43.4	46.6	49.9	53.1	56.5	59.8	63.3	66.7
	BIP15	173.6	177.1	180.8	184.6	188.3	192.1	195.8	199.6	203.4	207.1	210.9
	BIP30	319.4	338.1	351.5	362.4	371.8	380.4	388.7	396.7	404.7	412.6	420.5
	CBPDA											
	CBPDO											
	SDPC	20.9	20.6	19.5	18.1	16.6	15.2	13.9	12.8	11.7	10.7	9.8
	SDPR	189.4	191.8	183.8	173.9	164.9	156.5	148.8	141.6	135.0	128.8	123.1
	SEP	33.5	44.8	53.6	61.1	67.6	73.1	77.8	81.9	85.5	88.5	91.2
	Subtotal	775.7	814.3	834.2	848.3	860.5	871.9	883.0	893.9	904.8	915.8	927.0
Load Modifying Programs	CPP Large	9.8	10.0	10.5	10.9	11.3	11.6	11.6	11.7	11.7	11.7	11.7
	CPP Medium	4.3	4.3	4.5	4.7	4.9	5.1	5.1	5.6	5.6	5.6	5.6
	CPP Small	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6
	RTP	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	Subtotal	14.5	14.7	15.4	16.0	16.6	17.1	17.2	17.8	17.8	17.8	17.8
Pilots	Residential TOU	20.1	77.4	78.0	77.8	77.1	76.2	75.4	74.8	74.0	73.4	72.8
	Subtotal	20.1	77.4	78.0	77.8	77.1	76.2	75.4	74.8	74.0	73.4	72.8
Total	Total	810.3	906.4	927.6	942.0	954.2	965.3	975.5	986.5	996.6	1,007.0	1,017.5

August Ex Ante Impacts - Portfolio SCE 1-in-2

Type	Program	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Supply Side Programs	AP-I	35.0	38.2	41.3	44.6	47.9	51.2	54.6	58.0	61.4	65.0	68.5
	BIP15	173.2	176.7	180.4	184.1	187.9	191.6	195.4	199.1	202.9	206.6	210.4
	BIP30	317.3	335.8	349.2	360.0	369.3	377.9	386.1	394.1	402.0	409.8	417.7
	CBPDA											
	CBPDO											
	SDPC	17.1	17.1	16.3	15.2	14.0	12.8	11.7	10.7	9.8	9.0	8.3
	SDPR	164.6	166.7	159.7	151.2	143.3	136.0	129.3	123.1	117.4	112.0	107.0
	SEP	29.4	39.4	47.3	53.9	59.6	64.5	68.7	72.3	75.5	78.1	80.5
	Subtotal	741.4	778.7	799.0	813.8	826.7	838.8	850.6	862.2	873.7	885.4	897.1
Load Modifying Programs	CPP Large	9.3	9.5	9.9	10.3	10.7	11.0	11.0	11.0	11.0	11.0	11.0
	CPP Medium	3.8	3.8	4.0	4.1	4.3	4.5	4.5	5.0	5.0	5.0	5.0
	CPP Small	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
	RTP	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	Subtotal	13.7	13.8	14.5	15.0	15.6	16.2	16.2	16.7	16.7	16.7	16.7
Pilots	Residential TOU	19.5	75.3	75.9	75.7	75.0	74.1	73.3	72.7	71.9	71.3	70.7
	Subtotal	19.5	75.3	75.9	75.7	75.0	74.1	73.3	72.7	71.9	71.3	70.7
Total	Total	774.6	867.9	889.4	904.5	917.3	929.1	940.0	951.6	962.4	973.4	984.6

