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DRAFT 2026 RENEWABLES PORTFOLIO STANDARD PROCUREMENT PLAN OF CLEANPOWERSF

(PUBLIC VERSION)

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(PUBLIC VERSION)

In accordance with the Assigned Commissioner and Assigned Administrative Law Judge's Ruling Identifying Issues and Schedule of Review for 2026 Renewables Portfolio Standard Procurement Plans (dated March 27, 2026) ("ACR"), the City and County of San Francisco ("San Francisco") hereby submits the attached Draft 2026 Renewables Portfolio Standard Procurement Plan ("Draft 2026 RPS Plan") and required appendices on behalf of CleanPowerSF.[1] As directed by the ACR, CleanPowerSF's RPS Procurement Plan is organized according to the issues identified in Sections 6.1 through 6.15 of the ACR.

June 12, 2026

Respectfully submitted,

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[1] CleanPowerSF is the Community Choice Aggregation ("CCA") program developed and operated by San Francisco, through the San Francisco Public Utilities Commission ("SFPUC").

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INTRODUCTION AND BACKGROUND

CleanPowerSF is the Community Choice Aggregation ("CCA") program developed and operated by San Francisco, through the San Francisco Public Utilities Commission ("SFPUC"). CleanPowerSF began serving customers on May 1, 2016. The City and County of San Francisco ("San Francisco" or "the City") aims to offer all San Franciscans the option to purchase electricity generated from clean and renewable resources at competitive rates through CleanPowerSF. CleanPowerSF currently offers three levels of supply service: (1) Green, the default service, which contains at least 50 percent California Renewables Portfolio Standard ("RPS")-eligible renewable energy; (2) SuperGreen, a premium option, which offers 100 percent RPS-eligible renewable energy, and (3) SuperGreen Saver, CleanPowerSF's branded Disadvantaged Communities-Green Tariff ("DAC-GT") Program, which offers qualified customers a 20 percent discount on 100 percent RPS-eligible renewable energy.

CleanPowerSF currently serves nearly 390,000 accounts with an annual energy requirement of approximately 3,000 gigawatt hours ("GWh"). The program has maintained a participation rate of approximately 95 percent and has nearly 8,000 accounts taking service on the 100 percent RPS-eligible renewable SuperGreen product. Approximately 1,400 customers take service on the SuperGreen Saver product.

I. Summary of Major Changes to RPS Plan

Major changes from the Revised Final 2025 Renewable Portfolio Standard Procurement Plan ("Final 2025 RPS Plan") to the Draft 2026 Renewable Portfolio Standard Procurement Plan ("Draft 2026 RPS Plan") are summarized in Table 1 below.[2]

[2] A redlined version of the Draft 2026 RPS Plan compared to the CleanPowerSF Final 2025 RPS Procurement Plan is included as Appendix A.

Table 1. Major Changes from Final 2025 RPS Procurement Plan to Draft 2026 RPS Plan

Plan Reference	Plan Section	Summary/Justification of Change
Section IV.A	Portfolio Supply and Demand	Updates portfolio supply and demand discussion to reflect the 2026 planning horizon through 2036, inclusive of CP 8, updated retail sales and RNS assumptions, and CleanPowerSF's current contracted renewable portfolio. Updates include newly online and in-development resources, revised project capacities, updated geothermal procurement information, and continued alignment with CleanPowerSF's local renewable and GHG-free energy goals.
Section IV.B.1	Transportation Electrification	Updates transportation electrification consumption forecast including new modeling assumptions, San Francisco-specific inputs, and a comparison to the 2025 Integrated Energy Policy Report ("IEPR"). The section also updates forecast years through 2036 and explains CleanPowerSF's approach to monitoring local transportation electrification trends.
Section IV.C.1	Conformance with IRP Proceeding	Updates IRP conformance narrative to reflect the ongoing 2026 IRP process, the August 10, 2026 IRP filing deadline, the revised ACR Table 2 format, consistency with current IRP procurement orders including D.26-02-057, and alignment between CleanPowerSF's RPS planning, IRP modeling, executed contracts, and planned procurement activities.

Plan Reference	Plan Section	Summary/Justification of Change
Section V	Project Development Status Update	Updates project development status to reflect current online and in-development resources, current commercial operation dates, updated capacity figures, and key development, transmission, and interconnection risks.

II. Executive Summary Key Issues

CleanPowerSF's Draft 2026 RPS Plan demonstrates CleanPowerSF's progress towards meeting our RPS-eligible renewable energy content requirements set forth in Senate Bill ("SB") 100,[3] as well as San Francisco's local renewable energy goals of 100 percent renewable electricity by 2025.[4] As demonstrated in this Plan, San Francisco's ambitious renewable energy content goals and procurement practices are expected to result in CleanPowerSF RPS procurement above the State's requirements through the Plan's 2036 planning horizon, inclusive of Compliance Period ("CP") 8. CleanPowerSF is currently developing its 2026 Integrated Resource Plan ("IRP"), which will evaluate procurement pathways to continue serving its load with 100 percent renewable and/or greenhouse gas ("GHG") free energy supplies and to support consistency between CleanPowerSF's RPS procurement planning, local clean energy goals, and statewide planning requirements.[5]

In this RPS Procurement Plan, CleanPowerSF assesses our portfolio supply and demand and the risks that might impact our compliance with State and local renewable energy policies. The Plan also provides detail on the risk mitigation strategies employed to ensure compliance,

[3] Pub. Util. Code § 399.15(b)(2)(B), as amended by Stats. 2018, ch. 312, § 3 (Sen. Bill No. 100 (2017-2018 Reg. Sess.)).

[4] San Francisco Environment Code, ch. 9, § 902(b)(3). See also, San Francisco Board of Supervisors Ordinance No. 81-08 available at <https://sfbos.org/ftp/uploadedfiles/bdsupvrs/ordinances08/o0081-08.pdf> [last visited June 10, 2026] and San Francisco Public Utilities Commission Resolution No. 17-0102 available at <https://sfpuc.sharefile.com/share/view/s885b58732ca4f709> [last visited June 11, 2026].

[5] Preliminary Results are available at <https://www.cleanpowersf.org/resourceplan> (After following the hyperlink, scroll down and select "Review the Presentation") [last visited June 11, 2026]. San Francisco achieved its 100% renewable and/or GHG-free portfolio in 2023 and 2024, two years earlier than the City's goal.

which include increasing portfolio diversity with respect to resource and technology types, project geographies and contracting terms, and establishing a Minimum Margin of Over-Procurement ("MMoP")[6] and a Voluntary Margin of Over-Procurement ("VMoP") above the State RPS mandates.

A specific way that we continue to mitigate procurement and cost risk is by partnering with other CCAs to jointly procure renewable energy through the joint powers agency, California Community Power ("CC Power"). CC Power supports CleanPowerSF and the other member CCAs to achieve economies of scale by pooling our demand for new cost-effective clean energy, renewable integration, and reliability resources.[7] Through CC Power, new Firm Clean Resource ("FCR") projects first discussed in the 2022 RPS Procurement Plan are being advanced from development to commercial operation.

