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11/08/22
04:59 PM
R2005003

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Electric Integrated Resource Planning and Related Procurement Processes	Rulemaking 20-05-003 (Filed May 7, 2020)

PACIFIC GAS AND ELECTRIC COMPANY'S (U 39 E) 2022 INTEGRATED RESOURCE PLAN (PUBLIC VERSION)

DANIEL S. HASHIMI

Pacific Gas and Electric Company
77 Beale Street, B30A
San Francisco, CA 94105
Telephone: (818) 388-1711
Facsimile: (415) 973-5520
E-Mail: Daniel.Hashimi@pge.com

Attorneys for
PACIFIC GAS AND ELECTRIC COMPANY

Dated: November 1, 2022

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OF THE STATE OF CALIFORNIA

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In compliance with Decision 22-02-004 and Administrative Law Judge Fitch's June 15, 2022 Ruling, *Finalizing Load Forecasts and Greenhouse Gas Emissions Benchmarks for 2022 Integrated Resource Plan Filings*, Pacific Gas and Electric Company ("PG&E") hereby files its 2022 Integrated Resource Plan ("Plan"), along with an officer verification.

The confidential version of the Plan will be filed with the Commission's Docket Office.

Respectfully Submitted,

PACIFIC GAS AND ELECTRIC COMPANY

By: */s/ Daniel S. Hashimi*
DANIEL S. HASHIMI

Pacific Gas and Electric Company
77 Beale Street, B30A
San Francisco, CA 94105
Telephone: (818) 388-1711
Facsimile: (415) 973-5520
E-Mail: Daniel.Hashimi@pge.com

Dated: November 1, 2022

Attorneys for
PACIFIC GAS AND ELECTRIC COMPANY

OFFICER VERIFICATION

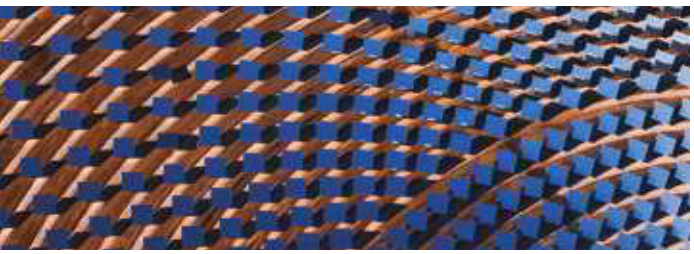
I, Gillian Clegg, say:

I am an officer of Pacific Gas and Electric Company, a corporation, and am authorized pursuant to Rule 2.1 and Rule 1.11 of the Rules of Practice and Procedure of the CPUC to make this Verification for and on behalf of said corporation, and I make this Verification for that reason. I have read the foregoing filing and I am informed and believe that the matters therein concerning Pacific Gas and Electric Company are true to the best of my knowledge. I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed at San Francisco, California, this first day of November 2022.

/s/ Gillian Clegg
Gillian Clegg
Vice President, Energy Policy and Procurement

INTEGRATED RESOURCE PLAN



Prepared for the California Public Utilities Commission • November 1, 2022

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2022

PACIFIC GAS AND ELECTRIC COMPANY

2022 INTEGRATED RESOURCE PLAN

NOVEMBER 1, 2022

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a. Introduction

Pacific Gas and Electric Company (PG&E) is pleased to participate in the 2022 Integrated Resource Planning (IRP) process and to contribute toward California's clean energy goals in a safe, reliable, and cost-effective manner. As one of the largest electric and natural gas energy companies in the United States, PG&E delivers some of the nation's cleanest energy to nearly 16 million people throughout a 70,000-square-mile service area in Northern and Central California.

The California Public Utilities Commission's (Commission or CPUC's) IRP Proceeding is the primary vehicle for California's electric generation planning, focused on ensuring that the electric sector is on track to reliably and affordably meet California's Greenhouse Gas (GHG) emission reductions targets. The 2022 IRP process is underway during a period of electric reliability challenges, which have been exacerbated by the effects of increasingly frequent and intense weather events. The planning paradigm is further challenged by the rapidly growing scale of needed clean energy investments, including load growth uncertainties and resource development delays due in part to supply chain problems. Despite these challenges, California is fully committed to mitigating the impacts of climate change and recently passed legislation affirming that commitment.[1] To facilitate the decarbonization of the electric sector and meet the increase in electric demand due to the electrification of other sectors that currently rely on fossil fuels, the IRP proceeding must also have a strong focus on system reliability and affordability.

PG&E's 2022 IRP is focused on meeting its IRP compliance requirements. Since the last IRP cycle, PG&E has adopted a comprehensive and ambitious climate strategy and goals[2] that guide its supply planning and portfolio optimization presented in this filing. PG&E's long term climate strategy is rooted in its triple bottom line framework of serving people, the planet, and California prosperity. PG&E has introduced ambitious emissions reduction goals that include achieving net zero GHG emissions by 2040 and being climate positive by 2050.

PG&E plans to achieve carbon neutrality through aggressive investments in GHG-free resources, including pursuing both supply and demand side solutions, with an emphasis on the role of

[1] In 2022, California passed Assembly Bill (AB) 1279 (2021-2022 Reg. Sess.) which codifies California's 2045 carbon neutrality goal and Senate Bill (SB) 1020 (2021-2022 Reg. Sess.) which establishes interim targets toward meeting the existing SB 100 (2017-2018 Reg. Sess.) targets.

[2] PG&E's Climate Strategy Report (June 2022), <https://www.pge.com/climate> (as of Oct. 25, 2022).

breakthrough load management and emerging technologies[3]. This filing outlines PG&E's plan for decarbonizing its bundled service portfolio through 2035, while supporting reliability and affordability. To do this, PG&E forecasts needing up to 12 terawatt-hours (TWh) of additional GHG-free generation resources to be added to its portfolio by 2030. In this plan, PG&E seeks approval to begin procuring these GHG-free resources gradually over the next several years to fill this need and realize its commitment to decarbonizing its bundled service portfolio. PG&E also recognizes that its actual procurement needs may change over time as future forecasted assumptions and portfolio attributes change.

a. Key Messages

PG&E is making progress toward its climate goals. PG&E's 2022 IRP portfolio meets its climate strategy goal of 70 percent Renewable Portfolio Standard (RPS) by 2030. In fact, PG&E expects to meet or exceed its goal of 70 percent RPS by 2030 with each of its IRP portfolio alternatives, and is on a trajectory to meet its broader, net zero energy system, climate goal by 2040. In the near-term, PG&E will procure 900 megawatts (MW) of long duration storage, baseload renewables and solar plus storage consistent with the CPUC's mid-term reliability procurement order. PG&E also plans to incorporate 612 MW of demand response and 338 MW of energy efficiency and advance its demand response portfolio to 950 MW with a new automated response technology program.

PG&E requests additional procurement authorization for bringing new resources online in a timely manner. California and western markets have been facing capacity tightness as aging and inefficient powerplants in California and neighboring states retire due to market and regulatory pressures. Contracting for new clean energy resources has been challenging due to many factors, including increasing worldwide demand for GHG-free resources and ongoing raw material constraints, supply chain problems, and price volatility.

PG&E's analysis of its potential need considered four planning requirements: IRP GHG-emissions targets set by the CPUC; California's RPS compliance requirements; GHG-free energy planning targets; and monthly bundled system Resource Adequacy (RA) requirements. Based on these requirements, PG&E forecasts a potential need of up to 12 TWh[4] of additional GHG-free resources by 2030. PG&E requests Commission approval to begin procurement of GHG-free resources gradually over the next several years to satisfy this need. This request is

[3] Breakthrough load management and emerging technologies includes utilizing newer technologies (e.g., hydrogen and carbon capture, utilization, and sequestration) and includes accelerated adoption by customers of Demand Energy Response (DER) programs (PV and storage), smart technologies (EVs, smart thermostats and appliances) and efficiency measures to turn behind-the-meter and distributed resources into dispatchable resources.

[4] Equivalent to approximately 5 GW of nameplate capacity.

incremental to existing IRP procurement orders and other existing Commission mandates and equivalent to approximately five gigawatts (GW) of nameplate capacity.

Given the large amount of procurement and the electric grid system-wide reliability challenges being experienced today, PG&E would like to begin the procurement process in the near term to timely secure the procurement of the appropriate amount and type of resources. PG&E could potentially procure less than 12 TWh, for example, if load management reduces the currently forecasted need or if the expansion of Community Choice Aggregators (CCAs) or Direct Access (DA) exceeds current forecasts. PG&E will continue to monitor these drivers. This level of request meets the following objectives: 1) CPUC's 2030 GHG targets for PG&E, 2) 70 percent RPS in 2030, and 3) places us on a trajectory for 90 percent GHG-free in 2035 as well as the CPUC's 2035 GHG target.

PG&E's 2022 IRP Action Plan, outlined in Section IV, is consistent with PG&E's 2030 climate strategy and goals, which emphasize expansion of RPS resources, promoting storage, and facilitating customer action to mitigate climate change through home and vehicle electrification and expansion of load management.

PG&E supports the use of the higher load forecast for planning that includes ambitious vehicle electrification. To address climate change, the electric sector will play a central role in decarbonizing the transportation sector. This is reflected in California's new rules on zero-emission vehicle sales. California needs to plan for an electrified transportation sector today. With this in mind, PG&E believes the CPUC should adopt a higher transportation electrification load forecast scenario for planning. PG&E's climate strategy is aligned with the underlying assumption of increased transportation electrification and higher GHG emission reductions, and the 2022 IRP's Additional Transportation Electrification (ATE) scenario aligns closest with its internal load forecast for the post-2030 horizon. This is an important assumption for resource planning to achieve California's climate and reliability goals.

There is a risk that the new resources required to address GHG reduction goals and support reliability will not be online in a timely manner. The CPUC Preferred System Plan adds over 40 GW of incremental new nameplate capacity by 2030 and over 50 GW of incremental new nameplate capacity by 2035. This level of new resource additions is unprecedented and will require significant effort and coordination among state agencies to bring the new capacity online in time to meet California's decarbonization goals. In addition, the ongoing supply chain issues, competition from other states/nations/industries for lithium batteries and interconnection issues will continue to pose challenges for bringing new resources online. The state will need to proactively address regulatory hurdles and assess alternatives to avoid the impact of delays.

More work needed for IRP to assure reliability. Although the CPUC's IRP portfolios meet the 0.1 Loss of load Expectation (LOLE)[5] planning standard, this does not guarantee that the system will provide sufficient energy in extreme weather hours, such as the peak loads seen in summer 2020 (47 GW) and 2022 (52 GW). More work is needed to ensure that the effects of climate change and factors to mitigate their impact is included in the IRP reliability assessment. In addition, local and zonal resource need assessment continues to be a gap in the current IRP process that needs to be immediately addressed. To address these gaps, PG&E has offered recommendations for improved reliability planning in the Lessons Learned section.

PG&E supports expanded load management solutions in future plans. As we work to diversify and optimize its portfolio to support California's decarbonization goals, PG&E believes that Distributed Energy Resources (DERs) and load management, broadly, will play an increasingly important role. In fact, PG&E thinks an increased emphasis in advanced load management is necessary to achieve California's GHG reduction goals. Therefore, PG&E would like to see a greater focus on load management solutions in future plans.

The current IRP does not fully consider DERs, including behind-the-meter (BTM) resources as explicit resources to be optimized within the portfolio. Instead, the Commission reduces demand by energy produced (or saved) for demand side resource programs (e.g., BTM PV, storage, energy efficiency, electrification) to calculate a retail sales load that needs to be served by bulk supply resources.

Moreover, the IRP does not include what PG&E has called "breakthrough" load management (e.g., emerging programs such as vehicle-to-grid) options to meet system demand. The Commission recently issued a new rulemaking[6] to, among other issues, better integrate DER progress into the IRP process. The emergence of technology to turn BTM and distributed resources into dispatchable resources creates an opportunity to optimize load and supply and ensures the most affordable mix of resources. PG&E supports this initiative and offers more discussion below on the advanced load management and demand-side programs that should be central to California's clean energy environment.

b. PG&E's Climate Strategy Guides the 2022 IRP

While adhering to the direction provided in the CPUC's IRP proceedings and rulings, PG&E's 2022 IRP reflects progress toward its climate commitments of achieving a net zero energy system five years ahead of California's 2045 carbon neutrality deadline and to achieve a

[5] 0.1 LOLE is an industry standard reliability metric. 0.1 LOLE means a chance of one loss of load day every ten years.

[6] See Order Instituting Rulemaking to Develop Policy and Create A Consistent Regulatory Framework for Distributed Energy Resource Customer Programs, Track 1 Scope, pp. 34-35, <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M488/K223/488223301.PDF> (as of Oct. 25, 2022).

climate- and nature-positive energy system by 2050. To date, PG&E has made significant progress transitioning the grid to renewable and environmentally friendly supply of resources and beginning the transportation and building electrification process. However, in order to ensure reliability and affordability as the state increases the pace of electrification and work toward integrating intermittent renewable generation, optimizing the grid will require a more diverse mix of resources including advanced load management and emerging technologies. PG&E's 2022 IRP is guided by the following key climate strategies.

i. Diversify Using Conventional and Emerging Technology

A diversified and optimized energy system will rely on a combination of traditional GHG-free energy sources (e.g., utility scale solar, wind, geothermal), emerging technologies (e.g., offshore wind (OSW)), and will provide opportunity for PG&E's customers to participate in the clean energy future by leveraging existing and emerging load management solutions (e.g., real-time pricing, vehicle-to-grid programs). Leveraging a diverse mix of resources will be necessary to meet its ambitious decarbonization goals and will help to build climate resilience within PG&E's service area.

ii. Advanced Load Management & Demand-Side Programs

California's electricity use is anticipated to increase significantly over the next 20 years, after decades of relatively flat demand, due to transportation and building electrification. To reliably and affordably serve PG&E's bundled customers while also decarbonizing the California economy, PG&E plans to pursue a diverse portfolio which includes advanced load management solutions as an alternative to traditional power generation. Some load management examples include leveraging dynamic pricing, DERs that respond to dynamic grid conditions, advanced rate design, and emerging technologies such as bidirectional chargers to help customers take an active role in reducing our collective carbon footprint while lowering their energy bills. In addition to helping meet PG&E's goal of reducing direct operational and indirect carbon emissions by 50 percent by 2030, demand-side solutions help its customers take an active role in reducing their own carbon footprint and lowering their own energy bills by aligning usage with lower cost and lower-emitting electricity.

iii. Unleash Electric Vehicle Potential

PG&E is an industry leader in facilitating the electrification of the transportation sector. This is evidenced by the nearly 400,000 operational electric vehicles (EVs) being served by us in its service territory. Transportation electrification is the next frontier of decarbonization in California: currently the transportation sector accounts for 40 percent of California GHG emissions. Although EVs represent a planning challenge for us due to increased demand on the grid, PG&E views EVs as a source of opportunity for us to address reliability and customer resilience as part of the advanced load management programs described above.

PG&E's 2030 goal is to realize a cumulative reduction of more than 58 MMT of carbon emissions with at least 3 million EVs in its service territory. To do this, PG&E will prepare the

grid for 12,000 GWh of EV charging and make grid investments to help bring to fruition California's new policies of 100 percent sales of light-duty Zero-Emission Vehicles (ZEV) by 2035, 100 percent med- and heavy-duty ZEVs in operation by 2045, and 100 percent off-road ZEVs and equipment in operation by 2035. PG&E has prepared an alternative portfolio utilizing the Inter-Agency Working Group (IAWG) ATE load forecast which is most closely aligned with this climate strategy goal. Select results from that portfolio are presented in its 2022 IRP through Section III: Study Results.

iv. Affordability and Equity

PG&E recognizes that achieving California's ambitious climate goals affordably requires selecting the most cost-effective mix of resources. Affordability is important not just because of the impact of high energy costs on PG&E's customers, but also because lack of affordability threatens the success of building and transportation electrification efforts that are necessary for California to meet its carbon reduction goals. As noted previously, meeting our collective environmental goals will require a diverse mix of resources including emerging technology and advanced load management. Meeting these goals cost-effectively will require understanding the optimal balance of resources through improved IRP modeling tools to assess DER solutions, which is discussed in more length in Sections I.b and V.

Beyond affordability, PG&E is also committed to equity. PG&E is committed to promoting customer incentives that do not unduly shift costs to other customers and rate design that ensures all customers pay equitably for the service they receive. Advanced load management strategies must be thoughtfully designed to provide opportunities for participating customers to reduce overall household energy costs, provide customer resiliency, and provide customers the opportunity to reduce emissions without unfairly burdening non-participating customers with higher costs.

With a longer-term goal of a climate and nature-positive energy system, PG&E is committed to reducing its own carbon footprint and helping to enable its customers to reduce their climate impacts. PG&E developed its climate strategy in pursuit of its bold vision to take action to address climate change. These key climate strategies help guide PG&E's action plans and serve as a roadmap for its goal to actively remove more GHG than PG&E emits by the year 2050. To that end, these climate strategies also guide its 2022 IRP filing.

c. Study Design

PG&E developed two (2) Conforming Portfolios and one (1) Additional High Electrification portfolios for its IRP:

- 30 MMT Conforming (38 MMT by 2030 | 30 MMT by 2035)
- 25 MMT Conforming (30 MMT by 2030 | 25 MMT by 2035)
- 30 MMT + 2021 Integrated Energy Policy Report (IEPR) ATE Alternative Portfolio

PG&E's 2022 IRP modeling effort was guided by two key modeling principles: (1) Adhere to CPUC IRP guidelines; and (2) Provide planning insights in meeting study objectives. PG&E used a three-step process described in Section II to develop an optimized bundled portfolio for the scenarios considered by PG&E. This process allowed PG&E's portfolios to be tested against the following four requirements:

1) GHG emission planning benchmark established by CPUC
2) California's RPS (Renewable Portfolio Standard) targets
3) California's GHG-free (Greenhouse Gas) energy target
4) PG&E's system capacity needs to meet RA requirements

Each of the conforming scenarios were tested against PG&E's RPS compliance requirements, the IRP's LSE GHG benchmark (measured using the Clean System Power (CSP) Tool), a trajectory for achieving California's energy and climate goals promulgated by SB 100, and other key bundled portfolio requirements, such as system RA needs, to determine the need for any incremental additional resources and the best technological fit for any such incremental additional resource need.

The state has directed PG&E to pursue all necessary activities to extend the operations of the Diablo Canyon Power Plant (DCPP) through 2030; however, under applicable law, SB 846, the Commission as well as all LSEs are prohibited from including the energy, capacity, or any attribute from the DCPP in the IRP process and in each LSE's individual integrated resource plan portfolios beyond the current DCPP retirement dates[7]. Therefore, PG&E's 2022 IRP does not account for any energy, capacity, or other attributes from the DCPP for the period after the current retirement date for DCPP. This approach is consistent with the Commission's 2021 Preferred System Plan (PSP).

In addition, in order to address the requirements for LSEs within PG&E's service territory to include in their IRP filings a description of its plans addressing the retirement of DCPP and the characteristics of its energy output, including flexible baseload and/or firm low-emission energy, [8] PG&E's procurement forecast presented in its 2022 IRP accounts for the retirement of DCPP, by its current retirement date, and the amount and types of procurements forecasted in the plan are inclusive of the energy, capacity, and other attributes that will need to be satisfied through other resources upon the retirement of DCPP.

PG&E's 2022 IRP procurement forecast is inclusive of the zero-emission resources ordered by the Commission as part of the Mid-Term Reliability (2023-2026) procurement decision, which

[7] The assumed retirement dates for DCPP Unit 1 and Unit 2 are consistent with the expiration of current operating licenses. These dates are November 2, 2024 for Unit 1 and August 26, 2025 for Unit 2.

[8] D.19-04-040, p. 179, OP 12.

included, among other things, a procurement mandate for all LSEs to address the retirement of DCPP by procuring 2,500 MW[9] of incremental zero emission capacity resources.

Accordingly, PG&E's 2022 IRP accounts for the retirement of DCPP under current retirement dates, does not include DCPP or any of its attributes for the period after its current retirement date, and includes replacement resources necessary to replace the supply provided by DCPP upon its retirement.

d. Study Results

PG&E's bundled portfolio results demonstrate compliance with the four requirements listed above. To meet these requirements, bundled portfolio results show a need to procure additional resources. Additional resources will be needed by 2030 for PG&E to meet its GHG emissions planning targets and to stay on a trajectory to meet California's GHG-free energy requirements[10] while addressing increasing electrification demand. Among the scenarios analyzed, the 30 MMT + 2021 IEPR ATE Alternative Portfolio best aligns with PG&E's climate strategy and commitment of 3 million EVs by 2030 as well as the California Air Resources Board's (CARB) electric sector GHG emissions target.

In its plan, PG&E is requesting to procure GHG-free resources gradually over the next several years to fill up to an approximately 12 TWh GHG-free energy need (~5 GW nameplate) in 2030 and reduce its 2030 GHG emissions by 3.3 MMT to meet PG&E's GHG emission target. With this new proposed procurement, PG&E's plan demonstrates that it meets its reliability and RPS requirements for 2030, and positions PG&E for meeting the GHG-free energy requirements adopted in SB 100. Beyond 2030, PG&E's plan also identifies the incremental resources that would be needed to achieve the projected 2035 requirements and a trajectory for meeting PG&E's climate strategy commitment for a net zero energy system by 2040. Overall, PG&E's IRP portfolio results are driving PG&E's IRP procurement strategy for meeting its 2030 requirements while allowing more time for transportation electrification and demand-side solutions to develop before procuring additional resources for meeting post-2030 requirements.

e. Action Plan

The Action Plan described in Section IV demonstrates PG&E's activities alignment with its planning and procurement strategy, outlines current and planned activities to address DAC, and notes what actions PG&E requests for the Commission to consider supporting the effective

[9] D.21-06-035, p. 96, OP 6, "to ensure that the capacity retiring at the Diablo Canyon Power Plant is replaced entirely with zero-emitting resources, all load-serving entities shall collectively procure a minimum of 2,500 megawatts (MW) of incremental zero-emissions capacity".

[10] Initially adopted in SB 100 for 2045. Updated by SB 1020, signed by the Governor on September 16, 2022, which established interim targets for 2035 and 2040.

implementation of its plans. PG&E's 2022 IRP Action Plan is highly influenced by PG&E's climate strategy and the plan is on track to meet California's GHG emissions targets. Each subsection of the action plan provides a clear overview of PG&E's progress toward achieving its GHG target compliance and offers valuable contributions to meeting California's clean energy goals in a safe, reliable, and cost-effective manner.

PG&E has a wide array of programs available to customers residing in DACs. These programs have evolved over the years, and now include other programs that offer greater access to clean technologies that help minimize criteria air pollutants both inside customer homes and in the broader community. PG&E anticipates that there will continue to be more programs developed to help address and mitigate poor air quality in DACs, particularly programs that have a direct impact on air quality, such as expanding access to EVs and building electrification.

Based on PG&E's analysis, PG&E determined its forecasted need to be up to 12 TWh (~5 GW nameplate) in 2030. PG&E requests authority from the CPUC to begin procuring additional resources to fill this need and to stay on a trajectory to meet California's GHG-free requirements adopted in SB 100 for 2045 and in SB 1020 for 2035 and 2040. More detail on PG&E's procurement authorization request can be found in Section IV.c of this 2022 IRP filing.

f. Lessons Learned

While in the middle of this cycle's filing process, the CPUC recognized the need to design a new programmatic approach to procurement to determine more efficient and longer-term contracting procurement requirements for reliable and clean resources. PG&E applauds the CPUC for examining a fundamental overhaul in this process. PG&E is pleased to participate in this separate process and believes that it is an appropriate forum for it and other LSEs to bring up suggested changes for consideration by the Commission. Many of the lessons learned from this year's IRP cycle already seem to be teed up in the Reliable and Clean Power Procurement Program Staff Options Paper.

In the Lesson Learned section, PG&E has included recommendations in the following areas for further improvement or greater collaboration in future IRP proceedings:

1) Enhancement of the Commission's capacity expansion modeling capabilities;
2) Improvement in Commission's reliability assessment efforts to adequately address climate change impact and location specific resource requirements[11];
3) Improvement in key IRP modeling assumptions; and
4) Enhancement of IRP modeling capabilities and coordination between the CPUC, California Energy Commission (CEC), and California Independent System Operator (CAISO) for integrated resource planning that incorporates load management solutions in the development of cost-effective portfolios.

[11] Location specific requirements driven by transmission limitations.

More detailed information and context for each of these points stated above can be found in Section V. Lessons Learned.

II. Study Design

In this section PG&E describes how it developed its 2022 IRP filing, including the:

- Objectives for the analytical work presented in the filing and scenarios included in PG&E's Plan; and
- Description of the study methodology including tools and approaches used in developing PG&E's scenario analysis.

a. Objectives

PG&E's key objectives for its IRP align with the customer-focused mission that drives all its activities: to safely and reliably deliver affordable and clean energy to its customers and communities every single day, while building the energy network of tomorrow. PG&E's IRP analysis specifically focuses on the following key objectives:

- **Clean energy:** For decades PG&E has been a leader in developing clean energy technologies in California. In 2021, PG&E delivered nearly 48 percent of its electricity from RPS-eligible renewable resources, such as solar, wind, geothermal, biomass, and small hydropower. Additionally, PG&E's GHG-free energy production, which includes renewable resources, large hydropower, and nuclear energy generation, satisfied 91 percent of PG&E's bundled retail sales in 2021.[12] Among other important goals, PG&E's IRP analysis is focused on facilitating a path for PG&E to meet its clean energy requirements under SB 100 as well as its 2030 and 2035 GHG planning benchmarks assigned in this IRP.
- **Reliability:** Maintaining reliability is critical, both for the overall electric system and local segments of the system, especially as California transitions towards higher shares of GHG-free generation resources, many of which are intermittent resources.
- **Affordability:** PG&E's IRP analysis selects resources to meet the state's clean energy and reliability goals in a least-cost manner to customers. PG&E provides a system average rate forecast in compliance with the CPUC's requirements for IOUs.

[12] PG&E, Renewable Energy and Storage, <https://www.pgecorp.com/corp_responsibility/reports/2022/pf03_renewable_energy_storage.html> (as of Oct. 25, 2022).

PG&E developed three IRP scenarios[13] to address PG&E's proportional share of a GHG targets set by the CPUC consisting of two conforming load scenarios and an alternative load scenario:

- Scenario 1: 30 MMT GHG, Conforming Load
- Scenario 2: 25 MMT GHG, Conforming Load
- Scenario 3: 30 MMT GHG, Additional Transportation Electrification (ATE) Load

PG&E has included only two conforming load scenarios to meet all of the requirements set forth in the narrative templates as required by the CPUC, one for the 30 MMT GHG emissions target (Scenario 1) and one for the 25 MMT target (Scenario 2). PG&E also includes the results for the additional load scenario (Scenario 3) since this scenario includes additional transportation electrification load forecast that best aligns with PG&E's climate strategy and commitment of 3 million EVs by 2030 as well as CARB's electric sector GHG emissions target. The IRP scenarios developed by PG&E are summarized in Table 1 below.

TABLE 1
PG&E'S IRP SCENARIOS

Line No	Value	30 MMT Conforming	25 MMT Conforming	30 MMT ATE Alternative
1	PG&E Net System Sales (2030)	77,800 GWh	77,800 GWh	83,379 GWh
2	PG&E Bundled Sales (2030)	28,020 GWh	28,020 GWh	30,029 GWh
3	PG&E GHG Emissions Benchmark (2030)	3.998 MMT	3.013 MMT	3.998 MMT
4	PG&E Net System Sales (2035)	81,536 GWh	81,536 GWh	99,425 GWh
5	PG&E Bundled Sales (2035)	29,852 GWh	29,852 GWh	36,401 GWh
6	PG&E GHG Emissions Benchmark (2035)	3.086 MMT	2.466 MMT	3.086 MMT

A. Scenario 1: 30 MMT GHG, Conforming Load

Objective: Meet the filing requirements established by the Commission.

CPUC Scenario Assumptions:

[13] Consistent with the CPUC 2022 IRP filing requirement, "[e]ach LSE must produce and submit at least two "Conforming Portfolios:" one that achieves emissions that are equal to or less than the LSE's proportional share of the 38 MMT by 2030 and 30 MMT by 2035 GHG targets (the 30 MMT conforming portfolio), and another that achieves emissions that are equal to or less than the LSE's proportional share of a 30 MMT by 2030 and 25 MMT by 2035 GHG targets (the 25 MMT conforming portfolio)." 2022 Narrative Template (June 15, 2022), p. 4, <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/long-term-procurement-planning/2022-irp-cycle-events-and-materials> (as of Oct. 25, 2022).

1) 2021 Integrated Energy Policy Report (IEPR) Mid Case loads utilized per CPUC Filing Requirements; and
2) 38 MMT GHG target by 2030 & 30 MMT GHG target by 2035; CSP Calculator Tool based on 30 MMT Conforming portfolio.

For the 30 MMT Conforming Scenario, PG&E developed its portfolio based on CEC's 2021 IEPR load forecast as outlined in the June 15, 2022, Administrative Law Judge (ALJ) Ruling.[14] PG&E's bundled load is 28,020 GWh in 2030 and 29,852 GWh in 2035 in this scenario.

For the 30 MMT Conforming Scenario, PG&E's assumptions are consistent with CPUC's Updated 2021 PSP with the following exception:

- For future procurement of mandated program resources not yet in PG&E's bundled electric portfolio,[15] PG&E used its internal cost estimates derived from program and PG&E commercial data for calculating the revenue requirements.

B. Scenario 2: 25 MMT GHG, Conforming Load

Objective: Meet the filing requirements established by the Commission.

CPUC Scenario Assumptions:

1) 2021 IEPR loads utilized per CPUC Filing Requirements; and
2) 30 MMT 2030 GHG & 25 MMT 2035 GHG targets; CSP Calculator Tool based on 25 MMT Conforming portfolio.

For the 25 MMT Conforming Scenario, PG&E's assumptions and methodologies were consistent with its approach in developing the 30 MMT Conforming Scenario, albeit using the CSP model provided by the Commission for the 25 MMT case. PG&E's bundled load is unchanged (28,020 GWh in 2030 and 29,852 GWh in 2035) in this scenario.

C. Scenario 3: 30 MMT GHG, ATE Load

Objective: Quantify impact on portfolio of adopting a higher EV load forecast, a key uncertainty in the 2021 IEPR Mid case forecast.

CPUC Scenario Assumptions:

1) IAWG ATE load forecast
2) All other assumptions in the 30 MMT ATE Alternative Scenario are consistent with the 30 MMT Conforming scenario.

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[14] *ALJ's Ruling Finalizing Load Forecasts and Greenhouse Gas Emissions Benchmarks for the 2022 Integrated Resource Plan Filings* (June 15, 2022) ("June 15, 2022, ALJ Ruling"), R.20-05-003.

[15] Includes ReMAT and BioMAT mandated RPS procurement programs. PG&E ReMAT Feed-In Tariff, <https://pge.accionpower.com/_pgeremat/home.asp> (as of Oct. 10, 2022) and PG&E BioMAT Feed-in Tariff, <https://pgebiomat.accionpower.com/_pgebiomat/home.asp> (as of Oct. 25, 2022).

b. Methodology

i. Modeling Tool(s)

PG&E has employed several analytic tools in developing its resource plans and in forecasting costs used in the revenue requirement and average bundled rate calculations. The tools fall into two broad categories:

1) CAISO System Tools: used to ascertain the resource buildout and underlying market attributes at the CAISO system level; and
2) Bundled Portfolio Analysis Tools: used to model PG&E's bundled portfolio.

The two sets of tools are linked, as outputs from the CAISO System Tools (e.g., CAISO resource mix) are used as inputs into the Bundled Portfolio Tools. A high-level description of the modeling tools used in the analysis follows below.

A. CAISO System Tools

1) **CPUC's RESOLVE Model:** PG&E relied solely on the RESOLVE capacity expansion results (e.g., system-level resource portfolios) because the commitment and dispatch modeling and the time granularity in RESOLVE are highly simplified. PG&E used its own proprietary models, as described below, that take the RESOLVE capacity expansion results as inputs to develop market price forecasts that are needed for the bundled portfolio assessment.
2) **PG&E's Hourly Power Price Forecast Tool:**[16] This model establishes CAISO hourly power prices as a function of the CAISO system net-load and dispatchable resources available at each hour. Key inputs for this model are the CAISO system-level resource mix forecast, CAISO load and net import levels, all of which come from the specified RESOLVE model run. The model also relies on natural gas prices and GHG prices from the June 2020 CEC gas commodity mid-case forecast. The June 2020 CEC forecast was used by the CPUC in development of the Updated 2021 PSP that informs PG&E's IRP. The hourly prices are used to calculate the bundled portfolio generation revenue requirements. The hourly prices are also essential inputs to other commodity forecast models (namely, RA and REC price forecasts) required for the generation revenue requirement calculations.
3) **PG&E's Capacity Price Forecast Tool:**[17] This tool uses a weighting methodology applied to current and historical capacity transactions, market price quotes, and published forecasts. The methodology aggregates and profiles prices for existing

[16] Note that this model is PG&E's proprietary model and is used routinely by PG&E as part of its forward curve development process, and variants have been used in past regulatory filings, including in ERRA forecast proceedings.

[17] This is a PG&E-proprietary model.

transaction maturities and extends pricing beyond current maturities according to historical trend.

4) **PG&E's REC Price Forecast Tool:**[18] The REC price forecast tool calculates REC forward price by calculating a per-MWh premium for RPS-eligible energy. For example, the REC forward price for a given year, say 2024, for a solar resource is calculated based on the levelized cost of a new solar resource coming online in 2024, minus the levelized market revenue of the new solar resource. The tool also incorporates prices of recent REC transactions in the short term.

B. Bundled Portfolio Analysis Tools

1) **CPUC's CSP Model:** The CSP model is used to quantify PG&E's GHG emissions and local air pollutants associated with serving its bundled load on an hourly basis for PG&E's IRP scenarios. PG&E used the two versions of the CSP model that were provided by the Commission to analyze its Bundled Portfolio under the 30 MMT and 25 MMT Cases for both the Conforming cases and the ATE load forecast case. For the ATE case, PG&E modified the load inputs based on the data provided in the Additional Transportation Load Electrification forecast produced by the IAWG. PG&E also leveraged the hourly load energy shapes for calculating the bundled portfolio generation revenue requirements.
2) **PG&E's Procurement Portfolio Planner (P^3):** This proprietary model developed by PG&E forecasts PG&E's electric portfolio generation and procurement costs.[19] P^3 includes the electric portfolio's individual contracts and dispatchable unit characteristics. Market prices and bundled load are exogenous inputs to the model. The model follows an economic dispatch protocol where in each hour the dispatchable units are dispatched against the forecast hourly price. The generation and cost outputs from P^3 serve as the primary inputs into PG&E's bundled generation revenue requirement model.
3) **PG&E's Bundled Portfolio Optimization Tool (BPOT):** This proprietary tool determines the optimal mix of new generation and storage resources to be added to the bundled electric portfolio under scenarios where the existing set of resources is unable to meet certain operational and/or policy constraints. The model uses linear programming to select a mix of new assets from a set of candidate resources thereby yielding the lowest overall portfolio costs. The model is set up to minimize the net present value of portfolio costs (new resource costs plus spot market transactions) over the forecast horizon subject to meeting the following four portfolio constraints.

[18] This is a PG&E-proprietary model.

[19] PG&E has used the P^3 model in a variety of regulatory proceedings including ERRA Forecasts used to set rates.

(i) IRP-mandated 2030 and 2035 LSE GHG planning targets

The model is designed to meet the 2030 and 2035 GHG emission targets based on the GHG emission methodology utilized in the CSP model. The primary input assumption for determining a candidate resource's GHG emission impact on PG&E's portfolio is the marginal hourly GHG emission impact assumption derived from the 30 MMT and 25 MMT CSP models. Figures 1 and 2 show the hourly average GHG emission reduction impact by season associated with incremental GHG-free generation for the 30 MMT and 25 MMT CSP models. Candidate resources that generate in hours and seasons with higher emissions reductions impacts will be valued higher under this methodology whereas resources with higher generation in hours of low emissions factors would provide less value. For example, the incremental GHG emission reduction impact from an additional MWh of solar generation is less compared to other candidate resources because there are more midday, peak solar generating hours that provide no emission reduction benefit compared to other hours.

FIGURE 1
HOURLY AVERAGE SEASONAL MARGINAL GHG EMISSIONS FACTOR (30 MMT BY 2035)

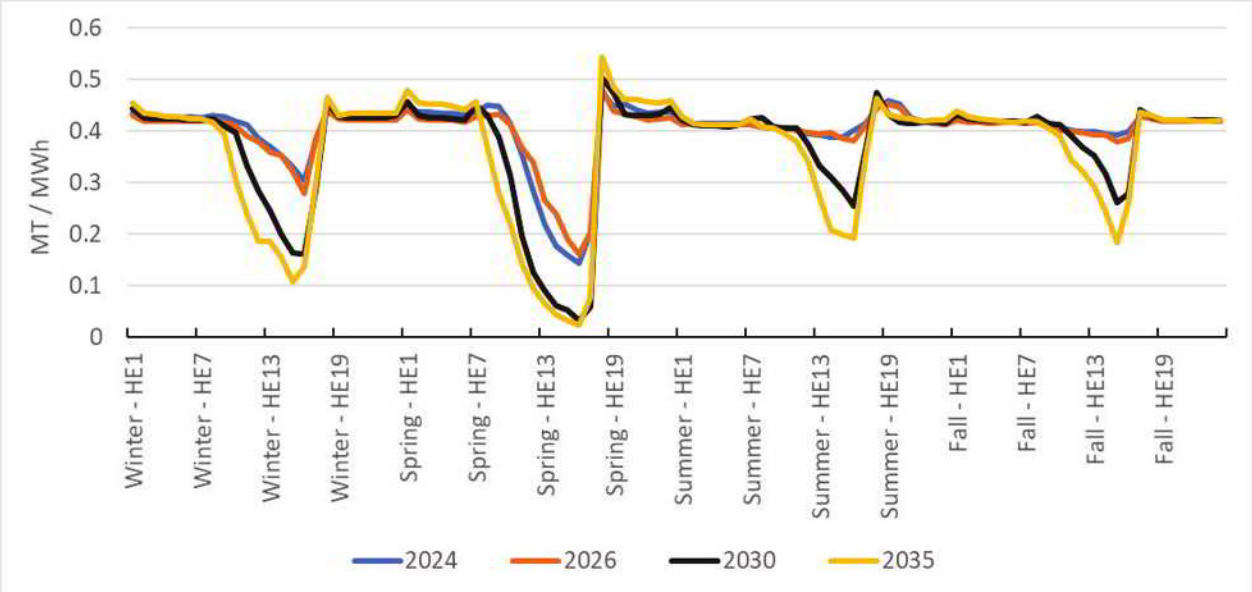
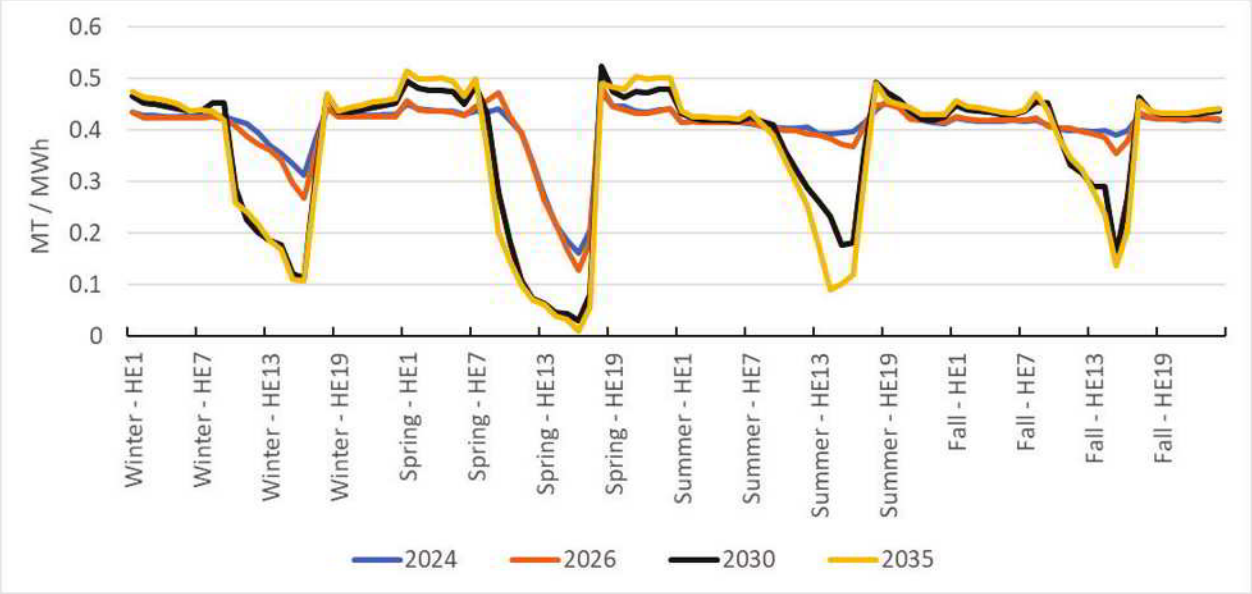


FIGURE 2
HOURLY AVERAGE SEASONAL MARGINAL GHG EMISSIONS FACTOR (25 MMT BY 2035)



The marginal hourly GHG emission impact rates are calculated based on adjusted System Power emission intensities from the 30 MMT and 25 MMT CSP models. The adjustments account for CSP model hours where there is non-displaceable system power, which results in the modeled system GHG emissions being allocated to all LSEs on a pro rata basis. Since additional GHG-free energy supply in these hours has no impact on an LSE's GHG emissions, PG&E adjusts the System Power emission intensity to zero in such hours when determining a candidate resource's impact on PG&E's total GHG emissions.

(ii) California's annual RPS requirements

PG&E uses the adopted annual RPS requirement targets based on the 44 percent, 52 percent, and 60 percent RPS requirements for 2024, 2027 and 2030, respectively. After 2030, the RPS requirement is held at 60 percent while the supply content constraint transitions to a GHG-free requirement trajectory.

(iii) Estimated annual GHG-free[20] requirements based on SB 100

Given the 100 percent GHG-free energy requirement by 2045 adopted in SB 100[21], PG&E developed an annual GHG-free requirement constraint to develop portfolios that position PG&E to meet the 2045 requirement with more linear, consistent annual procurement rates.

(iv) Estimated monthly bundled System RA open position

To ensure PG&E's IRP portfolio is meeting the System RA requirements required by the IRP filing requirements and Public Utilities Code Section 454.52(a)(1)(E) , PG&E sets monthly open position targets for each year of the IRP modeling horizon. These targets are based on estimated bundled peak load requirements and system RA supply from PG&E's bundled electric portfolio prior to any potential resource additions from future IRP procurement orders.

The model utilized the levelized cost of energy (LCOE) for resources from the 2021 PSP Update RESOLVE datasets and all related assumptions including inflation rate, levelization period, discount rate, taxes, and financing. (See Appendix 1: Bundled Portfolio Optimization Tool for a more detailed description).

4) **PG&E's RPS and GHG-free Stochastic Model:** PG&E's forecasted bundled RPS and GHG-free energy positions are determined using PG&E's RPS and GHG-free energy stochastic model. PG&E utilizes this model for RPS position planning in the RPS Plan proceeding, most recently in PG&E's draft 2022 RPS Plan.[22] The model accounts for additional compounded and interactive effects of various uncertain variables on PG&E's portfolio to support position planning within designated levels of non-compliance risks.
5) **PG&E's Bundled System RA Model:** PG&E utilizes a structured query language (SQL) system RA model to determine the net qualifying capacity forecasts of its electric portfolio and the projected monthly net open positions.[23]

[20] GHG-free energy refers to the eligible renewable energy resources and zero-carbon resources referred to in California's SB 100 supply requirements.

[21] Constraints do not match the SB 1020 interim 2035 and 2040 GHG-free targets given the bill was approved on September 16, 2022.

[22] PG&E's Draft 2022 Renewable Energy Procurement Plan (July 1, 2022), R.18-07-003, <http://pgera.azurewebsites.net/Regulation/ValidateDocAccess?docID=709459> (as of Oct. 25, 2022).

[23] 2022 IRP modeling based on existing system RA planning requirements while the RA Reform 'slice-of-day' methodology adopted in D.21-07-014 is developed for implementation in 2025.

6) **PG&E's Bundled Generation Revenue Requirement Model:** PG&E utilizes a SQL-based revenue requirement model for calculating gross and net bundled generation revenue requirement costs by established generation cost recovery types. Cost recovery types include categories such as Energy Resource Recovery Account (ERRA), Power Charge Indifference Adjustment (PCIA), Cost Allocation Mechanism (CAM), etc. with net cost calculations consistent with established methodologies and PG&E's commodity prices assumptions.

ii. Modeling Approach

This section describes PG&E's modeling approach for its Bundled Portfolio.

A. Overview

PG&E's 2022 IRP modeling effort is guided by two key modeling principles:

- Adhere to CPUC IRP guidelines; and
- Provide planning insights in meeting study objectives.

PG&E followed these guiding principles to select the most appropriate tools, approaches, and assumptions for this IRP filing.

PG&E used a three-step process described in this section to develop an optimized bundled portfolio for the scenarios considered by PG&E. This process allows PG&E's portfolios to be tested against the following four requirements:

1) GHG emission planning benchmark established by CPUC
2) California's RPS (Renewable Portfolio Standard) targets
3) California's GHG-free (Greenhouse Gas) energy target
4) PG&E's system capacity needs to meet RA requirements

The three-steps in PG&E's portfolio development process are:

Step 1: Establish Assumptions to Be Used in the Analysis

For each scenario, the first step is to establish assumptions for PG&E bundled and CAISO system loads and market prices to be used in the different scenarios. These assumptions, along with assumptions for CAISO system level resource mix, are required to determine whether PG&E's portfolio meets the desired requirements listed above and to calculate PG&E's bundled portfolio revenue requirements. Certain assumptions have been specified by the Commission as part of the filing requirements.

Step 2: Determine Incremental LSE Resource Needs

Once the assumptions for the analysis have been established, the next step is to test if PG&E's existing and planned portfolio of bundled resources[24] will meet the three portfolio requirements and determine PG&E's incremental resource need.

Step 3: As Necessary, Acquire Least-Cost New Resources

If Step 2 above shows a need for additional resources—for instance, to meet the GHG planning benchmark—then an additional step is taken to determine the optimal portfolio to fulfill such need. Functionally, this step resembles the capacity expansion process performed by Energy Division staff and E3 to establish the PSP for the CAISO system, but this step is employed for PG&E's bundled customers only.

B. Modeling Process Details

This section includes a more detailed description of the modeling processes underlying the three-step approach described above. It also provides additional discussion on the reasons behind specific modeling approaches.

Step 1: Establish Assumptions to Be Used in the Analysis

There are multiple sub-steps to develop assumptions to be used in subsequent steps and to calculate the rate forecast:

a) *Establish Bundled Load Forecast* – As discussed in the previous section, for the Conforming Scenarios, PG&E used the CPUC's prescribed load forecast for PG&E bundled customers.

b) *Establish Price Inputs* – Price inputs are used for developing hourly energy, REC, and RA prices. PG&E aligned price assumptions with 2021 PSP Update assumptions or assumptions from the CEC 2021 IEPR.

   1) Natural Gas and GHG Allowances – To develop the hourly energy prices for the Conforming Scenarios, PG&E used the 2020 IEPR Update natural gas and GHG price forecasts.
   2) Technology Cost – For developing REC prices, PG&E used LCOE forecasts for different technologies from the CPUC's PSP RESOLVE model.

c) *Develop CAISO System Portfolio* – For PG&E's Conforming Scenarios, this is simply the CPUC's PSP.

d) *Develop Energy Prices* – Since RESOLVE does not provide 8,760 hourly market energy prices, PG&E's Hourly Power Price Forecast Tool was used to develop hourly energy prices required to perform revenue requirement and rate calculations. Inputs to this

[24] Includes utility-owned resources, resources with existing contracts, and resources to be added to meet mandates.

model include CAISO load, the CAISO system portfolio, and natural gas and GHG prices. These hourly energy prices are integral to calculating the bundled portfolio generation revenue requirement for energy market sales or purchases. They are also an essential input to other commodity forecast models required for producing the capacity and REC price forecasts discussed below.

e) *Develop Capacity Prices* – PG&E developed capacity price forecasts using PG&E's Capacity Price Forecast Tool. This tool, as described above, estimates capacity prices based upon directly observed historical and current capacity transactions. As such, the Capacity Price Forecast Tool does not use Energy pricing directly in its methodology, so capacity price forecasts are agnostic to PG&E's scenario-specific energy price forecasts.

f) *Develop REC Prices* – REC prices are calculated as the difference between the levelized technology cost paid to acquire a new resource and the resource's estimated market revenue. Consequently, technology cost and market revenue are the largest determinants of the forecasted REC prices. For PG&E's Conforming Scenarios, REC prices were derived using the technology costs from RESOLVE and revenues based on Conforming Scenario prices.

Step 2: Determine Incremental LSE Resource Needs

For PG&E's Conforming Scenarios, PG&E modeled its bundled supply portfolio based on its latest data on existing contracts, future procurement for existing mandated programs, and planned power purchase agreement (PPA) expirations (e.g., CHP) and utility-owned generation (UOG) (e.g., DCPP) resource retirements to determine PG&E's additional resource need, if any.[25]

For all scenarios, PG&E included procurement under various CPUC-mandated programs, including energy storage resources for which it has sought approval pursuant to both Resolution (Res.) E-4909 and the 2019 IRP and 2021 IRP Procurement Track mandates.

PG&E then tested the bundled supply portfolio against established requirements (e.g., RPS, GHG, and RA) to determine if there was any incremental resource need.

a) *GHG Emissions:* PG&E's GHG emissions and need for incremental resources were calculated using the CPUC-provided CSP model.

b) *RPS Requirement:* PG&E's bundled supply portfolio was tested to identify if additional renewables are needed to meet RPS compliance requirements.

c) *RA Requirement:* PG&E's system RA requirements and need for incremental resources were calculated using both the CPUC-provided RDT RA calculator and PG&E's Bundled System RA model.

[25] For IRP planning purposes, PG&E assumes no re-contracting with expiring CHP facilities. This is an IRP planning assumption only.

Step 3: If Necessary, Acquire Least-Cost New Resources

A bundled portfolio optimization step is triggered if Step 2 identifies a need for additional resources to meet PG&E's GHG planning benchmark or RPS requirements. For its 2022 IRP, all three of PG&E's portfolios required PG&E to perform the optimization step.

C. Revenue Requirement and Rates Modeling

PG&E developed its revenue requirement and System Average Bundled Rates (SABR) for the Conforming Scenarios utilizing the 2021 IEPR Mid sales forecast or the ATE sales forecast, consistent with the 2022 IRP narrative requirements published on June 15, 2022. Only generation varied by scenario. Serving the higher load in the ATE forecast could require additional distribution and transmission infrastructure which has not been quantified in this report. The baseline revenue requirement forecast includes the following components:

Distribution (D)

- The Distribution revenue requirement forecast includes all approved and pending revenue requirement applications. Forecast years 2023 through 2026 reflect PG&E's pending 2023 General Rate Case (GRC), as updated September 6, 2022. Subsequent years escalate the prior year's base revenue requirement using an escalation factor of approximately 4 percent, which is based on the growth of the authorized GRC distribution revenue requirement in the 2017 GRC and 2020 GRC. In addition to the GRC base revenue requirement, the distribution revenue requirement reflects incremental revenue requirements for EV infrastructure, Alternative-Fuel Vehicle, Catastrophic Event Memorandum Account (2023), Wildfire Mitigation and Catastrophic Events Memorandum Account (2023-2024), Emergency Reliability, CPUC Fee, Family Electric Rate Assistance program, Mobile Home Park investments, and Hazardous Substance Mechanism.

Transmission (T)

- The transmission revenue requirement includes the currently effective Transmission Owner (TO) base revenue requirement for 2022 and forecasted TO20 Rate Year 2023 revenue requirement for the year 2023. Beyond 2023, the TO revenue requirement escalates by approximately 7 percent per year which is based on historical trends. In addition, the adjustments for the Federal Regulatory Energy Commission (FERC)-jurisdictional balancing accounts are also included in the transmission revenue requirement: (1) Reliability Services Balancing Account (RSBA), (2) Transmission Revenue Balancing Account (TRBA), (3) Transmission Access Charge Balancing Account (TACBA), and (4) Transmission Energy Cost Recovery Amount.

Demand-Side Management (DSM) Programs

- The DSM Programs' revenue requirements forecast includes all approved and pending revenue requirement applications. The is includes revenue requirements associated with Demand Response (DR), Energy Efficiency (EE), and DSM Programs.

Generation (G)

- PG&E's bundled customer generation revenue requirement is comprised of the expected bundled customer share of the forecasted cost recovery mechanisms for supply resources and the forecasted bundled portfolio costs recorded in ERRA. The supply resource cost recovery mechanisms include the CAM, Ongoing Competition Transition Charge (CTC), PCIA, Tree Mortality Non-bypassable Charge (TMNBC), and BioMAT. ERRA costs are primarily comprised of energy and related product purchases from the CAISO, retained RA and REC purchases from CTC, PCIA, and BioMAT generation resources, RPS sales revenues, and residual RA transactions. RA, REC, and CAISO market energy price assumptions are consistent with the PSPs described above. Further details regarding each revenue requirement can be found in PG&E's 2023 ERRA Forecast application.[26]
- As specified in the IRP filing requirements, the generation revenue requirement also includes the forecasted bundled customer share of electric distribution utility (EDU) carbon allowance auction revenues as an offset to the forecasted generation procurement costs. PG&E's forecast of these revenues are based on carbon prices from the 2021 IEPR mid demand scenario and PG&E's specified annual allowance allocations in California's Code of Regulations available through 2030[27], and post-2030 allocations based on PG&E's estimate of future allowance allocations.

Other

- The revenue requirements forecast for the "Other" category includes all approved and pending revenue requirement applications. This category includes: (1) the Public Purpose Programs, excluding those considered EE, DR, DSM, TMNBC, or BioMAT, (2) Wildfire Fund Charge, (3) Nuclear Decommissioning, (4) Energy Cost Recovery Amount, (5) Wildfire Hardening Charge, (6) Recovery Bond Charge and Recovery Bond Credit.

The non-generation revenue requirement forecast, comprised of Distribution, Transmission, DSM Programs, and Other is paired with the 2021 IEPR scenario's load forecast to derive the

[26] See A.22-05-029.

[27] See Cal. Code Regs. Tit. 17, § 95892, Table 9-4.

System Average Delivery Rate (SADR).[28] The SADR includes all non-Generation rate components and thus applies to all system sales independent of customers' choice of PG&E or third-party supplier. The remaining costs are reflected in the Generation/Commodity revenue requirement and rate, which include the scenario-specific planning assumptions for market price forecasts and for market sales or purchases.

For the generation costs of the Conforming Scenarios, PG&E relied on the Commission's planning assumptions to develop price assumptions used for market purchases or sales. The Conforming Scenarios use PCIA revenue forecasts that assume market-based valuation of the portfolio's attributes, which reduces cost shifts to bundled customers.

The SABR was determined using a two-step process. First, the sum of the revenue requirements for all non-generation rate components applicable to all customers was divided by PG&E's forecasted total system sales for the respective year to determine the SADR. Second, the forecasted bundled share of generation revenue requirements was divided by PG&E bundled sales to determine bundled customers' Generation Rate.[29] The SADR and the Generation rate are summed to determine the SABR.

D. GHG Emissions and Local Air Pollutants

PG&E relied on the CSP Calculator to model GHG emissions and local air pollutants from its bundled portfolio. In accordance with the LSE GHG benchmarks published on June 28, 2022, PG&E's LSE-specific 2030 and 2035 GHG emissions benchmarks are 3.988 MMT and 3.086 MMT for the 30 MMT scenario and 3.013 MMT and 2.466 MMT for the 25 MMT scenario.[30]

The CPUC's CSP calculator is also used to determine the emissions levels of three criteria pollutants for PG&E over the planning horizon. The pollutants included in the tool are $PM_{2.5}$, SO_x, and NO_x. Though no formal requirement was mandated by the CPUC, the emissions levels of each of these pollutants from PG&E's portfolio are provided in the Study Results section of this filing.

E. System Reliability

PG&E relied on both the RDT system reliability calculator and its Bundled System RA model to calculate and assess the net system RA positions for its bundled portfolio.

During the development of PG&E's RDT for this filing, PG&E identified an area for improvement in the process. While it is important that individual LSEs demonstrate compliance with existing

[28] SADR does not include non-bypassable charges recovered through CTC, PCIA, or CAM rates, to which a majority of customers in PG&E's service territory are subject.

[29] Forecasted bundled share based on the bundled sales percent of the applicable total sales for each cost recovery mechanism.

[30] See June 15, 2022, ALJ Ruling.

RA requirements, simply demonstrating compliance with existing RA requirements may not be sufficient to assure system reliability. PG&E therefore encourages that the Commission determine whether new or different metrics should be used for assessing system and local reliability given the current resource mix. For more details, refer to the "Planning for Reliability" portion of Section V: Lessons Learned.

III. Study Results

Overall, PG&E expects that it will need to procure new incremental resources beyond its current mandated procurement in order to meet the IRP GHG emission targets in 2030 and 2035 as well as achieve an annual GHG-free energy requirement trajectory that positions PG&E for achieving California's GHG-free energy requirements adopted in SB 100. For IRP planning purposes, PG&E has identified an incremental need for 10 to 12 TWh (3 to 5 GW nameplate) of new resource additions by 2030 and 15 to 22 TWh (6 to 11 GW nameplate) by 2035 across the three portfolios that were evaluated and as is shown in Tables 7 through 9.

In the following subsections, PG&E presents the following results for the three portfolios created to meet the requirements for the three scenarios: (1) 30 and 25 MMT GHG, Conforming Load Portfolios and 30 MMT GHG, ATE Load Portfolio; (2) GHG Emissions; (3) Local Air Pollutants and DACs, (4) Cost and Rate Analysis, (5) System Reliability Analysis; (6) High Electrification Planning; (7) Existing Resource Planning; (8) Hydro Generation Risk Management, and (9) Resource Development.

a. Conforming and Alternative Portfolios

PG&E prepared two Conforming and one Alternative Portfolios:

1) Conforming Portfolio for Scenario 1: 30 MMT GHG, Conforming Load; and
2) Conforming Portfolio for Scenario 2: 25 MMT GHG, Conforming Load.
3) Alternative Portfolio for Scenario 3: 30 MMT GHG, ATE Load.

This section includes results of PG&E's analysis to confirm that its two Conforming and Alternative ATE Portfolios meet its GHG emission, RPS, and RA requirements. This section also includes details of PG&E's baseline portfolio of resources (Tables 4 and 5), which includes the additional resources PG&E plans to bring online in the future to meet the procurement mandates that the Commission already authorized for PG&E (Table 6), as well as additional candidate resources that PG&E might add to meet each of the portfolios' compliance with GHG emissions, RPS, and RA compliance requirements (Tables 7 through 9).

i. Energy Sales Forecast

Pursuant to Commission guidance, the Conforming portfolios use the published 2021 IEPR Mid load forecast and the ATE portfolio uses the ATE 2021 IEPR load forecast[31] produced jointly by the CEC, CPUC and CAISO. The ATE forecast was developed in order to examine the impact higher electrification scenarios may have on the transmission system. It also best aligns with PG&E's climate strategy and commitment of achieving 3 million EVs by 2030 as well as CARB's

[31] Additional Transportation Electrification Scenario 2021 – Hourly Projections – CAISO, <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=21-IEPR-03> (as of Oct. 25, 2022).

electric sector GHG emissions target. Tables 2 and 3 show the composition of PG&E's bundled retail sales forecast assumption for the Conforming and ATE portfolios, respectively.

PG&E Unmodified Bundled Customer Demand represents PG&E's bundled sales forecast prior to adjusting for EE, DG, EVs, and electrification. PG&E's Bundled Sales represent PG&E's sales forecast after accounting for these load modifiers. PG&E Net System sales represent PG&E's total service territory sales after accounting for DA (including BART) and CCA load.

For the Conforming portfolios, Table 2 shows that expected increases in EE and DG photovoltaic (PV) mostly offset the sales increase driven by electrification demand (e.g., EVs) such that the average annual growth rate in PG&E Bundled Sales is approximately one percent from 2024 to 2035. The ATE Alternative portfolio in Table 3 shows an average annual growth rate in PG&E Bundled Sales closer to 3 percent over the same period driven by EV growth that is approximately 5,800 gigawatt-hours (GWh) greater in 2035 compared to the Conforming portfolio.

TABLE 2
CONFORMING PORTFOLIOS ENERGY SALES FORECAST (GWH)

Line No.	Description	2024	2026	2030	2035
1	**PG&E Unmodified Bundled Customer Demand**	31,980	32,514	33,684	35,885
	Bundled Load Modifiers				
2	Energy Efficiency	(414)	(720)	(1,280)	(1,942)
3	Solar PV	(4,240)	(4,867)	(6,226)	(8,006)
4	Non-PV	(1,658)	(1,626)	(1,569)	(1,535)
5	BTM Storage Losses	8	13	23	36
6	**Total Distribution Generation**	(5,890)	(6,480)	(7,772)	(9,504)
7	EVs	1,059	1,514	2,385	3,792
8	Building Electrification	120	219	439	756
9	Other Electrification	243	352	563	865
10	**PG&E Bundled Sales**	**27,098**	**27,399**	**28,020**	**29,852**
11	**Metered PG&E Service Area Demand**				
12	DA	11,393	11,393	11,393	11,393
13	CCA	36,583	37,024	38,387	40,292
14	PG&E Net System Sales	75,074	75,816	77,800	81,536

(a) Totals may not add due to rounding.

(b) Forecasted Bundled, DA, and CCA demand from the LSE energy load forecast assigned pursuant to the June 15, 2022, ALJ Ruling. https://docs.cpuc.ca.gov/SearchRes.aspx?docformat=ALL&docid=485625915.

(c) Lines 5, 7-9 have been modified from the 'Demand Inputs' tab of the Conforming CSP model to reflect demand at the customer meter.

(d) Line 4 reflects PG&E's Bundled Share of 'Other Private Generation' from the 'IEPR CAISO Load Modifiers' tab of the CSP model. This generation source is not reflected in subsequent results tables.

TABLE 3
ATE PORTFOLIOS ENERGY SALES FORECAST (GWH)

Line No.	Description	2024	2026	2030	2035
1	**PG&E Unmodified Bundled Customer Demand**	32,995	33,555	34,739	36,929
	Bundled Load Modifiers				
2	Energy Efficiency	(415)	(722)	(1,286)	(1,963)
3	Solar PV	(4,535)	(5,159)	(6,517)	(8,292)
4	Non-PV	(1,658)	(1,626)	(1,569)	(1,535)
5	BTM Storage Losses	8	13	24	36
6	**Total Distribution Generation**	(6,185)	(6,771)	(8,063)	(9,790)
7	EVs	843	1,335	3,635	9,595
8	Building Electrification	120	219	441	765
9	Other Electrification	243	352	563	865
10	**PG&E Bundled Sales**	**27,602**	**27,968**	**30,029**	**36,401**
11	**Metered PG&E Service Area Demand**				
12	DA	11,605	11,630	12,210	13,893
13	CCA	37,264	37,793	41,140	49,131
14	PG&E Net System Sales	76,471	77,390	83,379	99,425

(a) Totals may not add due to rounding.

(b) Forecasted Bundled, DA and CCA demand is scaled up from the CPUC's LSE energy load forecast assigned per June 15, 2022, ALJ Ruling https://docs.cpuc.ca.gov/SearchRes.aspx?docformat=ALL&docid=485625915 for PG&E's ATE scenario.

(c) Lines 5, 7-9 have been modified from the 'Demand Inputs' tab of the Conforming CSP model to reflect demand at the customer meter under a high electrification scenario.

ii. Resource Portfolio

PG&E's electric portfolio is comprised of baseline resources that have already begun deliveries or are expected to come online by 2030, as shown in Table 6, or future resource additions needed to meet the IRP's GHG emission planning requirements, as well as clean energy and system RA requirements, shown in Tables 7 through 9 for each of the identified portfolios. The total gross capacity of PG&E's baseline generating resources is shown in Table 4 and represent the total contract or utility-owned asset equivalent capacity by technology type.

TABLE 4
GROSS CAPACITY OF BASELINE PORTFOLIO RESOURCES BY TECHNOLOGY (MW)

Line No.	Resource	2024	2026	2030	2035
1	Solar	4,513	5,220	5,229	4,312
2	Large Hydro	2,403	2,403	2,403	2,363
3	Nuclear	1,118	0	0	0
4	Wind	948	845	704	479
5	Out of State Wind	540	450	450	0
6	Storage				
7	Battery Storage – LSE	3,046	4,191	4,322	4,152
8	Battery Storage – CPE	3	95	95	95
9	Pumped Storage	1,212	1,212	1,212	1,212
10	Small Hydro	436	435	395	326
11	Biomass	287	269	234	158
12	Geothermal	22	72	222	200
13	Biogas	48	66	84	63
14	Natural Gas				
15	Natural Gas – LSE	2,294	1,967	1,569	1,569
16	Natural Gas – CPE	1,910	8,170	7,600	7,600
17	Total Gross Capacity	18,780	25,394	24,517	22,528

By 2030 PG&E expects its baseline portfolio mix to change in the following three ways: (1) no nuclear capacity as a result of the retirement of DCPP[32]; (2) LSE contracts with natural gas-fired generators forecasted to be replaced with Central Procurement Entity (CPE) contracts with non-utility owned natural gas-fired generators located in local capacity areas within PG&E's service territory[33]; and (3) growth in battery storage capacity as PG&E continues to transition to a clean, reliable supply portfolio while meeting CPUC procurement requirements. The reduction in LSE natural gas-fired capacity is due to the expiration of legacy Qualifying Facility (QF) contracts and contracts executed as part of either the QF/CHP Settlement Agreement or the Long-Term Procurement Plan proceeding.

To determine the supply resources available to PG&E for purposes of calculating its GHG emissions using the CPUC's CSP model, PG&E adjusts the gross capacity value for resources

[32] Does not reflect five-year extension resulting from SB 846 (2021-2022 Reg. Sess.), signed into law on September 2, 2022.

[33] D.20-06-002, p. 91, OP 2, adopted PG&E as the CPE for PG&E's electric distribution service area.

subject to RPS sales through Voluntary Allocation Market Offer (VAMO), large hydroelectric carbon-free energy sales, or capacity allocation through CAM. PG&E's adjusted net capacity by technology for its baseline portfolio is shown in Table 5 and represents the share of capacity from these resources available to bundled customers in the CSP model. The primary difference is between the GHG-free energy resources due to RPS and carbon-free energy sales as well as assumed CPE-procured natural gas resources, which would be allocated through CAM.

TABLE 5
NET BUNDLED CAPACITY SHARE OF BASELINE PORTFOLIO RESOURCES BY TECHNOLOGY (MW)

Line No.	Resource	2024	2026	2030	2035
1	Solar	2,015	2,673	2,682	2,294
2	Large Hydro	954	955	952	950
3	Nuclear	1,118	0	0	0
4	Wind	387	346	295	215
5	Out of State Wind	218	183	182	0
6	Storage				
7	Battery Storage - LSE	2,639	3,784	3,914	3,754
8	Battery Storage - CPE	1	34	34	35
9	Pumped Storage	1,212	1,212	1,212	1,212
10	Small Hydro	236	234	197	158
11	Biomass	189	170	162	131
12	Geothermal	9	55	194	188
13	Biogas	31	49	68	58
14	Natural Gas				
15	Natural Gas - LSE	2,258	1,967	1,569	1,569
16	Natural Gas - CPE	690	2,953	2,737	2,782
17	Total Bundled Capacity	11,955	14,616	14,198	13,347

iii. Resource Additions

PG&E's resource additions are broken out between baseline additions[34], shown in Table 6, and incremental resource additions for meeting the two Conforming portfolio and ATE Alternative portfolio IRP requirements, shown in Tables 7 through 9. The baseline resource additions in Table 6 reflect the resources PG&E plans to add as a result of procurement mandates already authorized by the Commission and are the same for all three portfolios. This includes resources that have already been contracted with and are not yet on-line and mandated or authorized

[34] Defined as projects expected to begin deliveries on January 1, 2023 or later.

resources that PG&E had not contracted for prior to the submittal of its 2022 IRP. The amounts shown are total resource capacities, not reflecting any capacity allocations for CAM cost recovery to the extent it is applicable. This list also does not include any investments by customers or third parties in DERs or investments in EE, which are modeled as load modifiers based on the IEPR forecast values.

TABLE 6
BASELINE CUMULATIVE NEW RESOURCE ADDITIONS (MW)

Line No.	Technology	2024	2026	2030	2035
1	**Biogas**				
2	SB1122/BioMAT	0	19	39	39
3	**Biomass**				
4	SB1122/BioMAT	20	27	53	53
5	ReMAT	0	0	46	46
6	2021 IRP (2023-26 Mid-Term Reliability (MTR))	11	11	11	11
7	**Biomass Subtotal**	**31**	**38**	**110**	**110**
8	**Wind**				
9	ReMAT	0	0	9	24
10	**Solar PV**				
11	ReMAT	3	15	39	39
12	GTSR/DAC	155	155	155	155
13	RPS (RFO)	74	74	74	74
14	2021 IRP (2023-26 MTR)	0	695	695	695
16	**Geothermal**				
17	2021 IRP (2023-26 MTR)	0	50	200	200
18	**Small Hydro**				
19	ReMAT	6	6	6	6
20	**Storage**				
21	AB 2514/IOU Target	35	35	35	25
22	Res. E-4909/Local Deficiency	75	75	75	75
23	Summer Emergency Reliability	10	10	10	0
24	2019 IRP (2021-23 Electric System Reliability)	220	220	220	220
25	2021 IRP (2023-26 MTR)	1,324	2,419	2,550	2,550
26	2021 PSP	0	145	145	145
27	**Storage Subtotal**	**1,664**	**2,904**	**3,035**	**3,015**
28	Total Portfolio Resource Additions	1,932	3,955	4,362	4,357

Baseline portfolio additions are expected as a result of the following activities:

a) **Existing Contracts:** As a result of procurement done through PG&E's RPS RFOs, RAM, ReMAT, and BioMAT programs, PG&E has executed contracts with solar PV and biomass resources that are expected to begin delivering energy for PG&E's bundled customers by 2024.[35] In addition, several energy storage contracts from the 2019 and 2021 IRP Procurement Track decisions, AB 2514 storage target, local area deficiency (E-4909), and Summery Emergency Reliability procurement are expected to come online by 2024.

b) **RPS Resource Procurement:** PG&E forecasts procurement of additional bioenergy, solar, and wind resources through the Commission's existing mandated procurement programs (e.g., BioMAT, ReMAT, RAM/PV RAM).[36] Additionally, PG&E anticipates it will procure bioenergy, solar, and geothermal resources in order to meet part of its remaining 2021 IRP procurement decision obligations.

c) **Energy Storage Procurement:** In addition to the energy storage projects PG&E already has under contract, PG&E plans to procure additional energy storage resources to meet part of its remaining 2021 IRP procurement decision obligations, including long-duration storage resources. PG&E was also ordered in the decision adopting the 2021 IRP PSP to pursue procurement of energy storage resources in response to transmission solutions identified in the California System Operator's 2020-2021 Transmission Planning Process (TPP).[37]

After accounting for these baseline resource additions as well as existing resources in PG&E's portfolio, Tables 7 through 9 show the additional resources that PG&E identified using its BPOT model that would be needed to meet its different bundled IRP planning compliance obligations, including GHG emission targets, for its two Conforming portfolios and ATE Alternative portfolio. As described in Appendix 1, the set of candidate resources assumed to be available to PG&E are constrained to be consistent with the resource additions identified in the CPUC's update to the 2021 PSP.

[35] For additional information, see A.22-05-029, PG&E's 2023 ERRA Forecast Application, prepared testimony Chapter 6, that provides an overview of PG&E's RPS-eligible contracts, <http://pgera.azurewebsites.net/Regulation/ValidateDocAccess?docID=704998> (as of Oct. 25, 2022). PG&E's wholesale electric power procurement website provides information regarding historical RPS RFO and related RPS solicitations, <https://www.pge.com/en_US/for-our-business-partners/energy-supply/wholesale-electric-power-procurement/wholesale-electric-power-procurement.page> (as of Oct. 25, 2022).

[36] These mandated procurement programs are described in PG&E's Final 2019 Renewable Energy Procurement Plan (Jan. 29, 2020), Rulemaking (R.)18-07-003, Section 4.C, <https://pgera.azurewebsites.net/Regulation/ValidateDocAccess?docID=593454)> (as of Oct. 25, 2022).

[37] D.22-02-004, pp. 194-195, OP 12 and OP 13.

TABLE 7
ADDITIONAL PROCUREMENT FOR 30 MMT CONFORMING PORTFOLIO (MW)

Line No.	Technology	2024	2026	2030	2035
1	Solar PV				
2	Arizona	0	0	127	127
3	Kramer	0	0	444	444
4	Riverside	0	0	711	711
5	Tehachapi	0	0	594	594
6	Wind				
7	Baja California	0	0	120	120
8	Carrizo	0	0	57	57
9	Central Valley	0	0	35	35
10	Humboldt	0	0	7	7
11	Kern Greater Carrizo	0	0	12	12
12	Northern California	0	0	173	173
13	Solano	0	0	112	112
14	Southern Nevada	0	0	88	88
15	Southwest Existing	0	0	53	53
16	Tehachapi	0	0	55	55
17	New Transmission Wind				
18	Humboldt Bay Offshore	0	0	0	179
19	Morro Bay	0	0	39	620
20	New Mexico	0	0	500	500
21	Wyoming	0	0	89	466
22	Storage				
23	Battery Storage	0	0	0	1,167
24	Total Portfolio Resource Additions	0	0	3,217	5,521

TABLE 8
ADDITIONAL PROCUREMENT FOR 25 MMT CONFORMING PORTFOLIO (MW)

Line No.	Technology	2024	2026	2030	2035
1	Solar PV				
2	Arizona	0	0	166	166
3	Imperial	0	0	0	38
4	Kramer	0	0	754	754
5	Riverside	0	0	646	646
6	Tehachapi	0	0	113	543
7	Wind				
8	Baja California	0	0	109	109
9	Carrizo	0	0	52	52
10	Central Valley	0	0	31	31
11	Humboldt	0	0	6	6
12	Kern Greater Carrizo	0	0	0	11
13	Northern California	0	0	157	157
14	Solano	0	0	102	102
15	Southern Nevada	0	0	0	80
16	Southwest Existing	0	0	91	91
17	Tehachapi	0	0	50	50
18	New Transmission Wind				
19	Humboldt Bay Offshore	0	0	0	247
20	Morro Bay	0	0	0	564
21	New Mexico	0	0	455	455
22	Wyoming	0	0	423	423
23	Storage				
24	Battery Storage	0	0	0	1,102
25	Total Portfolio Resource Additions	0	0	3,156	5,627

TABLE 9
ADDITIONAL PROCUREMENT FOR 30 MMT ATE ALTERNATIVE PORTFOLIO (MW)

Line No.	Technology	2024	2026	2030	2035
1	Solar PV				
2	Arizona	0	0	29	29
3	Kramer	0	0	121	1,072
4	Riverside	0	0	611	833
5	Tehachapi	0	0	567	1,258
6	Southern Nevada	0	0	713	713
7	PG&E	0	0	69	69
8	Wind				
9	Baja California	0	0	120	120
10	Carrizo	0	0	57	57
11	Central Valley	0	0	35	35
12	Humboldt	0	0	7	7
13	Kern Greater Carrizo	0	0	12	12
14	Northern California	0	0	152	152
15	Solano	0	0	112	112
16	Southern Nevada	0	0	88	88
17	Southwest Existing	0	0	53	100
18	Tehachapi	0	0	55	55
19	New Transmission Wind				
20	Humboldt Bay Offshore	0	0	0	321
21	Morro Bay	0	0	39	620
22	New Mexico	0	0	500	500
23	Wyoming	0	0	98	466
24	Storage				
25	Battery Storage	0	0	1,127	4,809
26	Total Portfolio Resource Additions	0	0	4,565	11,429

iv. Resource Sales

PG&E's resource portfolio is expected to be reduced as a result of the following forecasted sales:

a) **RPS Sales:** On May 20, 2021, the Commission adopted Decision (D.)21-05-030, creating significant regulatory changes in how PG&E will be able to manage its RPS-eligible portfolio. The VAMO was adopted for PCIA-eligible resources and applies to all of PG&E's resources that are eligible for PCIA cost recovery, which is a majority of PG&E's RPS portfolio. Under VAMO, PCIA-eligible LSEs have an option to receive an allocation

of RPS attributes from the IOUs' PCIA-eligible resources based on each LSE's vintaged load forecast relative to the total PCIA-eligible vintaged load forecast. Declined allocations will be offered for sale by the IOUs through a market offer process established through the RPS proceeding process.

Consistent with PG&E's Draft 2022 RPS Plan, PG&E's forecasted RPS supply positions in its 2022 IRP reflect the assumption that PG&E retains 100 percent of the bundled service customer share of the expected RPS-eligible generation subject to VAMO and that 100 percent of the departed load share is sold as either allocations to departed LSEs or through the market offer process to entities other than PG&E. The sale volumes assumed in PG&E's IRP differ from its RPS Plan due to the IRP scenarios using different bundled load forecasts. However, the amount will be equivalent to the allocation volumes forecasted to be available to departed load. For the 2022 IRP modeling horizon of 2023 through 2035, this represents approximately 115,000 GWh of RPS sales for each of PG&E's portfolios.

b) **Carbon-Free Energy Sales:** In May 2020, the Commission adopted Res.E-5046 to give LSEs within PG&E's TAC area the option to receive a pro-rata allocation of the GHG-free attributes associated with PG&E's large hydroelectric and nuclear carbon-free resources for the remainder of 2020. In subsequent years, PG&E has made available and executed similar agreements with LSEs within PG&E's TAC area. For its 2022 IRP, PG&E assumes that departed LSEs will elect their share of generation volumes from PG&E's large hydroelectric resources from 2023 through 2035 in subsequent, annual sale offerings. This is a conservative assumption as the Commission has not made a determination on how to treat GHG-free energy after 2023.

v. Clean System Power Model Energy Volumes

To calculate PG&E's bundled portfolio GHG emissions for each of the three portfolios using the CPUC's CSP model, PG&E combined the forecasted energy and capacity inputs from the baseline resources presented in Table 5 with the respective resource additions presented in Tables 7 through 9. The resulting forecasted energy volumes representing the three bundled CSP model portfolios is shown in Tables 10 through 12, with each resulting in PG&E meeting its bundled IRP GHG emissions planning targets.

TABLE 10
30 MMT CONFORMING PORTFOLIO CSP ENERGY SUPPLY (GWH)

Line No.	Resource	2024	2026	2030	2035
1	Demand Inputs				
2	Managed Retail Sales	27,098	27,399	28,020	29,852
3	Behind-The-Meter PV	4,240	4,867	6,226	8,006
4	**Total CSP Demand Inputs**	**31,338**	**32,266**	**34,246**	**37,858**
5	Supply Inputs				
6	Large Hydro	3,082	3,039	2,944	2,801
7	Imported Hydro	1,812	1,815	1,813	1,870
8	Asset Controlling Supplier	0	0	0	0
9	Nuclear	17,098	0	0	0
10	Biogas	130	198	329	268
11	Biomass	1,187	970	797	811
12	Geothermal	140	328	1,429	1,316
13	Small Hydro	521	513	473	374
14	Wind Resources				
15	Wind Baseline California	1,085	556	565	557
16	Wind New PG&E	0	0	935	964
17	Wind New SCE SDG&E	0	0	911	912
18	Wind Pacific Northwest	0	0	0	0
19	Wind Wyoming	0	0	431	2,203
20	Wind New Mexico	0	0	2,224	2,183
21	Wind Offshore Morro Bay	0	0	159	2,660
22	Wind Offshore Humboldt	0	0	0	910
23	Solar Resources				
24	Solar Baseline California	4,215	3,972	3,853	3,132
25	Solar New PG&E	189	336	379	372
26	Solar New SCE SDG&E	0	1,368	7,453	7,037
27	Solar Distributed	0	0	0	0
28	Storage & DR				
29	Shed DR	2	2	1	2
30	Pumped Storage	-712	-693	-772	-783
31	Battery Storage	-586	-973	-1,037	-1,231
32	**Total CSP Supply Input**	**28,162**	**11,433**	**22,888**	**26,358**

TABLE 11
25 MMT CONFORMING PORTFOLIO CSP ENERGY SUPPLY (GWH)

Line No.	Resource	2024	2026	2030	2035
1	Demand Inputs				
2	Managed Retail Sales	27,098	27,399	28,020	29,852
3	Behind-The-Meter PV	4,240	4,867	6,226	8,006
4	**Total CSP Demand Inputs**	**31,338**	**32,266**	**34,246**	**37,858**
5	Supply Inputs				
6	Large Hydro	3,082	3,039	2,944	2,801
7	Imported Hydro	1,812	1,815	1,813	1,870
8	Asset Controlling Supplier	0	0	0	0
9	Nuclear	17,098	0	0	0
10	Biogas	130	198	329	268
11	Biomass	1,187	970	797	811
12	Geothermal	140	328	1,429	1,316
13	Small Hydro	521	513	473	374
14	Wind Resources				
15	Wind Baseline California	1,083	556	565	557
16	Wind New PG&E	0	0	798	855
17	Wind New SCE SDG&E	0	0	706	920
18	Wind Pacific Northwest	0	0	0	0
19	Wind Wyoming	0	0	1,962	1,936
20	Wind New Mexico	0	0	1,945	1,918
21	Wind Offshore Morro Bay	0	0	0	2,337
22	Wind Offshore Humboldt	0	0	0	1,211
23	Solar Resources				
24	Solar Baseline California	4,215	3,972	3,853	3,132
25	Solar New PG&E	189	336	379	372
26	Solar New SCE SDG&E	0	1,368	6,731	7,679
27	Solar Distributed	0	0	0	0
28	Storage & DR				
29	Shed DR	2	2	1	2
30	Pumped Storage	-703	-728	-791	-736
31	Battery Storage	-587	-969	-1,367	-1,542
32	**Total CSP Supply Input**	**28,170**	**11,401**	**22,567**	**26,083**

TABLE 12
30 MMT ATE PORTFOLIO CSP ENERGY SUPPLY (GWH)

Line No.	Resource	2024	2026	2030	2035
1	Demand Inputs				
2	Managed Retail Sales	27,602	27,968	30,029	36,401
3	Behind-The-Meter PV	4,535	5,159	6,517	8,292
4	**Total CSP Demand Inputs**	**32,137**	**33,127**	**36,546**	**44,693**
5	Supply Inputs				
6	Large Hydro	3,306	3,254	3,156	2,999
7	Imported Hydro	1,846	1,852	1,943	2,280
8	Asset Controlling Supplier	0	0	0	0
9	Nuclear	17,096	0	0	0
10	Biogas	130	198	329	268
11	Biomass	1,185	969	797	811
12	Geothermal	59	249	1,351	1,316
13	Small Hydro	541	534	493	390
14	Wind Resources				
15	Wind Baseline California	1,083	561	581	616
16	Wind New PG&E	0	0	807	807
17	Wind New SCE SDG&E	0	0	865	994
18	Wind Pacific Northwest	0	0	0	0
19	Wind Wyoming	0	0	440	2,090
20	Wind New Mexico	0	0	2,035	2,035
21	Wind Offshore Morro Bay	0	0	159	2,523
22	Wind Offshore Humboldt	0	0	0	1,549
23	Solar Resources				
24	Solar Baseline California	4,805	6,037	6,250	5,332
25	Solar New PG&E	0	0	199	190
26	Solar New SCE SDG&E	0	0	7,819	11,411
27	Solar Distributed	0	0	0	0
28	Storage & DR				
29	Shed DR	2	2	1	2
30	Pumped Storage	-712	-693	-772	-783
31	Battery Storage	-578	-887	-1,250	-2,035
32	**Total CSP Supply Input**	**28,762**	**12,076**	**25,204**	**32,797**

b. Conforming Portfolios for IRP Compliance

PG&E is submitting two Conforming Portfolios presented in this plan for meeting the requirements described in Section III.b of the IRP filing requirements:

- 30 MMT Conforming Portfolio
- 25 MMT Conforming Portfolio

As described below, both Conforming Portfolios meet the following requirements of SB 350, as codified in Public Utilities Code Section 454.52(a)(1):

454.52(a)(1)(A): As shown in Section III.c, PG&E's Conforming Portfolios meet the assigned LSE GHG planning benchmarks for PG&E in 2030 and 2035.

454.52(a)(1)(B): Figures 3 and 4 show how PG&E's Conforming Portfolios meet the LSE RPS compliance requirements for the IRP study years 2024, 2026, 2030 and 2035, including PG&E's commitment to 70 percent RPS by 2030. Figure 5 shows comparable data for PG&E's 30 MMT ATE Alternative portfolio. In each portfolio, PG&E's RPS position continues to increase beyond 2030 as a result of meeting the IRP GHG emission planning targets for 2035 and California's SB 100 clean energy content requirements.

FIGURE 3
30 MMT CONFORMING PORTFOLIO RPS POSITION (GWH)

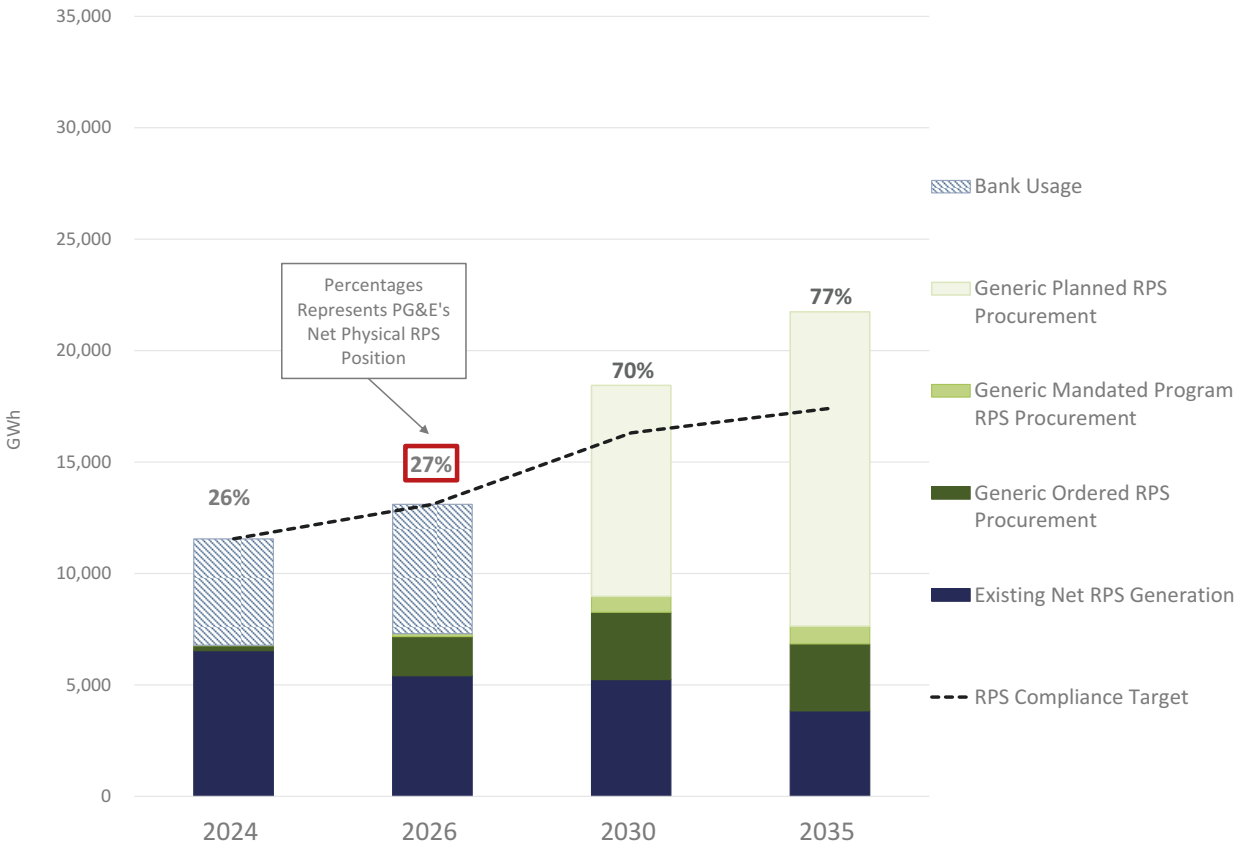


FIGURE 4
25 MMT CONFORMING PORTFOLIO RPS POSITION (GWH)

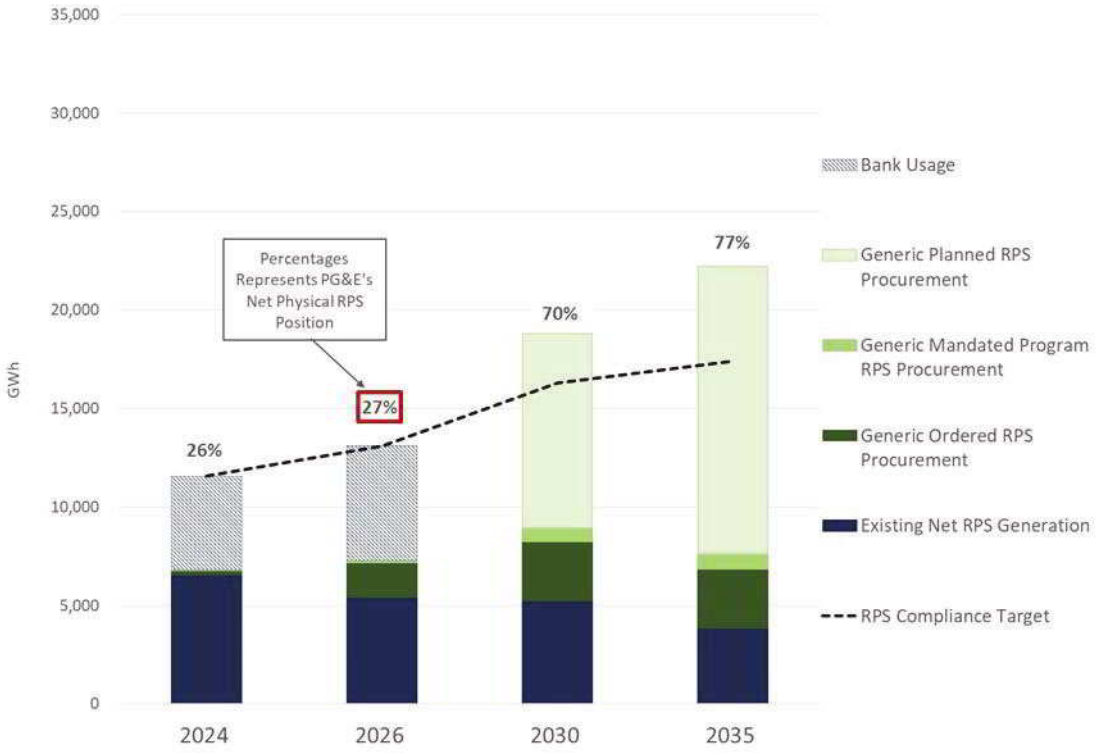
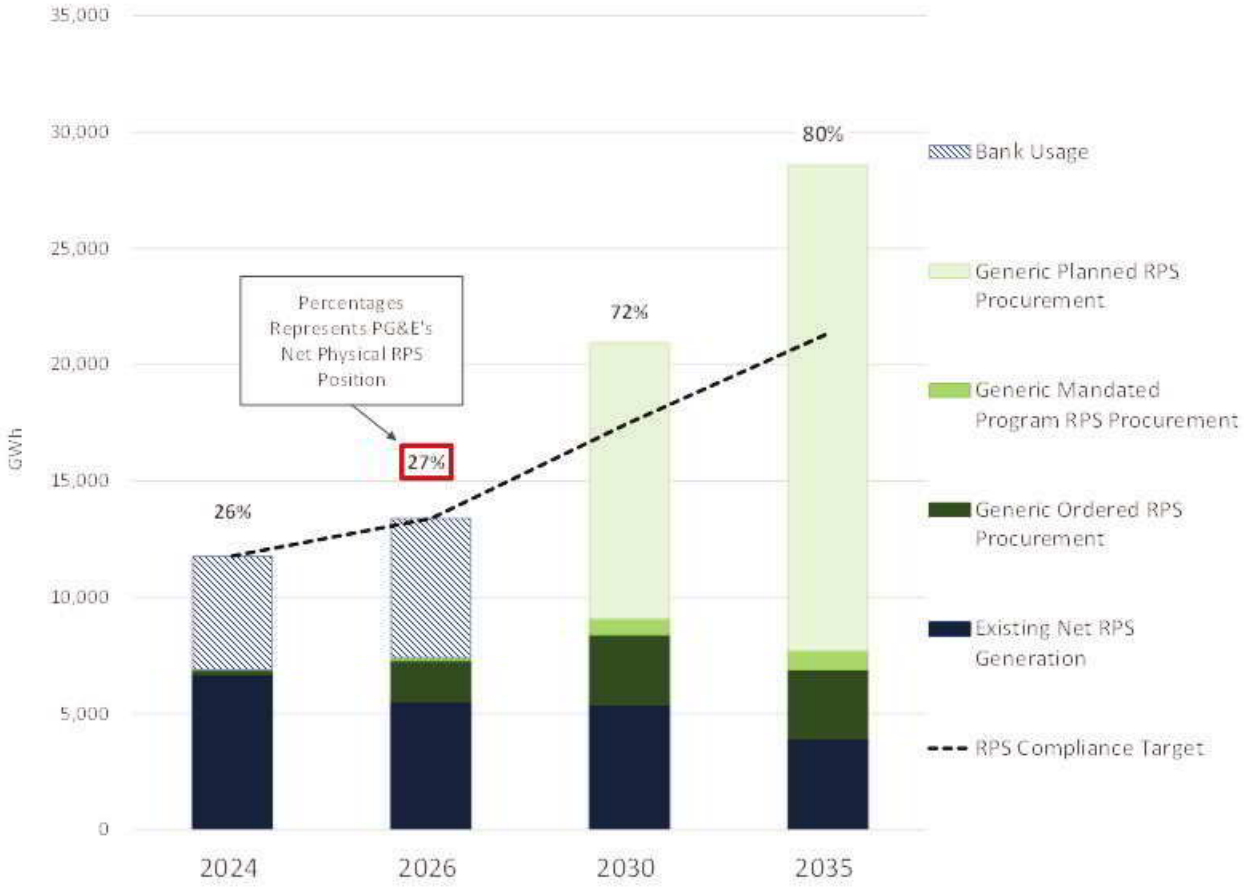


FIGURE 5
30 MMT ATE ALTERNATIVE PORTFOLIO RPS POSITION (GWH)



454.52(a)(1)(C): The revenue requirements and associated bundled generation rates for PG&E's Conforming portfolios are shown in Section III.e. These rates reflect the net impact from PG&E's baseline resource portfolio, which is comprised of existing contracts and utility-owned resources already approved as reasonable by the CPUC as well as additional CPUC ordered procurement, and an optimal mix of future resource additions that meet the bundled portfolio planning constraints utilized in PG&E's BPOT model at the lowest cost.

454.52(a)(1)(D): PG&E's Conforming Portfolios minimize ratepayer bills to the extent feasible through the IRP process. Specifically, PG&E's portfolios do not include any incremental procurement beyond what PG&E expects is needed to meet GHG, RPS, and RA requirements through 2035, with resource additions incorporated gradually over time.

454.52(a)(1)(E): Per the CPUC IRP filing requirements in Section III.f, PG&E's Conforming Portfolios demonstrate meeting the required system RA requirements. For local reliability, PG&E assumes that the CPE will procure at least capacity from thermal resources assumed to

be operating through 2035 and located in PG&E local capacity areas in order to ensure local reliability requirements are met. For purposes of calculating PG&E's system RA position in Section III.f, PG&E includes its bundled LSE load share of these local resources.

454.52(a)(1)(F): On August 17, 2017, PG&E informed the Commission of election to comply early with the long-term contracting requirements in subsection (b), starting with the 2017–2020 RPS compliance period. PG&E will continue to comply going forward, as will be reported in its RPS compliance reports.

454.52(a)(1)(G): *"Strengthen the diversity, sustainability, and resilience of the bulk transmission and distribution systems, and local communities."* PG&E's Conforming Portfolios include a diverse set of resources that provide support to CAISO system reliability. PG&E's 2030 portfolios provide 66 percent of its September RA requirement from flexible, non-emitting resources, including hydroelectric, pumped storage, and battery storage.

454.52(a)(1)(H): "*Enhance distribution systems and demand-side energy management.*" PG&E's Action Plan includes extensive demand side procurement activities to support demand side energy management and continuing growth in demand-side energy resources, including energy efficiency, rooftop solar generation, EVs, building electrification, and expanded demand response participation in both CAISO and CPUC DR programs.