August Ex Ante Impacts - Portfolio CAISO 1-in-10

Type	Program	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Supply Side Programs	AP-I	36.1	39.4	42.6	46.0	49.4	52.8	56.3	59.8	63.4	67.0	70.7
	BIP15	173.3	176.9	180.6	184.4	188.1	191.9	195.6	199.4	203.1	206.9	210.7
	BIP30	318.0	336.5	349.9	360.7	370.0	378.6	386.8	394.8	402.8	410.6	418.5
	CBPDA											
	CBPDO											
	SDPC	19.8	19.6	18.6	17.3	15.9	14.6	13.3	12.2	11.2	10.2	9.4
	SDPR	178.4	180.6	173.1	163.8	155.3	147.4	140.1	133.4	127.2	121.4	116.0
	SEP	32.3	43.2	51.7	59.0	65.2	70.5	75.1	79.1	82.5	85.4	88.0
	Subtotal	762.7	801.0	821.3	835.9	848.6	860.5	872.1	883.5	894.9	906.3	917.9
Load Modifying Programs	CPP Large	9.8	10.0	10.4	10.8	11.2	11.6	11.6	11.6	11.6	11.6	11.6
	CPP Medium	4.2	4.1	4.3	4.5	4.7	4.9	4.9	5.4	5.4	5.4	5.4
	CPP Small	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6
	RTP	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	Subtotal	14.4	14.5	15.2	15.8	16.4	17.0	17.0	17.6	17.6	17.6	17.6
Pilots	Residential TOU	19.0	73.4	74.0	73.9	73.2	72.3	71.6	70.9	70.2	69.6	69.0
	Subtotal	19.0	73.4	74.0	73.9	73.2	72.3	71.6	70.9	70.2	69.6	69.0
Total	Total	796.1	888.9	910.5	925.6	938.2	949.8	960.7	972.0	982.6	993.5	1,004.5

August Ex Ante Impacts - Portfolio CAISO 1-in-2

Type	Program	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Supply Side Programs	AP-I	34.9	38.0	41.2	44.4	47.7	51.0	54.4	57.8	61.3	64.8	68.3
	BIP15	173.3	176.8	180.5	184.2	188.0	191.7	195.5	199.2	203.0	206.8	210.5
	BIP30	317.6	336.2	349.5	360.3	369.7	378.3	386.5	394.5	402.4	410.2	418.1
	CBPDA											
	CBPDO											
	SDPC	16.8	16.9	16.1	15.0	13.8	12.7	11.6	10.6	9.7	8.9	8.1
	SDPR	163.5	165.5	158.6	150.2	142.3	135.1	128.4	122.3	116.6	111.2	106.3
	SEP	28.6	38.3	45.9	52.4	58.0	62.7	66.8	70.3	73.4	76.0	78.3
	Subtotal	739.5	776.6	796.7	811.4	824.3	836.3	848.0	859.5	871.1	882.7	894.4
Load Modifying Programs	CPP Large	9.1	9.3	9.7	10.1	10.5	10.8	10.9	10.9	10.9	10.9	10.9
	CPP Medium	3.7	3.7	3.9	4.0	4.2	4.3	4.3	4.8	4.8	4.8	4.8
	CPP Small	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.9
	RTP	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	Subtotal	13.5	13.6	14.3	14.8	15.4	15.9	15.9	16.5	16.5	16.5	16.5
Pilots	Residential TOU	20.5	78.6	79.2	79.0	78.3	77.4	76.6	76.0	75.2	74.6	74.0
	Subtotal	20.5	78.6	79.2	79.0	78.3	77.4	76.6	76.0	75.2	74.6	74.0
Total	Total	773.5	868.8	890.2	905.2	917.9	929.6	940.5	952.0	962.8	973.8	984.9

10 APPENDIX: PROGRESS TOWARDS THE RELIABILITY CAP

CPUC Decision 10-06-034, adopted by the California investor-owned utilities and others, approved a settlement agreement to Rulemaking 07-01-041. The agreement addresses the integration of reliability-based DR resources into the wholesale market design. Under this agreement, customers enrolled in both a reliability-based DR resource program, BIP and AP-I, as well as another non-reliability-based DR program, are not considered as reliability-based load impacts. As a result, SCE's progress towards the cap on reliability-based DR load impacts is calculated by summing projected BIP and AP-I load impacts then removing projected load impacts from any dually-enrolled customers.

SCE recently received a CPUC proposed decision for the rulemaking R.20-11-003 Summer Reliability OIR. In this rulemaking, it has been proposed to temporarily increase the reliability cap from 2% to 3%. Although the proposed decision will not be final until the end of March or April 2021 and this report is filed on Apr 1, 2021, this directive could ultimately impact the available room under the cap for SCE's reliability programs.

Below is a more detailed explanation of how SCE's progress towards the reliability-based DR cap is calculated. SCE's progress towards the cap is then calculated for years 2021 through 2031 in tables 11-1 through 11-11.