CleanPowerSF also continues to issue solicitations for RPS resources to meet our power supply procurement objectives. In the Bid Solicitation Protocol section, CleanPowerSF outlines our renewable energy procurement process including bid solicitation, evaluation, and selection. This section also describes CleanPowerSF's bid selection processes, and Least Cost Best Fit ("LCBF") criteria, which is consistent with the LCBF criteria set forth in Commission decisions.

CleanPowerSF's renewable procurement will meet or exceed the renewable energy needs identified by the Renewable Net Short ("RNS") methodology through 2036, as described in Section VIII and presented in Appendix C.[8]

The Curtailment Frequency, Cost, and Forecasting discussion (Section IV.B.2) provides an overview of financial risks associated with renewable curtailment and negative pricing. This

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[6] The MMoP is defined in the *Assigned Commissioner and Assigned Administrative Law Judge's Ruling Identifying Issues and Schedule of Review for 2026 Renewables Portfolio Standard Procurement Plans* (dated March 27, 2026) (ACR) as a retail seller's level of procurement above the minimum required procurement level. "A minimum margin of procurement (MMoP) above the minimum RPS procurement level is necessary to comply with the RPS program's requirement for retail sellers to mitigate risk that renewable projects under contract are delayed or terminated or projects do not perform as expected." ACR, p. 32.

[7] Since spring 2021, CleanPowerSF and nine other northern and central California CCAs have been coordinating on procurement of new cost-effective clean energy, renewable integration, and reliability resources in support of California's climate goals. Currently, CC Power members represent nearly 2.7 million customers across 112 municipalities from Humboldt County to Santa Barbara County. Current California Community Power Members are: Ava Community Energy, Central Coast Community Energy, CleanPowerSF, Peninsula Clean Energy, Redwood Coast Energy Authority, San Jose Clean Energy, Silicon Valley Clean Energy, Sonoma Clean Power, and Valley Clean Energy. MCE was a founding member that later ended its participation.

[8] See Appendix C, Row 41, Column R.

section also details how CleanPowerSF minimizes risks associated with contract curtailment by specifying economic bidding requirements, such as minimum bid prices under which projects must economically curtail.

Finally, the renewable and carbon-free energy procurement targets of CleanPowerSF's 2026 IRP Preferred Conforming Portfolio ("PCP") which is currently under development, will align with this RPS Plan.

III. Compliance with Recent Legislation and Impact of Regulatory Changes

CleanPowerSF's renewable energy procurement remains aligned with the State's statutes, CPUC decisions, and California Energy Commission's ("CEC") guidelines governing the RPS program. CleanPowerSF is currently developing its 2026 IRP to reflect recent policy developments, market dynamics, and load growth forecasts. Modeling and procurement analysis from that process informs this 2026 Draft RPS Plan. The 2026 IRP modeling process incorporates annual and compliance period RPS requirements as explicit constraints in portfolio development, ensuring that the PCP met the statutory obligations under SB 100. The Preferred Portfolio will support CleanPowerSF's goal of continuing to supply customers with 100 percent renewable and/or GHG-free electricity on an annual basis. These forward-looking procurement strategies have positioned CleanPowerSF to remain on track for full RPS compliance through CP 8, while informing ongoing planning for long-term procurement through 2045.

CleanPowerSF actively manages RPS compliance risk in its portfolio management and contracting activities to assure compliance with the RPS requirements. Risks associated with new construction and intermittent generation are considered in the calculation of the CleanPowerSF MMoP, which is discussed in Section IX. These measures provide protection against unplanned events that might affect the renewable generation in CleanPowerSF's portfolio. CleanPowerSF also actively monitors our short-term supply and demand to identify any changes that might impact our RPS position. This monitoring includes regularly forecasting load for the upcoming three-year time horizon and evaluating the performance of our renewable energy contracts. If a change occurs, such as under-generation of a resource or an increase of customer demand that creates or increases

the RNS, CleanPowerSF can respond in a timely manner and procure additional renewable resources to cover the projected net short position.

In addition to tracking our total RPS position, CleanPowerSF actively tracks our compliance with the long-term contracting requirement established in SB 350.[9] CleanPowerSF compares risk-adjusted energy supply from long-term renewable contracts against program demand projections through the planning horizon to determine the additional renewable energy volumes needed to comply with the long-term contracting requirement. CleanPowerSF regularly updates this analysis. CleanPowerSF considers our long-term contracting position when determining how much energy and capacity for which to contract in our solicitations and creates a risk management buffer above the minimum requirement, known as our MMoP, to account for unexpected project delays, under-generation, or increases in demand.

CleanPowerSF projects that our portfolio will meet or exceed the RPS obligations under SB 350 and SB 100, including the long-term contracting requirement through CP 8. Further, CleanPowerSF's annual Supplier Diversity Plan addresses CleanPowerSF's compliance with SB 255 and General Order 156.[10]

No new legislation was passed in 2026 that materially impacts RPS planning. CleanPowerSF will continue to monitor and respond to future legislative or regulatory changes that may affect our RPS compliance obligations.

IV. Assessment of RPS Portfolio Supplies and Demand

CleanPowerSF has a goal of providing 100 percent renewable and/or GHG-free energy to San Franciscans through the procurement of new and preferably local sources of electric generation.[11] CleanPowerSF's 2026 IRP, currently under development, will serve as our roadmap for procuring sufficient renewable energy to meet State mandated RPS requirements as well as the

[9] Pub. Util. Code, § 399.12.5(b)(4).
[10] CleanPowerSF, *CleanPowerSF Supplier Diversity 2024 Annual Plan Report - 2025 Annual Plan* (Mar. 1, 2025), available at <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/bco/cca-procurement-reports/2024/clean-power-sf-2025-0204_1178-cpsf-supplier-diversity-report-final.pdf > [last visited June 11, 2026].
[11] See San Francisco Environmental Code ch. 9, sec. 902(b)(3).

City's own renewable and clean energy targets. CleanPowerSF projects that our portfolio will meet or exceed the RPS obligations as well as local renewable targets.

IV.A. Portfolio Supply and Demand

This section presents CleanPowerSF's assessment of renewable portfolio supply and demand through 2036, including a near-term outlook (2026–2028) that aligns procurement with forecasted RNS, State targets, and local goals.

Supply

In developing its renewable power portfolio, CleanPowerSF prioritizes resources that support mandated procurement requirements, operational reliability, affordability, and long-term rate stability for customers. The initial 2026 IRP analysis indicates that no single resource type can meet CleanPowerSF's planning objectives. Instead, the eventual Preferred Conforming Portfolio will rely on a balanced mix of variable renewable generation, clean firm resources, and storage to meet demand, RPS, GHG, and reliability requirements while managing customer cost impacts. Pairing storage with intermittent renewable resources, particularly solar, remains a cost-effective strategy for shifting renewable generation into evening hours when customer demand and clean energy needs are higher. The preferred portfolio will prioritize resources that complement as-available solar and wind generation, such as wind, geothermal, storage, and other clean firm resources that improve reliability and support compliance with state procurement mandates. Since CleanPowerSF began serving customers in 2016, it has almost exclusively used Portfolio Content Category ("PCC") 1 renewable energy to meet its RPS obligations.