454.52(a)(1)(I): "*Minimize localized air pollutants and other greenhouse gas emissions, with early priority on disadvantaged communities.*" PG&E's Action Plan includes a broad range of programs focused on DACs. These programs include electrification and fuel switching pilots, community solar programs, and clean transportation programs focused on DACs. Additionally, as discussed in the filing, PG&E actively pursues procurement options to improve air quality in DACs.

c. GHG Emissions Results

i. CSP Model Resource Assumptions

a) **GHG-Free Energy Supply:** The GHG-free energy forecast used in PG&E's CSP portfolio is shown in Tables 10 through 12 and consists of PG&E's baseline resources shown in Table 5 as well as the identified additions to meet the IRP planning constraints shown in Tables 7 through 9 for the three presented portfolios. PG&E's portfolio does include non-Portfolio Content Category (PCC) 1 out-of-state (OOS) wind resources, which have been excluded from providing a GHG benefit in the CSP calculator.

b) **Hydro Imports:** Accurately accounting for the attributes associated with hydroelectric energy imported into California requires a level of centralized verification that does not currently exist. It is possible an LSE can show offtake agreements with a hydroelectric provider. However, without a clearinghouse to track the actual energy from each source there is no way to ensure that the IRP avoids double counting. Therefore, PG&E believes a pro-rata allocation of the hydroelectric energy imported

into California is the appropriate way to avoid potential double counting, and PG&E has reflected its pro-rata share in its calculation.

c) **Demand Response:** All customers within PG&E's service area can benefit from PG&E's DR and Demand Response Auction Mechanism (DRAM) programs. Accounting for which customers receive peak load shifting benefits from these programs can be difficult and could result in LSEs showing a load reduction from the same mechanism, leading to potential double counting. PG&E believes a pro-rata allocation of DR capacity is the appropriate way to avoid potential double counting, and PG&E has reflected its pro-rata share in its calculation.

d) **Energy Storage (Capacity Attributes):** PG&E has several contracts with energy storage assets where PG&E is purchasing all of the capacity and counting attributes, but not directly purchasing any energy revenues. PG&E is including these resources in its CSP supply portfolio, which is also In line with the CPUC's CSP portfolio guidance[38].

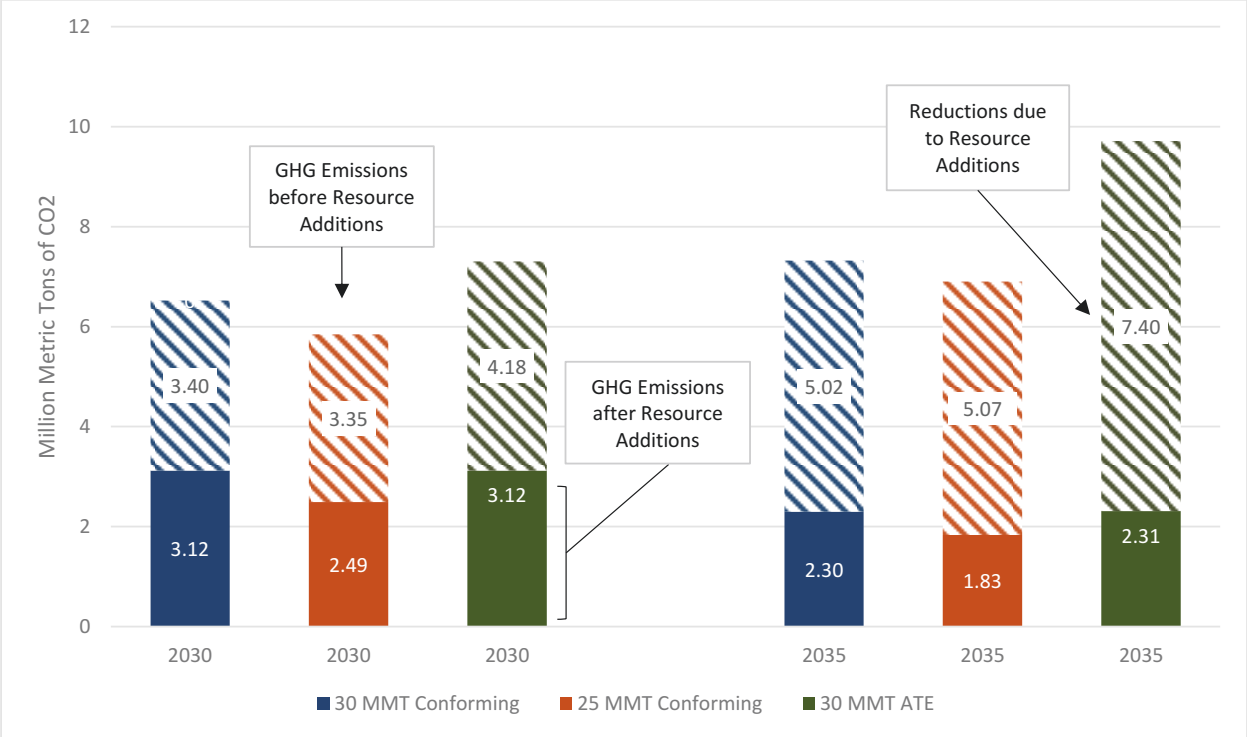
e) **Front-of-the-Meter CHP:** The current CSP model is set up to calculate each LSE's front-of-the-meter CHP emissions based on their respective load share. This does not account for actual potential individual LSE's CHP retirements and assumes there is no reduction in system CHP capacity until after 2030 as California moves towards meeting its SB 100 goals. While the CSP assumption on CHP emissions helps to simplify calculations, it may fail to account for changes individual LSEs are making to reduce CAISO system CHP capacity and consequently GHG emissions.

ii. Scenario GHG Emission Results

As described above, PG&E will need to add additional resources to its baseline portfolio in order to meet its 2030 and 2035 GHG emission targets for its two Conforming and ATE Alternative scenarios. Figure 6 shows the initial gross baseline GHG emission totals as well as the net GHG emissions for each scenario after accounting for the resource additions presented in Tables 7 through 9.

[38] Integrated Resource Planning (R.20-05-003) 2022 IRP Filings, Filing Requirements' Questions and Answers, <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2022-irp-cycle-events-and-materials/2022-filling-requirement-qav2.pdf> (as of Oct. 25, 2022).

FIGURE 6
IRP SCENARIOS CSP GHG EMISSION RESULTS (MMT)



All portfolios presented here meet or exceed their GHG emissions benchmark requirements as documented in Section II.a. For example, for the 30 MMT Conforming case in 2035, the initial gross baseline GHG emissions are 7.32 MMT. This represents the starting point for emissions in this portfolio before any resources incremental to PG&E's baseline portfolio are added. The shaded section of each column represents the GHG emission reductions resulting from the incremental new resource additions. In the example above, this value is 5.02 MMT. Finally, the solid section of each column represents the final GHG emissions totals for each portfolio. In the previous example, this is the initial gross baseline GHG emissions minus GHG reductions due to the addition of new resources, a value of 2.30 MMT. For 2035, all three scenarios reflect GHG emissions below PG&E's 25 MMT target as a result of the resource additions needed to meet PG&E's assumed procurement trajectory to achieve California's SB 100 requirements.

d. Local Air Pollutant Minimization and Disadvantaged Communities

In this section, PG&E describes the local air pollutant emissions from its two Conforming Scenario bundled portfolios and ATE Alternative based on their respective CSP models. PG&E also discusses its efforts to mitigate local air pollutants from its bundled portfolio with early prioritization on DACs. This section also provides insights on customers that reside in DACs and highlights PG&E's programs and regulatory activities that impact DACs.

i. Local Air Pollutants

PG&E's CSP-Tool-calculated portfolio local air pollutant emissions are summarized in Table 13. These emission amounts were determined using the 30 MMT and 25 MMT CSP models and reflect expected reductions in 2030 and 2035 as PG&E adds incremental GHG-free energy resources to its bundled portfolio.

TABLE 13
LOCAL AIR POLLUTANT EMISSIONS (TONS/YEAR)

Line No.	Description	Portfolio	2024	2026	2030	2035
1		30 MMT Conf	429	637	410	373
2	$PM_{2.5}$	25 MMT Conf	429	628	396	362
3		30 MMT ATE	424	632	409	378
4		30 MMT Conf	156	160	136	127
5	SO_2	25 MMT Conf	156	159	134	126
6		30 MMT ATE	156	160	136	127
7		30 MMT Conf	1,310	1,419	1,107	979
8	NOx	25 MMT Conf	1,311	1,415	1,091	978
9		30 MMT ATE	1,305	1,414	1,105	979

ii. Focus on Disadvantaged Communities

PG&E supports the Commission's focus on DACs[39] for this IRP, especially given the high levels of air pollutants historically recorded in DACs by the California Environmental Protection Agency (CalEPA). Many DACs are characterized by high levels of economic hardship and a relatively high energy burden compared to other communities in PG&E's service territory. Additionally, the CalEPA identifies these communities as having the highest percentile of adverse scores pertaining to poor environmental health and air quality. While the issues facing DACs extend far beyond the scope of the CPUC's IRP proceeding, the IRP process is a useful venue to consider how electric sector resource planning and other related decarbonization efforts (such as clean transportation and building electrification) may impact air pollution and DACs. The IRP

[39] For this IRP, DACs are defined as follows based on CalEPA's designation from SB 535: 1) census tracts receiving the highest 25 percent of overall scores in CalEnviroScreen 4.0; 2) census tracts lacking overall scores in CalEnviroScreen 4.0 due to data gaps, but receiving the highest 5 % of CalEnviroScreen 4.0 cumulative pollution burden scores; 3) census tracts identified in the 2017 DAC designation as disadvantaged, regardless of their scores in CalEnviroScreen 4.0; 4) lands under the control of federally recognized Tribes. OEEHHA, SB 535 Disadvantaged Communities, <https://oehha.ca.gov/calenviroscreen/sb535> (as of Oct. 28, 2022).

process also presents an opportunity for LSEs to highlight the breadth of activities and programs impacting DAC.

PG&E provides electric service to 645 census tracts that are classified as a DAC using the guiding definition for this IRP. This corresponds to 0.8 million residential customer accounts, and 0.1 million business customer accounts, and approximately 4,200 residential customer accounts on tribal lands.[40] A full breakdown of PG&E's customers in DACs in comparison to the entire services territory is included in the Tables 14 through 16 below. Of note is the high number of DACs that are present in the Central Valley, resulting in a higher proportion of DAC residential and business customers in the Central Valley than elsewhere in the service territory.

TABLE 14
OVERALL PG&E AND DISADVANTAGED COMMUNITIES POPULATION IN PG&E ELECTRIC SERVICE TERRITORY

Line No.	Customer Types	Overall PG&E	Disadvantaged Communities	Percent of Overall PG&E
1	Residential Customers	4,717,867	802,840	17%
2	Business Customers	487,495	112,052	23%

TABLE 15
REGIONAL DISTRIBUTION OF RESIDENTIAL CUSTOMER ACCOUNTS IN PG&E ELECTRIC TERRITORY[41]

Line No.	PG&E Region	PG&E Electric Service Territory Customer Accounts (%)	PG&E Electric Service Territory Residential DAC Accounts (%)
1	Bay Area Region	1,584,204 (34%)	169,941 (21%)
2	Central Valley Region	1,026,583 (22%)	542,180 (68%)
3	North Coast Region	459,471 (10%)	6,019 (1%)
4	North Valley & Sierra Region	659,251 (14%)	48,230 (6%)
5	South Bay & Central Coast Region	988,358 (21%)	36,470 (5%)

[40] All accounts reflect PG&E electric service territory customers. PG&E gas only customers are excluded from this dataset.

[41] This figure is based on the number of residential customer accounts, not the number of residential customers. Some PG&E residential customers may have multiple accounts across PG&E's electric service territory.

Approximately 17 percent of the 4.7 million PG&E electric service territory residential customers live in designated DAC Census Tract Areas. Of these, over two-third of customers (68 percent) are in the Central Valley region, despite the Central Valley region containing only approximately one-fifth of all residential customers in PG&E's electric service territory. Residential customers residing in DACs are more likely to be people of color, as stated in the most recently released CalEnviroScreen report: "The results using the CalEnviroScreen 4.0 scores are consistent with earlier versions of the tool, and reflect racial disparities, with the highest percentages of people of color living in the most highly impacted communities."[42]

TABLE 16

REGIONAL DISTRIBUTION OF BUSINESS ACCOUNTS IN PG&E ELECTRIC TERRITORY[43]

Line No.	PG&E Region	PG&E Business Accounts (%)	DAC Business Accounts (%)
1	Bay Area Region	127,730 (26%)	24,503 (22%)
2	Central Valley Region	128,821 (26%)	71,264 (64%)
3	North Coast Region	54,830 (11%)	1,024 (1%)
4	North Valley & Sierra Region	76,939 (16%)	7,297 (7%)
5	South Bay & Central Coast Region	99,175 (20%)	7,964 (7%)

Approximately 23 percent of PG&E's 487,495 business customers are located in DACs. These businesses are predominantly located in the Central Valley region, with approximately two thirds located in this area compared to only one fourth of all business accounts. Across the entire PG&E electric service territory, businesses in DACs are much more likely than overall businesses to be in wholesale, manufacturing, transportation, construction, retail, and administrative waste industries.

PG&E is focused on minimizing air pollutant emissions from its portfolio for bundled customers with early prioritization of DACs as part of its enterprise goals of providing safe, reliable, affordable energy service while proactively combating climate change. Coupled with efforts to mitigate local air pollutants, PG&E has a broad array of programs that are designed to improve both the air quality and the economic vitality of DACs and low-income demographics in PG&E's service territory. Many of these programs have a specific program focus on DACs, including

[42] Office of Environmental Health Hazard Assessment, CalEnviroScreen 4.0 (Oct. 2021), p. 15, <https://oehha.ca.gov/media/downloads/calenviroscreen/report/calenviroscreen40reportf2021.pdf> (as of Oct. 25, 2022).

[43] This figure is based on the number of business accounts, not the number of business customers. Some PG&E business customers may have multiple accounts across PG&E's electric service territory.

programs in PG&E's clean transportation portfolio, distributed generation programs, and building electrification programs. A detailed list of programs available to customers residing in DACs is included in Appendix 2: PG&E DAC Programs, and further details on EV and DG programs are included in Section IV.a.x and IV.a.ix, respectively.

PG&E conducts outreach to customers in DACs as a component of many existing programs to ensure that impacted customers and customers qualifying for program assistance are aware of the offerings. Some examples of customer outreach include outreach to eligible customers for income qualified programs such as the California Alternative Rates for Energy (CARE) Program, and outreach to customers in high wildfire threat districts with a high likelihood of being impacted by a Public Safety Power Shutoff (PSPS) event. PG&E conducts much of this outreach through partnerships with Community Based Organizations (CBOs) to leverage local insights and resources to better reach customers. Outreach was not conducted as part of this IRP process due to time constraints, but a plan for outreach and DAC customer input has been developed for future IRPs, which is detailed in Section IV.b of this report. PG&E looks forward to leveraging best practices from other outreach efforts to conduct outreach to DACs as part of future IRP cycles. The process and anticipated impact of such outreach is discussed in further detail in Section IV.b.

e. Cost and Rate Analysis

Table 17 presents baseline scenario revenue requirements and rate analysis and Tables 18 and 19 present the revenue requirements and rate analysis for the 30 and 25 MMT Conforming Portfolios. As required, all three tables are expressed in real 2021 dollars. PG&E's Conforming Portfolios do not incorporate any explicit additional transmission or distribution investments that may be needed to connect new resources and continue reliably serving PG&E's customers. As a result, only the generation revenue requirement varies by scenario.

As ordered, the rate presentation includes both the Simple Average Delivery Rate (SADR) containing the rate components recovered from all PG&E customers, and the Simple Average Bundled Rate (SABR), which includes the bundled generation rate from PG&E's portfolio plus the SADR to determine the average system rate for bundled customers.

As described in Section II of this report, the Conforming Scenarios relied on the Commission's planning assumptions to develop price assumptions used for bundled energy market purchases and revenues for generation market sales. This includes natural gas prices, GHG allowance costs, and REC market prices, with the provided gas price assumptions showing a significant variance compared to actual higher prices observed in late 2021 and 2022. For example, the natural gas average California Citygate price forecast provided by the Commission for July 2022

is $3.89/MMBtu[44] while actual gas prices averaged $7.06/MMBtu[45]. Natural gas prices are a key modeling assumption, and actual prices in the future will impact procurement decisions and costs that could deviate significantly from this forecast.

For the other components of its revenue requirement forecast (transmission, distribution, DSM programs, and other), PG&E created a forecast that incorporates all revenue requirements approved but not yet implemented as well as pending requests. PG&E notes that the rate forecasts provided in the IRP are indicative. Actual realized rates will depend upon future realized market prices, the outcomes of future rate cases, in particular GRCs, other ongoing proceedings, and market conditions. Future rate forecasts will reflect the information available at that time and may lead to updated revenue requirements associated with additional (or reduced) future costs including, but not limited to, T&D upgrades, grid modernization costs, clean transportation infrastructure costs, and changes based on PG&E's cost of capital.

The revenue requirement and rate differences between the two scenarios is negligible. In 2035, the 30 MMT scenario's SABR in 2021 dollars is 28.68 cents per kWh and in the 25 MMT scenario, the SABR in 2021 dollars is 28.62 cents per kWh. The small rate difference in the generation revenue requirements for the two scenarios is primarily due to different forward market power prices given the two different system-level portfolios, which impacts the market value of supply resource sales and bundled load purchases. In 2035, the 30 MMT Conforming scenario's bundled generation rate in 2021 dollars is 8.03 cents per kWh and in the 25 MMT Conforming scenario, the bundled generation rate is 7.97 cents per kWh[46].

PG&E is concerned that the revenue requirements do not fully capture the increase in costs that are expected in order to implement either the 30 MMT or 25 MMT scenarios. For example, PG&E believes the system will incur additional costs not identified in the IRP to create the flexibility and capacity needed to operate a system that meets California's clean energy and carbon neutrality goals. Gaps in T&D costs are addressed in the Section III.e.i below.

[44] Calculated as the average of the PG&E Citygate and SoCalGas Citygate prices from the CEC's June 2020 gas price forecast in nominal dollars.

[45] Prices were converted from $/Mcf to $/MMBtu using a conversion factor of 1.035 MMBtu/Mcf. Natural Gas Citygate Prices in California can be found on the EIA website, <https://www.eia.gov/dnav/ng/hist/n3050ca3m.htm> (as of Oct. 25, 2022).

[46] There is a slight increase in PG&E's bundled nominal generation rate from 2023 to 2035 for the two Conforming scenarios.

TABLE 17
REVENUE REQUIREMENTS AND BUNDLED SYSTEM AVERAGE RATES FOR BASELINE SCENARIO
(2021 $MILLIONS)

Line No.	Cost Category	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1	Distribution	$ 6,633	$10,410	$ 8,644	$ 9,216	$ 9,337	$ 9,549	$ 9,733	$ 9,957	$10,193	$10,437	$10,689	$10,949	$11,219
2	Transmission	$ 2,509	$ 2,490	$ 2,937	$ 3,068	$ 3,218	$ 3,371	$ 3,536	$ 3,718	$ 3,910	$ 4,111	$ 4,327	$ 4,556	$ 4,800
3	Generation	$ 2,529	$ 2,594	$ 2,459	$ 2,345	$ 2,346	$ 2,261	$ 2,296	$ 2,261	$ 2,285	$ 2,253	$ 2,216	$ 2,186	$ 2,150
4	Demand Side Programs	$ 575	$ 425	$ 362	$ 361	$ 359	$ 355	$ 351	$ 348	$ 333	$ 328	$ 323	$ 318	$ 314
5	Other	$ 738	$ 622	$ 612	$ 578	$ 569	$ 560	$ 551	$ 543	$ 535	$ 527	$ 519	$ 512	$ 505
6 (sum lines 1-5)	Baseline Revenue Requirement	$12,985	$16,541	$15,014	$15,568	$15,828	$16,095	$16,467	$16,828	$17,255	$17,656	$18,074	$18,521	$18,987
7	System Sales (GWh)	74,578	75,074	75,437	75,816	76,245	76,654	77,211	77,800	78,519	79,153	79,919	80,684	81,536
8	Bundled Sales (GWh)	26,903	27,098	27,257	27,399	27,549	27,650	27,879	28,020	28,356	28,613	29,044	29,434	29,852
9	System Average Delivery Rate (¢/kWh	14.02	18.58	16.64	17.44	17.68	18.05	18.35	18.72	19.07	19.46	19.84	20.25	20.65
10	Bundled Generation Rate (¢/kWh)	9.40	9.57	9.02	8.56	8.51	8.18	8.24	8.07	8.06	7.87	7.63	7.43	7.20
11	System Average Bundled Rate (¢/kWh	23.42	28.15	25.66	26.00	26.20	26.22	26.59	26.79	27.12	27.33	27.47	27.67	27.85

(a) Totals may not add due to rounding.

(b) See Revenue Requirement and Rates Modeling in the Methodology section for SADR and SABR calculation methodology.

(c) Note that Line 2 represents generation costs for only PG&E Bundled customers while Lines 1, 2, 4, and 5 represent costs for all PG&E System customers. In Line 6, PG&E sums the values for Lines 1 through 5 as required although they have different representations.

TABLE 18
REVENUE REQUIREMENTS AND BUNDLED SYSTEM AVERAGE RATES FOR 30 MMT CONFORMING PORTFOLIO
(2021 $MILLIONS)

Line No.	Cost Category	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1	Distribution	$ 6,633	$10,410	$ 8,644	$ 9,216	$ 9,337	$ 9,549	$ 9,733	$ 9,957	$10,193	$10,437	$10,689	$10,949	$11,219
2	Transmission	$ 2,509	$ 2,490	$ 2,937	$ 3,068	$ 3,218	$ 3,371	$ 3,536	$ 3,718	$ 3,910	$ 4,111	$ 4,327	$ 4,556	$ 4,800
3	Generation	$ 2,508	$ 2,576	$ 2,457	$ 2,333	$ 2,381	$ 2,400	$ 2,389	$ 2,372	$ 2,436	$ 2,433	$ 2,461	$ 2,397	$ 2,397
4	Demand Side Programs	$ 575	$ 425	$ 362	$ 361	$ 359	$ 355	$ 351	$ 348	$ 333	$ 328	$ 323	$ 318	$ 314
5	Other	$ 738	$ 622	$ 612	$ 578	$ 569	$ 560	$ 551	$ 543	$ 535	$ 527	$ 519	$ 512	$ 505
6 (sum lines 1-5)	30 MMT Conforming Portfolio Revenue Requirement	$12,964	$16,523	$15,012	$15,556	$15,863	$16,235	$16,560	$16,939	$17,406	$17,836	$18,319	$18,733	$19,234
7	System Sales (GWh)	74,578	75,074	75,437	75,816	76,245	76,654	77,211	77,800	78,519	79,153	79,919	80,684	81,536
8	Bundled Sales (GWh)	26,903	27,098	27,257	27,399	27,549	27,650	27,879	28,020	28,356	28,613	29,044	29,434	29,852
9	System Average Delivery Rate (¢/kWh	14.02	18.58	16.64	17.44	17.68	18.05	18.35	18.72	19.07	19.46	19.84	20.25	20.65
10	Bundled Generation Rate (¢/kWh)	9.32	9.50	9.02	8.51	8.64	8.68	8.57	8.47	8.59	8.50	8.47	8.14	8.03
11	System Average Bundled Rate (¢/kWh	23.34	28.08	25.66	25.96	26.33	26.73	26.92	27.19	27.66	27.96	28.32	28.39	28.68

(a) Totals may not add due to rounding.

(b) See Revenue Requirement and Rates Modeling in the Methodology section for SADR and SABR calculation methodology.

(c) Note that Line 2 represents generation costs for only PG&E Bundled customers while Lines 1, 2, 4, and 5 represent costs for all PG&E System customers. In Line 6, PG&E sums the values for Lines 1 through 5 as required although they have different representations.

TABLE 19
REVENUE REQUIREMENTS AND BUNDLED SYSTEM AVERAGE RATES FOR 25 MMT CONFORMING PORTFOLIO
(2021 $MILLIONS)

Line No.	Cost Category	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1	Distribution	$ 6,633	$10,410	$ 8,644	$ 9,216	$ 9,337	$ 9,549	$ 9,733	$ 9,957	$10,193	$10,437	$10,689	$10,949	$11,219
2	Transmission	$ 2,509	$ 2,490	$ 2,937	$ 3,068	$ 3,218	$ 3,371	$ 3,536	$ 3,718	$ 3,910	$ 4,111	$ 4,327	$ 4,556	$ 4,800
3	Generation	$ 2,529	$ 2,594	$ 2,459	$ 2,345	$ 2,381	$ 2,342	$ 2,441	$ 2,454	$ 2,499	$ 2,483	$ 2,440	$ 2,412	$ 2,379
4	Demand Side Programs	$ 575	$ 425	$ 362	$ 361	$ 359	$ 355	$ 351	$ 348	$ 333	$ 328	$ 323	$ 318	$ 314
5	Other	$ 738	$ 622	$ 612	$ 578	$ 569	$ 560	$ 551	$ 543	$ 535	$ 527	$ 519	$ 512	$ 505
6 (sum lines 1-5)	25 MMT Conforming Portfolio Revenue Requirement	$12,985	$16,541	$15,014	$15,568	$15,864	$16,177	$16,612	$17,021	$17,469	$17,886	$18,297	$18,748	$19,216
7	System Sales (GWh)	74,578	75,074	75,437	75,816	76,245	76,654	77,211	77,800	78,519	79,153	79,919	80,684	81,536
8	Bundled Sales (GWh)	26,903	27,098	27,257	27,399	27,549	27,650	27,879	28,020	28,356	28,613	29,044	29,434	29,852
9	System Average Delivery Rate (¢/kWh	14.02	18.58	16.64	17.44	17.68	18.05	18.35	18.72	19.07	19.46	19.84	20.25	20.65
10	Bundled Generation Rate (¢/kWh)	9.40	9.57	9.02	8.56	8.64	8.47	8.76	8.76	8.81	8.68	8.40	8.19	7.97
11	System Average Bundled Rate (¢/kWh	23.42	28.15	25.66	26.00	26.33	26.52	27.11	27.48	27.88	28.14	28.24	28.44	28.62

(a) Totals may not add due to rounding.

(b) See Revenue Requirement and Rates Modeling in the Methodology section for SADR and SABR calculation methodology.

(c) Note that Line 2 represents generation costs for only PG&E Bundled customers while Lines 1, 2, 4, and 5 represent costs for all PG&E System customers. In Line 6, PG&E sums the values for Lines 1 through 5 as required although they have different representations.

i. Gap in Transmission and Distribution Cost Assumptions

Over the coming decades California will need to invest billions of dollars to build new transmission & distribution to bring on the resource capacity necessary to meet growing customer electric demands and achieve the SB 100 target of 100 percent clean energy sales by 2045. These required upgrades will not only encompass the high-voltage transmission lines needed to access new in-state & OOS resources, but also must be made at the distribution level to accommodate the growing loads from residential electrification and EV penetration. In the most recent publication of CAISO's 20-Year Transmission Outlook[47], the study suggests that in order bring on 120.8 GW necessary to serve CAISO's 2040 load demand, the transmission development cost is estimated to be around $30.5 Billion. While this study largely focuses on transmission, additional costs required to upgrade substations & distribution circuits will need to be considered. One estimate of such costs comes from the Energy Institute @ Haas[48] which estimates in PG&E territory alone, these costs could be substantial, adding at least $1 billion and potentially over 10 billion to PG&E's rate base by 2050. Further analysis and future studies will be required to better understand the total transmission & distribution infrastructure investments more accurately at the CAISO level.

f. System Reliability Analysis

Maintaining system reliability is of paramount importance to the IRP process. A robust reliability assessment is a critical component of the long-term procurement plan process and foundational reliability issues should not be overlooked as the Commission analyzes the aggregated LSE Plans. Indeed, without verifying that the PSP meets local, system, and flexible reliability needs, the Commission cannot confirm the PSP will reliably meet its GHG reduction goals.

As required by the 2022 IRP filing requirements for LSEs, Table 20 and Figure 7 demonstrate PG&E meeting the reliability requirements for its Conforming 30 MMT scenario and Table 21 and Figure 8 demonstrate PG&E meeting the reliability requirements for its Conforming 25 MMT scenario. These results are based on the RDT portfolios for both Conforming scenarios.

[47] CAISO, 20-Year Transmission Outlook (Jan. 31, 2022) Draft, <http://www.caiso.com/InitiativeDocuments/Draft20-YearTransmissionOutlook.pdf> (as of Oct. 25, 2022).

[48] Fowlie, Meredith, What Will Electrification Cost (the Distribution System)? (June 27, 2022), Energy Institute Blog, UC Berkeley, <https://energyathaas.wordpress.com/2022/06/27/what-will-electrification-cost-the-distribution-system/> (as of Oct. 25, 2022).

TABLE 20
30 MMT CONFORMING PORTFOLIO RELIABILITY (MW)
CONFIDENTIAL

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
LSE reliability need (MW)	[redacted]											
ELCC by contract status (effective MW)												
Online												
Development												
Review												
PlannedExisting												
PlannedNew												
BTM PV												
LSE total supply (effective MW)												
Net capacity position (+ve = excess, -ve = shortfall) (effective MW)												

FIGURE 7
30 MMT CONFORMING PORTFOLIO RELIABILITY (MW)
CONFIDENTIAL

TABLE 21
25 MMT CONFORMING PORTFOLIO RELIABILITY (MW)
CONFIDENTIAL

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
LSE reliability need (MW)	[redacted]											
ELCC by contract status (effective MW)												
Online												
Development												
Review												
PlannedExisting												
PlannedNew												
BTM PV												
LSE total supply (effective MW)												
Net capacity position (+ve = excess, -ve = shortfall) (effective MW)												

FIGURE 8
25 MMT CONFORMING PORTFOLIO RELIABILITY (MW)
CONFIDENTIAL

[redacted]

g. High Electrification Planning

PG&E supports the CPUC's consideration of planning for higher customer loads due to growth in electrification and is requesting that the CPUC base its resource planning and PG&E's request for resource procurement on the ATE load forecast. As shown in Table 9, PG&E will need to add additional resources in order to meet PG&E's portfolio planning constraints as compared to the resource additions for the two Conforming portfolios shown in Tables 7 and 8. Table 22 shows the incremental resource additions identified for PG&E's 30 MMT ATE alternative portfolio. As a result of resource additions needed to meet the GHG-free energy trajectory necessary for

achieving California's SB 100 goals, Figure 6 shows that PG&E's ATE portfolio satisfies PG&E's 25 MMT emissions target for 2035. Therefore, it wasn't necessary for PG&E to explicitly model a 25 MMT emissions target portfolio since the same resource additions are needed for both the 30 MMT and 25 MMT portfolios to meet California's GHG-free energy requirements.

TABLE 22
INCREMENTAL ATE RESOURCE ADDITIONS

Line No.	Resource Type	MW	GWH	2035 GHG target	Transmission Zone[49]	Substation/ Bus[50]	Alternative location[50]	Note
1	Solar PV							
2	Arizona	(137)	(392)	Both	AZ_WE	NA	NA	
3	Imperial	(38)	(110)	Both	SCADSNV_Z3_GreaterImperial	NA	NA	
4	Kramer	318	999	Both	GK_Z2_InyokernAndNorthOfKramer	NA	NA	
5	Riverside	186	648	Both	SCADSNV_Z4_RiversideAndPalmSprings	NA	NA	
6	Southern_Nevada	713	2,070	Both	NV_EA	NA	NA	
7	PG&E	69	190	Both	SPGE_Z1_Westlands	NA	NA	
8	Tehachapi	714	2,049	Both	Tehachapi	NA	NA	
9	Wind							
10	Baja	11	24	Both	BJ_SO	NA	NA	
11	Carrizo	5	9	Both	SPGE_Z3_Carrizo	NA	NA	
12	Central Valley	3	5	Both	SPGE_Z4_CentralValleyAndLosBanos	NA	NA	
13	Humboldt	1	1	Both	Norcal_Z2_Humboldt	NA	NA	
14	Kern_Greater_Carrizo	1	2	Both	SPGE_Z2_KernAndGreaterCarrizo	NA	NA	
15	Northern California	(5)	(17)	Both	LassenCountyPartial	NA	NA	
16	Solano	10	18	Both	Norcal_Z4_Solano	NA	NA	
17	Southern_Nevada	8	18	Both	NV_WE	NA	NA	
18	SW Existing	9	20	Both	SW_Ext_Tx	NA	NA	
19	Tehachapi		11	Both	Tehachapi	NA	NA	
20	New Transmission Wind					NA	NA	
21	Humboldt_Bay_Offshore	75	338	Both	Humboldt_Bay	NA	NA	
22	Morro	56	186	Both	Morro_Bay	NA	NA	
23	New_Mexico	46	117	Both	NM_EA	NA	NA	
24	Wyoming	42	154	Both	WY_EA	NA	NA	
25	Storage							
26	Battery Storage	3,707		Both	NA	NA	NA	
27	Total	5,796	6,340					

[49] For Resolve resource names that are mapped to more than one electrical zone, PG&E has listed the electrical zone that is associated with the highest remaining resource potential as indicated in CPUC IRP RESOLVE_Resource Costs and Build_2022-06-17.xlm (Resolve Supply Curve). File can be found within the linked .zip file: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/zipped-files/resolve-public-release-2022-06-23-lse-plans-filing-requirements.zip (as of Oct. 26, 2022).

[50] The incremental ATE resource additions are generic resources and substation location is not available.

h. Existing Resource Planning

For its 2022 IRP portfolios PG&E took a similar approach as it did in its previous 2018 and 2020 IRP plans regarding existing resources. As described in Section III.a, a majority of PG&E's baseline portfolio is comprised of existing resources that are already online and delivering to PG&E's customers, contracted resources that are under development, and planned new resources that PG&E is actively pursuing in response to mandated procurement programs and procurement orders such as the 2021 IRP (2023-26 MTR) procurement decision. PG&E's IRP portfolios do not reflect any re-contracting with PG&E's existing baseline GHG-free resources when their current contracts expire nor future contracts with other existing GHG-free resources. The portfolio additions presented in Tables 7 through 9 are all identified as 'planned new' resources in PG&E's RDT.

As described in Section III.a.iv, given the limited consideration of local reliability planning in the IRP currently, PG&E's baseline portfolio does include an assumption regarding future contracts with natural gas-fired generators in order to ensure local reliability requirements are being met in PG&E's service territory. Specifically, PG&E assumes that all of the non-utility owned natural gas-fired generators located within PG&E local capacity areas will sign contracts with the CPE and have their reliability attributes proportionally allocated to LSEs within PG&E's service area.[51] This assumption is consistent with the CPUC's updated PSP portfolio, which assumes that all of these resources are available to the CAISO through the IRP planning horizon, as well as PG&E's bundled portfolio that does not include any re-contracting with natural gas-fired generators.

The issue of future contract assumptions for existing resources, in particular GHG-free resources, is critical for ensuring that the needed amount of 'planned new' resources is developed over time and developed equitably across all LSEs. Given the difficulties that individual LSEs face regarding identifying an existing resource for future procurement that is not also being identified by another LSE, the CPUC should consider proportionally allocating the energy and reliability attributes of existing generators for all years after their existing contracts expire through their planned retirement date as part of their standard IRP planning assumptions.[52] This would ensure a more equitable representation of planned new procurement across LSEs within their IRPs while actual future LSE procurement will likely be a combination of agreements with both new and existing generators.

[51] Consistent with the 2022 IRP filing requirements, PG&E is only including its bundled load share of assumed future CPE procurement in its RDT.

[52] Similar to the IFM CHP resource allocation methodology currently implemented in the CSP model.

i. Hydro Generation Risk Management

As presented in Tables 4 and 5, PG&E's bundled customers rely on a variety of generation technology types for providing carbon-free energy and system capacity. While the proportional contribution differs between energy and capacity, hydroelectric resources play a critical role in PG&E meeting both its reliability and GHG emission planning requirements.

The following sections provide additional detail regarding PG&E's hydroelectric resources and their expected energy and system reliability supply as well as associated risks for each.

i. Risk of in-state drought

A. Hydro Generation for 2022 IRP

For the 2022 IRP, PG&E modified 15-year historical average hydroelectric generation conditions to account for the future impacts of climate change and FERC relicensing. This assumption reflects lower generation than the 30-year historic average used in PG&E's 2020 IRP filing. A summary of these changes include:

1) Moving to a 15-year average results in lower generation than a 30-year average. This decrease reflects potential near-term climate change impacts, including years with warmer temperatures, decreased snowpack, and flood affects, as well as the recent extreme droughts and other watershed changes; but it also includes the larger impact to-date from updated license conditions (less generation) as well as additional outage time and spills in recent years. PG&E also adjusted the 15-year average to remove mothballed units from the forecast.
2) The impacts of climate change under the Representative Concentration Pathway 8.5 (RCP 8.5) 50th percentile case reduce hydroelectric generation as the forecast period progresses. The CPUC requires IOUs to use the RCP 8.5 scenario for planning.[53]
3) Expected FERC license conditions which result in less water allocated to hydroelectric generation.

PG&E utilizes a fifteen-year performance average to mitigate year-to-year variability. It accounts for hydrological variability (e.g., cycle of droughts and wet years) but prioritizes more recent years than a 30-year forecast where the impacts of climate change are more apparent. Additionally, the CEC utilized a 15-year historic average assumption in their 2021 IEPR.[54]

Based on this approach, PG&E's annual hydroelectric generation forecast in the 2022 IRP is approximately 15-21 percent lower using the most recent long-term average analysis compared

[53] D.19-10-054, p. 57, OP 4.

[54] CEC Staff Members, Final 2021 IEPR, Volume III: Decarbonizing the State's Gas System, (Mar. 2022) p. F-2, <https://efiling.energy.ca.gov/GetDocument.aspx?tn=242233> (as of Oct. 25, 2022).

to a 30-year historic average. The hydroelectric generation assumption is used in the forecasts of energy production, GHG emissions and expected costs.

B. Comparison to Updated Preferred System Portfolio

As described above, PG&E currently estimates its hydroelectric generation based on a future-adjusted fifteen-year average hydroelectric generation analysis. The forecasted capacity factor assumption for PG&E's hydroelectric resources begins at 37 percent in 2023 and declines linearly to 34 percent by 2035.[55] By comparison, the capacity factor if calculated under the 30-year historic average methodology would have been 44 percent.

As described in the 2019–2020 IRP Inputs and Assumptions document, the annual hydroelectric generation assumption as part of the representative sampling of days method used by RESOLVE.[56] The daily hydro conditions sampled were specifically based on the 2008, 2009, and 2011 hydro years. Based on the published PSP results, this methodology resulted in a capacity factor assumption of approximately 33 percent for hydroelectric resources within the CAISO.[57]

Compared to PG&E's future-adjusted fifteen-year average, the PSP assumes between approximately 13 percent and 5 percent less generation from hydroelectric resources located within the CAISO.[58] The difference decreases over time as PG&E's assumed capacity factor decreases due to impacts of climate change and relicensing. This equates to approximately 3,000 GWh less in 2023 down to approximately 1,200 GWh less in 2035. Given that PG&E's hydroelectric capacity represents a third of the CAISO's large hydroelectric capacity, PG&E recommends that the CPUC review and update as appropriate the expected generation from hydroelectric resources interconnected to the CAISO. Additionally, PG&E recommends the CPUC consider the impacts of climate change under the RCP 8.5, 50th percentile scenario and account for changes in generation due to future unit relicensing.

[55] Capacity factors represent the ratio of expected output compared to the maximum output for a unit generating at its maximum capacity for every hour in a year.

[56] CPUC, Inputs & Assumptions: 2019-2020 Integrated Resource Planning (Nov. 2019), p. 68, <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2019-2020-irp-events-and-materials/inputs--assumptions-2019-2020-cpuc-irp_20191106.pdf> (as of Oct. 25, 2022).

[57] Derived from the reference system plan results of 22,964 GWh hydroelectric generation from 8,032 MW.

[58] Calculated based on PG&E's future-adjusted 15-year capacity factor of between 37 and 34 percent compared to RESOLVE's 33 percent for hydroelectric resources.

ii. System Reliability

A. Planning Assumptions for Hydro Reliability Supply

PG&E recommends the Commission utilize the methodology from D.20-06-031 for calculating monthly dispatchable hydroelectric Net Qualifying Capacity (NQC) values. This methodology will account for hydrological variability and other operational constraints resulting in more representative reliability planning assumptions for hydroelectric resources.

iii. Risks and Planning

A. GHG Emissions

As described above PG&E currently uses a future-adjusted fifteen-year performance average in its hydroelectric generation forecast to mitigate year-to-year variability, including the impacts of in-state drought. The future-adjusted fifteen-year average is used in the forecasts of GHG emissions, as well as energy production and expected costs.

Compared to PG&E's 2018 IRP, PG&E's bundled customers no longer bear the full risk associated with potentially lower levels of hydroelectric generation. This is due to the re-contracting of carbon-free energy sales that PG&E expects to occur as well as the sale of RPS energy from small hydroelectric resources as a result of implementing VAMO, which reduces PG&E's bundled customer's reliance on generation from utility-owned hydroelectric resources for GHG emissions planning. Further details on this assumption are provided in Section III.a of this report.

B. Reliability Supply

Unlike GHG emissions where fluctuations in annual hydroelectric generation volumes have a direct impact on an LSE's total GHG emissions, in-state drought conditions pose a more limited risk to reliability planning since most of PG&E's hydroelectric resources are flexible and have operational discretion on when and how much to dispatch. Even during drought conditions, the supply of water can be reoptimized and released when and where it is most needed to provide peak hour availability and generate at their respective NQCs. However, that flexibility can be reduced during sustained extreme drought, whereby releases could become constrained by late summer or early winter prior to the onset of precipitation for the next water year.

C. Expected Costs

As with the energy and GHG emission forecasts discussed above, PG&E uses a recent future-adjusted fifteen-year performance average to forecast energy from hydroelectric generation to mitigate year-to-year variability. The cost risk associated with lower-than-forecasted energy production from the hydroelectric resources is not solely borne by PG&E's bundled customers because utility-owned hydroelectric resources are recovered through the PCIA rate. Since a majority of customers in PG&E's service territory are subject to

PCIA charges, PG&E's bundled customers are responsible for less than half of the above market cost from utility-owned hydroelectric resources.[59]

While the expected annual cost impact from in-state drought is relatively flat for long-term position planning, the primary risk posed by in-state drought is associated with the short-term, year-to-year fluctuations in actual hydroelectric generation. Given that the costs for PG&E's hydroelectric resources are predominantly fixed, annual fluctuations in hydroelectric generation resulting from actual hydro conditions impacts the CAISO energy market revenues for hydroelectric resources. The next section provides further detail regarding how PG&E's hedging strategy addresses this short-term hydro condition risk.

D. Hedging and Contingency Planning

PG&E's current hedging strategy addresses near term market price risk exposure for PG&E's bundled customers. As the expected hydroelectric generation is updated based on more recent hydro condition data, PG&E updates its hedge position accordingly to reflect either more or less expected generation due to a wetter or drier hydro year, respectively.

Beyond hedging short term market price risk, PG&E has developed a risk mitigation plan regarding potential large uncontrolled water releases.[60] In its plan PG&E identifies potential risks for large uncontrolled water releases and proposed mitigation actions to address those risks. In addition to addressing safety concerns, the mitigation plan also reduces the potential for lost water supply and, therefore, an associated increase in future GHG emissions due to a reduction in hydroelectric generation.

j. Long-Duration Storage Development

PG&E is in discussions with providers of long-duration storage as part of its MTR solicitations and is also pursuing a pilot project with a long-duration storage provider.

As the state considers long-duration solutions within an optimized portfolio of resources that can meet key IRP objectives, current market and regulatory challenges will need to be addressed, including the following:

- Regulatory clarity on the specific needs that long-duration storage can cost effectively address
- Determination of value of additional duration beyond four-hour needs, in light of the current RA market and procurement models

[59] Based on prescribed PG&E bundled customer sales assumption for the 2019-2020 IRP cycle.

[60] PG&E's 2020 RAMP Report, A.20-06-012 (June 30, 2020), Chapter 13, Risk Assessment and Mitigation Phase Risk Mitigation Plan: Large Uncontrolled Water Release.

- Consideration of how procurement of large, capital-intensive resources will be accomplished among a large and diverse set of LSEs (e.g., through an expanded use of a central buyer)
- Policy support in legislative and regulatory arenas for cost-recovery mechanisms that ensure that all benefiting customers pay
- Consideration of State funding for pilot and demonstration projects that can help to drive down technology costs

k. Clean Firm Power Planning

PG&E has not identified any clean firm generation resource[61] need incremental to existing procurement orders within its Conforming or Alternative portfolios. Accordingly, the baseline resource additions identified in this section are consistent with the resources identified in the Updated 2021 PSP and no additional transmission need has yet to be identified.

l. Out-of-State Wind Development

PG&E has identified additional OOS wind generation resources within its Conforming and Alternative portfolios. Since PG&E identified new resource additions based on those resources selected by the Updated 2021 PSP, assumptions for these resources, including locations identified, are consistent with the CPUC's analysis, as is the justification for their selection.

The following information is also provided in Section IV.a.iv of the Action Plan below as requested by the Commission:

PG&E does not have specific procurement activities for out-of-state (OOS) wind, though it continues to monitor the regulatory processes, including the CAISO consideration of transmission to connect OOS wind areas to California, and the commercial prospects for wind technologies to be incorporated into PG&E's portfolio.

Generally, PG&E supports California accessing OOS wind as an option to meet its clean energy goals while ensuring system reliability and customer affordability, and PG&E itself is interested in investigating procurement of OOS wind to meet its own clean energy goals. However, PG&E believes that CAISO stakeholders (and particularly LSEs) need additional information on the status of OOS wind project development in the various states in the WECC and cost-effectiveness information on the various potential transmission lines that could bring OOS

[61] 2022 Narrative Template (June 15, 2022), p. 15, "*clean firm generation (with an annual capacity factor of at least 80 percent) resources that are not subject to use limitations or are weather dependent. The type of resource described here must be a generating resource, not storage, able to generate when needed, for as long as needed, and may not have any on-site emissions, except if the resource otherwise qualifies under the Renewables Portfolio Standard (RPS) program eligibility requirements.*"

wind into California to assess which line would be most cost-effective for CAISO to commit to and put into its rate base.

m. Offshore Wind Planning

PG&E has identified additional OSW generation resources within its Conforming and Alternative portfolios. Since PG&E identified new resource additions based on those resources selected by the Updated 2021 PSP, assumptions for these resources, including locations identified, are consistent with the CPUC's analysis, as is the justification for their selection. These resources are differentiated between the central coast (Morro Bay) and the north coast (Humboldt).

In August 2022, the CEC set forth a planning goal for California to interconnect between 2,000 MW and 5,000 MW of OSW resources by 2030 and 25,000 MW by 2045[62] in a process required by AB 525 (Chiu, 2021). At the CAISO level, the CPUC's Updated 2021 PSP includes only 195 MW of OSW by 2030. However, only two years later (by 2032), the Plan calls for 2,502 MW of OSW which is within the CEC's planning range. This then increases to 4,707 MW in 2035, a value that is then constant through 2045. This delay in reaching the planning target is indicative in the uncertainty present within this newer technology as deployed in California. Since PG&E's bundled portfolios are consistent with the Updated 2021 PSP, the same findings hold.

The following information is also provided in Section IV.a.iii of the Action Plan below as requested by the Commission:

Currently, PG&E does not have specific procurement activities for OSW. PG&E is tracking regulatory processes at the state and federal level for potential procurement opportunities.

Significant transmission upgrades are needed to make resource procurement available to LSEs. Given the long-lead time nature and very large capital costs associated with the transmission along with the untested and risky nature of the technology, individual LSEs may choose not to engage in self-procurement of this clean and renewable energy technology. While this has been identified in PG&E's LSE Plan as a selected resource, construction of OSW resources off the California coast will require a broad and coordinated effort by stakeholders and local, state, and federal government agencies to ensure that this clean resource is available to LSEs.

OSW may be a candidate for the CPUC to consider the use of centralized procurement to overcome many of the market barriers, potentially high upfront costs, and timeline risks that are present for this unique technology type.

[62] CEC Staff, Offshore Wind Development off the California Coast (Aug. 2022), pp. 61-62.

n. Transmission Development

PG&E has included detailed resource location information for new contracted resources in the RDTs as required by the Commission. For more information, see the RDT, Unique Contracts tabs, for a list of resources, their queue positions, and other information.

For its 30 MMT Conforming and 25 MMT Conforming Portfolios, PG&E made generic resource additions to meet its 2030 GHG and 2035 emissions benchmarks. These resources do not yet have an interconnection queue position. To ensure that the generic resources are a part of the CPUC Updated 2021 Preferred System Portfolio, PG&E limited the candidate resources available to meet PG&E's open GHG position to those chosen at the system level by the RESOLVE model. Therefore, PG&E's transmission assumptions are consistent with the CPUC Updated 2021 PSP assumptions.

Since the additional resources identified under the "High Electrification Planning" portfolios also rely on the generic resource assumptions in the Updated 2021 Preferred System Portfolio, PG&E did not map those to specific substation/busbar locations.

As noted in the Lessons Learned section, the actual transmission need, and cost will be available after CAISO's reliability assessment in its TPP. Given the level of increase in renewable resources, it is likely that additional transmission investment will be required to interconnect and reliably integrate the new renewables and storage resources to the CAISO system.

IV. Action Plan

The action plan described herein demonstrates PG&E's near-term activities align with its planning and procurement strategy, outlines current and planned activities to address DAC, and notes what actions PG&E is requesting from the Commission to consider to facilitate its effective implementation of its 2022 IRP. PG&E's 2022 IRP Action Plan is highly influenced by PG&E's climate strategy and the plan is on track to meet California's GHG emissions targets. Each subsection of the action plan provides a clear overview of PG&E's progress toward achieving its GHG target compliance and in providing valuable contributions in meeting California's clean energy goals in a safe, reliable, and cost-effective manner.

Based on the study objectives and results of PG&E's IRP analysis, this section presents PG&E's activities to procure the resources identified in its Conforming Portfolios. The Action Plan presented below is the same for both Conforming Portfolios as well as for the ATE alternative portfolio. To meet the goals laid out in its study design section, PG&E anticipates the need for an additional 12 TWh of GHG-free energy by 2030. Given this need, PG&E believes it is prudent to begin soliciting or entering negotiations for resources as soon as possible and is therefore requesting procurement authorization from the CPUC in this filing. The exact quantity and types of resources PG&E will ultimately procure to satisfy its procurement needs may vary depending on the resource mix, changes in load forecast, outcomes of ongoing regulatory proceedings, or procurement resulting from future mandates. Ultimately, PG&E's goal is to procure these incremental resources gradually to mitigate potential risks with future events, developments, and forecast adjustments. More details regarding this procurement authorization request can be found in Section IV.c.i.

a. Proposed Procurement Activities and Potential Barriers

The sections below describe PG&E's supply-side procurement activities (e.g., renewable energy and energy storage) as well as demand-side procurement activities that are not otherwise reflected in the supply-side tables of this report.

i. Resources to meet D.19-11-016 procurement requirements

System Reliability RFOs: In November 2019, the CPUC issued D.19-11-016, which ordered incremental electric system reliability procurement by all LSEs operating within the CAISO's balancing area to meet system RA needs for the period 2021–2023 to address potential system RA shortages beginning in 2021. D.19-11-016 requires PG&E to make incremental procurement

of 765.1 MW[63] of system-level qualifying capacity. The Decision also required that at least 50 percent of LSE resource responsibilities come online no later than August 1, 2021, at least 75 percent by August 1, 2022, and the remaining by August 1, 2023. PG&E issued its System Reliability RFO – Phase 1 on February 28, 2020 to solicit offers from participants for the purchase of eligible system RA to come online by August 1, 2021, and count towards PG&E's requirement. At the conclusion of the RFO, PG&E submitted for CPUC approval seven agreements, together totaling 423 MW of incremental system RA.[64] PG&E issued the System Reliability RFO – Phase 2 on July 10, 2020 to procure the remaining required MW. At the conclusion of the Phase 2 RFO, PG&E submitted for CPUC approval six agreements, together totaling 387 MW of incremental system RA.[65]

Information for Procurement Ordered in D.19-11-016 (2019 IRP Procurement Track): In response to the system RA procurement ordered in D.19-11-016, PG&E submitted a Tier 3 Advice Letter (AL) 5826-E on May 18, 2020, seeking Commission approval of seven agreements to meet PG&E's August 1, 2021 requirement (Phase 1) and a Tier 3 AL 6033-E on December 22, 2020, seeking Commission approval of six agreements to meet PG&E's August 1, 2022 and 2023 requirement (Phase 2). The agreements were submitted confidentially to the Commission in PG&E Advice 5826-E and PG&E Advice 6033-E. PG&E has procured 788.21 MW NQC and expected online dates for the projects that PG&E has entered into agreements with to meet its 2021, 2022, and 2023 requirements.

ii. Resources to meet D.21-06-035 procurement requirements

MTR RFOs: On June 30, 2021, the CPUC issued D.21-06-035. In D.21-06-035, the Commission requires incremental procurement of 11,500 MW of additional NQC resources, of which PG&E is responsible for 2,302 MW for its bundled service customer portion. The decision requires that at least 2,000 MW be online by August 1, 2023, an additional 6,000 MW by June 1, 2024, an additional 1,500 MW by June 1, 2025, and an additional 2,000 MW by June 1, 2026. Further, D.21-06-035 requires that at least 2,500 MW of resources procured collectively by the LSEs, between 2023 and 2025, be either zero emission generation resources, generation resources paired with storage, or demand response, to replace the current supply of energy from the

[63] PG&E was informed on April 15, 2020 via ALJ Ruling that it is required to procure an additional 48.2 MW for CCAs and ESPs in its TAC area that chose not to self-provide their required portion of incremental system RA. 765.1 MW includes the original 716.9 MW for PG&E bundled customers plus an additional 48.2 MW of backstop procurement. *ALJ's Ruling Finalizing Load Forecasts and Greenhouse Gas Benchmarks for Individual 2020 Integrated Resource Plan Filings and Assigning Procurement Obligations Pursuant to Decision 19-11-*016 (Apr. 15, 2020) R.16-02-007, p 9.

[64] See PG&E AL 5826-E, dated May 18, 2020.

[65] See PG&E AL 6033-E, dated December 22, 2020.

Diablo Canyon Power Plant (DCPP). This is to ensure there are no GHG emissions increases upon DCPP's retirement.

PG&E issued its MTR RFO – Phase 1 on June 18, 2021, to solicit offers to procure incremental NQC resources with an expected online date of August 1, 2023, and June 1, 2024, which will count towards PG&E's procurement requirement of a total of 1,601 MW by June 1, 2024. At the conclusion of the RFO, PG&E submitted for CPUC approval, Tier 3 AL 6477-E on January 21, 2022, nine agreements totaling 1,598.7 MW.

PG&E issued its MTR RFO – Phase 2 on April 15, 2022, to solicit offers to procure incremental NQC resources to provide system-level qualifying NQC with online dates beginning June 1, 2024 through June 1, 2026 depending on the category. All resources will be expected to be considered incremental in counting towards PG&E's procurement responsibilities, as specified in the Decision.

iii. Offshore Wind

The following information is also provided in Section III.m of the Action Plan below as requested by the Commission:

Currently, PG&E does not have specific procurement activities for OSW. PG&E is tracking regulatory processes at the state and federal level for potential procurement opportunities.

Significant transmission upgrades are needed to make resource procurement available to LSEs. Given the long-lead time nature and very large capital costs associated with the transmission along with the untested and risky nature of the technology, individual LSEs may choose not to engage in self-procurement of this clean and renewable energy technology. While this has been identified in PG&E's LSE Plan as a selected resource, construction of OSW resources off the California coast will require a broad and coordinated effort by stakeholders and local, state, and federal government agencies to ensure that this clean resource is available to LSEs.

OSW may be a candidate for the CPUC to consider the use of centralized procurement to overcome many of the market barriers, potentially high upfront costs, and timeline risks that are present for this unique technology type.

iv. Out-of-State Wind

The following information is also provided in Section III.l of the Action Plan below as requested by the Commission:

PG&E does not have specific procurement activities for out-of-state (OOS) wind, though it continues to monitor the regulatory processes, including the CAISO consideration of transmission to connect OOS wind areas to California, and the commercial prospects for wind technologies to be incorporated into PG&E's portfolio.

Generally, PG&E supports California accessing OOS wind as an option to meet its clean energy goals while ensuring system reliability and customer affordability, and PG&E itself is interested

in investigating procurement of OOS wind to meet its own clean energy goals. However, PG&E believes that CAISO stakeholders (and particularly LSEs) need additional information on the status of OOS wind project development in the various states in the WECC and cost-effectiveness information on the various potential transmission lines that could bring OOS wind into California to assess which line would be most cost-effective for CAISO to commit to and put into its rate base.

v. Other Renewable Energy

This section includes PG&E procurement activities (including near-term actions), potential barriers, and resource viability for renewable resources in PG&E Conforming portfolios (Tables 7 and 8).

PG&E will continue to meet its RPS requirements as established by the California Legislature. As shown in its Draft 2022 RPS Plan[66], PG&E projected an RPS need before 2030. Although this need is several years away PG&E requested authority to procure resources to meet this need with solicitations beginning in 2023 to help (1) hedge against changes to PG&E's need year and (2) provide PG&E the ability to procure in a supply constrained market. The 12 TWh procurement request in this IRP filing is inclusive of the RPS procurement request made earlier this year in its RPS plan but provides additional detail on the volume and reflects other planning and legislative procurement drivers that also reflect PG&E's IRP goals compared to the RPS plan request. Table 23 below provides a summary of PG&E's renewable energy actions, barriers, and recommendations.

[66] See PG&E's Draft 2022 RPS Plan (July 1, 2022) R.18-07-003, Section VIII, Renewable Net Short (RNS) Calculation, for more details on PG&E's RNS position, http://pgera.azurewebsites.net/Regulation/ValidateDocAccess?docID=709459 (as of Oct. 26, 2022).

TABLE 23
RENEWABLE ENERGY – SUMMARY OF PG&E ACTIONS AND RECOMMENDATIONS

Existing Near-Term Actions[(a)]	• Administer BioMAT program auctions. • Administer ReMAT program.[(b)] • Bioenergy Renewable Action Mechanism (BioRAM) procurement. • Administer AB 1613 program. • DAC solicitations twice a year. • GTSR solicitations twice a year. • Administer Public Utility Regulatory Policies Act (PURPA) procurement. • Continue allocations and sales of RPS energy.
Key Barriers	• Load forecast uncertainty, including new electrification load and load migration. • Delays in achieving expected online dates.
Proposed New Near-Term Actions/ Commission Direction	• PG&E has submitted a request for renewable energy procurement in its Draft 2022 RPS Plan.
Deviations From Current Resource Plans	No deviations.
Recommendation for Future IRPs	The CPUC continue to model RPS resources as candidate resources.

_____

(a) Resource additions are from either existing contracts not yet online or future procurement for mandated procurement programs. This total RPS generation value includes an assumption of continued RPS bundled energy sales.

(b) PG&E suspended the ReMAT program in 2017 as directed by the CPUC in response to a federal court order in *Winding Creek Solar LLC v. Peevey*. On June 26, 2020, the CPUC issued a staff proposal with proposed modifications to bring ReMAT into compliance and subsequently reopen the program. On October 16, 2020, the CPUC issued its final decision 20-10-005 to bring the ReMAT program into compliance. PG&E reopened its ReMAT program on Feb 5, 2021.

Existing Near-Term Actions

PG&E is also administering the following programs which impact RPS procurement:

Administer BioMAT Program Auctions: PG&E will continue to administer its bi-monthly BioMAT auctions for waste management and dairy/agricultural projects, and monthly BioMAT auctions for sustainable forest management projects. On October 3, 2018, the CPUC issued a staff proposal, initiating a BioMAT program review. On September 1, 2020, the CPUC issued its final decision 20-08-043, extending the program end date to December 31, 2025 among other program changes. Through BioMAT, PG&E is required to procure a total 111 MW of bioenergy resources. Currently PG&E has procured 38 MW under this program.

Administer ReMAT Program: PG&E will continue to administer its ReMAT program for renewable peaking, non-peaking, and baseload resources. On December 17, 2021, the CPUC issued D.21-12-032, resolving several outstanding petitions for modification. Among other program changes, the decision allows renewable facilities enhanced with storage to participate and revises the program end date to when remaining capacity in the program reaches 0.99 MW or less. Through ReMAT, PG&E is required to procure a total of 218.8 MW of renewable resources. Currently PG&E has procured 102 MW, which includes capacity procured under the predecessor programs E-SRG and E-PWF.

BioRAM Procurement: PG&E will continue to comply with SB 901 and CPUC Res.E-4977 which requires PG&E to seek to extend various Biomass contracts by five years and modify feedstock requirements. PG&E has so far received CPUC approval for one amendment to an existing BioRAM contract and one new 5-year BioRAM contract. PG&E will offer the RA and RECs generated by BioRAM facilities for sale in accordance with the Tree Mortality Non-Bypassable Charge decision. SB 1109 requires the IOU procure their share of 125 MW of existing bioenergy generating capacity by 12/31/2023. The contracts terms must be 5-15 years. Also, IOUs must seek offer to extend existing BioRAM contracts that expire before December 31, 2028 5-year extensions.

Administer AB 1613 Program: In compliance with D.09-12-042, the AB 1613 contract remains available for efficient CHP facilities.

DAC Solicitations: In compliance with E-4999, PG&E will hold two solicitations per year seeking new solar PV projects for Disadvantaged Communities Green Tariff (DAC-GT) and Community Solar Green Tariff ("CS-GT") until the remaining capacity is procured. PG&E's allocation is 54.82 MW for DAC-GT and 14.20 MW for CS-GT. PG&E has procured the full allocation for the DAC-GT program, and the program has closed. There remains 2.2 MW of procurement need for the CS-GT program, which had a new solicitation issued on September 6, 2022.

GTSR Solicitations: In compliance with D.21-12-036, PG&E will hold a minimum of two solicitations per 12-month period for both the Green Tariff program (brand name Solar Choice) and for the Enhanced Community Renewables (brand name Regional Renewable Choice) program until enrolled capacity is met by new dedicated sources. PG&E is allocated a

total of 272 MW to procure under Green Tariff Shared Renewables ("GTSR"). GTSR has two program components, and PG&E has procured about 53 MW under Solar Choice and 3.65 MW under Enhanced Community Renewables.

PURPA In compliance with D.20-05-006, the Standard Offer PURPA contract remains available to Qualifying Facilities.

Continue Sales of Bundled RPS Volumes as Needed: Pursuant to the Commission's approval of PG&E's 2022 RPS Procurement Plan, PG&E continues to consider opportunities for sales of RPS volumes that benefit its bundled customers as needed. Execution volumes are dependent on a combination of factors, including limits under PG&E's pre-approved RPS sales framework, market demand and market pricing as well as any impacts D.21.05-030 implementation may have on PG&E's portfolio.

Key Barriers

Load forecast uncertainty, including new electrification load and load migration: PG&E's RPS need is a function of its forecasted bundled service retail sales. The energy landscape in California has changed significantly over the last few years and an emphasis on customer choice, in the form of DG, CCAs and potential further reopening of DA, has dramatically changed PG&E's expectation of future retail sales. Uncertainty regarding future levels of load departure to other suppliers, as well as load growth from EV adoption, creates uncertainty with respect to PG&E's future RPS need.

Delays in achieving expected online dates: Force Majeure and other development delays, such as interconnection and deliverability upgrades, can cause delays in achieving expected online dates.

vi. Other Energy Storage

This section includes PG&E procurement activities (including near-term actions), and potential barriers for energy storage resources in PG&E's Conforming Portfolios (see Tables 7 and 8), in this report. As discussed above, PG&E will continue to procure storage resources for MTR and IRP targets.

PG&E is actively implementing California's programs to develop cost effective energy storage resources in the state to integrate renewable resources, provide output in periods of peak demand, and reduce GHG emissions. Additionally, in some cases energy storage projects can be a preferred alternative to provide grid efficiency and reliability in lieu of conventional wires solutions. Energy storage technology can also provide enhanced grid resiliency for critical customers during grid disturbances. PG&E's energy storage strategy includes all of these use cases and seeks to ensure the proper regulatory rules are in place to enable them.

PG&E is accelerating deployment of energy storage on its grid through owning and operating storage resources, procuring storage through third party contracts, testing innovative storage solutions through pilot projects, and enabling customer adoption of energy storage. PG&E

envisions a large and growing need for energy storage in the future as California continues to increase renewable energy production and pursue increasingly ambitious GHG reduction goals. There is a suite of innovative storage technologies, including power to gas, pumped hydro, and compressed air, that PG&E feels should be considered "eligible storage technologies" to meet the state's needs. In summary, there is ample opportunity going forward for utilities, third-party storage providers, and retail customers to be part of the energy storage solution that incorporates a wide array of storage technologies. Table 24 below provides a summary of PG&E's energy storage actions, barriers, and recommendations.

TABLE 24
ENERGY STORAGE – SUMMARY OF PG&E ACTIONS AND RECOMMENDATIONS

Existing Near-Term Actions	• Mid-Term Reliability (MTR) RFOs
Key Barriers	• Cost effectiveness of storage vs. traditional grid solutions. • Lack of enhanced visibility, monitoring, and control systems for utility operations to ensure grid needs are addressed and fully realize the value of energy storage. • Cross-sector competition for current energy storage technologies creates upward pressure on prices.
Proposed New Near-Term Actions/ Commission Direction	None at this time.
Deviations From Current Resource Plans	No deviations.
Recommendation for Future IRPs	Continue modeling energy storage resources as candidate resources.

Existing Near-Term Actions

AB 2514 Energy Storage Targets: PG&E is on track to comply with the state-wide energy storage adoption requirements of 580 MW by 2024 (AB 2514) and has largely met its requirements in all three domains (transmission, distribution, and customer).

AB 2868 Distributed Energy Storage Investments and Programs: In March 2018, PG&E filed its proposal with the CPUC to deploy distributed energy storage in compliance with AB 2868.[67] PG&E included in its proposal up to 5 MW BTM thermal energy storage program which provides incentives for low-income customers and customers in DACs to electrify their water heating and shift the associated load to off-peak hours. PG&E's pilot program – "WatterSaver" – launched in March 2022 and is expected to enroll 5,000-9,000 customers, who will benefit from energy bill savings and reduced onsite emissions from propane-based water heating.

Key Barriers

Cost effectiveness of storage vs. traditional grid solutions: While battery costs are expected to decline over time, energy storage is still an expensive technology when compared to traditional grid infrastructure or generation today. In some cases, energy storage is precluded as a solution to grid needs due to PG&E's obligation to seek the most cost-effective grid solutions for its customers.

Lack of enhanced visibility, monitoring, and control systems for utility operations to ensure grid needs are addressed and fully realize the value of energy storage: As storage deployment and opportunities for multiple use applications increase, the complexity of utility distribution and transmission grid planning and operations will also increase. Enhanced utility planning, operational and communication systems and protocols will be required to: (1) maintain both transmission and distribution grid safety and reliability; (2) realize the maximum value of storage; and (3) validate storage operational performance for compliance and settlements. These enhanced measures will require integration of multiple transmission and distribution system planner and operator applications to not only validate storage performance but to also simplify management of the grid.

Cross-sector competition for current energy storage technologies creates upward pressure on prices: Lithium-ion-based storage, the generation sector has to compete with the electric vehicle sector and may not have the economies of scale to be competitive with Battery Energy Storage System vendors without paying high premiums. Energy storage emerging technologies that can meet 4-hour or 8-hour needs without lithium have considerable technology risk that is still in research, development, and deployment stages though may soon achieve broader economies of scale.

[67] A.18-03-001, Application of PG&E for Approval of its 2018 Energy Storage Procurement and Investment Plan, filed March 1, 2018.

vii. Other Demand Response

PG&E continues to support DR as a technology-neutral platform through which customers and aggregators can access markets and receive compensation for the provision of grid services. Moreover, PG&E continues to operate its own DR programs as well as support third-party DR market participation. PG&E facilitates third-party provider participation that directly bid into the CAISO markets with access to customer authorized data for CAISO registration, verification of customer eligibility, and settlement processes for such a mechanism.[68]

PG&E is currently in the final year of its current funding cycle for DR programs (2018–2022)[69] and submitted A.22-05-002 to the Commission in May 2022 with its proposals for the 2023 Bridge Year and next funding cycle (2024-2027).[70] Since submitting its most recent IRP Action Plan, the Commission opened the Emergency Reliability OIR (R.20-11-003) to identify and execute all actions necessary to ensure reliable electric service following rotating outages that occurred in August 2020 due to an extreme heat storm. In this proceeding, the Commission authorized new demand response pilots that PG&E launched in 2021, such as the Emergency Load Reduction Program (ELRP) and Bring-Your-Own Thermostat (BYOT) Pilot.

In addition, the following ongoing trends and issues will continue to shape the delivery of PG&E's DR portfolio in the coming years:

The role of third-party participation. The CPUC is still evaluating the future of DRAM, as the provider of economic DR.

CCA DR program impact on IOU programs: Per the Competitive Neutrality[71] framework, if a CCA offers a "similar" program as an IOU, the IOU program must cease to offer its own DR program to customers of that CCA, and remaining programs funds would need to be returned.

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[68] This includes the Rule 24 tariff and the ongoing DRAM pilot.

[69] D.17-12-003 adopted each of the three IOUs Funding Applications for 2018-2022. As part of the extended cycle, each IOU was obligated to file a Mid-Cycle update by April 1, 2020 (AL-5799-E). Furthermore, the IOUs were ordered to file their next five (2023-2027) year funding Applications by November 1, 2021.

[70] PG&E's Application includes 2023 as a bridge year between the prior cycle (2018-2022) and (2024-2027). The Commission is currently prioritizing approval of DR programs for the 2023 Bridge Year before the end of 2022 in Phase I of the DR proceeding.

[71] D.14-12-024 established a competitive neutrality cost causation framework by which IOUs would refrain from offering DR products and services to customers of third-party Load Serving Entities (LSEs), such as CCAs or ESPs, if these LSEs establish a "similar" DR program. Moreover, DR funds collected from customers who are with CCAs and ESPs that offer a "similar" DR program would need to be returned; thereby, reducing the pool of funds available to support the IOU DR program. The Commission approved the Joint IOU's implementation filing (AL 5353-E) in July 2022 via Res.E-5008.

The capacity valuation of demand response. The RA Proceeding at the CPUC has ushered in new proposals from CAISO on the value of DR. The final capacity valuation of DR could be a large sensitivity in the size of the portfolio and impact cost-effectiveness. Generally, DR programs should be cost-effective.

Prohibited Resources: The restrictions on the use of fossil fueled backup generation have created some challenges, especially for traditional load drop DR resources.[72]

The technology that participates in demand response. The underlying load impacts both the size of the portfolio and its performance in the CAISO market. While most of the load that participates in DR is behavioral, market trends indicate that we may see more automated and dispatchable load in the future.

A policy shift away from market integration to load management: PG&E recognizes there has been a waning interest in CAISO market participation due to challenges that are unique to demand response, coupled with an increased interest in more flexible rates, as suggested by the CEC in their Load Management Rulemaking.[73]

Increased Interest in and Potential for Load Shifting: Technological advances and the increase in potentially flexible demand due to electrification (e.g., EV charging) presents an opportunity for increased deployment of demand shifting to play a greater role as part of DR portfolios and a more holistic load management portfolio. California SB 846 recognizes this growing potential and requires the CEC, in consultation with the CPUC and CAISO, to adopt load shifting goals with targets as part of the biennial IEPR process and to recommend policies to increase load shifting opportunities that support GHG reduction and affordability goals. PG&E looks forward to collaborating with agencies on expanding the role of load shifting programs going forward.

Table 25 below provides a summary of PG&E's demand response actions, barriers, and recommendations.

[72] CPUC Res.E-4906 imposed restrictions on the use of prohibited resources for supporting DR events beginning January 1, 2019. The proceeding addressing this issue undertook a test year pilot to determine the level of baseline compliance and to test metering/logging capabilities for enforcement. In July 2022, the Commission re-opened the record of the proceeding to request comments on the 2020 and 2021 Demand Response Prohibited Verification Audits. A Commission decision is expected in 2022.

[73] The CEC initiated a stakeholder process to address load management. The *2020 Load Management Rulemaking* (Docket #19-OIR-01) expands on efforts to increase efficiency and demand flexibility in California's electricity grid. The CEC will revise the existing standards to promote a demand flexible electricity market, while ensuring that costs and benefits are equitable. The CEC will consider new tariffs, technologies, and other measures that are consistent with the need for increased demand flexibility to support a renewable and decarbonized electricity grid. <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-OIR-01> (as of Oct. 26, 2022)

TABLE 25
DEMAND RESPONSE – SUMMARY OF PG&E ACTIONS AND RECOMMENDATIONS

Existing Near-Term Actions	• Work with regulators on programs that can participate in CAISO and CPUC DR markets. • Continue PG&E's DR programs and pilots for residential and non-residential customers. • Continue refining the DRAM pilot with third party demand response providers.
Key Barriers	• Uncertainty with respect to PG&E's role as the demand response provider (DRP) or procurer. • Uncertainty with respect to the ability of DR resources to cost-effectively provide grid services. • Enrolling EV and other BTM battery storage in demand response programs for smart charging. • Rapid technological advancement and changing customer preferences.
Proposed New Near-Term Actions / Commission Direction	• Approval of PG&E's 2023 Bridge Year Application. • Consideration of PG&E's proposals in its 2024-2027 Application.
Deviations From Current Resource Plans	PG&E's DR portfolio is aligned with the current DR funding cycle budget (2018–2022) authorization per D.17-12-003.
Recommendation for Future IRPs	• Continue to evaluate DR in IRP as a candidate resource.

Existing Near-Term Actions

Offer DR Programs for Residential and Non-Residential Customers: PG&E's DR portfolio currently consists of programs authorized in D.17-12-003 for the 2018-2022 program cycle as well as new pilots adopted in the Emergency Reliability OIR. The programs authorized in D.17-12-003 include the Base Interruptible Program (BIP) and Peak Day Pricing (PDP) for non-residential customers, SmartAC and Smart Rate for residential customers, and Capacity Bidding Program (CBP) and time-of-use (TOU) rates for all customer classes. Customers can enroll in PG&E DR programs directly or through third-party aggregators (e.g., CBP and BIP). In addition, the Commission authorized new demand response pilots in R.20-11-003 that PG&E launched in 2021, such as the ELRP and BYOT Pilot.

In the near-term, PG&E proposed modifications to CBP and its Rule 24 program for the 2023 Bridge Year. PG&E's proposed CBP changes include:

- Changes to the program hours to align CBP availability with the hours of greatest potential for supply shortfalls;
- Increasing incentives to encourage greater participation;
- Enhance the settlement process for CAISO wholesale energy payments; and
- Continue electronic enrollments in the program.

In addition, PG&E proposes to increase funding for its Rule 24 program, which enables third-party demand response providers to enroll PG&E's electric retail customers in the CAISO wholesale electric market, based on forecasted mass market participation levels.

Pilot the DRAM RFO with Third Party Demand Response Providers: PG&E is administering the DRAM RFO pilot through a pay-as-bid auction of monthly capacity for DR RA bid into the CAISO's energy market, where DR providers must meet the CAISO's must-offer obligations with customers in PG&E's service area. The pilot is designed to encourage third party DR providers to develop demand response programs that can spur innovation and growth of a competitive third-party market. The Commission is currently assessing the future of DRAM as part of PG&E's 2023-2027 DR Application.

Key Barriers

Uncertainty with respect to PG&E's role as the demand response provider (DRP) or procurer: This uncertainty manifests in in two ways. First, CCAs are serving an ever-increasing portion of customers within the PG&E service territory. Second, the future of the role of IOUs in providing DR versus third parties, such as DRAM, is an open question.

With respect to the first issue, under the Competitive Neutrality Cost Causation principle, a customer whose energy is procured by a CCA or an ESP is ineligible to participate in an IOU DR program if the CCA or ESP offers a program that is deemed by the Commission to be "similar"

to the one offered by the IOU.[74] In addition, the Commission adopted Resolution E-5008 in July 2022, which established a process for the IOUs to implement a bill credit to CCA or ESP customers participating in a similar DR program. It remains to be seen how these processes may impact enrollment levels and cost effectiveness of IOU DR programs.

Uncertainty with respect to the ability of DR resources to cost effectively provide grid services: Additionally, grid needs are evolving away from system capacity and toward local capacity, flexible capacity, and ancillary services that are needed to support the transition to a cleaner grid. It will be important to determine which evolving grid needs DR is best suited to meet cost-effectively. This is important because the IOU DR programs are mandated to be cost-effective, and the complexities associated with an evolving grid may require costly solutions in terms of program offerings and system administration. In addition, recent changes to the methodology for calculating Avoided Costs could impact the value attributed to DR resources.[75]

Enrolling EV and other BTM battery storage in demand response programs for smart charging: Many BTM DER technologies have the potential to provide grid services via DR by temporarily dropping or shifting load to help realign supply and demand, and/or reduce the customer's utility bill. These include battery systems, in EVs or stand alone. Smart charging of a battery can be utilized to maximize customer benefit, which may or may not align with maximizing benefit to the electric grid. If enrolled in a DR program, however, the battery is incentivized to dispatch when needed by the grid.

Rapid technological advancement and changing customer preferences: An important recognition in DR program design involves consideration of technological advancement and customer preferences. These are critical as certain legacy technologies (e.g., direct load control) may no longer provide cost-effective resources. Moreover, customers' desire to embrace new technologies (e.g., Smart thermostats) and understanding behavioral changes (e.g., when are customer using resources) are critical in the development of DR offerings. A key challenge is staying ahead of these trends.

viii. Other Energy Efficiency

PG&E is optimizing its EE portfolio for recent CPUC direction that emphasizes EE's full-lifecycle benefits to the grid, as well as longer-term and equity objectives EE programs serve, while in 2022 continuing the transition started in 2018 toward a predominantly third-party implemented portfolio. In February 2022, PG&E filed an application for approval of its 2024-2031 strategic business plan. The business plan reflects a focus on offering a diverse portfolio to maximize participation and grid benefits, supporting a multi-pronged approach to

[74] D.14-12-024, p. 87, OP 8b.

[75] Resolution E-5228, 2022 Policy Updates to the Avoided Cost Calculator.

building decarbonization, and incorporating support for load management and customer resiliency into programs.

PG&E's 2024-2031 EE Strategic Business Plan presents PG&E's annual Total System Benefit (TSB), energy savings, CO_2 emissions reduction, and cost effectiveness forecasts for 2024-2027, as well as a budget cap request for 2024-2031. The plan also discusses strategies that PG&E will employ in its 2024-2027 portfolio. These include:

- Delivering TSB by offering programs and services at multiple interaction points, and deploying a variety of program types, intervention approaches, and transaction structures to increase customer participation and generate benefits across customer sectors and PG&E's territory.
- Undertaking a multi-pronged approach to decarbonization by supporting all-electric and electric-ready buildings, including all-electric new construction. Where possible, PG&E will prioritize zonal electrification, followed by whole-building electrification, and targeted electrification for harder-to-electrify technologies and customer sectors. PG&E will also leverage technical support and advocacy through codes and standards, and workforce education & training.
- Supporting load management and customer resiliency by providing permanent load reduction, incorporating EE measures with flexible demand capabilities, and using EE to support or reduce customer costs for resiliency solutions.

The Strategic Business Plan also reflects the impact of several recent policy developments in the energy efficiency space.

In May 2021, the CPUC issued D.21-05-031, which put in place a new performance metric, Total System Benefit (TSB), for ratepayer-funded EE portfolios in California beginning in 2024. TSB is defined as "the sum of the benefit that a measure provides to the electric and natural gas systems."[76] TSB is an expression, in dollars, of the lifecycle energy, ancillary services, generation capacity, T&D capacity, and GHG benefits of energy efficiency activities, on an annual basis. The TSB metric replaces energy and peak demand savings as the goals metric for ratepayer-funded EE programs. The shift to the TSB metric will recognize the impact of longer-life EE measures over the full time they are installed and saving energy. It also assigns greater value to load reduction that occurs at times that align with system needs. The TSB metric is fuel agnostic and thus may more easily facilitate fuel substitution.

Beginning in 2022, D.21-05-031 also ordered EE Program Administrators (PA) to "segment" the voluntary, or non-codes and standards, portion of their EE portfolios into three categories, based on their primary purpose: resource acquisition, market support, and equity. Cost-effectiveness requirements for IOUs were changed and now apply only to the resource

[76] CPUC, Total System Benefit Technical Guidance, Version 1.2 (Oct. 25, 2021) p. 1.

acquisition segment of PA voluntary (non-codes and standards) program portfolios.[77] The resource acquisition segment comprises the majority of IOUs' portfolio budgets, at least 70 percent. This change in cost-effectiveness policy may have the impact of helping EE PAs focus their efforts on delivering cost-effective TSB across the resource acquisition segment, while focusing on other objectives in the market support and equity segments.

While segments are intended to indicate programs' primary purpose and only the resource acquisition segment remains subject to cost-effectiveness compliance considerations, programs in any segment may deliver TSB and contribute toward EE PAs' achievement of their TSB goals, and programs in the resource acquisition segment may serve hard-to-reach, DAC, or underserved customers. PG&E completed its initial segmentation of its portfolio in its 2022-2023 Biennial Budget AL and discusses portfolio segmentation in depth in its 2024-2031 Strategic Business Plan Application.[78]

Prior CPUC direction on third-party outsourcing remains in effect, and PG&E has fully embraced the transition to a predominantly third-party implemented portfolio. PG&E met the June 30, 2020 compliance target of 25 percent third-party programs and the December 31, 2020 compliance target of 40 percent by the end of 2021. PG&E is on track to meet the CPUC's final third-party outsourcing target of 60 percent by December 31, 2022. With the phase-in of third-party implementation shifting the task of program design and delivery more to third parties, PG&E retains responsibility to ensure that the contracted programs remain consistent with PG&E's approved strategies to achieve reliable energy savings and total system benefit.

In the near term, PG&E is also focused on accommodating the shift toward statewide EE programs.[79] PG&E leads the statewide new construction, codes & standards advocacy, workforce education & training, and institutional partnerships programs with the State of California and state Department of Corrections. Statewide programs led by other IOUs include

[77] D.21-05-031, p. 14 and p. 81, OP 2. Segmentation applies only to the voluntary (non-codes and standards) portion of IOUs' program portfolios. Resource acquisition programs are those aimed primarily at delivering cost-effective, near-term TSB, and make up at least 70% of IOUs' EE voluntary program portfolios. This portfolio segment must meet at 1.0 TRC test. Market support programs are aimed primarily at supporting the long-term success of the EE market (for example, by educating customers or training contractors). Equity programs are aimed primarily at serving hard-to-reach or underserved customers and disadvantaged communities in advancement of the CPUC's ESJ action plan. Together, the market support and equity segments are limited to no more than 30 percent of Pas' voluntary portfolios, and they are not subject to cost-effectiveness requirements. Performance metrics for the market support and equity segments are under discussion as of September 2022. Codes and standards programs remain classified separately.

[78] See A.22-02-005, PG&E's Prepared Testimony, Exhibit 2, Chapter 3.

[79] In D.18-05-041, the Commission ordered a move to statewide administration of certain programs, in which a single IOU leads the program operationally for the entire state.

technology programs such as lighting, plug load and appliance, food service, and water heating. Because these programs operate and serve customers throughout the state, program impacts (savings or TSB) are credited to participating IOUs proportionally.

Finally, as federal and state investment in energy efficiency and decarbonization increase, PG&E expects to administer programs designed to complement efficiency and electrification support available through external funding sources. For example, as low-to-moderate-income and whole-building electrification program authorized in the Inflation Reduction Act (IRA) become available in California, PG&E anticipates working with its third-party implementers and partners to help their program designs evolve to complement IRA programs.

Table 26 below provides a summary of PG&E's energy efficiency actions, barriers, and recommendations.

TABLE 26
ENERGY EFFICIENCY – SUMMARY OF PG&E ACTIONS AND RECOMMENDATIONS

Existing Near-Term Actions	• PG&E expects to achieve its final, 60% outsourcing target by December 31, 2022. • PG&E filed its 2024-2031 EE Strategic Business Plan Application on February 15, 2022, and expects a decision in Q3 2023.
Key Barriers	None at this time.
Proposed New Near-Term Actions / Commission Direction	• Commission should approve PG&E's 2024-2031 EE Strategic Business Plan.
Deviations From Current Resource Plans	None at this time.
Recommendation for Future IRPs	• Evaluate EE in IRP as a candidate resource.

ix. Other Distributed Generation

Here, distributed generation (DG) refers to customer-sited renewable generation installations – primarily rooftop solar PV systems and, increasingly, rooftop solar PV systems paired with storage. PG&E has a long history as the leading utility when it comes to solar DG integration.[80] PG&E supports customer adoption of solar and other DG technologies by implementing DG-specific tariffs and incentive programs, working to improve and streamline interconnection processes, and by providing customers DG-related educational and customer service resources.

[80] Smart Electric Power Institute (SEPA) 2019 Top 10 Winners, <https://sepapower.org/2019-top-10-winners/> (as of Oct. 26, 2022).

PG&E has also been active in developing best practices for incorporating DG into load planning and building codes and standards.

PG&E recently reached 655,000 bundled and unbundled customer service agreements with DG installed behind the utility meter. PG&E is supporting these and future DG customers through several actions.

Table 27 below provides a summary of PG&E's distributed generation actions, barriers, and recommendations.

TABLE 27
DISTRIBUTED GENERATION – SUMMARY OF PG&E ACTIONS AND RECOMMENDATIONS

Existing Near-Term Actions[(a)]	• Provide customer service infrastructure to implement Net Energy Metering (NEM) tariffs. • Administer or support DG and storage programs. • Streamline interconnection and facilitate incorporation of solar inverter technology.
Key Barriers	• Incentives through the NEM tariff structure that are misaligned with DG's net value. • Lack of visibility into DG generation data. • Inability to use available technology to capture additional value and minimize operational impacts at high penetration levels.
Proposed New Near-Term Actions / Commission Direction	• The new NEM tariff structure should be reformed to correct the inequities created by the existing NEM tariff while incentivizing customer generation and storage technologies in a way that better aligns the interests of all customers and the grid.
Proposed New Near-Term Actions	• Actively continue to participate in ongoing CPUC NEM Reform proceeding to support sustainable customer-focused NEM tariffs.
Recommendation for Future IRPs	• Evaluate DG in IRP as a candidate resource. • Ensure consistent valuation between supply-side resources and DG. • Validate assumed DG generation profiles against metered data.

Provide Customer Service Infrastructure to Implement Net Energy Metering (NEM) Tariffs: NEM tariffs—which allow customers to receive monetary credits for electricity exported to the grid and use credits to offset charges for imported electricity—have spurred significant growth

in DG adoption. The NEM tariffs and sub-schedules require specialized billing infrastructure to implement, dedicated staff with specialized training in safe generation interconnection, as well as educational and communication resources for customers and vendors due to the complexity of these tariffs. PG&E provides dedicated staff and billing infrastructure, as well as communications resources (including a call center dedicated to handling approximately 30,000 monthly calls from DG customers) to implement the NEM tariffs and sub-schedules. In addition to the call center, PG&E offers online educational tools and guides for customers who are considering or who have installed DG.

Administer or Support DG and Storage Programs: PG&E manages or supports DG Programs that will continue to facilitate the incorporation of DG and BTM storage into PG&E's electric system. These include:

- The Self Generation Incentive Program (SGIP) is administered by PG&E in its service area, which provides incentives to non-solar PV technologies such as fuel cells and wind, along with storage technologies. In 2020 SGIP was re-oriented to focus on providing customer resilience, and the program currently will extend through 2025. PG&E has paid over 3,600 applications worth over $134M for the Equity Resiliency budget.
- The Multifamily Affordable Solar Housing (MASH) Program is administered by PG&E in its service area. This program is not currently accepting applications and will fund PV installations through the end of 2022.
- The Disadvantaged Communities Single-Family Affordable Solar Homes (DAC-SASH) program is administered by Grid Alternatives on behalf of all three IOU. PG&E supports the DAC-SASH program by reviewing final incentive packages, providing data, and processing payments.
- The Solar on Multifamily Affordable Housing (SOMAH) program is administered by the Center for Sustainable Energy for California. PG&E supports the SOMAH program by providing participant data to the administrator, reviewing final incentive packages, and processing payments. In addition, PG&E ensures safe interconnection of SOMAH PV generation and administers the supporting SOMAH tariff.
- PG&E also administers four community solar programs for both general market and DAC. These programs do not result in rooftop solar installations, instead PG&E procures wholesale resources on behalf of participants; hence they are not included in the DG forecast. For general market these include the Solar Choice and Regional Renewable Choice programs, which are collectively capped at 272 MW of generation resources. For DACs these include the Green Saver and Local Green Saver programs, which are capped at 52.7 and 14.2 MW of solar resources, respectively.

Ongoing Interconnection Streamlining & Transparency Efforts, Accommodation of Storage/EVs, and Planning for a Grid with Higher DER: As phase 1 of an ongoing interconnection (Rule 21) proceeding and associated working groups draws to a close, PG&E has continues to make significant strides in reducing interconnection times, increasing interconnection status transparency, and provide greater ways to adapt to a grid that needs to be able to accommodate more generation/DER notably storage including EV (as storage e.g. vehicle-to-grid (V2G)). To meet these goals, PG&E has consolidated various online interconnection application portals into a single portal and significantly enhanced its portal functionality, incorporated standard interconnection timeline reporting, worked to implementing more advanced smart inverter communications to enable the more sophisticated and adaptive use of smart inverters, established pilots for non-export storage and for EV storage, as well as adopted various consumer protection measures. Looking ahead, PG&E is taking steps to implement generator aggregation arrangements and in phase 2 of the proceeding is beginning to explore various interconnection cost sharing options.

Continue to Integrate DG into Load Planning and Building Codes and Standards: PG&E plans to continue to work with the CEC, CPUC, DG providers, and other stakeholders to improve understanding of DG adoption trends and load impacts, and to assess and implement best practices for incorporating DG into load planning and codes and standards. In addition, PG&E will work with the CPUC and other stakeholders to more closely align the NEM tariff with appropriate cost causation principles.

Advocate for NEM Reform: While PG&E supports the options for its customers to install rooftop solar, particularly when paired with storage, PG&E notes that the current prevailing mechanism for compensating rooftop solar systems – NEM – is in direct conflict with affordability and equity goals. Specifically, the subsidies paid to new customers taking service on the NEM rate exceed any other state except for Hawaii. In fact, within California subsidies paid by PG&E customers exceed those paid by customers of any other utility except for San Diego Gas & Electric. An assessment commissioned by the CPUC of the current NEM tariff demonstrated that this subsidy is regressive: it primarily benefits higher income households at the expense of lower income households including renters.[81] Consistent with PG&E's objective of developing a cost-effective portfolio of resources to ensure customer affordability and support state electrification goals, PG&E has proposed reforms to the NEM tariff that would align compensation for distributed energy resources with their value to all customers and would incentivize customers to install rooftop paired with storage.

[81] Verdant Associates, LLC, Net-Energy Metering 2.0 Lookback Study (Jan. 21, 2021), <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/net-energy-metering-nem/nem-evaluation/nem-2_lookback_study.pdf> (as of (Oct. 26, 2022).

Key Barriers

Incentives through the NEM tariff structure that are misaligned with DG's net value: PG&E supports customers' choice to use DG to serve their energy needs, and NEM tariffs have played a role in incenting customers to adopt DG. As was documented in PG&E's communication to the CPUC and other stakeholders during the NEM Successor Tariff proceeding, PG&E remains very concerned that NEM currently provides incentives that are not proportionate to the net value of DG resources to the electrical system,[82] as is required by law.[83] This has resulted in DG adoption that is inconsistent with meeting system needs in the least cost manner, as demonstrated in RESOLVE modeling that shows that overall system costs increase with higher assumed levels of BTM PV adoption. Furthermore, under the past and current NEM Tariff structures, revenue recovery from the DG customers usually is less than the cost to serve them, and the DG customers cost the utility more to serve in comparison to the non-NEM customers under most of the circumstances. As a result, there is a disproportionate burden on customers who cannot, or choose not to, adopt DG to bear the cost for electric system infrastructure that supports all customers.

PG&E supports continued availability of rooftop solar as a viable option for its customers and looks forward to working with all stakeholders in near-term CPUC proceeding expected to result in a sustainable NEM tariff. Among other things, PG&E will focus on continuing to improve the customer experience of rooftop solar and other DG choices.

Lack of visibility into DG generation data: In the California IOU service areas, DG vendors and customers are not required to provide sub-metered data on DG generation to the IOUs or to statewide planners. This lack of access to DG generation data creates challenges for customer understanding of NEM billing and may pose operational awareness challenges for utilities and planners as more DG, and particularly solar with variable generation, is incorporated into California's electrical system. Of increasing concern is the paucity of data regarding charge/discharge operation of BTM customer storage installation, particularly those installed in conjunction with rooftop solar.

Inability to use available technology to capture additional value and minimize operational impacts at high penetration levels: BTM PV systems are not metered by utilities for generation output. Visibility is restricted to the net usage (electric consumption net of solar generation) and exports to the grid that are measured by the utility revenue meter for customers participating in a NEM tariff. It is infeasible currently to collect data on the actual generation. While most vendors provide information to customers regarding their PV systems' production,

[82] PG&E's Comments on Party Proposals and Staff Papers (Sept. 1, 2015) R.14-07-002, NEM Successor Tariff <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M154/K655/154655659.PDF> (as of Oct. 26, 2022).

[83] PUC Section 2827.1(b)(4).

there are no collection standards and quality requirements for that data. Furthermore, there are limited existing data collection, delivery protocols, and communication infrastructure that could be used make the data available to utilities, regulators, or market participants. Significant investment in data collection and communication infrastructure would be required before BTM generation could be reliably used for market participation that relied on measured data from the generator, which may be necessary for realization of BTM PV value for certain system benefits.

x. Transportation electrification

PG&E is committed to increasing adoption of clean fuel vehicles, such as EV, hydrogen vehicles, and natural gas vehicles, in California to help the state meet its aggressive climate and clean transportation goals. PG&E's climate strategy is aligned with the underlying assumption of increased transportation electrification and higher GHG emission reductions, and the 2022 IRP's ATE scenario aligns closest with PG&E's internal load forecast for the post 2030 horizon. The 2021 IEPR mid EV forecast that was used for PG&E's Conforming Portfolios includes expected deployment of over 1.2 million clean fuel vehicles in its service territory by 2030 and 3.1 million statewide, in support of state regulations regarding zero-emission vehicles. PG&E's existing and soon to be implemented customer offerings address key barriers to transportation electrification and EV adoption throughout its service territory in support of those goals. Beyond approved state regulations, PG&E has committed to fueling 3 million EVs by 2030[84] which is aligned with recent goals set by the Governor. PG&E will continue to implement its existing CPUC approved infrastructure programs, Vehicle-Grid-Integration (VGI) pilots, Low Carbon Fuel Standard (LCFS) programs and offer EV-specific rates and rebates in the near term in support of its commitments, and the utility will also look for new opportunities aligned to PG&E's core capabilities to support the needs of EV drivers, including customers located in DAC, through additional program and rate design and through technology research and development.

Table 28 below provides a summary of PG&E's clean transportation actions, barriers, and recommendations.

[84] PG&E Climate Strategy Report (June 2022), <https://www.pge.com/pge_global/common/pdfs/about-pge/environment/what-we-are-doing/pge-climate-goals/PGE-Climate-Strategy-Report.pdf> (as of Oct. 26, 2022).

TABLE 28
CLEAN TRANSPORTATION – SUMMARY OF PG&E ACTIONS AND RECOMMENDATIONS

Existing Near-Term Actions	• Support medium- and heavy-duty vehicle charging infrastructure via PG&E's EV Fleet Program. • Expand light-duty charging options through PG&E's EV Fast Charge Program. • Expand charging infrastructure in state parks and schools through PG&E's EV Schools and Parks Program. • Support increased EV adoption among low-and-moderate-income customers through PG&E's Empower EV program. • Offer customers EV specific rates (e.g., EV-2A, EV-B, Business EV (BEV)) to provide low-cost fuel to customers. • Implement LCFS Holdback Programs to increase customer EV adoption. • Test vehicle-to-grid technologies through analysis and pilots.
Key Barriers	• Lack of availability of charging infrastructure. • Total cost of ownership. In particular, upfront EV costs tend to be higher than those of internal combustion engine vehicles. • Lack of EV awareness or understanding. • Inequitable access to EVs and EV charging. • Grid impacts due to magnitude of expected EV load.
Proposed New Near-Term Actions / Commission Direction	PG&E is not requesting any additional actions in this IRP. However, PG&E encourages the Commission to approve the following actions, which are currently open or will be filed in separate, future proceedings: • A decision on the Transportation Electrification Framework. • Approval of the Submetering Implementation Plan (to be filed in Dec 2022). • Approval of the VGI Dynamic Rates AL. • Approval of the Joint IOU Tier 3 AL with adjustments to the medium- and heavy-duty vehicle charging infrastructure programs. • Approval of PG&E's EV Charge 2 Application. • Approval of future proposed programs, including additional or extended LCFS Holdback programs or programs proposed under the CPUC's "Near-Term Priority" pathway.
Deviations from current resource plans	The activities listed above are all in support of PG&E's Climate Strategy goal of 3 million EVs deployed in PG&E's Service Territory by 2030. This is almost twice as many EVs deployed as planned in the current IRP.
Recommendations for Future IRPs	• Evaluate EVs in IRP as a candidate resource. • Incorporate higher EV load such as the IAWG ATE case.