10.1 CALCULATING SCE'S RELIABILITY-BASED RESOURCES CAP

The annual limit is set as a percentage of the CAISO peak demand. Load impacts of reliability-based DR programs that are allowed to be claimed as part of the IOU's resource adequacy plans, according to the settlement, is 2% of CAISO's all-time peak demand. The all-time CAISO system peak demand has been 50,270MW since 2006, establishing a cap of 1,005 MW. This 1,005 MW cap was then split among all three California IOUs. SCE is allocated 65.57% of the cap, making its reliability cap 659MW.

The SCE reliability cap calculations are shown in Table 11-1 through 11-11 in lines 7 through 11. We assume no change in the all-time CAISO peak, so the reliability cap will stay the same for years 2021 through 2031.

10.2 CALCULATING SCE'S PROGRESS TOWARDS THE CAP

CPUC D. 18-11-029 states that the reliability cap is to be calculated using the method described in CPUC D. 17-12-003. Any demand response auction mechanism (DRAM) RDRR is also to be counted towards the reliability cap. SCE does not have any DRAM RDRR, so there is no DRAM impact towards the reliability cap.

Progress towards the reliability cap is calculated below:

> *Projected Load Impacts for Reliability Based DR Programs – Projected CPP Load Impacts for Dually-Enrolled Participants in BIP/AP-I and CPP*

10.2.1 RELIABILITY PROGRAM LOAD IMPACTS

The majority of reliability program load impacts come from SCE's Base Interruptible Program and Agricultural Pumping Interruptible Program. Each year these programs are evaluated by a third party to provide updates to the load impacts these programs are projected to deliver in the next 11 years. Details on how these evaluations are developed can be found in this executive summary and in the evaluation reports for each program.

BIP

Lines 2 and 3 of tables 11-1 through 11-11 show the ex ante load impacts for BIP-15 and BIP-30 programs, years 2021 through 2031 assuming 1-in-2 weather conditions for SCE system peak days. Looking at August, BIP load impacts steadily increase from August 2021 through August 2031. In August 2021, BIP-15 impacts are 173 MW and 2031 BIP-15 impacts are 210MW. In August 2021, BIP-30 impacts are 317 MW and 2031 BIP-30 impacts are 418 MW.

AP-I

Line 1 of tables 11-1 through 11-11 show the ex ante load impacts for AP-I program, years 2021 through 2031 assuming 1-in-2 weather conditions for SCE system peak days. AP-I program impacts steadily increase from 2021 through 2031. In August 2021, the AP-I program is projected to have a 35 Mw impact and in August 2031 the AP-I program is projected to have a 69 MW impact.

DRAM

Line 4 of tables 11-1 through 11-11 show the ex ante load impacts for DRAM. There are currently no DRAM-procured RDRR in SCE's territory, so the impacts are zero and projected to be zero through 2031.

10.2.2 CPP Load Impacts for Dually-enrolled Customers

Line 4 of tables 11-1 through 11-11 shows the impacts for CPP customers dually enrolled in BIP or AP-I programs. Tables 11-1 through 11-11 show a relatively small but stable CPP load impact of 0.3-0.5 MW for CPP dually enrolled customers from 2021 through 2031.

10.2.3 SCE's Progress towards Reliability-based DR Cap

Line 11 in tables 11-1 through 11-11 shows SCE's reliability-based DR resource cap. Line 12 is SCE's progress towards the cap and is calculated by taking line 6 minus line 11. In 2021, SCE is under the cap and remains under the cap through 2028. Beginning in 2029, SCE is over the cap in the summer months and by 2031 is over the cap from May through November going over by as much as 37 MW in August.

Table 11-1: Portfolio-Adjusted Load Impacts of Reliability Programs under 1-in-2 Weather Conditions – 2021