CleanPowerSF regularly issues new solicitations for long-term renewable energy supplies, with a goal of issuing a new solicitation once per year, depending on forecasted needs. As part of our procurement process, CleanPowerSF staff analyze the resource delivery profile and value of potential contracts as well as their impact on projected portfolio costs and use that information for renewable energy procurement decisions. As a result of RPS solicitations conducted to date, CleanPowerSF has long-term contracts with fifteen renewable energy projects for a total nameplate capacity of approximately 897 MW. Additional project-specific information, including capacity, technology type, commercial operation status, and development status, is provided in

Section V and Appendix B. CleanPowerSF's procurement of storage and other resources that support Mid-Term Reliability requirements is discussed further in Section IV.C.

CleanPowerSF released a new solicitation on July 11, 2024 requesting offers[12] that contribute to our annual renewable energy procurement needs, support continued compliance with the State's long-term RPS contracting requirement, and ensure CleanPowerSF is on track to meet our IRP and local renewable procurement goals. From this solicitation, CleanPowerSF began contracting with selected bidders in early 2025. CleanPowerSF also plans to publish a new solicitation, following the completion of the IRP, later this year.

CleanPowerSF has also participated in the Investor-Owned Utilities' ("IOUs") Voluntary Allocation and Market Offer ("VAMO") processes adopted in D.21-05-030. CleanPowerSF elected to receive short-term slices of PG&E's short-term and long-term allocation for 2023 and 2024. In 2023, CleanPowerSF bid into Southern California Edison's Market Offer solicitation and was awarded a contract totaling over 10 million MWhs through December 2040. The VAMO process has been a good way for CleanPowerSF to procure from existing renewable energy resources to meet our State and local RPS procurement targets.

Development is underway on RPS-eligible FCR projects that will supply CleanPowerSF with complementary baseload renewable energy pursuant to two CC Power-executed agreements: 1) the Open Mountain Energy ("OME") Fish Lake Geothermal Project is a 16.8 MW project and 2) the Ormat Portfolio of Projects includes multiple geothermal facilities with a combined capacity of up to 125 MW. Geothermal resources expected to supply the Ormat Portfolio of Projects will be located in California and Nevada. CleanPowerSF's total share of the combined OME Fish Lake Geothermal Project and the Ormat Portfolio of Projects is reflected in the Project Development Status Update and related procurement templates.

Demand

CleanPowerSF regularly prepares a long-term customer demand forecast each year, conducting periodic reviews throughout the year and occasional updates, if necessary. This

[12] 2024 CleanPowerSF Renewable Energy Supplies (PUC.PRO.0280), available at: <https://sfbid.sfwater.org/opportunity/details/?cid=280> [last visited June 10, 2026].

forecast supports our RPS compliance through 2036, as presented in Appendix C RNS Quantitative Response.

Our forecast models quantify the relationship between energy demand per customer and various demand drivers, including date characteristics and weather. Forecasters calibrated the models by aligning per customer energy demand to growth rates derived from the California Energy Commission's Energy Demand Forecast.[13] Conceptually, these growth rates represent the expected year-over-year percentage increase in energy demand as a result of economic growth (e.g., continued recovery from the COVID-19 pandemic) and modifications such as increased building electrification, fuel switching, and expanded electric vehicle ("EV") charging. We assume that these growth rates apply equally to all rate classes.

Table 2 Annual Growth Rates, California Energy Demand Forecast [14]

Year	Growth Rate
2026	4.07%
2027	3.53%
2028	2.78%
2029	6.85%
2030	3.98%
2031	3.93%
2032	4.38%
2033	4.24%
2034	3.01%
2035	2.41%
2036	1.48%

Our forecasting team develops several load projections to capture a range of weather scenarios impacting customer demand. The forecast includes the incremental impact of building and transportation electrification on our procurement. We discuss transportation electrification in Section IV.B.1 Forecasting for Increased Transportation Electrification. This forecasted customer

[13] Cal. Energy Com. (CEC), *California Energy Demand 2025 Forecast - Hourly Forecast Data, PG&E, Planning Scenario, 2023-2040*, TN No. 268127 Title, (Jan. 5, 2025), available at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=268127&DocumentContentId=105135> [last visited June 11, 2026].

[14] CEC, *CED 2025 Baseline Forecast – LSE and BAA Tables*, Form 1.1c, updated February 19, 2026, available at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=268722> [last visited June 11, 2026]. Year-over-year load growth rates derived from the "CCA - CleanPowerSF" category (Row 10).

load along with State RPS targets and local goals and policies inform our procurement of RPS-eligible resources. This demand forecast directly informs the RNS calculations presented in Section VIII, which serve as the basis for quantifying CleanPowerSF's procurement targets through 2036 and aligning supply strategies with forecasted net short positions.

As presented in Appendix C, RNS Quantitative Response, demand for RPS-eligible resources includes significant voluntary procurement to exceed the state's RPS targets and meet local goals and policies. Throughout the RPS Procurement Plan horizon, CleanPowerSF's RPS position exceeds the state target, in some years by as much as 50 percentage points. In 2025, CleanPowerSF met nearly 90 percent of customer demand with RPS-eligible resources, exceeding the state's 47 percent target. Similarly, for CP 5 spanning 2025 – 2027, CleanPowerSF anticipates meeting [redacted] of customer demand with RPS-eligible resources, exceeding the state's target.

CleanPowerSF's quantitative RNS calculations in Section VIII directly inform this portfolio assessment. Specifically, the forecasted RNS positions through 2036 help guide annual procurement targets and inform the volume and type of renewable resources CleanPowerSF seeks in solicitations. This ensures consistency between our procurement actions and modeled compliance outcomes. Enrollment in our optional 100 percent RPS product, SuperGreen, also contributes to this additional RPS demand. Our 10-year forecast reflects moderate growth in the SuperGreen load. Implementation of San Francisco's Renewable Energy Ordinance ("REO") for commercial buildings has spurred strong growth in SuperGreen demand in recent years.[15] The REO requires that all on-site electricity demand be met through either RPS-eligible or GHG-free resources for commercial occupants of large buildings.