PG&E is supporting the planned number of deployed EVs in the IRP through its duty to serve Service Planning Process. This includes:

Supporting interconnection of EV charging infrastructure through Electric Rule 29: PG&E's EV Infrastructure Rule 29 pays for and coordinates the design and deployment of service extensions from PG&E's electrical distribution line facilities to the service delivery point for separately metered EV charging stations for commercial, industrial, and multi-family customers. Rule 29 can support the anticipated increase in EV charging interconnection by reducing the cost and complexity for customers to install EV charging infrastructure.[85]

Planning for increased EV load through the Utility Distribution Planning Process: PG&E uses the approved CEC IEPR transportation electrification forecast to plan for necessary investments on the grid. The 2021 IEPR mid EV load forecast is integrated into PG&E's distribution planning process to inform where grid upgrades are needed and how much increased capacity is necessary. To prepare the grid for the EV load that is anticipated beyond the 2021 IEPR forecast, and in line with PG&E's 2030 EV commitments, PG&E received approval from the CPUC to plan to the higher EV forecast, the High Transportation Electrification IEPR scenario, for future years.

PG&E is currently supporting EV adoption within its service territory above and beyond the current EV deployment plan in the IRP through the following actions:

Support MDV/HDV Charging Infrastructure via PG&E's EV Fleet Program: Continue implementation of PG&E's EV Fleet Program by installing "make-ready" infrastructure for non-light-duty fleets at approximately 700 sites and supplying charging for approximately 6,500 vehicles.[86] Additional incentives are provided to sites in DACs, as defined by the CPUC, and to school and transit bus projects.

Expand Charging Options through PG&E's DC Fast Charging Infrastructure Program: Continue implementation of PG&E's EV Fast Charge Program to install approximately 40 sites for DC fast charging in corridor and urban sites, with at least 25 percent of sites located in DACs adjacent areas. Additionally, rebates are provided to sites in DACs.[87]

Expand Infrastructure in State Parks and Schools: Implement PG&E's EV Schools and EV Parks programs to install Level 2 and DC Fast Charging infrastructure targeting 15 state parks and beaches, and 16 school facilities and educational institutions within PG&E service territory.[88]

Support Increasing EV Adoption Among Low-and-Moderate Income Customers through Empower EV: PG&E's Empower EV offers a rebate for a residential charger, and in some cases

[85] PG&E Electric Rule 29, <https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_RULES_29.pdf> (as of Oct. 26, 2022).

[86] D.18-05-040.

[87] D.18-05-040.

[88] D.19-11-017.

panel upgrade, as well as tailored marketing, education, and outreach to meet the needs of low- and moderate-income customers with a focus on communities in Fresno, San Jose, and Brentwood/Oakley. PG&E will tailor Marketing, Education, and Outreach to best serve these communities with a focus on providing multi-lingual resources and leveraging a diverse set of marketing channels. PG&E is also partnering with a program implementer with close ties to the communities served to administer the Empower EV program.

Pilot Vehicle Grid Integration technologies: Implement three VGI pilots to evaluate use of vehicles for grid services and as backup power. These include a V2G pilot to provide backup power to residential customers in PSPS via their EVs, a pilot to test the use of commercial EVs to manage load/bills at commercial buildings, and a pilot to enable passenger and fleet EVs to charge and discharge in a PSPS-formed microgrid.[89]

Offer Customers EV Specific Rates (e.g., EV-2A, EV-B, BEV, and EV Submetering): PG&E has two residential EV rates designed to promote EV charging during times consistent with grid needs, EV2-A and EV-B.[90] The rates are differentiated based on whether the EV charging has a dedicated meter. Both rate plans use an un-tiered TOU rate structure. They offer on-peak, partial peak, and off-peak energy prices. Additionally, PG&E now offers an EV rate for commercial customers (Business EV Rate or BEV). PG&E offers two BEV plans, BEV-1 and BEV-2, based on charging installation load and combines a customizable monthly subscription charge with a TOU rate structure. PG&E will also begin implementation of its optional day-ahead real time rate for commercial EV customers on the BEV rates. Additionally, within approximately the next 2 years, PG&E will modify its billing system(s) to allow for non-NEM residential and business customers to begin submetering their EV load. This rate is intended to help EV charging occur at optimal times for the grid. Submetering will lower barriers to customers' access to low-cost EV-specific rates by eliminating the need for a separate meter

LCFS Holdback Programs: PG&E earns credits for providing low-carbon fuels and uses this off-bill revenue to fund customer programs to promote EV adoption. The LCFS programs have four guiding principles for their design and evaluation: i) maximize benefits utility customers; ii) advance the state's equity, resiliency, and climate goals; iii) support EV awareness and adoption; and iv) efficiently use funding. The four LCFS holdback programs are as follows:[91]

- **Pre-Owned EV Rebate:** Post-purchase rebate for pre-owned EVs. This is a $1,000 base rebate, with an additional $3,000 for income-qualified customers.
- **Multi Family Home and Small Business Direct Install Pilot:** Installation of low-power chargers (Level 1 and Level 2) at multifamily and small businesses with capacity on the panel.

[89] Res. E-5192, PG&E's AL 6529-E, May 6, 2022.

[90] Res. E-4508, PG&E's ALs 3910-E and 3910-E-A, August 27, 2012.

[91] PG&E AL 6226-E-A, pp. 4-5.

- **Residential Charging Solutions Pilot**: Educational resources and financial support to install residential EV charging which avoids panel upgrades.
- **Resiliency Pilot (evPulse for PG&E):** Communication and/or active management of residential customers' EV charging prior to a PSPS event to ensure their battery is charged before an event.

Customer Education: PG&E provides resources to support customers in their EV evaluation and purchasing considerations. PG&E's online EV Savings Calculator[92] is a customizable tool for residential customers that disambiguates total cost of ownership and pools together information on EV models, rates, incentives, and helps customers locate charging stations. The website also offers videos and checklists about EV charger installation. Additionally, PG&E offers an EV Fleet Calculator[93] to assist business customers in evaluating fuel savings and total cost of ownership for switching to an EV fleet.

PG&E has proposed the following program to continue its support of EV adoption and PG&E and the State's goals:

Expand charging infrastructure for multi-family housing residents: PG&E's proposed EV Charge 2-program[94] is an extension of the EV Charge Network and the EV Fast Charge programs and will support installation of L2 and DC fast charge charging ports at multi-family housing, workplaces, and public destinations. 50 percent of the program's infrastructure will be deployed in priority communities per AB 841.[95]

Key Barriers

Lack of availability of charging infrastructure: Access to EV charging infrastructure continues to be a major challenge across all vehicle types that contributes to range anxiety and hinders EV adoption. To date there are 41,921 public and private charging ports in California, 8,064 of which are Direct Current Fast Charging (DCFC).[96] Progress toward the state of California's goal of 250,000 charging ports, including 10,000 DCFC, has been slow in part due to the significant

[92] PG&E EV Saving Calculator, <https://ev.pge.com/> (as of Oct. 26, 2022).

[93] PG&E EV Fleet Calculator, <https://ev.pge.com/> (as of Oct. 26, 2022).

[94] A.21-10-010, Application of Pacific Gas and Electric Company for Approval of its Electric Vehicle Charge 2 Program (Oct. 26, 2021).

[95] AB 841 (2021-2022 Reg. Sess.) <https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201920200AB841> (as of Oct. 26, 2022).

[96] Total public and private chargers in California from the Department of Energy's Alternative Fuels Data Center.

costs associated with EVSE installation. PG&E is committed to accelerating investment in infrastructure to aid progress toward this goal and address this gap.

Total cost of ownership: While EV technology continues to advance and model types increase, EVs can still cost more than traditional internal combustion engine vehicles. This is particularly true for medium- and heavy-duty vehicle types which currently have fewer EV options available and are significantly higher in price.

Lack of EV awareness or understanding: The decision to purchase an EV or convert a fleet involves awareness and understanding of new technology not limited to the vehicle itself but also the charging equipment, rate structures, and ways to maximize TOU benefits, as well as how to navigate the various incentive programs available to both residential and commercial customers.[97]

Inequitable access to EVs and EV charging: The key barriers to transportation electrification of lack of charging infrastructure and high upfront vehicle costs are exacerbated for hard-to-reach and underserved customers and communities. Low- and moderate-income customers often purchase cheaper pre-owned vehicles but are faced with fewer pre-owned EV options. Additionally, those customers may not have access to financing to be able to afford the upfront price of an EV even if there are after-purchase rebates available. There are also significantly fewer charging stations in disadvantaged communities or in areas that support customers who live in multi-family housing and can't charge EVs at home.

Grid impacts due to magnitude of expected EV load: The statewide goal of 5 million passenger vehicles by 2030 and 100% zero-emission passenger vehicle sales by 2035 and the complementary regulations for other transportation sectors will result in significant additional load to the grid which could exacerbate reliability issues. This will require new strategies and technologies, such as VGI, to successfully integrate future load of this magnitude.

xi. Building Electrification

In June 2022, PG&E issued its *Climate Strategy Report*, which established its goal to achieve a net zero energy system in 2040—five years ahead of the California carbon neutrality goal established in Executive Order B-55-18—and be climate and nature positive by 2050. PG&E recognizes the importance that building decarbonization must play in meeting these carbon goals and the specific leadership role that PG&E can serve in advancing zonal electrification as a part of a broader building and gas decarbonization strategy. In addition to PG&E's Energy Efficiency programs (detailed in Section A.8), PG&E has made a commitment in its *Climate Strategy Report* to "evaluate gas capital projects for electrification as an alternative to the planned gas projects and pursue electrification for the projects evaluated as feasible and

[97] A.17-01-022, PG&E's Transportation Electrification SB 350 Prepared Testimony (Jan. 20, 2017).

cost-effective." This focus on a managed transition through zonal electrification will ensure both greenhouse gas savings and long-term customer affordability.

Table 29 below provides a summary of PG&E's building electrification actions, barriers, and recommendations.

TABLE 29
BUILDING ELECTRIFICATION – SUMMARY OF PG&E ACTIONS AND RECOMMENDATIONS

Existing Near-Term Actions	• PG&E has supported state and local government policies that promote all-electric new construction. Over 50 local jurisdictions, 43 of which are in PG&E's service territory, have adopted "reach" building codes either mandated or giving preference to all-electric new construction. PG&E has provided written support for these local efforts where they are cost effective and reduce emissions for its customers. • PG&E has supported the adoption of the 2022 California Title 24 Energy Code, which includes provisions around electric space and water heating, and continues to find ways to promote energy efficiency and electrification through its Codes and Standards partnerships. • In the California Public Utilities Commission Building Decarbonization proceeding (R.19-01-011), PG&E supported the elimination of gas line allowances, discounts, and refunds for all residential customers and the elimination as allowances, discounts, and refunds for non-residential customers where there was not a financial or environmental benefit to its customers.[98] • PG&E's *Climate Strategy Report* includes a 2030 goal to "evaluate gas capital projects for electrification as an alternative to the planned gas projects and pursue electrification for the projects evaluated as feasible and cost-effective.[99]" • The *Climate Strategy Report* also includes an effort to zonally electrify three to five communities, with a specific focus on the decarbonization of vulnerable communities. • PG&E has created a *Gas Asset Analysis Tool*, which highlights portions of the gas system which may make sense to further investigate zonal and/or targeted electrification.

[98] R.19-01-011, Opening Comments of Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Gas Company on the Phase III Staff Proposal (Dec. 20, 2021), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M434/K000/434000388.PDF> (as of Oct. 26, 2022).

[99] PG&E's Climate *Strategy Report* (June 2022), p. 22.

TABLE 29
BUILDING ELECTRIFICATION – SUMMARY OF PG&E ACTIONS AND RECOMMENDATIONS (CONTINUED)

	• PG&E is participating in EPIC GFO-20-503 to "develop multi-disciplinary, strategic approaches for stakeholders and decision makers to determine where natural gas infrastructure retreat is plausible, economically viable, and ratepayer supported" with partners Gridworks, E3, and East Bay Community Energy. • On August 10th, PG&E filed an application with the CPUC that asks for up to $17.2 million to pursue "zonal" electrification for Phases 2-5 at CSU Monterey Bay (A.22-08-003). The costs of the zonal electrification project are anticipated to be fully offset avoided gas distribution replacement costs for these phases. • PG&E's innovative WatterSaver program and California Energy-Smart Homes Program, provide incentivizes low-carbon solutions in the building sector. • PG&E has developed an electrification website (https://www.pge.com/electrification) and email address (electrification@pge.com) to support its customers transitioning to all-electric homes and businesses. • PG&E provides no-cost electrification training to its customers and the building industry through its workforce education and training programs. In its *Climate Strategy Report,* PG&E included a goal for 50% of these programs to focus on electrification by 2030, with a goal of 60% of participants being from DAC. • PG&E will be releasing the E-ELEC electrification rate beginning in 2023. • PG&E is a supporter of the Switch is On, which provides technical assistance and contractor resources for those looking to make the switch to all-electric.

TABLE 29
BUILDING ELECTRIFICATION – SUMMARY OF PG&E ACTIONS AND RECOMMENDATIONS (CONTINUED)

Key Barriers	• Obligation to serve. • External/non-traditional funding. • Financial reform for non-pipeline alternatives.
Proposed New Near-Term Actions / Commission Direction	PG&E is not requesting any additional actions in this IRP.
Deviations from current resource plans	None.
Recommendations for Future IRPs	Incorporate building electrification demand in future IRPs.

Key Barriers

Obligation to serve: Due to PUC Code 451 ("obligation to serve"), one hold-out can lead to failure of a zonal electrification effort, even if electrification is the best financial or environmental outcome for customers. A legislative reform to obligation to serve would allow for greater building electrification potential.

External/non-traditional funding: External funding will be critical to ensuring that PG&E can pursue electrification while minimizing the impact on remaining gas customers, many of whom are likely to be low-income customers.

Financial reform for non-pipeline alternatives. PG&E believes that zonal electrification can reach wider scale and scope if PG&E were to have appropriate rate recovery for zonal electrification projects, for example allowing recovery of costs as a regulatory asset over a 15-year period. This would allow utilities such as PG&E to evaluate gas investments and electrification on more equal financial footing and pursue the option that is more cost effective for its customers.

xii. Other

PG&E has not identified any other resources not covered in the above sections.

b. Disadvantaged Communities

In implementing its IRP Action Plan, PG&E is committed to serving customers in DAC. Regarding outreach to DAC, PG&E describes its existing outreach activities in this section as well as Sections III.d.ii and in Appendix 2: PG&E DAC Programs. Given evolving market dynamics,

PG&E's current energy procurement and customer engagement activities are driven primarily by state policy mandates and the implementation of DSM programs, many of which already include targeted offerings to DAC communities.

i. DAC Activities/Programs

PG&E has a wide array of programs available to customers residing in DACs. A full list of programs is available in Appendix 2, with selected programs highlighted below:

- Building Electrification pilots targeted to residents of DACs and/ or low-income customers promote clean indoor air quality for participants as well as provide broader environmental benefits. The San Joaquin Valley Clean Energy Pilots have been converting appliances in customer homes from propane to electric since the pilot launch in 2020. The Energy Savings Assistance (ESA) program Pilot Plus/ Pilot Deep program launched in late 2022 and will include electrification of select participating customer homes, especially those with high energy usage.
- Clean transportation programs targeted to residents in DACs help mitigate local air quality concerns. Programs with specific focus on DACs include Empower EV, the EV Charge 2 proposal, and the Used EV Rebate, which are discussed in more detail in the Transportation Electrification section above.

PG&E's programs targeted to customers residing in DACs have evolved over the years to include more programs providing greater access to clean technologies that help minimize criteria air pollutants both inside customer homes and in the broader community. PG&E anticipates that there will continue to be more programs developed to help address and mitigate poor air quality in DACs, particularly programs that have a direct impact such as expanding access to EVs and building electrification.

ii. DAC Outreach

PG&E has not conducted outreach for this IRP filing due to time constraints but plans to conduct outreach for future IRPs. PG&E currently conducts outreach for many programs, primarily through partnerships with CBOs to assist in reaching hard to reach customers segments, such as customers residing in DACs or rural communities. PG&E anticipates that outreach efforts for future IRPs will build on and collaborate with efforts in other similar forums to leverage existing local outreach already underway. One key example to follow is the outreach conducted for the Climate Vulnerability Assessments, which includes overlaps with DAC customers. For future IRP cycles, PG&E anticipates that lessons learned from past outreach efforts will be leveraged to best reach impacted customers, and a robust outreach plan will likely have the following key elements:

- Contracted partnership with CBOs in impacted communities to best facilitate community outreach and engagement

- Partnership with internal PG&E teams including Local Government Affairs and Regional VP teams to inform and engage government and community leaders in impacted communities
- Meeting advertisements and materials available in primary languages spoken in impacted communities
- Outreach conducted in multiple cycles to introduce the procurement plan, solicit feedback, and inform residents of the final adopted procurement plan
- Information about additional programs available to customers residing in DACs to encourage enrollment in mitigating programs (such as clean energy programs or bill assistance rate programs). This outreach is already happening via other programs such as the ESA Program through local contractors who perform energy education in addition to weatherization services. This program reaches approximately 60,000 homes per year, and 25% of all homes treated are located in DACs[100]

PG&E has not developed metrics or scoring criteria for incorporating community input into the planned procurement activities but plans to begin discussions with internal and external stakeholders to develop a set of metrics that are feasible and reasonable before the next IRP filing.

c. Commission Direction or Actions

i. IRP Procurement Track

As noted earlier in the Study Results Sections III, PG&E anticipates that it will need to procure additional resources to meet its 2030 IRP GHG emission target and California's clean energy goals. Based on its IRP analysis, PG&E shows a need of approximately 12 TWh of incremental GHG-free resources by 2030. As a result of this need, PG&E requests authority to begin soliciting for GHG-free resources in 2023 in order to facilitate gradual procurement to avoid the reliability and, in some cases, cost impacts occurring today due to shortages and project delays. PG&E may procure less than 12 TWh depending on the resource mix procured, changes in PG&E's load forecast, outcomes of ongoing regulatory proceedings, or procurement resulting from additional future mandates. PG&E will continue to update and refine its analysis and subsequent need based on the latest available information as it moves forward to help determine the amounts and products that PG&E plans to procure in the future.

An early and flexible procurement approach will (1) help PG&E plan for potential changes in its need year and (2) realize potential benefits from gradual procurement including balancing the

[100] PG&E's ESA, CARE, and Family Energy Rate Assistance (FERA) Program Monthly Report for July 2022, ESA Program Table 7, <https://liob.cpuc.ca.gov/wp-content/uploads/sites/14/2022/09/PGE-JULY2022-Low-Income-Monthly-Report.pdf?emrc=ff7506> (as of Oct. 28, 2022).

certainty of procuring conventional GHG-free resources today with the opportunity to procure emerging technologies as they develop.

Request for Procurement Authorization

PG&E requests the Commission explicitly provide PG&E with procurement authority in its decision approving PG&E's 2022 IRP. PG&E proposes the following language be adopted by the Commission as an ordering paragraph in the decision that would provide PG&E with procurement authority to fulfill the procurement need identified by its 2022 IRP:

> "PG&E is authorized to initiate resource procurement activities, including solicitations and bilateral negotiations beginning in 2023, to meet the needs identified in its 2022 IRP or any subsequent update thereto approved by the Commission. Resources procured under this authorization may also count towards future procurement mandates or compliance requirements established by the Commission in this proceeding. PG&E shall submit a Tier 3 AL for approval of contracts for resources procured by PG&E pursuant to this ordering paragraph, unless such contracts are also authorized pursuant to any other proceeding before the Commission in which case such contracts may be presented pursuant to a Tier 1 AL. For administrative efficiency, more than one contract may be presented to the Commission in each AL submission."

PG&E is seeking approval to procure new resources via procurement activities such as solicitations and bilateral negotiations. While solicitations may allow PG&E to understand overall market depth, PG&E also seeks authority to procure via bilateral negotiations to ensure it can take advantage of any unique or fleeting opportunities in the market.

Potential for Need Year Change

As noted in PG&E's 2022 Draft RPS Plan[101] PG&E's need year may change as a result of several factors:

- Uncertainty regarding VAMO implementation ordered under D.21-05-030 including a final decision on what may happen to any volumes unsold in the Market Offer Process. This can impact PG&E's RPS supply portfolio and ultimately its need year.
- Mandated Procurement (e.g., for reliability purposes, procurement orders via IRP, etc.) that includes RPS-eligible or GHG-free resources may impact PG&E's future GHG-free position and subsequently its procurement need.
- Changes in load forecast such as increased electrification, adoption of energy efficiency resources, EV adoption, future CCA departure, or customer return can impact PG&E's forecasted customer load and load shape impacting PG&E's need year.

[101] PG&E's 2022 Draft RPS Plan (July 1, 2022) R.18-07-003, Section IV.A.3, PG&E's RPS Procurement Need for New Resources Before 2030, <http://pgera.azurewebsites.net/Regulation/ValidateDocAccess?docID=709459> (as of Oct. 26, 2022)

- New laws increasing or expanding upon GHG-free requirements may change PG&E's total GHG-free energy need and/or change PG&E's need year.
- Procurement by the Central Procurement Entity (CPE) or another procurement entity of GHG-free resources that are allocated to PG&E's bundled service customers.
- The Available resource mix to build or contract may impact PG&E's total need and ultimately its need year since different technologies have different marginal emissions reductions benefits. This may require more resources and potentially more time (or fewer resources depending on the generation profile) depending on what is available in the market.
- Other unforeseen regulatory or market changes

Benefits of Gradual Procurement

Although there are several years until PG&E's 2030 need year, PG&E believes that beginning solicitations as soon as possible is prudent to achieve its IRP goals and procure resources gradually. For example, the 2021 SB 100 Joint Agency Report shows 50,000 MW of cumulative capacity additions needed by 2030.[102] In particular, the report found that average 25-year build rates must be 2,800 MT for solar, 900 MW for wind and 2,000 MW for storage each year. These levels are greater than have ever occurred for California in single year. Procuring new GHG-free resources gradually may help mitigate future risk including but not limited to:

- Uncertainties regarding project development timeframes including supply chain constraints or delays;
- Significant demand for projects, including new construction and emerging resources (e.g., OSW) as LSEs ramp up procurement for increasing RPS and GHG emission requirements for 2030 and beyond;
- Potential cost impacts due to state and federal policy changes in Investment Tax Credits and/or tariffs on imported materials;
- Potential increase in demand due to increased electrification, especially across the transportation sector;
- Potential transmission constraints for new projects, and potential scarcity of viable projects if required transmission infrastructure does not keep pace with the number of new resources needed; and
- Potential for competition for out-of-state resources as jurisdictions outside California increase their climate mitigation efforts.

[102] 2021 SB 100 Joint Agency Report (March 15, 2021), p. 10, Figure 3, <https://www.energy.ca.gov/publications/2021/2021-sb-100-joint-agency-report-achieving-100-percent-clean-electricity> (as of Oct. 26, 2022).

In addition, PG&E has historically procured gradually to meet other goals such as RPS compliance[103] by layering procurement over multiple years. This strategy helps mitigate price and project failure risk while reducing the potential for over- or under-procurement by allowing time to explore options and reassess market conditions as PG&E's supply portfolio and demand change and as new technologies emerge and industries adapt to tax incentives. With this in mind, PG&E proposes to go to market as early as possible in 2023 to begin procurement. More detail on the attributes associated with the type of resources PG&E is seeking procurement authority for can be found in Table 30 below.

TABLE 30
IRP PROCUREMENT REQUEST PRODUCT INFORMATION

Attribute	Contract Term <= 5 Years	Contract Term >5 Years
Deliverability Status	Full Capacity Deliverability Status (FCDS), Partial Capacity Deliverability Status (PCDS), or Energy Only (EO)[(a)]	FCDS, PCDS, or EO
Resource Vintage	Existing	New or Existing
Delivery Year(s)	Online and Delivering by 2030	Online and Delivering by 2030
Approval Vehicle	Tier 3 AL	Tier 3 AL
Type	GHG-free (with or without storage)	GHG-free (with or without storage)
Resource	3rd Party	UOG or 3rd Party
Volume Seeking	Amount based on gradual procurement for need year	Amount based on gradual procurement for need year

Generally, PG&E agrees that the programmatic approaches described in D.22-02-004 could help increase predictability, ensure alignment, allow flexibility, prevent leaning by LSEs, and increase market efficiency while conducting planning, procurement, and operational activities to meet the state's climate goals. The procurement authorization request by PG&E would not necessarily be different under different procurement programs because PG&E's need in 2030 remains the same. While the specific types, quantities, and timeline for resources procured may change depending on the programmatic approach selected, PG&E believes that its proposal to procure gradually will allow us to adjust, if necessary, to any IRP procurement frameworks adopted by the Commission. This is because, ultimately, its procurement request aligns with the Commission's desired objective of co-optimizing future procurement to meet

[103] PG&E's 2022 Draft RPS Plan (July 1, 2022) R.18-07-003, addresses the benefits of early procurement in Section IV.A.3, pp. 27 -31, <http://pgera.azurewebsites.net/Regulation/ValidateDocAccess?docID=709459> (as of Oct. 26, 2022).

RPS, GHG-free energy, GHG-emissions, and reliability goals by taking a proactive LSE-driven approach that emphasizes sufficient planning time, commercial flexibility, and resource diversity. Additionally, PG&E plans to submit all contracts for Commission approval via Tier 3 advice letters.

PG&E's request procurement is based on its bundled portfolio needs. If the Commission adopts a non-need-based allocation approach going forward, PG&E's procurement request may be too low or too high. PG&E continues to support need-based procurement allocations, in part because this approach encourages proactive actions by LSEs by removing risk associated with over-procurement due to non-need-based procurement decisions. To that end, PG&E requests that any procurement undertaken as a result of this procurement request count toward any procurement requirements adopted as part of a new programmatic procurement framework (e.g., would not be considered "baseline" for 2030 or 2035 need-driven procurement).

PG&E's request also does not assume any centralized procurement on long-lead time GHG-free resources. PG&E encourages the Commission to adopt a programmatic approach that offers a predictable approach for any centralized procurement. Any centralized procurement or procurement mandates that are allocated on a load share basis should be communicated to LSEs in a timely manner, so that LSEs can incorporate such quantities, and types, of attributes from such additional resources to be procured in order to determine their impact on the LSEs' remaining portfolio needs.

PG&E will provide additional details on its recommendations and will provide its feedback to the programmatic procurement framework outlined in the "Staff Options Paper on Reliable and Clean Procurement" in comments PG&E plans to submit in response to the ALJ Ruling requesting comments on the procurement framework.

ii. New Spending Authorizations

PG&E will secure independent evaluation of its procurements by an Independent Evaluator (IE) to provide third-party oversight of any solicitation activities. PG&E proposes to recover the costs of the IE for any of the solicitations for procurement conducted on behalf of this request be included in the appropriate PABA subaccount.

iii. Changes to Existing Authorizations

PG&E currently has partial procurement authority for resources that may help meet the needs identified in its 2022 IRP filing. Specifically, PG&E's Bundled Procurement Plan authorizes transactions for contracts of shorter than 5 years for energy and capacity products, but not for renewable products. In addition, the procurement order laid out in D.21-06-035 authorizes reliability procurement for resources with online dates mid-decade through 2028. Earlier this year, PG&E requested additional procurement authority for short-term and long-term products in its Draft 2022 RPS Plan based on its demonstrated RPS need. The Commission has not yet acted on this request.

Generally, PG&E is not seeking any changes to previously issued Commission procurement authorizations or procurement authorization currently under consideration by the Commission. Although procurement conducted for other purposes (e.g., RPS Compliance) may improve PG&E's GHG-free and GHG emissions positions, PG&E is requests additional procurement authority in this filing based on the results from its 2022 IRP analysis. This incremental request will help PG&E facilitate gradual procurement needed to meet its 2030 IRP goals while offering the ability to adjust its executed procurement based on new supply, demand, and market information to reduce the likelihood of under- or over-procurement.

While PG&E is not specifically requesting any additional Commission actions beyond the one request for procurement authorization in this IRP, PG&E encourages the Commission to consider potential actions which are currently open or will be filed in separate, future proceedings. PG&E has summarized these potential actions in Table 31 below.

TABLE 31
SUMMARY OF PROPOSED NEW NEAR-TERM ACTIONS/COMMISSION DIRECTION OF ACTION

IV Action Plan Section	Proposed New Near-term Actions / Commission Direction	Reference
v. Renewable Energy	PG&E has submitted a request for renewable energy procurement in its Draft 2022 RPS Plan.	Table 23
vii. Demand Response	Approval of PG&E's 2023 Bridge Year Application Consideration of PG&E's proposals in its 2024-2027 Application	Table 25
viii. Energy Efficiency	Commission should approve PG&E's 2024-2031 EE Strategic Business Plan	Table 26
ix. Distributed Generation	The new NEM tariff structure should be reformed to correct the inequities created by the existing NEM tariff while incentivizing customer generation and storage technologies in a way that better aligns the interests of all customers and the grid.	Table 27
x. Transportation Electrification	A decision on the Transportation Electrification Framework Approval of the Submetering Implementation Plan (to be filed in Dec 2022) Approval of the VGI Dynamic Rates AL Approval of the Joint IOU Tier 3 AL with adjustments to the medium- and heavy-duty vehicle charging infrastructure programs Approval of PG&E's EV Charge 2 Application Approval of future proposed programs, including additional or extended LCFS Holdback programs or programs proposed under the CPUC's "Near-Term Priority" pathway.	Table 28

V. Lessons Learned

During the current IRP cycle, the CPUC recognized the need to design a new programmatic approach to procurement[104] to help better determine more efficient and longer-term contracting procurement requirements for reliable and clean resources. PG&E applauds the CPUC for examining a fundamental overhaul in this process to make the process more efficient, effective, and predictable. PG&E is pleased to participate in this separate process and believes that it is an appropriate forum for it and other LSEs to bring up suggested changes for consideration. Many of the lessons learned from this year's IRP cycle already appear to be teed up for discussion in the questionaries for the Reliable and Clean Power Procurement Program Staff Options Paper. PG&E offers the following additional recommendations to further improve the Commission's integrated resource planning.

a. Capacity Expansion Modeling Tool Enhancement

The grid and capacity modeling capabilities need to grow along with the planning challenges California is facing. PG&E recommends that the Commission enhance its capacity expansion modeling capabilities to ensure that the tools are adequate for addressing the existing and emerging resource planning challenges.

The Commission's use of a robust loss of load expectation model has improved reliability analysis occurring in the IRP proceedings; use of a similarly robust model for capacity expansion modeling and IRP portfolio development could be another modeling capability improvement that the Commission should consider.

Utilizing a more robust modeling software suite will allow more granular and robust analytics that can lead to improved planning. For example, the Commission's current capacity expansion tool dispatches resources by aggregate resource class to meet CAISO demand, with no zonal considerations and 37 representative days. A robust capacity expansion model would allow individual unit dispatch to inform capacity expansion modeling with CAISO zonal considerations and annual 8,760 hourly functionality, improving modeling granularity. Similarly, it will provide greater flexibility for modeling demand side solutions as candidate resources, a feature crucial for successful implementation of advance load management solutions in the IRP.

b. Planning for Reliability

A comprehensive reliability assessment is a key element of the IRP process. Acknowledging that recent IRP process improvements address some of the reliability assessment gaps, PG&E

[104] CPUC, Energy Division Workshop, Reliable & Clean Power Procurement Program Staff Options Paper (Sept. 20, 2022), <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2022-09---rcpp-program-workshop-slides.pdf> (as of Oct. 26, 2022).

continues to recommend the following actions to ensure that a comprehensive reliability assessment is a part of CPUC's resource planning process:

i. Loss of Load Expectation Model Enhancement

PG&E applauds the Commission's ongoing efforts to improve its model assumptions and offers the following recommendations for further enhancement of the model:

- For reliability modeling, PG&E supports consideration and robust modeling of north-to-south Path 26 transmission constraints in the Commission's LOLE analyses. Incorporation of this important zonal constraint is necessary to make planning decisions that will ensure power can be provided from generators to load areas.

  Historically, RESOLVE has built significant resource capacity south of Path 26. For example, the 2021 PSP selected more than 80% of incremental resource capacity south of Path 26. The Path 26 transmission limits in SERVM should be used to ensure the 2023 PSP portfolio does not result in inefficient resource capacity selection in either the north/south Path 26 region, resulting in divergent regional LOLEs. Inefficient resource capacity selections between north and south of Path 26 must be identified prior to the adoption of any IRP portfolio, especially as IRP portfolios are a key input in the CAISO's Transmission Planning Process (TPP).

- The increased frequency and severity of extreme weather events in the past several years highlights the need for more work to adequately address the impacts of climate change. LOLE reliability modeling is designed to stochastically address uncertainty, including variability due to weather. However, recent weather events suggest the LOLE framework may be inadequate to assure the desired levels of reliability. PG&E looks forward to engaging with the Commission and stakeholders on this fundamental planning issue. For immediate action, PG&E recommends that the Commission implement the following before finalizing the 2023 Preferred System Plan (PSP):

  - The Commission should include weather conditions from 2021 and 2022 in reliability modeling. The core intent of LOLE reliability modeling is to stochastically capture uncertainty. The Commission recently incorporated weather years 2018-2020 and encourages the addition of weather years 2021 and 2022 to ensure alignment with the most recent data available. The additional weather years 2018-2020 resulting in approximately one to one-and-a-half gigawatts (GW) of incremental perfect capacity needed to achieve the industry standard 0.1 LOLE reliability target – demonstrating a significant impact on reliability results with additional weather years. Given the unprecedented load seen in September 2022, the most recent weather data should be reflected in the 2023 PSP reliability modeling.

  - The Commission should utilize the CEC's 2023 Integrated Energy Policy Report (IEPR) in RESOLVE and SERVM. The 2023 IEPR forecast should be released by the

CEC in January 2023. Recent IEPR forecast updates have incorporated improved electrification demand forecasts and demand shapes. The underlying load forecast has a significant impact on IRP portfolios developed through RESOLVE capacity expansion modeling. Ensuring the most recent and accurate load forecast is used is critical to meeting reliability requirements and the determined reliability of the portfolio assessed in SERVM production cost modeling. ED should have sufficient time between the release of the 2023 IEPR in January 2023 and the scheduled Q3 2023 IRP ruling on the proposed 2023 PSP to ensure modeling alignment with the 2023 IEPR forecast.

- For future modeling enhancement to capture the impact of load management solutions on LOLE, PG&E asks the Commission to create a separate workstream focused on all aspects of load management solution modeling in the IRP. Modeling of load management in the IRP will not be a trivial task. It requires a dedicated stakeholder process to ensure that the IRP models are capable of providing cost-effective supply and demand side solutions to address reliability and GHG emission reduction goals in a cost-effective manner. See additional details below in the Integrated Planning section.

ii. Local Reliability Assessment

The lack of a local reliability assessment continues to be a gap in the IRP process that needs to be addressed immediately. The Assigned Commissioner's Ruling related to identifying replacement resources (including local capacity need) to allow the retirement of Aliso Canyon[105] highlights the needs for a systematic and coordinated effort between the CAISO and the CPUC to develop a plan for local area capacity requirements[106] to address the local need in a timely manner.

A significant amount of existing capacity on the CAISO system is located in local areas. These local areas must rely on local resources due to transmission limitations. Typically, the local area resource requirements are met by existing resources. As long as the existing resources do not

[105] *Assigned Commissioner's Ruling Entering Into the Record Energy Division Proposal and Ordering Testimony* (Sept. 23, 2022) I17-02-002, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M497/K170/497170260.PDF> (as of Oct. 26, 2022).

[106] Per 2022-23 CAISO TPP Study Plan, since Aliso Canyon supports electric generation located in the Los Angeles (LA) Basin its closure could have "potential reliability impacts to the transmission facilities in the LA Basin and to some extent San Diego Imperial Valley local capacity areas in the CAISO Balancing Authority Area… ." CAISO, 2022-2023 Transmission Planning Process Unified Planning assumptions and Study Plan, Rev. 1 (June 30, 2022), pp. 77-78, Section 7.1, <http://www.caiso.com/InitiativeDocuments/FinalStudyPlan-2022-2023TransmissionPlanningProcess.pdf> (as of Oct. 26, 2022).

retire or local area loads do not increase significantly, a local capacity resource need assessment is not required. However, given the aging gas-fired resources and plan for significant load growth due to electrification demand (building and transportation), conducting a local capacity need assessment should be in scope of CPUC's IRP process in close co-ordination with the CAISO. The CAISO is in the best position to provide details on location specific resource requirements and support the identification of an integrated, cost-effective solution (e.g., portfolio of resources, transmission alternatives) to adequately address location specific requirements.

c. Improvement in Key IRP Modeling Assumptions

i. Existing Resource and Assumptions

As described in Section III.h, PG&E recognizes that the issue of future contract assumptions for existing resources, both GHG-free and GHG-emitting, is critical to address in order to improve the LSE planning process for future IRP cycles. Without a prescribed approach from the CPUC, aggregated LSE plans are likely to misrepresent existing resources and be misaligned with the Updated PSPs.

One solution for the CPUC to consider is to proportionally allocate the GHG-free energy attributes and both GHG-free and GHG-emitting reliability attributes for existing resources for all years after their existing contracts expire through the planned retirement date assumed for each resource. The list of applicable resources and future contract expiration dates can be determined based on the CPUC's system resource dataset and LSEs' annual RDT submittals that include details regarding their contract portfolios. This would ensure a more equitable representation of planned new procurement across LSEs within their IRPs while actual future LSE procurement will likely be a combination of agreements with both new and existing generators.

ii. LSE GHG Emissions Modeling

PG&E recognizes the complexity and challenges in developing a GHG emissions methodology at the LSE-level that is consistent with overall system emissions, in particular for hours where there is expected curtailment or exports of renewable resources. The current approach reflects an hourly-based GHG emission methodology for LSEs that reflect the SERVM modeling results from the updated PSPs for the 30 MMT and 25 MMT scenarios. This results in LSEs both identifying incremental resource additions based on their GHG emission impact in a future system that assumes all of the incremental PSP resources having already been built as well as being penalized for GHG-free generation from their existing resource portfolio during hours where the fully built PSP results in renewable curtailment or exports at the system level. Alternatively, some recognition for hours where the system emission reduction benefit is lower, or zero, compared to other hours is critical for developing a reliable, lower GHG emission system comprised of a diverse set of resource technologies. PG&E encourages the CPUC to

continue pursuing future updates to the LSE GHG emission modeling methodology to help address these observed challenges.

iii. Baseline Hydroelectric System Assumptions

While LSEs have the flexibility for specifying their individual hydroelectric generation forecast assumptions, PG&E recommends the CPUC adopt a methodology similar to PG&E's for RESOLVE. Specifically, the CPUC should consider basing the hydroelectric generation forecast on recent 15-year historical generation. This baseline should then be adjusted for the RCP 8.5 scenario, which the CPUC began requiring IOUs to use for planning purposes in D.19-10-054, as well as the expected impacts from FERC license conditions that are expected to result in less water allocated to hydroelectric generation.

d. Integrated Resource Planning

As stated on the CPUC's website,[107] the intent of the IRP proceeding is to be "*an umbrella planning proceeding to consider all of the Commission's electric procurement policies and programs and ensure California has a safe, reliable, and cost-effective electricity supply*". PG&E agrees, with the intent. Given the increasing opportunity to include load management solutions to support the state goals and the need to consider cost-effective infrastructure upgrades that interact with supply and demand side solutions, PG&E offers the following recommendation to systematically fill in the planning gaps and complete the transition for the IRP proceeding to truly become an umbrella planning proceeding:

i. BTM Resource and Load Management Solutions Modeling

PG&E applauds the Commission's efforts for refinement of Demand Response potential and the consideration of Vehicle to Grid Integration (VGI) as a candidate resource in the Commission's 2023 Preferred System Plan and encourages the Commission to further integrate demand side resources into the IRP optimization process.

Recognizing the needed effort and wanting to ensure adequate time and attention for this important task, PG&E asks the Commission to start a separate IRP track to: (i) fully develop modeling capabilities, (ii) identify and streamline (or consolidate) interactions with other demand side proceedings, and (iii) establish workable interactions with the CEC IEPR and CAISO TPP processes to ensure that the state is ready to seamlessly consider demand- and supply- side cost-effective solutions in its planning efforts.

Critical to this effort will be close coordination with the CEC's load forecasting efforts to ensure resources are not double-counted as both demand modifiers and supply resources, as well as

[107] Integrated Resource Plan and Long-Term Procurement Plan (IRP-LTPP), https://www.cpuc.ca.gov/irp/ (as of Oct. 26, 2022).

other DER planning proceedings at the CPUC and CEC that are investigating optimal investments in DERs.

Equally important will be coordination with transmission and distribution planning to ensure impact of demand side solutions on transmission and distributions systems is captured in a timely manner.

Lastly, validating potential demand side solutions with customers for inclusion in the model is important. PG&E will be launching several CPUC-approved VGI pilots in the next year and would be willing to share data and lessons learned about enrollment and costs of VGI programs to help inform this modeling effort.

ii. Co-ordination with the CAISO for an Assessment of Integrated Solutions

The 2021 Preferred System Plan decision included two storage projects in PG&E's service area. These projects were proposed by the CAISO as transmission alternatives. The process of alternatives assessment and allocation of procurement responsibility provided valuable lessons that should inform future processes. In its opening comments on the Proposed Decision to adopt the 2021 Preferred System Plan,[108] PG&E highlighted the gaps in the cost and project viability analyses that became hurdles for successfully implementing storage as transmission alternative. In addition, the issue of fair cost allocation of transmission alternatives to all benefiting customers (not just CPUC jurisdictional) needs to be addressed. These lessons learned should inform the future assessment of transmission alternatives.

[108] Opening Comments of Pacific Gas and Electric Company (U 39 E) On the Proposed Decision to Adopt the 2021 Preferred System Plan (Jan. 14, 2022) R.20-05-003, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M441/K160/441160118.PDF> (as of Oct. 26, 2022).

VI. Glossary of Terms

A.: Application

AB: Assembly Bill

AL: Advice Letter

ALJ: Administrative Law Judge

Alternative Portfolio: LSEs are permitted to submit "Alternative Portfolios" developed from scenarios using different assumptions from those used in the Preferred System Plan with updates. Any deviations from the "Conforming Portfolio" must be explained and justified.

Approve (an IOU, ESP or CCA Plan): The CPUC's obligation to approve an LSE's integrated resource plan derives from Public Utilities Code Section 454.52(b)(2) and the procurement planning process described in Public Utilities Code Section 454.5, in addition to the CPUC obligation to ensure safe and reliable service at just and reasonable rates under Public Utilities Code Section 451.

ATE: Additional Transportation Electrification

BAA: Balancing Authority Area (CAISO): The collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.

BART: Bay Area Rapid Transit

Baseline Resources: Those resources assumed to be fixed as a capacity expansion model input, as opposed to Candidate resources, which are selected by the model and are incremental to the Baseline. Baseline resources are existing (already online) or owned or contracted to come online within the planning horizon. Existing resources with announced retirements are excluded from the Baseline for the applicable years. Being "contracted" refers to a resource holding signed contract/s with an LSE/s for much of its energy and capacity, as applicable, for a significant portion of its useful life. The contracts refer to those approved by the CPUC and/or the LSE's governing board, as applicable. These criteria indicate the resource is relatively certain to come online. Baseline resources that are not online at the time of modeling may have a failure rate applied to their nameplate capacity to allow for the risk of them failing to come online.

BESS: Battery Energy Storage System

BEV: Business Electric Vehicle

BioMAT: Bioenergy Market Adjusting Tariff

BioRAM: Bioenergy Renewable Action Mechanism

BIP: Base Interruptible Program

BPOT: Bundled Portfolio Optimization Tool

Breakthrough Load Management and Emerging Technologies: Breakthrough load management and emerging technologies includes utilizing newer technologies (e.g., hydrogen and carbon capture, utilization, and sequestration) and includes accelerated adoption by customers of DER programs (PV and storage), smart technologies (EVs, smart thermostats and appliances) and efficiency measures to turn behind the meter and distributed resources into dispatchable resources.

BTM: Behind the Meter

BYOT: Bring Your Own Thermostat

CAISO: California Independent System Operator

CalEPA: California Environmental Protection Agency

CAM: Cost Allocation Mechanism

Candidate Resource: Those resources, such as renewables, energy storage, natural gas generation, and demand response, available for selection in IRP capacity expansion modeling, incremental to the Baseline resources.

Capacity Expansion Model: A capacity expansion model is a computer model that simulates generation and transmission investment to meet forecast electric load over many years, usually with the objective of minimizing the total cost of owning and operating the electrical system. Capacity expansion models can also be configured to only allow solutions that meet specific requirements, such as providing a minimum amount of capacity to ensure the reliability of the system or maintaining greenhouse gas emissions below an established level.

CARB: California Air Resources Board

CARE: California Alternative Rates for Energy

CBO: Community Based Organization

CBP: Capacity Bidding Program

CCA: Community Choice Aggregators

CEC: California Energy Commission

Certify (a Community Choice Aggregator Plan): Public Utilities Code 454.52(b)(3) requires the CPUC to certify the integrated resource plans of CCAs. "Certify" requires a formal act of the Commission to determine that the CCA's Plan complies with the requirements of the statute and the process established via Public Utilities Code 454.51(a). In addition, the Commission must review the CCA Plans to determine any potential impacts on public utility bundled customers under Public Utilities Code Sections 451 and 454, among others.

CHP: Combined Heat and Power

Clean System Power (CSP, formerly "Clean Net Short") Methodology: The methodology used to estimate GHG and criteria pollutant emissions associated with an LSE's Portfolio based on how the LSE will expect to rely on system power on an hourly basis.

CO_2: Carbon Dioxide

Community Choice Aggregator: A governmental entity formed by a city or county to procure electricity for its residents, businesses, and municipal facilities.

Conforming Portfolio: The LSE portfolio that conforms to IRP Planning Standards, the 2030 and 2035 LSE-specific GHG Emissions Benchmark, use of the LSE's assigned load forecast, use of inputs and assumptions matching those used in developing the Preferred System Portfolio, as well as other IRP requirements including the filing of a complete Narrative Template, a Resource Data Template and Clean System Power Calculator.

CPE: Central Procurement Entity

CPUC or Commission: California Public Utilities Commission

CS-GT: Community Solar Green Tariff

D.: Decision

DA: Direct Access

DAC: Disadvantaged Communities

DAC-GT: Disadvantaged Communities Green Tariff

DAC-SASH: Disadvantaged Communities Single-family Affordable Solar Homes program

DCFC: Direct Current Fast Charging

DCPP: Diablo Canyon Nuclear Power Plant

DER: Distributed Energy Resource

DG: Distributed Generation

DR: Demand Response

DRAM: Demand Response Auction Mechanism

DRP: Demand Response Provider

DSM: Demand-Side Management

E3: Energy and Environmental Economics

ED: Energy Division

EDU: Electric Distribution Utility

EE: Energy Efficiency

Effective Load Carrying Capacity: A percentage that expresses how well a resource is able avoid loss-of-load events (considering availability and use limitations). The percentage is relative to a reference resource, for example a resource that is always available with no use limitations. It is calculated via probabilistic reliability modeling and yields a single percentage value for a given resource or grouping of resources.

Effective Megawatts (MW): Perfect capacity equivalent MW, such as the MW calculated by applying an ELCC % multiplier to nameplate MW.

Electric Service Provider: An entity that offers electric service to a retail or end-use customer, but which does not fall within the definition of an electrical corporation under Public Utilities Code Section 218.

ELRP: Emergency Load Reduction Program

ERRA: Energy Resource Recovery Account

ESA: Energy Savings Assistance

EV: Electric Vehicles

FERA: Family Electric Rate Assistance

FERC: Federal Energy Regulatory Commission

Filing Entity: An entity required by statute to file an integrated resource plan with CPUC.

Future: A set of assumptions about future conditions, such as load or gas prices.

GHG: Greenhouse Gas

GHG Benchmark (or LSE-specific 2030 and 2035 GHG Benchmarks): The mass-based GHG emission planning targets calculated by staff for each LSE based on the methodology established by the California Air Resources Board and required for use in LSE Portfolio development in IRP.

GHG Planning Price: The systemwide marginal GHG abatement cost associated with achieving a specific electric sector 2030 GHG planning target.

GRC: General Rate Case

GTSR: Green Tariff Shared Renewables

GW: Gigawatts

GWh: Gigawatt-hour

IAWG: Inter-Agency Working Group

IE: Independent Evaluator

IEPR: Integrated Energy Policy Report

Integrated Resource Planning (IRP) Process: IRP process; integrated resource planning process; the repeating cycle through which integrated resource plans are prepared, submitted, and reviewed by the CPUC.

Integrated Resources Planning Standards (Planning Standards): The set of CPUC IRP rules, guidelines, formulas, and metrics that LSEs must include in their LSE Plans.

IOU: Investor-Owned Utility

IRA: Inflation Reduction Act of 2022

IRP: Integrated Resource Planning

kW: Kilowatt

kWh: Kilowatt-hour

lbs.: Pounds

LCOE: Levelized Cost of Energy

Load Serving Entity: An electrical corporation, electric service provider, community choice aggregator, or electric cooperative.

Load Serving Entity (LSE) Plan: An LSE's integrated resource plan; the full set of documents and information submitted by an LSE to the CPUC as part of the IRP process.

Load Serving Entity (LSE) Portfolio: A set of supply- and/or demand-side resources with certain attributes that together serve the LSE's assigned load over the IRP planning horizon.

Long term: More than 5 years unless otherwise specified.

Loss of Load Expectation (LOLE): A metric that quantifies the expected frequency of loss-of-load events per year. Loss-of-load is any instance where available generating capacity is insufficient to serve electric demand. If one or more instances of loss-of-load occurring within the same day regardless of duration are counted as one loss-of-load event, then the LOLE metric can be compared to a reference point such as the industry probabilistic reliability standard of "one expected day in 10 years," (e.g., an LOLE of 0.1.)

LSE: Load Serving Entity

MASH: Multifamily Affordable Solar Housing

Maximum Import Capability: A California ISO metric that represents a quantity in MW of imports determined by the CAISO to be simultaneously deliverable to the aggregate of load in the ISO's Balancing Authority (BAA) Area and thus eligible for use in the Resource Adequacy process. The California ISO assess a MIC MW value for each intertie into the ISO's BAA and allocated yearly to the LSEs. A LSE's RA import showings are limited to its share of the MIC at each intertie.

MDV: Medium Duty Vehicle

MMBtu: millions of British Thermal Units

MMT: million Metric Ton

MTR: 2023-26 Mid-Term Reliability

MW: Megawatts

MWh: Megawatt-hour

NEM: Net Energy Metering

Net Qualifying Capacity: Qualifying Capacity reduced, as applicable, based on: (1) testing and verification; (2) application of performance criteria; and (3) deliverability restrictions. The Net Qualifying Capacity determination shall be made by the California ISO pursuant to the provisions of this California ISO Tariff and the applicable Business Practice Manual.

Non-Modeled Costs: Embedded fixed costs in today's energy system (e.g., existing distribution revenue requirement, existing transmission revenue requirement, and energy efficiency program cost).

Nonstandard LSE Plan: Type of integrated resource plan that an LSE may be eligible to file if it serves load outside the CAISO balancing authority area.

NOx: Nitrogen Oxide

O&M: operations and maintenance

OIR: Order Instituting Rulemaking

Ongoing CTC: Ongoing Competition Transition Charge

OOS: Out of State

OP: Ordering Paragraph

Optimization: An exercise undertaken in the CPUC's Integrated Resource Planning (IRP) process using a capacity expansion model to identify a least-cost portfolio of electricity resources for meeting specific policy constraints, such as GHG reduction or RPS targets, while maintaining reliability given a set of assumptions about the future. Optimization in IRP considers resources assumed to be online over the planning horizon (baseline resources), some of which the model may choose not to retain, and additional resources (candidate resources) that the model is able to select to meet future grid needs.

OSW: Offshore Wind

P^3: Procurement Portfolio Planner

PA: Program Administrator

PCC: Portfolio Content Categories

P&G: Potential & Goals

PCIA: Power Charge Indifference Adjustment

PDP: Peak Day Pricing

Planned Resource: Any resource included in an LSE portfolio, whether already online or not, that is yet to be procured. Relating this to capacity expansion modeling terms, planned resources can be baseline resources (needing contract renewal, or currently owned/contracted by another LSE), candidate resources, or possibly resources that were not considered by the modeling, e.g., due to the passage of time between the modeling taking place and LSEs developing their plans. Planned resources can be specific (e.g., with a CAISO ID) or generic, with only the type, size and some geographic information identified.

PM: Particulate Matter

PPA: Power Purchase Agreement

PRM: Planning Reserve Margin

Preferred System Plan (PSP): The Commission's integrated resource plan composed of both the aggregation of LSE portfolios (e.g., Preferred System Portfolio) and the set of actions necessary to implement that portfolio (e.g., Preferred System Action Plan).

Preferred System Portfolio: The combined portfolios of individual LSEs within the CAISO, aggregated, reviewed, and possibly modified by Commission staff as a proposal to the Commission, and adopted by the Commission as most responsive to statutory requirements per Pub. Util. Code 454.51; part of the Preferred System Plan.

PSPS: Public Safety Power Shutoff

Pub. Util. Code: Public Utilities Code

PURPA: Public Utility Regulatory Policies Act of 1978

PV: Photovoltaic

QF: Qualifying Facility

QF/CHP Settlement: Qualifying Facility and Combined Heat and Power Settlement

Qualifying Capacity: The maximum amount of Resource Adequacy Benefits a generating facility could provide before an assessment of its net qualifying capacity.

R.: Rulemaking

RA: Resource Adequacy

RAM: Renewable Auction Mechanism

RCP: Representative Concentration Pathway

REC: Renewable Energy Credit

ReMAT: Renewable Market Adjusting Tariff

RFO: Request for Offers

RPS: Renewables Portfolio Standard

RSBA: Reliability Services Balancing Account

RSP: Reference System Plan

SABR: System Average Bundled Rate

SADR: System Average Delivery Rate

SASH: Single Family Affordable Solar Homes

SB: Senate Bill

SCE: Southern California Edison Company

SDG&E: San Diego Gas & Electric Company

SGIP: Self-Generation Incentive Program

SmartAC: Smart Air Conditioner Programs

SOMAH: Solar on Multifamily Affordable Housing program

SOx: Sulfur Oxide

SQL: Structured Query Language

Staff: CPUC Energy Division staff (unless otherwise specified).

Standard LSE Plan: Type of integrated resource plan that an LSE is required to file if it serves load within the CAISO balancing authority area (unless the LSE demonstrates exemption from the IRP process).

T&D: Transmission and Distribution

TACBA: Transmission Access Charge Balancing Account

TMNBC: Tree Mortality Non-bypassable Charge

TO: Transmission Owner

TOU: Time-Of-Use

Transmission Planning Process (TPP): Annual process conducted by the California Independent System Operator (CAISO) to identify potential transmission system limitations and areas that need reinforcements over a 10-year horizon.

TRBA: Transmission Revenue Balancing Account

TSB: Total System Benefit

TWh: Terawatt-hour

U.S.: United States

UOG: Utility-Owned Generation

V2G: Vehicle-to-Grid

VAMO: Voluntary Allocation Market Offer

VGI: Vehicle to Grid Integration

WECC: Western Electricity Coordinating Council

ZEV: Zero-Emission Vehicle

VII. Appendix 1: Bundled Portfolio Optimization Tool

BPOT builds on the CSP framework by adding standard capacity expansion functionality. Like the CSP calculator, BPOT is an Excel-based model. The current version uses OpenSolver to drive the capacity expansion optimization.

Model Description

The BPOT is structured as a linear program where an objective function is minimized subject to a set operational and/or policy constraints. In this instance, the model is given a specific bundled portfolio load forecast and existing set of non-emitting resources and asked to choose from a set of candidate resources the mix of new resources that minimizes total bundled generation and procurement costs while at the same time ensuring that the portfolio provides sufficient RPS and GHG-free generation to meet the state mandated RPS and clean energy targets, the IRP-mandated 2030 and 2035 GHG planning targets, and sufficient RA capacity to meet the bundled portfolio's RA requirement.

To run, the model needs, among other things, a defined set of candidate resources and an hourly energy price forecast that spans the study period. For purposes of the analysis the candidate resources were limited to those chosen at the system level by the RESOLVE model in the 30 MMT and 25 MMT cases. The model utilized the LCOEs from RESOLVE and all related assumptions including inflation rate, levelization period, discount rate, taxes, and financing. Similarly, the model used the hourly price forecast developed from the 30 MMT and 25 MMT RESOLVE model results (see Section 2 (Study Design)). The primary output of the model is the set of new resource additions (e.g., MW of resource capacity added in each year).

Model Components

Objective Function

The objective function is specified as the net present value of the annual portfolio costs over the study period. Annual costs include the costs of new resources added to the portfolio and expected spot market energy revenues over the study period (2023–2035).

Constraints

- RPS: Existing RPS-eligible + new RPS generation >= annual RPS target
- GHG-free: Existing GHG-free + new GHG-free generation >= annual GHG-free target
- System RA: Estimated Existing resource September NQC + new GHG-free generation September NQC >= estimated annual September System RA requirement
- GHG Emissions: 2030-2035 (CSP model-based) LSE emissions <= specified GHG planning targets

Other Key Inputs

- Nominal LCOE by year for each new resource type

- Hourly CAISO energy price forecast spanning the study period
- Hourly generation shapes by resource type
- Hourly 2030 and 2035 CO_2 emission factors

Data Core

The model's primary data structure borrows directly from the CSP Calculator. For each year of the forecast, the following equations are specified for each hour:

Emissions are calculated as:

$$GHG\ (MT) = \ Open\ Position\ (MWh)\ \times Emission\ Rate\ (\frac{MT}{MWh})$$, where:

$$Open\ Position\ (MWh) = \ Bundle\ Load\ (MWh) - Existing\ GHG\ free(MWh) - New\ RPS\ (MWh) - New\ storage\ (discharge\ or\ charge)$$

Net Portfolio Costs (for the purpose of the optimization) are specified as the sum of New Resource costs and the Open Position market value

$$New\ Resource\ Cost\ (\$) = New\ Resource\ (MWh) \times LCOE\left(\frac{\$}{MWh}\right)$$

$$Open\ Position\ Marke\ Value\ (\$) = \ Open\ Position\ \ (MWh) * Energy\ Market\ Price\ \left(\frac{\$}{Mwh}\right)$$

The model chooses the mix of new RPS and storage resources (MW) that minimizes the net present value of total portfolio costs (new resource and open position) over the forecast horizon while ensuring that all RPS, GHG-free, system RA, and GHG emissions constraints are satisfied.

VIII. Appendix 2: PG&E DAC Programs

Tables 32 and 33 contain explanations of PG&E's DAC Programs, Pilots, Investments, as well as PG&E's Income Qualified Programs, Pilots, and Investments.

TABLE 32
DAC PROGRAMS, PILOTS, AND INVESTMENTS

	Category	DAC Programs and Pilots, and Investments
A	Clean Transportation	EV Fast Charge
	PG&E will pay for and build infrastructure from the electric grid to the charging equipment for public fast chargers, complementing state and privately funded initiatives. 25 percent of PG&E's approximately 234 planned EV fast chargers will be in DACs. PG&E will offer a significant rebate towards the purchase of fast chargers for customers based in these areas.	
B	Clean Transportation	EV Fleet
	PG&E will pay for and help customers install the electric infrastructure from the grid to the charging equipment at an estimated 700 fleet customer sites. PG&E will partner with school districts, transit agencies, delivery fleets and other business customers, which often rely on diesel for their fleets, which is a highly polluting fuel. 25 percent of the program budget will go towards investments in DAC and offer additional incentives for those sites, and for school and transit bus fleets that serve the general public. The program will also provide a rebate on EVSE costs to DACs up to a program total of $10 million.	
C	Clean Transportation	EV Charge 2
	PG&E's proposed EV Charge 2 program is an extension of the EV Charge Network and the EV Fast Charge programs and will support installation of L2 and DC fast charge charging ports at multi-family housing, workplaces, and public destinations. 50 percent of the program's infrastructure will be deployed in priority communities per Assembly Bill 841.	
D	Solar and Community Renewables	DAC – Single-Family Solar Homes
	The program will be available to low-income customers who are resident-owners of single-family homes in DAC. This will provide up-front financial incentives towards the installation of solar systems for low-income homeowners.	
E	Solar and Community Renewables	DAC-Green Tariff
	This program provides a 20 percent bill discount to customers in DAC who meet the income eligibility requirements for the CARE and FERA programs.	

TABLE 32
DAC PROGRAMS, PILOTS, AND INVESTMENTS
(CONTINUED)

F	Solar and Community Renewables	Community Solar Green Tariff
	This program will allow primarily residential low-income customers in DAC or in San Joaquin Valley pilot communities from the development of solar generation projects located in or near their communities and receive a 20 percent bill discount. The communities will work with a non-profit community-based organization or local government "sponsor" to organize community interest and present siting preference locations to the utility; the sponsor can also receive a bill discount for its efforts.	
G	Storage	WatterSaver
	Provides incentives for low-income customers and customers in DACs to electrify their water heating and shift the associated load to off-peak hours. The program launched in March 2022 and is expected to enroll 5,000-9,000 customers.	
H	Storage	SGIP Equity Budget
	Provides incentives for qualifying distributed energy resource systems – primarily batteries – installed on the customer's side of the meter that provide electricity for all or part of the customer's load. The SGIP Equity Budget and Equity Resiliency Budget prioritize energy storage projects in disadvantaged and low-income communities and in High Fire Threat Districts where PSPS have impacted customers.	
I	Workforce Education & Training	Connections
	PG&E leverages its Workforce Education and Training (WE&T) efforts to support awareness of green careers in DAC.	

TABLE 33
INCOME QUALIFIED PROGRAMS, PILOTS, AND INVESTMENTS

	Category	Low Income Programs
A	Financial Assistance	CARE
	The CARE Program provides a monthly discount on energy bills for qualifying households throughout PG&E's service area. To qualify for the CARE discount, a residential customer's household income must be at or below 200 percent of Federal Poverty Guidelines or someone in the customer's household is an active participant in other qualifying public assistance programs.	
B	Financial Assistance	FERA
	The FERA Program provides a monthly discount on electric bills for qualifying households of three or more persons throughout PG&E's service area. To qualify for the FERA discount, a residential customer's household income must be between 200 percent plus $1 and 250 percent of Federal Poverty Guidelines, as required in D.04-02-057 and per Public Utility Code Section 739.1(f)(2) requires a single application form for CARE and FERA to enable applicants to apply for the appropriate assistance program based on their economic need.	
C	Financial Assistance	Relief for Energy Assistance Through Community Help (REACH)
	The REACH Program provides financial assistance for qualifying households throughout PG&E's service area. To qualify for the REACH financial support, a residential customer's household income must be at or below 200 percent of Federal Poverty Guidelines, must demonstrate an uncontrollable or unplanned change in their ability to pay their utility bill, must not have received REACH assistance within the past 18 months, and must have received a 15-day or a 48-hour disconnection notice.	
D	Income Qualified Programs	ESA
	The ESA program provides income-qualified customers free energy-efficient home improvements that can help reduce their energy bills and improve their health, safety, and comfort. Services can include weatherproofing and attic installation, LED lighting, and refrigerator, furnace or water heater repair or replacement. The ESA program is a direct install program available to income-qualified customers in PG&E's 48 counties. Since 1983 ESA has served over 2.1 million customers.	
E	Income Qualified Programs	ESA Pilot Plus/ Pilot Deep
	ESA Pilot launching in 2022 with the goal of customers seeing deeper energy savings. A small percentage of participating customers will receive building electrification measures.	

TABLE 33
INCOME QUALIFIED PROGRAMS, PILOTS, AND INVESTMENTS
(CONTINUED)

F	Clean Transportation	EV Educational Tools for DACs
	PG&E also offers electric rate plans tailored for EV customers and rebates for EV purchases. PG&E continues to launch more educational tools and resources to help our customers overcome barriers to adoption.	
G	Clean Transportation	Empower
	PG&E's Empower EV offers a rebate for a residential charger, and in some cases panel upgrade, as well as tailored marketing, education, and outreach to meet the needs of low- and moderate-income customers with a focus on communities in Fresno, San Jose, and Brentwood/Oakley. PG&E will tailor Marketing, Education, and Outreach to best serve these communities with a focus on providing multi-lingual resources and leveraging a diverse set of marketing channels. PG&E is also partnering with a program implementer with close ties to the communities served to administer the Empower EV program.	
H	Clean Transportation	Multi Family Home and Small Business Direct Install Pilot
	PG&E will install low-power chargers (Level 1 and Level 2) at multifamily and small businesses with capacity on the panel within equity communities.	
I	Clean Transportation	Pre-Owned EV Rebate
	PG&E will offer a post-purchase rebate for pre-owned EVs. This is a $1,000 base rebate, with an additional $3,000 for income-qualified customers.	
J	Solar and Community Renewables	MASH
	Provides business solutions to offset the costs of installing new solar energy systems on multifamily affordable housing in California. MASH aims to improve the quality of housing, decrease energy use and lower costs for tenants. It also urges tenants to use high-performance solar systems that help protect California's environment.	
K	Solar and Community Renewables	SASH
	Provides solar incentives on qualifying affordable single-family housing.	

IX. Appendix 3: Map of DAC Areas in PG&E's Service Territory

As illustrated in Figure 9 below, PG&E displays the DACs and tribal lands in its service territory that correspond to the definition used in this IRP:

[A] DAC shall be defined as any community statewide scoring in the top 25 percent statewide or in one of the 22 census tracts within the top five percent of communities with the highest pollution burden that do not have an overall score, using the most recent version of the CalEPA's CalEnviroScreen tool.

FIGURE 9
MAP OF DISADVANTAGED COMMUNITIES IN PG&E'S SERVICE TERRITORY

X. Appendix 4: PG&E's Current Procurement Activity

PG&E's five (5) current RFOs are listed in Table 34 below. For a more comprehensive list of RFOs, including prior RFOs, please refer to PG&E's Wholesale Electric Power Procurement webpage.[109]

TABLE 34
PG&E PROCUREMENT SOLICITATION ACTIVITIES

	Program	Description	Website
A	Fall 2022 PG&E Solar Choice Solicitation	Purchase of Solar energy resources ranging from 0.5 to 20 MW	Fall 2022 PG&E Solar Choice RFO
B	Fall 2022 Regional Renewable Choice ("RRC") RFO	Purchase of community backed RPS eligible resources ranging from 0.5 to 20 MW	Fall 2022 RRC RFO
C	Fall 2022 Distribution Investment Deferral Framework (DIDF) RFO	Procure approximately 15 MW of DERs to defer distribution upgrade	Fall 2022 DIDF RFO
D	2022 Distribution Investment Deferral Framework (DIDF) Standard Offer Contract (SOC) Pilot	Procure In-Front-of-the-Meter DERs to defer distribution upgrades	2022 DIDF SOC Pilot
E	Mid-Term Reliability RFO - Phase 2	PG&E seeks resources to provide system-level net qualifying capacity (NQC). All resources will be expected to be considered incremental in counting towards PG&E's procurement responsibilities.	Mid-Term Reliability RFO - Phase 2

[109] PG&E, Purchasing wholesale electric energy and capacity, <https://www.pge.com/en_US/for-our-business-partners/energy-supply/wholesale-electric-power-procurement/wholesale-electric-power-procurement.page?WT.mc_id=Vanity_rfo&ctx=large-business> (as of Oct. 26, 2022).

PACIFIC GAS AND ELECTRIC COMPANY

2022 CLEAN SYSTEM POWER CALCULATOR

25 MMT CONFORMING

25 MMT in 2035

Supply Inputs: Values should be pasted directly from the Resource Data Template using Excel's "Paste Values" option

Resource	2024	2026	2030	2035	Units	RPS or GHG-Free
Large Hydro	3,082	3,039	2,944	2,801	GWh	GHG-Free
Imported Hydro	1,812	1,815	1,813	1,870	GWh	GHG-Free
Asset Controlling Supplier	-	-	-	-	GWh	GHG-Free (Partial)
Nuclear	17,098	-	-	-	GWh	GHG-Free
Biogas	130	198	329	268	GWh	RPS
Biomass	1,187	970	797	811	GWh	RPS
Geothermal	140	328	1,429	1,316	GWh	RPS
Small Hydro	521	513	473	374	GWh	RPS
Wind Resources						
Wind Baseline California	1,085	556	565	557	GWh	RPS
Wind New PG&E	-	-	798	855	GWh	RPS
Wind New SCE SDG&E	-	-	706	920	GWh	RPS
Wind Pacific Northwest	-	-	-	-	GWh	RPS
Wind Wyoming	-	-	1,962	1,936	GWh	RPS
Wind New Mexico	-	-	1,945	1,918	GWh	RPS
Wind Offshore Morro Bay	-	-	-	2,337	GWh	RPS
Wind Offshore Humboldt	-	-	-	1,211	GWh	RPS
Solar Resources						
Solar Baseline California	4,215	3,972	3,853	3,132	GWh	RPS
Solar New PG&E	189	336	379	372	GWh	RPS
Solar New SCE SDG&E	-	1,368	6,731	7,679	GWh	RPS
Solar Distributed	-	-	-	-	GWh	RPS
Hybrid/Paired						
Hybrid or Paired Solar and Battery	-	-	-	-	GWh	RPS
Storage & DR						
Shed DR	470	484	483	499	MW	GHG-Free
Pumped Storage	1,212	1,212	1,212	1,212	MW	n/a
Battery Storage	10,641	17,217	17,636	21,388	MWh Energy Capacity	n/a
User-Specified Profiles						
Storage Resource Custom Profile	-	-	-	-	MW	n/a
RPS Resource Custom Profile	-	-	-	-	GWh	RPS
GHG-free non-RPS Resource Custom Profile	-	-	-	-	GWh	GHG-Free
Coal						
Coal	-	-	-	-	GWh	n/a

Calculated Share of IFM CHP - do not edit

IFM CHP	*1,475*	*1,447*	*1,397*	*872*	GWh	n/a

Checks	2024	2026	2030	2035
No negative supply inputs	TRUE	TRUE	TRUE	TRUE
Storage Resource Custom Profile does not produce power on a net basis	TRUE	TRUE	TRUE	TRUE
Storage Resource Custom Profile has values between -1 and 1	TRUE	TRUE	TRUE	TRUE
Sum of hourly RPS Resource Custom Profile equals annual input	TRUE	TRUE	TRUE	TRUE
Sum of hourly GHG-free non-RPS Resource Custom Profile equals annual input	TRUE	TRUE	TRUE	TRUE

25 MMT in 2035

Demand Inputs

	Units	2024	2026	2030	2035	Notes
Managed Retail Sales Forecast (assigned to LSE)	GWh	27,098	27,399	28,020	29,852	Must be entered regardless of demand modifiers selected. Includes impact of BTM PV, Energy Efficiency, etc.
Behind-The-Meter Photovoltaics (BTM PV) Forecast (assigned to LSE)	GWh	4,240	4,867	6,226	8,006	Measured at customer, not grossed up for T&D losses
Retail Sales without BTM PV reduction	GWh	31,338	32,266	34,245	37,857	Used to allocate demand modifiers
Behind-The-Meter Photovoltaics (BTM PV) grossed up for T&D losses	GWh	4,576	5,253	6,717	8,636	At generator bus-bar
Calculated share of CAISO system demand (% of Retail Sales)	%	13%	13%	13%	13%	Do not edit

Commercial & Industrial Fraction of Baseline Demand	Use Custom?	Units	2024	2026	2030	2035	Notes
Default C&I Percentage of Total	No	%	49%	49%	49%	50%	Default, do not change. Does not include demand from Light Duty EVs.
Custom C&I Percentage of Total (OPTIONAL)		%					Will be used instead of default if "Use Custom?" = Yes

Calculated Demand, based on sales-weighted share of total from IEPR	Units	2024	2026	2030	2035	Notes
Baseline net energy for load	GWh	32,992	33,722	35,273	38,010	Grossed up for T&D losses; demand met by BTM CHP excluded
Electric Vehicle Load	GWh	1,150	1,644	2,589	4,116	Grossed up for T&D losses
Building Electrification	GWh	130	237	476	821	Grossed up for T&D losses
Energy Efficiency	GWh	(450)	(782)	(1,389)	(2,108)	Grossed up for T&D losses
Behind-The-Meter Photovoltaics (BTM PV)	GWh	(4,576)	(5,253)	(6,717)	(8,636)	Grossed up for T&D losses
Behind-The-Meter Storage Losses (BTM Storage)	GWh	9	14	25	39	Grossed up for T&D losses
Behind-The-Meter Storage Capacity (BTM Storage)	Nameplate MW	150	206	324	498	For information only

Custom Demand Inputs (OPTIONAL; overwrites sales-weighted IEPR values from Calculated Demand section)	Use Custom?	Units	2024	2026	2030	2035	Notes
Baseline net energy for load	No	GWh					To overwrite, set "Use Custom" to "Yes" and input forecast. For use in Alternative Plans only.
Electric Vehicle Load	No	GWh					Custom demand values should be grossed up for T&D losses.
Building Electrification	No	GWh					User-specified demand profiles should be input in the "Custom Profiles" tab.
Energy Efficiency	No	GWh					Energy efficiency and BTM PV subtract from demand and therefore should be entered as negative values.
Behind-The-Meter Photovoltaics (BTM PV)	No	GWh					
Behind-The-Meter Storage Capacity (BTM Storage)	No	Nameplate MW					Custom BTM storage should be entered in terms of Nameplate MW
Behind-The-Meter Storage Losses (BTM Storage)		GWh					

Active Demand Inputs	Source	Units	2024	2026	2030	2035	Notes
Baseline net energy for load	IEPR	GWh	32,992	33,722	35,273	38,010	Grossed up for T&D losses; demand met by BTM CHP excluded
Non-commercial/industrial portion of baseline (included in baseline total)	IEPR	GWh	16,972	17,287	17,903	18,900	Grossed up for T&D losses; demand met by BTM CHP excluded
Commercial/industrial portion of baseline (included in baseline total)	IEPR	GWh	16,020	16,435	17,370	19,109	Grossed up for T&D losses; demand met by BTM CHP excluded
Electric Vehicle Load	IEPR	GWh	1,150	1,644	2,589	4,116	Grossed up for T&D losses
Building Electrification	IEPR	GWh	130	237	476	821	Grossed up for T&D losses
Energy Efficiency	IEPR	GWh	(450)	(782)	(1,389)	(2,108)	Grossed up for T&D losses
Behind-The-Meter Photovoltaics (BTM PV)	IEPR	GWh	(4,576)	(5,253)	(6,717)	(8,636)	Grossed up for T&D losses
Behind-The-Meter Storage Losses (BTM Storage)	IEPR	GWh	9	14	25	39	Grossed up for T&D losses

	Units	2024	2026	2030	2035	
Calculated demand at utility-scale generator bus-bar	GWh	29,255	29,583	30,258	32,241	Total of "Active Demand Inputs"

IFM CHP Calculation		2024	2026	2030	2035	
CASIO-wide In front of the meter (IFM) Combined Heat and Power (CHP) generation	GWh	11,129	10,980	10,660	6,470	Input data - do not change. Values are from SERVM disparch
LSE share of IFM CHP	GWh	1,475	1,447	1,397	872	Calculation - do not change

Checks	2024	2026	2030	2035
Correct sign (positive/negative) on demand inputs	TRUE	TRUE	TRUE	TRUE
If custom C&I percentage is used, positive percentage is used	TRUE	TRUE	TRUE	TRUE

Custom Demand Shapes (OPTIONAL; overwrites default demand shapes)	Custom Hourly Demand Profiles							
Use Custom Shape?	No	No	No	No	No	No	No	
Notes:	*Set "Use Custom Shape" toggle to "Yes" to override default shape with custom shape below.* *Shape should be normalized - the sum of the hourly values over the entire year should equal 1 with the exception of BTM Storage.* *For all profiles except BTM Storage, normalize by dividing every hour of the original non-normalized shape (in MW) by the annual total (in MWh/yr).*							
Check: Sums to 1 if custom shape is defined?	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	**BTM Storage Check: Between -1 and 1**

25 MMT in 2035

LSEs within Utility Territory	2030 GHG Emissions Benchmark (MMT)	2035 GHG Emissions Benchmark (MMT)	2030 DA Load (GWh)	2035 DA Load (GWh)	ESP 2030 load within each IOU territory (GWh)	ESP 2035 load within each IOU territory (GWh)	ESP 2030 benchmark for each IOU territory (MMT)	ESP 2035 benchmark for each IOU territory (MMT)
Pacific Gas and Electric Company (Direct Access)	1.2250	0.9412	11,393	11,393			0.000	0.000
Southern California Edison Company (Direct Access)	1.2280	0.9695	13,421	13,421			0.000	0.000
San Diego Gas and Electric Company (Direct Access)	0.5049	0.4013	3,940	3,940			0.000	0.000
TOTAL			**28,754**	**28,754**	**0**	**0**	**0.000**	**0.000**

Each ESP is required to calculate its own confidential GHG Emissions Benchmark based on its 2030 and 2035 load share within the host IOU's territory. For any ESP that serves load in more than one IOU service territory, that ESP should add up the separate GHG Emissions Benchmarks calculated based on its share of direct access load for each IOU service territory to result in a single benchmark.When filling out Columns F and G -- "ESP 2030 load within each IOU territory" and "ESP 2035 load within each IOU territory" -- each ESP should utilize the confidential load forecast communicated to it by Energy Division staff.

25 MMT in 2035

Emissions Summary

Emissions Total	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
CO_2	*MMt/yr*	0.38	7.20	2.49	1.83	*Includes both in-CAISO and import emissions*
PM2.5	*tonnes/yr*	429	628	396	362	*Only In-CAISO emissions*
SO_2	*tonnes/yr*	156	159	134	126	*Only In-CAISO emissions*
NOx	*tonnes/yr*	1,311	1,415	1,091	978	*Only In-CAISO emissions*

Emissions by resource type

CO_2	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Coal	*MMt/yr*	-	-	-	-	*Included in GHG emissions total*
CHP	*MMt/yr*	0.66	0.64	0.62	0.39	
Biogas	*MMt/yr*	-	-	-	-	
Biomass	*MMt/yr*	-	-	-	-	
System Power	*MMt/yr*	(0.28)	6.55	1.87	1.44	*Includes emissions from in-CAISO dispatchable gas and unspecified imports*
Asset Controlling Supplier	*MMt/yr*	-	-	-	-	
Total	***MMt/yr***	**0.38**	**7.20**	**2.49**	**1.83**	*Includes both in-CAISO and import emissions*
Average emissions intensity	*tCO2/MWh*	0.014	0.263	0.089	0.061	*Emissions per MWh of sales*
Oversupply Emissions Credits	*MMt/yr*	1.52	0.19	1.20	1.35	*When hourly supply exceeds hourly load and system power is on the margin, LSE recieves credit at the system power emissions rate. Impact included in Total.*

PM2.5	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Coal	*tonnes/yr*	-	-	-	-	*Information only, not included in total*
CHP	*tonnes/yr*	37	36	35	22	
Biogas	*tonnes/yr*	22	33	54	44	
Biomass	*tonnes/yr*	350	272	211	216	
System Power	*tonnes/yr*	20	287	95	80	*In-CAISO emissions only - unspecified import emissions excluded*
Total	***tonnes/yr***	**429**	**628**	**396**	**362**	*Only In-CAISO emissions*
Average emissions intensity	*kg/MWh*	0.0158	0.0229	0.0141	0.0121	*Emissions per MWh of sales*

SO_2	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Coal	*tonnes/yr*	-	-	-	-	*Information only, not included in total*
CHP	*tonnes/yr*	4	4	4	2	
Biogas	*tonnes/yr*	16	24	41	33	
Biomass	*tonnes/yr*	135	104	81	83	
System Power	*tonnes/yr*	2	27	9	8	*In-CAISO emissions only - unspecified import emissions excluded*
Total	***tonnes/yr***	**156**	**159**	**134**	**126**	*Only In-CAISO emissions*
Average emissions intensity	*kg/MWh*	0.0058	0.0058	0.0048	0.0042	*Emissions per MWh of sales*

NOx	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Coal	*tonnes/yr*	-	-	-	-	*Information only, not included in total*
CHP	*tonnes/yr*	172	167	159	86	
Biogas	*tonnes/yr*	71	108	182	150	
Biomass	*tonnes/yr*	1,055	822	640	655	
System Power	*tonnes/yr*	13	318	109	87	*In-CAISO emissions only - unspecified import emissions excluded*
Total	***tonnes/yr***	**1,311**	**1,415**	**1,091**	**978**	*Only In-CAISO emissions*
Average emissions intensity	*kg/MWh*	0.0484	0.0516	0.0389	0.0328	*Emissions per MWh of sales*

Supply and Demand Balance

Demand Summary	***Unit***	**2024**	**2026**	**2030**	**2035**	
Managed Retail Sales Forecast (assigned to LSE)	*GWh*	27,098	27,399	28,020	29,852	*Sales forecast (before T&D losses increase demand at generator bus-bar)*
Baseline Demand, non-C&I	*GWh*	16,972	17,287	17,903	18,900	
Baseline Demand, C&I	*GWh*	16,020	16,435	17,370	19,109	
Electric Vehicle Load	*GWh*	1,150	1,644	2,589	4,116	
Building Electrification	*GWh*	130	237	476	821	*Summary of active inputs from Demand Inputs tab*
Energy Efficiency	*GWh*	(450)	(782)	(1,389)	(2,108)	
BTM PV	*GWh*	(4,576)	(5,253)	(6,717)	(8,636)	
Demand (at generator bus-bar)	*GWh*	29,255	29,583	30,258	32,241	

Supply Summary	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Large Hydro	*GWh*	3,082	3,039	2,944	2,801	
Imported Hydro	*GWh*	1,812	1,815	1,813	1,870	
Asset Controlling Supplier	*GWh*	-	-	-	-	
Nuclear	*GWh*	17,098	-	-	-	
Biogas	*GWh*	130	198	329	268	
Biomass	*GWh*	1,187	970	797	811	
Geothermal	*GWh*	140	328	1,429	1,316	
Small Hydro	*GWh*	521	513	473	374	
Wind CAISO	*GWh*	1,085	556	2,069	2,333	
Wind Out Of State	*GWh*	-	-	3,907	3,854	*Wind and solar values represent production potential (pre-curtailment).*
Wind Offshore	*GWh*	-	-	-	3,548	*Curtailment is calculated at the portfolio level (as opposed to the resource level), and is included as a line item below*
Solar Utility Scale	*GWh*	4,404	5,677	10,963	11,183	
Solar Distributed	*GWh*	-	-	-	-	*Distributed solar generation that is in front of the meter*
Hybrid or Paired Solar and Battery	*GWh*	-	-	-	-	
Shed DR	*GWh*	1.5	1.5	1.2	2.4	
Pumped Storage	*GWh*	(703)	(728)	(791)	(736)	*Negative because storage losses represent net negative energy production*
Battery Storage	*GWh*	(587)	(969)	(1,367)	(1,542)	*Negative because storage losses represent net negative energy production*
Storage Resource Custom Profile	*GWh*	-	-	-	-	*Negative because storage losses represent net negative energy production*
RPS Resource Custom Profile	*GWh*	-	-	-	-	
GHG-free non-RPS Resource Custom Profile	*GWh*	-	-	-	-	
Coal	*GWh*	-	-	-	-	
IFM CHP	*GWh*	1,475	1,447	1,397	872	

Supply Demand Balance Summary	Unit	2024	2026	2030	2035	Notes
LSE Supply, before curtailment and exports	*GWh*	*29,645*	*12,848*	*23,964*	*26,955*	*Represents LSE's net power production, before curtailment and exports reduce the power available to dispace CAISO dispatchable gas/unspecified imports*
Net Purchases, before curtailment and exports	*GWh*	*(390)*	*16,735*	*6,294*	*5,286*	*The net system power that the LSE would consume (positive = consume from system, negative = supply to system) if dispatchable gas/unspecified imports were on the margin at the system level in all hours. For information only - not directly used t*
Curtailment	*GWh*	(18)	-	(246)	(582)	*Power that, if supplied to the system, would not displace CAISO dispatchable gas and/or unspecified import emissions and would instead be curtailed*
Exports	*GWh*	(51)	(2)	(202)	(311)	*Power that, if supplied to the system, would not displace CAISO dispatchable gas and/or unspecified import emissions and would instead be exported*
Zero Emissions Power From System	*GWh*	152	1,140	2,419	2,691	*Power supplied to meet LSE demand that does not incur emissions. Oversupply conditions at the system level result in surplus zero emissions power in some hours.*
Net System Power (incurs emissions)	***GWh***	**(472)**	**15,597**	**4,322**	**3,488**	*Power supplied by the system (or sent back to the system from if negative) in hours when CAISO dispatchable gas and/or unspecified imports are on the margin. The net system power produced or consumed is multiplied by the system power emiss*
Check: Supply equals demand		TRUE	TRUE	TRUE	TRUE	

Renewable and GHG-Free %	Unit	2024	2026	2030	2035	Notes
Retail Sales	GWh	27,098	27,399	28,020	29,852	
RPS-Eligible Delivered Renewable	GWh	7,448	8,243	19,722	23,106	Represents delivered renewable energy. Not directly comparable to production from an LSE's RPS-eligible resources.
GHG free	GWh	29,593	14,238	26,899	30,470	A small fraction of Asset Controlling Supplier imports are not counted as GHG-free
RPS-Eligible Delivered Renewable Percentage	*% of retail sales*	27%	30%	70%	77%	Represents delivered renewable energy. Not directly comparable to production from an LSE's RPS-eligible resources.
GHG-free Percentage	*% of retail sales*	109%	52%	96%	102%	

PACIFIC GAS AND ELECTRIC COMPANY

2022 CLEAN SYSTEM POWER CALCULATOR

30 MMT ALTERNATIVE

30 MMT in 2035

Supply Inputs: Values should be pasted directly from the Resource Data Template using Excel's "Paste Values" option

Resource	2024	2026	2030	2035	Units	RPS or GHG-Free
Large Hydro	3,306	3,254	3,156	2,999	GWh	GHG-Free
Imported Hydro	1,846	1,852	1,943	2,280	GWh	GHG-Free
Asset Controlling Supplier	-	-	-	-	GWh	GHG-Free (Partial)
Nuclear	17,096	-	-	-	GWh	GHG-Free
Biogas	130	198	329	268	GWh	RPS
Biomass	1,185	969	797	811	GWh	RPS
Geothermal	59	249	1,351	1,316	GWh	RPS
Small Hydro	541	534	493	390	GWh	RPS
Wind Resources						
Wind Baseline California	1,083	561	581	616	GWh	RPS
Wind New PG&E	-	-	807	807	GWh	RPS
Wind New SCE SDG&E	-	-	865	994	GWh	RPS
Wind Pacific Northwest	-	-	-	-	GWh	RPS
Wind Wyoming	-	-	440	2,090	GWh	RPS
Wind New Mexico	-	-	2,035	2,035	GWh	RPS
Wind Offshore Morro Bay	-	-	159	2,523	GWh	RPS
Wind Offshore Humboldt	-	-	-	1,549	GWh	RPS
Solar Resources						
Solar Baseline California	4,805	6,037	6,250	5,332	GWh	RPS
Solar New PG&E	-	-	199	190	GWh	RPS
Solar New SCE SDG&E	-	-	7,819	11,411	GWh	RPS
Solar Distributed	-	-	-	-	GWh	RPS
Hybrid/Paired						
Hybrid or Paired Solar and Battery	-	-	-	-	GWh	RPS
Storage & DR						
Shed DR	470	484	483	499	MW	GHG-Free
Pumped Storage	1,212	1,212	1,212	1,212	MW	n/a
Battery Storage	10,492	15,710	21,263	35,352	MWh Energy Capacity	n/a
User-Specified Profiles						
Storage Resource Custom Profile	-	-	-	-	MW	n/a
RPS Resource Custom Profile	-	-	-	-	GWh	RPS
GHG-free non-RPS Resource Custom Profile	-	-	-	-	GWh	GHG-Free
Coal						
Coal	-	-	-	-	GWh	n/a

Calculated Share of IFM CHP - do not edit

IFM CHP	*1,518*	*1,501*	*1,467*	*891*	GWh	n/a

Checks	2024	2026	2030	2035
No negative supply inputs	TRUE	TRUE	TRUE	TRUE
Storage Resource Custom Profile does not produce power on a net basis	TRUE	TRUE	TRUE	TRUE
Storage Resource Custom Profile has values between -1 and 1	TRUE	TRUE	TRUE	TRUE
Sum of hourly RPS Resource Custom Profile equals annual input	TRUE	TRUE	TRUE	TRUE
Sum of hourly GHG-free non-RPS Resource Custom Profile equals annual input	TRUE	TRUE	TRUE	TRUE

30 MMT in 2035

Demand Inputs

	Units	2024	2026	2030	2035	Notes
Managed Retail Sales Forecast (assigned to LSE)	GWh	27,602	27,968	30,029	36,401	*Must be entered regardless of demand modifiers selected. Includes effect of BTM PV, Energy Efficiency, etc.*
Behind-The-Meter Photovoltaics (BTM PV) Forecast (assigned to LSE)	GWh	4,535	5,159	6,517	8,292	*Measured at customer, not grossed up for T&D losses*
Retail Sales without BTM PV reduction	GWh	32,137	33,126	36,546	44,693	*Used to allocate demand modifiers*
Behind-The-Meter Photovoltaics (BTM PV) grossed up for T&D losses	GWh	4,888	5,559	6,998	8,831	*At generator bus-bar*
Calculated share of CAISO system demand (% of Retail Sales)	%	13%	13%	13%	13%	*Do not edit*

Commercial & Industrial Fraction of Baseline Demand	**Use Custom?**	**Units**	**2024**	**2026**	**2030**	**2035**	**Notes**
Default C&I Percentage of Total	**No**	%	49%	49%	49%	50%	*Default, do not change. Does not include demand from Light Duty EVs.*
Custom C&I Percentage of Total (OPTIONAL)		%					*Will be used instead of default if "Use Custom?" = Yes*

Calculated Demand, based on sales-weighted share of total from IEPR	**Units**	**2024**	**2026**	**2030**	**2035**	**Notes**
Baseline net energy for load	GWh	34,043	34,794	36,227	38,602	*Grossed up for T&D losses; demand met by BTM CHP excluded*
Electric Vehicle Load	GWh	915	1,447	3,924	10,262	*Grossed up for T&D losses*
Building Electrification	GWh	131	238	476	818	*Grossed up for T&D losses*
Energy Efficiency	GWh	(450)	(783)	(1,388)	(2,100)	*Grossed up for T&D losses*
Behind-The-Meter Photovoltaics (BTM PV)	GWh	(4,888)	(5,559)	(6,998)	(8,831)	*Grossed up for T&D losses*
Behind-The-Meter Storage Losses (BTM Storage)	GWh	9	14	25	39	*Grossed up for T&D losses*
Behind-The-Meter Storage Capacity (BTM Storage)	Nameplate MW	150	206	324	498	*For information only*

Custom Demand Inputs (OPTIONAL; overwrites sales-weighted IEPR values from Calculated Demand section)	**Use Custom?**	**Units**	**2024**	**2026**	**2030**	**2035**	**Notes**
Baseline net energy for load	No	GWh					*To overwrite, set "Use Custom" to "Yes" and input forecast. For use in Alternative Plans only.*
Electric Vehicle Load	No	GWh					*Custom demand values should be grossed up for T&D losses.*
Building Electrification	No	GWh					*User-specified demand profiles should be input in the "Custom Profiles" tab.*
Energy Efficiency	No	GWh					*Energy efficiency and BTM PV subtract from demand and therefore should be entered as negative values.*
Behind-The-Meter Photovoltaics (BTM PV)	No	GWh					
Behind-The-Meter Storage Capacity (BTM Storage)	No	Nameplate MW					*Custom BTM storage should be entered in terms of Nameplate MW*
Behind-The-Meter Storage Losses (BTM Storage)		GWh					

Active Demand Inputs	**Source**	**Units**	**2024**	**2026**	**2030**	**2035**	**Notes**
Baseline net energy for load	IEPR	GWh	34,043	34,794	36,227	38,602	*Grossed up for T&D losses; demand met by BTM CHP excluded*
Non-commercial/industrial portion of baseline (included in baseline total)	IEPR	GWh	17,513	17,837	18,388	19,194	*Grossed up for T&D losses; demand met by BTM CHP excluded*
Commercial/industrial portion of baseline (included in baseline total)	IEPR	GWh	16,530	16,958	17,840	19,407	*Grossed up for T&D losses; demand met by BTM CHP excluded*
Electric Vehicle Load	IEPR	GWh	915	1,447	3,924	10,262	*Grossed up for T&D losses*
Building Electrification	IEPR	GWh	131	238	476	818	*Grossed up for T&D losses*
Energy Efficiency	IEPR	GWh	(450)	(783)	(1,388)	(2,100)	*Grossed up for T&D losses*
Behind-The-Meter Photovoltaics (BTM PV)	IEPR	GWh	(4,888)	(5,559)	(6,998)	(8,831)	*Grossed up for T&D losses*
Behind-The-Meter Storage Losses (BTM Storage)	IEPR	GWh	9	14	25	39	*Grossed up for T&D losses*

Calculated demand at utility-scale generator bus-bar	GWh	29,759	30,152	32,267	38,790	*Total of "Active Demand Inputs"*

IFM CHP Calculation		**2024**	**2026**	**2030**	**2035**	
CASIO-wide In front of the meter (IFM) Combined Heat and Power (CHP) generation	GWh	11,458	11,385	11,194	6,609	*Input data - do not change. Values are from SERVM disparch*
LSE share of IFM CHP	GWh	1,518	1,501	1,467	891	*Calculation - do not change*

Checks	**2024**	**2026**	**2030**	**2035**
Correct sign (positive/negative) on demand inputs	TRUE	TRUE	TRUE	TRUE
If custom C&I percentage is used, positive percentage is used	TRUE	TRUE	TRUE	TRUE

Custom Demand Shapes (OPTIONAL; overwrites default demand shapes)	**Custom Hourly Demand Profiles**							
Use Custom Shape?	*No*	*No*	*No*	*No*	*No*	*No*	*No*	
Notes:	*Set "Use Custom Shape" toggle to "Yes" to override default shape with custom shape below.* *Shape should be normalized - the sum of the hourly values over the entire year should equal 1 with the exception of BTM Storage.* *For all profiles except BTM Storage, normalize by dividing every hour of the original non-normalized shape (in MW) by the annual total (in MWh/yr).* *BTM Storage should be entered in units of MW per MW of installed nameplate capacity.*							
Check: Sums to 1 if custom shape is defined?	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	**BTM Storage Check: Between -1 and 1**

30 MMT in 2035

LSEs within Utility Territory	2030 GHG Emissions Benchmark (MMT)	2035 GHG Emissions Benchmark (MMT)	2030 DA Load (GWh)	2035 DA Load (GWh)	ESP 2030 load within each IOU territory (GWh)	ESP 2035 load within each IOU territory (GWh)	ESP 2030 benchmark for each IOU territory (MMT)	ESP 2035 benchmark for each IOU territory (MMT)
Pacific Gas and Electric Company (Direct Access)	1.6214	1.1776	11,393	11,393			0.000	0.000
Southern California Edison Company (Direct Access)	1.6376	1.2201	13,421	13,421			0.000	0.000
San Diego Gas and Electric Company (Direct Access)	0.6637	0.4982	3,940	3,940			0.000	0.000
TOTAL			**28,754**	**28,754**	**0**	**0**	**0.000**	**0.000**

Each ESP is required to calculate its own confidential GHG Emissions Benchmark based on its 2030 and 2035 load share within the host IOU's territory. For any ESP that serves load in more than one IOU service territory, that ESP should add up the separate GHG Emissions Benchmarks calculated based on its share of direct access load for each IOU service territory to result in a single benchmark.When filling out Columns F and G -- "ESP 2030 load within each IOU territory" and "ESP 2035 load within each IOU territory" -- each ESP should utilize the confidential load forecast communicated to it by Energy Division staff.