	Description	January	February	March	April	May	June	July	August	September	October	November	December
1	AP-I Event Load Impacts Attributable to All Non-residential Customers Enrolled in AP-I	8	8	13	21	27	35	35	35	32	25	15	6
2	BIP-15 Event Load Impacts Attributable to All Non-residential Customers Enrolled in BIP-15	145	156	144	158	168	170	172	173	174	173	178	155
3	BIP-30 Event Load Impacts Attributable to all Non-residential Customers Enrolled in BIP-30	306	335	304	318	313	318	299	317	321	307	320	294
4	Load Impacts (CPP) Attributable Only to Customers Dually-enrolled in BIP or AP=I (MW)	-0.1	-0.1	0.0	0.2	0.2	0.2	0.4	0.3	0.4	0.4	0.2	-0.1
5	Load Impacts Attributable to All Customers Enrolled in DRAM as RDRR	0	0	0	0	0	0	0	0	0	0	0	0
6	Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in BIP or AP-I (MW) = (1) + (2) + (3) + (5) - (4)	460	499	461	497	508	523	506	525	527	504	512	454
7	CAISO Control Area All-time Annual Coincident Peak Demand as of March 2021 (MW)	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270
8	Cap on Total Ex Ante Load Impacts of All Reliability DR Programs of PG&E, SCE, and SDG&E Combined as Percentage of CAISO. Control Area all Time Annual Coincident Peak Demand	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
9	Tolerance Band	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	SCE Share of Cap on Reliability MW that Qualify for Resource Adequacy = (800MW/(400MW + 800MW + 20MW))	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%
11	Cap on SCE BIP Load Impacts That Qualify for Resource Adequacy (MW) = (7) x (8) x (100% + (9)) x (10)	659	659	659	659	659	659	659	659	659	659	659	659
12	Amount by which Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in Other Demand Response Programs Exceeds Cap (MW) = (6) - (11)	-200	-160	-199	-162	-151	-136	-154	-134	-132	-156	-147	-205

Table 11-2: Portfolio-Adjusted Load Impacts of Reliability Programs under 1-in-2 Weather Conditions – 2022

	Description	January	February	March	April	May	June	July	August	September	October	November	December
1	AP-I Event Load Impacts Attributable to All Non-residential Customers Enrolled in AP-I	10	10	15	24	29	38	38	38	35	27	16	6
2	BIP-15 Event Load Impacts Attributable to All Non-residential Customers Enrolled in BIP-15	147	159	147	161	171	173	175	177	178	176	181	158
3	BIP-30 Event Load Impacts Attributable to all Non-residential Customers Enrolled in BIP-30	324	353	322	337	331	337	317	336	340	325	338	311
4	Load Impacts (CPP) Attributable Only to Customers Dually-enrolled in BIP or AP=I (MW)	-0.1	-0.1	0.0	0.3	0.2	0.2	0.4	0.3	0.5	0.4	0.2	-0.1
5	Load Impacts Attributable to All Customers Enrolled in DRAM as RDRR	0	0	0	0	0	0	0	0	0	0	0	0
6	Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in BIP or AP-I (MW) = (1) + (2) + (3) + (5) - (4)	481	522	484	522	531	548	530	550	552	527	535	475
7	CAISO Control Area All-time Annual Coincident Peak Demand as of March 2021 (MW)	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270
8	Cap on Total Ex Ante Load Impacts of All Reliability DR Programs of PG&E, SCE, and SDG&E Combined as Percentage of CAISO. Control Area all Time Annual Coincident Peak Demand	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
9	Tolerance Band	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	SCE Share of Cap on Reliability MW that Qualify for Resource Adequacy = (800MW/(400MW + 800MW + 20MW))	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%
11	Cap on SCE BIP Load Impacts That Qualify for Resource Adequacy (MW) = (7) x (8) x (100% + (9)) x (10)	659	659	659	659	659	659	659	659	659	659	659	659
12	Amount by which Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in Other Demand Response Programs Exceeds Cap (MW) = (6) - (11)	-178	-138	-176	-138	-128	-111	-130	-109	-107	-133	-124	-184

Table 11-3: Portfolio-Adjusted Load Impacts of Reliability Programs under 1-in-2 Weather Conditions – 2023