IV.A.1. Long Term Procurement

Beginning in 2021, at least 65 percent of the RPS-eligible renewable energy used to satisfy the Procurement Quantity Requirement in each compliance period must be sourced from contracts with a term of 10 years or longer.[16] CleanPowerSF has been contracting to meet this

[15] See San Francisco Environment Code, Ch. 30, § 3003.
[16] D.17-06-026, p. 41 (Conclusion of Law No. 1); and Pub. Util. Code, § 399.12.5(b)(4).

requirement, and we forecast that we will exceed the long-term contracting requirement through CP 6 (years 2028 through 2030) and beyond, with expected risk-adjusted generation from in-development projects increasing from [redacted] MWh in 2028 to approximately 853,000 MWh in 2030 (see Figure 1 below).

As detailed in Section IV.A above, CleanPowerSF has entered into fifteen long-term RPS-eligible energy contracts. In addition to the projects identified in Section IV.A. above, CleanPowerSF made a long-term commitment to procure from an existing local renewable resource, the Sunset Reservoir solar facility. Sunset Reservoir is a 5 MW solar photovoltaic project located in the City of San Francisco. CleanPowerSF plans on procuring additional RPS resources through solicitations that will contribute to compliance with its long-term contracting requirements as well as renewable and GHG reduction portfolio objectives.

CleanPowerSF focuses its procurement planning on fulfilling San Francisco's renewable energy targets, which exceed the State's requirements. This approach mitigates the risk of noncompliance with the State's RPS requirements that could result from project development delays, terminations, or contract underperformance. Since it began serving customers, CleanPowerSF has planned for renewable content in excess of RPS requirements. Aggressive local goals have encouraged CleanPowerSF to quickly ramp up to the 65 percent long-term contracting requirement. Further, ambitious local goals have yielded a renewable procurement buffer that minimizes CleanPowerSF's risk of noncompliance with the State's RPS requirements in the event of lower-than-expected renewable energy deliveries.

CleanPowerSF's risk management practice has proven to be effective. As stated in CleanPowerSF's 2025 Final RPS Plan, certain in-development resources, including the Aramis Renewable Energy Project, the OME Fish Lake Geothermal Project, and the Ormat Portfolio of Projects, have experienced schedule movement or remain subject to development, permitting, transmission, interconnection, or other project implementation risks. CleanPowerSF continues to monitor project development status and accounts for these risks through ongoing portfolio planning, risk-adjusted RNS analysis, MMoP, and VMoP. Despite project development delays, CleanPowerSF expects that its long-term RPS procurement will continue to exceed the State's long-term contracting requirement through the 2026 RPS Procurement Plan horizon of 2036.

Figure 1 shows CleanPowerSF's compliance with the long-term contracting requirement through 2036. As illustrated in Figure 1 CleanPowerSF will have sufficient RPS-eligible renewable energy supply under long-term contract to exceed its obligations through the next three RPS reporting periods.

Figure 1. CleanPowerSF Progress with Long-Term Contracting Requirement

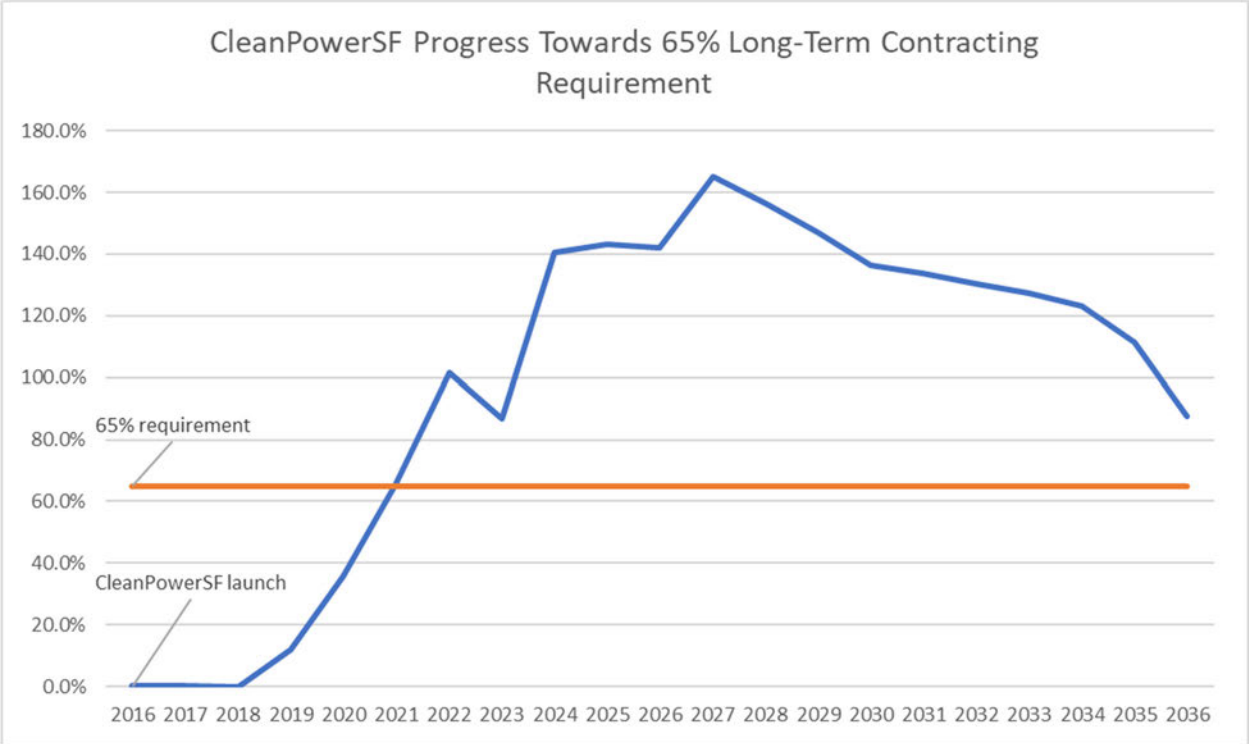


Table 3 presents CleanPowerSF's projected retail sales, RPS requirements, and long-term contract volumes on a year-by-year basis through 2036. The table quantifies CleanPowerSF's long-term RPS-eligible procurement relative to its annual RPS obligation, demonstrating compliance with the State's long-term contracting requirement.

Table 3 and Figure 1 show CleanPowerSF's progress toward the 65 percent long-term contracting requirement. As shown, CleanPowerSF holds enough long-term RPS-eligible contracts to meet or exceed its long-term contracting obligations.

Table 3. CleanPowerSF Long-Term Contract Volume

Year	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
RPS Requirement % of Retail Sales	49.33%	52.00%	54.67%	57.33%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%
Annual Retail Sales Forecast (GWh)	[redacted]	[redacted]	[redacted]	3,219	3,294	3,371	3,450	3,532	3,616	3,729	3,837
Long-Term RPS Procurement Requirement (GWh)	[redacted]	[redacted]	[redacted]	1,199	1,284	1,315	1,346	1,377	1,410	1,454	1,496
Long-Term Contracted RPS Volume (GWh)	[redacted]	[redacted]	[redacted]	2,849	2,403	2,411	2,411	2,411	2,411	2,411	2,237
Long-Term Contracted Volume % of RPS Requirement	[redacted]	[redacted]	[redacted]	237.5%	187.1%	183.4%	179.2%	175.0%	171.0%	165.8%	149.5%

IV.B. Portfolio Diversity and Reliability

CleanPowerSF considers a resource's deliverability characteristics in our procurement process (including a resource's dispatchability, time-of-day delivery, and available capacity). CleanPowerSF prioritizes sourcing renewable energy from numerous technologies, stages of development (existing and new resources), and geographies via contracts with a number of suppliers that have a range of delivery terms.