30 MMT in 2035

Emissions Summary

Emissions Total	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
CO_2	*MMt/yr*	0.36	7.23	3.12	2.31	*Includes both in-CAISO and import emissions*
PM2.5	*tonnes/yr*	424	632	409	378	*Only In-CAISO emissions*
SO_2	*tonnes/yr*	156	160	136	127	*Only In-CAISO emissions*
NOx	*tonnes/yr*	1,305	1,414	1,105	979	*Only In-CAISO emissions*

Emissions by resource type

CO_2	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Coal	*MMt/yr*	-	-	-	-	*Included in GHG emissions total*
CHP	*MMt/yr*	0.67	0.67	0.65	0.40	
Biogas	*MMt/yr*	-	-	-	-	
Biomass	*MMt/yr*	-	-	-	-	
System Power	*MMt/yr*	(0.31)	6.56	2.47	1.91	*Includes emissions from in-CAISO dispatchable gas and unspecified imports*
Asset Controlling Supplier	*MMt/yr*	-	-	-	-	
Total	***MMt/yr***	**0.36**	**7.23**	**3.12**	**2.31**	*Includes both in-CAISO and import emissions*
Average emissions intensity	*tCO2/MWh*	0.013	0.258	0.104	0.063	*Emissions per MWh of sales*
Oversupply Emissions Credits	*MMt/yr*	1.46	0.14	0.67	1.73	*When hourly supply exceeds hourly load and system power is on the margin, LSE recieves credit at the system power emissions rate. Impact included in Total.*

PM2.5	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Coal	*tonnes/yr*	-	-	-	-	*Information only, not included in total*
CHP	*tonnes/yr*	37	36	36	22	
Biogas	*tonnes/yr*	22	33	55	45	
Biomass	*tonnes/yr*	349	272	211	215	
System Power	*tonnes/yr*	17	291	107	95	*In-CAISO emissions only - unspecified import emissions excluded*
Total	***tonnes/yr***	**424**	**632**	**409**	**378**	*Only In-CAISO emissions*
Average emissions intensity	*kg/MWh*	0.0154	0.0226	0.0136	0.0104	*Emissions per MWh of sales*

SO_2	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Coal	*tonnes/yr*	-	-	-	-	*Information only, not included in total*
CHP	*tonnes/yr*	4	4	4	2	
Biogas	*tonnes/yr*	16	24	41	33	
Biomass	*tonnes/yr*	134	104	81	83	
System Power	*tonnes/yr*	2	27	10	9	*In-CAISO emissions only - unspecified import emissions excluded*
Total	***tonnes/yr***	**156**	**160**	**136**	**127**	*Only In-CAISO emissions*
Average emissions intensity	*kg/MWh*	0.0056	0.0057	0.0045	0.0035	*Emissions per MWh of sales*

NOx	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Coal	*tonnes/yr*	-	-	-	-	*Information only, not included in total*
CHP	*tonnes/yr*	172	169	164	88	
Biogas	*tonnes/yr*	71	109	182	149	
Biomass	*tonnes/yr*	1,052	818	635	649	
System Power	*tonnes/yr*	9	318	123	92	*In-CAISO emissions only - unspecified import emissions excluded*
Total	***tonnes/yr***	**1,305**	**1,414**	**1,105**	**979**	*Only In-CAISO emissions*
Average emissions intensity	*kg/MWh*	0.0473	0.0506	0.0368	0.0269	*Emissions per MWh of sales*

Supply and Demand Balance

Demand Summary	***Unit***	**2024**	**2026**	**2030**	**2035**	
Managed Retail Sales Forecast (assigned to LSE)	*GWh*	27,602	27,968	30,029	36,401	*Sales forecast (before T&D losses increase demand at generator bus-bar)*
Baseline Demand, non-C&I	*GWh*	17,513	17,837	18,388	19,194	
Baseline Demand, C&I	*GWh*	16,530	16,958	17,840	19,407	
Electric Vehicle Load	*GWh*	915	1,447	3,924	10,262	
Building Electrification	*GWh*	131	238	476	818	*Summary of active inputs from Demand Inputs tab*
Energy Efficiency	*GWh*	(450)	(783)	(1,388)	(2,100)	
BTM PV	*GWh*	(4,888)	(5,559)	(6,998)	(8,831)	
Demand (at generator bus-bar)	*GWh*	29,759	30,152	32,267	38,790	

Supply Summary	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Large Hydro	*GWh*	3,306	3,254	3,156	2,999	
Imported Hydro	*GWh*	1,846	1,852	1,943	2,280	
Asset Controlling Supplier	*GWh*	-	-	-	-	
Nuclear	*GWh*	17,096	-	-	-	
Biogas	*GWh*	130	198	329	268	
Biomass	*GWh*	1,185	969	797	811	
Geothermal	*GWh*	59	249	1,351	1,316	
Small Hydro	*GWh*	541	534	493	390	
Wind CAISO	*GWh*	1,083	561	2,254	2,417	

Wind Out Of State	*GWh*	-	-	2,476	4,125	*Wind and solar values represent production potential (pre-curtailment).*
Wind Offshore	*GWh*	-	-	159	4,072	*Curtailment is calculated at the portfolio level (as opposed to the resource level), and is included as a line item below*
Solar Utility Scale	*GWh*	4,805	6,037	14,268	16,933	
Solar Distributed	*GWh*	-	-	-	-	*Distributed solar generation that is in front of the meter*
Hybrid or Paired Solar and Battery	*GWh*	-	-	-	-	
Shed DR	*GWh*	1.5	1.5	1.2	2.4	
Pumped Storage	*GWh*	(712)	(693)	(772)	(783)	*Negative because storage losses represent net negative energy production*
Battery Storage	*GWh*	(578)	(887)	(1,250)	(2,035)	*Negative because storage losses represent net negative energy production*
Storage Resource Custom Profile	*GWh*	-	-	-	-	*Negative because storage losses represent net negative energy production*
RPS Resource Custom Profile	*GWh*	-	-	-	-	
GHG-free non-RPS Resource Custom Profile	*GWh*	-	-	-	-	
Coal	*GWh*	-	-	-	-	
IFM CHP	*GWh*	1,518	1,501	1,467	891	

Supply Demand Balance Summary	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
LSE Supply, before curtailment and exports	*GWh*	*30,281*	*13,577*	*26,671*	*33,688*	*Represents LSE's net power production, before curtailment and exports reduce the power available to dispace CAISO dispatchable gas/unspecified imports*
Net Purchases, before curtailment and exports	*GWh*	*(521)*	*16,575*	*5,596*	*5,102*	*The net system power that the LSE would consume (positive = consume from system, negative = supply to system) if dispatchable gas/unspecified imports were on the margin at the system lev*
Curtailment	*GWh*	(33)	(0)	(754)	(1,538)	*Power that, if supplied to the system, would not displace CAISO dispatchable gas and/or unspecified import emissions and would instead be curtailed*
Exports	*GWh*	(71)	(5)	(317)	(462)	*Power that, if supplied to the system, would not displace CAISO dispatchable gas and/or unspecified import emissions and would instead be exported*
Zero Emissions Power From System	*GWh*	131	788	797	2,328	*Power supplied to meet LSE demand that does not incur emissions. Oversupply conditions at the system level result in surplus zero emissions power in some hours.*
Net System Power (incurs emissions)	***GWh***	**(549)**	**15,792**	**5,870**	**4,774**	*Power supplied by the system (or sent back to the system from if negative) in hours when CAISO dispatchable gas and/or unspecified imports are on the margin. The net system power produce*
Check: Supply equals demand		TRUE	TRUE	TRUE	TRUE	

Renewable and GHG-Free %	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Retail Sales	GWh	27,602	27,968	30,029	36,401	
RPS-Eligible Delivered Renewable	GWh	7,770	8,548	21,372	28,795	Represents delivered renewable energy. Not directly comparable to production from an LSE's RPS-eligible resources.
GHG free	GWh	30,151	14,444	27,269	36,405	A small fraction of Asset Controlling Supplier imports are not counted as GHG-free
RPS-Eligible Delivered Renewable Percentage	*% of retail sales*	28%	31%	71%	79%	Represents delivered renewable energy. Not directly comparable to production from an LSE's RPS-eligible resources.
GHG-free Percentage	*% of retail sales*	109%	52%	91%	100%	

PACIFIC GAS AND ELECTRIC COMPANY

2022 CLEAN SYSTEM POWER CALCULATOR

30 MMT CONFORMING

30 MMT in 2035

Supply Inputs: Values should be pasted directly from the Resource Data Template using Excel's "Paste Values" option

Resource	2024	2026	2030	2035	Units	RPS or GHG-Free
Large Hydro	3,082	3,039	2,944	2,801	GWh	GHG-Free
Imported Hydro	1,812	1,815	1,813	1,870	GWh	GHG-Free
Asset Controlling Supplier	-	-	-	-	GWh	GHG-Free (Partial)
Nuclear	17,098	-	-	-	GWh	GHG-Free
Biogas	130	198	329	268	GWh	RPS
Biomass	1,187	970	797	811	GWh	RPS
Geothermal	140	328	1,429	1,316	GWh	RPS
Small Hydro	521	513	473	374	GWh	RPS
Wind Resources						
Wind Baseline California	1,085	556	565	557	GWh	RPS
Wind New PG&E	-	-	935	964	GWh	RPS
Wind New SCE SDG&E	-	-	911	912	GWh	RPS
Wind Pacific Northwest	-	-	-	-	GWh	RPS
Wind Wyoming	-	-	431	2,203	GWh	RPS
Wind New Mexico	-	-	2,224	2,183	GWh	RPS
Wind Offshore Morro Bay	-	-	159	2,660	GWh	RPS
Wind Offshore Humboldt	-	-	-	910	GWh	RPS
Solar Resources						
Solar Baseline California	4,215	3,972	3,853	3,132	GWh	RPS
Solar New PG&E	189	336	379	372	GWh	RPS
Solar New SCE SDG&E	-	1,368	7,453	7,037	GWh	RPS
Solar Distributed	-	-	-	-	GWh	RPS
Hybrid/Paired						
Hybrid or Paired Solar and Battery	-	-	-	-	GWh	RPS
Storage & DR						
Shed DR	470	484	483	499	MW	GHG-Free
Pumped Storage	1,212	1,212	1,212	1,212	MW	n/a
Battery Storage	10,641	17,217	17,636	21,388	MWh Energy Capacity	n/a
User-Specified Profiles						
Storage Resource Custom Profile	-	-	-	-	MW	n/a
RPS Resource Custom Profile	-	-	-	-	GWh	RPS
GHG-free non-RPS Resource Custom Profile	-	-	-	-	GWh	GHG-Free
Coal						
Coal	-	-	-	-	GWh	n/a

Calculated Share of IFM CHP - do not edit

IFM CHP	*1,518*	*1,501*	*1,467*	*891*	GWh	n/a

Checks	2024	2026	2030	2035
No negative supply inputs	TRUE	TRUE	TRUE	TRUE
Storage Resource Custom Profile does not produce power on a net basis	TRUE	TRUE	TRUE	TRUE
Storage Resource Custom Profile has values between -1 and 1	TRUE	TRUE	TRUE	TRUE
Sum of hourly RPS Resource Custom Profile equals annual input	TRUE	TRUE	TRUE	TRUE
Sum of hourly GHG-free non-RPS Resource Custom Profile equals annual input	TRUE	TRUE	TRUE	TRUE

30 MMT in 2035

Demand Inputs

	Units	2024	2026	2030	2035	Notes
Managed Retail Sales Forecast (assigned to LSE)	GWh	27,098	27,399	28,020	29,852	Must be entered regardless of demand modifiers selected. Includes effect of BTM PV, Energy Efficiency, etc.
Behind-The-Meter Photovoltaics (BTM PV) Forecast (assigned to LSE)	GWh	4,240	4,867	6,226	8,006	Measured at customer, not grossed up for T&D losses
Retail Sales without BTM PV reduction	GWh	31,338	32,266	34,245	37,857	Used to allocate demand modifiers
Behind-The-Meter Photovoltaics (BTM PV) grossed up for T&D losses	GWh	4,576	5,253	6,717	8,636	At generator bus-bar
Calculated share of CAISO system demand (% of Retail Sales)	%	13%	13%	13%	13%	Do not edit

Commercial & Industrial Fraction of Baseline Demand	Use Custom?	Units	2024	2026	2030	2035	Notes
Default C&I Percentage of Total	No	%	49%	49%	49%	50%	Default, do not change. Does not include demand from Light Duty EVs.
Custom C&I Percentage of Total (OPTIONAL)		%					Will be used instead of default if "Use Custom?" = Yes

Calculated Demand, based on sales-weighted share of total from IEPR		Units	2024	2026	2030	2035	Notes
Baseline net energy for load		GWh	32,992	33,722	35,273	38,010	Grossed up for T&D losses; demand met by BTM CHP excluded
Electric Vehicle Load		GWh	1,150	1,644	2,589	4,116	Grossed up for T&D losses
Building Electrification		GWh	130	237	476	821	Grossed up for T&D losses
Energy Efficiency		GWh	(450)	(782)	(1,389)	(2,108)	Grossed up for T&D losses
Behind-The-Meter Photovoltaics (BTM PV)		GWh	(4,576)	(5,253)	(6,717)	(8,636)	Grossed up for T&D losses
Behind-The-Meter Storage Losses (BTM Storage)		GWh	9	14	25	39	Grossed up for T&D losses
Behind-The-Meter Storage Capacity (BTM Storage)		Nameplate MW	150	206	324	498	For information only
Custom Demand Inputs (OPTIONAL; overwrites sales-weighted IEPR values from Calculated Demand section)	Use Custom?	Units	2024	2026	2030	2035	Notes
Baseline net energy for load	No	GWh					To overwrite, set "Use Custom" to "Yes" and input forecast. For use in Alternative Plans only.
Electric Vehicle Load	No	GWh					Custom demand values should be grossed up for T&D losses.
Building Electrification	No	GWh					User-specified demand profiles should be input in the "Custom Profiles" tab.
Energy Efficiency	No	GWh					Energy efficiency and BTM PV subtract from demand and therefore should be entered as negative values.
Behind-The-Meter Photovoltaics (BTM PV)	No	GWh					
Behind-The-Meter Storage Capacity (BTM Storage)	No	Nameplate MW					Custom BTM storage should be entered in terms of Nameplate MW
Behind-The-Meter Storage Losses (BTM Storage)		GWh					
Active Demand Inputs	Source	Units	2024	2026	2030	2035	Notes
Baseline net energy for load	IEPR	GWh	32,992	33,722	35,273	38,010	Grossed up for T&D losses; demand met by BTM CHP excluded
Non-commercial/industrial portion of baseline (included in baseline total)	IEPR	GWh	16,972	17,287	17,903	18,900	Grossed up for T&D losses; demand met by BTM CHP excluded
Commercial/industrial portion of baseline (included in baseline total)	IEPR	GWh	16,020	16,435	17,370	19,109	Grossed up for T&D losses; demand met by BTM CHP excluded
Electric Vehicle Load	IEPR	GWh	1,150	1,644	2,589	4,116	Grossed up for T&D losses
Building Electrification	IEPR	GWh	130	237	476	821	Grossed up for T&D losses
Energy Efficiency	IEPR	GWh	(450)	(782)	(1,389)	(2,108)	Grossed up for T&D losses
Behind-The-Meter Photovoltaics (BTM PV)	IEPR	GWh	(4,576)	(5,253)	(6,717)	(8,636)	Grossed up for T&D losses
Behind-The-Meter Storage Losses (BTM Storage)	IEPR	GWh	9	14	25	39	Grossed up for T&D losses

Calculated demand at utility-scale generator bus-bar		GWh	29,255	29,583	30,258	32,241	Total of "Active Demand Inputs"

IFM CHP Calculation			2024	2026	2030	2035	
CASIO-wide In front of the meter (IFM) Combined Heat and Power (CHP) generation		GWh	11,458	11,385	11,194	6,609	Input data - do not change. Values are from SERVM disparch
LSE share of IFM CHP		GWh	1,518	1,501	1,467	891	Calculation - do not change

Checks	2024	2026	2030	2035
Correct sign (positive/negative) on demand inputs	TRUE	TRUE	TRUE	TRUE
If custom C&I percentage is used, positive percentage is used	TRUE	TRUE	TRUE	TRUE

Custom Demand Shapes (OPTIONAL; overwrites default demand shapes)	Custom Hourly Demand Profiles							
Use Custom Shape?	No	No	No	No	No	No	No	
Notes:	Set "Use Custom Shape" toggle to "Yes" to override default shape with custom shape below. Shape should be normalized - the sum of the hourly values over the entire year should equal 1 with the exception of BTM Storage. For all profiles except BTM Storage, normalize by dividing every hour of the original non-normalized shape (in MW) by the annual total (in MWh/yr).							
Check: Sums to 1 if custom shape is defined?	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	**BTM Storage Check: Between -1 and 1**

30 MMT in 2035

LSEs within Utility Territory	2030 GHG Emissions Benchmark (MMT)	2035 GHG Emissions Benchmark (MMT)	2030 DA Load (GWh)	2035 DA Load (GWh)	ESP 2030 load within each IOU territory (GWh)	ESP 2035 load within each IOU territory (GWh)	ESP 2030 benchmark for each IOU territory (MMT)	ESP 2035 benchmark for each IOU territory (MMT)
Pacific Gas and Electric Company (Direct Access)	1.6214	1.1776	11,393	11,393			0.000	0.000
Southern California Edison Company (Direct Access)	1.6376	1.2201	13,421	13,421			0.000	0.000
San Diego Gas and Electric Company (Direct Access)	0.6637	0.4982	3,940	3,940			0.000	0.000
TOTAL			**28,754**	**28,754**	**0**	**0**	**0.000**	**0.000**

Each ESP is required to calculate its own confidential GHG Emissions Benchmark based on its 2030 and 2035 load share within the host IOU's territory. For any ESP that serves load in more than one IOU service territory, that ESP should add up the separate GHG Emissions Benchmarks calculated based on its share of direct access load for each IOU service territory to result in a single benchmark.When filling out Columns F and G -- "ESP 2030 load within each IOU territory" and "ESP 2035 load within each IOU territory" -- each ESP should utilize the confidential load forecast communicated to it by Energy Division staff.

30 MMT in 2035

Emissions Summary

Emissions Total	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
CO_2	*MMt/yr*	0.37	7.20	3.12	2.31	*Includes both in-CAISO and import emissions*
PM2.5	*tonnes/yr*	429	637	410	373	*Only In-CAISO emissions*
SO_2	*tonnes/yr*	156	160	136	127	*Only In-CAISO emissions*
NOx	*tonnes/yr*	1,310	1,419	1,107	979	*Only In-CAISO emissions*

Emissions by resource type

CO_2	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Coal	*MMt/yr*	-	-	-	-	*Included in GHG emissions total*
CHP	*MMt/yr*	0.67	0.67	0.65	0.40	
Biogas	*MMt/yr*	-	-	-	-	
Biomass	*MMt/yr*	-	-	-	-	
System Power	*MMt/yr*	(0.30)	6.54	2.47	1.91	*Includes emissions from in-CAISO dispatchable gas and unspecified imports*
Asset Controlling Supplier	*MMt/yr*	-	-	-	-	
Total	***MMt/yr***	**0.37**	**7.20**	**3.12**	**2.31**	*Includes both in-CAISO and import emissions*
Average emissions intensity	*tCO2/MWh*	0.014	0.263	0.111	0.077	*Emissions per MWh of sales*
Oversupply Emissions Credits	*MMt/yr*	1.56	0.22	0.58	1.03	*When hourly supply exceeds hourly load and system power is on the margin, LSE recieves credit at the system power emissions rate. Impact included in Tota*

PM2.5	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Coal	*tonnes/yr*	-	-	-	-	*Information only, not included in totai*
CHP	*tonnes/yr*	37	36	36	22	
Biogas	*tonnes/yr*	22	33	55	45	
Biomass	*tonnes/yr*	350	272	211	215	
System Power	*tonnes/yr*	20	296	109	90	*In-CAISO emissions only - unspecified import emissions excluded*
Total	***tonnes/yr***	**429**	**637**	**410**	**373**	*Only In-CAISO emissions*
Average emissions intensity	*kg/MWh*	0.0158	0.0233	0.0147	0.0125	*Emissions per MWh of sales*

SO_2	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Coal	*tonnes/yr*	-	-	-	-	*Information only, not included in totai*
CHP	*tonnes/yr*	4	4	4	2	
Biogas	*tonnes/yr*	16	24	41	33	
Biomass	*tonnes/yr*	135	105	81	83	
System Power	*tonnes/yr*	2	28	10	9	*In-CAISO emissions only - unspecified import emissions excluded*
Total	***tonnes/yr***	**156**	**160**	**136**	**127**	*Only In-CAISO emissions*
Average emissions intensity	*kg/MWh*	0.0058	0.0059	0.0048	0.0042	*Emissions per MWh of sales*

NOx	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Coal	*tonnes/yr*	-	-	-	-	*Information only, not included in totai*
CHP	*tonnes/yr*	172	169	164	88	
Biogas	*tonnes/yr*	71	109	182	149	
Biomass	*tonnes/yr*	1,054	819	635	649	
System Power	*tonnes/yr*	13	322	125	92	*In-CAISO emissions only - unspecified import emissions excluded*
Total	***tonnes/yr***	**1,310**	**1,419**	**1,107**	**979**	*Only In-CAISO emissions*
Average emissions intensity	*kg/MWh*	0.0484	0.0518	0.0395	0.0328	*Emissions per MWh of sales*

Supply and Demand Balance

Demand Summary	***Unit***	**2024**	**2026**	**2030**	**2035**	
Managed Retail Sales Forecast (assigned to LSE)	*GWh*	27,098	27,399	28,020	29,852	*Sales forecast (before T&D losses increase demand at generator bus-bar)*
Baseline Demand, non-C&I	*GWh*	16,972	17,287	17,903	18,900	
Baseline Demand, C&I	*GWh*	16,020	16,435	17,370	19,109	
Electric Vehicle Load	*GWh*	1,150	1,644	2,589	4,116	
Building Electrification	*GWh*	130	237	476	821	*Summary of active inputs from Demand Inputs tab*
Energy Efficiency	*GWh*	(450)	(782)	(1,389)	(2,108)	
BTM PV	*GWh*	(4,576)	(5,253)	(6,717)	(8,636)	
Demand (at generator bus-bar)	*GWh*	29,255	29,583	30,258	32,241	

Supply Summary	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Large Hydro	*GWh*	3,082	3,039	2,944	2,801	
Imported Hydro	*GWh*	1,812	1,815	1,813	1,870	
Asset Controlling Supplier	*GWh*	-	-	-	-	
Nuclear	*GWh*	17,098	-	-	-	
Biogas	*GWh*	130	198	329	268	
Biomass	*GWh*	1,187	970	797	811	
Geothermal	*GWh*	140	328	1,429	1,316	
Small Hydro	*GWh*	521	513	473	374	

Wind CAISO	*GWh*	1,085	556	2,412	2,433	
Wind Out Of State	*GWh*	-	-	2,655	4,386	*Wind and solar values represent production potential (pre-curtailment).*
Wind Offshore	*GWh*	-	-	159	3,570	*Curtailment is calculated at the portfolio level (as opposed to the resource level), and is included as a line item below*
Solar Utility Scale	*GWh*	4,404	5,677	11,685	10,541	
Solar Distributed	*GWh*	-	-	-	-	*Distributed solar generation that is in front of the meter*
Hybrid or Paired Solar and Battery	*GWh*	-	-	-	-	
Shed DR	*GWh*	1.5	1.5	1.2	2.4	
Pumped Storage	*GWh*	(712)	(693)	(772)	(783)	*Negative because storage losses represent net negative energy productior*
Battery Storage	*GWh*	(586)	(973)	(1,037)	(1,231)	*Negative because storage losses represent net negative energy productior*
Storage Resource Custom Profile	*GWh*	-	-	-	-	*Negative because storage losses represent net negative energy productior*
RPS Resource Custom Profile	*GWh*	-	-	-	-	
GHG-free non-RPS Resource Custom Profile	*GWh*	-	-	-	-	
Coal	*GWh*	-	-	-	-	
IFM CHP	*GWh*	1,518	1,501	1,467	891	

Supply Demand Balance Summary	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
LSE Supply, before curtailment and exports	*GWh*	*29,680*	*12,934*	*24,355*	*27,248*	*Represents LSE's net power production, before curtailment and exports reduce the power available to dispace CAISO dispatchable gas/unspecified import*
Net Purchases, before curtailment and exports	*GWh*	*(425)*	*16,649*	*5,903*	*4,993*	*The net system power that the LSE would consume (positive = consume from system, negative = supply to system) if dispatchable gas/unspecified imports were on the margin at the*
Curtailment	*GWh*	(22)	-	(469)	(743)	*Power that, if supplied to the system, would not displace CAISO dispatchable gas and/or unspecified import emissions and would instead be curtaile*
Exports	*GWh*	(57)	(2)	(283)	(392)	*Power that, if supplied to the system, would not displace CAISO dispatchable gas and/or unspecified import emissions and would instead be exporte*
Zero Emissions Power From System	*GWh*	180	892	795	1,435	*Power supplied to meet LSE demand that does not incur emissions. Oversupply conditions at the system level result in surplus zero emissions power in some hours*
Net System Power (incurs emissions)	***GWh***	**(526)**	**15,759**	**5,859**	**4,692**	*Power supplied by the system (or sent back to the system from if negative) in hours when CAISO dispatchable gas and/or unspecified imports are on the margin. The net system pow*
Check: Supply equals demand		TRUE	TRUE	TRUE	TRUE	

Renewable and GHG-Free %	***Unit***	**2024**	**2026**	**2030**	**2035**	***Notes***
Retail Sales	GWh	27,098	27,399	28,020	29,852	
RPS-Eligible Delivered Renewable	GWh	7,445	8,243	19,470	22,955	Represents delivered renewable energy. Not directly comparable to production from an LSE's RPS-eligible resources.
GHG free	GWh	29,618	13,990	25,023	29,064	A small fraction of Asset Controlling Supplier imports are not counted as GHG-free
RPS-Eligible Delivered Renewable Percentage	*% of retail sales*	27%	30%	69%	77%	Represents delivered renewable energy. Not directly comparable to production from an LSE's RPS-eligible resources.
GHG-free Percentage	*% of retail sales*	109%	51%	89%	97%	

PACIFIC GAS AND ELECTRIC COMPANY

2022 RESOURCE DATA TEMPLATE

25 MMT CONFORMING

lse_unique_contract_id	resource	alternative_resource_name	contract_status	project_interconnection_position	interconnection_substation	marginal_addition	marginal_addition_to	total_nameplate_capacity	contracted_nameplate_capacity	sep_contracted_mw_nqc	contract_gwh_annual
33B013U02	_BRANCH_GENERIC_MALIN500_ISL	Resource Adequacy Batch Default Facilities	Online						75	[redacted]	0
33R520RM	_NEW_GENERIC_SOLAR_1AXIS	Alameda Grant Line Solar 1	Development	WDAT-2589	HERDLYN SUB				2	2	5
40S026	_NEW_GENERIC_BATTERY_STORAGE	Amcor	Development	2907	NA				27	[redacted]	0
33R494	_NEW_GENERIC_SOLAR_FIXED	Ava Elizabeth	Development	WDAT-1586	COALINGA #1 SUB				2	1.592	4
33R488	_NEW_GENERIC_SOLAR_FIXED	Beard	Development	solar_caiso_planned	G&E's Elk Hills 1104 Distribution Circu				2	2.25	6
40S038	_NEW_GENERIC_BATTERY_STORAGE	Beaumont ESS 1, LLC	Development	WDAT-1648	COTATI SUB				100	[redacted]	0
33R436BIO	BLUE_MOUNTAIN_ELECTRIC_COMPANY	Blue Mountain Electric Company	Development	WDAT-2008	WEST POINT PH				3	3	19
40S034	_NEW_GENERIC_BATTERY_STORAGE	Caballero CA Storage, LLC	Development	Q-1470	Mesa Substation 230kV				100	[redacted]	0
33R512BIO	_NEW_GENERIC_BIOMASS/WOOD	Camptonville Biopower 1	Development	Q-1537	PGE Colgate-Challenge 60kV				3	3	21
40S039	_NEW_GENERIC_BATTERY_STORAGE	Canyon Country ESS I, LLC	Development	WDAT-1649	GREENBRAE SUB				80	[redacted]	0
40S009	_NEW_GENERIC_BATTERY_STORAGE	Cascade Energy Storage	Development	Q-1272	Weber Substation 60kV				25	[redacted]	0.0
40S036	_NEW_GENERIC_BATTERY_STORAGE	Corby Energy Storage, LLC	Development	Q-1270	Vaca-Dixon Substation 230kV				125	[redacted]	0
40S022	_NEW_GENERIC_BATTERY_STORAGE	Daggett 2	Development	Q-1313	Kramer Substation 230kV				46	[redacted]	0
40S023	_NEW_GENERIC_BATTERY_STORAGE	Daggett 3	Development	Q-1314	Kramer Substation 230kV				15	[redacted]	0
33R514BIO	_NEW_GENERIC_BIOMASS/WOOD	Engeman SVRC Energy	Development	WDAT-2546	ARBUCKLE SUB				3	3	25
33R495	_NEW_GENERIC_SOLAR_FIXED	ForeFront C2	Development	solar_caiso_planned	\ga #2 1107 (252381107) distribution				2	2.062	5
33R499	_NEW_GENERIC_SOLAR_1AXIS	Fresno Disadvantaged Community Solar Project	Development	WDAT-2392	NEW KEARNEY SUB				10	10	28
33R490	_NEW_GENERIC_SOLAR_FIXED	Gonzalez	Development	solar_caiso_planned	'G&E's Reedley 1101 distribution circu				2	1.75	4
33R437BIO	HAT_CREEK_BIOENERGY__LLC	Hat Creek Bioenergy, LLC	Development	WDAT-1282	BURNEY SUB				3	2.88	18
33R491	_NEW_GENERIC_SOLAR_FIXED	Highway 43	Development	solar_caiso_planned	'G&E's Shafter 1103 distribution circu				2	2.25	6
40S014	HUMMINGBIRDSTORAGE	Hummingbird Energy Storage	Development	Q-1454	Metcalf 115kV				75	[redacted]	0
33R522	_NEW_GENERIC_SOLAR_FIXED	Jaton LLC	Development	solar_caiso_planned	Tulare Lake 70 kV / 12 kV				3	3	8
33R393	JAVASR_1_JAVSR1	Java Solar Project	Development	Q-965	Henrietta-GWF 115 kV Line				14	13.5	34.5
33R492	_NEW_GENERIC_SOLAR_FIXED	Kern Sunset	Development	solar_caiso_planned	Weedpatch Bank 1 115kV / 12kV				2	2.4	6
33R524	_NEW_GENERIC_SOLAR_FIXED	Kings CSG 3 LLC	Development	solar_caiso_planned	Henrietta Substation				3	3	8
40S035	_NEW_GENERIC_BATTERY_STORAGE	Kola Energy Storage, LLC	Development	Q-1275	Tesla Substation 230kV				275	[redacted]	0
40S032	_NEW_GENERIC_BATTERY_STORAGE	Moss Landing Energy Storage 3	Development	Q-1540	Moss Landing Substation 500kV				350	[redacted]	0
33R503	_NEW_GENERIC_SOLAR_1AXIS	Nachtigall	Development	WDAT-1836	CHARCA SUB				5	4.66	13
40S037	_NEW_GENERIC_BATTERY_STORAGE	Nighthawk Energy Storage, LLC	Development	Q-1673	Sycamore Canyon Substation 138 kV				300	[redacted]	0
40S025	_NEW_GENERIC_BATTERY_STORAGE	North Central Valley	Development	Q-1109	Belotta Substation 115 kV				132	[redacted]	0
33R433BIO	_NEW_GENERIC_BIOMASS/WOOD	North Fork Community Power	Development	WDAT-1151	SAN JOAQUIN #3 PH				2	2	13
33R504	_NEW_GENERIC_SOLAR_FIXED	Pistachio Road	Development	WDAT-1726	TWISSELMAN SUB				5	4.79	14
40S033	_NEW_GENERIC_BATTERY_STORAGE	Poblano Energy Storage	Development	WDAT-1669	SARATOGA SUB				100	[redacted]	0
40S028	_NEW_GENERIC_BATTERY_STORAGE	Pomona Energy Storage 2 LLC	Development	WDT1250EXP, WDT1510	SCE Simpson 66/12 kV Substation				10	0.0	0.0
33R419	RE_GASKELL_WEST_3	RE Gaskell West 3 LLC	Development	Q-1074	Whirlwind Substation 220 kV				20	20	60
33R420	RE_GASKELL_WEST_4	RE Gaskell West 4 LLC	Development	Q-1074	Whirlwind Substation 220 kV				20	20	60
33R421	RE_GASKELL_WEST_5	RE Gaskell West 5 LLC	Development	Q-1074	Whirlwind Substation 220 kV				20	20	60
33R489	_NEW_GENERIC_SOLAR_FIXED	Rocha	Development	solar_caiso_planned	'G&E's Lamont 1102 distribution circu				2	2	5
33R523	_NEW_GENERIC_SOLAR_1AXIS	RPCA Solar 7, LLC	Development	solar_caiso_planned	PG&E El Nido Substation				3	3	9
CPE00001R	CHEVCO_6_UNIT 2	CalPeak Power 2 Panoche Peaker Plant	Online		PG&E Panoche Substation				52	[redacted]	0
CPE00002R	MALAGA_1_PL1X2	Malaga Peaking Plant	Online		PG&E Malaga Substation				96	[redacted]	0
CPE00003R	COCOPP_2_CTG1	Marsh Landing Unit 1	Online		Contra Costa Switchyard				102	[redacted]	0
CPE00004R	COCOPP_2_CTG2	Marsh Landing Unit 2	Online		Contra Costa Switchyard				202	[redacted]	0
CPE00005R	COCOPP_2_CTG3	Marsh Landing Unit 3	Online		Contra Costa Switchyard				201	[redacted]	0
CPE00006R	MOSSLD_2_PSP1	Moss Landing Power Block 1	Online		230 kV Moss Landing Substation				255	[redacted]	0
CPE00007R	MOSSLD_2_PSP2	Moss Landing Power Block 2	Online		230 kV Moss Landing Substation				510	[redacted]	0
CPE00008R	GWFPWR_1_UNITS	Hanford Peaker	Online		PG&E GWF Switching Station				97	[redacted]	0
CPE00009R	SCHLTE_1_PL1X3	Tracy Combined Cycle Power Plant	Online		Schulte 115kv Switching Station				325	[redacted]	0
CPE00010R	AGRICO_6_PL3N5	Fresno Cogen Partners Peaker	Online		Helm-Kerman				23	[redacted]	0
CPE00011R	YUBACT_1_SUNSWT	Yuba City Cogeneration	Online		Harter				47	[redacted]	0
FIT_Baseload	_CREZ_GENERIC_INSTATE_BIOMASS	FIT_Baseload	PlannedNew						46	41.7888	199
FIT_Non-Peaking_AA_SmallHydro	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	FIT Non-Peaking As-Available Small Hydro	PlannedExisting						6	4.3097	21
FIT_Non-Peaking_AA_Wind	_NEW_GENERIC_WIND	FIT Non-Peaking As-Available Wind	PlannedNew						25	5.278953212	36
FIT_Peaking_AA	_NEW_GENERIC_SOLAR_FIXED	FIT Peaking As-Available	PlannedNew						39	3.472561101	60
FIT_SB1122_Cat1	_NEW_GENERIC_BIOGAS_LANDFILLGAS	Generic SB1122_Cat1	PlannedNew						28	25.24446	117
FIT_SB1122_Cat2_Ag	_NEW_GENERIC_BIOGAS_LANDFILLGAS	Generic SB1122_Cat2 Ag	PlannedNew						9	7.681253551	37
FIT_SB1122_Cat2_Dairy	_NEW_GENERIC_BIOGAS_LANDFILLGAS	Generic SB1122_Cat2 Dairy	PlannedNew						3	2.483346449	12
FIT_SB1122_Cat3	_NEW_GENERIC_BIOMASS/WOOD	Generic SB1122_Cat3	PlannedNew						33	29.808	135
GENCPELOCALTHERMAL	_EXISTING_GENERIC_COMBINED_CYCLE	Generic Local Thermal CPE Procurement	PlannedExisting						2782	[redacted]	0
GENGTRSOLARPV	_NEW_GENERIC_SOLAR_FIXED	Generic GTSR Solar PV	PlannedNew						117	14.37968961	289
GENIRPBPOTSOLAR_Arizona	_CREZ_GENERIC_ARIZONA_SOLAR	Generic IRP BPOT - Solar - Arizona Solar	PlannedNew						169	15.24166011	480
GENIRPBPOTSolar_Imperial	_CREZ_GENERIC_GREATER_IMPERIAL_SOLAR	Generic IRP BPOT - Solar - Imperial	PlannedNew						39	3.469738104	110
GENIRPBPOTSOLAR_Kramer	_CREZ_GENERIC_GREATER_KRAMER_SOLAR	Generic IRP BPOT - Solar_Kramer	PlannedNew						769	69.46953698	2182
GENIRPBPOTSOLAR_Riverside	_CREZ_GENERIC_RIVERSIDE_PALM_SPRINGS_SOLAR	Generic IRP BPOT - Solar_Riverside	PlannedNew						659	59.51327389	1492
GENIRPBPOTSOLAR_Tehachapi	_CREZ_GENERIC_TEHACHAPI_EX_SOLAR	Generic IRP BPOT - Solar_Tehachapi	PlannedNew						554	49.7025386	999
GENIRPBPOTSTORAGE-31	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP BPOT - Storage	PlannedNew						79	[redacted]	0
GENIRPBPOTSTORAGE-32	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP BPOT - Storage	PlannedNew						383	[redacted]	0
GENIRPBPOTSTORAGE-33	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP BPOT - Storage	PlannedNew						273	[redacted]	0
GENIRPBPOTSTORAGE-34	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP BPOT - Storage	PlannedNew						239	[redacted]	0
GENIRPBPOTSTORAGE-35	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP BPOT - Storage	PlannedNew						128	[redacted]	0
GENIRPBPOTWIND_Baja	_CREZ_GENERIC_BAJA_CALIFORNIA_WIND	Generic IRP BPOT - Wind_Baja	PlannedNew						111	24.7895208	298
GENIRPBPOTWIND_Carrizo	_CREZ_GENERIC_CARRIZO_WIND	Generic IRP BPOT - Wind_Carrizo	PlannedNew						53	11.85765412	112
GENIRPBPOTWIND_CValley	:REZ_GENERIC_CENTRAL_VALLEY_NORTH_LOS_BANOS_WI	Generic IRP BPOT - Wind_Cvalley	PlannedNew						32	7.147645164	68
GENIRPBPOTWIND_Humboldt	_CREZ_GENERIC_HUMBOLDT_WIND	Generic IRP BPOT-Wind-Humboldt	PlannedNew						6	1.404739512	13
GENIRPBPOTWIND_Humboldt_Bay_Offshore	_CREZ_GENERIC_HUMBOLDT_BAY_OFFSHORE_WIND	Generic IRP BPOT - Wind - Humboldt Bay Offshore Wind	PlannedNew						251	55.2832325	834
GENIRPBPOTWIND_Kern_Greater_Carrizo	_CREZ_GENERIC_KERN_GREATER_CARRIZO_WIND	Generic IRP BPOT-Wind-Kern Greater Carrizo	PlannedNew						11	2.64	19
GENIRPBPOTWIND_Morro	_CREZ_GENERIC_MORRO_BAY_OFFSHORE_WIND	Generic IRP BPOT - Wind_Morro	PlannedNew						574	126.3433632	1548
GENIRPBPOTWIND_New_Mexico	_CREZ_GENERIC_NEW_MEXICO_WIND	Generic IRP BPOT-Wind-New Mexico	PlannedNew						463	103.28967	1398
GENIRPBPOTWIND_NoCal	_CREZ_GENERIC_NORTHERN_CALIFORNIA_EX_WIND	Generic IRP BPOT - Wind_Nocal	PlannedNew						160	35.7754101	339
GENIRPBPOTWIND_Solano	_CREZ_GENERIC_SOLANO_WIND	Generic IRP BPOT - Wind_Solano	PlannedNew						104	23.13688608	219
GENIRPBPOTWIND_Southern_Nevada	_CREZ_GENERIC_SOUTHERN_NEVADA_WIND	Generic IRP BPOT - Wind - Southern Nevada	PlannedNew						82	19.44932	176
GENIRPBPOTWIND_SWExisting	_CREZ_GENERIC_SW_EXT_TX_WIND	Generic IRP BPOT - Wind_Swexisting	PlannedNew						93	20.657934	249
GENIRPBPOTWIND_Tehachapi	_CREZ_GENERIC_TEHACHAPI_WIND	Generic IRP BPOT - Wind_Tehachapi	PlannedNew						51	11.3618637	137
GENIRPBPOTWIND_WY	_CREZ_GENERIC_WYOMING_WIND	Generic IRP BPOT - Wind_WY	PlannedNew						431	96.19821442	1849
GENIRPMTRBIOMASS	_NEW_GENERIC_BIOMASS/WOOD	Generic IRP MTR - Biomass	PlannedNew						11	9.9	74
GENIRPMTRGEOTHERMAL	_NEW_GENERIC_GEOTHERMAL	Generic IRP MTR - Geothermal	PlannedNew						200	166	1219
GENIRPMTRLDSTORAGE	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP MTR - LDstorage	PlannedNew						125	[redacted]	0
GENIRPMTRLDSTORAGE_2	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP MTR Procurement - LD Storage	PlannedNew						131	[redacted]	0
GENIRPMTRSOLAR	_NEW_GENERIC_SOLAR_FIXED	Generic IRP MTR - Solar	PlannedNew						695	61.95907695	1474
GENIRPMTRSTORAGE-24	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP MTR - Storage_24	PlannedNew						405	[redacted]	0
GENIRPMTRSTORAGE-25	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP MTR - Storage_25	PlannedNew						290	[redacted]	0
GENIRPPSPSTORAGE-CPE	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP PSP - Storage	PlannedNew						95	[redacted]	0
GENIRPPSPSTORAGE-LSE	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP PSP - Storage	PlannedNew						50	[redacted]	0
IDWAMONTICELLO	MONTPH_7_UNITS	SID Monticello	Online						12	0	44
PGESALTSPRINGS2	SALTSP_7_UNITS	PGE Salt Springs 2	Online						33.00	[redacted]	127.09
PGESANJOAQU1	CRNEVL_6_SJQN 2	PGE San Joaquin 1A	Online						0	0	0
PGESPAULDING2	SPAULD_6_UNIT12	PGE Spaulding 2	Online						4	0	9
33R484	WSENGY_1_UNIT 1	Wheelabrator Shasta Energy Co, Inc	Online		Kimberly Rd. Anderson, CA				34	34	238
PGEWISHON	WISHON_6_UNITS	PGE A.G.Wishon	Online						20	0	46
PGEWISE2	WISE_1_UNIT 2	PGE Wise 2	Online						3	0	0
PGEWISE1	WISE_1_UNIT 1	PGE Wise 1	Online						14	5.84	61
33R479BIO	WILLMS_6_ARBBM1	Abel Road Bioenergy	Online	WDAT-1986	WILLIAMS SUB				3	3	20
33R154AB	WFRESN_1_SOLAR	La Joya Del Sol #1	Online	WDAT-0168	WEST FRESNO SUB				2	1.5	2
PGEWESTPOINT	WESTPT_2_UNIT	PGE West Point	Online						15	10	70
33R121	WAUKNA_1_SOLAR	Corcoran	Online	Q-478	Corcoran-Kingsburg 115kV #2 line				20	20	33

lse_unique_contract_id	resource	alternative_resource_name	contract_status	project_interconnection_position	interconnection_substation	marginal_addition	marginal_addition_to	total_nameplate_capacity	contracted_nameplate_capacity	sep_contracted_mw_nqc	contract_gwh_annual
33R417RM	VOLTA_7_QFUNTS	Sutters Mill	Online		Volta dist 1102				0	0.13	1
33R511RM	VOLTA_7_PONHY1	Ponderosa Bailey Hydroelectric Project	Online		Volta 1101 at 12kV				1	1.15	2
33R333RM	VOLTA_6_DIGHYD	Digger Creek Hydro	Online		p-up transformer to the Volta 1101 di				1	0.65	4
PGEVOLTA2	VOLTA_2_UNIT 2	PGE Volta 2	Online						1	0.36	4
PGEVOLTA1	VOLTA_2_UNIT 1	PGE Volta 1	Online						9	3.05	39
40S019	VISTRA_5_DALBT4	Moss 100	Online	Q-1472	Moss Landing Substation 500kV				100		0
40S013 VISTRA_5_DALBT3	VISTRA_5_DALBT3	Unit 3 - Moss 300	Online	Q-1472	Moss Landing Substation 500kV				100		0
40S013 VISTRA_5_DALBT2	VISTRA_5_DALBT2	Unit 2 - Moss 300	Online	Q-1472	Moss Landing Substation 500kV				100		0
40S013 VISTRA_5_DALBT1	VISTRA_5_DALBT1	Unit 1 - Moss 300	Online	Q-1472	Moss Landing Substation 500kV				100		0
33R279	VICTOR_1_SOLAR2	Alamo Solar	Online	WDAT-0491	DINUBA SUB				20	20	50
25C246	VEDDER_1_SEKERN	Chevron USA (Se Kern River)	Online						34		0
PGEVACADIXON	VACADX_1_SOLAR	Vaca-Dixon Solar (PG&E)	Online						2	0.28	4
33R151	USWPJR_2_UNITS	Vasco Winds	Online		230 kV Jackson Substation				78	78.2	211
01C061	UNOCAL_1_UNITS	Conocophillips Company	Online						50		0
33R470BIO	CAMDEN_6_RDDBM1	RuAnn Dairy Digester	Development	WDAT-1864	CARUTHERS SUB				1	0.55	4.3
24B001FHP	TXMCKT_6_UNIT	McKittrick Cogen	Online						10		30
33R302AB	_EXISTING_GENERIC_SOLAR_1AXIS	Castor Solar Project	Online	WDAT-0764	ELK HILLS SUB				2	1.5	2
33R415RM	TX-ELK_6_ECKSR2	Eagle Solar	Online	WDAT-1289	ELK HILLS SUB				3	3	7
33R164AB	TWISSL_6_SOLAR	Nickel 1	Online	WDAT-0102	TWISSELMAN SUB				2	1.5	2
33R509RM	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	Kings River Syphon	Online		Tivy Valley 1106 at 12kV				1	0.6	1
33R392	TRNQL8_2_AMASR1	Tranquillity 8 Amarillo	Online	Q-1032	Tranquillity Switchyard 230kV				20	20	56
33R056	TOPAZ_2_SOLAR	Topaz Solar Farm	Online	Q-194	Morro Bay-Midway #1 & #2 lines 230kV				550	550	1066
PGETOADTOWN	TOADTW_6_UNIT	PGE Toadtown	Online						2	0.1	5
33R233AB	TMPLTN_2_SOLAR	Vintner Solar Project	Online	WDAT-0384	TEMPLETON SUB				2	1.5	2
PGETIGERCREEK	TIGRCK_7_UNITS	PGE Tiger Creek	Online						58.00		233.56
16H030	TESLA_1_QF	Schaads Hydro	Online						0	0.23	0
16H033	TESLA_1_QF	Rock Creek Water District	Online						1	0.7	0
33R247AB	TESLA_1_QF	Calaveras Hydro #1	Online						0.1	0.09	0
33R248AB	TESLA_1_QF	Calaveras Hydro #2	Online						0.1	0.09	0
33R249AB	TESLA_1_QF	Calaveras Hydro #3	Online						0.1	0.09	0
33R251AB	TESLA_1_QF	Jackson Creek Hydro	Online						0.5	0.455	2
10H007	TBLMTN_6_QF	Gansner Hydroelectric Project	Online						0.3	0.275	0
10H059	TBLMTN_6_QF	James B. Peter	Online						0.0	0.015	0
10H090	TBLMTN_6_QF	James Crane Hydro	Online						0.0	0.0025	0
12C085	TBLMTN_6_QF	Yuba City Racquet Club	Online						0.1		0
13H120	TBLMTN_6_QF	Lofton Ranch	Online						0.3	0.3	0
13H130	TBLMTN_6_QF	Steve & Bonnie Tetrick	Online						0.1	0.1	0
33R402RM	TBLMTN_6_QF	Mini Hydro	Online		Dobbins 1101				0.2	0.15	1
25C151QPA2	TANHIL_6_SOLART	Berry Petroleum Company - Tannehill Facility	Online						16		95
33R132	SUNSHN_2_LNDFL	Sunshine Landfill	Online	WDAT-0273	GERBER SUB				19	18.96	133
40S030	SUNCAT_2_A1BBT1	Arlington Energy Center III, LLC (63 MW)	Online	Q-1196	Colorado River Substation 230kV				63		0
40S031	SUNCAT_2_A1ABT1	Arlington Energy Center III, LLC (47 MW)	Online	Q-1196	Colorado River Substation 230kV				47		0
33R387	SUMWHT_6_SWSSR1	Summer Wheat (FKA GASNA 6P, LLC (San Joaquin 1A))	Online	Q-632B	Stroud switching station 70kV				19	19.24	50
33R386	STROUD_6_WWHSR1	Winter Wheat (FKA GASNA 36P, LLC (San Joaquin 1B))	Online		Stroud 1101 circuit				2	1.5	4
PGEPVUOG_PY1_ST	STROUD_6_SOLAR	PGE Stroud	Online						20	2.22	37
33R355RM	STOREY_7_MDRCHW	Site 980	Online		pproximately 9.0 miles northeast of St				2	1.835	7
33R357RM	STOREY_2_MDRCH4	Site 1923	Online		pproximately 8.5 miles east southeast				1	0.916	3
33R358RM	STOREY_2_MDRCH3	Site 1302	Online		9 approximately 6.9 miles northeast o				0	0.424	1
33R356RM	STOREY_2_MDRCH2	Site 1174	Online		9 approximately 7.8 miles northeast o				1	0.563	2
01C202QAA	STOILS_1_UNITS	Chevron Richmond Refinery	Online	Q-1016	Standard Oil Switching Station 115kV				20		20
PGESTANISLAUS	STANIS_7_UNIT 1	PGE Stanislaus	Online						91.00		298.52
02C041	SRINTL_6_UNIT	SRI International	Online						6		0
PGETULE	SPRGVL_2_TULE	PGE Tule River	Online						6	0	0
PGESPRINGGAP	SPRGAP_1_UNIT 1	PGE Spring Gap	Online						7	3.21	30
33R254 SPQUIN_6_SRPCQU	SPQUIN_6_SRPCQU	Quincy Facility	Online						12	11.6	346
33R254 SPIFBD_1_PL1X2	SPIFBD_1_PL1X2	Sonora Facility	Online						12	11.6	346
33R254 SPIAND_1_ANDSN2	SPIAND_1_ANDSN2	Anderson II Facility	Online	643					12	11.6	346
33R254 SPI LI_2_UNIT 1	SPI LI_2_UNIT 1	Lincoln Facility	Online						12	11.6	346
33R254 SPBURN_2_UNIT 1	SPBURN_2_UNIT 1	Burney	Online						12	11.6	346
PGESPAULDING1	SPAULD_6_UNIT12	PGE Spaulding 1	Online						7	1.2	27
PGESPAULDING3	SPAULD_6_UNIT 3	PGE Spaulding 3	Online						6	2.7	26
PGESOUTH	SOUTH_2_UNIT	PGE South	Online						7	1.62	39
33R389	SMYRNA_1_DL15R1	Delano Land 1	Online	WDAT-1215	SMYRNA SUB				1	1	3
33R272	SKERN_6_SOLAR1	SKIC Solar 1 (South Kern Solar PV Plant)	Online	Q-653EA	Copus-Old River 70 kV				20	20	47
40S040	_NEW_GENERIC_BATTERY_STORAGE	Sanborn ESS III, LLC	Development	Q-1518	Windhub Substation 230kV				169		0
33R053AB	SISQUC_1_SMARIA	Santa Maria II LFG Power Plant	Online						1	1.42	12
40S008	ULTPCH_1_UCSBT1	Sierra Energy Storage	Development	Q-1116	Melones-Curtis 115kV line				10		0
33R364	SEGS_1_SR2SL2	Sunray 2	Online	TOT691QFC	Tortilla 115kV Bus				20	20	51
PGEPVUOG_PY1_WS	SCHNDR_1_WSTSDE	PGE Westside	Online						15	1.67	28
33R434BIO	SCHNDR_1_OS2BM2	Open Sky Dairy Digester #2	Online	WDAT-1316	SCHINDLER SUB				1	0.8	5
PGEPVUOG_PY1_FP	SCHNDR_1_FIVPTS	PGE Five Points	Online						15	1.67	28
33R416BIO	SANLOB_1_OSFBM1	San Luis Obispo AD	Online	WDAT-1439	SAN LUIS OBISPO SUB				1	0.853	4
33R185AB	SANLOB_1_LNDFIL	Toro SLO Landfill	Online	WDAT-0374	SAN LUIS OBISPO SUB				2	1.5	11
33R089-AR	SANDLT_2_SUNITS	Mojave Solar	Online	Q-125	Coolwater-Kramer 230kv line				250	250	617
PGESALTSPRINGS1	SALTSP_7_UNITS	PGE Salt Springs 1	Online						11.00		24.69
33R338RM	S_RITA_6_SOLAR1	NDP1	Online	WDAT-0718	SANTA RITA SUB				2	1.5	3
33R322	RTREE_2_WIND2	Rising Tree Wind Farm LLC	Online	Q-188	Windhub Substation 230kV				20	19.8	69
33R253 ROLLIN_6_UNIT	ROLLIN_6_UNIT	Rollins Powerhouse	Online						14	14.2	118
33R409RM	RNDMTN_2_SLSPHY1	Silver Springs Facility	Online		Pit 5 Distribution Circuit #1101				1	0.6	2
15H012	RIOOSO_1_QF	Eagle Hydro	Online						0	0.48	0
15H068	RIOOSO_1_QF	Charcoal Ravine	Online						0	0.075	0
15H069	RIOOSO_1_QF	Swiss America	Online						0	0.1	0
15H072	RIOOSO_1_QF	Wright Ranch Hydroelectric	Online						0	0.04	0
33R046AB	RIOOSO_1_QF	Buckeye Hydroelectric Project	Online	WDAT-0003	PLACERVILLE SUB				0	0.4	2
33R171AB	REEDLY_6_SOLAR	2081_Terzian	Online	WDAT-0360	REEDLEY SUB				1	1.25	2
PGEROCKCREEK RCKCRK_7_UNIT 2	RCKCRK_7_UNIT 2	PGE Rock Creek	Online						56.00		371.05
PGEROCKCREEKRPS RCKCRK_7_UNIT 2	RCKCRK_7_UNIT 2	PGE Rock Creek RPS	Online						7	0	36
PGEROCKCREEK RCKCRK_7_UNIT 1	RCKCRK_7_UNIT 1	PGE Rock Creek	Online						56.00		371.05
PGEROCKCREEKRPS RCKCRK_7_UNIT 1	RCKCRK_7_UNIT 1	PGE Rock Creek RPS	Online						7	0	36
33R04S	_UNSPECIFIED_NON_IMPORT	Arlington Wind Power Project - Rattlesnake Road	Online						103	102.9	240
33R339RM	PUTHCR_1_SOLAR1	Putah Creek Solar Farms	Online	WDAT-0141	PUTAH CREEK SUB				2	2	4
08C071	PSWEET_7_QFUNTS	County Of Santa Cruz (Water St. Jail)	Online						0		0
33R139AB	POTTER_7_VECINO	Vecino Vineyards Hydroelectric Plant	Online						0	0.33	0
PGEPOTTER	POTTER_6_UNITS	PGE Potter Valley	Online						9	1.18	28
PGEPOW POEPH_7_UNIT 2	POEPH_7_UNIT 2	PGE Poe	Online						60.00		441.58
PGEPOW POEPH_7_UNIT 1	POEPH_7_UNIT 1	PGE Poe	Online						60.00		441.58
33B074	PNCHPP_1_PL1X2	Midway Peaking	Online						118		0
33B076	PNCHEG_2_PL1X4	Panoche Energy Center (aka Cinergy & EIF - Firebaugh)	Online	Q-52	Panoche Substation				399		0
33R24S	PLAINV_6_BSOLAR	Western Antelope Blue Sky Ranch A	Online	Q-660	Antelope Sub 66 kV Bus				20	20	48
33R373RM	PLACVL_1_RCKCRE	Rock Creek Hydro Project	Online		lt approximately 3.7 miles North of PG				3	2.796	6
PGEPIT7 PIT7_7_UNIT 2	PIT7_7_UNIT 2	PGE Pit 7	Online						56.00		397.60
PGEPIT7 PIT7_7_UNIT 1	PIT7_7_UNIT 1	PGE Pit 7	Online						56.00		397.60
PGEPIT7 PIT6_7_UNIT 2	PIT6_7_UNIT 2	PGE Pit 6	Online						40.00		288.46
PGEPIT6	PIT6_7_UNIT 1	PGE Pit 6	Online						40.00		288.46
33R408RM	PIT5_7_QFUNTS	Grasshopper Flats (FKA Nelson Creek)	Online						1	1.1	5

lse_unique_contract_id	resource	alternative_resource_name	contract_status	project_interconnection_position	interconnection_substation	marginal_addition	marginal_addition_to	total_nameplate_capacity	contracted_nameplate_capacity	sep_contracted_mw_nqc	contract_gwh_annual
PGEPIT5 PIT5_7_PL3X4	PIT5_7_PL3X4	PGE Pit 5	Online						80.00		689.84
PGEPIT5 PIT5_7_PL1X2	PIT5_7_PL1X2	PGE Pit 5	Online						80.00		689.84
PGEPIT4	PIT4_7_PL1X2	PGE Pit 4	Online						95.00		393.78
PGEPIT3	PIT3_7_PL1X3	PGE Pit 3	Online						70.00		314.13
PGEPIT1 PIT1_7_UNIT 2	PIT1_7_UNIT 2	PGE Pit 1	Online						30.50		224.93
PGEPIT1 PIT1_7_UNIT 1	PIT1_7_UNIT 1	PGE Pit 1	Online						30.50		224.93
33R206AB	PIT1_6_FRIVRA	Fall River Mills Solar Project A (FKA Achomawi)	Online	WDAT-0400	PIT #1 PH				2	1.5	2
PGEPHOENIX	PHOENIX_1_UNIT	PGE Phoenix	Online						2	0.9	8
33R165AB	PEORIA_1_SOLAR	Sonora 1	Online	WDAT-0546	PEORIA SUB				2	1.5	2
33R133	PEABDY_2_LNDFL1	Potrero Hills Landfill	Online	WDAT-0336	PEABODY SUB				7	6.784	48
33R083	_EXISTING_GENERIC_WIND	Vantage Wind Energy Center	Online		Puget Sound Service Territory				90	90	277
33W001	_BRANCH_GENERIC_MALIN500_ISL	Puget Seasonal Exchange Agreement	Online						0		0.0
33R375	PAIGES_6_SOLAR	Westside Solar, LLC	Online	Q-526	Schindler-Coalinga #2 70kV line				20	20	55
33R391	ORTGA_6_ME1SL1	Merced 1	Online	WDAT-0857	ORTIGA SUB				3	3	6
33R366	OROLOM_1_SOLAR2	SR Solis Oro Loma Teresina, LLC- Project B	Online	WDAT-0055	ORO LOMA SUB				10	10	26
33R363	OROLOM_1_SOLAR1	SR Solis Oro Loma Teresina, LLC- Project A	Online	WDAT-0055	ORO LOMA SUB				10	10	26
33R350RM	ORLND_6_SOLAR1	2184 Gruber	Online	WDAT-0737	ORLAND B SUB				2	1.5	3
13H024QPA	OLSEN_2_UNIT	Olsen Power Partners	Online						6	5.5	17
33R274	OLIVEP_1_SOLAR2	White River West 19.75 MW Solar Facility	Online	Q-557	Smyrna-Alpaugh 115kV line				20	19.75	44
33R122	OLIVEP_1_SOLAR	White River	Online	Q-479	Smyrna-Alpaugh 115kV line				20	20	33
33R288	OLDRV1_6_SOLAR	RE Old River One LLC	Online	Q-517	Kern-Old River #1 70kV line				20	20	52
33R423BIO	OLDRIV_6_LKVBM1	ABEC #3 LLC dba Lakeview Dairy Biogas	Online	WDAT-1111	OLD RIVER SUB				1	1	5
33R424BIO	OLDRIV_6_CESDBM	ABEC #4 LLC dba CE&S Dairy Biogas	Online	WDAT-1205	OLD RIVER SUB				1	1	6
33R283	OLDRIV_6_BIOGAS	Bidart Dairy III (Old River)	Online	WDAT-0248	OLD RIVER SUB				2	1.84	13
PGENEWCASTLE	NWCSTL_7_UNIT 1	PGE Newcastle	Online						12	0	25
01C201	NEWARK_1_QF	Hayward Area Rec & Park Dist.	Online						0		0.0
33R078	NEENCH_6_SOLAR	Alpine Solar Generating Station	Online	Q-297	Neenach-Bailey 66kV line				66	66	140
33R047AB	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	Tunnel Hill Hydroelectric Project	Online	WDAT-0004	PLACERVILLE SUB				1	0.6	3
33R076AB	_EXISTING_GENERIC_BIOMASS/WOOD	Ortigalita Power Company	Online	WDAT-0015	EL CAPITAN SUB				1	0.75	6
33R107AB	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	SGE Site #1	Online						0	0.0375	0.2
33R127AB	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	T&G Hydro	Online	WDAT-0349	WHITMORE SUB				1	0.52	2.6
33R135	_CREZ_UNBUNDLEDREC_PACIFIC_NORTHWEST_WIND	Halkirk I	Online						150	150	485.0
33R136	_CREZ_UNBUNDLEDREC_PACIFIC_NORTHWEST_WIND	Blackspring Ridge IA	Online						150	150	445.0
33R137	_CREZ_UNBUNDLEDREC_PACIFIC_NORTHWEST_WIND	Blackspring Ridge IB	Online						150	150	445.0
33R169AB	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	Cox Ave Hydro	Online	WDAT-0097	SARATOGA SUB				0	0.112	0.6
33R177AB	_EXISTING_GENERIC_SOLAR_1AXIS	2102_Christensen	Online	WDAT-0361	MCCALL SUB				1	0.999	1.4
33R178AB	_EXISTING_GENERIC_SOLAR_1AXIS	2065-Rogers	Online	WDAT-0369	GERBER SUB				0	0.25	0.4
33R180AB	_EXISTING_GENERIC_SOLAR_1AXIS	2113_Fritzjarrell	Online	WDAT-0765	JESSUP SUB				1	0.999	1.4
33R187AB	_EXISTING_GENERIC_SOLAR_1AXIS	2041_Alvares	Online	WDAT-0376	TYLER SUB				0	0.25	0.4
33R188AB	_EXISTING_GENERIC_SOLAR_1AXIS	2158-Stroing	Online	WDAT-0358	RED BLUFF SUB				1	0.75	1.1
33R190AB	_EXISTING_GENERIC_SOLAR_1AXIS	2096_Cotton	Online	WDAT-0271	WYANDOTTE SUB				1	0.999	1.4
33R191AB	_EXISTING_GENERIC_SOLAR_1AXIS	2125_Jarvis	Online	WDAT-0767	HONCUT SUB				1	0.999	1.4
33R195AB	_EXISTING_GENERIC_SOLAR_1AXIS	2056_Jardine	Online	WDAT-0394	PASO ROBLES SUB				1	0.999	1.4
33R197AB	_EXISTING_GENERIC_SOLAR_1AXIS	2179-Smotherman	Online	WDAT-0393	OLIVEHURST SUB				0	0.25	0.4
33R198AB	_EXISTING_GENERIC_SOLAR_1AXIS	2094_Buzzelle	Online	WDAT-0378	WYANDOTTE SUB				1	0.999	1.4
33R202AB	_EXISTING_GENERIC_SOLAR_1AXIS	2059_Scherz	Online	WDAT-0443	TEMPLETON SUB				1	0.5	0.7
33R204AB	_EXISTING_GENERIC_SOLAR_1AXIS	2103_Hill	Online	WDAT-0397	TEMPLETON SUB				1	0.75	1.1
33R216AB	_EXISTING_GENERIC_SOLAR_FIXED	Kingsburg 3	Online	WDAT-0448	KINGSBURG SUB				1	0.75	1.1
33R294AB	_EXISTING_GENERIC_SOLAR_1AXIS	APEX 646-460	Online	WDAT-0685	REEDLEY SUB				1	0.75	1.1
33R300AB	_EXISTING_GENERIC_SOLAR_1AXIS	Sirius Solar Project	Online	WDAT-1065	WILSON SUB				1	0.999	1.4
33R301AB	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	Lincoln Metering and Hydroelectric Station	Online	WDAT-0700	DEL MAR SUB				0	0.32	1.6
33R304AB	_EXISTING_GENERIC_SOLAR_1AXIS	Peacock Solar Project	Online	WDAT-0997	OROSI SUB				1	0.999	1.4
33R316AB	_EXISTING_GENERIC_SOLAR_1AXIS	2154 Foote	Online	WDAT-0742	TRES VIAS SUB				0	0.25	0.4
33R318AB	_EXISTING_GENERIC_SOLAR_1AXIS	2192 Ramirez	Online	WDAT-0872	CORNING SUB				1	0.5	0.7
33R334RM	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	Cedar Flat	Online		60/12kV 7.5 MVA Willow Creek Substa				0	0.3	1.1
33R353RM	_EXISTING_GENERIC_SOLAR_1AXIS	2105 Hart	Online	WDAT-0748	CORNING SUB				0	0.498	1.0
33R378RM	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	Goose Valley Hydro	Online		101 Circuit on Burney Substation BK-1				0	0.28	0.8
33R407RM	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	Arbuckle Mountain Hydro Facility	Online		CalTrans Facility: Wildwood 12kV circ				0	0.335	0.5
33R082	MTNPOS_1_UNIT	Mt. Poso Cogeneration Plant	Online		PG&E's Ultra Power				44	44	328.0
33R144	MSOLAR_2_SOLAR1	Mesquite Solar 1	Online		Hassayampa bus				150	150	305.0
33R292	MRLSDS_6_SOLAR1	Morelos Solar, LLC (Morelos Del Sol)	Online	Q-775	Arco-Twisselman 70 KV				15	15	32.6
33R148	MNDOTA_1_SOLAR1	North Star Solar I	Online	Q-607	Mendota Substation 115 kV bus				60	60	136.0
08C097	MLPTAS_7_QFUNTS	City Of Milpitas	Online						0		0.0
02C047	MISSIX_1_QF	Arden Wood Benevolent Assoc.	Online						0		0.0
02C048	MISSIX_1_QF	1080 Chestnut Corp.	Online						0		0.0
02C058	MISSIX_1_QF	Nihonmachi Terrace	Online						0		0.0
33R343	MIDWYS_2_MIDSL1	Midway I Solar Farm - 83WI 8ME, LLC	Online		IID 230kV Hoober switching yard				50	50	119.3
33R282AB	MERCED_1_SOLAR2	Merced Solar Project	Online	WDAT-0420	MERCED SUB				2	1.5	2.1
33R285AB	MERCED_1_SOLAR1	Mission Solar Project	Online	WDAT-0419	MERCED SUB				2	1.5	2.1
33R032-AR	MENBIO_6_RENEW1	CalRenew 1	Online	Q-261A	Mendota-San Joaquin-Helm 70kV line				5	5	9.0
33R510RM	MCCALL_1_QF	Fishwater Release Hydro	Online		oodward 2108 distribution circuit at 2				1	0.52	3.3
33R207AB	MCARTH_6_FRIVRB	Fall River Mills Solar Project B (FKA Ahjumawi)	Online	WDAT-0411	MCARTHUR SUB				2	1.5	2.1
33R390	MANTEC_1_ML1SR1	Manteca Land 1	Online		Manteca 1705				1	1	2.0
13H047	MALCHQ_7_UNIT 1	Malacha Hydro L.P.	Online						26	26	0.0
33R382	MAGUND_1_BKSSR2	Bakersfield 1	Online	WDAT-1014	MAGUNDEN SUB				5	5.25	12.9
33R388	MAGUND_1_BKISR1	Bakersfield Industrial 1	Online	WDAT-1207	MAGUNDEN SUB				1	1	2.3
33R403RM	LOWGAP_7_QFUNTS	Matthews Dam Hydro	Online		101 approximately 8 miles South of P				1	1.35	6.2
33R347RM	LOWGAP_1_SUPHR	Mill Sulphur Creek Project	Online		PG&E 12 KV 1101 Bridgeville Circuit				1	0.995	2.5
33R232AB	LOCKFD_1_KSOLAR	Kettleman Solar Project	Online	WDAT-0385	LOCKEFORD SUB				1	1	1.4
33R184AB	LOCKFD_1_BEARCK	Bear Creek Solar Project	Online	WDAT-0288	LOCKEFORD SUB				2	1.5	2.1
33R201AB	LIVEOK_6_SOLAR	2127_Harris	Online	WDAT-0769	LIVE OAK SUB				1	1.25	1.8
33R256	LHILLS_6_SOLAR1	Lost Hills Solar	Online	Q-484	Arco-Carneras 70 kV Line				20	20	47.0
33R255	LEPRFD_1_KANSAS	RE Kansas LLC	Online	Q-636	eprino Food (Lemoore) 115 kV Tap Lin				20	20	46.9
405024	LECONT_2_LESBT1	LeConte	Online	Q-1175	Imperial Valley Substation 230 kV				40		0.0
33R324	LAMONT_1_SOLAR3	Woodmere Solar Farm	Online	Q-744	Lamont Sub 115 KV Bus				15	15	32.9
33R396	LAMONT_1_SOLAR2	Redwood 4 Solar Farm	Online	Q-744	Lamont Sub 115 KV Bus				20	20	52.1
33R267	KNTSTH_6_SOLAR	RE Kent South LLC	Online	Q-650AB	Henrietta-Tulare Lake 70kV				20	20	48.0
33R215AB	KNGBRG_1_KBSLR2	Kingsburg 2	Online	WDAT-0446	KINGSBURG SUB				2	1.5	2.1
33R214AB	KNGBRG_1_KBSLR1	Kingsburg 1	Online	WDAT-0444	KINGSBURG SUB				2	1.5	2.1
PGEKINGSRIVER	KINGRV_7_UNIT 1	PGE Kings River	Online						52.00		131.65
PGEKILARC	KILARC_2_UNIT 1	PGE Kilarc	Online						3	0	0.0
25C049QAA2	KERNRG_1_UNITS	Aera Energy LLC (South Belridge)	Online						20		43.8
33R296AB	KERMAN_6_SOLAR2	Fresno Solar West	Online	WDAT-0709	KERMAN SUB				2	1.5	2.1
33R295AB	KERMAN_6_SOLAR1	Fresno Solar South	Online	WDAT-0964	KERMAN SUB				2	1.5	2.1
PGEKERCKHOFF2	KERKH2_7_UNIT 1	PGE Kerckhoff 2	Online						155.00		348.53
PGEKERCKHOFF1 KERKH1_7_UNIT 3	KERKH2_7_UNIT 1	PGE Kerckhoff 1	Online						11	0	0.0
PGEKERCKHOFF1 KERKH1_7_UNIT 1	KERKH2_7_UNIT 1	PGE Kerckhoff 1	Online						11	0	0.0
33R323	KEKAWK_6_UNIT	Kekawaka Creek Hydroelectric Facility	Online		Willits-Garberville 60 kV				6	5.5	13.3
33R160	KANSAS_6_SOLAR	Kansas South	Online	Q-637	Henrietta-Jacobs Corner 70kV				20	20	48.2
33R161	JAYNE_6_WLSLR	Westlands Solar Farms PV1	Online	Q-633	Gates-Coalinga 70 kV Line #1				18	18	36.0
33R163	JAWBNE_2_NSRWND	North Sky River Energy, LLC	Online	Q-132	Highwind Substation 230kV bus				162	162	493.0
405029	CRIMSN_2_CRMBT2	Sonoran West Holdings 2	Development	Q-1192	Colorado River Substation 230kV				150		0.0
33R064	IVANPA_1_UNIT3	Ivanpah Unit 3	Online	Q-233	Ivanpah Substation 115kV				126	126.1	325.5
33R063	IVANPA_1_UNIT1	Ivanpah Unit 1	Online	Q-162	r-Cool Water-Dunn Siding-Mountain P				114	114.46	294.9
PGEINSKIP	INSKIP_2_UNIT	PGE Inskip	Online						8	0	0.0

lse_unique_contract_id	resource	alternative_resource_name	contract_status	project_interconnection_position	interconnection_substation	marginal_addition	marginal_addition_to	total_nameplate_capacity	contracted_nameplate_capacity	sep_contracted_mw_nqc	contract_gwh_annual
04C130	IGNACO_1_QF	Greater Vallejo Recreation District	Online						0		0.0
04H134	IGNACO_1_QF	John Neerhout Jr.	Online						0	0.085	0.0
04S142	IGNACO_1_QF	Robin Williams Solar Power Gen	Online						0	0.0072	0.0
PGEPVUOG_PY2_HU	HURON_6_SOLAR	PGE Huron	Online						20	2.22	40.4
PGEHUMBOLDT HUMBPP_6_UNITS	HUMBPP_6_UNITS	NewHumboldt	Online						82		314.3
PGEHUMBOLDT HUMBPP_1_UNITS3	HUMBPP_1_UNITS3	NewHumboldt	Online						82		314.3
33R281AB	HOLSTR_1_SOLAR2	Hollister Solar Project	Online	WDAT-0686	HOLLISTER SUB				2	1.5	2.1
33R210AB	HOLSTR_1_SOLAR	San Benito Smart Park	Online	WDAT-0272	HOLLISTER SUB				2	1.5	2.1
PGEHAMILTON	HMLTBR_6_UNIT5	PGE Hamilton Branch	Online						5	0	0.0
33R077AB	HIGGNS_7_QFUNTS	Combie North Powerhouse	Online						1	0.5	1.3
33R259	HENRTS_1_SOLAR	Henrietta Solar PV	Online	Q-581	Henrietta-GWF 115 kV Line				100	100	244.4
33R307AB	HENRTA_6_SOLAR1	Lemoore 1	Online	WDAT-1012	HENRIETTA SUB				2	1.5	2.1
PGEHELMSGEN1 HELMPG_7_UNIT 3	HELMPG_7_UNIT 3	Helms Generation	Online						404		0.0
PGEHELMSGEN1 HELMPG_7_UNIT 2	HELMPG_7_UNIT 2	Helms Generation	Online						404		0.0
PGEHELMSGEN1 HELMPG_7_UNIT 1	HELMPG_7_UNIT 1	Helms Generation	Online						404		0.0
33R058-AR	HATRDG_2_WIND	Hatchet Ridge Wind	Online	Q-74	Pit #3-Round Mountain 230kV Line				103	103.2	303.0
PGEHAT2	HATCR2_7_UNIT	PGE Hat 2	Online						9	4.06	39.8
PGEHAT1	HATCR1_7_UNIT	PGE Hat 1	Online						9	2.88	28.3
33R442BIO	HARDWK_6_STWBM1	David Tevelde Dairy Digester	Online	WDAT-1425	HARDWICK SUB				1	1	6.1
PGEHALSEY	HALSEY_6_UNIT	PGE Halsey	Online						11	4.31	44.3
PGEHAAS	HAASPH_7_PL1X2	PGE Haas	Online						144.00		358.06
33R438BIO	GUERNS_6_VH2BM1	Verwey-Hanford Dairy Digester Genset #2	Online	WDAT-1237	GUERNSEY SUB				1	1.028	6.8
PGEPVUOG_PY3_GU	GUERNS_6_SOLAR	PGE Guernsey	Online						20	2.22	47.9
33R439BIO	GUERNS_6_HD3BM3	Verwey-Hanford Dairy Digester III	Online	WDAT-1317	GUERNSEY SUB				1	1.028	6.8
01C084QAA	GRZZLY_1_BERKLY	Berkeley Cogeneration	Online						10		8.0
33R100	GRSCRK_6_BGCKWW	Big Creek Waterworks	Online		31554_GrousCrk 60kV_GU1				5	4.8	8.0
33R362	GLDFGR_6_SOLAR2	Portal Ridge Solar Project C	Online	WDAT-1098	VACA DIXON SUB				11	11.4	29.7
33R376	GIFFEN_6_SOLAR1	Aspiration Solar G LLC	Online	WDAT-0342	GIFFEN SUB				9	9	23.3
PGEPVUOG_PY2_GI	GIFFEN_6_SOLAR	PGE Giffen	Online						10	1.11	20.1
33R090	GENESI_2_STG	Genesis Solar	Online	Q-193	Colorado River Substation 500kV				250	250	524.0
PGEGATEWAY	GATWAY_2_PL1X3	Gateway	Online						563		500.0
40S020	GATEWY_2_GESBT1	Gateway Energy Storage, LLC	Online	Q-1170	Otay Mesa Switchyard 230 kV				50		0.0
PGEPVUOG_PY3_WG	GATES_2_WSOLAR	PGE West Gates	Online						10	1.11	20.3
PGEPVUOG_PY3_GA	GATES_2_SOLAR	PGE Gates	Online						20	2.22	41.3
33R422BIO	GANSO_1_WSTBM1	ABEC #2 LLC dba West-Star North Dairy Biogas	Online	WDAT-1112	GANSO SUB				1	1	5.7
04C140	FULTON_1_QF	Airport Club	Online						0		0.0
33R335RM	FULTON_1_QF	Clover Leaf	Online		; 60/12kV 1.75 MVA Whitmore Substa				0	0.2	0.8
33R336RM	FULTON_1_QF	McFadden Hydroelectric Facility	Online		;E's potter valley powerhouse circuit 1				0	0.356	1.4
19H055	FTSWRD_7_QFUNTS	Tom Benninghoven	Online						0	0.025	0.0
33R108-AR	FTSWRD_6_TRFORK	Norman Ross Burgess Restructuring	Online		60 kV bus at Fort Seward Junction				2	1.625	8.0
33R513RM	FROGTN_1_UTICAM	Murphys Powerhouse	Online		anislaus 1701 distribution circuit at 17				3	3	13.0
33R418RM	FROGTN_1_UTICAA	Angels Powerhouse	Online		ogtown 17kV #1702 Distribution Circu				1	1	6.2
25C063QPA2	FRITO_1_LAY	Frito Lay Cogen	Online						2		0.7
33R374	FRESHW_1_SOLAR1	CED Corcoran Solar 3, LLC	Online	Q-529	Corcoran- Kingsburg #1 115kV line				20	20	49.2
33R329	FLOWD2_2_FPLWND	Diablo Winds	Online		Elworthy Substation				18	18	62.0
25C293	FELLOW_7_QFUNTS	Sentinel Peak Resources (Dome)	Online						6		0.0
33R008	ETIWND_6_MWDETI	Etiwanda	Online						24	24	37.0
33R016	ELNIDP_6_BIOMAS	El Nido	Online						9	9	72.0
PGEMOSSLANDING	ELKHRN_1_EES3	PGE Moss Landing Energy Storage	Online						183		0.0
PGEELECTRA	ELECTR_7_PL1X3	PGE Electra	Online						98.00		331.18
33R174AB	ELCAP_1_SOLAR	2097_Helton	Online	WDAT-0770	EL CAPITAN SUB				2	1.5	2.1
33R253 DUTCH2_7_UNIT 1	DUTCH2_7_UNIT 1	Dutch Flat #2 Powerhouse	Online						14	14.2	118.0
PGEDUTCHFLAT1	DUTCH1_7_UNIT 1	PGE Dutch Flat 1	Online						22	16.8	68.9
33R138	DSRTSN_2_SOLAR1	Desert Center Solar Farm	Online	Q-146, Q-147	Red Bluff Substation 230kV				300	300	619.0
PGEDESABLA	DSABLA_7_UNIT	PGE De Sabla	Online						19	4.35	76.5
PGEDRUM2	DRUM_7_UNIT 5	PGE Drum 2	Online						49.50		219.61
PGEDRUM1 DRUM_7_PL3X4	DRUM_7_PL3X4	PGE Drum 1	Online						27.00		82.66
PGEDRUM1 DRUM_7_PL1X2	DRUM_7_PL1X2	PGE Drum 1	Online						27.00		82.66
40S021	DRACKR_2_DSUBT1	Blythe Energy Storage 110, LLC	Online	Q-294	Colorado River Substation 500kV				63		0.0
33R405BIO	DIXNLD_1_LNDFL	Zero Waste Energy	Online		anding 2103 21 kV 4-wires Distributio				2	1.6	6.1
25C248	DISCOV_1_CHEVRN	Chevron Usa (Eastridge)	Online						49		0.0
PGEDIABLO2	DIABLO_7_UNIT 2	Diablo 2	Online						1118		8976.7
PGEDIABLO1	DIABLO_7_UNIT 1	Diablo 1	Online						1122		8121.1
33R261AB	DAVIS_1_SOLAR2	Grassland #4	Online	WDAT-0438	DAVIS SUB				1	1	1.4
33R260AB	DAVIS_1_SOLAR1	Grassland #3	Online	WDAT-0433	DAVIS SUB				1	1	1.4
33R440BIO	DAIRLD_1_MD2BM1	Verwey Madera Dairy Digester Genset #2	Online	WDAT-1318	DAIRYLAND SUB				1	0.8	0.0
33R401RM	DAIRLD_1_MD1SL1	Madera 1	Online	WDAT-1243	DAIRYLAND SUB				2	1.5	3.9
33R459BIO	DAIRLD_1_CR1BM1	Diamond H Dairy Power	Online	WDAT-1536	DAIRYLAND SUB				2	2	13.7
33R257	CUYAMS_6_CUYSR1	Cuyama Solar Array	Online	Q-356	Taft-Cuyama #1 70kV line				40	40	104.0
33R278	CUMBIA_1_SOLAR	Columbia Solar Energy, LLC	Online	Q-687	ttsburg - Kirker - Columbia Steel 115 K				19	19	40.6
13H123	CTNWDP_1_QF	Hat Creek Hereford Ranch	Online						0	0.1	0.0
18C001	CSTRVL_7_QFUNTS	Monterey Regional Water	Online						2	1.74	0.0
33R337RM	CSTOGA_6_LNDFIL	Clover Flat LFG	Online	WDAT-0311	CALISTOGA SUB				1	0.848	5.7
01C045	CROKET_7_UNIT	Crockett Cogen	Online						260		0.0
PGESANJOAQU3	CRNEVL_6_SJQN 3	PGE San Joaquin 3	Online						4	0	0.0
PGESANJOAQU2	CRNEVL_6_SJQN 2	PGE San Joaquin 2	Online						3	0	7.6
PGECRANEVALLEY	CRNEVL_6_CRNVA	PGE Crane Valley	Online						1	0.11	2.2
33R50S	_NEW_GENERIC_SOLAR_FIXED	Terry	Development	WDAT-1818	WASCO SUB				5	4.66	13
PGECRESTA	CRESTA_7_PL1X2	PGE Cresta	Online						70.00		247.63
PGECOWCREEK	COWCRK_2_UNIT	PGE Cow Creek	Online						2	0.01	7.7
33R28O	CORCAN_1_SOLAR1	Corcoran Solar LLC	Online	WDAT-0095	CORCORAN SUB				20	19.76	49.7
33R079	COPMTN_2_SOLAR1	CM48	Online	205	NVE Merchant 230 kV Switchyard				48	48	100.0
33R060	COPMTN_2_CM10	CM10	Online						10	10	23.0
33R166	COPMT2_2_SOLAR2	Copper Mountain Solar 2	Online	Q-503	Merchant Switchyard 230 kV				150	150	303.0
33R243	CONTRL_1_CASAD3	Mammoth G3	Online	WDAT-0894	WOODLAND SUB				14	14	98.5
33R275	CONTRL_1_CASAD1	Mammoth G1	Online	WDAT-0892	TUPMAN SUB				8	7.5	52.8
PGECOLUSA	COLUSA_2_PL1X3	Colusa	Online						641		509.4
33R481BIO	COLPIN_6_COLLNS	Collins	Online		lton Branch-Chester 60KV transmissio				3	3	21.0
PGECOLEMAN	COLEMN_2_UNIT	PGE Coleman	Online						13	2.28	53.8
33R099	COGNAT_1_UNIT	DTE Stockton	Online		Stockton A Substation				45	44.5	311.6
33R205AB	COCOSB_6_SOLAR	ley Executive RV and Boat Storage AKA Oakley Executive - S	Online	WDAT-0354	CONTRA COSTA SUB				2	1.5	2.1
PGECENTERVILLE	CNTRVL_6_UNIT	PGE Centerville	Online						6	0	0.0
01C199	CLRMTK_1_QF	Satellite Senior Homes	Online						0		0.0
01C245	CLRMTK_1_QF	Orinda Senior Village	Online						0		0.0
PGELIMESADL	CLRKRD_6_LIMESD	PGE Lime Saddle	Online						2	0	0.0
33R237AB	CLOVDL_1_SOLAR	FSEC 1	Online	WDAT-0581	CLOVERDALE SUB				2	1.5	2.1
33R017	CHWCHL_1_BIOMAS	Chowchilla	Online						9	9	72.0
33R500BIO	_NEW_GENERIC_BIOMASS/WOOD	Tracy Desalination Project	Development	WDAT-2187	TRACY SUB				3	3	24
33B110	CHICPK_7_UNIT 1	Chicago Park Powerhouse	Online						40.00		164.00
25C003	CHEVCY_1_UNIT	Chevron USA (Cymric)	Online						16		0.0
25C249	CHEVCO_6_UNIT 2	Aera Energy LLC. (Coalinga)	Online						9		0.0
25C055	CHEVCO_6_UNIT 1	Chevron USA (coalinga)	Online						17		0.0
25C002	CHEVCD_6_UNIT	Chevron USA (taft/cadet)	Online						10		0.0
33R342RM	CEDRCK_6_UNIT	Water Wheel Ranch	Online		V Cedar Creek Substation 1101 distrib				1	0.975	3.9
33R052	CAVLSR_2_RSOLAR	Plains Ranch II LLC (HPR2), part of California Valley Solar R	Online	Q-239	Midway-Morro Bay 230kV line				210	210	550.0

lse_unique_contract_id	resource	alternative_resource_name	contract_status	project_interconnection_position	interconnection_substation	marginal_addition	marginal_addition_to	total_nameplate_capacity	contracted_nameplate_capacity	sep_contracted_mw_nqc	contract_gwh_annual
33R088	CAVLSR_2_BSOLAR	ins Ranch III LLC (HPR3), part of California Valley Solar Ranc	Online	Q-239	Midway-Morro Bay 230kV line				40	40	112.0
33R502	_NEW_GENERIC_SOLAR_1AXIS	Tulare CSG	Development	WDAT-2614	ALPAUGH SUB				3	3	8
PGECARIBOU1 CARBOU_7_UNIT 1	CARBOU_7_UNIT 1	PGE Caribou 1	Online						37.50		119.24
PGECARIBOU2	CARBOU_7_PL4X5	PGE Caribou 2	Online						120.00		334.97
PGECARIBOU1 CARBOU_7_PL2X3	CARBOU_7_PL2X3	PGE Caribou 1	Online						37.50		119.24
PGEPVUOG_PY2_CA	CANTUA_1_SOLAR	PGE Cantua	Online						20	2.22	40.1
33R487BIO	_NEW_GENERIC_BIOMASS/WOOD	WCW Generator 1	Development	WDAT-1827	MALAGA SUB				3	3	24
33R344	CALFTS_2_CFSSR1	California Flats Solar Farm, LLC	Online	Q-877	Morro-Gates 230kV line				150	150	380.7
PGEBUTTVAL	BUTTVL_7_UNIT 1	PGE Butt Valley	Online						41.00		112.40
33R483	BURNYF_2_UNIT 1	Burney Forest Products	Online		Round Mountain				29	29	217.5
PGEBUCKSCREEK	BUCKCK_7_PL1X2	PGE Bucks Creek	Online						65.00		180.71
PGEOAKFLAT	BUCKCK_7_OAKFLT	PGE Oak Flat	Online						1	0.4	5.0
33R377RM	BUCKCK_2_HYDRO	Lassen Station Hydro	Online		ıd, approximately 3.5 miles northeast				1	0.995	3.4
33R142	BRODIE_2_WIND	Coram Brodie	Online	79, 91	ifornia Edison (SCE) Windhub Substati				102	102	285.9
33R167	BRDSLD_2_SHLO3B	Shiloh IV Wind Project	Online	Q-39	Birds Landing Switching Station 230kV				100	100	269.0
33R145	BRDSLD_2_SHLO3A	Shiloh III Wind Project	Online	Q-39	Birds Landing Switching Station 230kV				100	100	341.1
33R033-AR	BRDSLD_2_SHILO2	Shiloh II Wind	Online		Birds Landing Substation (230 kV)				150	150	509.0
33R013-AR	BRDSLD_2_MTZUMA	Montezuma Wind Energy Center	Online	Q-22	Birds Landing Sub 230 kV Bus				37	36.8	129.0
33R152	BRDSLD_2_MTZUM2	Montezuma II	Online	Q-222	Birds Landing Substation 230kV				78	78.2	201.0
33R341RM	BRDGVL_7_BAKER	Baker Creek Hydroelectric Project	Online		? kV circuit approximately 2.5 miles ea				1	1.495	4.3
33R253 BOWMN_6_HYDRO	BOWMN_6_HYDRO	Bowman Powerhouse	Online						14	14.2	118.0
PGEALTA	BNNIEN_7_ALTAPH	PGE Alta	Online						2	0.35	3.4
40S018	BLM W_2_COSBT1	Coso Battery Storage, LLC	Online	Q-274, Q-275	Palomar Energy Switchyard 230 kV				60		0.0
40S011	BLKDIA_2_BDEBT1	Diablo Energy Storage	Online	Q-1111	Pittsburgh Substation 230kV				50		0.0
40S015	BLKDIA_2_BDEBT1	Diablo Energy Storage	Online	Q-1111	Pittsburgh Substation 230kV				50		0.0
40S016	BLKDIA_2_BDEBT1	Diablo Energy Storage	Online	Q-1111	Pittsburgh Substation 230kV				50		0.0
40S017	BLKDIA_2_BDEBT1	Diablo Energy Storage	Online	Q-1111	Pittsburgh Substation 230kV				50		0.0
33R258	BLCKWL_6_SOLAR1	Blackwell Solar	Online	WDAT-0023	BLACKWELL SUB				12	12	28.0
PGEJBBLACK BLACK_7_UNIT 2	BLACK_7_UNIT 2	PGE J.B.Black	Online						86.00		532.62
PGEJBBLACK BLACK_7_UNIT 1	BLACK_7_UNIT 1	PGE J.B.Black	Online						86.00		532.62
33R315AB	BKRFLD_2_SOLAR1	Bakersfield III	Online	WDAT-0868	BAKERSFIELD SUB				1	1.4	2.0
33R493	BIOMAS_1_UNIT 1	Woodland Biomass	Online		Woodland Biomass 115kV tap				25	25	168.2
33R385	BIGSKY_2_BSKSR8	Bayshore Solar C, LLC	Online	Q-768	Antelope Substation 230kV bus				20	20	57.0
33R384	BIGSKY_2_BSKSR7	Bayshore Solar B, LLC	Online	Q-768	Antelope Substation 230kV bus				20	20	57.0
33R383	BIGSKY_2_BSKSR6	Bayshore Solar A, LLC	Online	Q-768	Antelope Substation 230kV bus				20	20	57.0
40S027	BIGSKY_2_AS2BT1	Lancaster Area	Online	Q-1208	Antelope Substation 220kV				127		0.0
PGEBELDEN	BELDEN_7_UNIT 1	PGE Belden	Online						125.00		268.39
PGEBALCH2 BALCHS_7_UNIT 3	BALCHS_7_UNIT 3	PGE Balch 2	Online						52.50		356.36
PGEBALCH2 BALCHS_7_UNIT 2	BALCHS_7_UNIT 2	PGE Balch 2	Online						52.50		356.36
PGEBALCH1	BALCHS_7_UNIT 1	PGE Balch 1	Online						34.00		83.60
33R073	AVSOLR_2_SOLAR	AV Solar Ranch One	Online	Q-412	Whirlwind Substation 230kV				242	241.5	620.9
33R124	AVENAL_6_SUNCTY	Sun City	Online	Q-19	Crestwood Substation 69 kV				20	20	32.0
33R125	AVENAL_6_SANDDG	Sand Drag	Online	Q-22	Birds Landing Sub 230 kV Bus				19	19	30.0
33R368	AVENAL_6_AVSLR2	CED Avenal, LLC - Project B	Online	WDAT-0124	AVENAL SUB				8	7.9	19.7
33R365	AVENAL_6_AVSLR1	Avenal Solar - Project A	Online	WDAT-0124	AVENAL SUB				8	7.9	19.7
33R123	AVENAL_6_AVPARK	Avenal Park	Online	Q-20	Whirlwind 220kV				6	6	10.0
33R120	ATWELL_1_SOLAR	Atwell Island	Online	Q-340	Smyrna-Alpaugh 115kV line				20	20	33.0
33R330	ASTORA_2_SOLAR1	RE Astoria LLC	Online	Q-746	Whirlwind Substation 220kV				100	100	298.1
33R162	ARVINN_6_ORION1	FRV Orion Solar I	Online	Q-621A	Weedpatch - San Bernard 70 KV line				12	12	28.0
33R118	ALPSLR_1_SPSSLR	Alpaugh Solar Project	Online	Q-304	Smyrna-Alpaugh 115kV line				50	50	113.0
33R119	ALPSLR_1_NTHSLR	Alpaugh North	Online	Q-473	Smyrna-Alpaugh 115kV line				20	20	33.0
33R340RM	ALLGNY_6_HYDRO1	Salmon Creek Hydroelectric Project	Online		PG&E's 12kV Alleghany 1101 circuit				1	0.52	2.3
33R084	AGUCAL_5_SOLAR1	Agua Caliente Solar Project	Online	Q-468	Hoodoo Wash Switchyard 500 kV				290	290	688.5
33R244	ACACIA_6_SOLAR	West Antelope	Online	Q-651A	Antlelope Sub 66 kV Bus				20	20	53.0
33R291	7STDRD_1_SOLAR1	Shafter Solar Farm	Online	WDAT-0096	7TH STANDARD SUB				20	19.98	52.6
GENVAMO_Solar	_EXISTING_GENERIC_SOLAR_FIXED	PCIA VAMO Solar Sales	Online						0		5857.6
GENVAMO_Wind	_EXISTING_GENERIC_WIND	PCIA VAMO Wind Sales	Online						0		1287.3
GENVAMO_Biomass	_EXISTING_GENERIC_BIOMASS/WOOD	PCIA VAMO Biomass Sales	Online						0		660.0
GENVAMO_Biogas	_EXISTING_GENERIC_BIOGAS_LANDFILLGAS	PCIA VAMO Biogas Sales	Online						0		174.5
GENVAMO_Geothermal	_EXISTING_GENERIC_GEOTHERMAL	PCIA VAMO Geothermal Sales	Online						0		130.4
GENVAMO_SmallHydro	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	PCIA VAMO Small Hydro Sales	Online						0		668.1
ModCAM_Storage_2024	_EXISTING_GENERIC_BATTERY_STORAGE	ModCAM Storage Allocation	Online						49.959		0.0
ModCAM_Storage_2032	_EXISTING_GENERIC_BATTERY_STORAGE	ModCAM Storage Allocation	Online						43.659		0.0
CAM_NaturalGas_2024	_EXISTING_GENERIC_COMBINED_CYCLE	CAM Natural Gas Allocation_2024	Online						1180.698		0.0
CAM_NaturalGas_2025	_EXISTING_GENERIC_COMBINED_CYCLE	CAM Natural Gas Allocation_2025	Online						679.884		0.0
CAM_NaturalGas_2026	_EXISTING_GENERIC_COMBINED_CYCLE	CAM Natural Gas Allocation_2026	Online						364.698		0.0
CAM _Import_2024	_BRANCH_GENERIC_MALIN500_ISL	CAM Import Gas Allocation	Online						45		0.0
Cam_Battery_Existing_2024	_EXISTING_GENERIC_BATTERY_STORAGE	CAM Battery Allocation_Existing_2024	Online						336		0.0
Cam_Battery_Existing_2025	_EXISTING_GENERIC_BATTERY_STORAGE	CAM Battery Allocation_Existing_2025	Online						334.5		0.0
CAM_Battery_Programatic_2026	_NEW_GENERIC_BATTERY_STORAGE	CAM Battery Allocation_Progrematic_2026	PlannedNew						57		0.0
CAM_Battery_Programatic_2028	_NEW_GENERIC_BATTERY_STORAGE	CAM Battery Allocation_Progrematic_2028	PlannedNew						856.99		0.0
GENPCIAGHGFREESALES_LargeHydro	_EXISTING_GENERIC_INSTATE_LARGE_HYDRO	PCIA GHG Free Large Hydroelectric Allocation	Online						0.00		4695.44
Imported_Hydro	_BRANCH_GENERIC_MALIN500_ISL										1827
Shed_DR	_EXISTING_GENERIC_DR		Online								2