	Description	January	February	March	April	May	June	July	August	September	October	November	December
1	AP-I Event Load Impacts Attributable to All Non-residential Customers Enrolled in AP-I	11	11	16	26	32	41	41	41	38	29	17	7
2	BIP-15 Event Load Impacts Attributable to All Non-residential Customers Enrolled in BIP-15	150	162	150	164	175	177	179	180	181	179	185	161
3	BIP-30 Event Load Impacts Attributable to all Non-residential Customers Enrolled in BIP-30	337	366	335	350	344	350	330	349	353	338	352	323
4	Load Impacts (CPP) Attributable Only to Customers Dually-enrolled in BIP or AP=I (MW)	-0.1	-0.1	0.0	0.3	0.3	0.2	0.4	0.4	0.5	0.4	0.3	-0.1
5	Load Impacts Attributable to All Customers Enrolled in DRAM as RDRR	0	0	0	0	0	0	0	0	0	0	0	0
6	Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in BIP or AP-I (MW) = (1) + (2) + (3) + (5) - (4)	498	539	501	540	550	568	549	571	572	545	554	491
7	CAISO Control Area All-time Annual Coincident Peak Demand as of March 2021 (MW)	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270
8	Cap on Total Ex Ante Load Impacts of All Reliability DR Programs of PG&E, SCE, and SDG&E Combined as Percentage of CAISO. Control Area all Time Annual Coincident Peak Demand	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
9	Tolerance Band	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	SCE Share of Cap on Reliability MW that Qualify for Resource Adequacy = (800MW/(400MW + 800MW + 20MW))	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%
11	Cap on SCE BIP Load Impacts That Qualify for Resource Adequacy (MW) = (7) x (8) x (100% + (9)) x (10)	659	659	659	659	659	659	659	659	659	659	659	659
12	Amount by which Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in Other Demand Response Programs Exceeds Cap (MW) = (6) - (11)	-161	-120	-158	-119	-109	-91	-110	-89	-87	-114	-106	-168

Table 11-4: Portfolio-Adjusted Load Impacts of Reliability Programs under 1-in-2 Weather Conditions – 2024

	Description	January	February	March	April	May	June	July	August	September	October	November	December
1	AP-I Event Load Impacts Attributable to All Non-residential Customers Enrolled in AP-I	12	12	17	28	34	44	45	45	41	31	19	7
2	BIP-15 Event Load Impacts Attributable to All Non-residential Customers Enrolled in BIP-15	153	165	153	168	178	181	182	184	185	183	188	164
3	BIP-30 Event Load Impacts Attributable to all Non-residential Customers Enrolled in BIP-30	347	377	345	361	354	361	340	360	364	348	363	333
4	Load Impacts (CPP) Attributable Only to Customers Dually-enrolled in BIP or AP=I (MW)	-0.1	-0.1	0.0	0.3	0.3	0.3	0.4	0.4	0.5	0.4	0.3	-0.1
5	Load Impacts Attributable to All Customers Enrolled in DRAM as RDRR	0	0	0	0	0	0	0	0	0	0	0	0
6	Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in BIP or AP-I (MW) = (1) + (2) + (3) + (5) - (4)	512	554	516	557	566	586	566	588	589	561	569	505
7	CAISO Control Area All-time Annual Coincident Peak Demand as of March 2021 (MW)	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270
8	Cap on Total Ex Ante Load Impacts of All Reliability DR Programs of PG&E, SCE, and SDG&E Combined as Percentage of CAISO. Control Area all Time Annual Coincident Peak Demand	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
9	Tolerance Band	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	SCE Share of Cap on Reliability MW that Qualify for Resource Adequacy = (800MW/(400MW + 800MW + 20MW))	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%
11	Cap on SCE BIP Load Impacts That Qualify for Resource Adequacy (MW) = (7) x (8) x (100% + (9)) x (10)	659	659	659	659	659	659	659	659	659	659	659	659
12	Amount by which Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in Other Demand Response Programs Exceeds Cap (MW) = (6) - (11)	-147	-105	-143	-103	-93	-74	-93	-71	-70	-98	-90	-154

Table 11-5: Portfolio-Adjusted Load Impacts of Reliability Programs under 1-in-2 Weather Conditions – 2025

	Description	January	February	March	April	May	June	July	August	September	October	November	December
1	AP-I Event Load Impacts Attributable to All Non-residential Customers Enrolled in AP-I	13	12	19	31	37	48	48	48	44	34	20	8
2	BIP-15 Event Load Impacts Attributable to All Non-residential Customers Enrolled in BIP-15	157	169	156	171	182	184	186	188	189	186	192	167
3	BIP-30 Event Load Impacts Attributable to all Non-residential Customers Enrolled in BIP-30	356	387	354	370	363	370	349	369	374	357	372	342
4	Load Impacts (CPP) Attributable Only to Customers Dually-enrolled in BIP or AP=I (MW)	-0.1	-0.1	0.0	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.3	-0.1
5	Load Impacts Attributable to All Customers Enrolled in DRAM as RDRR	0	0	0	0	0	0	0	0	0	0	0	0
6	Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in BIP or AP-I (MW) = (1) + (2) + (3) + (5) - (4)	526	568	530	572	581	602	582	605	605	576	584	518
7	CAISO Control Area All-time Annual Coincident Peak Demand as of March 2021 (MW)	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270
8	Cap on Total Ex Ante Load Impacts of All Reliability DR Programs of PG&E, SCE, and SDG&E Combined as Percentage of CAISO. Control Area all Time Annual Coincident Peak Demand	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
9	Tolerance Band	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	SCE Share of Cap on Reliability MW that Qualify for Resource Adequacy = (800MW/(400MW + 800MW + 20MW))	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%
11	Cap on SCE BIP Load Impacts That Qualify for Resource Adequacy (MW) = (7) x (8) x (100% + (9)) x (10)	659	659	659	659	659	659	659	659	659	659	659	659
12	Amount by which Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in Other Demand Response Programs Exceeds Cap (MW) = (6) - (11)	-134	-91	-130	-88	-78	-57	-77	-55	-54	-83	-75	-142