Using renewable energy from different technologies and geographies significantly reduces the risk that weather, transmission constraints, or other local circumstances that might reduce

or impair renewable energy production could have a significant impact on the overall CleanPowerSF portfolio, which helps maintain the reliability of the portfolio.

CleanPowerSF takes into account a resource's Resource Adequacy ("RA") value when evaluating renewable resource bids. Considering a resource's RA value, along with contract cost, location, and delivery schedule supports the optimization of cost, value, and risk for CleanPowerSF's ratepayers. Section X.C describing CleanPowerSF's LCBF methodology provides more detail on how a resource's contributions to reliability are considered in the bid evaluation and selection processes.

Consistent with the analysis we are conducting for our 2026 IRP, CleanPowerSF aims to not only meet annual clean energy targets, but also to minimize purchasing energy from the grid during peak hours. A diverse portfolio of energy supply resources and energy storage to support as-available renewable integration is critical to achieve this goal, especially as the overall renewable energy content of the portfolio increases.

When considering adding RPS resources to our portfolio, CleanPowerSF compares the resource's generation profile to the program's energy position. A project may receive a lower score in the bid evaluation process if its generation profile does not contribute to meeting demand in hours when CleanPowerSF has a need.

CleanPowerSF has incorporated battery storage into its portfolio to increase reliability and better match program demand and supply. To date, CleanPowerSF has entered into five solar plus battery storage contracts, one wind plus battery storage contract, and three standalone storage contracts (including two that are long-duration) and will be considering additional energy storage resources in our current and upcoming solicitations. A number of CleanPowerSF's existing renewable contracts include options to explore the addition of battery storage at the project site where feasible. CleanPowerSF continually monitors the economics of storage technology as well as developments in both regulations and market rules regarding the use of storage technologies to support a complete evaluation of the costs and benefits of integrating storage technology into our portfolio. Additionally, due to their complementary generation profiles with solar, CleanPowerSF has identified wind and geothermal as beneficial resources to procure for portfolio diversity.

CleanPowerSF's 2026 IRP will serve as a roadmap to support continued development of a diverse resource mix and renewable integration on the grid. CleanPowerSF is evaluating the

suitability of a range of emerging technologies like hybrid storage, offshore wind, incremental geothermal, and long-duration storage for inclusion in our preferred portfolio. The 2026 IRP analysis will compare these resources' delivery profiles, RA value, and costs against CleanPowerSF's hourly net short and reliability needs. The 2026 IRP modeling will consider changes to demand based on building and transportation electrification as well as other sensitivities such as extreme weather events. The 2026 IRP modeling also will evaluate the benefits and challenges of developing local energy resources.

CleanPowerSF is still finalizing the 2026 IRP. All portfolios currently being considered meet CleanPowerSF's power content goals of serving our customers with a combination of 100 percent renewable and/or GHG-free scenarios being considered include several time coincident cases which meets at least 90 percent of projected customer demand on an hour-by-hour basis. CleanPowerSF will choose the portfolio which balances between affordability, reliability, environmental stewardship, and local investment, while meeting CleanPowerSF's renewable energy supply goals.

IV.B.1. Forecasting for Increased Transportation Electrification

CleanPowerSF's procurement planning accounts for increased customer load resulting from transportation electrification. CleanPowerSF developed an electrification forecast using a fuel-switching model in May 2025. This forecast integrates new EV charging demand with CleanPowerSF's baseline demand trends. The electrification scenarios differ based on the expected pace of EV adoption and building electrification, and all are layered atop a consistent baseline forecast created using hourly regression models calibrated against recent actual CleanPowerSF demand data.

The EV charging model forecasts energy demand from light-duty and medium-/heavy-duty EVs based on county-specific adoption of plug-in electric vehicles, new vehicle sales rates, survival curves, vehicle miles traveled, and charging efficiency by vehicle type. Charging profiles were assigned based on hourly load shapes to reflect residential and commercial charging behavior, including at-home and heavy-duty charging.

When compared to CleanPowerSF's share of transportation electrification load forecasted in the 2025 Integrated Energy Policy Report ("IEPR"), CleanPowerSF's transportation electrification load planning update projects lower transportation electrification load in the early years, but a smaller relative gap in later years as shown in Table 4 below.[17] In addition, Table 4 shows that CleanPowerSF's forecasts are more closely aligned to the IEPR 2024 forecasts than IEPR 2025 values. CleanPowerSF has consistently noted that in recent years that the IEPR's actual load and forecasted loads for CleanPowerSF are significantly higher than what we observe (for actual data) and forecasted. For example, IEPR 2024 forecast for 2024 data was 3,185 GWh, while actual load was 2,975 GWh (or 7% higher). Similarly, for IEPR 2025, the forecast for 2025 was 3,268 GWh , while actual load was 2,991 GWh (or 9% higher). This consistent overestimate load contributes significantly to the difference in transportation electrification estimates between CleanPowerSF's forecasts and IEPR estimates. CleanPowerSF believes that our transportation electrification projections are lower due to slower average electrification load growth in San Francisco's transportation sector than the State average, likely due to the City's transit first policies, lower vehicle ownership in the City than on average throughout the State, and/or we have less medium/heavy duty vehicles as part of the electrification load.

Table 4. Summary of CleanPowerSF's Transportation Electrification Load Projections (Incremental MWh)

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
2026 Forecast	[redacted]	[redacted]	[redacted]	96,798	122,433	149,910	179,406	210,806	244,031	283,857	330,451
2025 IEPR	145,317	187,673	236,471	299,947	366,063	435,237	519,442	606,694	701,661	800,920	904,705
2024 IEPR	51,588	77,486	102,957	128,214	155,325	184,377	215,518	248,657	283,743	320,561	359,287
2026 Forecast vs. 2025 IEPR	[redacted]	[redacted]	[redacted]	32%	33%	34%	35%	35%	35%	35%	37%

CleanPowerSF believes our projections are appropriately conservative for a dense, transit-oriented city like San Francisco. Lower vehicle ownership per household, high transit ridership,

[17] See CEC, *California Energy Demand 2024 Forecast - Hourly Forecast Data for CAISO, Planning Scenario,2024-2040*, TN No. 262289 (Mar. 20, 2025), available at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=262289> [last visited June 11, 2026].

and limited space for large-scale fleet charging infrastructure all contribute to a slower growth rate relative to the statewide IEPR projections, which increased significantly from the 2024 forecast to the 2025 forecast. We will continue to analyze local transportation electrification trends and update our load forecasts as CleanPowerSF receives updated information on vehicle adoption, charging infrastructure, and building electrification trends.