lse_unique_contract_id	is_hybrid_paired	can_charge_from_grid	total_generator_mw	contracted_generator_mw	total_storage_mw	contracted_storage_mw	solar_technology_sub_type	storage_technology_sub_type	total_storage_depth_mwh	contracted_storage_depth_mwh	viability_cod_reasonableness
33B013U02											
33R520RM											
40S026								Li		108	
33R494											
33R488											
40S038								Li		400	
33R436BIO											
40S034								Li		398.8	
33R512BIO											
40S039								Li		320	
40S009								Li		100	
40S036								Li		500	
40S022				0		46	1Axis	Li		184	
40S023				0		15	1Axis	Li		60	
33R514BIO											
33R495											
33R499							1Axis				
33R490											
33R437BIO											
33R491											
40S014								Li		300	
33R522											
33R393							1Axis				
33R492											
33R524											
40S035								Li		1100	
40S032								Li		1400	
33R503							1Axis				
40S037								Li		1200	
40S025								Li		528	
33R433BIO											
33R504							1Axis				
40S033								Li		400	
40S028								Li		40	
33R419							1Axis				
33R420							1Axis				
33R421							1Axis				
33R489											
33R523											
CPE00001R											
CPE00002R											
CPE00003R											
CPE00004R											
CPE00005R											
CPE00006R											
CPE00007R											
CPE00008R											
CPE00009R											
CPE00010R											
CPE00011R											
FIT_Baseload											
FIT_Non-Peaking_AA_SmallHydro											
FIT_Non-Peaking_AA_Wind											
FIT_Peaking_AA											
FIT_SB1122_Cat1											
FIT_SB1122_Cat2_Ag											
FIT_SB1122_Cat2_Dairy											
FIT_SB1122_Cat3											
GENCPELOCALTHERMAL											
GENGTSRSOLARPV											
GENIRPBPOTSOLAR_Arizona											
GENIRPBPOTSolar_Imperial											
GENIRPBPOTSOLAR_Kramer											
GENIRPBPOTSOLAR_Riverside											
GENIRPBPOTSOLAR_Tehachapi											
GENIRPBPOTSTORAGE-31										314.640184	
GENIRPBPOTSTORAGE-32										1533.41144	
GENIRPBPOTSTORAGE-33										1091.01084	
GENIRPBPOTSTORAGE-34										956.225	
GENIRPBPOTSTORAGE-35										511.1246	
GENIRPBPOTWIND_Baja											
GENIRPBPOTWIND_Carrizo											
GENIRPBPOTWIND_CValley											
GENIRPBPOTWIND_Humboldt											
GENIRPBPOTWIND_Humboldt_Bay_Offshore											
GENIRPBPOTWIND_Kern_Greater_Carrizo											
GENIRPBPOTWIND_Morro											
GENIRPBPOTWIND_New_Mexico											
GENIRPBPOTWIND_NoCal											
GENIRPBPOTWIND_Solano											
GENIRPBPOTWIND_Southern_Nevada											
GENIRPBPOTWIND_SWExisting											
GENIRPBPOTWIND_Tehachapi											
GENIRPBPOTWIND_WY											
GENIRPMTRBIOMASS											
GENIRPMTRGEOTHERMAL											
GENIRPMTRLDSTORAGE										1000	
GENIRPMTRLDSTORAGE_2										1048	
GENIRPMTRSOLAR											
GENIRPMTRSTORAGE-24										1620	
GENIRPMTRSTORAGE-25										1160	
GENIRPPSPSTORAGE-CPE										380	
GENIRPPSPSTORAGE-LSE										200	
IDWAMONTICELLO											
PGESALTSPRINGS2											
PGESANJOAQU1											
PGESPAULDING2											
33R484											
PGEWISHON											
PGEWISE2											
PGEWISE1											
33R479BIO											
33R154AB							1Axis				
PGEWESTPOINT											
33R121							1Axis				

lse_unique_contract_id	is_hybrid_paired	can_charge_from_grid	total_generator_mw	contracted_generator_mw	total_storage_mw	contracted_storage_mw	solar_technology_sub_type	storage_technology_sub_type	total_storage_depth_mwh	contracted_storage_depth_mwh	viability_cod_reasonableness
33R417RM											
33R511RM											
33R333RM											
PGEVOLTA2											
PGEVOLTA1											
40S019								Li		400	
40S013 VISTRA_5_DALBT3								Li		400	
40S013 VISTRA_5_DALBT2								Li		400	
40S013 VISTRA_5_DALBT1								Li		400	
33R279							1Axis				
25C246											
PGEVACADIXON											
33R151											
01C061											
33R470BIO											
24B001FHP											
33R302AB							1Axis				
33R415RM							1Axis				
33R164AB							Fixed				
33R509RM											
33R392							1Axis				
33R056							Fixed				
PGETOADTOWN											
33R233AB							1Axis				
PGETIGERCREEK											
16H030											
16H033											
33R247AB											
33R248AB											
33R249AB											
33R251AB											
10H007											
10H059											
10H090											
12C085											
13H120											
13H130											
33R402RM											
25C151QPA2											
33R132											
40S030				0		63	1Axis	Li		252	
40S031				0		47	1Axis	Li		188	
33R387							1Axis				
33R386							1Axis				
PGEPVUOG_PY1_ST											
33R355RM											
33R357RM											
33R358RM											
33R356RM											
01C202QAA											
PGESTANISLAUS											
02C041											
PGETULE											
PGESPRINGGAP											
33R254 SPQUIN_6_SRPCQU											
33R254 SPIFBD_1_PL1X2											
33R254 SPIAND_1_ANDSN2											
33R254 SPI LI_2_UNIT 1											
33R254 SPBURN_2_UNIT 1											
PGESPAULDING1											
PGESPAULDING3											
PGESOUTH											
33R389							1Axis				
33R272							1Axis				
40S040								Li		676	
33R053AB											
40S008				0		10		Li		40	
33R364							1Axis				
PGEPVUOG_PY1_WS											
33R434BIO											
PGEPVUOG_PY1_FP											
33R416BIO											
33R185AB											
33R089-AR											
PGESALTSPRINGS1											
33R338RM							Fixed				
33R322											
33R253 ROLLIN_6_UNIT											
33R409RM											
15H012											
15H068											
15H069											
15H072											
33R046AB											
33R171AB							1Axis				
PGEROCKCREEK RCKCRK_7_UNIT 2											
PGEROCKCREEKRPS RCKCRK_7_UNIT 2											
PGEROCKCREEK RCKCRK_7_UNIT 1											
PGEROCKCREEKRPS RCKCRK_7_UNIT 1											
33R045											
33R339RM							1Axis				
08C071											
33R139AB											
PGEPOTTER											
PGEPOW POEPH_7_UNIT 2											
PGEPOW POEPH_7_UNIT 1											
33B074											
33B076											
33R245							1Axis				
33R373RM											
PGEPIT7 PIT7_7_UNIT 2											
PGEPIT7 PIT7_7_UNIT 1											
PGEPIT7 PIT6_7_UNIT 2											
PGEPIT6											
33R408RM											

lse_unique_contract_id	is_hybrid_paired	can_charge_from_grid	total_generator_mw	contracted_generator_mw	total_storage_mw	contracted_storage_mw	solar_technology_sub_type	storage_technology_sub_type	total_storage_depth_mwh	contracted_storage_depth_mwh	viability_cod_reasonableness
PGEPIT5 PIT5_7_PL3X4											
PGEPIT5 PIT5_7_PL1X2											
PGEPIT4											
PGEPIT3											
PGEPIT1 PIT1_7_UNIT 2											
PGEPIT1 PIT1_7_UNIT 1											
33R206AB							1Axis				
PGEPHOENIX											
33R165AB							1Axis				
33R133											
33R083											
33W001											
33R375							1Axis				
33R391							Fixed				
33R366							1Axis				
33R363							1Axis				
33R350RM							1Axis				
13H024QPA											
33R274							1Axis				
33R122							1Axis				
33R288							1Axis				
33R423BIO											
33R424BIO											
33R283											
PGENEWCASTLE											
01C201											
33R078							Fixed				
33R047AB											
33R076AB											
33R107AB											
33R127AB											
33R135											
33R136											
33R137											
33R169AB											
33R177AB							1Axis				
33R178AB							1Axis				
33R180AB							1Axis				
33R187AB							1Axis				
33R188AB							1Axis				
33R190AB							1Axis				
33R191AB							1Axis				
33R195AB							1Axis				
33R197AB							1Axis				
33R198AB							1Axis				
33R202AB							1Axis				
33R204AB							1Axis				
33R216AB							Fixed				
33R294AB							1Axis				
33R300AB							1Axis				
33R301AB											
33R304AB							1Axis				
33R316AB							1Axis				
33R318AB							1Axis				
33R334RM											
33R353RM							1Axis				
33R378RM											
33R407RM											
33R082											
33R144							Fixed				
33R292							1Axis				
33R148							1Axis				
08C097											
02C047											
02C048											
02C058											
33R343							1Axis				
33R282AB							1Axis				
33R285AB							1Axis				
33R032-AR							Fixed				
33R510RM											
33R207AB							1Axis				
33R390							Fixed				
13H047											
33R382							1Axis				
33R388							Fixed				
33R403RM											
33R347RM											
33R232AB							1Axis				
33R184AB							1Axis				
33R201AB							1Axis				
33R256							1Axis				
33R255							1Axis				
405024								Li		160	
33R324							1Axis				
33R396							1Axis				
33R267							1Axis				
33R215AB							Fixed				
33R214AB							Fixed				
PGEKINGSRIVER											
PGEKILARC											
25C049QAA2											
33R296AB							1Axis				
33R295AB							1Axis				
PGEKERCKHOFF2											
PGEKERCKHOFF1 KERKH1_7_UNIT 3											
PGEKERCKHOFF1 KERKH1_7_UNIT 1											
33R323											
33R160							1Axis				
33R161							1Axis				
33R163											
405029								Li		600	
33R064											
33R063											
PGEINSKIP											

lse_unique_contract_id	is_hybrid_paired	can_charge_from_grid	total_generator_mw	contracted_generator_mw	total_storage_mw	contracted_storage_mw	solar_technology_sub_type	storage_technology_sub_type	total_storage_depth_mwh	contracted_storage_depth_mwh	viability_cod_reasonableness
04C130											
04H134											
04S142							Fixed				
PGEPVUOG_PY2_HU											
PGEHUMBOLDT HUMBPP_6_UNITS											
PGEHUMBOLDT HUMBPP_1_UNITS3											
33R281AB							1Axis				
33R210AB							Fixed				
PGEHAMILTON											
33R077AB											
33R259							1Axis				
33R307AB							Fixed				
PGEHELMSGEN1 HELMPG_7_UNIT 3											
PGEHELMSGEN1 HELMPG_7_UNIT 2											
PGEHELMSGEN1 HELMPG_7_UNIT 1											
33R058-AR											
PGEHAT2											
PGEHAT1											
33R442BIO											
PGEHALSEY											
PGEHAAS											
33R438BIO											
PGEPVUOG_PY3_GU											
33R439BIO											
01C084QAA											
33R100											
33R362							1Axis				
33R376							1Axis				
PGEPVUOG_PY2_GI											
33R090											
PGEGATEWAY											
40S020								Li		200	
PGEPVUOG_PY3_WG											
PGEPVUOG_PY3_GA											
33R422BIO											
04C140											
33R335RM											
33R336RM											
19H05S											
33R108-AR											
33R513RM											
33R418RM											
25C063QPA2											
33R374							1Axis				
33R329											
25C293											
33R008											
33R016											
PGEMOSSLANDING										730	
PGEELECTRA											
33R174AB							1Axis				
33R253 DUTCH2_7_UNIT 1											
PGEDUTCHFLAT1											
33R138							Fixed				
PGEDESABLA											
PGEDRUM2											
PGEDRUM1 DRUM_7_PL3X4											
PGEDRUM1 DRUM_7_PL1X2											
40S021				0		63	1Axis	Li		252	
33R405BIO											
25C248											
PGEDIABLO2											
PGEDIABLO1											
33R261AB							1Axis				
33R260AB							1Axis				
33R440BIO											
33R401RM							1Axis				
33R459BIO											
33R257							1Axis				
33R278							1Axis				
13H123											
18C001											
33R337RM											
01C045											
PGESANJOAQU3											
PGESANJOAQU2											
PGECRANEVALLEY											
33R505							1Axis				
PGECRESTA											
PGECOWCREEK											
33R280							1Axis				
33R079							Fixed				
33R060							Fixed				
33R166							Fixed				
33R243											
33R275											
PGECOLUSA											
33R481BIO											
PGECOLEMAN											
33R099											
33R205AB							Fixed				
PGECENTERVILLE											
01C199											
01C245											
PGELIMESADL											
33R237AB							Fixed				
33R017											
33R500BIO											
33B110											
25C003											
25C249											
25C055											
25C002											
33R342RM											
33R052							1Axis				

lse_unique_contract_id	is_hybrid_paired	can_charge_from_grid	total_generator_mw	contracted_generator_mw	total_storage_mw	contracted_storage_mw	solar_technology_sub_type	storage_technology_sub_type	total_storage_depth_mwh	contracted_storage_depth_mwh	viability_cod_reasonableness
33R088	[redacted]	[redacted]	[redacted]		[redacted]		1Axis		[redacted]		[redacted]
33R502							1Axis				
PGECARIBOU1 CARBOU_7_UNIT 1											
PGECARIBOU2											
PGECARIBOU1 CARBOU_7_PL2X3											
PGEPVUOG_PY2_CA											
33R487BIO											
33R344							1Axis				
PGEBUTTVAL											
33R483											
PGEBUCKSCREEK											
PGEOAKFLAT											
33R377RM											
33R142											
33R167											
33R145											
33R033-AR											
33R013-AR											
33R152											
33R341RM											
33R253 BOWMN_6_HYDRO											
PGEALTA											
40S018				0		60		Li		240	
40S011								Li		200	
40S015								Li		200	
40S016								Li		200	
40S017								Li		200	
33R258							1Axis				
PGEJBBLACK BLACK_7_UNIT 2											
PGEJBBLACK BLACK_7_UNIT 1											
33R315AB							1Axis				
33R493											
33R385							1Axis				
33R384							1Axis				
33R383							1Axis				
40S027				0		127	1Axis	Li		508	
PGEBELDEN											
PGEBALCH2 BALCHS_7_UNIT 3											
PGEBALCH2 BALCHS_7_UNIT 2											
PGEBALCH1											
33R073							Fixed				
33R124							Fixed				
33R125							Fixed				
33R368							1Axis				
33R365							1Axis				
33R123							Fixed				
33R120							Fixed				
33R330							1Axis				
33R162							1Axis				
33R118							1Axis				
33R119							1Axis				
33R340RM											
33R084							Fixed				
33R244							1Axis				
33R291							1Axis				
GENVAMO_Solar											
GENVAMO_Wind											
GENVAMO_Biomass											
GENVAMO_Biogas											
GENVAMO_Geothermal											
GENVAMO_SmallHydro											
ModCAM_Storage_2024										199.84	
ModCAM_Storage_2032										174.64	
CAM_NaturalGas_2024											
CAM_NaturalGas_2025											
CAM_NaturalGas_2026											
CAM _Import_2024											
Cam_Battery_Existing_2024										1344.00	
Cam_Battery_Existing_2025										1338.00	
CAM_Battery_Programatic_2026										228.00	
CAM_Battery_Programatic_2028										542.40	
GENPCIAGHGFREESALES_LargeHydro											
Imported_Hydro											
Shed_DR											

lse_unique_contract_id	viability_technical_feasibility	viability_financing_sitecontrol	resource_mix	d1911016_vamo_ghgfree	buy_sell_own	counterparty	generator_supplier	developer_name	capacity_area	capacity_sub_area	cpuc_approval_ref	county	COD_year
33B013U02			[Wind, 75]	CAM	Buy	non-LSE supplier		NA			Disposition Letter	NA	2022
33R520RM					Buy	non-LSE supplier		SOLTAGE			D.12-05-035, D.13-05-034	AlamedaCounty	
40S026				D.19-11-016	Buy	non-LSE supplier		NEXUS_RENEWABLES_US_INC			E-5140	SolanoCounty	
33R494					Buy	non-LSE supplier		FOREFRONT_POWER_LLC	GreaterFresno	Greater Fresno Coalinga	D.16-05-006	FresnoCounty	
33R488					Buy	non-LSE supplier		PRIMERGY_SOLAR_LLC			Disposition Letter	KernCounty	
40S038					Buy	non-LSE supplier		TERRA_GEN_LLC	SCE	LA Basin Eastern	E-5202	RiversideCounty	
33R436BIO					Buy	non-LSE supplier		BLUE_MOUNTAIN_ELECTRIC_COMPANY_LLC			D.14-12-081, D.15-09-004	CalaverasCounty	
40S034					Buy	non-LSE supplier		ORIGIS_USA_LLC			E-5202	anLuisObispoCount	
33R512BIO					Buy	non-LSE supplier		FOREST_BIOMASS_BUSINESS_CENTER_INC	Sierra	No_sub_area	D.14-12-081, D.15-09-004	YubaCounty	
40S039					Buy	non-LSE supplier		TERRA_GEN_LLC	SCE	No_sub_area	E-5202	LosAngelesCounty	
40S009					Buy	non-LSE supplier		BROAD_REACH_POWER_LLC	Stockton	No_sub_area	D.18-10-009	SanJoaquinCounty	
40S036					Buy	non-LSE supplier		NEXTERA_ENERGY_RESOURCES			E-5202	SolanoCounty	
40S022				D.19-11-016	Buy	non-LSE supplier		CLEARWAY_RENEW_LLC	SCE	No_sub_area	E-5140	anBernardinoCount	
40S023				D.19-11-016	Buy	non-LSE supplier		CLEARWAY_RENEW_LLC	SCE	No_sub_area	E-5140	anBernardinoCount	
33R514BIO					Buy	non-LSE supplier		ENGEMAN_ENERGY_USA_LLC			D.14-12-081, D.15-09-004	ColusaCounty	
33R495					Buy	non-LSE supplier		FOREFRONT_POWER_LLC			D.16-05-006	FresnoCounty	
33R499					Buy	non-LSE supplier		FRESNO_COMMUNITY_DEVELOPERS_LLC	GreaterFresno	No_sub_area	Disposition Letter	FresnoCounty	
33R490					Buy	non-LSE supplier		PRIMERGY_SOLAR_LLC			Disposition Letter	FresnoCounty	
33R437BIO					Buy	non-LSE supplier		WEST_BIOFUELS_LLC			D.14-12-081, D.15-09-004	ShastaCounty	
33R491					Buy	non-LSE supplier		PRIMERGY_SOLAR_LLC			Disposition Letter	KernCounty	
40S014				CAM	Buy	non-LSE supplier		ESFARADAY_LLC	GreaterBay	Greater Bay San Jose	E-4909, D.19-03-011	SantaClaraCounty	
33R522					Buy	non-LSE supplier		KUUBIX_C&I_LLC			E-4999	KingsCounty	
33R393				VAMO	Buy	non-LSE supplier		NEXTERA_ENERGY_RESOURCES_ACQUISITIONS_LLC	GreaterFresno		Disposition Letter	KingsCounty	
33R492					Buy	non-LSE supplier		PRIMERGY_SOLAR_LLC			Disposition Letter	KernCounty	
33R524					Buy	non-LSE supplier		KINGS_CSG_3_LLC	GreaterFresno	Greater Fresno Hanford	E-4999	KingsCounty	
40S035					Buy	non-LSE supplier		KOLA_ENERGY_STORAGE_LLC			E-5202	SanJoaquinCounty	
40S032					Buy	non-LSE supplier		VISTRA_ENERGY_CORP	GreaterBay	ater Bay South Bay Moss Lan	E-5202	MontereyCounty	
33R503					Buy	non-LSE supplier		PRIMERGY_SOLAR_LLC			Disposition Letter	KernCounty	
40S037					Buy	non-LSE supplier		AREVON_ENERGY	anDiegoImperialValle	Diego/Imperial Valley San Die	E-5202	SanDiegoCounty	
40S025				D.19-11-016	Buy	non-LSE supplier		NEXTERA_ENERGY_RESOURCES_LLC	Stockton	Stockton Tesla-Bellota	E-5140	SanJoaquinCounty	
33R433BIO					Buy	non-LSE supplier		NORTH_FORK_COMMUNITY_POWER_LLC	GreaterFresno	Greater Fresno Borden	D.14-12-081, D.15-09-004	MaderaCounty	
33R504					Buy	non-LSE supplier		PRIMERGY_SOLAR_LLC			Disposition Letter	KernCounty	
40S033					Buy	non-LSE supplier		STRATA_CLEAN_ENERGY_LLC	SCE	LA Basin Eastern	E-5202	anBernardinoCount	
40S028					Buy	non-LSE supplier		ORMAT_INC	LABasin	No_sub_area	Disposition Letter	LosAngelesCounty	
33R419				VAMO	Buy	non-LSE supplier		MATRIX_RENEWABLES_US_LLC	SCE	No_sub_area	Disposition Letter	KernCounty	
33R420				VAMO	Buy	non-LSE supplier		MATRIX_RENEWABLES_US_LLC	SCE	No_sub_area	Disposition Letter	KernCounty	
33R421				VAMO	Buy	non-LSE supplier		MATRIX_RENEWABLES_US_LLC	SCE	No_sub_area	Disposition Letter	KernCounty	
33R489					Buy	non-LSE supplier		PRIMERGY_SOLAR_LLC			Disposition Letter	KernCounty	
33R523					Buy	non-LSE supplier		RPCA_SOLAR_7_LLC			E-4999	MercedCounty	
CPE00001R				CAM	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Panoche	D.20-06-002	FresnoCounty	2001
CPE00002R				CAM	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	D.20-06-002	FresnoCounty	2005
CPE00003R				CAM	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.20-06-002	ContraCostaCounty	2013
CPE00004R				CAM	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.20-06-002	ContraCostaCounty	2013
CPE00005R				CAM	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.20-06-002	ContraCostaCounty	2013
CPE00006R				CAM	Buy	non-LSE supplier		NA	GreaterBay	South Bay-Moss Landing	D.20-06-002	MontereyCounty	2002
CPE00007R				CAM	Buy	non-LSE supplier		NA	GreaterBay	ater Bay South Bay Moss Lan	D.20-06-002	MontereyCounty	2002
CPE00008R				CAM	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	D.20-06-002	KingsCounty	2001
CPE00009R				CAM	Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	D.20-06-002	SanJoaquinCounty	2002
CPE00010R				CAM	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	D.20-06-002	FresnoCounty	2001
CPE00011R				CAM	Buy	non-LSE supplier		NA	Sierra	Sierra Pease	D.20-06-002	SutterCounty	1991
FIT_Baseload				VAMO	Buy	non-LSE supplier							
FIT_Non-Peaking_AA_SmallHydro				VAMO	Buy	non-LSE supplier							
FIT_Non-Peaking_AA_Wind				VAMO	Buy	non-LSE supplier							
FIT_Peaking_AA				VAMO	Buy	non-LSE supplier							
FIT_SB1122_Cat1					Buy	non-LSE supplier							
FIT_SB1122_Cat2_Ag					Buy	non-LSE supplier							
FIT_SB1122_Cat2_Dairy					Buy	non-LSE supplier							
FIT_SB1122_Cat3					Buy	non-LSE supplier							
GENCPELOCALTHERMAL				CAM	Buy	non-LSE supplier							
GENGTSRSOLARPV					Buy	non-LSE supplier							
GENIRPBPOTSOLAR_Arizona					Buy	non-LSE supplier							
GENIRPBPOTSolar_Imperial					Buy	non-LSE supplier							
GENIRPBPOTSOLAR_Kramer				VAMO	Buy	non-LSE supplier							
GENIRPBPOTSOLAR_Riverside				VAMO	Buy	non-LSE supplier							
GENIRPBPOTSOLAR_Tehachapi				VAMO	Buy	non-LSE supplier							
GENIRPBPOTSTORAGE-31					Buy	non-LSE supplier							
GENIRPBPOTSTORAGE-32					Buy	non-LSE supplier							
GENIRPBPOTSTORAGE-33					Buy	non-LSE supplier							
GENIRPBPOTSTORAGE-34					Buy	non-LSE supplier							
GENIRPBPOTSTORAGE-35					Buy	non-LSE supplier							
GENIRPBPOTWIND_Baja				VAMO	Buy	non-LSE supplier							
GENIRPBPOTWIND_Carrizo				VAMO	Buy	non-LSE supplier							
GENIRPBPOTWIND_CValley				VAMO	Buy	non-LSE supplier							
GENIRPBPOTWIND_Humboldt					Buy	non-LSE supplier							
GENIRPBPOTWIND_Humboldt_Bay_Offshore					Buy	non-LSE supplier							
GENIRPBPOTWIND_Kern_Greater_Carrizo					Buy	non-LSE supplier							
GENIRPBPOTWIND_Morro				VAMO	Buy	non-LSE supplier							
GENIRPBPOTWIND_New_Mexico					Buy	non-LSE supplier							
GENIRPBPOTWIND_NoCal				VAMO	Buy	non-LSE supplier							
GENIRPBPOTWIND_Solano				VAMO	Buy	non-LSE supplier							
GENIRPBPOTWIND_Southern_Nevada					Buy	non-LSE supplier							
GENIRPBPOTWIND_SWExisting				VAMO	Buy	non-LSE supplier							
GENIRPBPOTWIND_Tehachapi				VAMO	Buy	non-LSE supplier							
GENIRPBPOTWIND_WY				VAMO	Buy	non-LSE supplier							
GENIRPMTRBIOMASS				VAMO	Buy	non-LSE supplier							
GENIRPMTRGEOTHERMAL				VAMO	Buy	non-LSE supplier							
GENIRPMTRLDSTORAGE					Buy	non-LSE supplier							
GENIRPMTRLDSTORAGE_2				CAM	Buy	non-LSE supplier							
GENIRPMTRSOLAR				VAMO	Buy	non-LSE supplier							
GENIRPMTRSTORAGE-24					Buy	non-LSE supplier							
GENIRPMTRSTORAGE-25					Buy	non-LSE supplier							
GENIRPPSPSTORAGE-CPE				CAM	Buy	non-LSE supplier							
GENIRPPSPSTORAGE-LSE					Buy	non-LSE supplier							
IDWAMONTICELLO					Buy	non-LSE supplier							
PGESALTSPRINGS2					Buy	Pacific Gas & Electric							
PGESANJOAQU1				VAMO	Buy	Pacific Gas & Electric							
PGESPAULDING2				VAMO	Buy	Pacific Gas & Electric			Sierra	No_sub_area			
33R484					Buy	non-LSE supplier		NA			E-5123	ShastaCounty	2022
PGEWISHON				VAMO	Buy	Pacific Gas & Electric			GreaterFresno	Greater Fresno Borden			
PGEWISE2				VAMO	Buy	Pacific Gas & Electric			Sierra	Sierra Placer			
PGEWISE1				VAMO	Buy	Pacific Gas & Electric			Sierra	Sierra Placer			
33R479BIO					Buy	non-LSE supplier		NA			D.14-12-081, D.15-09-004	ColusaCounty	2022
33R154AB					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	FresnoCounty	2012
PGEWESTPOINT				VAMO	Buy	Pacific Gas & Electric							
33R121				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	E-4377	KingsCounty	2013

lse_unique_contract_id	viability_technical_feasibility	viability_financing_sitecontrol	resource_mix	d1911016_vamo_ghgfree	buy_sell_own	counterparty	generator_supplier	developer_name	capacity_area	capacity_sub_area	cpuc_approval_ref	county	COD_year
33R417RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	ShastaCounty	2017
33R511RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	ShastaCounty	2021
33R333RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	TehamaCounty	2014
PGEVOLTA2				VAMO	Buy	Pacific Gas & Electric							
PGEVOLTA1				VAMO	Buy	Pacific Gas & Electric							
40S019				D.19-11-016	Buy	non-LSE supplier		NA	GreaterBay	ater Bay South Bay Moss Lan	E-5100	MontereyCounty	2021
40S013 VISTRA_5_DALBT3				CAM	Buy	non-LSE supplier		NA	GreaterBay	ater Bay South Bay Moss Lan	E-4909, D.19-03-011	MontereyCounty	2021
40S013 VISTRA_5_DALBT2				CAM	Buy	non-LSE supplier		NA	GreaterBay	South Bay-Moss Landing	E-4909, D.19-03-011	MontereyCounty	2021
40S013 VISTRA_5_DALBT1				CAM	Buy	non-LSE supplier		NA	GreaterBay	ater Bay South Bay Moss Lan	E-4909, D.19-03-011	MontereyCounty	2021
33R279				VAMO	Buy	non-LSE supplier		NA			Disposition Letter	anBernardinoCount	2015
25C246					Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	D.82-01-103, D.82-12-120	KernCounty	1989
PGEVACADIXON				VAMO	Owned	Pacific Gas & Electric							
33R151				VAMO	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-4423	ContraCostaCounty	2012
01C061					Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.82-01-103, D.82-12-120	ContraCostaCounty	1987
33R470BIO					Buy	non-LSE supplier		RUANN_DAIRY_LLC	GreaterFresno	No_sub_area	D.14-12-081, D.15-09-004	FresnoCounty	[redacted]
24B001FHP					Buy	non-LSE supplier		NA			D.09-12-042	KernCounty	2015
33R302AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	KernCounty	2016
33R415RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	KernCounty	2019
33R164AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	KernCounty	2012
33R509RM					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.12-05-035, D.13-05-034	FresnoCounty	2021
33R392					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	Disposition Letter	FresnoCounty	2017
33R056				VAMO	Buy	non-LSE supplier		NA			E-4221	anLuisObispoCount	2013
PGETOADTOWN				VAMO	Owned	Pacific Gas & Electric							
33R233AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	anLuisObispoCount	2014
PGETIGERCREEK					Owned	Pacific Gas & Electric							
16H030					Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	CalaverasCounty	1986
16H033					Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	CalaverasCounty	1986
33R247AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	CalaverasCounty	2012
33R248AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	CalaverasCounty	2012
33R249AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	CalaverasCounty	2012
33R251AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	AmadorCounty	2012
10H007					Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	PlumasCounty	1985
10H059					Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	PlumasCounty	1984
10H090					Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	ButteCounty	1991
12C085					Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	SutterCounty	1991
13H120					Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	ShastaCounty	1983
13H130					Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	ShastaCounty	1983
33R402RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	YubaCounty	2016
25C151QPA2				CAM	Buy	non-LSE supplier		NA			E-5037	KernCounty	2019
33R132				VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	E-4415	LosAngelesCounty	2014
40S030					Buy	non-LSE supplier		NA	SCE	No_sub_area	Disposition Letter	RiversideCounty	2022
40S031					Buy	non-LSE supplier		NA	SCE	No_sub_area	Disposition Letter	RiversideCounty	2022
33R387				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	Disposition Letter	FresnoCounty	2018
33R386					Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	Disposition Letter	FresnoCounty	2019
PGEPVUOG_PY1_ST				VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon			
33R355RM					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.12-05-035, D.13-05-034	MaderaCounty	2015
33R357RM					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.12-05-035, D.13-05-034	MaderaCounty	2016
33R358RM					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.12-05-035, D.13-05-034	MaderaCounty	2016
33R356RM					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.12-05-035, D.13-05-034	MaderaCounty	2016
01C202QAA				CAM	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-4648	ContraCostaCounty	2014
PGESTANISLAUS					Owned	Pacific Gas & Electric			Stockton	Stockton Tesla-Bellota			
02C041					Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.82-01-103, D.82-12-120	SanMateoCounty	1987
PGETULE				VAMO	Owned	Pacific Gas & Electric			BigCreekVentura	No_sub_area			
PGESPRINGGAP				VAMO	Owned	Pacific Gas & Electric			Stockton	Stockton Tesla-Bellota			
33R254 SPQUIN_6_SRPCQU				VAMO	Buy	non-LSE supplier		NA			E-4632	PlumasCounty	2015
33R254 SPIFBD_1_PL1X2				VAMO	Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	E-4632	TuolumneCounty	2015
33R254 SPIAND_1_ANDSN2				VAMO	Buy	non-LSE supplier		NA			E-4632	ShastaCounty	2015
33R254 SPI LI_2_UNIT 1				VAMO	Buy	non-LSE supplier		NA	Sierra	No_sub_area	E-4632	PlacerCounty	2015
33R254 SPBURN_2_UNIT 1				VAMO	Buy	non-LSE supplier		NA			E-4632	ShastaCounty	2015
PGESPAULDING1				VAMO	Owned	Pacific Gas & Electric			Sierra	No_sub_area			
PGESPAULDING3				VAMO	Owned	Pacific Gas & Electric			Sierra	No_sub_area			
PGESOUTH				VAMO	Owned	Pacific Gas & Electric							
33R389					Buy	non-LSE supplier		NA			Disposition Letter	KernCounty	2017
33R272				VAMO	Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	Disposition Letter	KernCounty	2015
40S040					Buy	non-LSE supplier		EDSAN_1B_GROUP_3_LLC	SCE	No_sub_area	E-5202	KernCounty	[redacted]
33R053AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	antaBarbaraCount	2010
40S008					Buy	non-LSE supplier		BROAD_REACH_POWER_LLC	Stockton	Stockton Tesla-Bellota	D.18-10-009	TuolumneCounty	[redacted]
33R364				VAMO	Buy	non-LSE supplier		NA			Disposition Letter	anBernardinoCount	2017
PGEPVUOG_PY1_WS				VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Coalinga			
33R434BIO					Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	D.14-12-081, D.15-09-004	FresnoCounty	2019
PGEPVUOG_PY1_FP				VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Coalinga			
33R416BIO					Buy	non-LSE supplier		NA			D.14-12-081, D.15-09-004	anLuisObispoCount	2019
33R185AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	anLuisObispoCount	2013
33R089-AR				VAMO	Buy	non-LSE supplier		NA			E-4433	anBernardinoCount	2014
PGESALTSPRINGS1					Owned	Pacific Gas & Electric							
33R338RM					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.12-05-035, D.13-05-034	MercedCounty	2015
33R322				VAMO	Buy	non-LSE supplier		NA			Disposition Letter	KernCounty	2015
33R253 ROLLIN_6_UNIT				VAMO	Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.13-03-030	NevadaCounty	2013
33R409RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	ShastaCounty	2017
15H012					Buy	non-LSE supplier		NA	Sierra		D.82-01-103, D.82-12-120	ElDoradoCounty	1985
15H068					Buy	non-LSE supplier		NA	Sierra		D.82-01-103, D.82-12-120	SierraCounty	1986
15H069					Buy	non-LSE supplier		NA	Sierra		D.82-01-103, D.82-12-120	PlacerCounty	1985
15H072					Buy	non-LSE supplier		NA	Sierra		D.82-01-103, D.82-12-120	SierraCounty	1985
33R046AB					Buy	non-LSE supplier		NA	Sierra		D.07-07-027, E-4137	ElDoradoCounty	2008
33R171AB					Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	D.07-07-027, E-4137	FresnoCounty	2014
PGEROCKCREEK RCKCRK_7_UNIT 2					Owned	Pacific Gas & Electric			Sierra	No_sub_area			
PGEROCKCREEKRPS RCKCRK_7_UNIT 2				VAMO	Owned	Pacific Gas & Electric			Sierra	No_sub_area			
PGEROCKCREEK RCKCRK_7_UNIT 1					Owned	Pacific Gas & Electric			Sierra	No_sub_area			
PGEROCKCREEKRPS RCKCRK_7_UNIT 1				VAMO	Owned	Pacific Gas & Electric			Sierra	No_sub_area			
33R045			[Wind, 102.9]	VAMO	Buy	non-LSE supplier		NA			E-4204	Oregon	2008
33R339RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	YoloCounty	2014
08C071					Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	SantaCruzCounty	1987
33R139AB					Buy	non-LSE supplier		NA	NorthCoastNorthBay	North Coast Eagle Rock	D.07-07-027, E-4137	MendocinoCounty	2011
PGEPOTTER				VAMO	Owned	Pacific Gas & Electric			NorthCoastNorthBay	North Coast Eagle Rock			
PGEPOW POEPH_7_UNIT 2					Owned	Pacific Gas & Electric			Sierra	No_sub_area			
PGEPOW POEPH_7_UNIT 1					Owned	Pacific Gas & Electric			Sierra	No_sub_area			
33B074					Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Panoche	D.06-11-048, D.13-01-003	FresnoCounty	2009
33B076					Buy	non-LSE supplier		NA			D.06-11-048	FresnoCounty	2009
33R24S				VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	Disposition Letter	LosAngelesCounty	2014
33R373RM					Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.12-05-035, D.13-05-034	ElDoradoCounty	2017
PGEPIT7 PIT7_7_UNIT 2					Owned	Pacific Gas & Electric							
PGEPIT7 PIT7_7_UNIT 1					Owned	Pacific Gas & Electric							
PGEPIT7 PIT6_7_UNIT 2					Owned	Pacific Gas & Electric							
PGEPIT6					Owned	Pacific Gas & Electric							
33R408RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	ShastaCounty	2019

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PGEPIT5 PIT5_7_PL3X4					Owned	Pacific Gas & Electric							
PGEPIT5 PIT5_7_PL1X2					Owned	Pacific Gas & Electric							
PGEPIT4					Owned	Pacific Gas & Electric							
PGEPIT3					Owned	Pacific Gas & Electric							
PGEPIT1 PIT1_7_UNIT 2					Owned	Pacific Gas & Electric							
PGEPIT1 PIT1_7_UNIT 1					Owned	Pacific Gas & Electric							
33R206AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	ShastaCounty	2014
PGEPHOENIX				VAMO	Owned	Pacific Gas & Electric			Stockton	Stockton Tesla-Bellota			
33R165AB					Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	D.07-07-027, E-4137	TuolumneCounty	2013
33R133				VAMO	Buy	non-LSE supplier		NA			E-4415	SolanoCounty	2016
33R083				VAMO	Buy	non-LSE supplier		NA			E-4321	Washington	2010
33W001			[Wind, 300]		Buy	non-LSE supplier		NA			N/A	MercedCounty	1992
33R375				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	Disposition Letter	FresnoCounty	2017
33R391					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	Disposition Letter	MercedCounty	2018
33R366				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Panoche	Disposition Letter	FresnoCounty	2017
33R363				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Panoche	Disposition Letter	FresnoCounty	2017
33R350RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	GlennCounty	2016
13H024QPA					Buy	non-LSE supplier		NA			E-5119	ShastaCounty	2020
33R274				VAMO	Buy	non-LSE supplier		NA			Disposition Letter	TulareCounty	2014
33R122				VAMO	Buy	non-LSE supplier		NA			E-4377	TulareCounty	2013
33R288				VAMO	Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	Disposition Letter	KernCounty	2014
33R423BIO					Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	D.14-12-081, D.15-09-004	KernCounty	2018
33R424BIO					Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	D.14-12-081, D.15-09-004	KernCounty	2018
33R283				VAMO	Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	E-4596	KernCounty	2014
PGENEWCASTLE				VAMO	Owned	Pacific Gas & Electric			Sierra	Sierra Placer			
01C201					Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.82-01-103, D.82-12-120	AlamedaCounty	1988
33R078				VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	E-4356	LosAngelesCounty	2013
33R047AB					Buy	non-LSE supplier		NA	Sierra	Sierra Gold Hill-Drum	D.07-07-027, E-4137	ElDoradoCounty	2009
33R076AB					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	MercedCounty	2011
33R107AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	NevadaCounty	2010
33R127AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	ShastaCounty	2012
33R135				VAMO	Buy	non-LSE supplier		NA			E-4390	AlbertaCanada	2012
33R136				VAMO	Buy	non-LSE supplier		NA			E-4390	AlbertaCanada	2014
33R137				VAMO	Buy	non-LSE supplier		NA			E-4390	AlbertaCanada	2014
33R169AB					Buy	non-LSE supplier		NA	GreaterBay	Greater Bay San Jose	D.07-07-027, E-4137	SantaClaraCounty	2011
33R177AB					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	FresnoCounty	2014
33R178AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	TehamaCounty	2013
33R180AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	ShastaCounty	2014
33R187AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	TehamaCounty	2014
33R188AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	TehamaCounty	2013
33R190AB					Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	ButteCounty	2014
33R191AB					Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	ButteCounty	2014
33R195AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	anLuisObispoCount	2014
33R197AB					Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	SutterCounty	2014
33R198AB					Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	ButteCounty	2014
33R202AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	anLuisObispoCount	2014
33R204AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	anLuisObispoCount	2014
33R216AB					Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Hanford	D.07-07-027, E-4137	TulareCounty	2013
33R294AB					Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Reedley	D.07-07-027, E-4137	TulareCounty	2015
33R300AB					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	MercedCounty	2015
33R301AB					Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	PlacerCounty	2015
33R304AB					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	TulareCounty	2016
33R316AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	ButteCounty	2016
33R318AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	TehamaCounty	2016
33R334RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	TrinityCounty	2015
33R353RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	TehamaCounty	2016
33R378RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	ShastaCounty	2015
33R407RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	ShastaCounty	2017
33R082				VAMO	Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	E-4309	KernCounty	2012
33R144				VAMO	Buy	non-LSE supplier		NA			E-4393	Arizona	2011
33R292				VAMO	Buy	non-LSE supplier		NA			Disposition Letter	KernCounty	2015
33R148				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Panoche	E-4436	FresnoCounty	2015
08C097					Buy	non-LSE supplier		NA	GreaterBay	Greater Bay San Jose	D.82-01-103, D.82-12-120	SantaClaraCounty	1989
02C047					Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.82-01-103, D.82-12-120	SanFrancisco	1987
02C048					Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.82-01-103, D.82-12-120	SanFrancisco	1988
02C058					Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.82-01-103, D.82-12-120	SanFrancisco	1992
33R343				VAMO	Buy	non-LSE supplier		NA	anDiegoImperialValle	No_sub_area	E-4676	ImperialCounty	2019
33R282AB					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	MercedCounty	2015
33R285AB					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	MercedCounty	2015
33R032-AR				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	E-4701	FresnoCounty	2010
33R510RM					Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	D.12-05-035, D.13-05-034	FresnoCounty	2021
33R207AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	ShastaCounty	2014
33R390					Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	Disposition Letter	SanJoaquinCounty	2017
13H047					Buy	non-LSE supplier		NA			D.83-09-054	LassenCounty	1988
33R382					Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	Disposition Letter	KernCounty	2017
33R388					Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	Disposition Letter	KernCounty	2017
33R403RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	TrinityCounty	2017
33R347RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	HumboldtCounty	2015
33R232AB					Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	D.07-07-027, E-4137	SanJoaquinCounty	2014
33R184AB					Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	D.07-07-027, E-4137	SanJoaquinCounty	2014
33R201AB					Buy	non-LSE supplier		NA	Sierra	Sierra Pease	D.07-07-027, E-4137	SutterCounty	2014
33R256				VAMO	Buy	non-LSE supplier		NA			E-4640	KernCounty	2019
33R255				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	E-4577	KingsCounty	2014
405024				D.19-11-016	Buy	non-LSE supplier		NA	anDiegoImperialValle	No_sub_area	E-5140	ImperialCounty	2022
33R324				VAMO	Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	Disposition Letter	KernCounty	2015
33R396					Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	Disposition Letter	KernCounty	2018
33R267				VAMO	Buy	non-LSE supplier		NA	GreaterFresno		Disposition Letter	KingsCounty	2014
33R215AB					Buy	non-LSE supplier		NA	GreaterFresno		D.07-07-027, E-4137	TulareCounty	2013
33R214AB					Buy	non-LSE supplier		NA	GreaterFresno		D.07-07-027, E-4137	TulareCounty	2013
PGEKINGSRIVER					Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon			
PGEKILARC				VAMO	Owned	Pacific Gas & Electric							
25C049QAA2				CAM	Buy	non-LSE supplier		NA			E-5037	KernCounty	2019
33R296AB					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	FresnoCounty	2015
33R295AB					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	FresnoCounty	2015
PGEKERCKHOFF2					Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon			
PGEKERCKHOFF1 KERKH1_7_UNIT 3				VAMO	Owned	Pacific Gas & Electric			GreaterFresno	No_sub_area			
PGEKERCKHOFF1 KERKH1_7_UNIT 1				VAMO	Owned	Pacific Gas & Electric			GreaterFresno	No_sub_area			
33R323				VAMO	Buy	non-LSE supplier		NA	Humboldt	No_sub_area	Disposition Letter	TrinityCounty	2015
33R160				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	Disposition Letter	KingsCounty	2013
33R161				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	Disposition Letter	FresnoCounty	2014
33R163				VAMO	Buy	non-LSE supplier		NA			E-4463	KernCounty	2012
40S029					Buy	non-LSE supplier		RECURRENT_ENERGY			Disposition Letter	RiversideCounty	[redacted]
33R064				VAMO	Buy	non-LSE supplier		NA			E-4266	anBernardinoCount	2014
33R063				VAMO	Buy	non-LSE supplier		NA			E-4266	anBernardinoCount	2014
PGEINSKIP				VAMO	Owned	Pacific Gas & Electric			Sierra	No_sub_area			

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04C130					Buy	non-LSE supplier		NA	NorthCoastNorthBay	No_sub_area	D.82-01-103, D.82-12-120	SolanoCounty	1985
04H134					Buy	non-LSE supplier		NA	NorthCoastNorthBay	No_sub_area	D.82-01-103, D.82-12-120	NapaCounty	1987
04S142					Buy	non-LSE supplier		NA	NorthCoastNorthBay	No_sub_area	D.82-01-103, D.82-12-120	NapaCounty	1993
PGEPVUOG_PY2_HU				VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Coalinga			
PGEHUMBOLDT HUMBPP_6_UNITS					Owned	Pacific Gas & Electric			Humboldt	No_sub_area			
PGEHUMBOLDT HUMBPP_1_UNITS3					Owned	Pacific Gas & Electric			Humboldt	No_sub_area			
33R281AB					Buy	non-LSE supplier		NA		No_sub_area	D.07-07-027, E-4137	SanBenitoCounty	2015
33R210AB					Buy	non-LSE supplier		NA			D.07-07-027, E-4137	SanBenitoCounty	2014
PGEHAMILTON				VAMO	Owned	Pacific Gas & Electric			Sierra	No_sub_area			
33R077AB					Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	NevadaCounty	2009
33R259				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	E-4568	KingsCounty	2016
33R307AB					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	KingsCounty	2016
PGEHELMSGEN1 HELMPG_7_UNIT 3					Owned	Pacific Gas & Electric			GreaterFresno	No_sub_area			
PGEHELMSGEN1 HELMPG_7_UNIT 2					Owned	Pacific Gas & Electric			GreaterFresno	No_sub_area			
PGEHELMSGEN1 HELMPG_7_UNIT 1					Owned	Pacific Gas & Electric			GreaterFresno	No_sub_area			
33R058-AR				VAMO	Buy	non-LSE supplier		NA			E-4913	ShastaCounty	2010
PGEHAT2				VAMO	Owned	Pacific Gas & Electric							
PGEHAT1				VAMO	Owned	Pacific Gas & Electric							
33R442BIO					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.14-12-081, D.15-09-004	KingsCounty	2020
PGEHALSEY				VAMO	Owned	Pacific Gas & Electric			Sierra	Sierra Placer			
PGEHAAS					Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon			
33R438BIO					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.14-12-081, D.15-09-004	KingsCounty	2019
PGEPVUOG_PY3_GU				VAMO	Owned	Pacific Gas & Electric			GreaterFresno	No_sub_area			
33R439BIO					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.14-12-081, D.15-09-004	KingsCounty	2019
01C084QAA				CAM	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.10-12-035	AlamedaCounty	2017
33R100				VAMO	Buy	non-LSE supplier		NA			E-4320	TrinityCounty	2010
33R362				VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	Disposition Letter	LosAngelesCounty	2017
33R376				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	Disposition Letter	FresnoCounty	2017
PGEPVUOG_PY2_GI				VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon			
33R090				VAMO	Buy	non-LSE supplier		NA			E-4343	RiversideCounty	2013
PGEGATEWAY					Owned	Pacific Gas & Electric			GreaterBay	No_sub_area			
40S020				D.19-11-016	Buy	non-LSE supplier		NA	anDiegoImperialValle	Diego/Imperial Valley San Die	E-5100	SanDiegoCounty	2021
PGEPVUOG_PY3_WG				VAMO	Owned	Pacific Gas & Electric							
PGEPVUOG_PY3_GA				VAMO	Owned	Pacific Gas & Electric							
33R422BIO					Buy	non-LSE supplier		NA			D.14-12-081, D.15-09-004	KernCounty	2018
04C140					Buy	non-LSE supplier		NA	NorthCoastNorthBay	North Coast Fulton	D.82-01-103, D.82-12-120	SonomaCounty	1992
33R335RM					Buy	non-LSE supplier		NA	NorthCoastNorthBay	North Coast Fulton	D.12-05-035, D.13-05-034	ShastaCounty	2015
33R336RM					Buy	non-LSE supplier		NA	NorthCoastNorthBay	North Coast Fulton	D.12-05-035, D.13-05-034	MendocinoCounty	2014
19H05S					Buy	non-LSE supplier		NA	Humboldt	No_sub_area	D.82-01-103, D.82-12-120	HumboldtCounty	1982
33R108-AR				VAMO	Buy	non-LSE supplier		NA	Humboldt	No_sub_area	E-4418	TrinityCounty	2011
33R513RM					Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	D.12-05-035, D.13-05-034	CalaverasCounty	2021
33R418RM					Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	D.12-05-035, D.13-05-034	CalaverasCounty	2017
25C063QPA2				CAM	Buy	non-LSE supplier		NA			E-5119	KernCounty	2019
33R374				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	Disposition Letter	KingsCounty	2016
33R329				VAMO	Buy	non-LSE supplier		NA			E-4656	AlamedaCounty	2016
25C293					Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	KernCounty	1988
33R008					Buy	non-LSE supplier		NA	LABasin	LA Basin Eastern	D.05-11-007	anBernardinoCount	1994
33R016				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Panoche	E-4047	MercedCounty	2009
PGEMOSSLANDING				CAM	Owned	Pacific Gas & Electric			GreaterBay	No_sub_area			
PGEELECTRA					Owned	Pacific Gas & Electric							
33R174AB					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	MercedCounty	2015
33R253 DUTCH2_7_UNIT 1				VAMO	Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.13-03-030	NevadaCounty	2013
PGEDUTCHFLAT1				VAMO	Owned	Pacific Gas & Electric			Sierra	Sierra Placer			
33R138				VAMO	Buy	non-LSE supplier		NA			E-4357	RiversideCounty	2013
PGEDESABLA				VAMO	Owned	Pacific Gas & Electric							
PGEDRUM2					Owned	Pacific Gas & Electric			Sierra	No_sub_area			
PGEDRUM1 DRUM_7_PL3X4					Owned	Pacific Gas & Electric			Sierra	No_sub_area			
PGEDRUM1 DRUM_7_PL1X2					Owned	Pacific Gas & Electric			Sierra	No_sub_area			
40S021				D.19-11-016	Buy	non-LSE supplier		NA	SCE	No_sub_area	E-5100	RiversideCounty	2021
33R405BIO					Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.14-12-081, D.15-09-004	SantaClaraCounty	2016
25C248					Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	D.82-01-103, D.82-12-120	KernCounty	1988
PGEDIABLO2					Owned	Pacific Gas & Electric							
PGEDIABLO1					Owned	Pacific Gas & Electric							
33R261AB					Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	YoloCounty	2013
33R260AB					Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	YoloCounty	2013
33R440BIO					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.14-12-081, D.15-09-004	MaderaCounty	2019
33R401RM					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.12-05-035, D.13-05-034	MaderaCounty	2018
33R459BIO					Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.14-12-081, D.15-09-004	MaderaCounty	2021
33R257				VAMO	Buy	non-LSE supplier		NA			E-4640	antaBarbaraCount	2019
33R278				VAMO	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	Disposition Letter	ContraCostaCounty	2015
13H123					Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	ShastaCounty	1982
18C001					Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	MontereyCounty	1988
33R337RM					Buy	non-LSE supplier		NA	NorthCoastNorthBay	North Coast Fulton	D.12-05-035, D.13-05-034	NapaCounty	2014
01C045					Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.83-09-054	ContraCostaCounty	1995
PGESANJOAQU3				VAMO	Owned	Pacific Gas & Electric			GreaterFresno	No_sub_area			
PGESANJOAQU2				VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Borden			
PGECRANEVALLEY				VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Borden			
33R50S					Buy	non-LSE supplier		PRIMEGY_SOLAR_LLC			Disposition Letter	KernCounty	[redacted]
PGECRESTA					Owned	Pacific Gas & Electric			Sierra	No_sub_area			
PGECOWCREEK				VAMO	Owned	Pacific Gas & Electric							
33R280				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	Disposition Letter	KingsCounty	2015
33R079				VAMO	Buy	non-LSE supplier		NA			E-4302	Nevada	2010
33R060				VAMO	Buy	non-LSE supplier		NA			E-4240	Nevada	2009
33R166				VAMO	Buy	non-LSE supplier		NA			E-4447	Nevada	2012
33R243				VAMO	Buy	non-LSE supplier		NA			Disposition Letter	MonoCounty	2013
33R275				VAMO	Buy	non-LSE supplier		NA			Disposition Letter	MonoCounty	2013
PGECOLUSA					Owned	Pacific Gas & Electric							
33R481BIO					Buy	non-LSE supplier		NA			D.14-12-081, D.15-09-004	PlumasCounty	2021
PGECOLEMAN				VAMO	Owned	Pacific Gas & Electric							
33R099				VAMO	Buy	non-LSE supplier		NA			E-4336	SanJoaquinCounty	2014
33R205AB					Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.07-07-027, E-4137	ContraCostaCounty	2013
PGECENTERVILLE				VAMO	Owned	Pacific Gas & Electric							
01C199					Buy	non-LSE supplier		NA	GreaterBay	Greater Bay Oakland	D.82-01-103, D.82-12-120	AlamedaCounty	1989
01C245					Buy	non-LSE supplier		NA	GreaterBay	Greater Bay Oakland	D.82-01-103, D.82-12-120	ContraCostaCounty	1991
PGELIMESADL				VAMO	Owned	Pacific Gas & Electric							
33R237AB					Buy	non-LSE supplier		NA	NorthCoastNorthBay	North Coast Eagle Rock	D.07-07-027, E-4137	SonomaCounty	2014
33R017				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	E-4047	MaderaCounty	2008
33R500BIO					Buy	non-LSE supplier		COMBINED_SOLAR_TECHNOLOGIES_INC	Stockton	Stockton Tesla-Bellota	D.14-12-081, D.15-09-004	SanJoaquinCounty	[redacted]
33B110					Buy	non-LSE supplier		NA	Sierra	Sierra Placer	D.13-03-030	NevadaCounty	2013
25C003					Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	KernCounty	1982
25C249					Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	D.82-01-103, D.82-12-120	FresnoCounty	1988
25C055					Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	D.82-01-103, D.82-12-120	FresnoCounty	1986
25C002					Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	KernCounty	1982
33R342RM					Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	ShastaCounty	2015
33R052				VAMO	Buy	non-LSE supplier		NA			E-4229	anLuisObispoCount	2012

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33R088	[redacted]	[redacted]		VAMO	Buy	non-LSE supplier		NA			E-4375	anLuisObispoCount	2012
33R502					Buy	non-LSE supplier		DIMENSION_CA_1_LLC	GreaterFresno	No_sub_area	Disposition Letter	KingsCounty	[redacted]
PGECARIBOU1 CARBOU_7_UNIT 1					Owned	Pacific Gas & Electric							
PGECARIBOU2					Owned	Pacific Gas & Electric							
PGECARIBOU1 CARBOU_7_PL2X3					Owned	Pacific Gas & Electric							
PGEPVUOG_PY2_CA				VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Panoche			
33R487BIO					Buy	non-LSE supplier		WEST_COAST_WASTE_CO_INC	GreaterFresno	Greater Fresno Herndon	D.14-12-081, D.15-09-004	FresnoCounty	[redacted]
33R344				VAMO	Buy	non-LSE supplier		NA			E-4686	MontereyCounty	2019
PGEBUTTVAL					Owned	Pacific Gas & Electric							
33R483					Buy	non-LSE supplier		NA			Disposition Letter	ShastaCounty	2022
PGEBUCKSCREEK					Owned	Pacific Gas & Electric			Sierra	No_sub_area			
PGEOAKFLAT				VAMO	Owned	Pacific Gas & Electric			Sierra	No_sub_area			
33R377RM					Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.12-05-035, D.13-05-034	ButteCounty	2016
33R142				VAMO	Buy	non-LSE supplier		NA			E-4366	KernCounty	2012
33R167				VAMO	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-4469	SolanoCounty	2012
33R145				VAMO	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-4402	SolanoCounty	2011
33R033-AR				VAMO	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-4945	SolanoCounty	2009
33R013-AR				VAMO	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-4353	SolanoCounty	2011
33R152				VAMO	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-4459	SolanoCounty	2012
33R341RM					Buy	non-LSE supplier		NA	Humboldt	No_sub_area	D.12-05-035, D.13-05-034	HumboldtCounty	2014
33R253 BOWMN_6_HYDRO				VAMO	Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.13-03-030	NevadaCounty	2013
PGEALTA				VAMO	Owned	Pacific Gas & Electric			Sierra	Sierra Placer			
40S018				D.19-11-016	Buy	non-LSE supplier		NA	SCE	No_sub_area	E-5100	InyoCounty	2022
40S011					Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.18-10-009	ContraCostaCounty	2022
40S015				D.19-11-016	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-5100	ContraCostaCounty	2021
40S016				D.19-11-016	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-5100	ContraCostaCounty	2022
40S017				D.19-11-016	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-5100	ContraCostaCounty	2021
33R258				VAMO	Buy	non-LSE supplier		NA			E-4640	KernCounty	2019
PGEJBBLACK BLACK_7_UNIT 2					Owned	Pacific Gas & Electric							
PGEJBBLACK BLACK_7_UNIT 1					Owned	Pacific Gas & Electric							
33R315AB					Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	D.07-07-027, E-4137	KernCounty	2015
33R493					Buy	non-LSE supplier		NA	Sierra	No_sub_area	E-4977	YoloCounty	2021
33R385				VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	Disposition Letter	LosAngelesCounty	2017
33R384				VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	Disposition Letter	LosAngelesCounty	2017
33R383				VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	Disposition Letter	LosAngelesCounty	2017
40S027				D.19-11-016	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	E-5140	LosAngelesCounty	2022
PGEBELDEN					Owned	Pacific Gas & Electric			Sierra	No_sub_area			
PGEBALCH2 BALCHS_7_UNIT 3					Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon			
PGEBALCH2 BALCHS_7_UNIT 2					Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon			
PGEBALCH1					Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon			
33R073				VAMO	Buy	non-LSE supplier		NA			E-4315	LosAngelesCounty	2013
33R124				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	E-4350	KingsCounty	2011
33R125				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	E-4350	KingsCounty	2011
33R368				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	Disposition Letter	KingsCounty	2017
33R365				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	Disposition Letter	KingsCounty	2017
33R123				VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	E-4350	KingsCounty	2011
33R120				VAMO	Buy	non-LSE supplier		NA			E-4377	TulareCounty	2013
33R330				VAMO	Buy	non-LSE supplier		NA			E-4692	KernCounty	2016
33R162				VAMO	Buy	non-LSE supplier		NA			Disposition Letter	KernCounty	2014
33R118				VAMO	Buy	non-LSE supplier		NA			E-4377	TulareCounty	2013
33R119				VAMO	Buy	non-LSE supplier		NA			E-4377	TulareCounty	2013
33R340RM					Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.12-05-035, D.13-05-034	SierraCounty	2014
33R084				VAMO	Buy	non-LSE supplier		NA			E-4330	Arizona	2012
33R244				VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	Disposition Letter	LosAngelesCounty	2014
33R291				VAMO	Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	Disposition Letter	KernCounty	2015
GENVAMO_Solar				VAMO	Sell	non-LSE supplier							
GENVAMO_Wind				VAMO	Sell	non-LSE supplier							
GENVAMO_Biomass				VAMO	Sell	non-LSE supplier							
GENVAMO_Biogas				VAMO	Sell	non-LSE supplier							
GENVAMO_Geothermal				VAMO	Sell	non-LSE supplier							
GENVAMO_SmallHydro				VAMO	Sell	non-LSE supplier							
ModCAM_Storage_2024				D.19-11-016	Sell	non-LSE supplier							
ModCAM_Storage_2032				D.19-11-016	Sell	non-LSE supplier							
CAM_NaturalGas_2024				CAM	Sell	non-LSE supplier							
CAM_NaturalGas_2025				CAM	Sell	non-LSE supplier							
CAM_NaturalGas_2026				CAM	Sell	non-LSE supplier							
CAM _Import_2024				CAM	Sell	non-LSE supplier							
Cam_Battery_Existing_2024				CAM	Sell	non-LSE supplier							
Cam_Battery_Existing_2025				CAM	Sell	non-LSE supplier							
CAM_Battery_Programatic_2026				CAM	Sell	non-LSE supplier							
CAM_Battery_Programatic_2028				CAM	Sell	non-LSE supplier							
GENPCIAGHGFREESALES_LargeHydro				GHG-free PCIA	Sell	non-LSE supplier							
Imported_Hydro						non-LSE supplier							
Shed_DR						non-LSE supplier							

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33B013U02	6	1	2022	6	1	2024	9	30	2022	2	8	NA		
33R520RM									2021	11	5	NO		
40S026									2020	12	10	NA		
33R494									2020	11	2	NA		
33R488									2020	9	30	NO		
40S038									2021	12	28	NA		
33R436BIO									2018	6	12	YES	2023	7
40S034									2021	12	22	Yes	2022	9
33R512BIO									2021	9	22	NO		
40S039									2021	12	28	NA		
40S009									2017	11	8	NA	2022	10
40S036									2021	12	21	Yes	2024	6
40S022									2020	12	10	NA		
40S023									2020	12	10	NA		
33R514BIO									2021	9	28	YES	2023	5
33R495									2020	11	2	NA		
33R499									2021	2	4	NA		
33R490									2020	9	30	NO		
33R437BIO									2018	6	12	NA		
33R491									2020	9	30	NO		
40S014									2018	6	1	YES	2024	
33R522									2021	12	22	YES	2023	3
33R393									2015	12	18	NA		
33R492									2020	9	30	NO		
33R524									2021	12	29	NO		
40S035									2021	12	21	Yes	2024	6
40S032									2021	12	20	Yes	2024	6
33R503									2021	5	4	NO		
40S037									2021	12	22	NA		
40S025									2020	12	10	NA		
33R433BIO									2018	6	12	NA		
33R504									2021	5	4	NO		
40S033									2021	12	20	NA		
40S028									2021	7	16	NA		
33R419									2017	9	22	NA		
33R420									2017	9	22	NA		
33R421									2017	9	22	NA		
33R489									2020	9	30	NA		
33R523									2021	12	23	NA		
CPE00001R	12	27	2023	1	1				2021	9	13	NA		
CPE00002R	9	19	2023	1	1				2021	9	13	NA		
CPE00003R	5	1	2023	5	1				2021	9	13			
CPE00004R	5	1	2023	5	1				2021	9	13			
CPE00005R	5	1	2023	5	1				2021	9	13			
CPE00006R	7	1	2023	1	1				2021	9	13	NA		
CPE00007R	7	1	2023	1	1				2021	9	13	NO		
CPE00008R	8	27	2023	1	1				2021	9	13	NA		
CPE00009R	11	1	2023	1	1				2021	9	13	NA		
CPE00010R	6	1	2023	1	1				2021	9	10	NA		
CPE00011R	4	16	2023	1	1				2021	9	10	NA		
FIT_Baseload												NA		
FIT_Non-Peaking_AA_SmallHydro												NA		
FIT_Non-Peaking_AA_Wind												NA		
FIT_Peaking_AA												NA		
FIT_SB1122_Cat1												NA		
FIT_SB1122_Cat2_Ag												NA		
FIT_SB1122_Cat2_Dairy												NA		
FIT_SB1122_Cat3												NA		
GENCPELOCALTHERMAL												NA		
GENGTSRSOLARPV												NA		
GENIRPBPOTSOLAR_Arizona												NA		
GENIRPBPOTSolar_Imperial												NA		
GENIRPBPOTSOLAR_Kramer												NA		
GENIRPBPOTSOLAR_Riverside												NA		
GENIRPBPOTSOLAR_Tehachapi												NA		
GENIRPBPOTSTORAGE-31												NA		
GENIRPBPOTSTORAGE-32												NA		
GENIRPBPOTSTORAGE-33												NA		
GENIRPBPOTSTORAGE-34												NA		
GENIRPBPOTSTORAGE-35												NA		
GENIRPBPOTWIND_Baja												NA		
GENIRPBPOTWIND_Carrizo												NA		
GENIRPBPOTWIND_CValley												NA		
GENIRPBPOTWIND_Humboldt												NA		
GENIRPBPOTWIND_Humboldt_Bay_Offshore												NA		
GENIRPBPOTWIND_Kern_Greater_Carrizo												NA		
GENIRPBPOTWIND_Morro												NA		
GENIRPBPOTWIND_New_Mexico												NA		
GENIRPBPOTWIND_NoCal												NA		
GENIRPBPOTWIND_Solano												NA		
GENIRPBPOTWIND_Southern_Nevada												NA		
GENIRPBPOTWIND_SWExisting												NA		
GENIRPBPOTWIND_Tehachapi												NA		
GENIRPBPOTWIND_WY												NA		
GENIRPMTRBIOMASS												NA		
GENIRPMTRGEOTHERMAL												NA		
GENIRPMTRLDSTORAGE												NA		
GENIRPMTRLDSTORAGE_2												NA		
GENIRPMTRSOLAR												NA		
GENIRPMTRSTORAGE-24												NA		
GENIRPMTRSTORAGE-25												NA		
GENIRPPSPSTORAGE-CPE												NA		
GENIRPPSPSTORAGE-LSE												NA		
IDWAMONTICELLO			1983	7	1	2030	12	31				NA		
PGESALTSPRINGS2			1950	1	1	2099	12	31				NA		
PGESANJOAQU1			1950	1	1	2099	12	31				NA		
PGESPAULDING2			1950	1	1	2099	12	31				NA		
33R484	12	2	2022	12	2				2020	5	24	NA		
PGEWISHON			1950	1	1	2099	12	31				NA		
PGEWISE2			1950	1	1	2099	12	31				NA		
PGEWISE1			1950	1	1	2099	12	31				NA		
33R479BIO	7	26	2022	7	26	2042	7	25	2019	7	10	NA		
33R154AB	12	24	2012	12	24	2032	12	23	2011	2	24	NA		
PGEWESTPOINT			1950	1	1	2099	12	31				NA		
33R121	8	14	2013	8	15	2038	8	14	2010	1	26	NA		

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33R417RM	10	17	2017	10	17	2037	10	16	2017	6	21	NA		
33R511RM	10	22	2021	10	22	2041	10	21	2021	7	15	NA		
33R333RM	7	3	2014	7	3	2024	7	2	2013	12	20	NA		
PGEVOLTA2			1950	1	1	2099	12	31				NA		
PGEVOLTA1			1950	1	1	2099	12	31				NA		
40S019	7	29	2021	10	1	2031	9	30	2020	5	12	NA		
40S013 VISTRA_5_DALBT3	4	6	2021	6	1	2041	5	31	2018	6	6	NA		
40S013 VISTRA_5_DALBT2	4	6	2021	6	1	2041	5	31	2018	6	6	NA		
40S013 VISTRA_5_DALBT1	4	6	2021	6	1	2041	5	31	2018	6	6	NA		
33R279	5	20	2015	6	30	2035	6	29	2012	9	17	NA		
25C246	1	31	1989	1	31	2060	12	31	1988	9	1	NA		
PGEVACADIXON			2009	12	22	2099	12	21				NA		
33R151	2	10	2012	3	13	2037	3	12	2010	12	17	NA		
01C061	5	21	1987	5	21	2060	12	31	1986	12	24	NA		
33R470BIO	[redacted]								2019	5	8	NA		
24B001FHP	4	1	2015	4	1	2025	2	28	2015	3	13	NA		
33R302AB	4	7	2016	4	7	2036	4	6	2013	6	20	NA		
33R415RM	12	23	2019	12	23	2039	12	22	2017	5	18	NA		
33R164AB	11	28	2012	11	28	2032	11	27	2011	7	15	NA		
33R509RM	10	8	2021	10	8	2041	10	7	2021	7	2	NA		
33R392	12	27	2018	2	9	2035	2	8	2015	12	18	NA		
33R056	2	22	2014	10	27	2039	10	26	2008	7	1	NA		
PGETOADTOWN			1950	1	1	2099	12	31				NA		
33R233AB	3	6	2014	3	6	2034	3	5	2011	10	11	NA		
PGETIGERCREEK			1950	1	1	2099	12	31				NA		
16H030	2	18	1986	2	18	2060	12	31	1985	1	28	NA		
16H033	2	25	1986	2	25	2060	12	31	1984	10	26	NA		
33R247AB	4	1	2012	4	1	2032	3	31	2012	3	9	NA		
33R248AB	4	1	2012	4	1	2032	3	31	2012	3	9	NA		
33R249AB	4	1	2012	4	1	2032	3	31	2012	3	8	NA		
33R251AB	4	1	2012	4	1	2032	3	31	2012	3	28	NA		
10H007	4	6	1985	4	6	2060	12	31	1984	9	25	NA		
10H059	1	17	1984	1	17	2060	12	31	1983	11	9	NA		
10H090	6	20	1991	6	20	2060	12	31	1991	3	27	NA		
12C085	7	18	1991	7	18	2060	12	31	1991	4	30	NA		
13H120	11	4	1983	11	4	2060	12	31	1985	4	9	NA		
13H130	10	14	1983	10	14	2060	12	31	1985	2	25	NA		
33R402RM	9	30	2016	9	30	2031	9	29	2016	7	27	NA		
25C151QPA2	12	1	2019	12	1	2026	11	30	2019	7	11	NA		
33R132	9	1	2014	9	1	2034	8	31	2010	2	4	NA		
40S030	8	1	2022	8	1	2037	9	30	2021	7	30	NA		
40S031	8	1	2022	8	1	2037	9	30	2021	7	16	NA		
33R387	10	11	2018	12	10	2038	12	9	2015	12	18	NA		
33R386	5	14	2019	7	12	2039	7	11	2015	12	18	NA		
PGEPVUOG_PY1_ST			2011	9	26	2036	9	25				NA		
33R355RM	6	18	2015	6	18	2030	6	17	2014	6	27	NA		
33R357RM	7	19	2016	7	19	2031	7	18	2014	6	27	NA		
33R358RM	8	1	2016	8	1	2031	7	31	2014	6	27	NA		
33R356RM	8	1	2016	8	1	2031	7	31	2014	6	27	NA		
01C202QAA	8	1	2014	8	1	2026	7	31	2013	11	22	NA		
PGESTANISLAUS			1950	1	1	2099	12	31				NA		
02C041	3	10	1987	3	10	2060	12	31	1986	11	7	NA		
PGETULE			1950	1	1	2099	12	31				NA		
PGESPRINGGAP			1950	1	1	2099	12	31				NA		
33R254 SPQUIN_6_SRPCQU	9	8	2015	9	9	2035	9	8	2012	8	9	NA		
33R254 SPIFBD_1_PL1X2	9	8	2015	9	9	2035	9	8	2012	8	9	NA		
33R254 SPIAND_1_ANDSN2	9	8	2015	9	9	2035	9	8	2012	8	9	NA		
33R254 SPI LI_2_UNIT 1	9	8	2015	9	9	2035	9	8	2012	8	9	NA		
33R254 SPBURN_2_UNIT 1	9	8	2015	9	9	2035	9	8	2012	8	9	NA		
PGESPAULDING1			1950	1	1	2099	12	31				NA		
PGESPAULDING3			1950	1	1	2099	12	31				NA		
PGESOUTH			1950	1	1	2099	12	31				NA		
33R389	12	28	2018	3	12	2038	3	11	2015	12	18	NA		
33R272	4	14	2015	5	15	2035	5	14	2012	8	30	NA		
40S040	[redacted]								2021	12	28	NA		
33R053AB	9	13	2010	9	13	2025	9	12	2008	8	6	NA		
40S008	[redacted]								2017	11	8	NA		
33R364	6	23	2017	8	25	2037	8	24	2014	10	21	NA		
PGEPVUOG_PY1_WS			2011	8	31	2036	8	30				NA		
33R434BIO	6	10	2019	6	10	2039	6	9	2018	6	12	NA		
PGEPVUOG_PY1_FP			2011	9	24	2036	9	23				NA		
33R416BIO	7	21	2019	7	21	2039	7	20	2017	6	12	NA		
33R185AB	7	21	2013	7	21	2033	7	20	2011	8	31	NA		
33R089-AR	12	4	2014	12	4	2039	12	3	2011	7	15	NA		
PGESALTSPRINGS1			1950	1	1	2099	12	31				NA		
33R338RM	5	28	2015	5	28	2035	5	27	2013	12	20	NA		
33R322	8	7	2015	8	7	2035	8	6	2013	10	25	NA		
33R253 ROLLIN_6_UNIT	7	1	2013	7	1	2033	6	30	2012	5	9	NA		
33R409RM	8	15	2017	8	15	2037	8	14	2017	3	8	NA		
15H012	12	23	1985	12	23	2060	12	31	1985	6	4	NA		
15H068	2	13	1986	2	13	2060	12	31	1983	9	26	NA		
15H069	12	23	1985	12	23	2060	12	31	1981	10	27	NA		
15H072	11	22	1985	11	22	2060	12	31	1985	7	2	NA		
33R046AB	8	15	2008	8	15	2028	8	14	2008	6	2	NA		
33R171AB	6	17	2014	6	17	2034	6	16	2011	8	17	NA		
PGEROCKCREEK RCKCRK_7_UNIT 2			1950	1	1	2099	12	31				NA		
PGEROCKCREEKRPS RCKCRK_7_UNIT 2			2013	4	30	2099	12	31				NA		
PGEROCKCREEK RCKCRK_7_UNIT 1			1950	1	1	2099	12	31				NA		
PGEROCKCREEKRPS RCKCRK_7_UNIT 1			2013	4	30	2099	12	31				NA		
33R04S	12	26	2009	1	5	2024	1	4	2008	5	28	NA		
33R339RM	12	23	2014	12	23	2034	12	22	2013	12	20	NA		
08C071	9	1	1987	9	1	2060	12	31	1987	2	20	NA		
33R139AB	4	19	2011	4	19	2026	4	18	2010	3	1	NA		
PGEPOTTER			1950	1	1	2099	12	31				NA		
PGEPOW POEPH_7_UNIT 2			1950	1	1	2099	12	31				NA		
PGEPOW POEPH_7_UNIT 1			1950	1	1	2099	12	31				NA		
33B074	5	1	2009	5	1	2024	4	30	2006	4	3	NA		
33B076	6	1	2009	6	1	2029	5	31	2006	3	28	NA		
33R24S	11	14	2015	2	17	2035	2	16	2012	2	27	NA		
33R373RM	3	30	2017	3	30	2037	3	29	2015	3	11	NA		
PGEPIT7 PIT7_7_UNIT 2			1950	1	1	2099	12	31				NA		
PGEPIT7 PIT7_7_UNIT 1			1950	1	1	2099	12	31				NA		
PGEPIT7 PIT6_7_UNIT 2			1950	1	1	2099	12	31				NA		
PGEPIT6			1950	1	1	2099	12	31				NA		
33R408RM	1	14	2019	1	14	2039	1	13	2017	1	31	NA		

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PGEPIT5 PIT5_7_PL3X4			1950	1	1	2099	12	31				NA		
PGEPIT5 PIT5_7_PL1X2			1950	1	1	2099	12	31				NA		
PGEPIT4			1950	1	1	2099	12	31				NA		
PGEPIT3			1950	1	1	2099	12	31				NA		
PGEPIT1 PIT1_7_UNIT 2			1950	1	1	2099	12	31				NA		
PGEPIT1 PIT1_7_UNIT 1			1950	1	1	2099	12	31				NA		
33R206AB	3	5	2014	3	5	2034	3	4	2011	9	26	NA		
PGEPHOENIX			1950	1	1	2099	12	31				NA		
33R165AB	12	31	2013	12	31	2033	12	30	2011	7	15	NA		
33R133	4	13	2016	4	13	2041	4	12	2010	2	2	NA		
33R083	10	4	2010	10	4	2025	10	3	2009	8	17	NA		
33W001	1	1	1992	1	1	2060	12	31	1991	10	4	NA		
33R375	3	13	2017	5	2	2037	5	1	2015	3	23	NA		
33R391	4	16	2018	8	24	2038	8	23	2015	12	18	NA		
33R366	1	26	2017	3	10	2037	3	9	2014	11	12	NA		
33R363	1	26	2017	2	24	2037	2	23	2014	11	12	NA		
33R350RM	3	23	2016	3	23	2036	3	22	2014	4	29	NA		
13H024QPA	1	1	2020	1	1	2026	12	31	2019	12	17	NA		
33R274	10	2	2014	10	2	2034	10	1	2012	9	17	NA		
33R122	6	27	2013	6	27	2038	6	26	2010	1	26	NA		
33R288	12	30	2015	2	9	2035	2	8	2013	4	10	NA		
33R423BIO	2	13	2018	2	13	2038	2	12	2017	11	6	NA		
33R424BIO	2	13	2018	2	13	2038	2	12	2017	11	6	NA		
33R283	3	10	2014	3	10	2029	3	9	2012	12	19	NA		
PGENEWCASTLE			1950	1	1	2099	12	31				NA		
01C201	2	2	1988	2	2	2060	12	31	1988	4	20	NA		
33R078	1	11	2013	1	18	2033	1	17	2010	4	21	NA		
33R047AB	5	22	2009	5	22	2029	5	21	2008	6	2	NA		
33R076AB	6	17	2011	6	17	2026	6	16	2009	5	27	NA		
33R107AB	6	24	2010	6	24	2030	6	23	2009	12	24	NA		
33R127AB	1	17	2012	1	17	2032	1	16	2010	1	26	NA		
33R135	12	19	2012	12	19	2032	12	18	2010	2	19	NA		
33R136	5	12	2014	5	12	2034	5	11	2010	2	19	NA		
33R137	5	12	2014	5	12	2034	5	11	2010	2	19	NA		
33R169AB	11	22	2011	11	22	2031	11	21	2011	8	17	NA		
33R177AB	2	7	2014	2	7	2034	2	6	2011	8	17	NA		
33R178AB	7	12	2013	7	12	2033	7	11	2011	8	17	NA		
33R180AB	6	27	2014	6	27	2034	6	26	2011	8	17	NA		
33R187AB	2	10	2014	2	10	2034	2	9	2011	8	31	NA		
33R188AB	10	2	2013	10	2	2033	10	1	2011	8	31	NA		
33R190AB	3	3	2014	3	3	2034	3	2	2011	8	31	NA		
33R191AB	6	27	2014	6	27	2034	6	26	2011	8	31	NA		
33R195AB	3	3	2014	3	3	2034	3	2	2011	8	31	NA		
33R197AB	1	1	2014	1	1	2033	12	31	2011	8	31	NA		
33R198AB	3	6	2014	3	6	2034	3	5	2011	8	31	NA		
33R202AB	3	3	2014	3	3	2034	3	2	2011	8	31	NA		
33R204AB	2	20	2014	2	20	2034	2	19	2011	8	31	NA		
33R216AB	12	30	2013	12	30	2033	12	29	2011	10	11	NA		
33R294AB	1	14	2015	1	14	2035	1	13	2013	4	24	NA		
33R300AB	10	22	2015	10	22	2035	10	21	2013	4	24	NA		
33R301AB	9	25	2015	9	25	2035	9	24	2013	6	20	NA		
33R304AB	2	3	2016	2	3	2036	2	2	2013	7	22	NA		
33R316AB	12	19	2016	12	19	2036	12	18	2013	8	1	NA		
33R318AB	2	11	2016	2	11	2036	2	10	2013	8	1	NA		
33R334RM	4	17	2015	4	17	2030	4	16	2013	12	20	NA		
33R353RM	12	19	2016	12	19	2036	12	18	2014	6	27	NA		
33R378RM	11	11	2015	11	11	2035	11	10	2015	7	2	NA		
33R407RM	3	14	2017	3	14	2027	3	13	2017	1	9	NA		
33R082	2	21	2012	2	21	2027	2	20	2010	3	8	NA		
33R144	12	13	2013	3	8	2033	3	7	2010	7	29	NA		
33R292	12	2	2016	3	1	2036	2	29	2013	4	10	NA		
33R148	6	19	2015	6	19	2035	6	18	2010	9	20	NA		
08C097	10	6	1989	10	6	2060	12	31	1989	12	18	NA		
02C047	9	9	1987	9	9	2060	12	31	1987	9	4	NA		
02C048	3	23	1988	3	23	2060	12	31	1988	2	8	NA		
02C058	6	1	1992	6	1	2060	12	31	1995	3	15	NA		
33R343	3	14	2020	6	1	2040	5	31	2013	12	19	NA		
33R282AB	5	12	2015	5	12	2035	5	11	2012	11	21	NA		
33R285AB	5	23	2015	5	23	2035	5	22	2013	1	7	NA		
33R032-AR	4	30	2010	4	30	2030	4	29	2014	6	17	NA		
33R510RM	10	4	2021	10	4	2041	10	3	2021	7	2	NA		
33R207AB	3	5	2014	3	5	2034	3	4	2011	9	26	NA		
33R390	12	28	2018	3	12	2038	3	11	2015	12	18	NA		
13H047	12	7	1988	12	7	2028	12	6	1984	12	4	NA		
33R382	12	26	2018	5	25	2038	5	24	2015	12	18	NA		
33R388	12	27	2018	3	12	2038	3	11	2015	12	18	NA		
33R403RM	5	15	2017	5	15	2037	5	14	2016	10	24	NA		
33R347RM	1	1	2015	1	1	2034	12	31	2014	2	28	NA		
33R232AB	3	14	2014	3	14	2034	3	13	2011	10	11	NA		
33R184AB	2	5	2014	2	5	2034	2	4	2011	8	31	NA		
33R201AB	12	2	2014	12	2	2034	12	1	2011	8	31	NA		
33R256	1	1	2019	1	1	2043	12	31	2012	8	13	NA		
33R255	12	26	2018	1	1	2037	12	31	2012	8	13	NA		
40S024	7	15	2022	9	1	2037	8	31	2020	12	10	NA		
33R324	12	23	2016	2	25	2036	2	24	2013	10	25	NA		
33R396	1	30	2018	2	8	2038	2	7	2016	1	7	NA		
33R267	12	29	2015	2	19	2035	2	18	2012	8	30	NA		
33R215AB	12	30	2013	12	30	2033	12	29	2011	10	11	NA		
33R214AB	12	30	2013	12	30	2033	12	29	2011	10	11	NA		
PGEKINGSRIVER			1950	1	1	2099	12	31				NA		
PGEKILARC			1950	1	1	2099	12	31				NA		
25C049QAA2	10	1	2019	10	1	2026	9	30	2019	5	23	NA		
33R296AB	10	20	2015	10	20	2035	10	19	2013	4	24	NA		
33R295AB	10	20	2015	10	20	2035	10	19	2013	4	24	NA		
PGEKERCKHOFF2			1950	1	1	2099	12	31				NA		
PGEKERCKHOFF1 KERKH1_7_UNIT 3			1950	1	1	2099	12	31				NA		
PGEKERCKHOFF1 KERKH1_7_UNIT 1			1950	1	1	2099	12	31				NA		
33R323	6	1	2015	6	1	2035	5	31	2013	10	25	NA		
33R160	6	7	2013	6	25	2033	6	24	2011	6	24	NA		
33R161	2	14	2014	5	1	2034	4	30	2011	6	24	NA		
33R163	12	21	2012	12	21	2037	12	20	2011	7	15	NA		
40S029									2021	7	30	NA		
33R064	1	15	2014	1	27	2039	1	26	2009	4	28	NA		
33R063	1	10	2014	1	21	2039	1	20	2009	4	28	NA		
PGEINSKIP			1950	1	1	2099	12	31				NA		

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04C130	8	15	1985	8	15	2060	12	31	1985	10	17	NA		
04H134	5	1	1987	5	1	2060	12	31	1986	12	16	NA		
04S142	4	16	1993	4	16	2060	12	31	1993	6	2	NA		
PGEPVUOG_PY2_HU			2012	6	28	2037	6	27				NA		
PGEHUMBOLDT HUMBPP_6_UNITS			2010	9	1	2040	9	30				NA		
PGEHUMBOLDT HUMBPP_1_UNITS3			2010	9	1	2040	9	30				NA		
33R281AB	4	17	2015	4	17	2035	4	16	2012	10	25	NA		
33R210AB	6	16	2014	6	16	2034	6	15	2011	9	26	NA		
PGEHAMILTON			1950	1	1	2099	12	31				NA		
33R077AB	10	6	2009	10	6	2024	10	5	2009	5	28	NA		
33R259	10	1	2016	10	1	2036	9	30	2012	8	16	NA		
33R307AB	2	1	2016	2	1	2036	1	31	2013	8	1	NA		
PGEHELMSGEN1 HELMPG_7_UNIT 3			1899	12	30	2099	12	31				NA		
PGEHELMSGEN1 HELMPG_7_UNIT 2			1899	12	30	2099	12	31				NA		
PGEHELMSGEN1 HELMPG_7_UNIT 1			1899	12	30	2099	12	31				NA		
33R058-AR	12	14	2010	12	14	2025	12	13	2017	8	23	NA		
PGEHAT2			1950	1	1	2099	12	31				NA		
PGEHAT1			1950	1	1	2099	12	31				NA		
33R428IO	6	22	2020	6	22	2040	6	21	2018	6	12	NA		
PGEHALSEY			1950	1	1	2099	12	31				NA		
PGEHAAS			1950	1	1	2099	12	31				NA		
33R438IO	7	1	2019	7	1	2039	6	30	2018	6	12	NA		
PGEPVUOG_PY3_GU			2013	9	18	2038	9	17				NA		
33R439IO	7	1	2019	7	1	2039	6	30	2018	6	12	NA		
01C084QAA	8	1	2017	8	1	2024	7	31	2017	7	24	NA		
33R100	1	1	2010	6	23	2030	6	22	2010	5	4	NA		
33R362	2	14	2017	4	21	2037	4	20	2014	10	21	NA		
33R376	9	26	2017	10	27	2037	10	26	2015	3	23	NA		
PGEPVUOG_PY2_GI			2012	7	2	2037	7	1				NA		
33R090	11	30	2014	3	7	2039	3	6	2009	9	28	NA		
PGEGATEWAY			2009	1	1	2039	1	31				NA		
40S020	7	29	2021	10	1	2036	9	30	2020	5	12	NA		
PGEPVUOG_PY3_WG			2013	6	24	2038	6	23				NA		
PGEPVUOG_PY3_GA			2013	6	24	2038	6	23				NA		
33R422BIO	2	13	2018	2	13	2038	2	12	2017	11	6	NA		
04C140	8	27	1992	8	27	2060	12	31	1992	8	19	NA		
33R335RM	4	15	2015	4	15	2030	4	14	2013	12	20	NA		
33R336RM	3	19	2014	3	19	2034	3	18	2013	12	20	NA		
19H05S	11	22	1982	11	22	2060	12	31	1982	4	9	NA		
33R108-AR	11	1	2011	11	1	2031	10	31	2010	9	22	NA		
33R513RM	12	1	2021	12	1	2041	11	30	2021	9	17	NA		
33R418RM	8	22	2017	8	22	2037	8	21	2017	7	21	NA		
25C063QPA2	11	1	2019	11	1	2026	10	31	2019	10	30	NA		
33R374	12	1	2016	12	1	2036	11	30	2015	3	23	NA		
33R329	7	1	2016	7	1	2031	6	30	2013	12	16	NA		
25C293	9	2	1988	9	2	2060	12	31	1988	4	29	NA		
33R008	6	27	1994	12	30	2060	12	31	1994	1	18	NA		
33R016	2	21	2009	2	21	2031	2	7	2005	9	26	NA		
PGEMOSSLANDING			2022	4	7	2050	12	31				NA		
PGEELECTRA			1950	1	1	2099	12	31				NA		
33R174AB	4	30	2015	4	30	2035	4	29	2011	8	17	NA		
33R253 DUTCH2_7_UNIT 1	7	1	2013	7	1	2033	6	30	2012	5	9	NA		
PGEDUTCHFLAT1			1950	1	1	2099	12	31				NA		
33R138	12	28	2014	12	17	2039	12	16	2010	2	24	NA		
PGEDESABLA			1950	1	1	2099	12	31				NA		
PGEDRUM2			1950	1	1	2099	12	31				NA		
PGEDRUM1 DRUM_7_PL3X4			1950	1	1	2099	12	31				NA		
PGEDRUM1 DRUM_7_PL1X2			1950	1	1	2099	12	31				NA		
40S021	8	12	2021	10	1	2036	9	30	2020	5	13	NA		
33R405BIO	12	7	2016	12	7	2026	12	6	2016	11	4	NA		
25C248	6	13	1988	6	13	2060	12	31	1987	8	6	NA		
PGEDIABLO2			1899	12	30	2025	8	26				NA		
PGEDIABLO1			1899	12	30	2024	11	2				NA		
33R261AB	8	5	2013	8	5	2033	8	4	2012	8	20	NA		
33R260AB	7	1	2013	7	1	2033	6	30	2012	8	20	NA		
33R440BIO	1	11	2019	1	11	2039	1	10	2018	6	12	NA		
33R401RM	1	5	2018	1	5	2038	1	4	2016	4	22	NA		
33R459BIO	10	1	2021	10	1	2036	9	30	2018	10	22	NA		
33R257	1	1	2019	1	1	2043	12	31	2012	8	13	NA		
33R27B	10	21	2015	12	14	2035	12	13	2012	9	17	NA		
13H123	12	9	1982	12	9	2060	12	31	1982	12	3	NA		
18C001	8	26	1988	8	26	2060	12	31	1985	7	8	NA		
33R337RM	7	7	2014	7	7	2024	7	6	2013	12	20	NA		
01C045	12	20	1996	5	27	2026	5	26	1983	12	12	NA		
PGESANJOAQU3			1950	1	1	2099	12	31				NA		
PGESANJOAQU2			1950	1	1	2099	12	31				NA		
PGECRANEVALLEY			1950	1	1	2099	12	31				NA		
33R50S	[redacted]								2021	5	4	NA		
PGECRESTA			1950	1	1	2099	12	31				NA		
PGECOWCREEK			1950	1	1	2099	12	31				NA		
33R280	1	20	2015	3	20	2035	3	19	2012	9	17	NA		
33R079	5	27	2011	2	1	2031	1	31	2009	6	22	NA		
33R060	1	1	2009	1	1	2028	12	31	2008	12	19	NA		
33R166	7	6	2015	5	13	2040	5	12	2011	7	26	NA		
33R243	4	1	2013	4	1	2033	3	31	2012	2	27	NA		
33R275	12	26	2013	12	26	2033	12	25	2012	9	17	NA		
PGECOLUSA			2010	12	1	2040	12	31				NA		
33R481BIO	8	30	2021	8	30	2041	8	29	2020	2	6	NA		
PGECOLEMAN			1950	1	1	2099	12	31				NA		
33R099	2	21	2014	2	21	2039	2	20	2009	12	8	NA		
33R205AB	6	12	2013	6	12	2033	6	11	2011	9	26	NA		
PGECENTERVILLE			1950	1	1	2099	12	31				NA		
01C199	7	6	1989	7	6	2060	12	31	1989	7	6	NA		
01C245	2	6	1991	2	6	2060	12	31	1991	7	12	NA		
PGELIMESADL			1950	1	1	2099	12	31				NA		
33R237AB	6	26	2014	6	26	2034	6	25	2011	12	23	NA		
33R017	12	12	2008	12	12	2031	2	7	2005	9	26	NA		
33R500BIO	[redacted]								2021	3	16	NA		
33B110	7	1	2013	7	1	2033	6	30	2012	5	9	NA		
25C003	10	15	1982	10	15	2060	12	31	1982	7	22	NA		
25C249	6	3	1988	6	3	2060	12	31	1987	10	15	NA		
25C055	11	7	1986	11	7	2060	12	31	1986	10	23	NA		
25C002	7	26	1982	7	26	2060	12	31	1982	7	22	NA		
33R342RM	4	1	2015	4	1	2025	3	31	2013	12	20	NA		
33R052	9	19	2013	10	31	2038	10	30	2008	7	23	NA		

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33R088	12	31	2013	10	1	2038	9	30	2010	3	6	NA		
33R502	[redacted]								2021	3	16	NA		
PGECARIBOU1 CARBOU_7_UNIT 1			1950	1	1	2099	12	31				NA		
PGECARIBOU2			1950	1	1	2099	12	31				NA		
PGECARIBOU1 CARBOU_7_PL2X3			1950	1	1	2099	12	31				NA		
PGEPVUOG_PY2_CA			2012	6	26	2037	6	25				NA		
33R487BIO	[redacted]								2020	8	26	NA		
33R344	3	5	2019	4	10	2034	4	9	2013	12	30	NA		
PGEBUTTVAL			1950	1	1	2099	12	31				NA		
33R483	11	1	2022	11	1	[redacted]			2020	5	12	NA		
PGEBUCKSCREEK			1950	1	1	2099	12	31				NA		
PGEOAKFLAT			1950	1	1	2099	12	31				NA		
33R377RM	6	9	2016	6	9	2036	6	8	2015	7	2	NA		
33R142	3	29	2012	6	6	2032	6	5	2010	6	2	NA		
33R167	12	21	2013	1	28	2038	1	27	2011	7	28	NA		
33R145	12	23	2012	3	9	2032	3	8	2010	7	27	NA		
33R033-AR	2	1	2009	2	1	2029	1	31	2018	1	9	NA		
33R013-AR	1	28	2011	1	28	2036	1	27	2010	6	3	NA		
33R152	2	16	2012	3	14	2037	3	13	2010	12	17	NA		
33R341RM	11	6	2014	11	6	2034	11	5	2013	12	20	NA		
33R253 BOWMN_6_HYDRO	7	1	2013	7	1	2033	6	30	2012	5	9	NA		
PGEALTA			1950	1	1	2099	12	31				NA		
40S018	2	28	2022	4	1	2037	3	31	2020	5	12	NA		
40S011	3	17	2022	5	1	2032	4	30	2017	11	8	NA		
40S015	12	23	2022	5	1	2037	4	30	2020	5	12	NA		
40S016	2	11	2022	5	1	2037	4	30	2020	5	12	NA		
40S017	12	23	2022	5	1	2037	4	30	2020	5	12	NA		
33R258	1	1	2019	1	1	2043	12	31	2012	8	20	NA		
PGEJBBLACK BLACK_7_UNIT 2			1950	1	1	2099	12	31				NA		
PGEJBBLACK BLACK_7_UNIT 1			1950	1	1	2099	12	31				NA		
33R315AB	7	28	2015	7	28	2035	7	27	2013	8	1	NA		
33R493	9	1	2021	9	2	2026	9	1	2020	10	21	NA		
33R385	12	20	2018	1	23	2038	1	22	2015	12	17	NA		
33R384	12	20	2018	1	23	2038	1	22	2015	12	18	NA		
33R383	12	20	2018	1	23	2038	1	22	2015	12	18	NA		
40S027	9	2	2022	11	1	[redacted]			2020	12	10	NA		
PGEBELDEN			1950	1	1	2099	12	31				NA		
PGEBALCH2 BALCHS_7_UNIT 3			1950	1	1	2099	12	31				NA		
PGEBALCH2 BALCHS_7_UNIT 2			1950	1	1	2099	12	31				NA		
PGEBALCH1			1950	1	1	2099	12	31				NA		
33R073	4	1	2014	11	21	2039	11	20	2009	5	8	NA		
33R124	8	5	2011	8	5	2031	8	4	2009	12	24	NA		
33R125	8	5	2011	8	5	2031	8	4	2009	12	24	NA		
33R368	1	26	2017	3	10	2037	3	9	2014	11	12	NA		
33R365	1	26	2017	3	10	2037	3	9	2014	11	12	NA		
33R123	8	5	2011	8	5	2031	8	4	2009	12	24	NA		
33R120	3	8	2013	3	12	2038	3	11	2010	1	26	NA		
33R330	12	23	2019	1	3	2034	1	2	2013	12	16	NA		
33R162	4	14	2014	6	26	2034	6	25	2011	6	24	NA		
33R118	3	8	2013	3	8	2038	3	7	2010	1	26	NA		
33R119	3	8	2013	3	8	2038	3	7	2010	1	26	NA		
33R340RM	12	3	2014	12	3	2034	12	2	2013	12	20	NA		
33R084	1	19	2014	6	23	2039	6	22	2009	9	8	NA		
33R244	11	13	2015	2	9	2035	2	8	2012	2	27	NA		
33R291	6	3	2015	7	16	2035	7	15	2013	4	10	NA		
GENVAMO_Solar			2023	1	1	[redacted]			2035			NA		
GENVAMO_Wind			2023	1	1				2035			NA		
GENVAMO_Biomass			2023	1	1				2035			NA		
GENVAMO_Biogas			2023	1	1				2035			NA		
GENVAMO_Geothermal			2023	1	1				2035			NA		
GENVAMO_SmallHydro			2023	1	1				2035			NA		
ModCAM_Storage_2024			2024	1	1							NA		
ModCAM_Storage_2032			2032	1	1							NA		
CAM_NaturalGas_2024			2024	1	1							NA		
CAM_NaturalGas_2025			2025	1	1							NA		
CAM_NaturalGas_2026			2026	1	1							NA		
CAM _Import_2024			2022	6	1	2024	9	30				NA		
Cam_Battery_Existing_2024			2024	1	1	[redacted]						NA		
Cam_Battery_Existing_2025			2025	1	1							NA		
CAM_Battery_Programatic_2026	[redacted]											NA		
CAM_Battery_Programatic_2028												NA		
GENPCIAGHGFREESALES_LargeHydro			2024	1	1							NA		
Imported_Hydro			2024	1	1									
Shed_DR			2024	1	1									