Table 11-6: Portfolio-Adjusted Load Impacts of Reliability Programs under 1-in-2 Weather Conditions – 2026

	Description	January	February	March	April	May	June	July	August	September	October	November	December
1	AP-I Event Load Impacts Attributable to All Non-residential Customers Enrolled in AP-I	13	13	20	33	39	51	51	51	47	36	21	9
2	BIP-15 Event Load Impacts Attributable to All Non-residential Customers Enrolled in BIP-15	160	172	159	175	185	188	190	192	192	190	196	171
3	BIP-30 Event Load Impacts Attributable to all Non-residential Customers Enrolled in BIP-30	365	396	363	379	372	379	357	378	382	365	381	350
4	Load Impacts (CPP) Attributable Only to Customers Dually-enrolled in BIP or AP=I (MW)	-0.1	-0.1	0.0	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.3	-0.1
5	Load Impacts Attributable to All Customers Enrolled in DRAM as RDRR	0	0	0	0	0	0	0	0	0	0	0	0
6	Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in BIP or AP-I (MW) = (1) + (2) + (3) + (5) - (4)	538	582	543	586	596	617	597	620	621	591	598	529
7	CAISO Control Area All-time Annual Coincident Peak Demand as of March 2021 (MW)	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270
8	Cap on Total Ex Ante Load Impacts of All Reliability DR Programs of PG&E, SCE, and SDG&E Combined as Percentage of CAISO. Control Area all Time Annual Coincident Peak Demand	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
9	Tolerance Band	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	SCE Share of Cap on Reliability MW that Qualify for Resource Adequacy = (800MW/(400MW + 800MW + 20MW))	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%
11	Cap on SCE BIP Load Impacts That Qualify for Resource Adequacy (MW) = (7) x (8) x (100% + (9)) x (10)	659	659	659	659	659	659	659	659	659	659	659	659
12	Amount by which Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in Other Demand Response Programs Exceeds Cap (MW) = (6) - (11)	-121	-78	-117	-73	-63	-42	-62	-39	-38	-68	-61	-130

Table 11-7: Portfolio-Adjusted Load Impacts of Reliability Programs under 1-in-2 Weather Conditions – 2027

	Description	January	February	March	April	May	June	July	August	September	October	November	December
1	AP-I Event Load Impacts Attributable to All Non-residential Customers Enrolled in AP-I	14	14	22	35	42	54	54	55	50	39	23	9
2	BIP-15 Event Load Impacts Attributable to All Non-residential Customers Enrolled in BIP-15	163	176	163	178	189	192	193	195	196	194	200	174
3	BIP-30 Event Load Impacts Attributable to all Non-residential Customers Enrolled in BIP-30	373	405	371	387	380	387	365	386	391	373	389	358
4	Load Impacts (CPP) Attributable Only to Customers Dually-enrolled in BIP or AP=I (MW)	-0.1	-0.1	0.0	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.3	-0.1
5	Load Impacts Attributable to All Customers Enrolled in DRAM as RDRR	0	0	0	0	0	0	0	0	0	0	0	0
6	Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in BIP or AP-I (MW) = (1) + (2) + (3) + (5) - (4)	550	595	555	600	610	633	612	636	636	605	611	541
7	CAISO Control Area All-time Annual Coincident Peak Demand as of March 2021 (MW)	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270
8	Cap on Total Ex Ante Load Impacts of All Reliability DR Programs of PG&E, SCE, and SDG&E Combined as Percentage of CAISO. Control Area all Time Annual Coincident Peak Demand	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
9	Tolerance Band	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	SCE Share of Cap on Reliability MW that Qualify for Resource Adequacy = (800MW/(400MW + 800MW + 20MW))	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%
11	Cap on SCE BIP Load Impacts That Qualify for Resource Adequacy (MW) = (7) x (8) x (100% + (9)) x (10)	659	659	659	659	659	659	659	659	659	659	659	659
12	Amount by which Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in Other Demand Response Programs Exceeds Cap (MW) = (6) - (11)	-109	-65	-104	-59	-49	-27	-47	-24	-23	-54	-48	-118