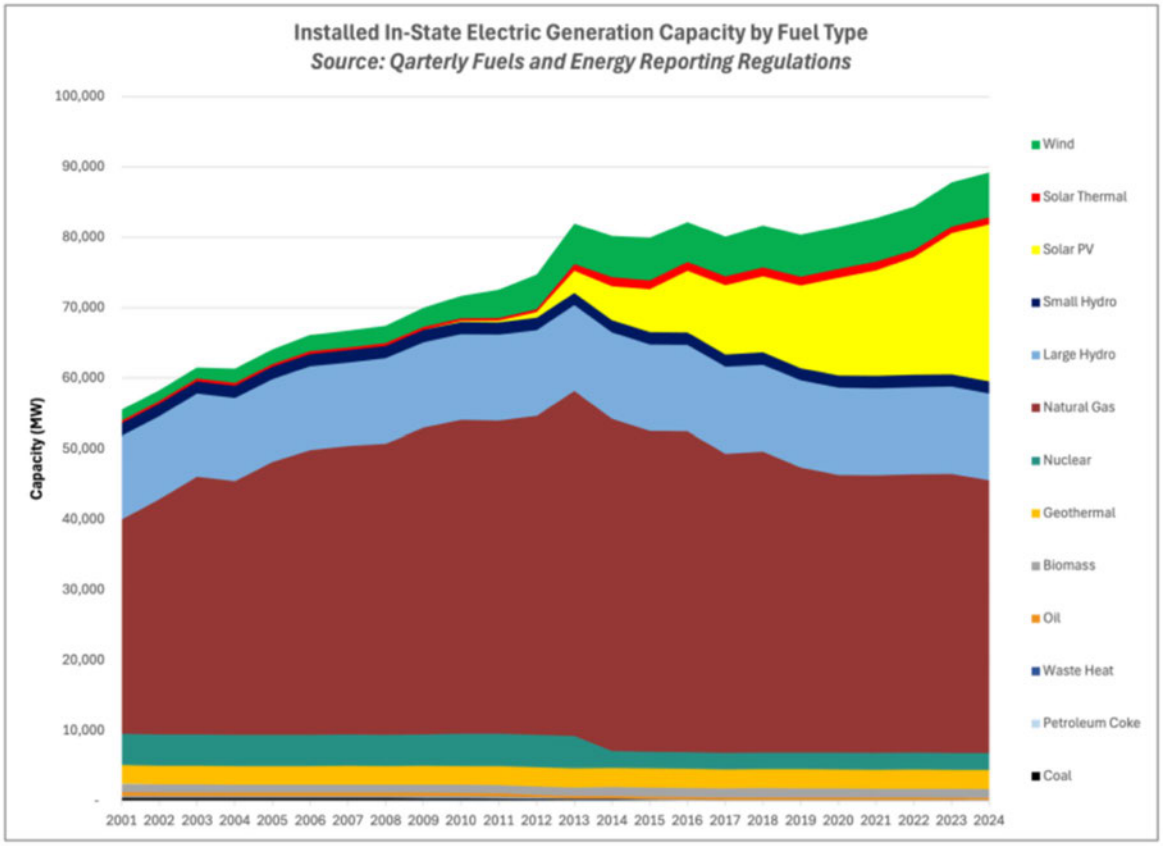
IV.B.2 Curtailment Frequency, Cost, and Forecasting

The increases in renewable project development and California's RPS goal to 60 percent by 2030 will result in additional variable generation resources on the grid and increased curtailment due to over-generation. California's in-front-of-the-meter installed renewable generation capacity continued to increase over the past several years, as shown in Figure 2 below.[18] The California Energy Commission's ("CEC") Midterm Reliability Analysis projected that gas-fired capacity would be reduced by approximately 12 percent between 2022 and 2026, and most of that reduction would be offset by the addition of new renewable generation and energy storage.[19]

[18] CEC, *QFER CEC-1304 Power Plant Data Reporting*, available at <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/electric-generation-capacity-and-energy> [last visited June 11, 2026].

[19] CEC, *Midterm Reliability Analysis,* Table A-12: Total Baseline Nameplate Capacity for Resource Adequacy (Sept. 2021) p. A-19, available at <https://www.energy.ca.gov/sites/default/files/2021-09/CEC-200-2021-009.pdf> [last visited June 11, 2026].

Figure 2. Installed Generation in California by Fuel Type: 2001-2024



Source: *CEC, QFER CEC-1304 Power Plant Data Reporting*

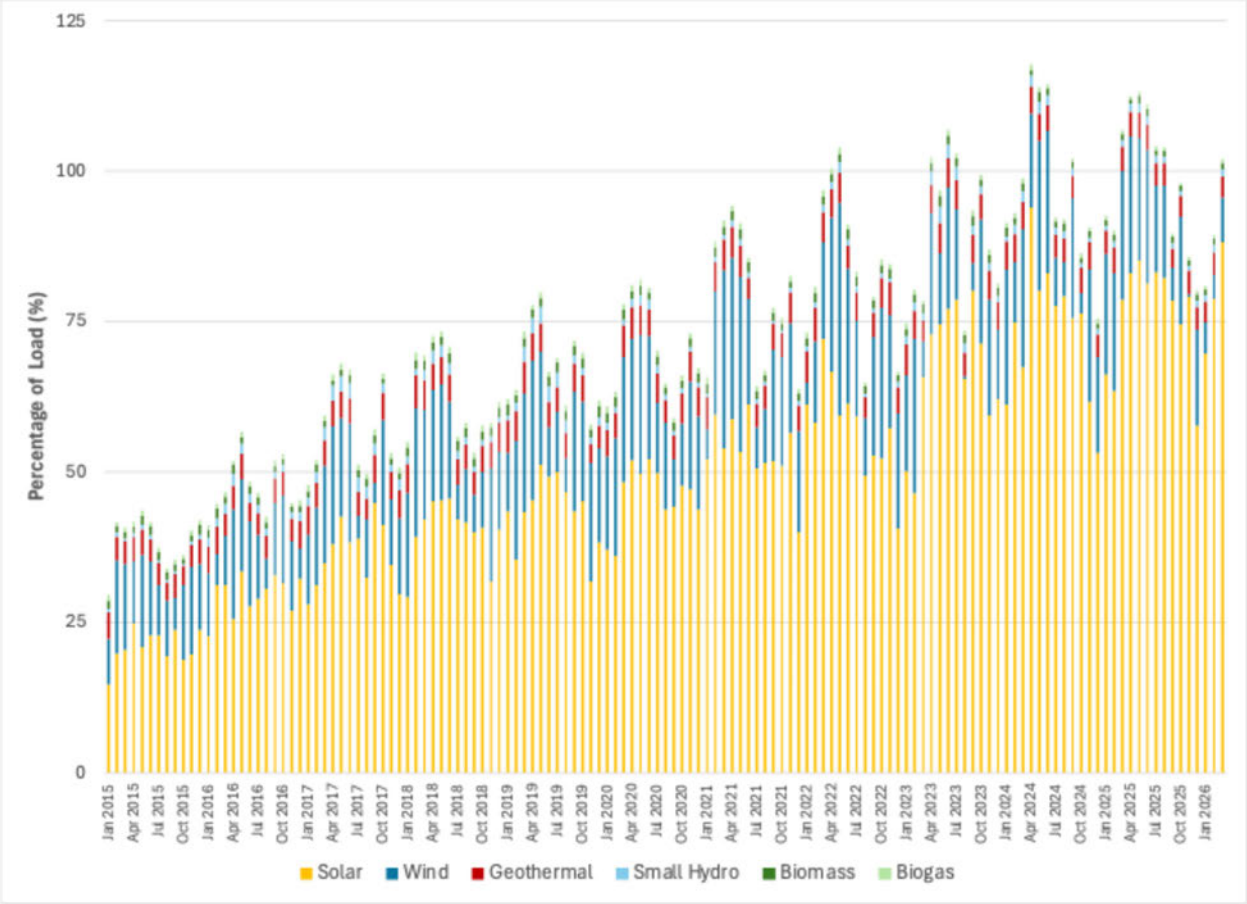
Since that time, the CEC has updated its mid-term reliability assessment through the California Energy Resource and Reliability Outlook, 2025, which reflects updated assumptions regarding resource retirements, procurement, and additions over the 2025–2029 period. While the 2025 Outlook does not project the same percentage reduction, it continues to show a resource mix evolution characterized by reduced reliance on gas-fired generation and increasing contributions from renewable resources and energy storage to meet reliability needs.[20]