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33B013U02															YES
33R520RM															YES
40S026			3												YES
33R494															YES
33R488															YES
40S038			NA												YES
33R436BIO	31	[redacted]													YES
40S034	30		NA												YES
33R512BIO															YES
40S039			NA												YES
40S009	14	[redacted]													YES
40S036	30		NA												YES
40S022			3												YES
40S023			3												YES
33R514BIO	4	[redacted]													YES
33R495															YES
33R499															YES
33R490															YES
33R437BIO															YES
33R491															YES
40S014		[redacted]													YES
33R522	4														YES
33R393															YES
33R492															YES
33R524															YES
40S035	30	[redacted]	NA												YES
40S032	30		NA												YES
33R503															YES
40S037			NA												YES
40S025			3												YES
33R433BIO															YES
33R504															YES
40S033			NA												YES
40S028			NA												YES
33R419															YES
33R420															YES
33R421															YES
33R489															YES
33R523															YES
CPE00001R															YES
CPE00002R															YES
CPE00003R															YES
CPE00004R															YES
CPE00005R															YES
CPE00006R															YES
CPE00007R															YES
CPE00008R															YES
CPE00009R															YES
CPE00010R															YES
CPE00011R															YES
FIT_Baseload															
FIT_Non-Peaking_AA_SmallHydro															
FIT_Non-Peaking_AA_Wind															
FIT_Peaking_AA															
FIT_SB1122_Cat1															
FIT_SB1122_Cat2_Ag															
FIT_SB1122_Cat2_Dairy															
FIT_SB1122_Cat3															
GENCPELOCALTHERMAL															
GENGTSRSOLARPV															
GENIRPBPOTSOLAR_Arizona															
GENIRPBPOTSolar_Imperial															
GENIRPBPOTSOLAR_Kramer															
GENIRPBPOTSOLAR_Riverside															
GENIRPBPOTSOLAR_Tehachapi															
GENIRPBPOTSTORAGE-31															
GENIRPBPOTSTORAGE-32															
GENIRPBPOTSTORAGE-33															
GENIRPBPOTSTORAGE-34															
GENIRPBPOTSTORAGE-35															
GENIRPBPOTWIND_Baja															
GENIRPBPOTWIND_Carrizo															
GENIRPBPOTWIND_CValley															
GENIRPBPOTWIND_Humboldt															
GENIRPBPOTWIND_Humboldt_Bay_Offshore															
GENIRPBPOTWIND_Kern_Greater_Carrizo															
GENIRPBPOTWIND_Morro															
GENIRPBPOTWIND_New_Mexico															
GENIRPBPOTWIND_NoCal															
GENIRPBPOTWIND_Solano															
GENIRPBPOTWIND_Southern_Nevada															
GENIRPBPOTWIND_SWExisting															
GENIRPBPOTWIND_Tehachapi															
GENIRPBPOTWIND_WY															
GENIRPMTRBIOMASS															
GENIRPMTRGEOTHERMAL															
GENIRPMTRLDSTORAGE															
GENIRPMTRLDSTORAGE_2															
GENIRPMTRSOLAR															
GENIRPMTRSTORAGE-24															
GENIRPMTRSTORAGE-25															
GENIRPPSPSTORAGE-CPE															
GENIRPPSPSTORAGE-LSE															
IDWAMONTICELLO															
PGESALTSPRINGS2															
PGESANJOAQU1															
PGESPAULDING2															
33R484															YES
PGEWISHON															
PGEWISE2															
PGEWISE1															
33R479BIO															YES
33R154AB															YES
PGEWESTPOINT															
33R121															YES

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33R417RM															YES
33R511RM															YES
33R333RM															YES
PGEVOLTA2															
PGEVOLTA1															
40S019			1												YES
40S013 VISTRA_5_DALBT3															YES
40S013 VISTRA_5_DALBT2															YES
40S013 VISTRA_5_DALBT1															YES
33R279															YES
25C246															YES
PGEVACADIXON															
33R151															YES
01C061															YES
33R470BIO															YES
24B001FHP															YES
33R302AB															YES
33R415RM															YES
33R164AB															YES
33R509RM															YES
33R392															YES
33R056															YES
PGETOADTOWN															
33R233AB															YES
PGETIGERCREEK															
16H030															YES
16H033															YES
33R247AB															YES
33R248AB															YES
33R249AB															YES
33R251AB															YES
10H007															YES
10H059															YES
10H090															YES
12C085															YES
13H120															YES
13H130															YES
33R402RM															YES
25C151QPA2															YES
33R132															YES
40S030			NA												YES
40S031			NA												YES
33R387															YES
33R386															YES
PGEPVUOG_PY1_ST															
33R355RM															YES
33R357RM															YES
33R358RM															YES
33R356RM															YES
01C202QAA															YES
PGESTANISLAUS															
02C041															YES
PGETULE															
PGESPRINGGAP															
33R254 SPQUIN_6_SRPCQU															YES
33R254 SPIFBD_1_PL1X2															YES
33R254 SPIAND_1_ANDSN2															YES
33R254 SPI LI_2_UNIT 1															YES
33R254 SPBURN_2_UNIT 1															YES
PGESPAULDING1															
PGESPAULDING3															
PGESOUTH															
33R389															YES
33R272															YES
40S040			NA												YES
33R053AB															YES
40S008															YES
33R364															YES
PGEPVUOG_PY1_WS															
33R434BIO															YES
PGEPVUOG_PY1_FP															
33R416BIO															YES
33R185AB															YES
33R089-AR															YES
PGESALTSPRINGS1															
33R338RM															YES
33R322															YES
33R253 ROLLIN_6_UNIT															YES
33R409RM															YES
15H012															YES
15H068															YES
15H069															YES
15H072															YES
33R046AB															YES
33R171AB															YES
PGEROCKCREEK RCKCRK_7_UNIT 2															
PGEROCKCREEKRPS RCKCRK_7_UNIT 2															
PGEROCKCREEK RCKCRK_7_UNIT 1															
PGEROCKCREEKRPS RCKCRK_7_UNIT 1															
33R045															YES
33R339RM															YES
08C071															YES
33R139AB															YES
PGEPOTTER															
PGEPOW POEPH_7_UNIT 2															
PGEPOW POEPH_7_UNIT 1															
33B074															YES
33B076															YES
33R245															YES
33R373RM															YES
PGEPIT7 PIT7_7_UNIT 2															
PGEPIT7 PIT7_7_UNIT 1															
PGEPIT7 PIT6_7_UNIT 2															
PGEPIT6															
33R408RM															YES

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PGEPIT5 PIT5_7_PL3X4															
PGEPIT5 PIT5_7_PL1X2															
PGEPIT4															
PGEPIT3															
PGEPIT1 PIT1_7_UNIT 2															
PGEPIT1 PIT1_7_UNIT 1															
33R206AB															YES
PGEPHOENIX															
33R165AB															YES
33R133															YES
33R083															YES
33W001															YES
33R375															YES
33R391															YES
33R366															YES
33R363															YES
33R350RM															YES
13H024QPA															YES
33R274															YES
33R122															YES
33R288															YES
33R423BIO															YES
33R424BIO															YES
33R283															YES
PGENEWCASTLE															
01C201															YES
33R078															YES
33R047AB															YES
33R076AB															YES
33R107AB															YES
33R127AB															YES
33R135															YES
33R136															YES
33R137															YES
33R169AB															YES
33R177AB															YES
33R178AB															YES
33R180AB															YES
33R187AB															YES
33R188AB															YES
33R190AB															YES
33R191AB															YES
33R195AB															YES
33R197AB															YES
33R198AB															YES
33R202AB															YES
33R204AB															YES
33R216AB															YES
33R294AB															YES
33R300AB															YES
33R301AB															YES
33R304AB															YES
33R316AB															YES
33R318AB															YES
33R334RM															YES
33R353RM															YES
33R378RM															YES
33R407RM															YES
33R082															YES
33R144															YES
33R292															YES
33R148															YES
08C097															YES
02C047															YES
02C048															YES
02C058															YES
33R343															YES
33R282AB															YES
33R285AB															YES
33R032-AR															YES
33R510RM															YES
33R207AB															YES
33R390															YES
13H047															YES
33R382															YES
33R388															YES
33R403RM															YES
33R347RM															YES
33R232AB															YES
33R184AB															YES
33R201AB															YES
33R256															YES
33R255															YES
40S024			2												YES
33R324															YES
33R396															YES
33R267															YES
33R215AB															YES
33R214AB															YES
PGEKINGSRIVER															
PGEKILARC															
25C049QAA2															YES
33R296AB															YES
33R295AB															YES
PGEKERCKHOFF2															
PGEKERCKHOFF1 KERKH1_7_UNIT 3															
PGEKERCKHOFF1 KERKH1_7_UNIT 1															
33R323															YES
33R160															YES
33R161															YES
33R163															YES
40S029															YES
33R064															YES
33R063															YES
PGEINSKIP															

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04C130															YES
04H134															YES
04S142															YES
PGEPVUOG_PY2_HU															
PGEHUMBOLDT HUMBPP_6_UNITS															
PGEHUMBOLDT HUMBPP_1_UNITS3															
33R281AB															YES
33R210AB															YES
PGEHAMILTON															
33R077AB															YES
33R259															YES
33R307AB															YES
PGEHELMSGEN1 HELMPG_7_UNIT 3															
PGEHELMSGEN1 HELMPG_7_UNIT 2															
PGEHELMSGEN1 HELMPG_7_UNIT 1															
33R058-AR															YES
PGEHAT2															
PGEHAT1															
33R442BIO															YES
PGEHALSEY															
PGEHAAS															
33R438BIO															YES
PGEPVUOG_PY3_GU															
33R439BIO															YES
01C084QAA															YES
33R100															YES
33R362															YES
33R376															YES
PGEPVUOG_PY2_GI															
33R090															YES
PGEGATEWAY															
40S020			1												YES
PGEPVUOG_PY3_WG															
PGEPVUOG_PY3_GA															
33R422BIO															YES
04C140															YES
33R335RM															YES
33R336RM															YES
19H05S															YES
33R108-AR															YES
33R513RM															YES
33R418RM															YES
25C063QPA2															YES
33R374															YES
33R329															YES
25C293															YES
33R008															YES
33R016															YES
PGEMOSSLANDING															
PGEELECTRA															
33R174AB															YES
33R253 DUTCH2_7_UNIT 1															YES
PGEDUTCHFLAT1															
33R138															YES
PGEDESABLA															
PGEDRUM2															
PGEDRUM1 DRUM_7_PL3X4															
PGEDRUM1 DRUM_7_PL1X2															
40S021			1												YES
33R405BIO															YES
25C248															YES
PGEDIABLO2															
PGEDIABLO1															
33R261AB															YES
33R260AB															YES
33R440BIO															YES
33R401RM															YES
33R459BIO															YES
33R257															YES
33R27B															YES
13H123															YES
18C001															YES
33R337RM															YES
01C045															YES
PGESANJOAQU3															
PGESANJOAQU2															
PGECRANEVALLEY															
33R505															YES
PGECRESTA															
PGECOWCREEK															
33R28O															YES
33R079															YES
33R060															YES
33R166															YES
33R243															YES
33R275															YES
PGECOLUSA															
33R481BIO															YES
PGECOLEMAN															
33R099															YES
33R205AB															YES
PGECENTERVILLE															
01C199															YES
01C245															YES
PGELIMESADL															
33R237AB															YES
33R017															YES
33R500BIO															YES
33B110															YES
25C003															YES
25C249															YES
25C055															YES
25C002															YES
33R342RM															YES
33R052															YES

lse_unique_contract_id	tx_upgrade_date_day	tx_upgrade_description	d1911016_tranche	d2106035_procurement_cat	mtr_tranche1_NQC	mtr_tranche2_NQC	mtr_tranche3_NQC	mtr_tranche4_NQC_LDES	mtr_tranche4_NQC_firm_ZE	mtr_NQC_ZE_gen_paired_dr	previous_COD_year	previous_COD_month	previous_COD_day	remediation_plan	signed_contract
33R088															YES
33R502															YES
PGECARIBOU1 CARBOU_7_UNIT 1															
PGECARIBOU2															
PGECARIBOU1 CARBOU_7_PL2X3															
PGEPVUOG_PY2_CA															
33R487BIO															YES
33R344															YES
PGEBUTTVAL															
33R483															YES
PGEBUCKSCREEK															
PGEOAKFLAT															
33R377RM															YES
33R142															YES
33R167															YES
33R145															YES
33R033-AR															YES
33R013-AR															YES
33R152															YES
33R341RM															YES
33R253 BOWMN_6_HYDRO															YES
PGEALTA															
40S018			1&2												YES
40S011															YES
40S015			1												YES
40S016			1												YES
40S017			1												YES
33R258															YES
PGEJBBLACK BLACK_7_UNIT 2															
PGEJBBLACK BLACK_7_UNIT 1															
33R315AB															YES
33R493															YES
33R385															YES
33R384															YES
33R383															YES
40S027			2&3												YES
PGEBELDEN															
PGEBALCH2 BALCHS_7_UNIT 3															
PGEBALCH2 BALCHS_7_UNIT 2															
PGEBALCH1															
33R073															YES
33R124															YES
33R125															YES
33R368															YES
33R365															YES
33R123															YES
33R120															YES
33R330															YES
33R162															YES
33R118															YES
33R119															YES
33R340RM															YES
33R084															YES
33R244															YES
33R291															YES
GENVAMO_Solar															
GENVAMO_Wind															
GENVAMO_Biomass															
GENVAMO_Biogas															
GENVAMO_Geothermal															
GENVAMO_SmallHydro															
ModCAM_Storage_2024															
ModCAM_Storage_2032															
CAM_NaturalGas_2024															
CAM_NaturalGas_2025															
CAM_NaturalGas_2026															
CAM _Import_2024															
Cam_Battery_Existing_2024															
Cam_Battery_Existing_2025															
CAM_Battery_Programatic_2026															
CAM_Battery_Programatic_2028															
GENPCIAGHGFREESALES_LargeHydro															
Imported_Hydro															
Shed_DR															

lse_unique_contract_id	notice_to_proceed	public_contract	buying_energy_capacity	NQC_reporting_source	procurement_origin	csp_resource_category	csp_annual_2024	csp_annual_2026	csp_annual_2030	csp_annual_2035	macro_supertype	notes
33B013U02		YES	EnergyCapacity	In the contract	Adequacy (Import Allocatio	NA						
33R520RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Solar Baseline California (GWh)	5	5	5	5		
40S026	NO	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
33R494		YES	EnergyCapacity	Calculated	GTSR-ECR	Solar Baseline California (GWh)	5	5	4	4		
33R488		YES	EnergyCapacity	Calculated	CS-GT	Solar Baseline California (GWh)	6	6	6	6		
40S038	NO	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
33R436BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	11	19	19	19		
40S034	YES	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
33R512BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	21	20	20	20		
40S039	NO	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
40S009		YES	CapacityOnly	In the contract	D1810009	Battery Storage (MWh Energy Capacity)						
40S036	NO	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
40S022	YES	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
40S023	YES	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
33R514BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	25	25	25	25		
33R495		YES	EnergyCapacity	Calculated	GTSR-ECR	Solar Baseline California (GWh)	5	5	5	5		
33R499		YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	28	28	27	27		
33R490		YES	EnergyCapacity	Calculated	CS-GT	Solar Baseline California (GWh)	5	5	4	4		
33R437BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	17	20	20	20		
33R491		YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	6	6	6	6		
40S014		YES	CapacityOnly	In the contract	energystorage	Battery Storage (MWh Energy Capacity)						
33R522		YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	7	7	7	7		
33R393		YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	37	36	36	36		
33R492		YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	6	6	6	6		
33R524		YES	EnergyCapacity	Calculated	CS-GT	Solar Baseline California (GWh)	8	8	8	8		
40S035	NO	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
40S032	YES	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
33R503		YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	10	12	11	11		
40S037	YES	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
40S025	NO	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
33R433BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	13	12	12	12		
33R504		YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	10	13	12	12		
40S033	YES	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
40S028	YES	YES	CapacityOnly	In the contract	emergencyreliabilty	Battery Storage (MWh Energy Capacity)						
33R419		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	62	62	60	59		
33R420		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	62	62	60	59		
33R421		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	62	62	60	59		
33R489		YES	EnergyCapacity	Calculated	CS-GT	Solar Baseline California (GWh)	5	5	5	5		
33R523		YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	8	8	8	8		
CPE00001R		NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00002R		NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00003R		NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00004R		NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00005R		NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00006R		NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00007R		NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00008R		NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00009R		NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00010R		NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00011R		NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
FIT_Baseload			EnergyCapacity	Calculated		Biomass (GWh)	0	0	206	244		
FIT_Non-Peaking_AA_SmallHydro			EnergyCapacity	Calculated		Small Hydro (GWh)	21	21	21	21		
FIT_Non-Peaking_AA_Wind			EnergyCapacity	Calculated		Wind New PG&E (GWh)	0	0	22	66		
FIT_Peaking_AA			EnergyCapacity	Calculated		Solar New PG&E (GWh)	3	27	81	86		
FIT_SB1122_Cat1			EnergyCapacity	Calculated		Biogas (GWh)	0	52	147	147		
FIT_SB1122_Cat2_Ag			EnergyCapacity	Calculated		Biogas (GWh)	0	20	45	45		
FIT_SB1122_Cat2_Dairy			EnergyCapacity	Calculated		Biogas (GWh)	0	7	15	15		
FIT_SB1122_Cat3			EnergyCapacity	Calculated		Biomass (GWh)	0	3	174	174		
GENCPELOCALTHERMAL			CapacityOnly	Calculated		NA						
GENGTSRSOLARPV			EnergyCapacity	Calculated		Solar New PG&E (GWh)	186	309	299	286		
GENIRPBPOTSOLAR_Arizona			EnergyCapacity	Calculated		Solar New SCE SDG&E (GWh)	0	0	500	473		
GENIRPBPOTSolar_Imperial			EnergyCapacity	Calculated		Solar New SCE SDG&E (GWh)	0	0	0	110		
GENIRPBPOTSOLAR_Kramer			EnergyCapacity	Calculated		Solar New SCE SDG&E (GWh)	0	0	2,320	2,193		
GENIRPBPOTSOLAR_Riverside			EnergyCapacity	Calculated		Solar New SCE SDG&E (GWh)	0	0	1,937	1,831		
GENIRPBPOTSOLAR_Tehachapi			EnergyCapacity	Calculated		Solar New SCE SDG&E (GWh)	0	0	375	1,540		
GENIRPBPOTSTORAGE-31			EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPBPOTSTORAGE-32			EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPBPOTSTORAGE-33			EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPBPOTSTORAGE-34			EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPBPOTSTORAGE-35			EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPBPOTWIND_Baja			EnergyCapacity	Calculated		Wind New SCE SDG&E (GWh)	0	0	308	304		
GENIRPBPOTWIND_Carrizo			EnergyCapacity	Calculated		Wind New PG&E (GWh)	0	0	116	114		
GENIRPBPOTWIND_CValley			EnergyCapacity	Calculated		Wind New PG&E (GWh)	0	0	70	69		
GENIRPBPOTWIND_Humboldt			EnergyCapacity	Calculated		Wind New PG&E (GWh)	0	0	14	14		
GENIRPBPOTWIND_Humboldt_Bay_Offshore			EnergyCapacity	Calculated		Wind Offshore Humboldt (GWh)	0	0	0	1,211		
GENIRPBPOTWIND_Kern_Greater_Carrizo			EnergyCapacity	Calculated		Wind New PG&E (GWh)	0	0	0	24		
GENIRPBPOTWIND_Morro			EnergyCapacity	Calculated		Wind Offshore Morro Bay (GWh)	0	0	0	2,337		
GENIRPBPOTWIND_New_Mexico			EnergyCapacity	Calculated		Wind New Mexico (GWh)	0	0	1,945	1,918		
GENIRPBPOTWIND_NoCal			EnergyCapacity	Calculated		Wind New PG&E (GWh)	0	0	350	345		
GENIRPBPOTWIND_Solano			EnergyCapacity	Calculated		Wind New PG&E (GWh)	0	0	226	223		
GENIRPBPOTWIND_Southern_Nevada			EnergyCapacity	Calculated		Wind New SCE SDG&E (GWh)	0	0	0	224		
GENIRPBPOTWIND_SWExisting			EnergyCapacity	Calculated		Wind New SCE SDG&E (GWh)	0	0	257	253		
GENIRPBPOTWIND_Tehachapi			EnergyCapacity	Calculated		Wind New SCE SDG&E (GWh)	0	0	141	139		
GENIRPBPOTWIND_WY			EnergyCapacity	Calculated		Wind Wyoming (GWh)	0	0	1,962	1,936		
GENIRPMTRBIOMASS			EnergyCapacity	Calculated		Biomass (GWh)	45	77	77	77		
GENIRPMTRGEOTHERMAL			EnergyCapacity	Calculated		Geothermal (GWh)	0	205	1,402	1,402		
GENIRPMTRLDSTORAGE			EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPMTRLDSTORAGE_2			EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPMTRSOLAR			EnergyCapacity	Calculated		Solar New SCE SDG&E (GWh)	0	1,368	1,599	1,532		
GENIRPMTRSTORAGE-24			EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPMTRSTORAGE-25			EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPPSPSTORAGE-CPE			EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPPSPSTORAGE-LSE			EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
IDWAMONTICELLO			EnergyCapacity	Calculated		Small Hydro (GWh)	44	44	44	0		
PGESALTSPRINGS2			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGESANJOAQU1			EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
PGESPAULDING2			EnergyCapacity	Calculated		Small Hydro (GWh)	9	9	9	9		
33R484		YES	EnergyCapacity	Calculated	BioRAM	Biomass (GWh)	239	238	0	0		
PGEWISHON			EnergyCapacity	Calculated		Small Hydro (GWh)	48	47	46	45		
PGEWISE2			EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
PGEWISE1			EnergyCapacity	Calculated		Small Hydro (GWh)	64	63	61	59		
33R479BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	20	20	20	20		
33R154AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	0		
PGEWESTPOINT			EnergyCapacity	Calculated		Small Hydro (GWh)	73	72	70	68		
33R121		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	46	45	43	41		

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33R417RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	1	1		
33R511RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	2	2	2	2		
33R333RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	2	0	0	0		
PGEVOLTA2			EnergyCapacity	Calculated		Small Hydro (GWh)	5	5	4	4		
PGEVOLTA1			EnergyCapacity	Calculated		Small Hydro (GWh)	41	40	39	38		
40S019	YES	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
40S013 VISTRA_5_DALBT3		YES	CapacityOnly	In the contract	energystorage	Battery Storage (MWh Energy Capacity)						
40S013 VISTRA_5_DALBT2		YES	CapacityOnly	In the contract	energystorage	Battery Storage (MWh Energy Capacity)						
40S013 VISTRA_5_DALBT1		YES	CapacityOnly	In the contract	energystorage	Battery Storage (MWh Energy Capacity)						
33R279		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	49	48	47	24		
25C246		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
PGEVACADIXON			EnergyCapacity	Calculated		Solar Baseline California (GWh)	4	4	4	4		
33R151		YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	236	236	236	236		
01C061		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
33R470BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	4	4	4	4		
24B001FHP		NO	EnergyCapacity	Calculated	AB1613/CHP FiT	NA						
33R302AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	3		
33R415RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Solar Baseline California (GWh)	8	8	7	7		
33R164AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	0		
33R509RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	1	1		
33R392		YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	57	56	55	3		
33R056		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	1,239	1,216	1,178	1,132		
PGETOADTOWN			EnergyCapacity	Calculated		Small Hydro (GWh)	5	5	5	4		
33R233AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	4	4	4	0		
PGETIGERCREEK			EnergyCapacity	Calculated		Large Hydro (GWh)						
16H030		NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	1	1	1	1		
16H033		NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	1	1	1	1		
33R247AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	3	3	3	0		
33R248AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	0	0	0	0		
33R249AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	0	0	0	0		
33R251AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	2	2	2	0		
10H007		NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
10H059		NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
10H090		NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
12C085		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
13H120		NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	1	1	1	1		
13H130		NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
33R402RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	1	0		
25C151QPA2		YES	EnergyCapacity	Calculated	CjF/CHP Summit	NA						
33R132		YES	EnergyCapacity	Calculated	RPS	Biogas (GWh)	141	141	141	0		
40S030	YES	YES	CapacityOnly	In the contract	emergencyreliability	Battery Storage (MWh Energy Capacity)						
40S031	YES	YES	CapacityOnly	In the contract	emergencyreliability	Battery Storage (MWh Energy Capacity)						
33R387		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	36	35	35	34		
33R386		YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	4	4	4	4		
PGEPVUOG_PY1_ST			EnergyCapacity	Calculated		Solar Baseline California (GWh)	38	38	37	36		
33R355RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	5	5	3	0		
33R357RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	3	3	3	0		
33R358RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	1	0		
33R356RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	2	2	2	0		
01C202QAA		YES	EnergyCapacity	Calculated	CjF/CHP Summit	NA						
PGESTANISLAUS			EnergyCapacity	Calculated		Large Hydro (GWh)						
02C041		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
PGETULE			EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
PGESPRINGGAP			EnergyCapacity	Calculated		Small Hydro (GWh)	31	31	30	29		
33R254 SPQUIN_6_SRPCQU		YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	74	74	74	55		
33R254 SPIFBD_1_PL1X2		YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	74	74	74	55		
33R254 SPIAND_1_ANDSN2		YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	74	74	74	55		
33R254 SPI LI_2_UNIT 1		YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	74	74	74	55		
33R254 SPBURN_2_UNIT 1		YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	74	74	74	55		
PGESPAULDING1			EnergyCapacity	Calculated		Small Hydro (GWh)	29	28	27	26		
PGESPAULDING3			EnergyCapacity	Calculated		Small Hydro (GWh)	27	27	26	25		
PGESOUTH			EnergyCapacity	Calculated		Small Hydro (GWh)	41	40	39	38		
33R389		YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	3	3	3	3		
33R272		YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	46	45	44	14		
40S040	NO	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
33R053AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Biogas (GWh)	5	0	0	0		
40S008		YES	CapacityOnly	In the contract	storagemandate	Battery Storage (MWh Energy Capacity)						
33R364		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	52	52	51	49		
PGEPVUOG_PY1_WS			EnergyCapacity	Calculated		Solar Baseline California (GWh)	29	28	28	27		
33R434BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	5	5	5	5		
PGEPVUOG_PY1_FP			EnergyCapacity	Calculated		Solar Baseline California (GWh)	29	28	28	27		
33R416BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	2	2	2	2		
33R185AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Biogas (GWh)	10	10	10	0		
33R089-AR		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	547	546	546	546		
PGESALTSPRINGS1			EnergyCapacity	Calculated		Large Hydro (GWh)						
33R338RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Solar Baseline California (GWh)	3	3	3	1		
33R322		YES	EnergyCapacity	Calculated	RAM	Wind Baseline California (GWh)	56	56	56	39		
33R253 ROLLIN_6_UNIT		YES	EnergyCapacity	Calculated	RPS	Small Hydro (GWh)	56	57	56	0		
33R409RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	2	2	2	2		
15H012		NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	3	3	3	3		
15H068		NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
15H069		NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
15H072		NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
33R046AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	1	1	0	0		
33R171AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	0		
PGEROCKCREEK RCKCRK_7_UNIT 2			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEROCKCREEKRPS RCKCRK_7_UNIT 2			EnergyCapacity	Calculated		Small Hydro (GWh)	19	19	18	18		
PGEROCKCREEK RCKCRK_7_UNIT 1			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEROCKCREEKRPS RCKCRK_7_UNIT 1			EnergyCapacity	Calculated		Small Hydro (GWh)	19	19	18	18		
33R045		YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	0	0	0	0		
33R339RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Solar Baseline California (GWh)	4	4	4	0		
08C071		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
33R139AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	0	0	0	0		
PGEPOTTER			EnergyCapacity	Calculated		Small Hydro (GWh)	0	32	31	30		
PGEPOW POEPH_7_UNIT 2			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPOW POEPH_7_UNIT 1			EnergyCapacity	Calculated		Large Hydro (GWh)						
33B074		YES	EnergyCapacity	In the contract	D0611048, D1301003	NA						
33B076		YES	EnergyCapacity	In the contract	D0611048	NA						
33R245		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	49	48	46	4		
33R373RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	1	1		
PGEPIT7 PIT7_7_UNIT 2			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT7 PIT7_7_UNIT 1			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT7 PIT6_7_UNIT 2			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT6			EnergyCapacity	Calculated		Large Hydro (GWh)						
33R408RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	5	5	5	5		

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PGEPIT5 PIT5_7_PL3X4			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT5 PIT5_7_PL1X2			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT4			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT3			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT1 PIT1_7_UNIT 2			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT1 PIT1_7_UNIT 1			EnergyCapacity	Calculated		Large Hydro (GWh)						
33R206AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	4	4	3	0		
PGEPHOENIX			EnergyCapacity	Calculated		Small Hydro (GWh)	9	9	8	8		
33R165AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	0		
33R133		YES	EnergyCapacity	Calculated	RPS	Biogas (GWh)	63	63	63	63		
33R083		YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	0	0	0	0		
33W001		NO	EnergyCapacity	Calculated		NA						
33R375		YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	56	55	54	53		
33R391		YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	6	6	6	6		
33R366		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	26	26	25	24		
33R363		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	26	26	25	24		
33R350RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Solar Baseline California (GWh)	3	3	3	3		
13H024QPA		YES	EnergyCapacity	Calculated	QF/CHP Summit	Small Hydro (GWh)	17	17	0	0		
33R274		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	47	46	44	0		
33R122		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	46	45	44	42		
33R288		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	50	49	48	3		
33R423BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	5	5	5	5		
33R424BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	6	6	6	6		
33R283		YES	EnergyCapacity	Calculated	RPS	Biogas (GWh)	12	12	0	0		
PGENEWCASTLE			EnergyCapacity	Calculated		Small Hydro (GWh)	25	25	25	24		
01C201		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
33R078		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	152	149	145	0		
33R047AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	3	3	0	0		
33R076AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Biomass (GWh)	6	3	0	0		
33R107AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	0	0	0	0		
33R127AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	3	3	3	0		
33R135		YES	EnergyOnly	Calculated	RPS	NA	0	0	0	0		
33R136		YES	EnergyOnly	Calculated	RPS	NA	0	0	0	0		
33R137		YES	EnergyOnly	Calculated	RPS	NA	0	0	0	0		
33R169AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	1	1	1	0		
33R177AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R178AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	0	0	0	0		
33R180AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R187AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	0	0	0	0		
33R188AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R190AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R191AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R195AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R197AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	0	0	0	0		
33R198AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R202AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R204AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R216AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R294AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R300AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	2		
33R301AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	2	2	2	1		
33R304AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	1		
33R316AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	0	0	0	0		
33R318AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	1		
33R334RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	1	0		
33R353RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Solar Baseline California (GWh)	1	1	1	1		
33R378RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	0	0	0	0		
33R407RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	0	0	0		
33R082		YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	288	287	0	0		
33R144		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	309	305	299	0		
33R292		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	35	34	33	32		
33R148		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	148	147	144	67		
08C097		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
02C047		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
02C048		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
02C058		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
33R343		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	117	116	114	111		
33R282AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	1		
33R285AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	1		
33R032-AR		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	8	8	2	0		
33R510RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	3	3	3	3		
33R207AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	4	4	3	0		
33R390		YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	2	2	2	2		
13H047		NO	EnergyCapacity	Calculated	D8309054	Small Hydro (GWh)	46	46	0	0		
33R382		YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	10	9	9	9		
33R388		YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	2	2	2	2		
33R403RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	6	6	6	6		
33R347RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	2	2	2	0		
33R232AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	0		
33R184AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	0		
33R201AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	2	0		
33R256		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	45	44	43	41		
33R255		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	48	47	46	45		
405024	YES	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
33R324		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	35	35	34	33		
33R396		YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	51	50	49	48		
33R267		YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	51	50	49	4		
33R215AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	0		
33R214AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	0		
PGEKINGSRIVER			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEKILARC			EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
25C049QAA2		YES	EnergyCapacity	Calculated	QF/CHP Summit	NA						
33R296AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	3		
33R295AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	3		
PGEKERCKHOFF2			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEKERCKHOFF1 KERKH1_7_UNIT 3			EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
PGEKERCKHOFF1 KERKH1_7_UNIT 1			EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
33R323		YES	EnergyCapacity	Calculated	RAM	Small Hydro (GWh)	3	3	3	3		
33R160		YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	47	47	46	0		
33R161		YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	43	42	41	0		
33R163		YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	464	463	463	463		
405029	YES	YES	CapacityOnly	In the contract	emergencyreliabilty	Battery Storage (MWh Energy Capacity)						
33R064		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	273	273	273	273		
33R063		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	257	257	257	257		
PGEINSKIP			EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		

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04C130		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
04H134		NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
04S142		NO	EnergyCapacity	Calculated	D8201103, D8212120	Solar Baseline California (GWh)	0	0	0	0		
PGEPVUOG_PY2_HU			EnergyCapacity	Calculated		Solar Baseline California (GWh)	42	41	40	39		
PGEHUMBOLDT HUMBPP_6_UNITS			EnergyCapacity	Calculated		NA						
PGEHUMBOLDT HUMBPP_1_UNITS3			EnergyCapacity	Calculated		NA						
33R281AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	4	4	4	1		
33R210AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	0		
PGEHAMILTON			EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
33R077AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	2	0	0	0		
33R259		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	249	246	241	235		
33R307AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	2		
PGEHELMSGEN1 HELMPG_7_UNIT 3			EnergyCapacity	Calculated		Pumped Storage (MW)						
PGEHELMSGEN1 HELMPG_7_UNIT 2			EnergyCapacity	Calculated		Pumped Storage (MW)						
PGEHELMSGEN1 HELMPG_7_UNIT 1			EnergyCapacity	Calculated		Pumped Storage (MW)						
33R058-AR		YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	282	0	0	0		
PGEHAT2			EnergyCapacity	Calculated		Small Hydro (GWh)	41	41	40	39		
PGEHAT1			EnergyCapacity	Calculated		Small Hydro (GWh)	29	29	28	27		
33R442BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	6	6	6	6		
PGEHALSEY			EnergyCapacity	Calculated		Small Hydro (GWh)	46	45	44	43		
PGEHAAS			EnergyCapacity	Calculated		Large Hydro (GWh)						
33R438BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	7	7	7	7		
PGEPVUOG_PY3_GU			EnergyCapacity	Calculated		Solar Baseline California (GWh)	49	49	48	47		
33R439BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	7	7	7	7		
01C084QAA		NO	EnergyCapacity	Calculated	QF/CHP Summit	NA						
33R100		YES	EnergyCapacity	Calculated	RPS	Small Hydro (GWh)	8	8	7	0		
33R362		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	30	30	29	28		
33R376		YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	23	23	22	22		
PGEPVUOG_PY2_GI			EnergyCapacity	Calculated		Solar Baseline California (GWh)	21	20	20	20		
33R090		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	592	591	591	591		
PGEGATEWAY			EnergyCapacity	Calculated		NA						
40S020	YES	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
PGEPVUOG_PY3_WG			EnergyCapacity	Calculated		Solar Baseline California (GWh)	21	21	20	20		
PGEPVUOG_PY3_GA			EnergyCapacity	Calculated		Solar Baseline California (GWh)	43	42	41	40		
33R422BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	6	6	6	6		
04C140		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
33R335RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	0	0		
33R336RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	1	0		
19H05S		NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
33R108-AR		YES	EnergyCapacity	Calculated	RPS	Small Hydro (GWh)	7	7	7	0		
33R513RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	13	13	13	13		
33R418RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	6	6	6	6		
25C063QPA2		YES	EnergyCapacity	Calculated	QF/CHP Summit	NA						
33R374		YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	50	49	48	47		
33R329		YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	54	54	54	0		
25C293		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
33R008		YES	EnergyCapacity	Calculated	RPS	Small Hydro (GWh)	43	43	43	43		
33R016		YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	64	64	64	0		
PGEMOSSLANDING			EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
PGEELECTRA			EnergyCapacity	Calculated		Large Hydro (GWh)						
33R174AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	2	1		
33R253 DUTCH2_7_UNIT 1		YES	EnergyCapacity	Calculated	RPS	Small Hydro (GWh)	56	57	56	0		
PGEDUTCHFLAT1			EnergyCapacity	Calculated		Small Hydro (GWh)	72	71	68	67		
33R138		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	687	674	651	624		
PGEDESABLA			EnergyCapacity	Calculated		Small Hydro (GWh)	80	79	76	74		
PGEDRUM2			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEDRUM1 DRUM_7_PL3X4			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEDRUM1 DRUM_7_PL1X2			EnergyCapacity	Calculated		Large Hydro (GWh)						
40S021	NO	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
33R405BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	4	3	0	0		
25C248		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
PGEDIABLO2			EnergyCapacity	Calculated		Nuclear (GWh)						
PGEDIABLO1			EnergyCapacity	Calculated		Nuclear (GWh)						
33R261AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	0		
33R260AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	0		
33R440BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	0	0	5	5		
33R401RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Solar Baseline California (GWh)	3	3	3	3		
33R459BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	13	14	14	14		
33R257		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	100	98	95	91		
33R278		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	39	39	38	36		
13H123		NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
18C001		NO	EnergyCapacity	Calculated	D8201103, D8212120	Biogas (GWh)	0	0	0	0		
33R337RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Biogas (GWh)	3	0	0	0		
01C045		NO	EnergyCapacity	Calculated	D8309054	NA						
PGESANJOAQU3			EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
PGESANJOAQU2			EnergyCapacity	Calculated		Small Hydro (GWh)	8	8	8	7		
PGECRANEVALLEY			EnergyCapacity	Calculated		Small Hydro (GWh)	2	2	2	2		
33R505		YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	10	12	11	11		
PGECRESTA			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGECOWCREEK			EnergyCapacity	Calculated		Small Hydro (GWh)	8	8	8	7		
33R280		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	51	50	49	7		
33R079		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	90	88	85	0		
33R060		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	23	23	0	0		
33R166		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	314	308	297	284		
33R243		YES	EnergyCapacity	Calculated	RAM	Geothermal (GWh)	85	83	81	0		
33R275		YES	EnergyCapacity	Calculated	RAM	Geothermal (GWh)	55	55	53	0		
PGECOLUSA			EnergyCapacity	Calculated		NA						
33R481BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	21	21	21	21		
PGECOLEMAN			EnergyCapacity	Calculated		Small Hydro (GWh)	56	55	54	52		
33R099		YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	335	334	334	334		
33R205AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	0		
PGECENTERVILLE			EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
01C199		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
01C245		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
PGELIMESADL			EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
33R237AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	0		
33R017		YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	64	64	64	0		
33R500BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	24	24	24	24		
33B110		YES	EnergyCapacity	In the contract	D1303030	Large Hydro (GWh)						
25C003		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
25C249		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
25C055		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
25C002		NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
33R342RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	3	0	0	0		
33R052		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	567	560	549	535		

lse_unique_contract_id	notice_to_proceed	public_contract	buying_energy_capacity	NQC_reporting_source	procurement_origin	csp_resource_category	csp_annual_2024	csp_annual_2026	csp_annual_2030	csp_annual_2035	macro_supertype	notes
33R088		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	103	102	100	98		
33R502		YES	EnergyCapacity	Calculated	CS-GT	Solar Baseline California (GWh)	8	8	8	8		
PGECARIBOU1 CARBOU_7_UNIT 1			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGECARIBOU2			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGECARIBOU1 CARBOU_7_PL2X3			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPVUOG_PY2_CA			EnergyCapacity	Calculated		Solar Baseline California (GWh)	41	41	40	39		
33R487BIO		NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	24	24	24	24		
33R344		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	372	368	360	0		
PGEBUTTVAL			EnergyCapacity	Calculated		Large Hydro (GWh)						
33R483		YES	EnergyCapacity	Calculated	BioRAM	Biomass (GWh)	218	217	0	0		
PGEBUCKSCREEK			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEOAKFLAT			EnergyCapacity	Calculated		Small Hydro (GWh)	5	5	5	5		
33R377RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	3	3	3	3		
33R142		YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	278	277	277	0		
33R167		YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	285	284	284	268		
33R145		YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	285	284	284	0		
33R033-AR		YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	407	406	0	0		
33R013-AR		YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	96	96	96	96		
33R152		YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	206	206	206	206		
33R341RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	4	4	4	0		
33R253 BOWMN_6_HYDRO		YES	EnergyCapacity	Calculated	RPS	Small Hydro (GWh)	56	57	56	0		
PGEALTA			EnergyCapacity	Calculated		Small Hydro (GWh)	4	3	3	3		
40S018	YES	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
40S011		YES	CapacityOnly	In the contract	D1810009	Battery Storage (MWh Energy Capacity)						
40S015	YES	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
40S016	YES	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
40S017	YES	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
33R258		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	27	27	26	25		
PGEJBBLACK BLACK_7_UNIT 2			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEJBBLACK BLACK_7_UNIT 1			EnergyCapacity	Calculated		Large Hydro (GWh)						
33R315AB		NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	2		
33R493		YES	EnergyCapacity	Calculated	BioRAM	Biomass (GWh)	169	107	0	0		
33R385		YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	58	57	56	55		
33R384		YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	55	55	54	52		
33R383		YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	58	57	56	55		
40S027	YES	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
PGEBELDEN			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEBALCH2 BALCHS_7_UNIT 3			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEBALCH2 BALCHS_7_UNIT 2			EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEBALCH1			EnergyCapacity	Calculated		Large Hydro (GWh)						
33R073		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	586	579	567	553		
33R124		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	35	34	33	0		
33R125		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	33	32	31	0		
33R368		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	12	12	12	11		
33R365		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	13	12	12	12		
33R123		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	10	10	10	0		
33R120		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	36	36	34	33		
33R330		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	291	288	282	0		
33R162		YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	28	28	27	0		
33R118		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	117	115	111	106		
33R119		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	43	42	41	39		
33R340RM		NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	2	2	2	0		
33R084		YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	697	688	675	658		
33R244		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	51	51	50	4		
33R291		YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	48	47	45	25		
GENVAMO_Solar			EnergyOnly	Calculated		Solar Baseline California (GWh)						
GENVAMO_Wind			EnergyOnly	Calculated		Wind Baseline California (GWh)						
GENVAMO_Biomass			EnergyOnly	Calculated		Biomass (GWh)						
GENVAMO_Biogas			EnergyOnly	Calculated		Biogas (GWh)						
GENVAMO_Geothermal			EnergyOnly	Calculated		Geothermal (GWh)						
GENVAMO_SmallHydro			EnergyOnly	Calculated		Small Hydro (GWh)						
ModCAM_Storage_2024			CapacityOnly	Calculated		Battery Storage (MWh Energy Capacity)						
ModCAM_Storage_2032			CapacityOnly	Calculated		Battery Storage (MWh Energy Capacity)						
CAM_NaturalGas_2024			CapacityOnly	Calculated		NA						
CAM_NaturalGas_2025			CapacityOnly	Calculated		NA						
CAM_NaturalGas_2026			CapacityOnly	Calculated		NA						
CAM _Import_2024			EnergyCapacity	In the contract		NA						
Cam_Battery_Existing_2024			CapacityOnly	Calculated		Battery Storage (MWh Energy Capacity)						
Cam_Battery_Existing_2025			CapacityOnly	Calculated		Battery Storage (MWh Energy Capacity)						
CAM_Battery_Programatic_2026			CapacityOnly	Calculated		Battery Storage (MWh Energy Capacity)						
CAM_Battery_Programatic_2028			CapacityOnly	Calculated		Battery Storage (MWh Energy Capacity)						
GENPCIAGHGFREESALES_LargeHydro			EnergyOnly	Calculated		Large Hydro (GWh)						
Imported_Hydro						Imported Hydro (GWh)						
Shed_DR						Shed DR (MW)						

LSE Input

25 MMT

Reliability Need

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
CAISO gross peak (MW)	53,530	54,113	54,769	55,494	56,125	56,797	57,454	58,178	58,827	59,511	60,161	60,803
PRM (%)	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
CAISO total reliability need (TRN) (MW)	61,024	61,689	62,437	63,263	63,983	64,749	65,498	66,323	67,063	67,843	68,584	69,315
MRN/TRN ratio	0.77	0.79	0.80	0.78	0.75	0.76	0.77	0.74	0.71	0.68	0.65	0.63
CAISO marginal reliability need (MRN) (MW)	47,112	48,652	50,193	49,099	48,005	49,369	50,732	49,261	47,790	46,318	44,847	43,376
LSE managed peak share (%)												
LSE MRN (MW)												

BTM PV

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Capacity (MW)	2,484	2,671	2,859	3,056	3,257	3,469	3,667	3,883	4,090	4,313	4,526	4,734

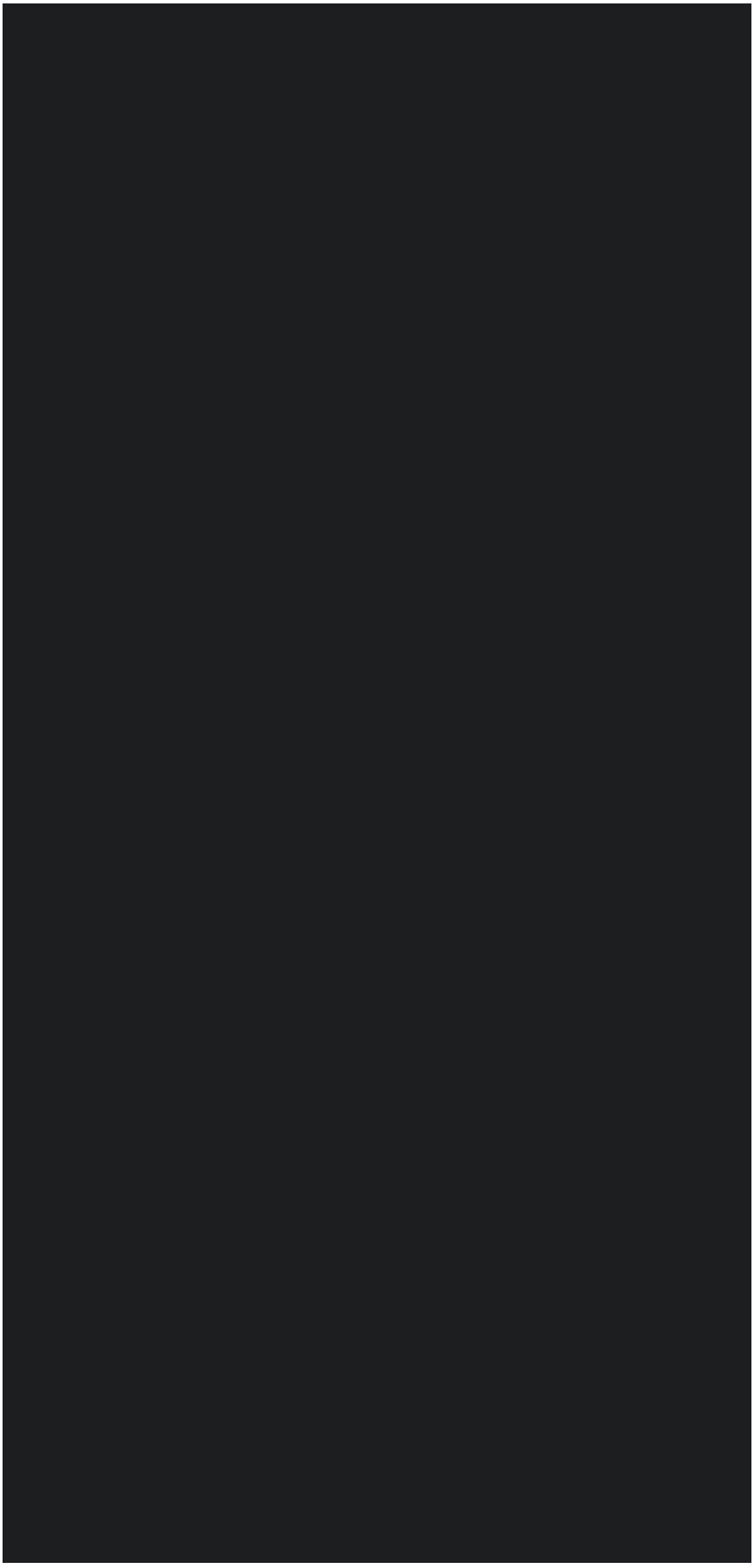
ELCC (%)

Resource Type	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
in_state_wind_south	12%	14%	15%	11%	6%	8%	9%	8%	7%	6%	5%	4%
in_state_wind_north	24%	27%	31%	21%	12%	15%	19%	17%	15%	13%	11%	9%
out_of_state_wind_WYID	47%	45%	44%	38%	32%	33%	34%	33%	32%	31%	31%	30%
out_of_state_wind_WAOR	29%	28%	27%	23%	20%	20%	21%	20%	20%	19%	19%	18%
out_of_state_wind_AZNM	42%	41%	40%	34%	29%	30%	30%	30%	29%	28%	28%	27%
offshore_wind	67%	62%	56%	56%	55%	58%	61%	55%	49%	44%	38%	32%
utility_pv	12%	12%	12%	10%	8%	8%	7%	7%	7%	7%	7%	6%
btm_pv	5%	5%	4%	5%	6%	5%	5%	5%	5%	5%	5%	6%
4hr_batteries	85%	86%	87%	85%	82%	85%	89%	79%	69%	60%	50%	40%
5hr_batteries	86%	87%	88%	85%	83%	86%	89%	81%	72%	64%	56%	47%
6hr_batteries	87%	88%	88%	86%	84%	86%	89%	82%	75%	69%	62%	55%
7hr_batteries	88%	88%	88%	86%	85%	87%	89%	84%	78%	73%	68%	62%
8hr_batteries	89%	89%	88%	87%	86%	87%	89%	85%	81%	77%	73%	70%
pumped_storage	90%	89%	88%	87%	86%	87%	89%	86%	83%	80%	76%	73%
demand_response	77%	80%	82%	77%	73%	80%	86%	72%	58%	43%	29%	14%
hydro	51%	52%	53%	52%	51%	53%	54%	52%	50%	48%	45%	43%
small_hydro	36%	37%	38%	38%	37%	38%	39%	37%	36%	34%	32%	31%
geothermal	86%	89%	92%	92%	93%	92%	91%	92%	93%	93%	94%	95%
biomass_wood	78%	79%	81%	82%	83%	81%	80%	82%	84%	85%	87%	88%
biogas	75%	77%	78%	79%	79%	78%	77%	78%	80%	82%	84%	86%
nuclear	93%	94%	94%	94%	94%	93%	93%	93%	94%	95%	95%	96%
gas_cc	84%	85%	86%	87%	87%	86%	85%	86%	87%	88%	90%	91%
gas_ct	81%	83%	86%	84%	82%	81%	79%	80%	82%	83%	84%	85%
cogen	93%	93%	93%	93%	94%	93%	92%	93%	93%	93%	93%	93%
ice	93%	94%	94%	94%	94%	95%	95%	93%	92%	91%	89%	88%
coal	69%	71%	73%	72%	72%	69%	66%	69%	72%	75%	78%	81%
steam	78%	79%	81%	80%	80%	78%	76%	78%	80%	82%	84%	87%
unspecified_import	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Contract ELCC (effective MW)

Resource Type	Conrtact Status	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
hybrid	Online												
in_state_wind_south	Online												
in_state_wind_north	Online												
out_of_state_wind_WYID	Online												
out_of_state_wind_WAOR	Online												
out_of_state_wind_AZNM	Online												
offshore_wind	Online												
utility_pv	Online												
btm_pv	Online												
4hr_batteries	Online												
5hr_batteries	Online												
6hr_batteries	Online												
7hr_batteries	Online												
8hr_batteries	Online												
pumped_storage	Online												
demand_response	Online												
hydro	Online												
small_hydro	Online												
geothermal	Online												
biomass_wood	Online												
biogas	Online												
nuclear	Online												
gas_cc	Online												
gas_ct	Online												
cogen	Online												
ice	Online												
coal	Online												
steam	Online												
unspecified_import	Online												
hybrid	Development												
in_state_wind_south	Development												
in_state_wind_north	Development												
out_of_state_wind_WYID	Development												
out_of_state_wind_WAOR	Development												
out_of_state_wind_AZNM	Development												
offshore_wind	Development												
utility_pv	Development												
btm_pv	Development												
4hr_batteries	Development												
5hr_batteries	Development												
6hr_batteries	Development												
7hr_batteries	Development												

8hr_batteries	Development
pumped_storage	Development
demand_response	Development
hydro	Development
small_hydro	Development
geothermal	Development
biomass_wood	Development
biogas	Development
nuclear	Development
gas_cc	Development
gas_ct	Development
cogen	Development
ice	Development
coal	Development
steam	Development
unspecified_import	Development
hybrid	Review
in_state_wind_south	Review
in_state_wind_north	Review
out_of_state_wind_WYID	Review
out_of_state_wind_WAOR	Review
out_of_state_wind_AZNM	Review
offshore_wind	Review
utility_pv	Review
btm_pv	Review
4hr_batteries	Review
5hr_batteries	Review
6hr_batteries	Review
7hr_batteries	Review
8hr_batteries	Review
pumped_storage	Review
demand_response	Review
hydro	Review
small_hydro	Review
geothermal	Review
biomass_wood	Review
biogas	Review
nuclear	Review
gas_cc	Review
gas_ct	Review
cogen	Review
ice	Review
coal	Review
steam	Review
unspecified_import	Review
hybrid	PlannedExisting
in_state_wind_south	PlannedExisting
in_state_wind_north	PlannedExisting
out_of_state_wind_WYID	PlannedExisting
out_of_state_wind_WAOR	PlannedExisting
out_of_state_wind_AZNM	PlannedExisting
offshore_wind	PlannedExisting
utility_pv	PlannedExisting
btm_pv	PlannedExisting
4hr_batteries	PlannedExisting
5hr_batteries	PlannedExisting
6hr_batteries	PlannedExisting
7hr_batteries	PlannedExisting
8hr_batteries	PlannedExisting
pumped_storage	PlannedExisting
demand_response	PlannedExisting
hydro	PlannedExisting
small_hydro	PlannedExisting
geothermal	PlannedExisting
biomass_wood	PlannedExisting
biogas	PlannedExisting
nuclear	PlannedExisting
gas_cc	PlannedExisting
gas_ct	PlannedExisting
cogen	PlannedExisting
ice	PlannedExisting
coal	PlannedExisting
steam	PlannedExisting
unspecified_import	PlannedExisting
hybrid	PlannedNew
in_state_wind_south	PlannedNew
in_state_wind_north	PlannedNew
out_of_state_wind_WYID	PlannedNew
out_of_state_wind_WAOR	PlannedNew
out_of_state_wind_AZNM	PlannedNew
offshore_wind	PlannedNew
utility_pv	PlannedNew
btm_pv	PlannedNew
4hr_batteries	PlannedNew
5hr_batteries	PlannedNew
6hr_batteries	PlannedNew
7hr_batteries	PlannedNew
8hr_batteries	PlannedNew
pumped_storage	PlannedNew
demand_response	PlannedNew
hydro	PlannedNew
small_hydro	PlannedNew
geothermal	PlannedNew
biomass_wood	PlannedNew
biogas	PlannedNew
nuclear	PlannedNew
gas_cc	PlannedNew
gas_ct	PlannedNew



cogen	PlannedNew
ice	PlannedNew
coal	PlannedNew
steam	PlannedNew
unspecified_import	PlannedNew
LSE total supply (effective MW)	

Load and Resource Table by Resource Type

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
LSE reliability need (MW)												
ELCC by resource type (effective MW)												
hybrid												
in_state_wind_south												
in_state_wind_north												
out_of_state_wind_WYID												
out_of_state_wind_WAOR												
out_of_state_wind_AZNM												
offshore_wind												
utility_pv												
btm_pv												
4hr_batteries												
5hr_batteries												
6hr_batteries												
7hr_batteries												
8hr_batteries												
pumped_storage												
demand_response												
hydro												
small_hydro												
geothermal												
biomass_wood												
biogas												
nuclear												
gas_cc												
gas_ct												
cogen												
ice												
coal												
steam												
unspecified_import												
LSE total supply (effective MW)												
Net capacity position (+ve = excess, -ve = shortfall) (effective MW)	**1,828**	**2,401**	**2,665**	**2,863**	**2,937**	**2,555**	**2,834**	**2,527**	**2,464**	**2,229**	**2,028**	**1,682**

Load and Resource Table by Contract Status

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
LSE reliability need (MW)												
ELCC by contract status (effective MW)												
Online												
Development												
Review												
PlannedExisting												
PlannedNew												
BTM PV												
LSE total supply (effective MW)												
Net capacity position (+ve = excess, -ve = shortfall) (effective MW)	**1,828**	**2,401**	**2,665**	**2,863**	**2,937**	**2,555**	**2,834**	**2,527**	**2,464**	**2,229**	**2,028**	**1,682**

Resource	2024	2026	2030	2035	Units	*Type*
Large Hydro	3,082	3,039	2,944	2,801	GWh	GHG-Free
Imported Hydro	1,812	1,815	1,813	1,870	GWh	GHG-Free
Asset Controlling Supplier	-	-	-	-	GWh	GHG-Free (Partial)
Nuclear	17,098	-	-	-	GWh	GHG-Free
Biogas	130	198	329	268	GWh	RPS Eligible
Biomass	1,187	970	797	811	GWh	RPS Eligible
Geothermal	140	328	1,429	1,316	GWh	RPS Eligible
Small Hydro	521	513	473	374	GWh	RPS Eligible
Wind Resources						
Wind Baseline California	1,085	556	565	557	GWh	RPS Eligible
Wind New PG&E	-	-	798	855	GWh	RPS Eligible
Wind New SCE SDG&E	-	-	706	920	GWh	RPS Eligible
Wind Pacific Northwest	-	-	-	-	GWh	RPS Eligible
Wind Wyoming	-	-	1,962	1,936	GWh	RPS Eligible
Wind New Mexico	-	-	1,945	1,918	GWh	RPS Eligible
Wind Offshore Morro Bay	-	-	-	2,337	GWh	RPS Eligible
Wind Offshore Humboldt	-	-	-	1,211	GWh	RPS Eligible
Solar Resources						
Solar Baseline California	4,215	3,972	3,853	3,132	GWh	RPS Eligible
Solar New PG&E	189	336	379	372	GWh	RPS Eligible
Solar New SCE SDG&E	-	1,368	6,731	7,679	GWh	RPS Eligible
Solar Distributed	-	-	-	-	GWh	RPS Eligible
Hybrid						
Hybrid_or_Paired_Solar_and_Battery	-	-	-	-	GWh	RPS Eligible
Storage & DR						
Shed DR	470	484	483	499	MW	GHG-Free
Pumped Storage	1,212	1,212	1,212	1,212	MW	n/a
Battery Storage	10,641	17,217	17,636	21,388	MWh Energy Capacity	n/a
User-Specified Profies						
Storage Resource Custom Profile	-	-	-	-	MW	n/a
RPS Resource Custom Profile	-	-	-	-	GWh	RPS Eligible
GHG-free non-RPS Resource	-	-	-	-	GWh	GHG-Free
Coal						
Coal	-	-	-	-	GWh	n/a

PACIFIC GAS AND ELECTRIC COMPANY

2022 RESOURCE DATA TEMPLATE

30 MMT CONFORMING

lse_unique_contract_id	resource	alternative_resource_name	contract_status	project_interconnection_position	interconnection_substation	marginal_addition	marginal_addition_to	total_nameplate_capacity	contracted_nameplate_capacity	sep_contracted_mw_nqc	contract_gwh_annual
33B013U02	_BRANCH_GENERIC_MALIN500_ISL	Resource Adequacy Batch Default Facilities	Online						75		0
33R520RM	_NEW_GENERIC_SOLAR_1AXIS	Alameda Grant Line Solar 1	Development	WDAT-2589	HERDLYN SUB				2	2	5
40S026	_NEW_GENERIC_BATTERY_STORAGE	Amcor	Development	2907	NA				27		0
33R494	_NEW_GENERIC_SOLAR_FIXED	Ava Elizabeth	Development	WDAT-1586	COALINGA #1 SUB				2	1.592	4
33R488	_NEW_GENERIC_SOLAR_FIXED	Beard	Development	solar_caiso_planned	G&E's Elk Hills 1104 Distribution Circu				2	2.25	6
40S038	_NEW_GENERIC_BATTERY_STORAGE	Beaumont ESS 1, LLC	Development	WDAT-1648	COTATI SUB				100		0
33R436BIO	BLUE_MOUNTAIN_ELECTRIC_COMPANY	Blue Mountain Electric Company	Development	WDAT-2008	WEST POINT PH				3	3	19
40S034	_NEW_GENERIC_BATTERY_STORAGE	Caballero CA Storage, LLC	Development	Q-1470	Mesa Substation 230kV				100		0
33R512BIO	_NEW_GENERIC_BIOMASS/WOOD	Camptonville Biopower 1	Development	Q-1537	PGE Colgate-Challenge 60kV				3	3	21
40S039	_NEW_GENERIC_BATTERY_STORAGE	Canyon Country ESS I, LLC	Development	WDAT-1649	GREENBRAE SUB				80		0
40S009	_NEW_GENERIC_BATTERY_STORAGE	Cascade Energy Storage	Development	Q-1272	Weber Substation 60kV				25		0.0
40S036	_NEW_GENERIC_BATTERY_STORAGE	Corby Energy Storage, LLC	Development	Q-1270	Vaca-Dixon Substation 230kV				125		0
40S022	_NEW_GENERIC_BATTERY_STORAGE	Daggett 2	Development	Q-1313	Kramer Substation 230kV				46		0
40S023	_NEW_GENERIC_BATTERY_STORAGE	Daggett 3	Development	Q-1314	Kramer Substation 230kV				15		0
33R514BIO	_NEW_GENERIC_BIOMASS/WOOD	Engeman SVRC Energy	Development	WDAT-2546	ARBUCKLE SUB				3	3	25
33R495	_NEW_GENERIC_SOLAR_FIXED	ForeFront C2	Development	solar_caiso_planned	\ga #2 1107 (252381107) distribution				2	2.062	5
33R499	_NEW_GENERIC_SOLAR_1AXIS	Fresno Disadvantaged Community Solar Project	Development	WDAT-2392	NEW KEARNEY SUB				10	10	28
33R490	_NEW_GENERIC_SOLAR_FIXED	Gonzalez	Development	solar_caiso_planned	'G&E's Reedley 1101 distribution circu				2	1.75	4
33R437BIO	HAT_CREEK_BIOENERGY__LLC	Hat Creek Bioenergy, LLC	Development	WDAT-1282	BURNEY SUB				3	2.88	18
33R491	_NEW_GENERIC_SOLAR_FIXED	Highway 43	Development	solar_caiso_planned	'G&E's Shafter 1103 distribution circu				2	2.25	6
40S014	HUMMINGBIRDSTORAGE	Hummingbird Energy Storage	Development	Q-1454	Metcalf 115kV				75		0
33R522	_NEW_GENERIC_SOLAR_FIXED	Jaton LLC	Development	solar_caiso_planned	Tulare Lake 70 kV / 12 kV				3	3	8
33R393	JAVASR_1_JAVSR1	Java Solar Project	Development	Q-965	Henrietta-GWF 115 kV Line				14	13.5	34.5
33R492	_NEW_GENERIC_SOLAR_FIXED	Kern Sunset	Development	solar_caiso_planned	Weedpatch Bank 1 115kV / 12kV				2	2.4	6
33R524	_NEW_GENERIC_SOLAR_FIXED	Kings CSG 3 LLC	Development	solar_caiso_planned	Henrietta Substation				3	3	8
40S035	_NEW_GENERIC_BATTERY_STORAGE	Kola Energy Storage, LLC	Development	Q-1275	Tesla Substation 230kV				275		0
40S032	_NEW_GENERIC_BATTERY_STORAGE	Moss Landing Energy Storage 3	Development	Q-1540	Moss Landing Substation 500kV				350		0
33R503	_NEW_GENERIC_SOLAR_1AXIS	Nachtigall	Development	WDAT-1836	CHARCA SUB				5	4.66	13
40S037	_NEW_GENERIC_BATTERY_STORAGE	Nighthawk Energy Storage, LLC	Development	Q-1673	Sycamore Canyon Substation 138 kV				300		0
40S025	_NEW_GENERIC_BATTERY_STORAGE	North Central Valley	Development	Q-1109	Belotta Substation 115 kV				132		0
33R433BIO	_NEW_GENERIC_BIOMASS/WOOD	North Fork Community Power	Development	WDAT-1151	SAN JOAQUIN #3 PH				2	2	13
33R504	_NEW_GENERIC_SOLAR_FIXED	Pistachio Road	Development	WDAT-1726	TWISSELMAN SUB				5	4.79	14
40S033	_NEW_GENERIC_BATTERY_STORAGE	Poblano Energy Storage	Development	WDAT-1669	SARATOGA SUB				100		0
40S028	_NEW_GENERIC_BATTERY_STORAGE	Pomona Energy Storage 2 LLC	Development	WDT1250EXP, WDT1510	SCE Simpson 66/12 kV Substation				10		0.0
33R419	RE_GASKELL_WEST_3	RE Gaskell West 3 LLC	Development	Q-1074	Whirlwind Substation 220 kV				20	20	60
33R420	RE_GASKELL_WEST_4	RE Gaskell West 4 LLC	Development	Q-1074	Whirlwind Substation 220 kV				20	20	60
33R421	RE_GASKELL_WEST_5	RE Gaskell West 5 LLC	Development	Q-1074	Whirlwind Substation 220 kV				20	20	60
33R489	_NEW_GENERIC_SOLAR_FIXED	Rocha	Development	solar_caiso_planned	'G&E's Lamont 1102 distribution circu				2	2	5
33R523	_NEW_GENERIC_SOLAR_1AXIS	RPCA Solar 7, LLC	Development	solar_caiso_planned	PG&E El Nido Substation				3	3	9
CPE00001R	CHEVCO_6_UNIT 2	CalPeak Power 2 Panoche Peaker Plant	Online		PG&E Panoche Substation				52		0
CPE00002R	MALAGA_1_PL1X2	Malaga Peaking Plant	Online		PG&E Malaga Substation				96		0
CPE00003R	COCOPP_2_CTG1	Marsh Landing Unit 1	Online		Contra Costa Switchyard				102		0
CPE00004R	COCOPP_2_CTG2	Marsh Landing Unit 2	Online		Contra Costa Switchyard				202		0
CPE00005R	COCOPP_2_CTG3	Marsh Landing Unit 3	Online		Contra Costa Switchyard				201		0
CPE00006R	MOSSLD_2_PSP1	Moss Landing Power Block 1	Online		230 kV Moss Landing Substation				255		0
CPE00007R	MOSSLD_2_PSP2	Moss Landing Power Block 2	Online		230 kV Moss Landing Substation				510		0
CPE00008R	GWFPWR_1_UNITS	Hanford Peaker	Online		PG&E GWF Switching Station				97		0
CPE00009R	SCHLTE_1_PL1X3	Tracy Combined Cycle Power Plant	Online		Schulte 115kv Switching Station				325		0
CPE00010R	AGRICO_6_PL3N5	Fresno Cogen Partners Peaker	Online		Helm-Kerman				23		0
CPE00011R	YUBACT_1_SUNSWT	Yuba City Cogeneration	Online		Harter				47		0
FIT_Baseload	_CREZ_GENERIC_INSTATE_BIOMASS	FIT_Baseload	PlannedNew						46	41.7888	199
FIT_Non-Peaking_AA_SmallHydro	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	FIT Non-Peaking As-Available Small Hydro	PlannedExisting						6	4.3097	21
FIT_Non-Peaking_AA_Wind	_NEW_GENERIC_WIND	FIT Non-Peaking As-Available Wind	PlannedNew						25	5.278953212	36
FIT_Peaking_AA	_NEW_GENERIC_SOLAR_FIXED	FIT Peaking As-Available	PlannedNew						39	3.472561101	60
FIT_SB1122_Cat1	_NEW_GENERIC_BIOGAS_LANDFILLGAS	Generic SB1122_Cat1	PlannedNew						28	25.24446	117
FIT_SB1122_Cat2_Ag	_NEW_GENERIC_BIOGAS_LANDFILLGAS	Generic SB1122_Cat2 Ag	PlannedNew						9	7.681253551	37
FIT_SB1122_Cat2_Dairy	_NEW_GENERIC_BIOGAS_LANDFILLGAS	Generic SB1122_Cat2 Dairy	PlannedNew						3	2.483346449	12
FIT_SB1122_Cat3	_NEW_GENERIC_BIOMASS/WOOD	Generic SB1122_Cat3	PlannedNew						33	29.808	135
GENCPELOCALTHERMAL	_EXISTING_GENERIC_COMBINED_CYCLE	Generic Local Thermal CPE Procurement	PlannedExisting						2782		0
GENGTSOLARPV	_NEW_GENERIC_SOLAR_FIXED	Generic GTSR Solar PV	PlannedNew						117	14.37968961	289
GENIRPBPOTSOLAR_Arizona	_CREZ_GENERIC_ARIZONA_SOLAR	Generic IRP BPOT - Solar - Arizona Solar	PlannedNew						133.967616	12.16980541	480
GENIRPBPOTSolar_Imperial	_CREZ_GENERIC_GREATER_IMPERIAL_SOLAR	Generic IRP BPOT - Solar - Imperial	PlannedNew						39	3.469738104	110
GENIRPBPOTSOLAR_Kramer	_CREZ_GENERIC_GREATER_KRAMER_SOLAR	Generic IRP BPOT - Solar_Kramer	PlannedNew						468.142532	42.52672166	2182
GENIRPBPOTSOLAR_Riverside	_CREZ_GENERIC_RIVERSIDE_PALM_SPRINGS_SOLAR	Generic IRP BPOT - Solar_Riverside	PlannedNew						749.3248123	68.06971285	1492
GENIRPBPOTSOLAR_Tehachapi	_CREZ_GENERIC_TEHACHAPI_EX_SOLAR	Generic IRP BPOT - Solar_Tehachapi	PlannedNew						625.976924	56.86461835	999
GENIRPBPOTSTORAGE-31	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP BPOT - Storage	PlannedNew						219.13711		0
GENIRPBPOTSTORAGE-32	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP BPOT - Storage	PlannedNew						359.71701		0
GENIRPBPOTSTORAGE-33	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP BPOT - Storage	PlannedNew						246.25867		0
GENIRPBPOTSTORAGE-34	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP BPOT - Storage	PlannedNew						229.05729		0
GENIRPBPOTSTORAGE-35	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP BPOT - Storage	PlannedNew						113.03949		0
GENIRPBPOTWIND_Baja	_CREZ_GENERIC_BAJA_CALIFORNIA_WIND	Generic IRP BPOT - Wind_Baja	PlannedNew						126.48	28.3536	298
GENIRPBPOTWIND_Carrizo	_CREZ_GENERIC_CARRIZO_WIND	Generic IRP BPOT - Wind_Carrizo	PlannedNew						60.4996	13.562472	112
GENIRPBPOTWIND_CValley	:REZ_GENERIC_CENTRAL_VALLEY_NORTH_LOS_BANOS_WI	Generic IRP BPOT - Wind_Cvalley	PlannedNew						36.4684	8.175288	68
GENIRPBPOTWIND_Humboldt	_CREZ_GENERIC_HUMBOLDT_WIND	Generic IRP BPOT-Wind-Humboldt	PlannedNew						7.1672	1.606704	13
GENIRPBPOTWIND_Humboldt_Bay_Offshore	_CREZ_GENERIC_HUMBOLDT_BAY_OFFSHORE_WIND	Generic IRP BPOT - Wind - Humboldt Bay Offshore Wind	PlannedNew						188.8378336	41.5443234	834
GENIRPBPOTWIND_Kern_Greater_Carrizo	_CREZ_GENERIC_KERN_GREATER_CARRIZO_WIND	Generic IRP BPOT-Wind-Kern Greater Carrizo	PlannedNew						12.648	2.80896	19
GENIRPBPOTWIND_Morro	_CREZ_GENERIC_MORRO_BAY_OFFSHORE_WIND	Generic IRP BPOT - Wind_Morro	PlannedNew						653.4799937	143.7655986	1548
GENIRPBPOTWIND_New_Mexico	_CREZ_GENERIC_NEW_MEXICO_WIND	Generic IRP BPOT-Wind-New Mexico	PlannedNew						527	118.14	1398
GENIRPBPOTWIND_NoCal	_CREZ_GENERIC_NORTHERN_CALIFORNIA_EX_WIND	Generic IRP BPOT - Wind_Nocal	PlannedNew						182.53172	40.9189704	339
GENIRPBPOTWIND_Solano	_CREZ_GENERIC_SOLANO_WIND	Generic IRP BPOT - Wind_Solano	PlannedNew						118.048	26.46336	219
GENIRPBPOTWIND_Southern_Nevada	_CREZ_GENERIC_SOUTHERN_NEVADA_WIND	Generic IRP BPOT - Wind - Southern Nevada	PlannedNew						93.179924	20.69407648	176
GENIRPBPOTWIND_SWExisting	_CREZ_GENERIC_SW_EXT_TX_WIND	Generic IRP BPOT - Wind_Swexisting	PlannedNew						55.862	12.52284	249
GENIRPBPOTWIND_Tehachapi	_CREZ_GENERIC_TEHACHAPI_WIND	Generic IRP BPOT - Wind_Tehachapi	PlannedNew						57.97	12.9954	137
GENIRPBPOTWIND_WY	_CREZ_GENERIC_WYOMING_WIND	Generic IRP BPOT - Wind_WY	PlannedNew						490.818288	109.0045018	1849
GENIRPMTRBIOMASS	_NEW_GENERIC_BIOMASS/WOOD	Generic IRP MTR - Biomass	PlannedNew						11	9.9	74
GENIRPMTRGEOTHERMAL	_NEW_GENERIC_GEOTHERMAL	Generic IRP MTR - Geothermal	PlannedNew						200	166	1219
GENIRPMTRLDSTORAGE	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP MTR - LDstorage	PlannedNew						125		0
GENIRPMTRLDSTORAGE_2	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP MTR Procurement - LD Storage	PlannedNew						131		0
GENIRPMTRSOLAR	_NEW_GENERIC_SOLAR_FIXED	Generic IRP MTR - Solar	PlannedNew						695	61.95907695	1474
GENIRPMTRSTORAGE-24	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP MTR - Storage_24	PlannedNew						405		0
GENIRPMTRSTORAGE-25	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP MTR - Storage_25	PlannedNew						290		0
GENIRPPSPSTORAGE-CPE	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP PSP - Storage	PlannedNew						95		0
GENIRPPSPSTORAGE-LSE	_NEW_GENERIC_BATTERY_STORAGE	Generic IRP PSP - Storage	PlannedNew						50		0
IDWAMONTICELLO	MONTPH_7_UNITS	SID Monticello	Online						12	0	44
PGESALTSPRINGS2	SALTSP_7_UNITS	PGE Salt Springs 2	Online						33.00		127.09
PGESANJOAQU1	CRNEVL_6_SJQN 2	PGE San Joaquin 1A	Online						0	0	0
PGESPAULDING2	SPAULD_6_UNIT12	PGE Spaulding 2	Online						4	0	9
33R484	WSENGY_1_UNIT 1	Wheelabrator Shasta Energy Co, Inc	Online		Kimberly Rd. Anderson, CA				34	34	238
PGEWISHON	WISHON_6_UNITS	PGE A.G.Wishon	Online						20	0	46
PGEWISE2	WISE_1_UNIT 2	PGE Wise 2	Online						3	0	0
PGEWISE1	WISE_1_UNIT 1	PGE Wise 1	Online						14	5.84	61
33R479BIO	WILLMS_6_ARBBM1	Abel Road Bioenergy	Online	WDAT-1986	WILLIAMS SUB				3	3	20
33R154AB	WFRESN_1_SOLAR	La Joya Del Sol #1	Online	WDAT-0168	WEST FRESNO SUB				2	1.5	2
PGEWESTPOINT	WESTPT_2_UNIT	PGE West Point	Online						15	10	70
33R121	WAUKNA_1_SOLAR	Corcoran	Online	Q-478	Corcoran-Kingsburg 115kV #2 line				20	20	33

lse_unique_contract_id	resource	alternative_resource_name	contract_status	project_interconnection_position	interconnection_substation	marginal_addition	marginal_addition_to	total_nameplate_capacity	contracted_nameplate_capacity	sep_contracted_mw_nqc	contract_gwh_annual
33R417RM	VOLTA_7_QFUNTS	Sutters Mill	Online		Volta dist 1102				0	0.13	1
33R511RM	VOLTA_7_PONHY1	Ponderosa Bailey Hydroelectric Project	Online		Volta 1101 at 12kV				1	1.15	2
33R333RM	VOLTA_6_DIGHYD	Digger Creek Hydro	Online		p-up transformer to the Volta 1101 di				1	0.65	4
PGEVOLTA2	VOLTA_2_UNIT 2	PGE Volta 2	Online						1	0.36	4
PGEVOLTA1	VOLTA_2_UNIT 1	PGE Volta 1	Online						9	3.05	39
40S019	VISTRA_5_DALBT4	Moss 100	Online	Q-1472	Moss Landing Substation 500kV				100		0
40S013 VISTRA_5_DALBT3	VISTRA_5_DALBT3	Unit 3 - Moss 300	Online	Q-1472	Moss Landing Substation 500kV				100		0
40S013 VISTRA_5_DALBT2	VISTRA_5_DALBT2	Unit 2 - Moss 300	Online	Q-1472	Moss Landing Substation 500kV				100		0
40S013 VISTRA_5_DALBT1	VISTRA_5_DALBT1	Unit 1 - Moss 300	Online	Q-1472	Moss Landing Substation 500kV				100		0
33R279	VICTOR_1_SOLAR2	Alamo Solar	Online	WDAT-0491	DINUBA SUB				20	20	50
25C246	VEDDER_1_SEKERN	Chevron USA (Se Kern River)	Online						34		0
PGEVACADIXON	VACADX_1_SOLAR	Vaca-Dixon Solar (PG&E)	Online						2	0.28	4
33R151	USWPJR_2_UNITS	Vasco Winds	Online		230 kV Jackson Substation				78	78.2	211
01C061	UNOCAL_1_UNITS	Conocophillips Company	Online						50		0
33R470BIO	CAMDEN_6_RDDBM1	RuAnn Dairy Digester	Development	WDAT-1864	CARUTHERS SUB				1	0.55	4.3
24B001FHP	TXMCKT_6_UNIT	McKittrick Cogen	Online						10		30
33R302AB	_EXISTING_GENERIC_SOLAR_1AXIS	Castor Solar Project	Online	WDAT-0764	ELK HILLS SUB				2	1.5	2
33R415RM	TX-ELK_6_ECKSR2	Eagle Solar	Online	WDAT-1289	ELK HILLS SUB				3	3	7
33R164AB	TWISSL_6_SOLAR	Nickel 1	Online	WDAT-0102	TWISSELMAN SUB				2	1.5	2
33R509RM	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	Kings River Syphon	Online		Tivy Valley 1106 at 12kV				1	0.6	1
33R392	TRNQL8_2_AMASR1	Tranquillity 8 Amarillo	Online	Q-1032	Tranquillity Switchyard 230kV				20	20	56
33R056	TOPAZ_2_SOLAR	Topaz Solar Farm	Online	Q-194	Morro Bay-Midway #1 & #2 lines 230kV				550	550	1066
PGETOADTOWN	TOADTW_6_UNIT	PGE Toadtown	Online						2	0.1	5
33R233AB	TMPLTN_2_SOLAR	Vintner Solar Project	Online	WDAT-0384	TEMPLETON SUB				2	1.5	2
PGETIGERCREEK	TIGRCK_7_UNITS	PGE Tiger Creek	Online						58.00		233.56
16H030	TESLA_1_QF	Schaads Hydro	Online						0	0.23	0
16H033	TESLA_1_QF	Rock Creek Water District	Online						1	0.7	0
33R247AB	TESLA_1_QF	Calaveras Hydro #1	Online						0.1	0.09	0
33R248AB	TESLA_1_QF	Calaveras Hydro #2	Online						0.1	0.09	0
33R249AB	TESLA_1_QF	Calaveras Hydro #3	Online						0.1	0.09	0
33R251AB	TESLA_1_QF	Jackson Creek Hydro	Online						0.5	0.455	2
10H007	TBLMTN_6_QF	Gansner Hydroelectric Project	Online						0.3	0.275	0
10H059	TBLMTN_6_QF	James B. Peter	Online						0.0	0.015	0
10H090	TBLMTN_6_QF	James Crane Hydro	Online						0.0	0.0025	0
12C085	TBLMTN_6_QF	Yuba City Racquet Club	Online						0.1		0
13H120	TBLMTN_6_QF	Lofton Ranch	Online						0.3	0.3	0
13H130	TBLMTN_6_QF	Steve & Bonnie Tetrick	Online						0.1	0.1	0
33R402RM	TBLMTN_6_QF	Mini Hydro	Online		Dobbins 1101				0.2	0.15	1
25C151QPA2	TANHIL_6_SOLART	Berry Petroleum Company - Tannehill Facility	Online						16		95
33R132	SUNSHN_2_LNDFL	Sunshine Landfill	Online	WDAT-0273	GERBER SUB				19	18.96	133
40S030	SUNCAT_2_A1BBT1	Arlington Energy Center III, LLC (63 MW)	Online	Q-1196	Colorado River Substation 230kV				63		0
40S031	SUNCAT_2_A1ABT1	Arlington Energy Center III, LLC (47 MW)	Online	Q-1196	Colorado River Substation 230kV				47		0
33R387	SUMWHT_6_SWSSR1	Summer Wheat (FKA GASNA 6P, LLC (San Joaquin 1A))	Online	Q-632B	Stroud switching station 70kV				19	19.24	50
33R386	STROUD_6_WWHSR1	Winter Wheat (FKA GASNA 36P, LLC (San Joaquin 1B))	Online		Stroud 1101 circuit				2	1.5	4
PGEPVUOG_PY1_ST	STROUD_6_SOLAR	PGE Stroud	Online						20	2.22	37
33R355RM	STOREY_7_MDRCHW	Site 980	Online		pproximately 9.0 miles northeast of St				2	1.835	7
33R357RM	STOREY_2_MDRCH4	Site 1923	Online		pproximately 8.5 miles east southeast				1	0.916	3
33R358RM	STOREY_2_MDRCH3	Site 1302	Online		9 approximately 6.9 miles northeast o				0	0.424	1
33R356RM	STOREY_2_MDRCH2	Site 1174	Online		9 approximately 7.8 miles northeast o				1	0.563	2
01C202QAA	STOILS_1_UNITS	Chevron Richmond Refinery	Online	Q-1016	Standard Oil Switching Station 115kV				20		20
PGESTANISLAUS	STANIS_7_UNIT 1	PGE Stanislaus	Online						91.00		298.52
02C041	SRINTL_6_UNIT	SRI International	Online						6		0
PGETULE	SPRGVL_2_TULE	PGE Tule River	Online						6	0	0
PGESPRINGGAP	SPRGAP_1_UNIT 1	PGE Spring Gap	Online						7	3.21	30
33R254 SPQUIN_6_SRPCQU	SPQUIN_6_SRPCQU	Quincy Facility	Online						12	11.6	346
33R254 SPIFBD_1_PL1X2	SPIFBD_1_PL1X2	Sonora Facility	Online						12	11.6	346
33R254 SPIAND_1_ANDSN2	SPIAND_1_ANDSN2	Anderson II Facility	Online	643					12	11.6	346
33R254 SPI LI_2_UNIT 1	SPI LI_2_UNIT 1	Lincoln Facility	Online						12	11.6	346
33R254 SPBURN_2_UNIT 1	SPBURN_2_UNIT 1	Burney	Online						12	11.6	346
PGESPAULDING1	SPAULD_6_UNIT12	PGE Spaulding 1	Online						7	1.2	27
PGESPAULDING3	SPAULD_6_UNIT 3	PGE Spaulding 3	Online						6	2.7	26
PGESOUTH	SOUTH_2_UNIT	PGE South	Online						7	1.62	39
33R389	SMYRNA_1_DL15R1	Delano Land 1	Online	WDAT-1215	SMYRNA SUB				1	1	3
33R272	SKERN_6_SOLAR1	SKIC Solar 1 (South Kern Solar PV Plant)	Online	Q-653EA	Copus-Old River 70 kV				20	20	47
40S040	_NEW_GENERIC_BATTERY_STORAGE	Sanborn ESS III, LLC	Development	Q-1518	Windhub Substation 230kV				169		0
33R053AB	SISQUC_1_SMARIA	Santa Maria II LFG Power Plant	Online						1	1.42	12
40S008	ULTPCH_1_UCSBT1	Sierra Energy Storage	Development	Q-1116	Melones-Curtis 115kV line				10		0
33R364	SEGS_1_SR2SL2	Sunray 2	Online	TOT691QFC	Tortilla 115kV Bus				20	20	51
PGEPVUOG_PY1_WS	SCHNDR_1_WSTSDE	PGE Westside	Online						15	1.67	28
33R434BIO	SCHNDR_1_OS2BM2	Open Sky Dairy Digester #2	Online	WDAT-1316	SCHINDLER SUB				1	0.8	5
PGEPVUOG_PY1_FP	SCHNDR_1_FIVPTS	PGE Five Points	Online						15	1.67	28
33R416BIO	SANLOB_1_OSFBM1	San Luis Obispo AD	Online	WDAT-1439	SAN LUIS OBISPO SUB				1	0.853	4
33R185AB	SANLOB_1_LNDFIL	Toro SLO Landfill	Online	WDAT-0374	SAN LUIS OBISPO SUB				2	1.5	11
33R089-AR	SANDLT_2_SUNITS	Mojave Solar	Online	Q-125	Coolwater-Kramer 230kv line				250	250	617
PGESALTSPRINGS1	SALTSP_7_UNITS	PGE Salt Springs 1	Online						11.00		24.69
33R338RM	S_RITA_6_SOLAR1	NDP1	Online	WDAT-0718	SANTA RITA SUB				2	1.5	3
33R322	RTREE_2_WIND2	Rising Tree Wind Farm LLC	Online	Q-188	Windhub Substation 230kV				20	19.8	69
33R253 ROLLIN_6_UNIT	ROLLIN_6_UNIT	Rollins Powerhouse	Online						14	14.2	118
33R409RM	RNDMTN_2_SLSPHY1	Silver Springs Facility	Online		Pit 5 Distribution Circuit #1101				1	0.6	2
15H012	RIOOSO_1_QF	Eagle Hydro	Online						0	0.48	0
15H068	RIOOSO_1_QF	Charcoal Ravine	Online						0	0.075	0
15H069	RIOOSO_1_QF	Swiss America	Online						0	0.1	0
15H072	RIOOSO_1_QF	Wright Ranch Hydroelectric	Online						0	0.04	0
33R046AB	RIOOSO_1_QF	Buckeye Hydroelectric Project	Online	WDAT-0003	PLACERVILLE SUB				0	0.4	2
33R171AB	REEDLY_6_SOLAR	2081_Terzian	Online	WDAT-0360	REEDLEY SUB				1	1.25	2
PGEROCKCREEK RCKCRK_7_UNIT 2	RCKCRK_7_UNIT 2	PGE Rock Creek	Online						56.00		371.05
PGEROCKCREEKRPS RCKCRK_7_UNIT 2	RCKCRK_7_UNIT 2	PGE Rock Creek RPS	Online						7	0	36
PGEROCKCREEK RCKCRK_7_UNIT 1	RCKCRK_7_UNIT 1	PGE Rock Creek	Online						56.00		371.05
PGEROCKCREEKRPS RCKCRK_7_UNIT 1	RCKCRK_7_UNIT 1	PGE Rock Creek RPS	Online						7	0	36
33R04S	_UNSPECIFIED_NON_IMPORT	Arlington Wind Power Project - Rattlesnake Road	Online						103	102.9	240
33R339RM	PUTHCR_1_SOLAR1	Putah Creek Solar Farms	Online	WDAT-0141	PUTAH CREEK SUB				2	2	4
08C071	PSWEET_7_QFUNTS	County Of Santa Cruz (Water St. Jail)	Online						0		0
33R139AB	POTTER_7_VECINO	Vecino Vineyards Hydroelectric Plant	Online						0	0.33	0
PGEPOTTER	POTTER_6_UNITS	PGE Potter Valley	Online						9	1.18	28
PGEPOW POEPH_7_UNIT 2	POEPH_7_UNIT 2	PGE Poe	Online						60.00		441.58
PGEPOW POEPH_7_UNIT 1	POEPH_7_UNIT 1	PGE Poe	Online						60.00		441.58
33B074	PNCHPP_1_PL1X2	Midway Peaking	Online						118		0
33B076	PNCHEG_2_PL1X4	Panoche Energy Center (aka Cinergy & EIF - Firebaugh)	Online	Q-52	Panoche Substation				399		0
33R24S	PLAINV_6_BSOLAR	Western Antelope Blue Sky Ranch A	Online	Q-660	Antelope Sub 66 kV Bus				20	20	48
33R373RM	PLACVL_1_RCKCRE	Rock Creek Hydro Project	Online		lt approximately 3.7 miles North of PG				3	2.796	6
PGEPIT7 PIT7_7_UNIT 2	PIT7_7_UNIT 2	PGE Pit 7	Online						56.00		397.60
PGEPIT7 PIT7_7_UNIT 1	PIT7_7_UNIT 1	PGE Pit 7	Online						56.00		397.60
PGEPIT7 PIT6_7_UNIT 2	PIT6_7_UNIT 2	PGE Pit 6	Online						40.00		288.46
PGEPIT6	PIT6_7_UNIT 1	PGE Pit 6	Online						40.00		288.46
33R408RM	PIT5_7_QFUNTS	Grasshopper Flats (FKA Nelson Creek)	Online						1	1.1	5