Table 11-8: Portfolio-Adjusted Load Impacts of Reliability Programs under 1-in-2 Weather Conditions – 2028

	Description	January	February	March	April	May	June	July	August	September	October	November	December
1	AP-I Event Load Impacts Attributable to All Non-residential Customers Enrolled in AP-I	15	15	23	37	44	58	58	58	53	41	24	10
2	BIP-15 Event Load Impacts Attributable to All Non-residential Customers Enrolled in BIP-15	166	179	166	182	193	195	197	199	200	197	204	177
3	BIP-30 Event Load Impacts Attributable to all Non-residential Customers Enrolled in BIP-30	381	413	379	396	388	395	372	394	399	381	397	365
4	Load Impacts (CPP) Attributable Only to Customers Dually-enrolled in BIP or AP=I (MW)	-0.1	-0.1	0.0	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.3	-0.1
5	Load Impacts Attributable to All Customers Enrolled in DRAM as RDRR	0	0	0	0	0	0	0	0	0	0	0	0
6	Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in BIP or AP-I (MW) = (1) + (2) + (3) + (5) - (4)	562	608	568	614	624	648	627	651	651	619	625	552
7	CAISO Control Area All-time Annual Coincident Peak Demand as of March 2021 (MW)	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270
8	Cap on Total Ex Ante Load Impacts of All Reliability DR Programs of PG&E, SCE, and SDG&E Combined as Percentage of CAISO. Control Area all Time Annual Coincident Peak Demand	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
9	Tolerance Band	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	SCE Share of Cap on Reliability MW that Qualify for Resource Adequacy = (800MW/(400MW + 800MW + 20MW))	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%
11	Cap on SCE BIP Load Impacts That Qualify for Resource Adequacy (MW) = (7) x (8) x (100% + (9)) x (10)	659	659	659	659	659	659	659	659	659	659	659	659
12	Amount by which Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in Other Demand Response Programs Exceeds Cap (MW) = (6) - (11)	-97	-52	-92	-45	-35	-11	-33	-8	-8	-41	-35	-107

Table 11-9: Portfolio-Adjusted Load Impacts of Reliability Programs under 1-in-2 Weather Conditions – 2029

	Description	January	February	March	April	May	June	July	August	September	October	November	December
1	AP-I Event Load Impacts Attributable to All Non-residential Customers Enrolled in AP-I	16	16	25	40	47	61	61	61	56	43	26	10
2	BIP-15 Event Load Impacts Attributable to All Non-residential Customers Enrolled in BIP-15	169	182	169	185	196	199	201	203	204	201	207	181
3	BIP-30 Event Load Impacts Attributable to all Non-residential Customers Enrolled in BIP-30	389	422	386	404	395	403	380	402	407	389	405	372
4	Load Impacts (CPP) Attributable Only to Customers Dually-enrolled in BIP or AP=I (MW)	-0.1	-0.1	0.0	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.3	-0.1
5	Load Impacts Attributable to All Customers Enrolled in DRAM as RDRR	0	0	0	0	0	0	0	0	0	0	0	0
6	Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in BIP or AP-I (MW) = (1) + (2) + (3) + (5) - (4)	574	620	580	628	638	663	641	666	666	632	638	563
7	CAISO Control Area All-time Annual Coincident Peak Demand as of March 2021 (MW)	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270
8	Cap on Total Ex Ante Load Impacts of All Reliability DR Programs of PG&E, SCE, and SDG&E Combined as Percentage of CAISO. Control Area all Time Annual Coincident Peak Demand	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
9	Tolerance Band	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	SCE Share of Cap on Reliability MW that Qualify for Resource Adequacy = (800MW/(400MW + 800MW + 20MW))	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%
11	Cap on SCE BIP Load Impacts That Qualify for Resource Adequacy (MW) = (7) x (8) x (100% + (9)) x (10)	659	659	659	659	659	659	659	659	659	659	659	659
12	Amount by which Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in Other Demand Response Programs Exceeds Cap (MW) = (6) - (11)	-85	-39	-79	-31	-21	4	-18	7	7	-27	-21	-96