At times, the variable generation from this installed capacity exceeds the energy being consumed in the State. Over the last four years, the monthly maximum load served by wind and solar on the California Independent System Operator ("CAISO") system regularly exceeded 85

[20] CEC, *California Energy Resource and Reliability Outlook, 2025*, CEC-200-2025-011 (Draft Staff Report, May 2025), available at <https://www.energy.ca.gov/publications/2025/california-energy-resource-and-reliability-outlook-2025> [last visited June 11, 2026].

percent, and in April 2024 and March 2025 exceeded 100 percent, with solar alone representing approximately 78 percent. In March 2026, the monthly maximum load served by wind and solar was about 96%, with solar's contribution increasing to 88 percent (see Figure 3 below).

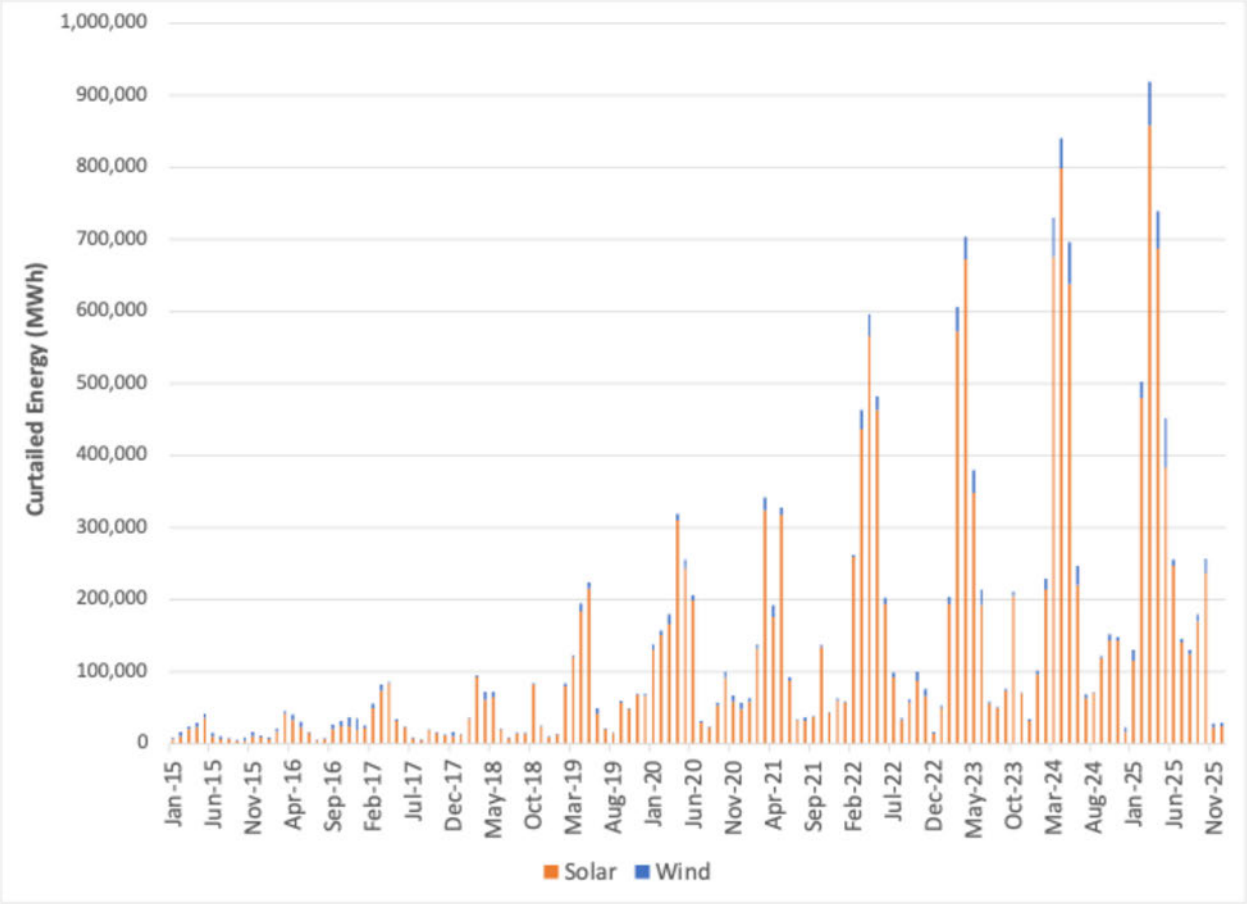
Figure 3. Monthly Maximum Percent of Load Served by Renewables in CAISO: Jan 2015 – March 2026



Source: *CAISO Monthly Renewable Performance Report – March 2026*

To address the resulting instances of over-supply, the amount of curtailment of wind and solar in the CAISO has significantly increased each year, from 187,700 MWh in 2015 to 3,765,628 MWh in 2025 (see Figure 4 below). In Q1 2025, the total curtailment of solar and wind had already reached 1,551,803 MWh, with over 857,177 MWh of curtailment of solar alone in March 2025.