lse_unique_contract_id	resource	alternative_resource_name	contract_status	project_interconnection_position	interconnection_substation	marginal_addition	marginal_addition_to	total_nameplate_capacity	contracted_nameplate_capacity	sep_contracted_mw_nqc	contract_gwh_annual
PGEPIT5 PIT5_7_PL3X4	PIT5_7_PL3X4	PGE Pit 5	Online						80.00		689.84
PGEPIT5 PIT5_7_PL1X2	PIT5_7_PL1X2	PGE Pit 5	Online						80.00		689.84
PGEPIT4	PIT4_7_PL1X2	PGE Pit 4	Online						95.00		393.78
PGEPIT3	PIT3_7_PL1X3	PGE Pit 3	Online						70.00		314.13
PGEPIT1 PIT1_7_UNIT 2	PIT1_7_UNIT 2	PGE Pit 1	Online						30.50		224.93
PGEPIT1 PIT1_7_UNIT 1	PIT1_7_UNIT 1	PGE Pit 1	Online						30.50		224.93
33R206AB	PIT1_6_FRIVRA	Fall River Mills Solar Project A (FKA Achomawi)	Online	WDAT-0400	PIT #1 PH				2	1.5	2
PGEPHOENIX	PHOENIX_1_UNIT	PGE Phoenix	Online						2	0.9	8
33R165AB	PEORIA_1_SOLAR	Sonora 1	Online	WDAT-0546	PEORIA SUB				2	1.5	2
33R133	PEABDY_2_LNDFL1	Potrero Hills Landfill	Online	WDAT-0336	PEABODY SUB				7	6.784	48
33R083	_EXISTING_GENERIC_WIND	Vantage Wind Energy Center	Online		Puget Sound Service Territory				90	90	277
33W001	_BRANCH_GENERIC_MALIN500_ISL	Puget Seasonal Exchange Agreement	Online						0		0.0
33R375	PAIGES_6_SOLAR	Westside Solar, LLC	Online	Q-526	Schindler-Coalinga #2 70kV line				20	20	55
33R391	ORTGA_6_ME1SL1	Merced 1	Online	WDAT-0857	ORTIGA SUB				3	3	6
33R366	OROLOM_1_SOLAR2	SR Solis Oro Loma Teresina, LLC- Project B	Online	WDAT-0055	ORO LOMA SUB				10	10	26
33R363	OROLOM_1_SOLAR1	SR Solis Oro Loma Teresina, LLC- Project A	Online	WDAT-0055	ORO LOMA SUB				10	10	26
33R350RM	ORLND_6_SOLAR1	2184 Gruber	Online	WDAT-0737	ORLAND B SUB				2	1.5	3
13H024QPA	OLSEN_2_UNIT	Olsen Power Partners	Online						6	5.5	17
33R274	OLIVEP_1_SOLAR2	White River West 19.75 MW Solar Facility	Online	Q-557	Smyrna-Alpaugh 115kV line				20	19.75	44
33R122	OLIVEP_1_SOLAR	White River	Online	Q-479	Smyrna-Alpaugh 115kV line				20	20	33
33R288	OLDRV1_6_SOLAR	RE Old River One LLC	Online	Q-517	Kern-Old River #1 70kV line				20	20	52
33R423BIO	OLDRIV_6_LKVBM1	ABEC #3 LLC dba Lakeview Dairy Biogas	Online	WDAT-1111	OLD RIVER SUB				1	1	5
33R424BIO	OLDRIV_6_CESDBM	ABEC #4 LLC dba CE&S Dairy Biogas	Online	WDAT-1205	OLD RIVER SUB				1	1	6
33R283	OLDRIV_6_BIOGAS	Bidart Dairy III (Old River)	Online	WDAT-0248	OLD RIVER SUB				2	1.84	13
PGENEWCASTLE	NWCSTL_7_UNIT 1	PGE Newcastle	Online						12	0	25
01C201	NEWARK_1_QF	Hayward Area Rec & Park Dist.	Online						0		0.0
33R078	NEENCH_6_SOLAR	Alpine Solar Generating Station	Online	Q-297	Neenach-Bailey 66kV line				66	66	140
33R047AB	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	Tunnel Hill Hydroelectric Project	Online	WDAT-0004	PLACERVILLE SUB				1	0.6	3
33R076AB	_EXISTING_GENERIC_BIOMASS/WOOD	Ortigalita Power Company	Online	WDAT-0015	EL CAPITAN SUB				1	0.75	6
33R107AB	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	SGE Site #1	Online						0	0.0375	0.2
33R127AB	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	T&G Hydro	Online	WDAT-0349	WHITMORE SUB				1	0.52	2.6
33R135	_CREZ_UNBUNDLEDREC_PACIFIC_NORTHWEST_WIND	Halkirk I	Online						150	150	485.0
33R136	_CREZ_UNBUNDLEDREC_PACIFIC_NORTHWEST_WIND	Blackspring Ridge IA	Online						150	150	445.0
33R137	_CREZ_UNBUNDLEDREC_PACIFIC_NORTHWEST_WIND	Blackspring Ridge IB	Online						150	150	445.0
33R169AB	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	Cox Ave Hydro	Online	WDAT-0097	SARATOGA SUB				0	0.112	0.6
33R177AB	_EXISTING_GENERIC_SOLAR_1AXIS	2102_Christensen	Online	WDAT-0361	MCCALL SUB				1	0.999	1.4
33R178AB	_EXISTING_GENERIC_SOLAR_1AXIS	2065-Rogers	Online	WDAT-0369	GERBER SUB				0	0.25	0.4
33R180AB	_EXISTING_GENERIC_SOLAR_1AXIS	2113_Fritzjarrell	Online	WDAT-0765	JESSUP SUB				1	0.999	1.4
33R187AB	_EXISTING_GENERIC_SOLAR_1AXIS	2041_Alvares	Online	WDAT-0376	TYLER SUB				0	0.25	0.4
33R188AB	_EXISTING_GENERIC_SOLAR_1AXIS	2158-Stroing	Online	WDAT-0358	RED BLUFF SUB				1	0.75	1.1
33R190AB	_EXISTING_GENERIC_SOLAR_1AXIS	2096_Cotton	Online	WDAT-0271	WYANDOTTE SUB				1	0.999	1.4
33R191AB	_EXISTING_GENERIC_SOLAR_1AXIS	2125_Jarvis	Online	WDAT-0767	HONCUT SUB				1	0.999	1.4
33R195AB	_EXISTING_GENERIC_SOLAR_1AXIS	2056_Jardine	Online	WDAT-0394	PASO ROBLES SUB				1	0.999	1.4
33R197AB	_EXISTING_GENERIC_SOLAR_1AXIS	2179-Smotherman	Online	WDAT-0393	OLIVEHURST SUB				0	0.25	0.4
33R198AB	_EXISTING_GENERIC_SOLAR_1AXIS	2094_Buzzelle	Online	WDAT-0378	WYANDOTTE SUB				1	0.999	1.4
33R202AB	_EXISTING_GENERIC_SOLAR_1AXIS	2059_Scherz	Online	WDAT-0443	TEMPLETON SUB				1	0.5	0.7
33R204AB	_EXISTING_GENERIC_SOLAR_1AXIS	2103_Hill	Online	WDAT-0397	TEMPLETON SUB				1	0.75	1.1
33R216AB	_EXISTING_GENERIC_SOLAR_FIXED	Kingsburg 3	Online	WDAT-0448	KINGSBURG SUB				1	0.75	1.1
33R294AB	_EXISTING_GENERIC_SOLAR_1AXIS	APEX 646-460	Online	WDAT-0685	REEDLEY SUB				1	0.75	1.1
33R300AB	_EXISTING_GENERIC_SOLAR_1AXIS	Sirius Solar Project	Online	WDAT-1065	WILSON SUB				1	0.999	1.4
33R301AB	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	Lincoln Metering and Hydroelectric Station	Online	WDAT-0700	DEL MAR SUB				0	0.32	1.6
33R304AB	_EXISTING_GENERIC_SOLAR_1AXIS	Peacock Solar Project	Online	WDAT-0997	OROSI SUB				1	0.999	1.4
33R316AB	_EXISTING_GENERIC_SOLAR_1AXIS	2154 Foote	Online	WDAT-0742	TRES VIAS SUB				0	0.25	0.4
33R318AB	_EXISTING_GENERIC_SOLAR_1AXIS	2192 Ramirez	Online	WDAT-0872	CORNING SUB				1	0.5	0.7
33R334RM	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	Cedar Flat	Online		60/12kV 7.5 MVA Willow Creek Substa				0	0.3	1.1
33R353RM	_EXISTING_GENERIC_SOLAR_1AXIS	2105 Hart	Online	WDAT-0748	CORNING SUB				0	0.498	1.0
33R378RM	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	Goose Valley Hydro	Online		101 Circuit on Burney Substation BK-1				0	0.28	0.8
33R407RM	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	Arbuckle Mountain Hydro Facility	Online		CalTrans Facility: Wildwood 12kV circ				0	0.335	0.5
33R082	MTNPOS_1_UNIT	Mt. Poso Cogeneration Plant	Online		PG&E's Ultra Power				44	44	328.0
33R144	MSOLAR_2_SOLAR1	Mesquite Solar 1	Online		Hassayampa bus				150	150	305.0
33R292	MRLSDS_6_SOLAR1	Morelos Solar, LLC (Morelos Del Sol)	Online	Q-775	Arco-Twisselman 70 KV				15	15	32.6
33R148	MNDOTA_1_SOLAR1	North Star Solar I	Online	Q-607	Mendota Substation 115 kV bus				60	60	136.0
08C097	MLPTAS_7_QFUNTS	City Of Milpitas	Online						0		0.0
02C047	MISSIX_1_QF	Arden Wood Benevolent Assoc.	Online						0		0.0
02C048	MISSIX_1_QF	1080 Chestnut Corp.	Online						0		0.0
02C058	MISSIX_1_QF	Nihonmachi Terrace	Online						0		0.0
33R343	MIDWYS_2_MIDSL1	Midway I Solar Farm - 83WI 8ME, LLC	Online		IID 230kV Hoober switching yard				50	50	119.3
33R282AB	MERCED_1_SOLAR2	Merced Solar Project	Online	WDAT-0420	MERCED SUB				2	1.5	2.1
33R285AB	MERCED_1_SOLAR1	Mission Solar Project	Online	WDAT-0419	MERCED SUB				2	1.5	2.1
33R032-AR	MENBIO_6_RENEW1	CalRenew 1	Online	Q-261A	Mendota-San Joaquin-Helm 70kV line				5	5	9.0
33R108RM	MCCALL_1_QF	Fishwater Release Hydro	Online		oodward 2108 distribution circuit at 2				1	0.52	3.3
33R207AB	MCARTH_6_FRIVRB	Fall River Mills Solar Project B (FKA Ahjumawi)	Online	WDAT-0411	MCARTHUR SUB				2	1.5	2.1
33R390	MANTEC_1_ML1SR1	Manteca Land 1	Online		Manteca 1705				1	1	2.0
13H047	MALCHQ_7_UNIT 1	Malacha Hydro L.P.	Online						26	26	0.0
33R382	MAGUND_1_BKSSR2	Bakersfield 1	Online	WDAT-1014	MAGUNDEN SUB				5	5.25	12.9
33R388	MAGUND_1_BKISR1	Bakersfield Industrial 1	Online	WDAT-1207	MAGUNDEN SUB				1	1	2.3
33R403RM	LOWGAP_7_QFUNTS	Matthews Dam Hydro	Online		101 approximately 8 miles South of P				1	1.35	6.2
33R347RM	LOWGAP_1_SUPHR	Mill Sulphur Creek Project	Online		PG&E 12 KV 1101 Bridgeville Circuit				1	0.995	2.5
33R232AB	LOCKFD_1_KSOLAR	Kettleman Solar Project	Online	WDAT-0385	LOCKEFORD SUB				1	1	1.4
33R184AB	LOCKFD_1_BEARCK	Bear Creek Solar Project	Online	WDAT-0288	LOCKEFORD SUB				2	1.5	2.1
33R201AB	LIVEOK_6_SOLAR	2127_Harris	Online	WDAT-0769	LIVE OAK SUB				1	1.25	1.8
33R256	LHILLS_6_SOLAR1	Lost Hills Solar	Online	Q-484	Arco-Carneras 70 kV Line				20	20	47.0
33R255	LEPRFD_1_KANSAS	RE Kansas LLC	Online	Q-636	eprino Food (Lemoore) 115 kV Tap Lin				20	20	46.9
405024	LECONT_2_LESBT1	LeConte	Online	Q-1175	Imperial Valley Substation 230 kV				40		0.0
33R324	LAMONT_1_SOLAR3	Woodmere Solar Farm	Online	Q-744	Lamont Sub 115 KV Bus				15	15	32.9
33R396	LAMONT_1_SOLAR2	Redwood 4 Solar Farm	Online	Q-744	Lamont Sub 115 KV Bus				20	20	52.1
33R267	KNTSTH_6_SOLAR	RE Kent South LLC	Online	Q-650AB	Henrietta-Tulare Lake 70kV				20	20	48.0
33R215AB	KNGBRG_1_KBSLR2	Kingsburg 2	Online	WDAT-0446	KINGSBURG SUB				2	1.5	2.1
33R214AB	KNGBRG_1_KBSLR1	Kingsburg 1	Online	WDAT-0444	KINGSBURG SUB				2	1.5	2.1
PGEKINGSRIVER	KINGRV_7_UNIT 1	PGE Kings River	Online						52.00		131.65
PGEKILARC	KILARC_2_UNIT 1	PGE Kilarc	Online						3	0	0.0
25C049QAA2	KERNRG_1_UNITS	Aera Energy LLC (South Belridge)	Online						20		43.8
33R296AB	KERMAN_6_SOLAR2	Fresno Solar West	Online	WDAT-0709	KERMAN SUB				2	1.5	2.1
33R295AB	KERMAN_6_SOLAR1	Fresno Solar South	Online	WDAT-0964	KERMAN SUB				2	1.5	2.1
PGEKERCKHOFF2	KERKH2_7_UNIT 1	PGE Kerckhoff 2	Online						155.00		348.53
PGEKERCKHOFF1 KERKH1_7_UNIT 3	KERKH2_7_UNIT 1	PGE Kerckhoff 1	Online						11	0	0.0
PGEKERCKHOFF1 KERKH1_7_UNIT 1	KERKH2_7_UNIT 1	PGE Kerckhoff 1	Online						11	0	0.0
33R323	KEKAWK_6_UNIT	Kekawaka Creek Hydroelectric Facility	Online		Willits-Garberville 60 kV				6	5.5	13.3
33R160	KANSAS_6_SOLAR	Kansas South	Online	Q-637	Henrietta-Jacobs Corner 70kV				20	20	48.2
33R161	JAYNE_6_WLSLR	Westlands Solar Farms PV1	Online	Q-633	Gates-Coalinga 70 kV Line #1				18	18	36.0
33R163	JAWBNE_2_NSRWND	North Sky River Energy, LLC	Online	Q-132	Highwind Substation 230kV bus				162	162	493.0
405029	CRIMSN_2_CRMBT2	Sonoran West Holdings 2	Development	Q-1192	Colorado River Substation 230kV				150		0.0
33R064	IVANPA_1_UNIT3	Ivanpah Unit 3	Online	Q-233	Ivanpah Substation 115kV				126	126.1	325.5
33R063	IVANPA_1_UNIT1	Ivanpah Unit 1	Online	Q-162	r-Cool Water-Dunn Siding-Mountain P				114	114.46	294.9
PGEINSKIP	INSKIP_2_UNIT	PGE Inskip	Online						8	0	0.0

lse_unique_contract_id	resource	alternative_resource_name	contract_status	project_interconnection_position	interconnection_substation	marginal_addition	marginal_addition_to	total_nameplate_capacity	contracted_nameplate_capacity	sep_contracted_mw_nqc	contract_gwh_annual
04C130	IGNACO_1_QF	Greater Vallejo Recreation District	Online						0		0.0
04H134	IGNACO_1_QF	John Neerhout Jr.	Online						0	0.085	0.0
04S142	IGNACO_1_QF	Robin Williams Solar Power Gen	Online						0	0.0072	0.0
PGEPVUOG_PY2_HU	HURON_6_SOLAR	PGE Huron	Online						20	2.22	40.4
PGEHUMBOLDT HUMBPP_6_UNITS	HUMBPP_6_UNITS	NewHumboldt	Online						82		314.3
PGEHUMBOLDT HUMBPP_1_UNITS3	HUMBPP_1_UNITS3	NewHumboldt	Online						82		314.3
33R281AB	HOLSTR_1_SOLAR2	Hollister Solar Project	Online	WDAT-0686	HOLLISTER SUB				2	1.5	2.1
33R210AB	HOLSTR_1_SOLAR	San Benito Smart Park	Online	WDAT-0272	HOLLISTER SUB				2	1.5	2.1
PGEHAMILTON	HMLTBR_6_UNIT5	PGE Hamilton Branch	Online						5	0	0.0
33R077AB	HIGGNS_7_QFUNTS	Combie North Powerhouse	Online						1	0.5	1.3
33R259	HENRTS_1_SOLAR	Henrietta Solar PV	Online	Q-581	Henrietta-GWF 115 kV Line				100	100	244.4
33R307AB	HENRTA_6_SOLAR1	Lemoore 1	Online	WDAT-1012	HENRIETTA SUB				2	1.5	2.1
PGEHELMSGEN1 HELMPG_7_UNIT 3	HELMPG_7_UNIT 3	Helms Generation	Online						404		0.0
PGEHELMSGEN1 HELMPG_7_UNIT 2	HELMPG_7_UNIT 2	Helms Generation	Online						404		0.0
PGEHELMSGEN1 HELMPG_7_UNIT 1	HELMPG_7_UNIT 1	Helms Generation	Online						404		0.0
33R058-AR	HATRDG_2_WIND	Hatchet Ridge Wind	Online	Q-74	Pit #3-Round Mountain 230kV Line				103	103.2	303.0
PGEHAT2	HATCR2_7_UNIT	PGE Hat 2	Online						9	4.06	39.8
PGEHAT1	HATCR1_7_UNIT	PGE Hat 1	Online						9	2.88	28.3
33R442BIO	HARDWK_6_STWBM1	David Tevelde Dairy Digester	Online	WDAT-1425	HARDWICK SUB				1	1	6.1
PGEHALSEY	HALSEY_6_UNIT	PGE Halsey	Online						11	4.31	44.3
PGEHAAS	HAASPH_7_PL1X2	PGE Haas	Online						144.00		358.06
33R438BIO	GUERNS_6_VH2BM1	Verwey-Hanford Dairy Digester Genset #2	Online	WDAT-1237	GUERNSEY SUB				1	1.028	6.8
PGEPVUOG_PY3_GU	GUERNS_6_SOLAR	PGE Guernsey	Online						20	2.22	47.9
33R439BIO	GUERNS_6_HD3BM3	Verwey-Hanford Dairy Digester III	Online	WDAT-1317	GUERNSEY SUB				1	1.028	6.8
01C084QAA	GRZZLY_1_BERKLY	Berkeley Cogeneration	Online						10		8.0
33R100	GRSCRK_6_BGCKWW	Big Creek Waterworks	Online		31554_GrousCrk 60kV_GU1				5	4.8	8.0
33R362	GLDFGR_6_SOLAR2	Portal Ridge Solar Project C	Online	WDAT-1098	VACA DIXON SUB				11	11.4	29.7
33R376	GIFFEN_6_SOLAR1	Aspiration Solar G LLC	Online	WDAT-0342	GIFFEN SUB				9	9	23.3
PGEPVUOG_PY2_GI	GIFFEN_6_SOLAR	PGE Giffen	Online						10	1.11	20.1
33R090	GENESI_2_STG	Genesis Solar	Online	Q-193	Colorado River Substation 500kV				250	250	524.0
PGEGATEWAY	GATWAY_2_PL1X3	Gateway	Online						563		500.0
40S020	GATEWY_2_GESBT1	Gateway Energy Storage, LLC	Online	Q-1170	Otay Mesa Switchyard 230 kV				50		0.0
PGEPVUOG_PY3_WG	GATES_2_WSOLAR	PGE West Gates	Online						10	1.11	20.3
PGEPVUOG_PY3_GA	GATES_2_SOLAR	PGE Gates	Online						20	2.22	41.3
33R422BIO	GANSO_1_WSTBM1	ABEC #2 LLC dba West-Star North Dairy Biogas	Online	WDAT-1112	GANSO SUB				1	1	5.7
04C140	FULTON_1_QF	Airport Club	Online						0		0.0
33R335RM	FULTON_1_QF	Clover Leaf	Online		; 60/12kV 1.75 MVA Whitmore Substa				0	0.2	0.8
33R336RM	FULTON_1_QF	McFadden Hydroelectric Facility	Online		;E's potter valley powerhouse circuit 1				0	0.356	1.4
19H055	FTSWRD_7_QFUNTS	Tom Benninghoven	Online						0	0.025	0.0
33R108-AR	FTSWRD_6_TRFORK	Norman Ross Burgess Restructuring	Online		60 kV bus at Fort Seward Junction				2	1.625	8.0
33R513RM	FROGTN_1_UTICAM	Murphys Powerhouse	Online		anislaus 1701 distribution circuit at 17				3	3	13.0
33R418RM	FROGTN_1_UTICAA	Angels Powerhouse	Online		ogtown 17kV #1702 Distribution Circ				1	1	6.2
25C063QPA2	FRITO_1_LAY	Frito Lay Cogen	Online						2		0.7
33R374	FRESHW_1_SOLAR1	CED Corcoran Solar 3, LLC	Online	Q-529	Corcoran- Kingsburg #1 115kV line				20	20	49.2
33R329	FLOWD2_2_FPLWND	Diablo Winds	Online		Elworthy Substation				18	18	62.0
25C293	FELLOW_7_QFUNTS	Sentinel Peak Resources (Dome)	Online						6		0.0
33R008	ETIWND_6_MWDETI	Etiwanda	Online						24	24	37.0
33R016	ELNIDP_6_BIOMAS	El Nido	Online						9	9	72.0
PGEMOSSLANDING	ELKHRN_1_EESX3	PGE Moss Landing Energy Storage	Online						183		0.0
PGEELECTRA	ELECTR_7_PL1X3	PGE Electra	Online						98.00		331.18
33R174AB	ELCAP_1_SOLAR	2097_Helton	Online	WDAT-0770	EL CAPITAN SUB				2	1.5	2.1
33R253 DUTCH2_7_UNIT 1	DUTCH2_7_UNIT 1	Dutch Flat #2 Powerhouse	Online						14	14.2	118.0
PGEDUTCHFLAT1	DUTCH1_7_UNIT 1	PGE Dutch Flat 1	Online						22	16.8	68.9
33R138	DSRTSN_2_SOLAR1	Desert Center Solar Farm	Online	Q-146, Q-147	Red Bluff Substation 230kV				300	300	619.0
PGEDESABLA	DSABLA_7_UNIT	PGE De Sabla	Online						19	4.35	76.5
PGEDRUM2	DRUM_7_UNIT 5	PGE Drum 2	Online						49.50		219.61
PGEDRUM1 DRUM_7_PL3X4	DRUM_7_PL3X4	PGE Drum 1	Online						27.00		82.66
PGEDRUM1 DRUM_7_PL1X2	DRUM_7_PL1X2	PGE Drum 1	Online						27.00		82.66
40S021	DRACKR_2_DSUBT1	Blythe Energy Storage 110, LLC	Online	Q-294	Colorado River Substation 500kV				63		0.0
33R405BIO	DIXNLD_1_LNDFL	Zero Waste Energy	Online		anding 2103 21 kV 4-wires Distributio				2	1.6	6.1
25C248	DISCOV_1_CHEVRN	Chevron Usa (Eastridge)	Online						49		0.0
PGEDIABLO2	DIABLO_7_UNIT 2	Diablo 2	Online						1118		8976.7
PGEDIABLO1	DIABLO_7_UNIT 1	Diablo 1	Online						1122		8121.1
33R261AB	DAVIS_1_SOLAR2	Grassland #4	Online	WDAT-0438	DAVIS SUB				1	1	1.4
33R260AB	DAVIS_1_SOLAR1	Grassland #3	Online	WDAT-0433	DAVIS SUB				1	1	1.4
33R440BIO	DAIRLD_1_MD2BM1	Verwey Madera Dairy Digester Genset #2	Online	WDAT-1318	DAIRYLAND SUB				1	0.8	0.0
33R401RM	DAIRLD_1_MD1SL1	Madera 1	Online	WDAT-1243	DAIRYLAND SUB				2	1.5	3.9
33R459BIO	DAIRLD_1_CR1BM1	Diamond H Dairy Power	Online	WDAT-1536	DAIRYLAND SUB				2	2	13.7
33R257	CUYAMS_6_CUYSR1	Cuyama Solar Array	Online	Q-356	Taft-Cuyama #1 70kV line				40	40	104.0
33R278	CUMBIA_1_SOLAR	Columbia Solar Energy, LLC	Online	Q-687	ttsburg - Kirker - Columbia Steel 115 k				19	19	40.6
13I123	CTNWDP_1_QF	Hat Creek Hereford Ranch	Online						0	0.1	0.0
18C001	CSTRVL_7_QFUNTS	Monterey Regional Water	Online						2	1.74	0.0
33R337RM	CSTOGA_6_LNDFIL	Clover Flat LFG	Online	WDAT-0311	CALISTOGA SUB				1	0.848	5.7
01C045	CROKET_7_UNIT	Crockett Cogen	Online						260		0.0
PGESANJOAQU3	CRNEVL_6_SJQN 3	PGE San Joaquin 3	Online						4	0	0.0
PGESANJOAQU2	CRNEVL_6_SJQN 2	PGE San Joaquin 2	Online						3	0	7.6
PGECRANEVALLEY	CRNEVL_6_CRNVA	PGE Crane Valley	Online						1	0.11	2.2
33R50S	_NEW_GENERIC_SOLAR_FIXED	Terry	Development	WDAT-1818	WASCO SUB				5	4.66	13
PGECRESTA	CRESTA_7_PL1X2	PGE Cresta	Online						70.00		247.63
PGECOWCREEK	COWCRK_2_UNIT	PGE Cow Creek	Online						2	0.01	7.7
33R28O	CORCAN_1_SOLAR1	Corcoran Solar LLC	Online	WDAT-0095	CORCORAN SUB				20	19.76	49.7
33R079	COPMTN_2_SOLAR1	CM48	Online	205	NVE Merchant 230 kV Switchyard				48	48	100.0
33R060	COPMTN_2_CM10	CM10	Online						10	10	23.0
33R166	COPMT2_2_SOLAR2	Copper Mountain Solar 2	Online	Q-503	Merchant Switchyard 230 kV				150	150	303.0
33R243	CONTRL_1_CASAD3	Mammoth G3	Online	WDAT-0894	WOODLAND SUB				14	14	98.5
33R275	CONTRL_1_CASAD1	Mammoth G1	Online	WDAT-0892	TUPMAN SUB				8	7.5	52.8
PGECOLUSA	COLUSA_2_PL1X3	Colusa	Online						641		509.4
33R481BIO	COLPIN_6_COLLNS	Collins	Online		lton Branch-Chester 60KV transmissio				3	3	21.0
PGECOLEMAN	COLEMN_2_UNIT	PGE Coleman	Online						13	2.28	53.8
33R099	COGNAT_1_UNIT	DTE Stockton	Online		Stockton A Substation				45	44.5	311.6
33R205AB	COCOSB_6_SOLAR	ley Executive RV and Boat Storage AKA Oakley Executive - S	Online	WDAT-0354	CONTRA COSTA SUB				2	1.5	2.1
PGECENTERVILLE	CNTRVL_6_UNIT	PGE Centerville	Online						6	0	0.0
01C199	CLRMTK_1_QF	Satellite Senior Homes	Online						0		0.0
01C245	CLRMTK_1_QF	Orinda Senior Village	Online						0		0.0
PGELIMESADL	CLRKRD_6_LIMESD	PGE Lime Saddle	Online						2	0	0.0
33R237AB	CLOVDL_1_SOLAR	FSEC 1	Online	WDAT-0581	CLOVERDALE SUB				2	1.5	2.1
33R017	CHWCHL_1_BIOMAS	Chowchilla	Online						9	9	72.0
33R500BIO	_NEW_GENERIC_BIOMASS/WOOD	Tracy Desalination Project	Development	WDAT-2187	TRACY SUB				3	3	24
33B110	CHICPK_7_UNIT 1	Chicago Park Powerhouse	Online						40.00		164.00
25C003	CHEVCY_1_UNIT	Chevron USA (Cymric)	Online						16		0.0
25C249	CHEVCO_6_UNIT 2	Aera Energy LLC. (Coalinga)	Online						9		0.0
25C055	CHEVCO_6_UNIT 1	Chevron USA (coalinga)	Online						17		0.0
25C002	CHEVCD_6_UNIT	Chevron USA (taft/cadet)	Online						10		0.0
33R342RM	CEDRCK_6_UNIT	Water Wheel Ranch	Online		V Cedar Creek Substation 1101 distrib				1	0.975	3.9
33R052	CAVLSR_2_RSOLAR	Plains Ranch II LLC (HPR2), part of California Valley Solar R	Online	Q-239	Midway-Morro Bay 230kV line				210	210	550.0

lse_unique_contract_id	resource	alternative_resource_name	contract_status	project_interconnection_position	interconnection_substation	marginal_addition	marginal_addition_to	total_nameplate_capacity	contracted_nameplate_capacity	sep_contracted_mw_nqc	contract_gwh_annual
33R088	CAVLSR_2_BSOLAR	ins Ranch III LLC (HPR3), part of California Valley Solar Ranc	Online	Q-239	Midway-Morro Bay 230kV line				40	40	112.0
33R502	_NEW_GENERIC_SOLAR_1AXIS	Tulare CSG	Development	WDAT-2614	ALPAUGH SUB				3	3	8
PGECARIBOU1 CARBOU_7_UNIT 1	CARBOU_7_UNIT 1	PGE Caribou 1	Online						37.50		119.24
PGECARIBOU2	CARBOU_7_PL4X5	PGE Caribou 2	Online						120.00		334.97
PGECARIBOU1 CARBOU_7_PL2X3	CARBOU_7_PL2X3	PGE Caribou 1	Online						37.50		119.24
PGEPVUOG_PY2_CA	CANTUA_1_SOLAR	PGE Cantua	Online						20	2.22	40.1
33R487BIO	_NEW_GENERIC_BIOMASS/WOOD	WCW Generator 1	Development	WDAT-1827	MALAGA SUB				3	3	24
33R344	CALFTS_2_CFSSR1	California Flats Solar Farm, LLC	Online	Q-877	Morro-Gates 230kV line				150	150	380.7
PGEBUTTVAL	BUTTVL_7_UNIT 1	PGE Butt Valley	Online						41.00		112.40
33R483	BURNYF_2_UNIT 1	Burney Forest Products	Online		Round Mountain				29	29	217.5
PGEBUCKSCREEK	BUCKCK_7_PL1X2	PGE Bucks Creek	Online						65.00		180.71
PGEOAKFLAT	BUCKCK_7_OAKFLT	PGE Oak Flat	Online						1	0.4	5.0
33R377RM	BUCKCK_2_HYDRO	Lassen Station Hydro	Online		ıd, approximately 3.5 miles northeast				1	0.995	3.4
33R142	BRODIE_2_WIND	Coram Brodie	Online	79, 91	ifornia Edison (SCE) Windhub Substati				102	102	285.9
33R167	BRDSLD_2_SHLO3B	Shiloh IV Wind Project	Online	Q-39	Birds Landing Switching Station 230kV				100	100	269.0
33R145	BRDSLD_2_SHLO3A	Shiloh III Wind Project	Online	Q-39	Birds Landing Switching Station 230kV				100	100	341.1
33R033-AR	BRDSLD_2_SHILO2	Shiloh II Wind	Online		Birds Landing Substation (230 kV)				150	150	509.0
33R013-AR	BRDSLD_2_MTZUMA	Montezuma Wind Energy Center	Online	Q-22	Birds Landing Sub 230 kV Bus				37	36.8	129.0
33R152	BRDSLD_2_MTZUM2	Montezuma II	Online	Q-222	Birds Landing Substation 230kV				78	78.2	201.0
33R341RM	BRDGVL_7_BAKER	Baker Creek Hydroelectric Project	Online		? kV circuit approximately 2.5 miles ea				1	1.495	4.3
33R253 BOWMN_6_HYDRO	BOWMN_6_HYDRO	Bowman Powerhouse	Online						14	14.2	118.0
PGEALTA	BNNIEN_7_ALTAPH	PGE Alta	Online						2	0.35	3.4
40S018	BLM W_2_COSBT1	Coso Battery Storage, LLC	Online	Q-274, Q-275	Palomar Energy Switchyard 230 kV				60		0.0
40S011	BLKDIA_2_BDEBT1	Diablo Energy Storage	Online	Q-1111	Pittsburgh Substation 230kV				50		0.0
40S015	BLKDIA_2_BDEBT1	Diablo Energy Storage	Online	Q-1111	Pittsburgh Substation 230kV				50		0.0
40S016	BLKDIA_2_BDEBT1	Diablo Energy Storage	Online	Q-1111	Pittsburgh Substation 230kV				50		0.0
40S017	BLKDIA_2_BDEBT1	Diablo Energy Storage	Online	Q-1111	Pittsburgh Substation 230kV				50		0.0
33R258	BLCKWL_6_SOLAR1	Blackwell Solar	Online	WDAT-0023	BLACKWELL SUB				12	12	28.0
PGEJBBLACK BLACK_7_UNIT 2	BLACK_7_UNIT 2	PGE J.B.Black	Online						86.00		532.62
PGEJBBLACK BLACK_7_UNIT 1	BLACK_7_UNIT 1	PGE J.B.Black	Online						86.00		532.62
33R315AB	BKRFLD_2_SOLAR1	Bakersfield III	Online	WDAT-0868	BAKERSFIELD SUB				1	1.4	2.0
33R493	BIOMAS_1_UNIT 1	Woodland Biomass	Online		Woodland Biomass 115kV tap				25	25	168.2
33R385	BIGSKY_2_BSKSR8	Bayshore Solar C, LLC	Online	Q-768	Antelope Substation 230kV bus				20	20	57.0
33R384	BIGSKY_2_BSKSR7	Bayshore Solar B, LLC	Online	Q-768	Antelope Substation 230kV bus				20	20	57.0
33R383	BIGSKY_2_BSKSR6	Bayshore Solar A, LLC	Online	Q-768	Antelope Substation 230kV bus				20	20	57.0
40S027	BIGSKY_2_AS2BT1	Lancaster Area	Online	Q-1208	Antelope Substation 220kV				127		0.0
PGEBELDEN	BELDEN_7_UNIT 1	PGE Belden	Online						125.00		268.39
PGEBALCH2 BALCHS_7_UNIT 3	BALCHS_7_UNIT 3	PGE Balch 2	Online						52.50		356.36
PGEBALCH2 BALCHS_7_UNIT 2	BALCHS_7_UNIT 2	PGE Balch 2	Online						52.50		356.36
PGEBALCH1	BALCHS_7_UNIT 1	PGE Balch 1	Online						34.00		83.60
33R073	AVSOLR_2_SOLAR	AV Solar Ranch One	Online	Q-412	Whirlwind Substation 230kV				242	241.5	620.9
33R124	AVENAL_6_SUNCTY	Sun City	Online	Q-19	Crestwood Substation 69 kV				20	20	32.0
33R125	AVENAL_6_SANDDG	Sand Drag	Online	Q-22	Birds Landing Sub 230 kV Bus				19	19	30.0
33R368	AVENAL_6_AVSLR2	CED Avenal, LLC - Project B	Online	WDAT-0124	AVENAL SUB				8	7.9	19.7
33R365	AVENAL_6_AVSLR1	Avenal Solar - Project A	Online	WDAT-0124	AVENAL SUB				8	7.9	19.7
33R123	AVENAL_6_AVPARK	Avenal Park	Online	Q-20	Whirlwind 220kV				6	6	10.0
33R120	ATWELL_1_SOLAR	Atwell Island	Online	Q-340	Smyrna-Alpaugh 115kV line				20	20	33.0
33R330	ASTORA_2_SOLAR1	RE Astoria LLC	Online	Q-746	Whirlwind Substation 220kV				100	100	298.1
33R162	ARVINN_6_ORION1	FRV Orion Solar I	Online	Q-621A	Weedpatch - San Bernard 70 KV line				12	12	28.0
33R118	ALPSLR_1_SPSSLR	Alpaugh Solar Project	Online	Q-304	Smyrna-Alpaugh 115kV line				50	50	113.0
33R119	ALPSLR_1_NTHSLR	Alpaugh North	Online	Q-473	Smyrna-Alpaugh 115kV line				20	20	33.0
33R340RM	ALLGNY_6_HYDRO1	Salmon Creek Hydroelectric Project	Online		PG&E's 12kV Alleghany 1101 circuit				1	0.52	2.3
33R084	AGUCAL_5_SOLAR1	Agua Caliente Solar Project	Online	Q-468	Hoodoo Wash Switchyard 500 kV				290	290	688.5
33R244	ACACIA_6_SOLAR	West Antelope	Online	Q-651A	Antlelope Sub 66 kV Bus				20	20	53.0
33R291	7STDRD_1_SOLAR1	Shafter Solar Farm	Online	WDAT-0096	7TH STANDARD SUB				20	19.98	52.6
GENVAMO_Solar	_EXISTING_GENERIC_SOLAR_FIXED	PCIA VAMO Solar Sales	Online						0		5857.6
GENVAMO_Wind	_EXISTING_GENERIC_WIND	PCIA VAMO Wind Sales	Online						0		1287.3
GENVAMO_Biomass	_EXISTING_GENERIC_BIOMASS/WOOD	PCIA VAMO Biomass Sales	Online						0		660.0
GENVAMO_Biogas	_EXISTING_GENERIC_BIOGAS_LANDFILLGAS	PCIA VAMO Biogas Sales	Online						0		174.5
GENVAMO_Geothermal	_EXISTING_GENERIC_GEOTHERMAL	PCIA VAMO Geothermal Sales	Online						0		130.4
GENVAMO_SmallHydro	_EXISTING_GENERIC_INSTATE_SMALL_HYDRO	PCIA VAMO Small Hydro Sales	Online						0		668.1
ModCAM_Storage_2024	_EXISTING_GENERIC_BATTERY_STORAGE	ModCAM Storage Allocation	Online						49.959		0.0
ModCAM_Storage_2032	_EXISTING_GENERIC_BATTERY_STORAGE	ModCAM Storage Allocation	Online						43.659		0.0
CAM_NaturalGas_2024	_EXISTING_GENERIC_COMBINED_CYCLE	CAM Natural Gas Allocation_2024	Online						1180.698		0.0
CAM_NaturalGas_2025	_EXISTING_GENERIC_COMBINED_CYCLE	CAM Natural Gas Allocation_2025	Online						679.884		0.0
CAM_NaturalGas_2026	_EXISTING_GENERIC_COMBINED_CYCLE	CAM Natural Gas Allocation_2026	Online						364.698		0.0
CAM _Import_2024	_BRANCH_GENERIC_MALIN500_ISL	CAM Import Gas Allocation	Online						45		0.0
Cam_Battery_Existing_2024	_EXISTING_GENERIC_BATTERY_STORAGE	CAM Battery Allocation_Existing_2024	Online						336		0.0
Cam_Battery_Existing_2025	_EXISTING_GENERIC_BATTERY_STORAGE	CAM Battery Allocation_Existing_2025	Online						334.5		0.0
CAM_Battery_Programatic_2026	_NEW_GENERIC_BATTERY_STORAGE	CAM Battery Allocation_Progrematic_2026	PlannedNew						57		0.0
CAM_Battery_Programatic_2028	_NEW_GENERIC_BATTERY_STORAGE	CAM Battery Allocation_Progrematic_2028	PlannedNew						856.99		0.0
GENPCIAGHGFREESALES_LargeHydro	_EXISTING_GENERIC_INSTATE_LARGE_HYDRO	PCIA GHG Free Large Hydroelectric Allocation	Online						0.00		4695.44
Imported_Hydro	_BRANCH_GENERIC_MALIN500_ISL										1827
Shed_DR	_EXISTING_GENERIC_DR		Online								2

lse_unique_contract_id	is_hybrid_paired	can_charge_from_grid	total_generator_mw	total_storage_mw	contracted_storage_mw	solar_technology_sub_type	storage_technology_sub_type	total_storage_depth_mwh	contracted_storage_depth_mwh	viability_cod_reasonableness	viability_technical_feasibility
33B013U02											
33R520RM											
40S026							Li		108		
33R494											
33R488											
40S038							Li		400		
33R436BIO											
40S034							Li		398.8		
33R512BIO											
40S039							Li		320		
40S009							Li		100		
40S036							Li		500		
40S022					46	1Axis	Li		184		
40S023					15	1Axis	Li		60		
33R514BIO											
33R495											
33R499						1Axis					
33R490											
33R437BIO											
33R491											
40S014							Li		300		
33R522											
33R393						1Axis					
33R492											
33R524											
40S035							Li		1100		
40S032							Li		1400		
33R503						1Axis					
40S037							Li		1200		
40S025							Li		528		
33R433BIO											
33R504						1Axis					
40S033							Li		400		
40S028							Li		40		
33R419						1Axis					
33R420						1Axis					
33R421						1Axis					
33R489											
33R523											
CPE00001R											
CPE00002R											
CPE00003R											
CPE00004R											
CPE00005R											
CPE00006R											
CPE00007R											
CPE00008R											
CPE00009R											
CPE00010R											
CPE00011R											
FIT_Baseload											
FIT_Non-Peaking_AA_SmallHydro											
FIT_Non-Peaking_AA_Wind											
FIT_Peaking_AA											
FIT_SB1122_Cat1											
FIT_SB1122_Cat2_Ag											
FIT_SB1122_Cat2_Dairy											
FIT_SB1122_Cat3											
GENCPELOCALTHERMAL											
GENGTSRSOLARPV											
GENIRPBPOTSOLAR_Arizona											
GENIRPBPOTSolar_Imperial											
GENIRPBPOTSOLAR_Kramer											
GENIRPBPOTSOLAR_Riverside											
GENIRPBPOTSOLAR_Tehachapi											
GENIRPBPOTSTORAGE-31									876.54844		
GENIRPBPOTSTORAGE-32									1438.86804		
GENIRPBPOTSTORAGE-33									985.03468		
GENIRPBPOTSTORAGE-34									916.22916		
GENIRPBPOTSTORAGE-35									452.15796		
GENIRPBPOTWIND_Baja											
GENIRPBPOTWIND_Carrizo											
GENIRPBPOTWIND_CValley											
GENIRPBPOTWIND_Humboldt											
GENIRPBPOTWIND_Humboldt_Bay_Offshore											
GENIRPBPOTWIND_Kern_Greater_Carrizo											
GENIRPBPOTWIND_Morro											
GENIRPBPOTWIND_New_Mexico											
GENIRPBPOTWIND_NoCal											
GENIRPBPOTWIND_Solano											
GENIRPBPOTWIND_Southern_Nevada											
GENIRPBPOTWIND_SWExisting											
GENIRPBPOTWIND_Tehachapi											
GENIRPBPOTWIND_WY											
GENIRPMTRBIOMASS											
GENIRPMTRGEOTHERMAL											
GENIRPMTRLDSTORAGE									1000		
GENIRPMTRLDSTORAGE_2									1048		
GENIRPMTRSOLAR											
GENIRPMTRSTORAGE-24									1620		
GENIRPMTRSTORAGE-25									1160		
GENIRPPSPSTORAGE-CPE									380		
GENIRPPSPSTORAGE-LSE									200		
IDWAMONTICELLO											
PGESALTSPRINGS2											
PGESANJOAQU1											
PGESPAULDING2											
33R484											
PGEWISHON											
PGEWISE2											
PGEWISE1											
33R479BIO											
33R154AB						1Axis					
PGEWESTPOINT											
33R121						1Axis					

lse_unique_contract_id	is_hybrid_paired	can_charge_from_grid	total_generator_mw	total_storage_mw	contracted_storage_mw	solar_technology_sub_type	storage_technology_sub_type	total_storage_depth_mwh	contracted_storage_depth_mwh	viability_cod_reasonableness	viability_technical_feasibility
33R417RM											
33R511RM											
33R333RM											
PGEVOLTA2											
PGEVOLTA1											
40S019							Li		400		
40S013 VISTRA_5_DALBT3							Li		400		
40S013 VISTRA_5_DALBT2							Li		400		
40S013 VISTRA_5_DALBT1							Li		400		
33R279						1Axis					
25C246											
PGEVACADIXON											
33R151											
01C061											
33R470BIO											
24B001FHP											
33R302AB						1Axis					
33R415RM						1Axis					
33R164AB						Fixed					
33R509RM											
33R392						1Axis					
33R056						Fixed					
PGETOADTOWN											
33R233AB						1Axis					
PGETIGERCREEK											
16H030											
16H033											
33R247AB											
33R248AB											
33R249AB											
33R251AB											
10H007											
10H059											
10H090											
12C085											
13H120											
13H130											
33R402RM											
25C151QPA2											
33R132											
40S030					63	1Axis	Li		252		
40S031					47	1Axis	Li		188		
33R387						1Axis					
33R386						1Axis					
PGEPVUOG_PY1_ST											
33R355RM											
33R357RM											
33R358RM											
33R356RM											
01C202QAA											
PGESTANISLAUS											
02C041											
PGETULE											
PGESPRINGGAP											
33R254 SPQUIN_6_SRPCQU											
33R254 SPIFBD_1_PL1X2											
33R254 SPIAND_1_ANDSN2											
33R254 SPI LI_2_UNIT 1											
33R254 SPBURN_2_UNIT 1											
PGESPAULDING1											
PGESPAULDING3											
PGESOUTH											
33R389						1Axis					
33R272						1Axis					
40S040							Li		676		
33R053AB											
40S008					10		Li		40		
33R364						1Axis					
PGEPVUOG_PY1_WS											
33R434BIO											
PGEPVUOG_PY1_FP											
33R416BIO											
33R185AB											
33R089-AR											
PGESALTSPRINGS1											
33R338RM						Fixed					
33R322											
33R253 ROLLIN_6_UNIT											
33R409RM											
15H012											
15H068											
15H069											
15H072											
33R046AB											
33R171AB						1Axis					
PGEROCKCREEK RCKCRK_7_UNIT 2											
PGEROCKCREEKRPS RCKCRK_7_UNIT 2											
PGEROCKCREEK RCKCRK_7_UNIT 1											
PGEROCKCREEKRPS RCKCRK_7_UNIT 1											
33R045											
33R339RM						1Axis					
08C071											
33R139AB											
PGEPOTTER											
PGEPOW POEPH_7_UNIT 2											
PGEPOW POEPH_7_UNIT 1											
33B074											
33B076											
33R245						1Axis					
33R373RM											
PGEPIT7 PIT7_7_UNIT 2											
PGEPIT7 PIT7_7_UNIT 1											
PGEPIT7 PIT6_7_UNIT 2											
PGEPIT6											
33R408RM											

lse_unique_contract_id	is_hybrid_paired	can_charge_from_grid	total_generator_mw	total_storage_mw	contracted_storage_mw	solar_technology_sub_type	storage_technology_sub_type	total_storage_depth_mwh	contracted_storage_depth_mwh	viability_cod_reasonableness	viability_technical_feasibility
PGEPIT5 PIT5_7_PL3X4											
PGEPIT5 PIT5_7_PL1X2											
PGEPIT4											
PGEPIT3											
PGEPIT1 PIT1_7_UNIT 2											
PGEPIT1 PIT1_7_UNIT 1											
33R206AB						1Axis					
PGEPHOENIX											
33R165AB						1Axis					
33R133											
33R083											
33W001											
33R375						1Axis					
33R391						Fixed					
33R366						1Axis					
33R363						1Axis					
33R350RM						1Axis					
13H024QPA											
33R274						1Axis					
33R122						1Axis					
33R288						1Axis					
33R423BIO											
33R424BIO											
33R283											
PGENEWCASTLE											
01C201											
33R078						Fixed					
33R047AB											
33R076AB											
33R107AB											
33R127AB											
33R135											
33R136											
33R137											
33R169AB											
33R177AB						1Axis					
33R178AB						1Axis					
33R180AB						1Axis					
33R187AB						1Axis					
33R188AB						1Axis					
33R190AB						1Axis					
33R191AB						1Axis					
33R195AB						1Axis					
33R197AB						1Axis					
33R198AB						1Axis					
33R202AB						1Axis					
33R204AB						1Axis					
33R216AB						Fixed					
33R294AB						1Axis					
33R300AB						1Axis					
33R301AB											
33R304AB						1Axis					
33R316AB						1Axis					
33R318AB						1Axis					
33R334RM											
33R353RM						1Axis					
33R378RM											
33R407RM											
33R082											
33R144						Fixed					
33R292						1Axis					
33R148						1Axis					
08C097											
02C047											
02C048											
02C058											
33R343						1Axis					
33R282AB						1Axis					
33R285AB						1Axis					
33R032-AR						Fixed					
33R510RM											
33R207AB						1Axis					
33R390						Fixed					
13H047											
33R382						1Axis					
33R388						Fixed					
33R403RM											
33R347RM											
33R232AB						1Axis					
33R184AB						1Axis					
33R201AB						1Axis					
33R256						1Axis					
33R255						1Axis					
40S024							Li		160		
33R324						1Axis					
33R396						1Axis					
33R267						1Axis					
33R215AB						Fixed					
33R214AB						Fixed					
PGEKINGSRIVER											
PGEKILARC											
25C049QAA2											
33R296AB						1Axis					
33R295AB						1Axis					
PGEKERCKHOFF2											
PGEKERCKHOFF1 KERKH1_7_UNIT 3											
PGEKERCKHOFF1 KERKH1_7_UNIT 1											
33R323											
33R160						1Axis					
33R161						1Axis					
33R163											
40S029							Li		600		
33R064											
33R063											
PGEINSKIP											

lse_unique_contract_id	is_hybrid_paired	can_charge_from_grid	total_generator_mw	total_storage_mw	contracted_storage_mw	solar_technology_sub_type	storage_technology_sub_type	total_storage_depth_mwh	contracted_storage_depth_mwh	viability_cod_reasonableness	viability_technical_feasibility
04C130											
04H134											
04S142						Fixed					
PGEPVUOG_PY2_HU											
PGEHUMBOLDT HUMBPP_6_UNITS											
PGEHUMBOLDT HUMBPP_1_UNITS3											
33R281AB						1Axis					
33R210AB						Fixed					
PGEHAMILTON											
33R077AB											
33R259						1Axis					
33R307AB						Fixed					
PGEHELMSGEN1 HELMPG_7_UNIT 3											
PGEHELMSGEN1 HELMPG_7_UNIT 2											
PGEHELMSGEN1 HELMPG_7_UNIT 1											
33R058-AR											
PGEHAT2											
PGEHAT1											
33R442BIO											
PGEHALSEY											
PGEHAAS											
33R438BIO											
PGEPVUOG_PY3_GU											
33R439BIO											
01C084QAA											
33R100											
33R362						1Axis					
33R376						1Axis					
PGEPVUOG_PY2_GI											
33R090											
PGEGATEWAY											
40S020							Li		200		
PGEPVUOG_PY3_WG											
PGEPVUOG_PY3_GA											
33R422BIO											
04C140											
33R335RM											
33R336RM											
19H055											
33R108-AR											
33R513RM											
33R418RM											
25C063QPA2											
33R374						1Axis					
33R329											
25C293											
33R008											
33R016											
PGEMOSSLANDING									730		
PGEELECTRA											
33R174AB						1Axis					
33R253 DUTCH2_7_UNIT 1											
PGEDUTCHFLAT1											
33R138						Fixed					
PGEDESABLA											
PGEDRUM2											
PGEDRUM1 DRUM_7_PL3X4											
PGEDRUM1 DRUM_7_PL1X2											
40S021					63	1Axis	Li		252		
33R405BIO											
25C248											
PGEDIABLO2											
PGEDIABLO1											
33R261AB						1Axis					
33R260AB						1Axis					
33R440BIO											
33R401RM						1Axis					
33R459BIO											
33R257						1Axis					
33R278						1Axis					
13H123											
18C001											
33R337RM											
01C045											
PGESANJOAQU3											
PGESANJOAQU2											
PGECRANEVALLEY											
33R505						1Axis					
PGECRESTA											
PGECOWCREEK											
33R280						1Axis					
33R079						Fixed					
33R060						Fixed					
33R166						Fixed					
33R243											
33R275											
PGECOLUSA											
33R481BIO											
PGECOLEMAN											
33R099											
33R205AB						Fixed					
PGECENTERVILLE											
01C199											
01C245											
PGELIMESADL											
33R237AB						Fixed					
33R017											
33R500BIO											
33B110											
25C003											
25C249											
25C055											
25C002											
33R342RM											
33R052						1Axis					

lse_unique_contract_id	is_hybrid_paired	can_charge_from_grid	total_generator_mw	total_storage_mw	contracted_storage_mw	solar_technology_sub_type	storage_technology_sub_type	total_storage_depth_mwh	contracted_storage_depth_mwh	viability_cod_reasonableness	viability_technical_feasibility
33R088						1Axis					
33R502						1Axis					
PGECARIBOU1 CARBOU_7_UNIT 1											
PGECARIBOU2											
PGECARIBOU1 CARBOU_7_PL2X3											
PGEPVUOG_PY2_CA											
33R487BIO											
33R344						1Axis					
PGEBUTTVAL											
33R483											
PGEBUCKSCREEK											
PGEOAKFLAT											
33R377RM											
33R142											
33R167											
33R145											
33R033-AR											
33R013-AR											
33R152											
33R341RM											
33R253 BOWMN_6_HYDRO											
PGEALTA											
40S018					60		Li		240		
40S011							Li		200		
40S015							Li		200		
40S016							Li		200		
40S017							Li		200		
33R258						1Axis					
PGEJBBLACK BLACK_7_UNIT 2											
PGEJBBLACK BLACK_7_UNIT 1											
33R315AB						1Axis					
33R493											
33R385						1Axis					
33R384						1Axis					
33R383						1Axis					
40S027					127	1Axis	Li		508		
PGEBELDEN											
PGEBALCH2 BALCHS_7_UNIT 3											
PGEBALCH2 BALCHS_7_UNIT 2											
PGEBALCH1											
33R073						Fixed					
33R124						Fixed					
33R125						Fixed					
33R368						1Axis					
33R365						1Axis					
33R123						Fixed					
33R120						Fixed					
33R330						1Axis					
33R162						1Axis					
33R118						1Axis					
33R119						1Axis					
33R340RM											
33R084						Fixed					
33R244						1Axis					
33R291						1Axis					
GENVAMO_Solar											
GENVAMO_Wind											
GENVAMO_Biomass											
GENVAMO_Biogas											
GENVAMO_Geothermal											
GENVAMO_SmallHydro											
ModCAM_Storage_2024									199.84		
ModCAM_Storage_2032									174.64		
CAM_NaturalGas_2024											
CAM_NaturalGas_2025											
CAM_NaturalGas_2026											
CAM _Import_2024											
Cam_Battery_Existing_2024									1344.00		
Cam_Battery_Existing_2025									1338.00		
CAM_Battery_Programatic_2026									228.00		
CAM_Battery_Programatic_2028									542.40		
GENPCIAGHGFREESALES_LargeHydro											
Imported_Hydro											
Shed_DR											

lse_unique_contract_id	viability_financing_sitecontrol	resource_mix	d1911016_vamo_ghgfree	buy_sell_own	counterparty	generator_supplier	developer_name	capacity_area	capacity_sub_area	cpuc_approval_ref	county	COD_year	COD_month
33B013U02		[Wind, 75]	CAM	Buy	non-LSE supplier		NA			Disposition Letter	NA	2022	6
33R520RM				Buy	non-LSE supplier		SOLTAGE			D.12-05-035, D.13-05-034	AlamedaCounty		
40S026			D.19-11-016	Buy	non-LSE supplier		NEXUS_RENEWABLES_US_INC			E-5140	SolanoCounty		
33R494				Buy	non-LSE supplier		FOREFRONT_POWER_LLC	GreaterFresno	Greater Fresno Coalinga	D.16-05-006	FresnoCounty		
33R488				Buy	non-LSE supplier		PRIMERGY_SOLAR_LLC			Disposition Letter	KernCounty		
40S038				Buy	non-LSE supplier		TERRA_GEN_LLC	SCE	LA Basin Eastern	E-5202	RiversideCounty		
33R436BIO				Buy	non-LSE supplier		BLUE_MOUNTAIN_ELECTRIC_COMPANY_LLC			D.14-12-081, D.15-09-004	CalaverasCounty		
40S034				Buy	non-LSE supplier		ORIGIS_USA_LLC			E-5202	anLuisObispoCount		
33R512BIO				Buy	non-LSE supplier		FOREST_BIOMASS_BUSINESS_CENTER_INC	Sierra	No_sub_area	D.14-12-081, D.15-09-004	YubaCounty		
40S039				Buy	non-LSE supplier		TERRA_GEN_LLC	SCE	No_sub_area	E-5202	LosAngelesCounty		
40S009				Buy	non-LSE supplier		BROAD_REACH_POWER_LLC	Stockton	No_sub_area	D.18-10-009	SanJoaquinCounty		
40S036				Buy	non-LSE supplier		NEXTERA_ENERGY_RESOURCES			E-5202	SolanoCounty		
40S022			D.19-11-016	Buy	non-LSE supplier		CLEARWAY_RENEW_LLC	SCE	No_sub_area	E-5140	anBernardinoCount		
40S023			D.19-11-016	Buy	non-LSE supplier		CLEARWAY_RENEW_LLC	SCE	No_sub_area	E-5140	anBernardinoCount		
33R514BIO				Buy	non-LSE supplier		ENGEMAN_ENERGY_USA_LLC			D.14-12-081, D.15-09-004	ColusaCounty		
33R495				Buy	non-LSE supplier		FOREFRONT_POWER_LLC			D.16-05-006	FresnoCounty		
33R499				Buy	non-LSE supplier		FRESNO_COMMUNITY_DEVELOPERS_LLC	GreaterFresno	No_sub_area	Disposition Letter	FresnoCounty		
33R490				Buy	non-LSE supplier		PRIMERGY_SOLAR_LLC			Disposition Letter	FresnoCounty		
33R437BIO				Buy	non-LSE supplier		WEST_BIOFUELS_LLC			D.14-12-081, D.15-09-004	ShastaCounty		
33R491				Buy	non-LSE supplier		PRIMERGY_SOLAR_LLC			Disposition Letter	KernCounty		
40S014			CAM	Buy	non-LSE supplier		ESFARADAY_LLC	GreaterBay	Greater Bay San Jose	E-4909, D.19-03-011	SantaClaraCounty		
33R522				Buy	non-LSE supplier		KUUBIX_C&I_LLC			E-4999	KingsCounty		
33R393			VAMO	Buy	non-LSE supplier		NEXTERA_ENERGY_RESOURCES_ACQUISITIONS_LLC	GreaterFresno		Disposition Letter	KingsCounty		
33R492				Buy	non-LSE supplier		PRIMERGY_SOLAR_LLC			Disposition Letter	KernCounty		
33R524				Buy	non-LSE supplier		KINGS_CSG_3_LLC	GreaterFresno	Greater Fresno Hanford	E-4999	KingsCounty		
40S035				Buy	non-LSE supplier		KOLA_ENERGY_STORAGE_LLC			E-5202	SanJoaquinCounty		
40S032				Buy	non-LSE supplier		VISTRA_ENERGY_CORP	GreaterBay	ater Bay South Bay Moss Lan	E-5202	MontereyCounty		
33R503				Buy	non-LSE supplier		PRIMERGY_SOLAR_LLC			Disposition Letter	KernCounty		
40S037				Buy	non-LSE supplier		AREVON_ENERGY	anDiegoImperialValle	Diego/Imperial Valley San Di	E-5202	SanDiegoCounty		
40S025			D.19-11-016	Buy	non-LSE supplier		NEXTERA_ENERGY_RESOURCES_LLC	Stockton	Stockton Tesla-Bellota	E-5140	SanJoaquinCounty		
33R433BIO				Buy	non-LSE supplier		NORTH_FORK_COMMUNITY_POWER_LLC	GreaterFresno	Greater Fresno Borden	D.14-12-081, D.15-09-004	MaderaCounty		
33R504				Buy	non-LSE supplier		PRIMERGY_SOLAR_LLC			Disposition Letter	KernCounty		
40S033				Buy	non-LSE supplier		STRATA_CLEAN_ENERGY_LLC	SCE	LA Basin Eastern	E-5202	anBernardinoCount		
40S028				Buy	non-LSE supplier		ORMAT_INC	LABasin	No_sub_area	Disposition Letter	LosAngelesCounty		
33R419			VAMO	Buy	non-LSE supplier		MATRIX_RENEWABLES_US_LLC	SCE	No_sub_area	Disposition Letter	KernCounty		
33R420			VAMO	Buy	non-LSE supplier		MATRIX_RENEWABLES_US_LLC	SCE	No_sub_area	Disposition Letter	KernCounty		
33R421			VAMO	Buy	non-LSE supplier		MATRIX_RENEWABLES_US_LLC	SCE	No_sub_area	Disposition Letter	KernCounty		
33R489				Buy	non-LSE supplier		PRIMERGY_SOLAR_LLC			Disposition Letter	KernCounty		
33R523				Buy	non-LSE supplier		RPCA_SOLAR_7_LLC			E-4999	MercedCounty		
CPE00001R			CAM	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Panoche	D.20-06-002	FresnoCounty	2001	12
CPE00002R			CAM	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	D.20-06-002	FresnoCounty	2005	9
CPE00003R			CAM	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.20-06-002	ContraCostaCounty	2013	5
CPE00004R			CAM	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.20-06-002	ContraCostaCounty	2013	5
CPE00005R			CAM	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.20-06-002	ContraCostaCounty	2013	5
CPE00006R			CAM	Buy	non-LSE supplier		NA	GreaterBay	South Bay-Moss Landing	D.20-06-002	MontereyCounty	2002	7
CPE00007R			CAM	Buy	non-LSE supplier		NA	GreaterBay	ater Bay South Bay Moss Lan	D.20-06-002	MontereyCounty	2002	7
CPE00008R			CAM	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	D.20-06-002	KingsCounty	2001	8
CPE00009R			CAM	Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	D.20-06-002	SanJoaquinCounty	2002	11
CPE00010R			CAM	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	D.20-06-002	FresnoCounty	2001	6
CPE00011R			CAM	Buy	non-LSE supplier		NA	Sierra	Sierra Pease	D.20-06-002	SutterCounty	1991	4
FIT_Baseload			VAMO	Buy	non-LSE supplier								
FIT_Non-Peaking_AA_SmallHydro			VAMO	Buy	non-LSE supplier								
FIT_Non-Peaking_AA_Wind			VAMO	Buy	non-LSE supplier								
FIT_Peaking_AA			VAMO	Buy	non-LSE supplier								
FIT_SB1122_Cat1				Buy	non-LSE supplier								
FIT_SB1122_Cat2_Ag				Buy	non-LSE supplier								
FIT_SB1122_Cat2_Dairy				Buy	non-LSE supplier								
FIT_SB1122_Cat3				Buy	non-LSE supplier								
GENCPELOCALTHERMAL			CAM	Buy	non-LSE supplier								
GENGTSRSOLARPV				Buy	non-LSE supplier								
GENIRPBPOTSOLAR_Arizona				Buy	non-LSE supplier								
GENIRPBPOTSolar_Imperial				Buy	non-LSE supplier								
GENIRPBPOTSOLAR_Kramer			VAMO	Buy	non-LSE supplier								
GENIRPBPOTSOLAR_Riverside			VAMO	Buy	non-LSE supplier								
GENIRPBPOTSOLAR_Tehachapi			VAMO	Buy	non-LSE supplier								
GENIRPBPOTSTORAGE-31				Buy	non-LSE supplier								
GENIRPBPOTSTORAGE-32				Buy	non-LSE supplier								
GENIRPBPOTSTORAGE-33				Buy	non-LSE supplier								
GENIRPBPOTSTORAGE-34				Buy	non-LSE supplier								
GENIRPBPOTSTORAGE-35				Buy	non-LSE supplier								
GENIRPBPOTWIND_Baja			VAMO	Buy	non-LSE supplier								
GENIRPBPOTWIND_Carrizo			VAMO	Buy	non-LSE supplier								
GENIRPBPOTWIND_CValley			VAMO	Buy	non-LSE supplier								
GENIRPBPOTWIND_Humboldt				Buy	non-LSE supplier								
GENIRPBPOTWIND_Humboldt_Bay_Offshore				Buy	non-LSE supplier								
GENIRPBPOTWIND_Kern_Greater_Carrizo				Buy	non-LSE supplier								
GENIRPBPOTWIND_Morro			VAMO	Buy	non-LSE supplier								
GENIRPBPOTWIND_New_Mexico				Buy	non-LSE supplier								
GENIRPBPOTWIND_NoCal			VAMO	Buy	non-LSE supplier								
GENIRPBPOTWIND_Solano			VAMO	Buy	non-LSE supplier								
GENIRPBPOTWIND_Southern_Nevada				Buy	non-LSE supplier								
GENIRPBPOTWIND_SWExisting			VAMO	Buy	non-LSE supplier								
GENIRPBPOTWIND_Tehachapi			VAMO	Buy	non-LSE supplier								
GENIRPBPOTWIND_WY			VAMO	Buy	non-LSE supplier								
GENIRPMTRBIOMASS			VAMO	Buy	non-LSE supplier								
GENIRPMTRGEOTHERMAL			VAMO	Buy	non-LSE supplier								
GENIRPMTRLDSTORAGE				Buy	non-LSE supplier								
GENIRPMTRLDSTORAGE_2			CAM	Buy	non-LSE supplier								
GENIRPMTRSOLAR			VAMO	Buy	non-LSE supplier								
GENIRPMTRSTORAGE-24				Buy	non-LSE supplier								
GENIRPMTRSTORAGE-25				Buy	non-LSE supplier								
GENIRPPSPSTORAGE-CPE			CAM	Buy	non-LSE supplier								
GENIRPPSPSTORAGE-LSE				Buy	non-LSE supplier								
IDWAMONTICELLO				Buy	non-LSE supplier								
PGESALTSPRINGS2				Buy	Pacific Gas & Electric								
PGESANJOAQU1			VAMO	Buy	Pacific Gas & Electric								
PGESPAULDING2			VAMO	Buy	Pacific Gas & Electric			Sierra	No_sub_area				
33R484				Buy	non-LSE supplier		NA			E-5123	ShastaCounty	2022	12
PGEWISHON			VAMO	Buy	Pacific Gas & Electric			GreaterFresno	Greater Fresno Borden				
PGEWISE2			VAMO	Buy	Pacific Gas & Electric			Sierra	Sierra Placer				
PGEWISE1			VAMO	Buy	Pacific Gas & Electric			Sierra	Sierra Placer				
33R479BIO				Buy	non-LSE supplier		NA			D.14-12-081, D.15-09-004	ColusaCounty	2022	7
33R154AB				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	FresnoCounty	2012	12
PGEWESTPOINT			VAMO	Buy	Pacific Gas & Electric								
33R121			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	E-4377	KingsCounty	2013	8

lse_unique_contract_id	viability_financing_sitecontrol	resource_mix	d1911016_vamo_ghgfree	buy_sell_own	counterparty	generator_supplier	developer_name	capacity_area	capacity_sub_area	cpuc_approval_ref	county	COD_year	COD_month
33R417RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	ShastaCounty	2017	10
33R511RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	ShastaCounty	2021	10
33R333RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	TehamaCounty	2014	7
PGEVOLTA2			VAMO	Buy	Pacific Gas & Electric								
PGEVOLTA1			VAMO	Buy	Pacific Gas & Electric								
40S019			D.19-11-016	Buy	non-LSE supplier		NA	GreaterBay	ater Bay South Bay Moss Lan	E-5100	MontereyCounty	2021	7
40S013 VISTRA_5_DALBT3			CAM	Buy	non-LSE supplier		NA	GreaterBay	ater Bay South Bay Moss Lan	E-4909, D.19-03-011	MontereyCounty	2021	4
40S013 VISTRA_5_DALBT2			CAM	Buy	non-LSE supplier		NA	GreaterBay	South Bay-Moss Landing	E-4909, D.19-03-011	MontereyCounty	2021	4
40S013 VISTRA_5_DALBT1			CAM	Buy	non-LSE supplier		NA	GreaterBay	ater Bay South Bay Moss Lan	E-4909, D.19-03-011	MontereyCounty	2021	4
33R279			VAMO	Buy	non-LSE supplier		NA			Disposition Letter	anBernardinoCount	2015	5
25C246				Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	D.82-01-103, D.82-12-120	KernCounty	1989	1
PGEVACADIXON			VAMO	Owned	Pacific Gas & Electric								
33R151			VAMO	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-4423	ContraCostaCounty	2012	2
01C061				Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.82-01-103, D.82-12-120	ContraCostaCounty	1987	5
33R470BIO				Buy	non-LSE supplier		RUANN_DAIRY_LLC	GreaterFresno	No_sub_area	D.14-12-081, D.15-09-004	FresnoCounty	[redacted]	
24B001FHP				Buy	non-LSE supplier		NA			D.09-12-042	KernCounty	2015	4
33R302AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	KernCounty	2016	4
33R415RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	KernCounty	2019	12
33R164AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	KernCounty	2012	11
33R509RM				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.12-05-035, D.13-05-034	FresnoCounty	2021	10
33R392				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	Disposition Letter	FresnoCounty	2017	12
33R056			VAMO	Buy	non-LSE supplier		NA			E-4221	anLuisObispoCount	2013	2
PGETOADTOWN			VAMO	Owned	Pacific Gas & Electric								
33R233AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	anLuisObispoCount	2014	3
PGETIGERCREEK				Owned	Pacific Gas & Electric								
16H030				Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	CalaverasCounty	1986	2
16H033				Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	CalaverasCounty	1986	2
33R247AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	CalaverasCounty	2012	4
33R248AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	CalaverasCounty	2012	4
33R249AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	CalaverasCounty	2012	4
33R251AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	AmadorCounty	2012	4
10H007				Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	PlumasCounty	1985	4
10H059				Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	PlumasCounty	1984	1
10H090				Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	ButteCounty	1991	6
12C085				Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	SutterCounty	1991	7
13H120				Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	ShastaCounty	1983	11
13H130				Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	ShastaCounty	1983	10
33R402RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	YubaCounty	2016	9
25C151QPA2			CAM	Buy	non-LSE supplier		NA			E-5037	KernCounty	2019	12
33R132			VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	E-4415	LosAngelesCounty	2014	9
40S030				Buy	non-LSE supplier		NA	SCE	No_sub_area	Disposition Letter	RiversideCounty	2022	8
40S031				Buy	non-LSE supplier		NA	SCE	No_sub_area	Disposition Letter	RiversideCounty	2022	8
33R387			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	Disposition Letter	FresnoCounty	2018	10
33R386				Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	Disposition Letter	FresnoCounty	2019	5
PGEPVUOG_PY1_ST			VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon				
33R355RM				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.12-05-035, D.13-05-034	MaderaCounty	2015	6
33R357RM				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.12-05-035, D.13-05-034	MaderaCounty	2016	7
33R358RM				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.12-05-035, D.13-05-034	MaderaCounty	2016	8
33R356RM				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.12-05-035, D.13-05-034	MaderaCounty	2016	8
01C202QAA			CAM	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-4648	ContraCostaCounty	2014	8
PGESTANISLAUS				Owned	Pacific Gas & Electric			Stockton	Stockton Tesla-Bellota				
02C041				Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.82-01-103, D.82-12-120	SanMateoCounty	1987	3
PGETULE			VAMO	Owned	Pacific Gas & Electric			BigCreekVentura	No_sub_area				
PGESPRINGGAP			VAMO	Owned	Pacific Gas & Electric			Stockton	Stockton Tesla-Bellota				
33R254 SPQUIN_6_SRPCQU			VAMO	Buy	non-LSE supplier		NA			E-4632	PlumasCounty	2015	9
33R254 SPIFBD_1_PL1X2			VAMO	Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	E-4632	TuolumneCounty	2015	9
33R254 SPIAND_1_ANDSN2			VAMO	Buy	non-LSE supplier		NA			E-4632	ShastaCounty	2015	9
33R254 SPI LI_2_UNIT 1			VAMO	Buy	non-LSE supplier		NA	Sierra	No_sub_area	E-4632	PlacerCounty	2015	9
33R254 SPBURN_2_UNIT 1			VAMO	Buy	non-LSE supplier		NA			E-4632	ShastaCounty	2015	9
PGESPAULDING1			VAMO	Owned	Pacific Gas & Electric			Sierra	No_sub_area				
PGESPAULDING3			VAMO	Owned	Pacific Gas & Electric			Sierra	No_sub_area				
PGESOUTH			VAMO	Owned	Pacific Gas & Electric								
33R389				Buy	non-LSE supplier		NA			Disposition Letter	KernCounty	2017	12
33R272			VAMO	Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	Disposition Letter	KernCounty	2015	4
40S040				Buy	non-LSE supplier		EDSAN_1B_GROUP_3_LLC	SCE	No_sub_area	E-5202	KernCounty	[redacted]	
33R053AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	antaBarbaraCount	2010	9
40S008				Buy	non-LSE supplier		BROAD_REACH_POWER_LLC	Stockton	Stockton Tesla-Bellota	D.18-10-009	TuolumneCounty	[redacted]	
33R364			VAMO	Buy	non-LSE supplier		NA			Disposition Letter	anBernardinoCount	2017	6
PGEPVUOG_PY1_WS			VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Coalinga				
33R434BIO				Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	D.14-12-081, D.15-09-004	FresnoCounty	2019	6
PGEPVUOG_PY1_FP			VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Coalinga				
33R416BIO				Buy	non-LSE supplier		NA			D.14-12-081, D.15-09-004	anLuisObispoCount	2019	7
33R185AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	anLuisObispoCount	2013	7
33R089-AR			VAMO	Buy	non-LSE supplier		NA			E-4433	anBernardinoCount	2014	12
PGESALTSPRINGS1				Owned	Pacific Gas & Electric								
33R338RM				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.12-05-035, D.13-05-034	MercedCounty	2015	5
33R322			VAMO	Buy	non-LSE supplier		NA			Disposition Letter	KernCounty	2015	8
33R253 ROLLIN_6_UNIT			VAMO	Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.13-03-030	NevadaCounty	2013	7
33R409RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	ShastaCounty	2017	8
15H012				Buy	non-LSE supplier		NA	Sierra		D.82-01-103, D.82-12-120	ElDoradoCounty	1985	12
15H068				Buy	non-LSE supplier		NA	Sierra		D.82-01-103, D.82-12-120	SierraCounty	1986	2
15H069				Buy	non-LSE supplier		NA	Sierra		D.82-01-103, D.82-12-120	PlacerCounty	1985	12
15H072				Buy	non-LSE supplier		NA	Sierra		D.82-01-103, D.82-12-120	SierraCounty	1985	11
33R046AB				Buy	non-LSE supplier		NA	Sierra		D.07-07-027, E-4137	ElDoradoCounty	2008	8
33R171AB				Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	D.07-07-027, E-4137	FresnoCounty	2014	6
PGEROCKCREEK RCKCRK_7_UNIT 2				Owned	Pacific Gas & Electric			Sierra	No_sub_area				
PGEROCKCREEKRPS RCKCRK_7_UNIT 2			VAMO	Owned	Pacific Gas & Electric			Sierra	No_sub_area				
PGEROCKCREEK RCKCRK_7_UNIT 1				Owned	Pacific Gas & Electric			Sierra	No_sub_area				
PGEROCKCREEKRPS RCKCRK_7_UNIT 1			VAMO	Owned	Pacific Gas & Electric			Sierra	No_sub_area				
33R045		[Wind, 102.9]	VAMO	Buy	non-LSE supplier		NA			E-4204	Oregon	2008	12
33R339RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	YoloCounty	2014	12
08C071				Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	SantaCruzCounty	1987	9
33R139AB				Buy	non-LSE supplier		NA	NorthCoastNorthBay	North Coast Eagle Rock	D.07-07-027, E-4137	MendocinoCounty	2011	4
PGEPOTTER			VAMO	Owned	Pacific Gas & Electric			NorthCoastNorthBay	North Coast Eagle Rock				
PGEPOW POEPH_7_UNIT 2				Owned	Pacific Gas & Electric			Sierra	No_sub_area				
PGEPOW POEPH_7_UNIT 1				Owned	Pacific Gas & Electric			Sierra	No_sub_area				
33B074				Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Panoche	D.06-11-048, D.13-01-003	FresnoCounty	2009	5
33B076				Buy	non-LSE supplier		NA			D.06-11-048	FresnoCounty	2009	6
33R24S			VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	Disposition Letter	LosAngelesCounty	2014	11
33R373RM				Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.12-05-035, D.13-05-034	ElDoradoCounty	2017	3
PGEPIT7 PIT7_7_UNIT 2				Owned	Pacific Gas & Electric								
PGEPIT7 PIT7_7_UNIT 1				Owned	Pacific Gas & Electric								
PGEPIT7 PIT6_7_UNIT 2				Owned	Pacific Gas & Electric								
PGEPIT6				Owned	Pacific Gas & Electric								
33R408RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	ShastaCounty	2019	1

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PGEPIT5 PIT5_7_PL3X4				Owned	Pacific Gas & Electric								
PGEPIT5 PIT5_7_PL1X2				Owned	Pacific Gas & Electric								
PGEPIT4				Owned	Pacific Gas & Electric								
PGEPIT3				Owned	Pacific Gas & Electric								
PGEPIT1 PIT1_7_UNIT 2				Owned	Pacific Gas & Electric								
PGEPIT1 PIT1_7_UNIT 1				Owned	Pacific Gas & Electric								
33R206AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	ShastaCounty	2014	3
PGEPHOENIX			VAMO	Owned	Pacific Gas & Electric			Stockton	Stockton Tesla-Bellota				
33R165AB				Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	D.07-07-027, E-4137	TuolumneCounty	2013	12
33R133			VAMO	Buy	non-LSE supplier		NA			E-4415	SolanoCounty	2016	4
33R083			VAMO	Buy	non-LSE supplier		NA			E-4321	Washington	2010	10
33W001		[Wind, 300]		Buy	non-LSE supplier		NA			N/A	MercedCounty	1992	1
33R375			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	Disposition Letter	FresnoCounty	2017	3
33R391				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	Disposition Letter	MercedCounty	2018	4
33R366			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Panoche	Disposition Letter	FresnoCounty	2017	1
33R363			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Panoche	Disposition Letter	FresnoCounty	2017	1
33R350RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	GlennCounty	2016	3
13H024QPA				Buy	non-LSE supplier		NA			E-5119	ShastaCounty	2020	1
33R274			VAMO	Buy	non-LSE supplier		NA			Disposition Letter	TulareCounty	2014	10
33R122			VAMO	Buy	non-LSE supplier		NA			E-4377	TulareCounty	2013	6
33R288			VAMO	Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	Disposition Letter	KernCounty	2014	12
33R423BIO				Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	D.14-12-081, D.15-09-004	KernCounty	2018	2
33R424BIO				Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	D.14-12-081, D.15-09-004	KernCounty	2018	2
33R283			VAMO	Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	E-4596	KernCounty	2014	3
PGENEWCASTLE			VAMO	Owned	Pacific Gas & Electric			Sierra	Sierra Placer				
01C201				Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.82-01-103, D.82-12-120	AlamedaCounty	1988	2
33R078			VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	E-4356	LosAngelesCounty	2013	1
33R047AB				Buy	non-LSE supplier		NA	Sierra	Sierra Gold Hill-Drum	D.07-07-027, E-4137	ElDoradoCounty	2009	5
33R076AB				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	MercedCounty	2011	6
33R107AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	NevadaCounty	2010	6
33R127AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	ShastaCounty	2012	1
33R135			VAMO	Buy	non-LSE supplier		NA			E-4390	AlbertaCanada	2012	12
33R136			VAMO	Buy	non-LSE supplier		NA			E-4390	AlbertaCanada	2014	5
33R137			VAMO	Buy	non-LSE supplier		NA			E-4390	AlbertaCanada	2014	5
33R169AB				Buy	non-LSE supplier		NA	GreaterBay	Greater Bay San Jose	D.07-07-027, E-4137	SantaClaraCounty	2011	11
33R177AB				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	FresnoCounty	2014	2
33R178AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	TehamaCounty	2013	7
33R180AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	ShastaCounty	2014	6
33R187AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	TehamaCounty	2014	2
33R188AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	TehamaCounty	2013	10
33R190AB				Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	ButteCounty	2014	3
33R191AB				Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	ButteCounty	2014	6
33R195AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	anLuisObispoCount	2014	3
33R197AB				Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	SutterCounty	2014	1
33R198AB				Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	ButteCounty	2014	3
33R202AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	anLuisObispoCount	2014	3
33R204AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	anLuisObispoCount	2014	2
33R216AB				Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Hanford	D.07-07-027, E-4137	TulareCounty	2013	12
33R294AB				Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Reedley	D.07-07-027, E-4137	TulareCounty	2015	1
33R300AB				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	MercedCounty	2015	10
33R301AB				Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	PlacerCounty	2015	9
33R304AB				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	TulareCounty	2016	2
33R316AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	ButteCounty	2016	12
33R318AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	TehamaCounty	2016	2
33R334RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	TrinityCounty	2015	4
33R353RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	TehamaCounty	2016	12
33R378RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	ShastaCounty	2015	11
33R407RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	ShastaCounty	2017	3
33R082			VAMO	Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	E-4309	KernCounty	2012	2
33R144			VAMO	Buy	non-LSE supplier		NA			E-4393	Arizona	2011	12
33R292			VAMO	Buy	non-LSE supplier		NA			Disposition Letter	KernCounty	2015	12
33R148			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Panoche	E-4436	FresnoCounty	2015	6
08C097				Buy	non-LSE supplier		NA	GreaterBay	Greater Bay San Jose	D.82-01-103, D.82-12-120	SantaClaraCounty	1989	10
02C047				Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.82-01-103, D.82-12-120	SanFrancisco	1987	9
02C048				Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.82-01-103, D.82-12-120	SanFrancisco	1988	3
02C058				Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.82-01-103, D.82-12-120	SanFrancisco	1992	6
33R343			VAMO	Buy	non-LSE supplier		NA	anDiegoImperialValle	No_sub_area	E-4676	ImperialCounty	2019	3
33R282AB				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	MercedCounty	2015	5
33R285AB				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	MercedCounty	2015	5
33R032-AR			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	E-4701	FresnoCounty	2010	4
33R510RM				Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	D.12-05-035, D.13-05-034	FresnoCounty	2021	10
33R207AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	ShastaCounty	2014	3
33R390				Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	Disposition Letter	SanJoaquinCounty	2017	12
13H047				Buy	non-LSE supplier		NA			D.83-09-054	LassenCounty	1988	12
33R382				Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	Disposition Letter	KernCounty	2017	12
33R388				Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	Disposition Letter	KernCounty	2017	12
33R403RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	TrinityCounty	2017	5
33R347RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	HumboldtCounty	2015	1
33R232AB				Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	D.07-07-027, E-4137	SanJoaquinCounty	2014	3
33R184AB				Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	D.07-07-027, E-4137	SanJoaquinCounty	2014	2
33R201AB				Buy	non-LSE supplier		NA	Sierra	Sierra Pease	D.07-07-027, E-4137	SutterCounty	2014	12
33R256			VAMO	Buy	non-LSE supplier		NA			E-4640	KernCounty	2019	1
33R255			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	E-4577	KingsCounty	2014	12
405024			D.19-11-016	Buy	non-LSE supplier		NA	anDiegoImperialValle	No_sub_area	E-5140	ImperialCounty	2022	7
33R324			VAMO	Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	Disposition Letter	KernCounty	2015	12
33R396				Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	Disposition Letter	KernCounty	2018	1
33R267			VAMO	Buy	non-LSE supplier		NA	GreaterFresno		Disposition Letter	KingsCounty	2014	12
33R215AB				Buy	non-LSE supplier		NA	GreaterFresno		D.07-07-027, E-4137	TulareCounty	2013	12
33R214AB				Buy	non-LSE supplier		NA	GreaterFresno		D.07-07-027, E-4137	TulareCounty	2013	12
PGEKINGSRIVER				Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon				
PGEKILARC			VAMO	Owned	Pacific Gas & Electric								
25C049QAA2			CAM	Buy	non-LSE supplier		NA			E-5037	KernCounty	2019	10
33R296AB				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	FresnoCounty	2015	10
33R295AB				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	FresnoCounty	2015	10
PGEKERCKHOFF2				Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon				
PGEKERCKHOFF1 KERKH1_7_UNIT 3			VAMO	Owned	Pacific Gas & Electric			GreaterFresno	No_sub_area				
PGEKERCKHOFF1 KERKH1_7_UNIT 1			VAMO	Owned	Pacific Gas & Electric			GreaterFresno	No_sub_area				
33R323			VAMO	Buy	non-LSE supplier		NA	Humboldt	No_sub_area	Disposition Letter	TrinityCounty	2015	6
33R160			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	Disposition Letter	KingsCounty	2013	6
33R161			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	Disposition Letter	FresnoCounty	2014	2
33R163			VAMO	Buy	non-LSE supplier		NA			E-4463	KernCounty	2012	12
40S029				Buy	non-LSE supplier		RECURRENT_ENERGY			Disposition Letter	RiversideCounty		
33R064			VAMO	Buy	non-LSE supplier		NA			E-4266	anBernardinoCount	2014	1
33R063			VAMO	Buy	non-LSE supplier		NA			E-4266	anBernardinoCount	2014	1
PGEINSKIP			VAMO	Owned	Pacific Gas & Electric			Sierra	No_sub_area				

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04C130				Buy	non-LSE supplier		NA	NorthCoastNorthBay	No_sub_area	D.82-01-103, D.82-12-120	SolanoCounty	1985	8
04H134				Buy	non-LSE supplier		NA	NorthCoastNorthBay	No_sub_area	D.82-01-103, D.82-12-120	NapaCounty	1987	5
04S142				Buy	non-LSE supplier		NA	NorthCoastNorthBay	No_sub_area	D.82-01-103, D.82-12-120	NapaCounty	1993	4
PGEPVUOG_PY2_HU			VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Coalinga				
PGEHUMBOLDT HUMBPP_6_UNITS				Owned	Pacific Gas & Electric			Humboldt	No_sub_area				
PGEHUMBOLDT HUMBPP_1_UNITS3				Owned	Pacific Gas & Electric			Humboldt	No_sub_area				
33R281AB				Buy	non-LSE supplier		NA		No_sub_area	D.07-07-027, E-4137	SanBenitoCounty	2015	4
33R210AB				Buy	non-LSE supplier		NA			D.07-07-027, E-4137	SanBenitoCounty	2014	6
PGEHAMILTON			VAMO	Owned	Pacific Gas & Electric			Sierra	No_sub_area				
33R077AB				Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	NevadaCounty	2009	10
33R259			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	E-4568	KingsCounty	2016	10
33R307AB				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	KingsCounty	2016	2
PGEHELMSGEN1 HELMPG_7_UNIT 3				Owned	Pacific Gas & Electric			GreaterFresno	No_sub_area				
PGEHELMSGEN1 HELMPG_7_UNIT 2				Owned	Pacific Gas & Electric			GreaterFresno	No_sub_area				
PGEHELMSGEN1 HELMPG_7_UNIT 1				Owned	Pacific Gas & Electric			GreaterFresno	No_sub_area				
33R058-AR			VAMO	Buy	non-LSE supplier		NA			E-4913	ShastaCounty	2010	12
PGEHAT2			VAMO	Owned	Pacific Gas & Electric								
PGEHAT1			VAMO	Owned	Pacific Gas & Electric								
33R442BIO				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.14-12-081, D.15-09-004	KingsCounty	2020	6
PGEHALSEY			VAMO	Owned	Pacific Gas & Electric			Sierra	Sierra Placer				
PGEHAAS				Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon				
33R438BIO				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.14-12-081, D.15-09-004	KingsCounty	2019	7
PGEPVUOG_PY3_GU			VAMO	Owned	Pacific Gas & Electric			GreaterFresno	No_sub_area				
33R439BIO				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.14-12-081, D.15-09-004	KingsCounty	2019	7
01C084QAA			CAM	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.10-12-035	AlamedaCounty	2017	8
33R100			VAMO	Buy	non-LSE supplier		NA			E-4320	TrinityCounty	2010	1
33R362			VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	Disposition Letter	LosAngelesCounty	2017	2
33R376			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	Disposition Letter	FresnoCounty	2017	9
PGEPVUOG_PY2_GI			VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon				
33R090			VAMO	Buy	non-LSE supplier		NA			E-4343	RiversideCounty	2013	11
PGEGATEWAY				Owned	Pacific Gas & Electric			GreaterBay	No_sub_area				
40S020			D.19-11-016	Buy	non-LSE supplier		NA	anDiegoImperialValle	Diego/Imperial Valley San Die	E-5100	SanDiegoCounty	2021	7
PGEPVUOG_PY3_WG			VAMO	Owned	Pacific Gas & Electric								
PGEPVUOG_PY3_GA			VAMO	Owned	Pacific Gas & Electric								
33R422BIO				Buy	non-LSE supplier		NA			D.14-12-081, D.15-09-004	KernCounty	2018	2
04C140				Buy	non-LSE supplier		NA	NorthCoastNorthBay	North Coast Fulton	D.82-01-103, D.82-12-120	SonomaCounty	1992	8
33R335RM				Buy	non-LSE supplier		NA	NorthCoastNorthBay	North Coast Fulton	D.12-05-035, D.13-05-034	ShastaCounty	2015	4
33R336RM				Buy	non-LSE supplier		NA	NorthCoastNorthBay	North Coast Fulton	D.12-05-035, D.13-05-034	MendocinoCounty	2014	3
19H05S				Buy	non-LSE supplier		NA	Humboldt	No_sub_area	D.82-01-103, D.82-12-120	HumboldtCounty	1982	11
33R108-AR			VAMO	Buy	non-LSE supplier		NA	Humboldt	No_sub_area	E-4418	TrinityCounty	2011	11
33R513RM				Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	D.12-05-035, D.13-05-034	CalaverasCounty	2021	12
33R418RM				Buy	non-LSE supplier		NA	Stockton	Stockton Tesla-Bellota	D.12-05-035, D.13-05-034	CalaverasCounty	2017	8
25C063QPA2			CAM	Buy	non-LSE supplier		NA			E-5119	KernCounty	2019	11
33R374			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	Disposition Letter	KingsCounty	2016	12
33R329			VAMO	Buy	non-LSE supplier		NA			E-4656	AlamedaCounty	2016	7
25C293				Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	KernCounty	1988	9
33R008				Buy	non-LSE supplier		NA	LABasin	LA Basin Eastern	D.05-11-007	anBernardinoCount	1994	6
33R016			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Panoche	E-4047	MercedCounty	2009	2
PGEMOSSLANDING			CAM	Owned	Pacific Gas & Electric			GreaterBay	No_sub_area				
PGEELECTRA				Owned	Pacific Gas & Electric								
33R174AB				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.07-07-027, E-4137	MercedCounty	2015	4
33R253 DUTCH2_7_UNIT 1			VAMO	Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.13-03-030	NevadaCounty	2013	7
PGEDUTCHFLAT1			VAMO	Owned	Pacific Gas & Electric			Sierra	Sierra Placer				
33R138			VAMO	Buy	non-LSE supplier		NA			E-4357	RiversideCounty	2013	12
PGEDESABLA			VAMO	Owned	Pacific Gas & Electric								
PGEDRUM2				Owned	Pacific Gas & Electric			Sierra	No_sub_area				
PGEDRUM1 DRUM_7_PL3X4				Owned	Pacific Gas & Electric			Sierra	No_sub_area				
PGEDRUM1 DRUM_7_PL1X2				Owned	Pacific Gas & Electric			Sierra	No_sub_area				
40S021			D.19-11-016	Buy	non-LSE supplier		NA	SCE	No_sub_area	E-5100	RiversideCounty	2021	8
33R405BIO				Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.14-12-081, D.15-09-004	SantaClaraCounty	2016	12
25C248				Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	D.82-01-103, D.82-12-120	KernCounty	1988	6
PGEDIABLO2				Owned	Pacific Gas & Electric								
PGEDIABLO1				Owned	Pacific Gas & Electric								
33R261AB				Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	YoloCounty	2013	8
33R260AB				Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.07-07-027, E-4137	YoloCounty	2013	7
33R440BIO				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.14-12-081, D.15-09-004	MaderaCounty	2019	1
33R401RM				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.12-05-035, D.13-05-034	MaderaCounty	2018	1
33R459BIO				Buy	non-LSE supplier		NA	GreaterFresno	No_sub_area	D.14-12-081, D.15-09-004	MaderaCounty	2021	10
33R257			VAMO	Buy	non-LSE supplier		NA			E-4640	antaBarbaraCount	2019	1
33R278			VAMO	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	Disposition Letter	ContraCostaCounty	2015	10
13H123				Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	ShastaCounty	1982	12
18C001				Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	MontereyCounty	1988	8
33R337RM				Buy	non-LSE supplier		NA	NorthCoastNorthBay	North Coast Fulton	D.12-05-035, D.13-05-034	NapaCounty	2014	7
01C045				Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.83-09-054	ContraCostaCounty	1995	12
PGESANJOAQU3			VAMO	Owned	Pacific Gas & Electric			GreaterFresno	No_sub_area				
PGESANJOAQU2			VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Borden				
PGECRANEVALLEY			VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Borden				
33R505				Buy	non-LSE supplier		PRIMEGY_SOLAR_LLC			Disposition Letter	KernCounty	[redacted]	
PGECRESTA				Owned	Pacific Gas & Electric			Sierra	No_sub_area				
PGECOWCREEK			VAMO	Owned	Pacific Gas & Electric								
33R280			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	Disposition Letter	KingsCounty	2015	1
33R079			VAMO	Buy	non-LSE supplier		NA			E-4302	Nevada	2010	5
33R060			VAMO	Buy	non-LSE supplier		NA			E-4240	Nevada	2009	1
33R166			VAMO	Buy	non-LSE supplier		NA			E-4447	Nevada	2012	7
33R243			VAMO	Buy	non-LSE supplier		NA			Disposition Letter	MonoCounty	2013	4
33R275			VAMO	Buy	non-LSE supplier		NA			Disposition Letter	MonoCounty	2013	12
PGECOLUSA				Owned	Pacific Gas & Electric								
33R481BIO				Buy	non-LSE supplier		NA			D.14-12-081, D.15-09-004	PlumasCounty	2021	8
PGECOLEMAN			VAMO	Owned	Pacific Gas & Electric								
33R099			VAMO	Buy	non-LSE supplier		NA			E-4336	SanJoaquinCounty	2014	2
33R205AB				Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.07-07-027, E-4137	ContraCostaCounty	2013	6
PGECENTERVILLE			VAMO	Owned	Pacific Gas & Electric								
01C199				Buy	non-LSE supplier		NA	GreaterBay	Greater Bay Oakland	D.82-01-103, D.82-12-120	AlamedaCounty	1989	7
01C245				Buy	non-LSE supplier		NA	GreaterBay	Greater Bay Oakland	D.82-01-103, D.82-12-120	ContraCostaCounty	1991	2
PGELIMESADL			VAMO	Owned	Pacific Gas & Electric								
33R237AB				Buy	non-LSE supplier		NA	NorthCoastNorthBay	North Coast Eagle Rock	D.07-07-027, E-4137	SonomaCounty	2014	6
33R017			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Herndon	E-4047	MaderaCounty	2008	12
33R500BIO				Buy	non-LSE supplier		COMBINED_SOLAR_TECHNOLOGIES_INC	Stockton	Stockton Tesla-Bellota	D.14-12-081, D.15-09-004	SanJoaquinCounty	[redacted]	
33B110				Buy	non-LSE supplier		NA	Sierra	Sierra Placer	D.13-03-030	NevadaCounty	2013	7
25C003				Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	KernCounty	1982	10
25C249				Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	D.82-01-103, D.82-12-120	FresnoCounty	1988	6
25C055				Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	D.82-01-103, D.82-12-120	FresnoCounty	1986	11
25C002				Buy	non-LSE supplier		NA			D.82-01-103, D.82-12-120	KernCounty	1982	7
33R342RM				Buy	non-LSE supplier		NA			D.12-05-035, D.13-05-034	ShastaCounty	2015	4
33R052			VAMO	Buy	non-LSE supplier		NA			E-4229	anLuisObispoCount	2012	9

lse_unique_contract_id	viability_financing_sitecontrol	resource_mix	d1911016_vamo_ghgfree	buy_sell_own	counterparty	generator_supplier	developer_name	capacity_area	capacity_sub_area	cpuc_approval_ref	county	COD_year	COD_month
33R088			VAMO	Buy	non-LSE supplier		NA			E-4375	anLuisObispoCount	2012	12
33R502				Buy	non-LSE supplier		DIMENSION_CA_1_LLC	GreaterFresno	No_sub_area	Disposition Letter	KingsCounty		
PGECARIBOU1 CARBOU_7_UNIT 1				Owned	Pacific Gas & Electric								
PGECARIBOU2				Owned	Pacific Gas & Electric								
PGECARIBOU1 CARBOU_7_PL2X3				Owned	Pacific Gas & Electric								
PGEPVUOG_PY2_CA			VAMO	Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Panoche				
33R487BIO				Buy	non-LSE supplier		WEST_COAST_WASTE_CO_INC	GreaterFresno	Greater Fresno Herndon	D.14-12-081, D.15-09-004	FresnoCounty		
33R344			VAMO	Buy	non-LSE supplier		NA			E-4686	MontereyCounty	2019	3
PGEBUTTVAL				Owned	Pacific Gas & Electric								
33R483				Buy	non-LSE supplier		NA			Disposition Letter	ShastaCounty	2022	11
PGEBUCKSCREEK				Owned	Pacific Gas & Electric			Sierra	No_sub_area				
PGEOAKFLAT			VAMO	Owned	Pacific Gas & Electric			Sierra	No_sub_area				
33R377RM				Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.12-05-035, D.13-05-034	ButteCounty	2016	6
33R142			VAMO	Buy	non-LSE supplier		NA			E-4366	KernCounty	2012	3
33R167			VAMO	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-4469	SolanoCounty	2012	12
33R145			VAMO	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-4402	SolanoCounty	2011	12
33R033-AR			VAMO	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-4945	SolanoCounty	2009	2
33R013-AR			VAMO	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-4353	SolanoCounty	2011	1
33R152			VAMO	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-4459	SolanoCounty	2012	2
33R341RM				Buy	non-LSE supplier		NA	Humboldt	No_sub_area	D.12-05-035, D.13-05-034	HumboldtCounty	2014	11
33R253 BOWMN_6_HYDRO			VAMO	Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.13-03-030	NevadaCounty	2013	7
PGEALTA			VAMO	Owned	Pacific Gas & Electric			Sierra	Sierra Placer				
40S018			D.19-11-016	Buy	non-LSE supplier		NA	SCE	No_sub_area	E-5100	InyoCounty	2022	2
40S011				Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	D.18-10-009	ContraCostaCounty	2022	3
40S015			D.19-11-016	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-5100	ContraCostaCounty	2021	12
40S016			D.19-11-016	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-5100	ContraCostaCounty	2022	2
40S017			D.19-11-016	Buy	non-LSE supplier		NA	GreaterBay	No_sub_area	E-5100	ContraCostaCounty	2021	12
33R258			VAMO	Buy	non-LSE supplier		NA			E-4640	KernCounty	2019	1
PGEJBBLACK BLACK_7_UNIT 2				Owned	Pacific Gas & Electric								
PGEJBBLACK BLACK_7_UNIT 1				Owned	Pacific Gas & Electric								
33R315AB				Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	D.07-07-027, E-4137	KernCounty	2015	7
33R493				Buy	non-LSE supplier		NA	Sierra	No_sub_area	E-4977	YoloCounty	2021	9
33R385			VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	Disposition Letter	LosAngelesCounty	2017	12
33R384			VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	Disposition Letter	LosAngelesCounty	2017	12
33R383			VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	Disposition Letter	LosAngelesCounty	2017	12
40S027			D.19-11-016	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	E-5140	LosAngelesCounty	2022	9
PGEBELDEN				Owned	Pacific Gas & Electric			Sierra	No_sub_area				
PGEBALCH2 BALCHS_7_UNIT 3				Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon				
PGEBALCH2 BALCHS_7_UNIT 2				Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon				
PGEBALCH1				Owned	Pacific Gas & Electric			GreaterFresno	Greater Fresno Herndon				
33R073			VAMO	Buy	non-LSE supplier		NA			E-4315	LosAngelesCounty	2013	4
33R124			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	E-4350	KingsCounty	2011	8
33R125			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	E-4350	KingsCounty	2011	8
33R368			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	Disposition Letter	KingsCounty	2017	1
33R365			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	Disposition Letter	KingsCounty	2017	1
33R123			VAMO	Buy	non-LSE supplier		NA	GreaterFresno	Greater Fresno Coalinga	E-4350	KingsCounty	2011	8
33R120			VAMO	Buy	non-LSE supplier		NA			E-4377	TulareCounty	2013	3
33R330			VAMO	Buy	non-LSE supplier		NA			E-4692	KernCounty	2016	12
33R162			VAMO	Buy	non-LSE supplier		NA			Disposition Letter	KernCounty	2014	4
33R118			VAMO	Buy	non-LSE supplier		NA			E-4377	TulareCounty	2013	3
33R119			VAMO	Buy	non-LSE supplier		NA			E-4377	TulareCounty	2013	3
33R340RM				Buy	non-LSE supplier		NA	Sierra	No_sub_area	D.12-05-035, D.13-05-034	SierraCounty	2014	12
33R084			VAMO	Buy	non-LSE supplier		NA			E-4330	Arizona	2012	1
33R244			VAMO	Buy	non-LSE supplier		NA	BigCreekVentura	No_sub_area	Disposition Letter	LosAngelesCounty	2014	11
33R291			VAMO	Buy	non-LSE supplier		NA	Kern	Kern South Kern PP	Disposition Letter	KernCounty	2015	6
GENVAMO_Solar			VAMO	Sell	non-LSE supplier								
GENVAMO_Wind			VAMO	Sell	non-LSE supplier								
GENVAMO_Biomass			VAMO	Sell	non-LSE supplier								
GENVAMO_Biogas			VAMO	Sell	non-LSE supplier								
GENVAMO_Geothermal			VAMO	Sell	non-LSE supplier								
GENVAMO_SmallHydro			VAMO	Sell	non-LSE supplier								
ModCAM_Storage_2024			D.19-11-016	Sell	non-LSE supplier								
ModCAM_Storage_2032			D.19-11-016	Sell	non-LSE supplier								
CAM_NaturalGas_2024			CAM	Sell	non-LSE supplier								
CAM_NaturalGas_2025			CAM	Sell	non-LSE supplier								
CAM_NaturalGas_2026			CAM	Sell	non-LSE supplier								
CAM _Import_2024			CAM	Sell	non-LSE supplier								
Cam_Battery_Existing_2024			CAM	Sell	non-LSE supplier								
Cam_Battery_Existing_2025			CAM	Sell	non-LSE supplier								
CAM_Battery_Programatic_2026			CAM	Sell	non-LSE supplier								
CAM_Battery_Programatic_2028			CAM	Sell	non-LSE supplier								
GENPCIAGHGFREESALES_LargeHydro			GHG-free PCIA	Sell	non-LSE supplier								
Imported_Hydro					non-LSE supplier								
Shed_DR					non-LSE supplier								

lse_unique_contract_id	COD_day	contract_start_date_year	contract_start_date_month	contract_start_date_day	contract_end_date_year	contract_end_date_month	contract_end_date_day	contract_execution_date_year	contract_execution_date_month	contract_execution_date_day	tx_upgrades	tx_upgrade_date_year	tx_upgrade_date_month	tx_upgrade_date_day
33B013U02	1	2022	6	1	2024	9	30	2022	2	8	NA			
33R520RM								2021	11	5	NO			
40S026								2020	12	10	NA			
33R494								2020	11	2	NA			
33R488								2020	9	30	NO			
40S038								2021	12	28	NA			
33R436BIO								2018	6	12	YES	2023	7	31
40S034								2021	12	22	Yes	2022	9	30
33R512BIO								2021	9	22	NO			
40S039								2021	12	28	NA			
40S009								2017	11	8	NA	2022	10	14
40S036								2021	12	21	Yes	2024	6	30
40S022								2020	12	10	NA			
40S023								2020	12	10	NA			
33R514BIO								2021	9	28	YES	2023	5	4
33R495								2020	11	2	NA			
33R499								2021	2	4	NA			
33R490								2020	9	30	NO			
33R437BIO								2018	6	12	NA			
33R491								2020	9	30	NO			
40S014								2018	6	1	YES	2024		
33R522								2021	12	22	YES	2023	3	4
33R393								2015	12	18	NA			
33R492								2020	9	30	NO			
33R524								2021	12	29	NO			
40S035								2021	12	21	Yes	2024	6	30
40S032								2021	12	20	Yes	2024	6	30
33R503								2021	5	4	NO			
40S037								2021	12	22	NA			
40S025								2020	12	10	NA			
33R433BIO								2018	6	12	NA			
33R504								2021	5	4	NO			
40S033								2021	12	20	NA			
40S028								2021	7	16	NA			
33R419								2017	9	22	NA			
33R420								2017	9	22	NA			
33R421								2017	9	22	NA			
33R489								2020	9	30	NA			
33R523								2021	12	23	NA			
CPE00001R	27	2023	1	1				2021	9	13	NA			
CPE00002R	19	2023	1	1				2021	9	13	NA			
CPE00003R	1	2023	5	1				2021	9	13				
CPE00004R	1	2023	5	1				2021	9	13				
CPE00005R	1	2023	5	1				2021	9	13				
CPE00006R	1	2023	1	1				2021	9	13	NA			
CPE00007R	1	2023	1	1				2021	9	13	NO			
CPE00008R	27	2023	1	1				2021	9	13	NA			
CPE00009R	1	2023	1	1				2021	9	13	NA			
CPE00010R	1	2023	1	1				2021	9	10	NA			
CPE00011R	16	2023	1	1				2021	9	10	NA			
FIT_Baseload											NA			
FIT_Non-Peaking_AA_SmallHydro											NA			
FIT_Non-Peaking_AA_Wind											NA			
FIT_Peaking_AA											NA			
FIT_SB1122_Cat1											NA			
FIT_SB1122_Cat2_Ag											NA			
FIT_SB1122_Cat2_Dairy											NA			
FIT_SB1122_Cat3											NA			
GENCPELOCALTHERMAL											NA			
GENGTSRSOLARPV											NA			
GENIRPBPOTSOLAR_Arizona											NA			
GENIRPBPOTSolar_Imperial											NA			
GENIRPBPOTSOLAR_Kramer											NA			
GENIRPBPOTSOLAR_Riverside											NA			
GENIRPBPOTSOLAR_Tehachapi											NA			
GENIRPBPOTSTORAGE-31											NA			
GENIRPBPOTSTORAGE-32											NA			
GENIRPBPOTSTORAGE-33											NA			
GENIRPBPOTSTORAGE-34											NA			
GENIRPBPOTSTORAGE-35											NA			
GENIRPBPOTWIND_Baja											NA			
GENIRPBPOTWIND_Carrizo											NA			
GENIRPBPOTWIND_CValley											NA			
GENIRPBPOTWIND_Humboldt											NA			
GENIRPBPOTWIND_Humboldt_Bay_Offshore											NA			
GENIRPBPOTWIND_Kern_Greater_Carrizo											NA			
GENIRPBPOTWIND_Morro											NA			
GENIRPBPOTWIND_New_Mexico											NA			
GENIRPBPOTWIND_NoCal											NA			
GENIRPBPOTWIND_Solano											NA			
GENIRPBPOTWIND_Southern_Nevada											NA			
GENIRPBPOTWIND_SWExisting											NA			
GENIRPBPOTWIND_Tehachapi											NA			
GENIRPBPOTWIND_WY											NA			
GENIRPMTRBIOMASS											NA			
GENIRPMTRGEOTHERMAL											NA			
GENIRPMTRLDSTORAGE											NA			
GENIRPMTRLDSTORAGE_2											NA			
GENIRPMTRSOLAR											NA			
GENIRPMTRSTORAGE-24											NA			
GENIRPMTRSTORAGE-25											NA			
GENIRPPSPSTORAGE-CPE											NA			
GENIRPPSPSTORAGE-LSE											NA			
IDWAMONTICELLO		1983	7	1	2030	12	31				NA			
PGESALTSPRINGS2		1950	1	1	2099	12	31				NA			
PGESANJOAQU1		1950	1	1	2099	12	31				NA			
PGESPAULDING2		1950	1	1	2099	12	31				NA			
33R484	2	2022	12	2				2020	5	24	NA			
PGEWISHON		1950	1	1	2099	12	31				NA			
PGEWISE2		1950	1	1	2099	12	31				NA			
PGEWISE1		1950	1	1	2099	12	31				NA			
33R479BIO	26	2022	7	26	2042	7	25	2019	7	10	NA			
33R154AB	24	2012	12	24	2032	12	23	2011	2	24	NA			
PGEWESTPOINT		1950	1	1	2099	12	31				NA			
33R121	14	2013	8	15	2038	8	14	2010	1	26	NA			