Table 11-10: Portfolio-Adjusted Load Impacts of Reliability Programs under 1-in-2 Weather Conditions – 2030

	Description	January	February	March	April	May	June	July	August	September	October	November	December
1	AP-I Event Load Impacts Attributable to All Non-residential Customers Enrolled in AP-I	17	17	26	42	50	65	65	65	59	46	27	11
2	BIP-15 Event Load Impacts Attributable to All Non-residential Customers Enrolled in BIP-15	172	186	172	189	200	203	204	207	207	205	211	184
3	BIP-30 Event Load Impacts Attributable to all Non-residential Customers Enrolled in BIP-30	396	430	394	412	403	411	387	410	415	396	413	380
4	Load Impacts (CPP) Attributable Only to Customers Dually-enrolled in BIP or AP=I (MW)	-0.1	-0.1	0.0	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.3	-0.1
5	Load Impacts Attributable to All Customers Enrolled in DRAM as RDRR	0	0	0	0	0	0	0	0	0	0	0	0
6	Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in BIP or AP-I (MW) = (1) + (2) + (3) + (5) - (4)	586	633	592	642	652	678	656	681	681	646	651	575
7	CAISO Control Area All-time Annual Coincident Peak Demand as of March 2021 (MW)	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270
8	Cap on Total Ex Ante Load Impacts of All Reliability DR Programs of PG&E, SCE, and SDG&E Combined as Percentage of CAISO. Control Area all Time Annual Coincident Peak Demand	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
9	Tolerance Band	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	SCE Share of Cap on Reliability MW that Qualify for Resource Adequacy = (800MW/(400MW + 800MW + 20MW))	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%
11	Cap on SCE BIP Load Impacts That Qualify for Resource Adequacy (MW) = (7) x (8) x (100% + (9)) x (10)	659	659	659	659	659	659	659	659	659	659	659	659
12	Amount by which Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in Other Demand Response Programs Exceeds Cap (MW) = (6) - (11)	-73	-26	-67	-17	-7	19	-3	22	22	-13	-8	-85

Table 11-11: Portfolio-Adjusted Load Impacts of Reliability Programs under 1-in-2 Weather Conditions – 2031

	Description	January	February	March	April	May	June	July	August	September	October	November	December
1	AP-I Event Load Impacts Attributable to All Non-residential Customers Enrolled in AP-I	18	18	27	45	53	68	68	69	63	48	29	12
2	BIP-15 Event Load Impacts Attributable to All Non-residential Customers Enrolled in BIP-15	176	189	175	192	204	206	208	210	211	208	215	187
3	BIP-30 Event Load Impacts Attributable to all Non-residential Customers Enrolled in BIP-30	404	439	402	420	411	419	394	418	423	404	421	387
4	Load Impacts (CPP) Attributable Only to Customers Dually-enrolled in BIP or AP=I (MW)	-0.1	0.3	0.3	0.3	0.4	0.4	0.5	0.4	0.4	0.6	0.4	-0.1
5	Load Impacts Attributable to All Customers Enrolled in DRAM as RDRR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in BIP or AP-I (MW) = (1) + (2) + (3) + (5) - (4)	598	646	604	656	666	693	670	696	696	660	664	586
7	CAISO Control Area All-time Annual Coincident Peak Demand as of March 2021 (MW)	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270	50,270
8	Cap on Total Ex Ante Load Impacts of All Reliability DR Programs of PG&E, SCE, and SDG&E Combined as Percentage of CAISO. Control Area all Time Annual Coincident Peak Demand	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
9	Tolerance Band	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	SCE Share of Cap on Reliability MW that Qualify for Resource Adequacy = (800MW/(400MW + 800MW + 20MW))	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%
11	Cap on SCE BIP Load Impacts That Qualify for Resource Adequacy (MW) = (7) x (8) x (100% + (9)) x (10)	659	659	659	659	659	659	659	659	659	659	659	659
12	Amount by which Total Reliability Program Load Impacts MINUS Load Impacts Attributable to Customers Dually-enrolled in Other Demand Response Programs Exceeds Cap (MW) = (6) - (11)	-61	-14	-55	-3	7	34	11	37	37	1	5	-73