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33R417RM	17	2017	10	17	2037	10	16	2017	6	21	NA			
33R511RM	22	2021	10	22	2041	10	21	2021	7	15	NA			
33R333RM	3	2014	7	3	2024	7	2	2013	12	20	NA			
PGEVOLTA2		1950	1	1	2099	12	31				NA			
PGEVOLTA1		1950	1	1	2099	12	31				NA			
40S019	29	2021	10	1	2031	9	30	2020	5	12	NA			
40S013 VISTRA_5_DALBT3	6	2021	6	1	2041	5	31	2018	6	6	NA			
40S013 VISTRA_5_DALBT2	6	2021	6	1	2041	5	31	2018	6	6	NA			
40S013 VISTRA_5_DALBT1	6	2021	6	1	2041	5	31	2018	6	6	NA			
33R279	20	2015	6	30	2035	6	29	2012	9	17	NA			
25C246	31	1989	1	31	2060	12	31	1988	9	1	NA			
PGEVACADIXON		2009	12	22	2099	12	21				NA			
33R151	10	2012	3	13	2037	3	12	2010	12	17	NA			
01C061	21	1987	5	21	2060	12	31	1986	12	24	NA			
33R470BIO								2019	5	8	NA			
24B001FHP	1	2015	4	1	2025	2	28	2015	3	13	NA			
33R302AB	7	2016	4	7	2036	4	6	2013	6	20	NA			
33R415RM	23	2019	12	23	2039	12	22	2017	5	18	NA			
33R164AB	28	2012	11	28	2032	11	27	2011	7	15	NA			
33R509RM	8	2021	10	8	2041	10	7	2021	7	2	NA			
33R392	27	2018	2	9	2035	2	8	2015	12	18	NA			
33R056	22	2014	10	27	2039	10	26	2008	7	1	NA			
PGETOADTOWN		1950	1	1	2099	12	31				NA			
33R233AB	6	2014	3	6	2034	3	5	2011	10	11	NA			
PGETIGERCREEK		1950	1	1	2099	12	31				NA			
16H030	18	1986	2	18	2060	12	31	1985	1	28	NA			
16H033	25	1986	2	25	2060	12	31	1984	10	26	NA			
33R247AB	1	2012	4	1	2032	3	31	2012	3	9	NA			
33R248AB	1	2012	4	1	2032	3	31	2012	3	9	NA			
33R249AB	1	2012	4	1	2032	3	31	2012	3	8	NA			
33R251AB	1	2012	4	1	2032	3	31	2012	3	28	NA			
10H007	6	1985	4	6	2060	12	31	1984	9	25	NA			
10H059	17	1984	1	17	2060	12	31	1983	11	9	NA			
10H090	20	1991	6	20	2060	12	31	1991	3	27	NA			
12C085	18	1991	7	18	2060	12	31	1991	4	30	NA			
13H120	4	1983	11	4	2060	12	31	1985	4	9	NA			
13H130	14	1983	10	14	2060	12	31	1985	2	25	NA			
33R402RM	30	2016	9	30	2031	9	29	2016	7	27	NA			
25C151QPA2	1	2019	12	1	2026	11	30	2019	7	11	NA			
33R132	1	2014	9	1	2034	8	31	2010	2	4	NA			
40S030	1	2022	8	1	2037	9	30	2021	7	30	NA			
40S031	1	2022	8	1	2037	9	30	2021	7	16	NA			
33R387	11	2018	12	10	2038	12	9	2015	12	18	NA			
33R386	14	2019	7	12	2039	7	11	2015	12	18	NA			
PGEPVUOG_PY1_ST		2011	9	26	2036	9	25				NA			
33R355RM	18	2015	6	18	2030	6	17	2014	6	27	NA			
33R357RM	19	2016	7	19	2031	7	18	2014	6	27	NA			
33R358RM	1	2016	8	1	2031	7	31	2014	6	27	NA			
33R356RM	1	2016	8	1	2031	7	31	2014	6	27	NA			
01C202QAA	1	2014	8	1	2026	7	31	2013	11	22	NA			
PGESTANISLAUS		1950	1	1	2099	12	31				NA			
02C041	10	1987	3	10	2060	12	31	1986	11	7	NA			
PGETULE		1950	1	1	2099	12	31				NA			
PGESPRINGGAP		1950	1	1	2099	12	31				NA			
33R254 SPQUIN_6_SRPCQU	8	2015	9	9	2035	9	8	2012	8	9	NA			
33R254 SPIFBD_1_PL1X2	8	2015	9	9	2035	9	8	2012	8	9	NA			
33R254 SPIAND_1_ANDSN2	8	2015	9	9	2035	9	8	2012	8	9	NA			
33R254 SPI LI_2_UNIT 1	8	2015	9	9	2035	9	8	2012	8	9	NA			
33R254 SPBURN_2_UNIT 1	8	2015	9	9	2035	9	8	2012	8	9	NA			
PGESPAULDING1		1950	1	1	2099	12	31				NA			
PGESPAULDING3		1950	1	1	2099	12	31				NA			
PGESOUTH		1950	1	1	2099	12	31				NA			
33R389	28	2018	3	12	2038	3	11	2015	12	18	NA			
33R272	14	2015	5	15	2035	5	14	2012	8	30	NA			
40S040								2021	12	28	NA			
33R053AB	13	2010	9	13	2025	9	12	2008	8	6	NA			
40S008								2017	11	8	NA			
33R364	23	2017	8	25	2037	8	24	2014	10	21	NA			
PGEPVUOG_PY1_WS		2011	8	31	2036	8	30				NA			
33R434BIO	10	2019	6	10	2039	6	9	2018	6	12	NA			
PGEPVUOG_PY1_FP		2011	9	24	2036	9	23				NA			
33R416BIO	21	2019	7	21	2039	7	20	2017	6	12	NA			
33R185AB	21	2013	7	21	2033	7	20	2011	8	31	NA			
33R089-AR	4	2014	12	4	2039	12	3	2011	7	15	NA			
PGESALTSPRINGS1		1950	1	1	2099	12	31				NA			
33R338RM	28	2015	5	28	2035	5	27	2013	12	20	NA			
33R322	7	2015	8	7	2035	8	6	2013	10	25	NA			
33R253 ROLLIN_6_UNIT	1	2013	7	1	2033	6	30	2012	5	9	NA			
33R409RM	15	2017	8	15	2037	8	14	2017	3	8	NA			
15H012	23	1985	12	23	2060	12	31	1985	6	4	NA			
15H068	13	1986	2	13	2060	12	31	1983	9	26	NA			
15H069	23	1985	12	23	2060	12	31	1981	10	27	NA			
15H072	22	1985	11	22	2060	12	31	1985	7	2	NA			
33R046AB	15	2008	8	15	2028	8	14	2008	6	2	NA			
33R171AB	17	2014	6	17	2034	6	16	2011	8	17	NA			
PGEROCKCREEK RCKCRK_7_UNIT 2		1950	1	1	2099	12	31				NA			
PGEROCKCREEKRPS RCKCRK_7_UNIT 2		2013	4	30	2099	12	31				NA			
PGEROCKCREEK RCKCRK_7_UNIT 1		1950	1	1	2099	12	31				NA			
PGEROCKCREEKRPS RCKCRK_7_UNIT 1		2013	4	30	2099	12	31				NA			
33R045	26	2009	1	5	2024	1	4	2008	5	28	NA			
33R339RM	23	2014	12	23	2034	12	22	2013	12	20	NA			
08C071	1	1987	9	1	2060	12	31	1987	2	20	NA			
33R139AB	19	2011	4	19	2026	4	18	2010	3	1	NA			
PGEPOTTER		1950	1	1	2099	12	31				NA			
PGEPOW POEPH_7_UNIT 2		1950	1	1	2099	12	31				NA			
PGEPOW POEPH_7_UNIT 1		1950	1	1	2099	12	31				NA			
33B074	1	2009	5	1	2024	4	30	2006	4	3	NA			
33B076	1	2009	6	1	2029	5	31	2006	3	28	NA			
33R245	14	2015	2	17	2035	2	16	2012	2	27	NA			
33R373RM	30	2017	3	30	2037	3	29	2015	3	11	NA			
PGEPIT7 PIT7_7_UNIT 2		1950	1	1	2099	12	31				NA			
PGEPIT7 PIT7_7_UNIT 1		1950	1	1	2099	12	31				NA			
PGEPIT7 PIT6_7_UNIT 2		1950	1	1	2099	12	31				NA			
PGEPIT6		1950	1	1	2099	12	31				NA			
33R408RM	14	2019	1	14	2039	1	13	2017	1	31	NA			

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PGEPIT5 PIT5_7_PL3X4		1950	1	1	2099	12	31				NA			
PGEPIT5 PIT5_7_PL1X2		1950	1	1	2099	12	31				NA			
PGEPIT4		1950	1	1	2099	12	31				NA			
PGEPIT3		1950	1	1	2099	12	31				NA			
PGEPIT1 PIT1_7_UNIT 2		1950	1	1	2099	12	31				NA			
PGEPIT1 PIT1_7_UNIT 1		1950	1	1	2099	12	31				NA			
33R206AB	5	2014	3	5	2034	3	4	2011	9	26	NA			
PGEPHOENIX		1950	1	1	2099	12	31				NA			
33R165AB	31	2013	12	31	2033	12	30	2011	7	15	NA			
33R133	13	2016	4	13	2041	4	12	2010	2	2	NA			
33R083	4	2010	10	4	2025	10	3	2009	8	17	NA			
33W001	1	1992	1	1	2060	12	31	1991	10	4	NA			
33R375	13	2017	5	2	2037	5	1	2015	3	23	NA			
33R391	16	2018	8	24	2038	8	23	2015	12	18	NA			
33R366	26	2017	3	10	2037	3	9	2014	11	12	NA			
33R363	26	2017	2	24	2037	2	23	2014	11	12	NA			
33R350RM	23	2016	3	23	2036	3	22	2014	4	29	NA			
13H024QPA	1	2020	1	1	2026	12	31	2019	12	17	NA			
33R274	2	2014	10	2	2034	10	1	2012	9	17	NA			
33R122	27	2013	6	27	2038	6	26	2010	1	26	NA			
33R288	30	2015	2	9	2035	2	8	2013	4	10	NA			
33R423BIO	13	2018	2	13	2038	2	12	2017	11	6	NA			
33R424BIO	13	2018	2	13	2038	2	12	2017	11	6	NA			
33R283	10	2014	3	10	2029	3	9	2012	12	19	NA			
PGENEWCASTLE		1950	1	1	2099	12	31				NA			
01C201	2	1988	2	2	2060	12	31	1988	4	20	NA			
33R078	11	2013	1	18	2033	1	17	2010	4	21	NA			
33R047AB	22	2009	5	22	2029	5	21	2008	6	2	NA			
33R076AB	17	2011	6	17	2026	6	16	2009	5	27	NA			
33R107AB	24	2010	6	24	2030	6	23	2009	12	24	NA			
33R127AB	17	2012	1	17	2032	1	16	2010	1	26	NA			
33R135	19	2012	12	19	2032	12	18	2010	2	19	NA			
33R136	12	2014	5	12	2034	5	11	2010	2	19	NA			
33R137	12	2014	5	12	2034	5	11	2010	2	19	NA			
33R169AB	22	2011	11	22	2031	11	21	2011	8	17	NA			
33R177AB	7	2014	2	7	2034	2	6	2011	8	17	NA			
33R178AB	12	2013	7	12	2033	7	11	2011	8	17	NA			
33R180AB	27	2014	6	27	2034	6	26	2011	8	17	NA			
33R187AB	10	2014	2	10	2034	2	9	2011	8	31	NA			
33R188AB	2	2013	10	2	2033	10	1	2011	8	31	NA			
33R190AB	3	2014	3	3	2034	3	2	2011	8	31	NA			
33R191AB	27	2014	6	27	2034	6	26	2011	8	31	NA			
33R195AB	3	2014	3	3	2034	3	2	2011	8	31	NA			
33R197AB	1	2014	1	1	2033	12	31	2011	8	31	NA			
33R198AB	6	2014	3	6	2034	3	5	2011	8	31	NA			
33R202AB	3	2014	3	3	2034	3	2	2011	8	31	NA			
33R204AB	20	2014	2	20	2034	2	19	2011	8	31	NA			
33R216AB	30	2013	12	30	2033	12	29	2011	10	11	NA			
33R294AB	14	2015	1	14	2035	1	13	2013	4	24	NA			
33R300AB	22	2015	10	22	2035	10	21	2013	4	24	NA			
33R301AB	25	2015	9	25	2035	9	24	2013	6	20	NA			
33R304AB	3	2016	2	3	2036	2	2	2013	7	22	NA			
33R316AB	19	2016	12	19	2036	12	18	2013	8	1	NA			
33R318AB	11	2016	2	11	2036	2	10	2013	8	1	NA			
33R334RM	17	2015	4	17	2030	4	16	2013	12	20	NA			
33R353RM	19	2016	12	19	2036	12	18	2014	6	27	NA			
33R378RM	11	2015	11	11	2035	11	10	2015	7	2	NA			
33R407RM	14	2017	3	14	2027	3	13	2017	1	9	NA			
33R082	21	2012	2	21	2027	2	20	2010	3	8	NA			
33R144	13	2013	3	8	2033	3	7	2010	7	29	NA			
33R292	2	2016	3	1	2036	2	29	2013	4	10	NA			
33R148	19	2015	6	19	2035	6	18	2010	9	20	NA			
08C097	6	1989	10	6	2060	12	31	1989	12	18	NA			
02C047	9	1987	9	9	2060	12	31	1987	9	4	NA			
02C048	23	1988	3	23	2060	12	31	1988	2	8	NA			
02C058	1	1992	6	1	2060	12	31	1995	3	15	NA			
33R343	14	2020	6	1	2040	5	31	2013	12	19	NA			
33R282AB	12	2015	5	12	2035	5	11	2012	11	21	NA			
33R285AB	23	2015	5	23	2035	5	22	2013	1	7	NA			
33R032-AR	30	2010	4	30	2030	4	29	2014	6	17	NA			
33R510RM	4	2021	10	4	2041	10	3	2021	7	2	NA			
33R207AB	5	2014	3	5	2034	3	4	2011	9	26	NA			
33R390	28	2018	3	12	2038	3	11	2015	12	18	NA			
13H047	7	1988	12	7	2028	12	6	1984	12	4	NA			
33R382	26	2018	5	25	2038	5	24	2015	12	18	NA			
33R388	27	2018	3	12	2038	3	11	2015	12	18	NA			
33R403RM	15	2017	5	15	2037	5	14	2016	10	24	NA			
33R347RM	1	2015	1	1	2034	12	31	2014	2	28	NA			
33R232AB	14	2014	3	14	2034	3	13	2011	10	11	NA			
33R184AB	5	2014	2	5	2034	2	4	2011	8	31	NA			
33R201AB	2	2014	12	2	2034	12	1	2011	8	31	NA			
33R256	1	2019	1	1	2043	12	31	2012	8	13	NA			
33R255	26	2018	1	1	2037	12	31	2012	8	13	NA			
405024	15	2022	9	1	2037	8	31	2020	12	10	NA			
33R324	23	2016	2	25	2036	2	24	2013	10	25	NA			
33R396	30	2018	2	8	2038	2	7	2016	1	7	NA			
33R267	29	2015	2	19	2035	2	18	2012	8	30	NA			
33R215AB	30	2013	12	30	2033	12	29	2011	10	11	NA			
33R214AB	30	2013	12	30	2033	12	29	2011	10	11	NA			
PGEKINGSRIVER		1950	1	1	2099	12	31				NA			
PGEKILARC		1950	1	1	2099	12	31				NA			
25C049QAA2	1	2019	10	1	2026	9	30	2019	5	23	NA			
33R296AB	20	2015	10	20	2035	10	19	2013	4	24	NA			
33R295AB	20	2015	10	20	2035	10	19	2013	4	24	NA			
PGEKERCKHOFF2		1950	1	1	2099	12	31				NA			
PGEKERCKHOFF1 KERKH1_7_UNIT 3		1950	1	1	2099	12	31				NA			
PGEKERCKHOFF1 KERKH1_7_UNIT 1		1950	1	1	2099	12	31				NA			
33R323	1	2015	6	1	2035	5	31	2013	10	25	NA			
33R160	7	2013	6	25	2033	6	24	2011	6	24	NA			
33R161	14	2014	5	1	2034	4	30	2011	6	24	NA			
33R163	21	2012	12	21	2037	12	20	2011	7	15	NA			
405029								2021	7	30	NA			
33R064	15	2014	1	27	2039	1	26	2009	4	28	NA			
33R063	10	2014	1	21	2039	1	20	2009	4	28	NA			
PGEINSKIP		1950	1	1	2099	12	31				NA			

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04C130	15	1985	8	15	2060	12	31	1985	10	17	NA			
04H134	1	1987	5	1	2060	12	31	1986	12	16	NA			
04S142	16	1993	4	16	2060	12	31	1993	6	2	NA			
PGEPVUOG_PY2_HU		2012	6	28	2037	6	27				NA			
PGEHUMBOLDT HUMBPP_6_UNITS		2010	9	1	2040	9	30				NA			
PGEHUMBOLDT HUMBPP_1_UNITS3		2010	9	1	2040	9	30				NA			
33R281AB	17	2015	4	17	2035	4	16	2012	10	25	NA			
33R210AB	16	2014	6	16	2034	6	15	2011	9	26	NA			
PGEHAMILTON		1950	1	1	2099	12	31				NA			
33R077AB	6	2009	10	6	2024	10	5	2009	5	28	NA			
33R259	1	2016	10	1	2036	9	30	2012	8	16	NA			
33R307AB	1	2016	2	1	2036	1	31	2013	8	1	NA			
PGEHELMSGEN1 HELMPG_7_UNIT 3		1899	12	30	2099	12	31				NA			
PGEHELMSGEN1 HELMPG_7_UNIT 2		1899	12	30	2099	12	31				NA			
PGEHELMSGEN1 HELMPG_7_UNIT 1		1899	12	30	2099	12	31				NA			
33R058-AR	14	2010	12	14	2025	12	13	2017	8	23	NA			
PGEHAT2		1950	1	1	2099	12	31				NA			
PGEHAT1		1950	1	1	2099	12	31				NA			
33R442BIO	22	2020	6	22	2040	6	21	2018	6	12	NA			
PGEHALSEY		1950	1	1	2099	12	31				NA			
PGEHAAS		1950	1	1	2099	12	31				NA			
33R438BIO	1	2019	7	1	2039	6	30	2018	6	12	NA			
PGEPVUOG_PY3_GU		2013	9	18	2038	9	17				NA			
33R439BIO	1	2019	7	1	2039	6	30	2018	6	12	NA			
01C084QAA	1	2017	8	1	2024	7	31	2017	7	24	NA			
33R100	1	2010	6	23	2030	6	22	2010	5	4	NA			
33R362	14	2017	4	21	2037	4	20	2014	10	21	NA			
33R376	26	2017	10	27	2037	10	26	2015	3	23	NA			
PGEPVUOG_PY2_GI		2012	7	2	2037	7	1				NA			
33R090	30	2014	3	7	2039	3	6	2009	9	28	NA			
PGEGATEWAY		2009	1	1	2039	1	31				NA			
40S020	29	2021	10	1	2036	9	30	2020	5	12	NA			
PGEPVUOG_PY3_WG		2013	6	24	2038	6	23				NA			
PGEPVUOG_PY3_GA		2013	6	24	2038	6	23				NA			
33R422BIO	13	2018	2	13	2038	2	12	2017	11	6	NA			
04C140	27	1992	8	27	2060	12	31	1992	8	19	NA			
33R335RM	15	2015	4	15	2030	4	14	2013	12	20	NA			
33R336RM	19	2014	3	19	2034	3	18	2013	12	20	NA			
19H05S	22	1982	11	22	2060	12	31	1982	4	9	NA			
33R108-AR	1	2011	11	1	2031	10	31	2010	9	22	NA			
33R513RM	1	2021	12	1	2041	11	30	2021	9	17	NA			
33R418RM	22	2017	8	22	2037	8	21	2017	7	21	NA			
25C063QPA2	1	2019	11	1	2026	10	31	2019	10	30	NA			
33R374	1	2016	12	1	2036	11	30	2015	3	23	NA			
33R329	1	2016	7	1	2031	6	30	2013	12	16	NA			
25C293	2	1988	9	2	2060	12	31	1988	4	29	NA			
33R008	27	1994	12	30	2060	12	31	1994	1	18	NA			
33R016	21	2009	2	21	2031	2	7	2005	9	26	NA			
PGEMOSSLANDING		2022	4	7	2050	12	31				NA			
PGEELECTRA		1950	1	1	2099	12	31				NA			
33R174AB	30	2015	4	30	2035	4	29	2011	8	17	NA			
33R253 DUTCH2_7_UNIT 1	1	2013	7	1	2033	6	30	2012	5	9	NA			
PGEDUTCHFLAT1		1950	1	1	2099	12	31				NA			
33R138	28	2014	12	17	2039	12	16	2010	2	24	NA			
PGEDESABLA		1950	1	1	2099	12	31				NA			
PGEDRUM2		1950	1	1	2099	12	31				NA			
PGEDRUM1 DRUM_7_PL3X4		1950	1	1	2099	12	31				NA			
PGEDRUM1 DRUM_7_PL1X2		1950	1	1	2099	12	31				NA			
40S021	12	2021	10	1	2036	9	30	2020	5	13	NA			
33R405BIO	7	2016	12	7	2026	12	6	2016	11	4	NA			
25C248	13	1988	6	13	2060	12	31	1987	8	6	NA			
PGEDIABLO2		1899	12	30	2025	8	26				NA			
PGEDIABLO1		1899	12	30	2024	11	2				NA			
33R261AB	5	2013	8	5	2033	8	4	2012	8	20	NA			
33R260AB	1	2013	7	1	2033	6	30	2012	8	20	NA			
33R440BIO	11	2019	1	11	2039	1	10	2018	6	12	NA			
33R401RM	5	2018	1	5	2038	1	4	2016	4	22	NA			
33R459BIO	1	2021	10	1	2036	9	30	2018	10	22	NA			
33R257	1	2019	1	1	2043	12	31	2012	8	13	NA			
33R27B	21	2015	12	14	2035	12	13	2012	9	17	NA			
13H123	9	1982	12	9	2060	12	31	1982	12	3	NA			
18C001	26	1988	8	26	2060	12	31	1985	7	8	NA			
33R337RM	7	2014	7	7	2024	7	6	2013	12	20	NA			
01C045	20	1996	5	27	2026	5	26	1983	12	12	NA			
PGESANJOAQU3		1950	1	1	2099	12	31				NA			
PGESANJOAQU2		1950	1	1	2099	12	31				NA			
PGECRANEVALLEY		1950	1	1	2099	12	31				NA			
33R50S	[redacted]							2021	5	4	NA			
PGECRESTA		1950	1	1	2099	12	31				NA			
PGECOWCREEK		1950	1	1	2099	12	31				NA			
33R280	20	2015	3	20	2035	3	19	2012	9	17	NA			
33R079	27	2011	2	1	2031	1	31	2009	6	22	NA			
33R060	1	2009	1	1	2028	12	31	2008	12	19	NA			
33R166	6	2015	5	13	2040	5	12	2011	7	26	NA			
33R243	1	2013	4	1	2033	3	31	2012	2	27	NA			
33R275	26	2013	12	26	2033	12	25	2012	9	17	NA			
PGECOLUSA		2010	12	1	2040	12	31				NA			
33R481BIO	30	2021	8	30	2041	8	29	2020	2	6	NA			
PGECOLEMAN		1950	1	1	2099	12	31				NA			
33R099	21	2014	2	21	2039	2	20	2009	12	8	NA			
33R205AB	12	2013	6	12	2033	6	11	2011	9	26	NA			
PGECENTERVILLE		1950	1	1	2099	12	31				NA			
01C199	6	1989	7	6	2060	12	31	1989	7	6	NA			
01C245	6	1991	2	6	2060	12	31	1991	7	12	NA			
PGELIMESADL		1950	1	1	2099	12	31				NA			
33R237AB	26	2014	6	26	2034	6	25	2011	12	23	NA			
33R017	12	2008	12	12	2031	2	7	2005	9	26	NA			
33R500BIO	[redacted]							2021	3	16	NA			
33B110	1	2013	7	1	2033	6	30	2012	5	9	NA			
25C003	15	1982	10	15	2060	12	31	1982	7	22	NA			
25C249	3	1988	6	3	2060	12	31	1987	10	15	NA			
25C055	7	1986	11	7	2060	12	31	1986	10	23	NA			
25C002	26	1982	7	26	2060	12	31	1982	7	22	NA			
33R342RM	1	2015	4	1	2025	3	31	2013	12	20	NA			
33R052	19	2013	10	31	2038	10	30	2008	7	23	NA			

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33R088	31	2013	10	1	2038	9	30	2010	3	6	NA			
33R502	[redacted]							2021	3	16	NA			
PGECARIBOU1 CARBOU_7_UNIT 1		1950	1	1	2099	12	31				NA			
PGECARIBOU2		1950	1	1	2099	12	31				NA			
PGECARIBOU1 CARBOU_7_PL2X3		1950	1	1	2099	12	31				NA			
PGEPVUOG_PY2_CA		2012	6	26	2037	6	25				NA			
33R487BIO	[redacted]							2020	8	26	NA			
33R344	5	2019	4	10	2034	4	9	2013	12	30	NA			
PGEBUTTVAL		1950	1	1	2099	12	31				NA			
33R483	1	2022	11	1	[redacted]			2020	5	12	NA			
PGEBUCKSCREEK		1950	1	1	2099	12	31				NA			
PGEOAKFLAT		1950	1	1	2099	12	31				NA			
33R377RM	9	2016	6	9	2036	6	8	2015	7	2	NA			
33R142	29	2012	6	6	2032	6	5	2010	6	2	NA			
33R167	21	2013	1	28	2038	1	27	2011	7	28	NA			
33R145	23	2012	3	9	2032	3	8	2010	7	27	NA			
33R033-AR	1	2009	2	1	2029	1	31	2018	1	9	NA			
33R013-AR	28	2011	1	28	2036	1	27	2010	6	3	NA			
33R152	16	2012	3	14	2037	3	13	2010	12	17	NA			
33R341RM	6	2014	11	6	2034	11	5	2013	12	20	NA			
33R253 BOWMN_6_HYDRO	1	2013	7	1	2033	6	30	2012	5	9	NA			
PGEALTA		1950	1	1	2099	12	31				NA			
40S018	28	2022	4	1	2037	3	31	2020	5	12	NA			
40S011	17	2022	5	1	2032	4	30	2017	11	8	NA			
40S015	23	2022	5	1	2037	4	30	2020	5	12	NA			
40S016	11	2022	5	1	2037	4	30	2020	5	12	NA			
40S017	23	2022	5	1	2037	4	30	2020	5	12	NA			
33R258	1	2019	1	1	2043	12	31	2012	8	20	NA			
PGEJBBLACK BLACK_7_UNIT 2		1950	1	1	2099	12	31				NA			
PGEJBBLACK BLACK_7_UNIT 1		1950	1	1	2099	12	31				NA			
33R315AB	28	2015	7	28	2035	7	27	2013	8	1	NA			
33R493	1	2021	9	2	2026	9	1	2020	10	21	NA			
33R385	20	2018	1	23	2038	1	22	2015	12	17	NA			
33R384	20	2018	1	23	2038	1	22	2015	12	18	NA			
33R383	20	2018	1	23	2038	1	22	2015	12	18	NA			
40S027	2	2022	11	1	[redacted]			2020	12	10	NA			
PGEBELDEN		1950	1	1	2099	12	31				NA			
PGEBALCH2 BALCHS_7_UNIT 3		1950	1	1	2099	12	31				NA			
PGEBALCH2 BALCHS_7_UNIT 2		1950	1	1	2099	12	31				NA			
PGEBALCH1		1950	1	1	2099	12	31				NA			
33R073	1	2014	11	21	2039	11	20	2009	5	8	NA			
33R124	5	2011	8	5	2031	8	4	2009	12	24	NA			
33R125	5	2011	8	5	2031	8	4	2009	12	24	NA			
33R368	26	2017	3	10	2037	3	9	2014	11	12	NA			
33R365	26	2017	3	10	2037	3	9	2014	11	12	NA			
33R123	5	2011	8	5	2031	8	4	2009	12	24	NA			
33R120	8	2013	3	12	2038	3	11	2010	1	26	NA			
33R330	23	2019	1	3	2034	1	2	2013	12	16	NA			
33R162	14	2014	6	26	2034	6	25	2011	6	24	NA			
33R118	8	2013	3	8	2038	3	7	2010	1	26	NA			
33R119	8	2013	3	8	2038	3	7	2010	1	26	NA			
33R340RM	3	2014	12	3	2034	12	2	2013	12	20	NA			
33R084	19	2014	6	23	2039	6	22	2009	9	8	NA			
33R244	13	2015	2	9	2035	2	8	2012	2	27	NA			
33R291	3	2015	7	16	2035	7	15	2013	4	10	NA			
GENVAMO_Solar		2023	1	1	[redacted]			2035			NA			
GENVAMO_Wind		2023	1	1				2035			NA			
GENVAMO_Biomass		2023	1	1				2035			NA			
GENVAMO_Biogas		2023	1	1				2035			NA			
GENVAMO_Geothermal		2023	1	1				2035			NA			
GENVAMO_SmallHydro		2023	1	1				2035			NA			
ModCAM_Storage_2024		2024	1	1							NA			
ModCAM_Storage_2032		2032	1	1							NA			
CAM_NaturalGas_2024		2024	1	1							NA			
CAM_NaturalGas_2025		2025	1	1							NA			
CAM_NaturalGas_2026		2026	1	1							NA			
CAM _Import_2024		2022	6	1	2024	9	30				NA			
Cam_Battery_Existing_2024		2024	1	1	[redacted]						NA			
Cam_Battery_Existing_2025		2025	1	1							NA			
CAM_Battery_Programatic_2026	[redacted]										NA			
CAM_Battery_Programatic_2028											NA			
GENPCIAGHGFREESALES_LargeHydro		2024	1	1							NA			
Imported_Hydro		2024	1	1										
Shed_DR		2024	1	1										

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33B013U02														YES	
33R520RM														YES	
40S026		3												YES	NO
33R494														YES	
33R488														YES	
40S038		NA												YES	NO
33R436BIO	[redacted]													YES	
40S034		NA												YES	YES
33R512BIO														YES	
40S039		NA												YES	NO
40S009	[redacted]													YES	
40S036		NA												YES	NO
40S022		3												YES	YES
40S023		3												YES	YES
33R514BIO	[redacted]													YES	
33R495														YES	
33R499														YES	
33R490														YES	
33R437BIO														YES	
33R491														YES	
40S014	[redacted]													YES	
33R522														YES	
33R393														YES	
33R492														YES	
33R524														YES	
40S035	[redacted]	NA												YES	NO
40S032		NA												YES	YES
33R503														YES	
40S037		NA												YES	YES
40S025		3												YES	NO
33R433BIO														YES	
33R504														YES	
40S033		NA												YES	YES
40S028		NA												YES	YES
33R419														YES	
33R420														YES	
33R421														YES	
33R489														YES	
33R523														YES	
CPE00001R														YES	
CPE00002R														YES	
CPE00003R														YES	
CPE00004R														YES	
CPE00005R														YES	
CPE00006R														YES	
CPE00007R														YES	
CPE00008R														YES	
CPE00009R														YES	
CPE00010R														YES	
CPE00011R														YES	
FIT_Baseload															
FIT_Non-Peaking_AA_SmallHydro															
FIT_Non-Peaking_AA_Wind															
FIT_Peaking_AA															
FIT_SB1122_Cat1															
FIT_SB1122_Cat2_Ag															
FIT_SB1122_Cat2_Dairy															
FIT_SB1122_Cat3															
GENCPELOCALTHERMAL															
GENGTSRSOLARPV															
GENIRPBPOTSOLAR_Arizona															
GENIRPBPOTSolar_Imperial															
GENIRPBPOTSOLAR_Kramer															
GENIRPBPOTSOLAR_Riverside															
GENIRPBPOTSOLAR_Tehachapi															
GENIRPBPOTSTORAGE-31															
GENIRPBPOTSTORAGE-32															
GENIRPBPOTSTORAGE-33															
GENIRPBPOTSTORAGE-34															
GENIRPBPOTSTORAGE-35															
GENIRPBPOTWIND_Baja															
GENIRPBPOTWIND_Carrizo															
GENIRPBPOTWIND_CValley															
GENIRPBPOTWIND_Humboldt															
GENIRPBPOTWIND_Humboldt_Bay_Offshore															
GENIRPBPOTWIND_Kern_Greater_Carrizo															
GENIRPBPOTWIND_Morro															
GENIRPBPOTWIND_New_Mexico															
GENIRPBPOTWIND_NoCal															
GENIRPBPOTWIND_Solano															
GENIRPBPOTWIND_Southern_Nevada															
GENIRPBPOTWIND_SWExisting															
GENIRPBPOTWIND_Tehachapi															
GENIRPBPOTWIND_WY															
GENIRPMTRBIOMASS															
GENIRPMTRGEOTHERMAL															
GENIRPMTRLDSTORAGE															
GENIRPMTRLDSTORAGE_2															
GENIRPMTRSOLAR															
GENIRPMTRSTORAGE-24															
GENIRPMTRSTORAGE-25															
GENIRPPSPSTORAGE-CPE															
GENIRPPSPSTORAGE-LSE															
IDWAMONTICELLO															
PGESALTSPRINGS2															
PGESANJOAQU1															
PGESPAULDING2															
33R484														YES	
PGEWISHON															
PGEWISE2															
PGEWISE1															
33R479BIO														YES	
33R154AB														YES	
PGEWESTPOINT															
33R121														YES	

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33R417RM														YES	
33R511RM														YES	
33R333RM														YES	
PGEVOLTA2															
PGEVOLTA1															
40S019		1												YES	YES
40S013 VISTRA_5_DALBT3														YES	
40S013 VISTRA_5_DALBT2														YES	
40S013 VISTRA_5_DALBT1														YES	
33R279														YES	
25C246														YES	
PGEVACADIXON															
33R151														YES	
01C061														YES	
33R470BIO														YES	
24B001FHP														YES	
33R302AB														YES	
33R415RM														YES	
33R164AB														YES	
33R509RM														YES	
33R392														YES	
33R056														YES	
PGETOADTOWN															
33R233AB														YES	
PGETIGERCREEK															
16H030														YES	
16H033														YES	
33R247AB														YES	
33R248AB														YES	
33R249AB														YES	
33R251AB														YES	
10H007														YES	
10H059														YES	
10H090														YES	
12C085														YES	
13H120														YES	
13H130														YES	
33R402RM														YES	
25C151QPA2														YES	
33R132														YES	
40S030		NA												YES	YES
40S031		NA												YES	YES
33R387														YES	
33R386														YES	
PGEPVUOG_PY1_ST															
33R355RM														YES	
33R357RM														YES	
33R358RM														YES	
33R356RM														YES	
01C202QAA														YES	
PGESTANISLAUS															
02C041														YES	
PGETULE															
PGESPRINGGAP															
33R254 SPQUIN_6_SRPCQU														YES	
33R254 SPIFBD_1_PL1X2														YES	
33R254 SPIAND_1_ANDSN2														YES	
33R254 SPI LI_2_UNIT 1														YES	
33R254 SPBURN_2_UNIT 1														YES	
PGESPAULDING1															
PGESPAULDING3															
PGESOUTH															
33R389														YES	
33R272														YES	
40S040		NA												YES	NO
33R053AB														YES	
40S008														YES	
33R364														YES	
PGEPVUOG_PY1_WS															
33R434BIO														YES	
PGEPVUOG_PY1_FP															
33R416BIO														YES	
33R185AB														YES	
33R089-AR														YES	
PGESALTSPRINGS1															
33R338RM														YES	
33R322														YES	
33R253 ROLLIN_6_UNIT														YES	
33R409RM														YES	
15H012														YES	
15H068														YES	
15H069														YES	
15H072														YES	
33R046AB														YES	
33R171AB														YES	
PGEROCKCREEK RCKCRK_7_UNIT 2															
PGEROCKCREEKRPS RCKCRK_7_UNIT 2															
PGEROCKCREEK RCKCRK_7_UNIT 1															
PGEROCKCREEKRPS RCKCRK_7_UNIT 1															
33R045														YES	
33R339RM														YES	
08C071														YES	
33R139AB														YES	
PGEPOTTER															
PGEPOW POEPH_7_UNIT 2															
PGEPOW POEPH_7_UNIT 1															
33B074														YES	
33B076														YES	
33R245														YES	
33R373RM														YES	
PGEPIT7 PIT7_7_UNIT 2															
PGEPIT7 PIT7_7_UNIT 1															
PGEPIT7 PIT6_7_UNIT 2															
PGEPIT6															
33R408RM														YES	

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PGEPIT5 PIT5_7_PL3X4															
PGEPIT5 PIT5_7_PL1X2															
PGEPIT4															
PGEPIT3															
PGEPIT1 PIT1_7_UNIT 2															
PGEPIT1 PIT1_7_UNIT 1															
33R206AB														YES	
PGEPHOENIX															
33R165AB														YES	
33R133														YES	
33R083														YES	
33W001														YES	
33R375														YES	
33R391														YES	
33R366														YES	
33R363														YES	
33R350RM														YES	
13H024QPA														YES	
33R274														YES	
33R122														YES	
33R288														YES	
33R423BIO														YES	
33R424BIO														YES	
33R283														YES	
PGENEWCASTLE															
01C201														YES	
33R078														YES	
33R047AB														YES	
33R076AB														YES	
33R107AB														YES	
33R127AB														YES	
33R135														YES	
33R136														YES	
33R137														YES	
33R169AB														YES	
33R177AB														YES	
33R178AB														YES	
33R180AB														YES	
33R187AB														YES	
33R188AB														YES	
33R190AB														YES	
33R191AB														YES	
33R195AB														YES	
33R197AB														YES	
33R198AB														YES	
33R202AB														YES	
33R204AB														YES	
33R216AB														YES	
33R294AB														YES	
33R300AB														YES	
33R301AB														YES	
33R304AB														YES	
33R316AB														YES	
33R318AB														YES	
33R334RM														YES	
33R353RM														YES	
33R378RM														YES	
33R407RM														YES	
33R082														YES	
33R144														YES	
33R292														YES	
33R148														YES	
08C097														YES	
02C047														YES	
02C048														YES	
02C058														YES	
33R343														YES	
33R282AB														YES	
33R285AB														YES	
33R032-AR														YES	
33R510RM														YES	
33R207AB														YES	
33R390														YES	
13H047														YES	
33R382														YES	
33R388														YES	
33R403RM														YES	
33R347RM														YES	
33R232AB														YES	
33R184AB														YES	
33R201AB														YES	
33R256														YES	
33R255														YES	
405024		2												YES	YES
33R324														YES	
33R396														YES	
33R267														YES	
33R215AB														YES	
33R214AB														YES	
PGEKINGSRIVER															
PGEKILARC															
25C049QAA2														YES	
33R296AB														YES	
33R295AB														YES	
PGEKERCKHOFF2															
PGEKERCKHOFF1 KERKH1_7_UNIT 3															
PGEKERCKHOFF1 KERKH1_7_UNIT 1															
33R323														YES	
33R160														YES	
33R161														YES	
33R163														YES	
405029														YES	YES
33R064														YES	
33R063														YES	
PGEINSKIP															

lse_unique_contract_id	tx_upgrade_description	d1911016_tranche	d2106035_procurement_cat	mtr_tranche1_NQC	mtr_tranche2_NQC	mtr_tranche3_NQC	mtr_tranche4_NQC_LDES	mtr_tranche4_NQC_firm_ZE	mtr_NQC_ZE_gen_paired_dr	previous_COD_year	previous_COD_month	previous_COD_day	remediation_plan	signed_contract	notice_to_proceed
04C130														YES	
04H134														YES	
04S142														YES	
PGEPVUOG_PY2_HU															
PGEHUMBOLDT HUMBPP_6_UNITS															
PGEHUMBOLDT HUMBPP_1_UNITS3															
33R281AB														YES	
33R210AB														YES	
PGEHAMILTON															
33R077AB														YES	
33R259														YES	
33R307AB														YES	
PGEHELMSGEN1 HELMPG_7_UNIT 3															
PGEHELMSGEN1 HELMPG_7_UNIT 2															
PGEHELMSGEN1 HELMPG_7_UNIT 1															
33R058-AR														YES	
PGEHAT2															
PGEHAT1															
33R442BIO														YES	
PGEHALSEY															
PGEHAAS															
33R438BIO														YES	
PGEPVUOG_PY3_GU															
33R439BIO														YES	
01C084QAA														YES	
33R100														YES	
33R362														YES	
33R376														YES	
PGEPVUOG_PY2_GI															
33R090														YES	
PGEGATEWAY															
40S020		1												YES	YES
PGEPVUOG_PY3_WG															
PGEPVUOG_PY3_GA															
33R422BIO														YES	
04C140														YES	
33R335RM														YES	
33R336RM														YES	
19H05S														YES	
33R108-AR														YES	
33R513RM														YES	
33R418RM														YES	
25C063QPA2														YES	
33R374														YES	
33R329														YES	
25C293														YES	
33R008														YES	
33R016														YES	
PGEMOSSLANDING															
PGEELECTRA															
33R174AB														YES	
33R253 DUTCH2_7_UNIT 1														YES	
PGEDUTCHFLAT1															
33R138														YES	
PGEDESABLA															
PGEDRUM2															
PGEDRUM1 DRUM_7_PL3X4															
PGEDRUM1 DRUM_7_PL1X2															
40S021		1												YES	NO
33R405BIO														YES	
25C248														YES	
PGEDIABLO2															
PGEDIABLO1															
33R261AB														YES	
33R260AB														YES	
33R440BIO														YES	
33R401RM														YES	
33R459BIO														YES	
33R257														YES	
33R278														YES	
13H123														YES	
18C001														YES	
33R337RM														YES	
01C045														YES	
PGESANJOAQU3															
PGESANJOAQU2															
PGECRANEVALLEY															
33R505														YES	
PGECRESTA															
PGECOWCREEK															
33R280														YES	
33R079														YES	
33R060														YES	
33R166														YES	
33R243														YES	
33R275														YES	
PGECOLUSA															
33R481BIO														YES	
PGECOLEMAN															
33R099														YES	
33R205AB														YES	
PGECENTERVILLE															
01C199														YES	
01C245														YES	
PGELIMESADL															
33R237AB														YES	
33R017														YES	
33R500BIO														YES	
33B110														YES	
25C003														YES	
25C249														YES	
25C055														YES	
25C002														YES	
33R342RM														YES	
33R052														YES	

lse_unique_contract_id	tx_upgrade_description	d1911016_tranche	d2106035_procurement_cat	mtr_tranche1_NQC	mtr_tranche2_NQC	mtr_tranche3_NQC	mtr_tranche4_NQC_LDES	mtr_tranche4_NQC_firm_ZE	mtr_NQC_ZE_gen_paired_dr	previous_COD_year	previous_COD_month	previous_COD_day	remediation_plan	signed_contract	notice_to_proceed
33R088														YES	
33R502														YES	
PGECARIBOU1 CARBOU_7_UNIT 1															
PGECARIBOU2															
PGECARIBOU1 CARBOU_7_PL2X3															
PGEPVUOG_PY2_CA															
33R487BIO														YES	
33R344														YES	
PGEBUTTVAL															
33R483														YES	
PGEBUCKSCREEK															
PGEOAKFLAT															
33R377RM														YES	
33R142														YES	
33R167														YES	
33R145														YES	
33R033-AR														YES	
33R013-AR														YES	
33R152														YES	
33R341RM														YES	
33R253 BOWMN_6_HYDRO														YES	
PGEALTA															
40S018		1&2												YES	YES
40S011														YES	
40S015		1												YES	YES
40S016		1												YES	YES
40S017		1												YES	YES
33R258														YES	
PGEJBBLACK BLACK_7_UNIT 2															
PGEJBBLACK BLACK_7_UNIT 1															
33R315AB														YES	
33R493														YES	
33R385														YES	
33R384														YES	
33R383														YES	
40S027		2&3												YES	YES
PGEBELDEN															
PGEBALCH2 BALCHS_7_UNIT 3															
PGEBALCH2 BALCHS_7_UNIT 2															
PGEBALCH1															
33R073														YES	
33R124														YES	
33R125														YES	
33R368														YES	
33R365														YES	
33R123														YES	
33R120														YES	
33R330														YES	
33R162														YES	
33R118														YES	
33R119														YES	
33R340RM														YES	
33R084														YES	
33R244														YES	
33R291														YES	
GENVAMO_Solar															
GENVAMO_Wind															
GENVAMO_Biomass															
GENVAMO_Biogas															
GENVAMO_Geothermal															
GENVAMO_SmallHydro															
ModCAM_Storage_2024															
ModCAM_Storage_2032															
CAM_NaturalGas_2024															
CAM_NaturalGas_2025															
CAM_NaturalGas_2026															
CAM _Import_2024															
Cam_Battery_Existing_2024															
Cam_Battery_Existing_2025															
CAM_Battery_Programatic_2026															
CAM_Battery_Programatic_2028															
GENPCIAGHGFREESALES_LargeHydro															
Imported_Hydro															
Shed_DR															

lse_unique_contract_id	public_contract	buying_energy_capacity	NQC_reporting_source	procurement_origin	csp_resource_category	csp_annual_2024	csp_annual_2026	csp_annual_2030	csp_annual_2035	macro_supertype	notes
33B013U02	YES	EnergyCapacity	In the contract	: Adequacy (Import Allocatio	NA						
33R520RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Solar Baseline California (GWh)	5	5	5	5		
40S026	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
33R494	YES	EnergyCapacity	Calculated	GTSR-ECR	Solar Baseline California (GWh)	5	5	4	4		
33R488	YES	EnergyCapacity	Calculated	CS-GT	Solar Baseline California (GWh)	6	6	6	6		
40S038	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
33R436BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	11	19	19	19		
40S034	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
33R512BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	21	20	20	20		
40S039	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
40S009	YES	CapacityOnly	In the contract	D1810009	Battery Storage (MWh Energy Capacity)						
40S036	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
40S022	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
40S023	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
33R514BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	25	25	25	25		
33R495	YES	EnergyCapacity	Calculated	GTSR-ECR	Solar Baseline California (GWh)	5	5	5	5		
33R499	YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	28	28	27	27		
33R490	YES	EnergyCapacity	Calculated	CS-GT	Solar Baseline California (GWh)	5	5	4	4		
33R437BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	17	20	20	20		
33R491	YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	6	6	6	6		
40S014	YES	CapacityOnly	In the contract	energystorage	Battery Storage (MWh Energy Capacity)						
33R522	YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	7	7	7	7		
33R393	YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	37	36	36	36		
33R492	YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	6	6	6	6		
33R524	YES	EnergyCapacity	Calculated	CS-GT	Solar Baseline California (GWh)	8	8	8	8		
40S035	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
40S032	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
33R503	YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	10	12	11	11		
40S037	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
40S025	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
33R433BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	13	12	12	12		
33R504	YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	10	13	12	12		
40S033	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
40S028	YES	CapacityOnly	In the contract	emergencyreliabilty	Battery Storage (MWh Energy Capacity)						
33R419	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	62	62	60	59		
33R420	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	62	62	60	59		
33R421	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	62	62	60	59		
33R489	YES	EnergyCapacity	Calculated	CS-GT	Solar Baseline California (GWh)	5	5	5	5		
33R523	YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	8	8	8	8		
CPE00001R	NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00002R	NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00003R	NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00004R	NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00005R	NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00006R	NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00007R	NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00008R	NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00009R	NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00010R	NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
CPE00011R	NO	EnergyCapacity	In the contract	LocalCapacityRequirement	NA						
FIT_Baseload		EnergyCapacity	Calculated		Biomass (GWh)	0	0	206	244		
FIT_Non-Peaking_AA_SmallHydro		EnergyCapacity	Calculated		Small Hydro (GWh)	21	21	21	21		
FIT_Non-Peaking_AA_Wind		EnergyCapacity	Calculated		Wind New PG&E (GWh)	0	0	22	66		
FIT_Peaking_AA		EnergyCapacity	Calculated		Solar New PG&E (GWh)	3	27	81	86		
FIT_SB1122_Cat1		EnergyCapacity	Calculated		Biogas (GWh)	0	52	147	147		
FIT_SB1122_Cat2_Ag		EnergyCapacity	Calculated		Biogas (GWh)	0	20	45	45		
FIT_SB1122_Cat2_Dairy		EnergyCapacity	Calculated		Biogas (GWh)	0	7	15	15		
FIT_SB1122_Cat3		EnergyCapacity	Calculated		Biomass (GWh)	0	3	174	174		
GENCPELOCALTHERMAL		CapacityOnly	Calculated		NA						
GENGTSRSOLARPV		EnergyCapacity	Calculated		Solar New PG&E (GWh)	186	309	299	286		
GENIRPBPOTSOLAR_Arizona		EnergyCapacity	Calculated		Solar New SCE SDG&E (GWh)	0	0	403.0039583	378.9738682		
GENIRPBPOTSolar_Imperial		EnergyCapacity	Calculated		Solar New SCE SDG&E (GWh)	0	0	0	110		
GENIRPBPOTSOLAR_Kramer		EnergyCapacity	Calculated		Solar New SCE SDG&E (GWh)	0	0	1384.436473	1301.8861		
GENIRPBPOTSOLAR_Riverside		EnergyCapacity	Calculated		Solar New SCE SDG&E (GWh)	0	0	1,937	1,831		
GENIRPBPOTSOLAR_Tehachapi		EnergyCapacity	Calculated		Solar New SCE SDG&E (GWh)	0	0	375	1,540		
GENIRPBPOTSTORAGE-31		EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPBPOTSTORAGE-32		EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPBPOTSTORAGE-33		EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPBPOTSTORAGE-34		EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPBPOTSTORAGE-35		EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPBPOTWIND_Baja		EnergyCapacity	Calculated		Wind New SCE SDG&E (GWh)	0	0	352.396585	345.834265		
GENIRPBPOTWIND_Carrizo		EnergyCapacity	Calculated		Wind New PG&E (GWh)	0	0	132.620817	130.1511559		
GENIRPBPOTWIND_CValley		EnergyCapacity	Calculated		Wind New PG&E (GWh)	0	0	79.94216556	78.45348438		
GENIRPBPOTWIND_Humboldt		EnergyCapacity	Calculated		Wind New PG&E (GWh)	0	0	15.71117694	15.41860375		
GENIRPBPOTWIND_Humboldt_Bay_Offshore		EnergyCapacity	Calculated		Wind Offshore Humboldt (GWh)	0	0	0	909.9075427		
GENIRPBPOTWIND_Kern_Greater_Carrizo		EnergyCapacity	Calculated		Wind New PG&E (GWh)	0	0	25.81527594	27.20930065		
GENIRPBPOTWIND_Morro		EnergyCapacity	Calculated		Wind Offshore Morro Bay (GWh)	0	0	158.7362368	2659.768152		
GENIRPBPOTWIND_New_Mexico		EnergyCapacity	Calculated		Wind New Mexico (GWh)	0	0	2224.18956	2182.770764		
GENIRPBPOTWIND_NoCal		EnergyCapacity	Calculated		Wind New PG&E (GWh)	0	0	400.1267089	392.6755587		
GENIRPBPOTWIND_Solano		EnergyCapacity	Calculated		Wind New PG&E (GWh)	0	0	258.7723284	253.9534763		
GENIRPBPOTWIND_Southern_Nevada		EnergyCapacity	Calculated		Wind New SCE SDG&E (GWh)	0	0	241.7285249	254.7818642		
GENIRPBPOTWIND_SWExisting		EnergyCapacity	Calculated		Wind New SCE SDG&E (GWh)	0	0	155.6418255	152.7434686		
GENIRPBPOTWIND_Tehachapi		EnergyCapacity	Calculated		Wind New SCE SDG&E (GWh)	0	0	161.5151005	158.50737		
GENIRPBPOTWIND_WY		EnergyCapacity	Calculated		Wind Wyoming (GWh)	0	0	431.136809	2202.82684		
GENIRPMTRBIOMASS		EnergyCapacity	Calculated		Biomass (GWh)	45	77	77	77		
GENIRPMTRGEOTHERMAL		EnergyCapacity	Calculated		Geothermal (GWh)	0	205	1,402	1,402		
GENIRPMTRLDSTORAGE		EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPMTRLDSTORAGE_2		EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPMTRSOLAR		EnergyCapacity	Calculated		Solar New SCE SDG&E (GWh)	0	1,368	1,599	1,532		
GENIRPMTRSTORAGE-24		EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPMTRSTORAGE-25		EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPPSPSTORAGE-CPE		EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
GENIRPPSPSTORAGE-LSE		EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
IDWAMONTICELLO		EnergyCapacity	Calculated		Small Hydro (GWh)	44	44	44	0		
PGESALTSPRINGS2		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGESANJOAQU1		EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
PGESPAULDING2		EnergyCapacity	Calculated		Small Hydro (GWh)	9	9	9	9		
33R484	YES	EnergyCapacity	Calculated	BioRAM	Biomass (GWh)	239	238	0	0		
PGEWISHON		EnergyCapacity	Calculated		Small Hydro (GWh)	48	47	46	45		
PGEWISE2		EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
PGEWISE1		EnergyCapacity	Calculated		Small Hydro (GWh)	64	63	61	59		
33R479BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	20	20	20	20		
33R154AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	0		
PGEWESTPOINT		EnergyCapacity	Calculated		Small Hydro (GWh)	73	72	70	68		
33R121	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	46	45	43	41		

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33R417RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	1	1		
33R511RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	2	2	2	2		
33R333RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	2	0	0	0		
PGEVOLTA2		EnergyCapacity	Calculated		Small Hydro (GWh)	5	5	4	4		
PGEVOLTA1		EnergyCapacity	Calculated		Small Hydro (GWh)	41	40	39	38		
40S019	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
40S013 VISTRA_5_DALBT3	YES	CapacityOnly	In the contract	energystorage	Battery Storage (MWh Energy Capacity)						
40S013 VISTRA_5_DALBT2	YES	CapacityOnly	In the contract	energystorage	Battery Storage (MWh Energy Capacity)						
40S013 VISTRA_5_DALBT1	YES	CapacityOnly	In the contract	energystorage	Battery Storage (MWh Energy Capacity)						
33R279	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	49	48	47	24		
25C246	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
PGEVACADIXON		EnergyCapacity	Calculated		Solar Baseline California (GWh)	4	4	4	4		
33R151	YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	236	236	236	236		
01C061	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
33R470BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	4	4	4	4		
24B001FHP	NO	EnergyCapacity	Calculated	AB1613/CHP FiT	NA						
33R302AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	3		
33R415RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Solar Baseline California (GWh)	8	8	7	7		
33R164AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	0		
33R509RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	1	1		
33R392	YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	57	56	55	3		
33R056	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	1,239	1,216	1,178	1,132		
PGETOADTOWN		EnergyCapacity	Calculated		Small Hydro (GWh)	5	5	5	4		
33R233AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	4	4	4	0		
PGETIGERCREEK		EnergyCapacity	Calculated		Large Hydro (GWh)						
16H030	NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	1	1	1	1		
16H033	NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	1	1	1	1		
33R247AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	3	3	3	0		
33R248AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	0	0	0	0		
33R249AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	0	0	0	0		
33R251AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	2	2	2	0		
10H007	NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
10H059	NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
10H090	NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
12C085	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
13H120	NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	1	1	1	1		
13H130	NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
33R402RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	1	0		
25C151QPA2	YES	EnergyCapacity	Calculated	QF/CHP Summit	NA						
33R132	YES	EnergyCapacity	Calculated	RPS	Biogas (GWh)	141	141	141	0		
40S030	YES	CapacityOnly	In the contract	emergencyreliability	Battery Storage (MWh Energy Capacity)						
40S031	YES	CapacityOnly	In the contract	emergencyreliability	Battery Storage (MWh Energy Capacity)						
33R387	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	36	35	35	34		
33R386	YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	4	4	4	4		
PGEPVUOG_PY1_ST		EnergyCapacity	Calculated		Solar Baseline California (GWh)	38	38	37	36		
33R355RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	5	5	3	0		
33R357RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	3	3	3	0		
33R358RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	1	0		
33R356RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	2	2	2	0		
01C202QAA	YES	EnergyCapacity	Calculated	QF/CHP Summit	NA						
PGESTANISLAUS		EnergyCapacity	Calculated		Large Hydro (GWh)						
02C041	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
PGETULE		EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
PGESPRINGGAP		EnergyCapacity	Calculated		Small Hydro (GWh)	31	31	30	29		
33R254 SPQUIN_6_SRPCQU	YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	74	74	74	55		
33R254 SPIFBD_1_PL1X2	YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	74	74	74	55		
33R254 SPIAND_1_ANDSN2	YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	74	74	74	55		
33R254 SPI LI_2_UNIT 1	YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	74	74	74	55		
33R254 SPBURN_2_UNIT 1	YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	74	74	74	55		
PGESPAULDING1		EnergyCapacity	Calculated		Small Hydro (GWh)	29	28	27	26		
PGESPAULDING3		EnergyCapacity	Calculated		Small Hydro (GWh)	27	27	26	25		
PGESOUTH		EnergyCapacity	Calculated		Small Hydro (GWh)	41	40	39	38		
33R389	YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	3	3	3	3		
33R272	YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	46	45	44	14		
40S040	YES	CapacityOnly	In the contract	D2106035	Battery Storage (MWh Energy Capacity)						
33R053AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Biogas (GWh)	5	0	0	0		
40S008	YES	CapacityOnly	In the contract	storagemandate	Battery Storage (MWh Energy Capacity)						
33R364	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	52	52	51	49		
PGEPVUOG_PY1_WS		EnergyCapacity	Calculated		Solar Baseline California (GWh)	29	28	28	27		
33R434BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	5	5	5	5		
PGEPVUOG_PY1_FP		EnergyCapacity	Calculated		Solar Baseline California (GWh)	29	28	28	27		
33R416BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	2	2	2	2		
33R185AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Biogas (GWh)	10	10	10	0		
33R089-AR	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	547	546	546	546		
PGESALTSPRINGS1		EnergyCapacity	Calculated		Large Hydro (GWh)						
33R338RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Solar Baseline California (GWh)	3	3	3	1		
33R322	YES	EnergyCapacity	Calculated	RAM	Wind Baseline California (GWh)	56	56	56	39		
33R253 ROLLIN_6_UNIT	YES	EnergyCapacity	Calculated	RPS	Small Hydro (GWh)	56	57	56	0		
33R409RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	2	2	2	2		
15H012	NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	3	3	3	3		
15H068	NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
15H069	NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
15H072	NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
33R046AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	1	1	0	0		
33R171AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	0		
PGEROCKCREEK RCKCRK_7_UNIT 2		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEROCKCREEKRPS RCKCRK_7_UNIT 2		EnergyCapacity	Calculated		Small Hydro (GWh)	19	19	18	18		
PGEROCKCREEK RCKCRK_7_UNIT 1		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEROCKCREEKRPS RCKCRK_7_UNIT 1		EnergyCapacity	Calculated		Small Hydro (GWh)	19	19	18	18		
33R045	YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	0	0	0	0		
33R339RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Solar Baseline California (GWh)	4	4	4	0		
08C071	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
33R139AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	0	0	0	0		
PGEPOTTER		EnergyCapacity	Calculated		Small Hydro (GWh)	0	32	31	30		
PGEPOW POEPH_7_UNIT 2		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPOW POEPH_7_UNIT 1		EnergyCapacity	Calculated		Large Hydro (GWh)						
33B074	YES	EnergyCapacity	In the contract	D0611048, D1301003	NA						
33B076	YES	EnergyCapacity	In the contract	D0611048	NA						
33R245	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	49	48	46	4		
33R373RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	1	1		
PGEPIT7 PIT7_7_UNIT 2		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT7 PIT7_7_UNIT 1		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT7 PIT6_7_UNIT 2		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT6		EnergyCapacity	Calculated		Large Hydro (GWh)						
33R408RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	5	5	5	5		

lse_unique_contract_id	public_contract	buying_energy_capacity	NQC_reporting_source	procurement_origin	csp_resource_category	csp_annual_2024	csp_annual_2026	csp_annual_2030	csp_annual_2035	macro_supertype	notes
PGEPIT5 PIT5_7_PL3X4		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT5 PIT5_7_PL1X2		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT4		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT3		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT1 PIT1_7_UNIT 2		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPIT1 PIT1_7_UNIT 1		EnergyCapacity	Calculated		Large Hydro (GWh)						
33R206AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	4	4	3	0		
PGEPHOENIX		EnergyCapacity	Calculated		Small Hydro (GWh)	9	9	8	8		
33R165AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	0		
33R133	YES	EnergyCapacity	Calculated	RPS	Biogas (GWh)	63	63	63	63		
33R083	YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	0	0	0	0		
33W001	NO	EnergyCapacity	Calculated		NA						
33R375	YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	56	55	54	53		
33R391	YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	6	6	6	6		
33R366	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	26	26	25	24		
33R363	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	26	26	25	24		
33R350RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Solar Baseline California (GWh)	3	3	3	3		
13H024QPA	YES	EnergyCapacity	Calculated	QF/CHP Summit	Small Hydro (GWh)	17	17	0	0		
33R274	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	47	46	44	0		
33R122	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	46	45	44	42		
33R288	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	50	49	48	3		
33R423BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	5	5	5	5		
33R424BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	6	6	6	6		
33R283	YES	EnergyCapacity	Calculated	RPS	Biogas (GWh)	12	12	0	0		
PGENEWCASTLE		EnergyCapacity	Calculated		Small Hydro (GWh)	25	25	25	24		
01C201	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
33R078	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	152	149	145	0		
33R047AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	3	3	0	0		
33R076AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Biomass (GWh)	6	3	0	0		
33R107AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	0	0	0	0		
33R127AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	3	3	3	0		
33R135	YES	EnergyOnly	Calculated	RPS	NA	0	0	0	0		
33R136	YES	EnergyOnly	Calculated	RPS	NA	0	0	0	0		
33R137	YES	EnergyOnly	Calculated	RPS	NA	0	0	0	0		
33R169AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	1	1	1	0		
33R177AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R178AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	0	0	0	0		
33R180AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R187AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	0	0	0	0		
33R188AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R190AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R191AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R195AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R197AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	0	0	0	0		
33R198AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R202AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R204AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R216AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R294AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	0		
33R300AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	2		
33R301AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	2	2	2	1		
33R304AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	1		
33R316AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	0	0	0	0		
33R318AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	1	1	1	1		
33R334RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	1	0		
33R353RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Solar Baseline California (GWh)	1	1	1	1		
33R378RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	0	0	0	0		
33R407RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	0	0	0		
33R082	YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	288	287	0	0		
33R144	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	309	305	299	0		
33R292	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	35	34	33	32		
33R148	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	148	147	144	67		
08C097	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
02C047	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
02C048	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
02C058	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
33R343	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	117	116	114	111		
33R282AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	1		
33R285AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	1		
33R032-AR	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	8	8	2	0		
33R510RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	3	3	3	3		
33R207AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	4	4	3	0		
33R390	YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	2	2	2	2		
13H047	NO	EnergyCapacity	Calculated	D8309054	Small Hydro (GWh)	46	46	0	0		
33R382	YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	10	9	9	9		
33R388	YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	2	2	2	2		
33R403RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	6	6	6	6		
33R347RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	2	2	2	0		
33R232AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	0		
33R184AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	0		
33R201AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	2	0		
33R256	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	45	44	43	41		
33R255	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	48	47	46	45		
405024	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
33R324	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	35	35	34	33		
33R396	YES	EnergyCapacity	Calculated	GTSR-GT	Solar Baseline California (GWh)	51	50	49	48		
33R267	YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	51	50	49	4		
33R215AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	0		
33R214AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	0		
PGEKINGSRIVER		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEKILARC		EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
25C049QAA2	YES	EnergyCapacity	Calculated	QF/CHP Summit	NA						
33R296AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	3		
33R295AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	3		
PGEKERCKHOFF2		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEKERCKHOFF1 KERKH1_7_UNIT 3		EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
PGEKERCKHOFF1 KERKH1_7_UNIT 1		EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
33R323	YES	EnergyCapacity	Calculated	RAM	Small Hydro (GWh)	3	3	3	3		
33R160	YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	47	47	46	0		
33R161	YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	43	42	41	0		
33R163	YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	464	463	463	463		
405029	YES	CapacityOnly	In the contract	emergencyreliabilty	Battery Storage (MWh Energy Capacity)						
33R064	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	273	273	273	273		
33R063	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	257	257	257	257		
PGEINSKIP		EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		

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04C130	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
04H134	NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
04S142	NO	EnergyCapacity	Calculated	D8201103, D8212120	Solar Baseline California (GWh)	0	0	0	0		
PGEPVUOG_PY2_HU		EnergyCapacity	Calculated		Solar Baseline California (GWh)	42	41	40	39		
PGEHUMBOLDT HUMBPP_6_UNITS		EnergyCapacity	Calculated		NA						
PGEHUMBOLDT HUMBPP_1_UNITS3		EnergyCapacity	Calculated		NA						
33R281AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	4	4	4	1		
33R210AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	0		
PGEHAMILTON		EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
33R077AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Small Hydro (GWh)	2	0	0	0		
33R259	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	249	246	241	235		
33R307AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	2		
PGEHELMSGEN1 HELMPG_7_UNIT 3		EnergyCapacity	Calculated		Pumped Storage (MW)						
PGEHELMSGEN1 HELMPG_7_UNIT 2		EnergyCapacity	Calculated		Pumped Storage (MW)						
PGEHELMSGEN1 HELMPG_7_UNIT 1		EnergyCapacity	Calculated		Pumped Storage (MW)						
33R058-AR	YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	282	0	0	0		
PGEHAT2		EnergyCapacity	Calculated		Small Hydro (GWh)	41	41	40	39		
PGEHAT1		EnergyCapacity	Calculated		Small Hydro (GWh)	29	29	28	27		
33R442BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	6	6	6	6		
PGEHALSEY		EnergyCapacity	Calculated		Small Hydro (GWh)	46	45	44	43		
PGEHAAS		EnergyCapacity	Calculated		Large Hydro (GWh)						
33R438BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	7	7	7	7		
PGEPVUOG_PY3_GU		EnergyCapacity	Calculated		Solar Baseline California (GWh)	49	49	48	47		
33R439BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	7	7	7	7		
01C084QAA	NO	EnergyCapacity	Calculated	QF/CHP Summit	NA						
33R100	YES	EnergyCapacity	Calculated	RPS	Small Hydro (GWh)	8	8	7	0		
33R362	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	30	30	29	28		
33R376	YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	23	23	22	22		
PGEPVUOG_PY2_GI		EnergyCapacity	Calculated		Solar Baseline California (GWh)	21	20	20	20		
33R090	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	592	591	591	591		
PGEGATEWAY		EnergyCapacity	Calculated		NA						
40S020	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
PGEPVUOG_PY3_WG		EnergyCapacity	Calculated		Solar Baseline California (GWh)	21	21	20	20		
PGEPVUOG_PY3_GA		EnergyCapacity	Calculated		Solar Baseline California (GWh)	43	42	41	40		
33R422BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	6	6	6	6		
04C140	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
33R335RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	0	0		
33R336RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	1	1	1	0		
19H05S	NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
33R108-AR	YES	EnergyCapacity	Calculated	RPS	Small Hydro (GWh)	7	7	7	0		
33R513RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	13	13	13	13		
33R418RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	6	6	6	6		
25C063QPA2	YES	EnergyCapacity	Calculated	QF/CHP Summit	NA						
33R374	YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	50	49	48	47		
33R329	YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	54	54	54	0		
25C293	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
33R008	YES	EnergyCapacity	Calculated	RPS	Small Hydro (GWh)	43	43	43	43		
33R016	YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	64	64	64	0		
PGEMOSSLANDING		EnergyCapacity	Calculated		Battery Storage (MWh Energy Capacity)						
PGEELECTRA		EnergyCapacity	Calculated		Large Hydro (GWh)						
33R174AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	2	1		
33R253 DUTCH2_7_UNIT 1	YES	EnergyCapacity	Calculated	RPS	Small Hydro (GWh)	56	57	56	0		
PGEDUTCHFLAT1		EnergyCapacity	Calculated		Small Hydro (GWh)	72	71	68	67		
33R138	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	687	674	651	624		
PGEDESABLA		EnergyCapacity	Calculated		Small Hydro (GWh)	80	79	76	74		
PGEDRUM2		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEDRUM1 DRUM_7_PL3X4		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEDRUM1 DRUM_7_PL1X2		EnergyCapacity	Calculated		Large Hydro (GWh)						
40S021	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
33R405BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	4	3	0	0		
25C248	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
PGEDIABLO2		EnergyCapacity	Calculated		Nuclear (GWh)						
PGEDIABLO1		EnergyCapacity	Calculated		Nuclear (GWh)						
33R261AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	0		
33R260AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	0		
33R440BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	0	0	5	5		
33R401RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Solar Baseline California (GWh)	3	3	3	3		
33R459BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biogas (GWh)	13	14	14	14		
33R257	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	100	98	95	91		
33R278	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	39	39	38	36		
13H123	NO	EnergyCapacity	Calculated	D8201103, D8212120	Small Hydro (GWh)	0	0	0	0		
18C001	NO	EnergyCapacity	Calculated	D8201103, D8212120	Biogas (GWh)	0	0	0	0		
33R337RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Biogas (GWh)	3	0	0	0		
01C045	NO	EnergyCapacity	Calculated	D8309054	NA						
PGESANJOAQU3		EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
PGESANJOAQU2		EnergyCapacity	Calculated		Small Hydro (GWh)	8	8	8	7		
PGECRANEVALLEY		EnergyCapacity	Calculated		Small Hydro (GWh)	2	2	2	2		
33R505	YES	EnergyCapacity	Calculated	DAC-GT	Solar Baseline California (GWh)	10	12	11	11		
PGECRESTA		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGECOWCREEK		EnergyCapacity	Calculated		Small Hydro (GWh)	8	8	8	7		
33R280	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	51	50	49	7		
33R079	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	90	88	85	0		
33R060	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	23	23	0	0		
33R166	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	314	308	297	284		
33R243	YES	EnergyCapacity	Calculated	RAM	Geothermal (GWh)	85	83	81	0		
33R275	YES	EnergyCapacity	Calculated	RAM	Geothermal (GWh)	55	55	53	0		
PGECOLUSA		EnergyCapacity	Calculated		NA						
33R481BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	21	21	21	21		
PGECOLEMAN		EnergyCapacity	Calculated		Small Hydro (GWh)	56	55	54	52		
33R099	YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	335	334	334	334		
33R205AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	0		
PGECENTERVILLE		EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
01C199	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
01C245	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
PGELIMESADL		EnergyCapacity	Calculated		Small Hydro (GWh)	0	0	0	0		
33R237AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	2	2	2	0		
33R017	YES	EnergyCapacity	Calculated	RPS	Biomass (GWh)	64	64	64	0		
33R500BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	24	24	24	24		
33B110	YES	EnergyCapacity	In the contract	D1303030	Large Hydro (GWh)						
25C003	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
25C249	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
25C055	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
25C002	NO	EnergyCapacity	Calculated	D8201103, D8212120	NA						
33R342RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	3	0	0	0		
33R052	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	567	560	549	535		

lse_unique_contract_id	public_contract	buying_energy_capacity	NQC_reporting_source	procurement_origin	csp_resource_category	csp_annual_2024	csp_annual_2026	csp_annual_2030	csp_annual_2035	macro_supertype	notes
33R088	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	103	102	100	98		
33R502	YES	EnergyCapacity	Calculated	CS-GT	Solar Baseline California (GWh)	8	8	8	8		
PGECARIBOU1 CARBOU_7_UNIT 1		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGECARIBOU2		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGECARIBOU1 CARBOU_7_PL2X3		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEPVUOG_PY2_CA		EnergyCapacity	Calculated		Solar Baseline California (GWh)	41	41	40	39		
33R487BIO	NO	EnergyCapacity	Calculated	SB1122/BioMAT	Biomass (GWh)	24	24	24	24		
33R344	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	372	368	360	0		
PGEBUTTVAL		EnergyCapacity	Calculated		Large Hydro (GWh)						
33R483	YES	EnergyCapacity	Calculated	BioRAM	Biomass (GWh)	218	217	0	0		
PGEBUCKSCREEK		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEOAKFLAT		EnergyCapacity	Calculated		Small Hydro (GWh)	5	5	5	5		
33R377RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	3	3	3	3		
33R142	YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	278	277	277	0		
33R167	YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	285	284	284	268		
33R145	YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	285	284	284	0		
33R033-AR	YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	407	406	0	0		
33R013-AR	YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	96	96	96	96		
33R152	YES	EnergyCapacity	Calculated	RPS	Wind Baseline California (GWh)	206	206	206	206		
33R341RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	4	4	4	0		
33R253 BOWMN_6_HYDRO	YES	EnergyCapacity	Calculated	RPS	Small Hydro (GWh)	56	57	56	0		
PGEALTA		EnergyCapacity	Calculated		Small Hydro (GWh)	4	3	3	3		
40S018	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
40S011	YES	CapacityOnly	In the contract	D1810009	Battery Storage (MWh Energy Capacity)						
40S015	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
40S016	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
40S017	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
33R258	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	27	27	26	25		
PGEJBBLACK BLACK_7_UNIT 2		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEJBBLACK BLACK_7_UNIT 1		EnergyCapacity	Calculated		Large Hydro (GWh)						
33R315AB	NO	EnergyCapacity	Calculated	AB1969/FiT	Solar Baseline California (GWh)	3	3	3	2		
33R493	YES	EnergyCapacity	Calculated	BioRAM	Biomass (GWh)	169	107	0	0		
33R385	YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	58	57	56	55		
33R384	YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	55	55	54	52		
33R383	YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	58	57	56	55		
40S027	YES	CapacityOnly	In the contract	d1911016	Battery Storage (MWh Energy Capacity)						
PGEBELDEN		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEBALCH2 BALCHS_7_UNIT 3		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEBALCH2 BALCHS_7_UNIT 2		EnergyCapacity	Calculated		Large Hydro (GWh)						
PGEBALCH1		EnergyCapacity	Calculated		Large Hydro (GWh)						
33R073	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	586	579	567	553		
33R124	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	35	34	33	0		
33R125	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	33	32	31	0		
33R368	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	12	12	12	11		
33R365	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	13	12	12	12		
33R123	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	10	10	10	0		
33R120	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	36	36	34	33		
33R330	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	291	288	282	0		
33R162	YES	EnergyCapacity	Calculated	PV	Solar Baseline California (GWh)	28	28	27	0		
33R118	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	117	115	111	106		
33R119	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	43	42	41	39		
33R340RM	NO	EnergyCapacity	Calculated	SB32/ReMAT	Small Hydro (GWh)	2	2	2	0		
33R084	YES	EnergyCapacity	Calculated	RPS	Solar Baseline California (GWh)	697	688	675	658		
33R244	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	51	51	50	4		
33R291	YES	EnergyCapacity	Calculated	RAM	Solar Baseline California (GWh)	48	47	45	25		
GENVAMO_Solar		EnergyOnly	Calculated		Solar Baseline California (GWh)						
GENVAMO_Wind		EnergyOnly	Calculated		Wind Baseline California (GWh)						
GENVAMO_Biomass		EnergyOnly	Calculated		Biomass (GWh)						
GENVAMO_Biogas		EnergyOnly	Calculated		Biogas (GWh)						
GENVAMO_Geothermal		EnergyOnly	Calculated		Geothermal (GWh)						
GENVAMO_SmallHydro		EnergyOnly	Calculated		Small Hydro (GWh)						
ModCAM_Storage_2024		CapacityOnly	Calculated		Battery Storage (MWh Energy Capacity)						
ModCAM_Storage_2032		CapacityOnly	Calculated		Battery Storage (MWh Energy Capacity)						
CAM_NaturalGas_2024		CapacityOnly	Calculated		NA						
CAM_NaturalGas_2025		CapacityOnly	Calculated		NA						
CAM_NaturalGas_2026		CapacityOnly	Calculated		NA						
CAM _Import_2024		EnergyCapacity	In the contract		NA						
Cam_Battery_Existing_2024		CapacityOnly	Calculated		Battery Storage (MWh Energy Capacity)						
Cam_Battery_Existing_2025		CapacityOnly	Calculated		Battery Storage (MWh Energy Capacity)						
CAM_Battery_Programatic_2026		CapacityOnly	Calculated		Battery Storage (MWh Energy Capacity)						
CAM_Battery_Programatic_2028		CapacityOnly	Calculated		Battery Storage (MWh Energy Capacity)						
GENPCIAGHGFREESALES_LargeHydro		EnergyOnly	Calculated		Large Hydro (GWh)						
Imported_Hydro					Imported Hydro (GWh)						
Shed_DR					Shed DR (MW)						

30 MMT

Reliability Need

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
CAISO gross peak (MW)	53,530	54,113	54,769	55,494	56,125	56,797	57,454	58,178	58,827	59,511	60,161	60,803
PRM (%)	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
CAISO total reliability need (TRN) (MW)	61,024	61,689	62,437	63,263	63,983	64,749	65,498	66,323	67,063	67,843	68,584	69,315
MRN/TRN ratio	0.80	0.82	0.84	0.80	0.76	0.74	0.72	0.70	0.68	0.67	0.65	0.63
CAISO marginal reliability need (MRN) (MW)	48,838	50,521	52,204	50,322	48,441	47,702	46,964	46,372	45,780	45,188	44,596	44,005
LSE managed peak share (%)												
LSE MRN (MW)												

BTM PV

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Capacity (MW)	2,484	2,671	2,859	3,056	3,257	3,469	3,667	3,883	4,090	4,313	4,526	4,734

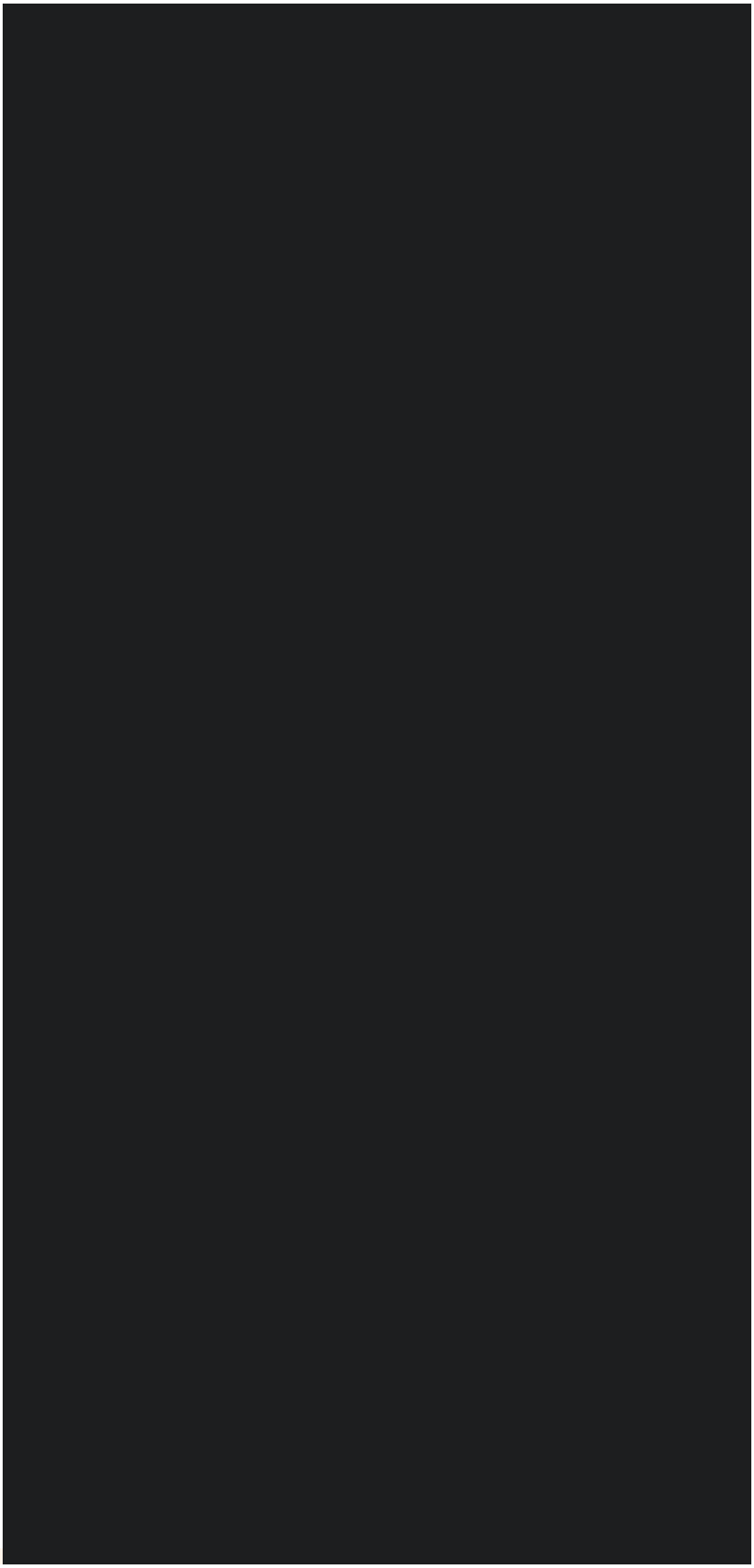
ELCC (%)

Resource Type	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
in_state_wind_south	15%	15%	15%	12%	8%	8%	8%	7%	7%	6%	5%	4%
in_state_wind_north	30%	30%	31%	24%	17%	17%	16%	15%	13%	12%	10%	9%
out_of_state_wind_WYID	43%	39%	36%	37%	39%	31%	24%	25%	26%	27%	29%	30%
out_of_state_wind_WAOR	26%	24%	22%	23%	24%	19%	14%	15%	16%	17%	18%	18%
out_of_state_wind_AZNM	38%	35%	32%	34%	35%	28%	21%	22%	24%	25%	26%	27%
offshore_wind	55%	51%	46%	49%	51%	47%	43%	40%	38%	36%	34%	32%
utility_pv	10%	10%	11%	10%	9%	8%	6%	6%	6%	6%	6%	6%
btm_pv	9%	9%	10%	8%	7%	6%	5%	5%	5%	5%	5%	6%
4hr_batteries	89%	90%	92%	85%	77%	76%	75%	68%	61%	54%	47%	40%
5hr_batteries	89%	90%	92%	86%	80%	78%	77%	71%	65%	59%	53%	47%
6hr_batteries	89%	91%	92%	87%	82%	81%	80%	75%	70%	65%	60%	55%
7hr_batteries	89%	91%	93%	89%	84%	83%	82%	78%	74%	70%	66%	62%
8hr_batteries	89%	91%	93%	90%	87%	86%	85%	82%	79%	76%	73%	70%
pumped_storage	89%	91%	93%	91%	89%	89%	89%	86%	83%	80%	76%	73%
demand_response	89%	91%	92%	77%	62%	61%	59%	50%	41%	32%	23%	14%
hydro	57%	56%	56%	53%	50%	49%	48%	47%	46%	45%	44%	43%
small_hydro	41%	40%	40%	38%	36%	35%	35%	34%	33%	32%	32%	31%
geothermal	86%	88%	89%	91%	93%	92%	92%	93%	93%	94%	95%	95%
biomass_wood	79%	81%	83%	83%	83%	82%	82%	83%	85%	86%	88%	89%
biogas	76%	78%	80%	80%	79%	78%	77%	79%	81%	83%	85%	87%
nuclear	93%	94%	95%	94%	94%	94%	93%	94%	95%	95%	96%	96%
gas_cc	85%	86%	88%	87%	87%	86%	85%	86%	88%	89%	90%	91%
gas_ct	80%	82%	83%	83%	82%	81%	79%	80%	81%	82%	83%	84%
cogen	90%	92%	95%	92%	89%	89%	89%	90%	90%	91%	92%	93%
ice	93%	90%	87%	90%	92%	92%	91%	90%	89%	88%	87%	86%
coal	69%	72%	74%	74%	73%	71%	69%	72%	74%	77%	80%	83%
steam	78%	80%	82%	81%	81%	79%	78%	80%	82%	84%	86%	88%
unspecified_import	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Contract ELCC (effective MW)

Resource Type	Conrtact Status	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
hybrid	Online												
in_state_wind_south	Online												
in_state_wind_north	Online												
out_of_state_wind_WYID	Online												
out_of_state_wind_WAOR	Online												
out_of_state_wind_AZNM	Online												
offshore_wind	Online												
utility_pv	Online												
btm_pv	Online												
4hr_batteries	Online												
5hr_batteries	Online												
6hr_batteries	Online												
7hr_batteries	Online												
8hr_batteries	Online												
pumped_storage	Online												
demand_response	Online												
hydro	Online												
small_hydro	Online												
geothermal	Online												
biomass_wood	Online												
biogas	Online												
nuclear	Online												
gas_cc	Online												
gas_ct	Online												
cogen	Online												
ice	Online												
coal	Online												
steam	Online												
unspecified_import	Online												
hybrid	Development												
in_state_wind_south	Development												
in_state_wind_north	Development												
out_of_state_wind_WYID	Development												
out_of_state_wind_WAOR	Development												
out_of_state_wind_AZNM	Development												
offshore_wind	Development												
utility_pv	Development												
btm_pv	Development												
4hr_batteries	Development												
5hr_batteries	Development												
6hr_batteries	Development												
7hr_batteries	Development												
8hr_batteries	Development												
pumped_storage	Development												
demand_response	Development												
hydro	Development												
small_hydro	Development												

geothermal	Development
biomass_wood	Development
biogas	Development
nuclear	Development
gas_cc	Development
gas_ct	Development
cogen	Development
ice	Development
coal	Development
steam	Development
unspecified_import	Development
hybrid	Review
in_state_wind_south	Review
in_state_wind_north	Review
out_of_state_wind_WYID	Review
out_of_state_wind_WAOR	Review
out_of_state_wind_AZNM	Review
offshore_wind	Review
utility_pv	Review
btm_pv	Review
4hr_batteries	Review
5hr_batteries	Review
6hr_batteries	Review
7hr_batteries	Review
8hr_batteries	Review
pumped_storage	Review
demand_response	Review
hydro	Review
small_hydro	Review
geothermal	Review
biomass_wood	Review
biogas	Review
nuclear	Review
gas_cc	Review
gas_ct	Review
cogen	Review
ice	Review
coal	Review
steam	Review
unspecified_import	Review
hybrid	PlannedExisting
in_state_wind_south	PlannedExisting
in_state_wind_north	PlannedExisting
out_of_state_wind_WYID	PlannedExisting
out_of_state_wind_WAOR	PlannedExisting
out_of_state_wind_AZNM	PlannedExisting
offshore_wind	PlannedExisting
utility_pv	PlannedExisting
btm_pv	PlannedExisting
4hr_batteries	PlannedExisting
5hr_batteries	PlannedExisting
6hr_batteries	PlannedExisting
7hr_batteries	PlannedExisting
8hr_batteries	PlannedExisting
pumped_storage	PlannedExisting
demand_response	PlannedExisting
hydro	PlannedExisting
small_hydro	PlannedExisting
geothermal	PlannedExisting
biomass_wood	PlannedExisting
biogas	PlannedExisting
nuclear	PlannedExisting
gas_cc	PlannedExisting
gas_ct	PlannedExisting
cogen	PlannedExisting
ice	PlannedExisting
coal	PlannedExisting
steam	PlannedExisting
unspecified_import	PlannedExisting
hybrid	PlannedNew
in_state_wind_south	PlannedNew
in_state_wind_north	PlannedNew
out_of_state_wind_WYID	PlannedNew
out_of_state_wind_WAOR	PlannedNew
out_of_state_wind_AZNM	PlannedNew
offshore_wind	PlannedNew
utility_pv	PlannedNew
btm_pv	PlannedNew
4hr_batteries	PlannedNew
5hr_batteries	PlannedNew
6hr_batteries	PlannedNew
7hr_batteries	PlannedNew
8hr_batteries	PlannedNew
pumped_storage	PlannedNew
demand_response	PlannedNew
hydro	PlannedNew
small_hydro	PlannedNew
geothermal	PlannedNew
biomass_wood	PlannedNew
biogas	PlannedNew
nuclear	PlannedNew
gas_cc	PlannedNew
gas_ct	PlannedNew
cogen	PlannedNew
ice	PlannedNew
coal	PlannedNew
steam	PlannedNew
unspecified_import	PlannedNew
LSE total supply (effective MW)	



Load and Resource Table by Resource Type

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
LSE reliability need (MW)												
ELCC by resource type (effective MW)												
hybrid												
in_state_wind_south												
in_state_wind_north												
out_of_state_wind_WYID												
out_of_state_wind_WAOR												
out_of_state_wind_AZNM												
offshore_wind												
utility_pv												
btm_pv												
4hr_batteries												
5hr_batteries												
6hr_batteries												
7hr_batteries												
8hr_batteries												
pumped_storage												
demand_response												
hydro												
small_hydro												
geothermal												
biomass_wood												
biogas												
nuclear												
gas_cc												
gas_ct												
cogen												
ice												
coal												
steam												
unspecified_import												
LSE total supply (effective MW)												
Net capacity position (+ve = excess, -ve = shortfall) (effective MW)	**1,725**	**2,380**	**2,754**	**2,678**	**2,738**	**2,268**	**2,489**	**2,340**	**2,286**	**2,084**	**1,844**	**1,637**

Load and Resource Table by Contract Status

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
LSE reliability need (MW)												
ELCC by contract status (effective MW)												
Online												
Development												
Review												
PlannedExisting												
PlannedNew												
BTM PV												
LSE total supply (effective MW)												
Net capacity position (+ve = excess, -ve = shortfall) (effective MW)	**1,725**	**2,380**	**2,754**	**2,678**	**2,738**	**2,268**	**2,489**	**2,340**	**2,286**	**2,084**	**1,844**	**1,637**

Resource	2024	2026	2030	2035	Units	*Type*
Large Hydro	3,082	3,039	2,944	2,801	GWh	GHG-Free
Imported Hydro	1,812	1,815	1,813	1,870	GWh	GHG-Free
Asset Controlling Supplier	-	-	-	-	GWh	GHG-Free (Partial)
Nuclear	17,098	-	-	-	GWh	GHG-Free
Biogas	130	198	329	268	GWh	RPS Eligible
Biomass	1,187	970	797	811	GWh	RPS Eligible
Geothermal	140	328	1,429	1,316	GWh	RPS Eligible
Small Hydro	521	513	473	374	GWh	RPS Eligible
Wind Resources						
Wind Baseline California	1,085	556	565	557	GWh	RPS Eligible
Wind New PG&E	-	-	935	964	GWh	RPS Eligible
Wind New SCE SDG&E	-	-	911	912	GWh	RPS Eligible
Wind Pacific Northwest	-	-	-	-	GWh	RPS Eligible
Wind Wyoming	-	-	431	2,203	GWh	RPS Eligible
Wind New Mexico	-	-	2,224	2,183	GWh	RPS Eligible
Wind Offshore Morro Bay	-	-	159	2,660	GWh	RPS Eligible
Wind Offshore Humboldt	-	-	-	910	GWh	RPS Eligible
Solar Resources						
Solar Baseline California	4,215	3,972	3,853	3,132	GWh	RPS Eligible
Solar New PG&E	189	336	379	372	GWh	RPS Eligible
Solar New SCE SDG&E	-	1,368	5,698	6,694	GWh	RPS Eligible
Solar Distributed	-	-	-	-	GWh	RPS Eligible
Hybrid						
Hybrid_or_Paired_Solar_and_Battery	-	-	-	-	GWh	RPS Eligible
Storage & DR						
Shed DR	470	484	483	499	MW	GHG-Free
Pumped Storage	1,212	1,212	1,212	1,212	MW	n/a
Battery Storage	10,641	17,217	17,636	21,388	MWh Energy Capacity	n/a
User-Specified Profies						
Storage Resource Custom Profile	-	-	-	-	MW	n/a
RPS Resource Custom Profile	-	-	-	-	GWh	RPS Eligible
GHG-free non-RPS Resource	-	-	-	-	GWh	GHG-Free
Coal						
Coal	-	-	-	-	GWh	n/a