Figure 4. Wind and Solar Curtailment Totals by Month (MWh): Jan 2015 – December 2025



Source: *CAISO Production and Curtailment Data*

CleanPowerSF recognizes this increased curtailment risk and has been implementing mitigation measures. As further discussed later in this Section (see Figure 6), CleanPowerSF has increased the proportion of storage capacity relative to the amount of solar capacity in its portfolio from 0% in 2019 to 40% in 2024 and has contracted for 64% storage vs. solar in 2028. CleanPowerSF also has contracted with wind and geothermal resources that are able to contribute more energy to the system during non-solar production hours. CleanPowerSF monitors CAISO reports on curtailment activity, and tracks trends in curtailment by resource type (solar or wind) and by cause category (system or local). While system-level causes of overgeneration attract much attention, CleanPowerSF also monitors local curtailments. These localized events could affect CleanPowerSF's supply portfolio if our sources are located in high-risk transmission constrained regions. CleanPowerSF monitors the CAISO Transmission Planning Process and the development

status of transmission expansion efforts across California to facilitate greater delivery of renewable energy from supply pockets to load centers and takes this information into account in our bid evaluation process.

CleanPowerSF considers the impact of curtailment and negative pricing on our individual portfolio and factors potential curtailment into our long-term planning. Negative prices tend to be the most common when renewable production is high, but demand is low. Due to the difficulty in accurately forecasting curtailment, CleanPowerSF also reviews the historical data on curtailment and negative pricing for the regions where CleanPowerSF has contracted with or is considering contracting with generating resources. When CleanPowerSF evaluates new procurement, the potential amount of future curtailment is one factor that it considers. CleanPowerSF commissions forecasts of future locational marginal prices ("LMP") that indicate potential curtailment in locations with low or negative prices. Historically, many potential project locations were forecast to have increasing amounts of negative prices as more solar capacity is added to the system. Over time, however, as more and more battery storage capacity is co-located with existing and new renewable resources, the frequency and magnitude of negative prices are expected to decline.[21] The day-ahead market ("DAM") LMPs in the first and second quarters of 2021, in general, were negative only for one to four percent of the intervals, well below the six to eight percent range observed for the same period in 2020.[22] This trend continued in 2022 and 2023, with no negative prices in the day-ahead market in the second quarters of 2022, 2023, 2024, or 2025.[23] However, in the first quarter of 2023, instances of negative day-ahead market prices returned, ranging from 10

[21] A 2026 Aurora Energy study (using CAISO data) shows that in a specific interval, negative prices would have cleared at –$50/MWh without batteries, whereas with batteries charging, the actual cleared price was –$8.34/MWh. This study illustrates batteries acting as incremental demand during oversupply and effectively "putting a floor" under prices. See PV Magazine, "Batteries buying "free" California solar, driving up price" (Apr. 8, 2026), available at <https://pv-magazine-usa.com/2026/04/08/batteries-buying-free-california-solar-driving-up-price/> [last visited June 11, 2026].

[22] CAISO, *Q2 2021 Report on Market Issues and Performance* (Oct. 5, 2021) pp. 26-27, available at <https://www.caiso.com/Documents/2021-Second-Quarter-Report-on-Market-Issues-and-Performance-Oct-5-2021.pdf> [last visited June 11, 2026].

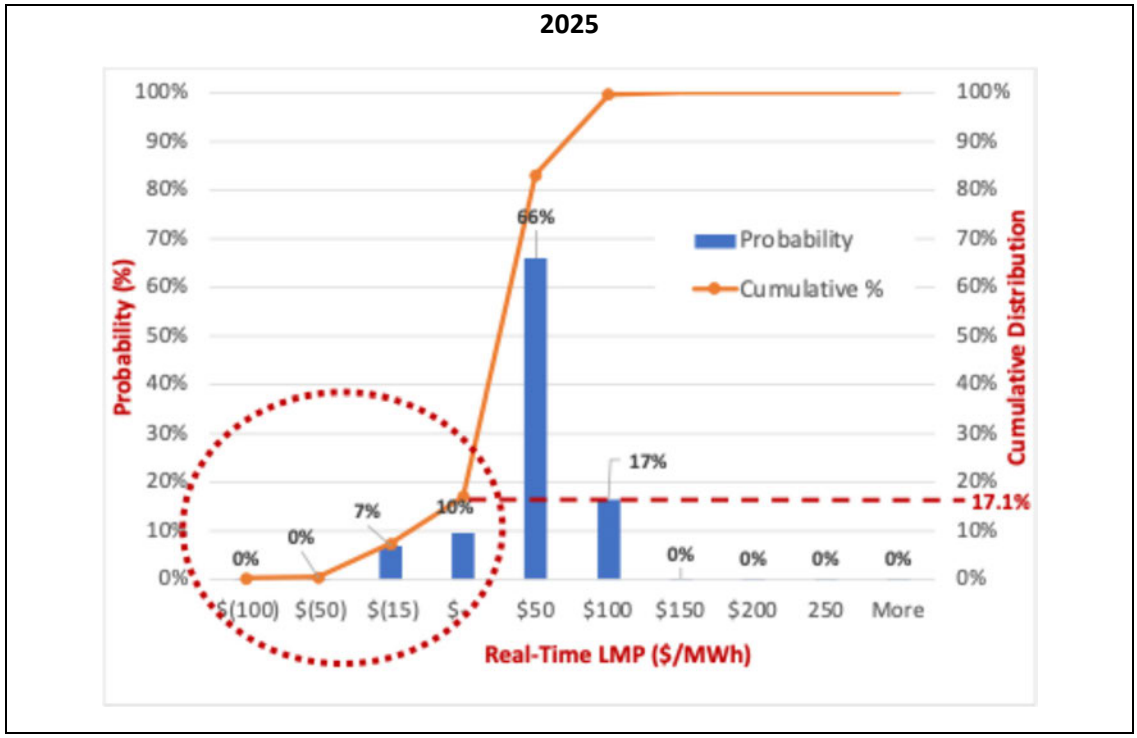
[23] CAISO, *Q2 2022 Report on Market Issues and Performance* (Oct. 14, 2022) pp. 22-23, available at <https://www.caiso.com/documents/2022-second-quarter-report-on-market-issues-and-performance-2022-10-14.pdf> [last visited June 11, 2026]; CAISO, *Q2 2023 Report on Market Issues and Performance* (Nov. 16, 2023) pp. 19-20, available at https://www.caiso.com/documents/2023-second-quarter-report-on-market-issues-and-performance-nov-16-2023.pdf> [last visited June 11, 2026]; CAISO, *Q2 2024 Report on Market Issues and Performance* (Nov. 22, 2024) pp. 15-17, available at <https://www.caiso.com/documents/2024-second-quarter-report-on-market-issues-and-performance-nov-22-2024.pdf> [last visited June 11, 2026]; CAISO, *Q2 2025 Report on Market Issues and Performance* (Oct. 3, 2025) pp. 41-42, available at <https://www.caiso.com/documents/2025-second-quarter-report-on-market-issues-and-performance.pdf> [last visited June 11, 2026].

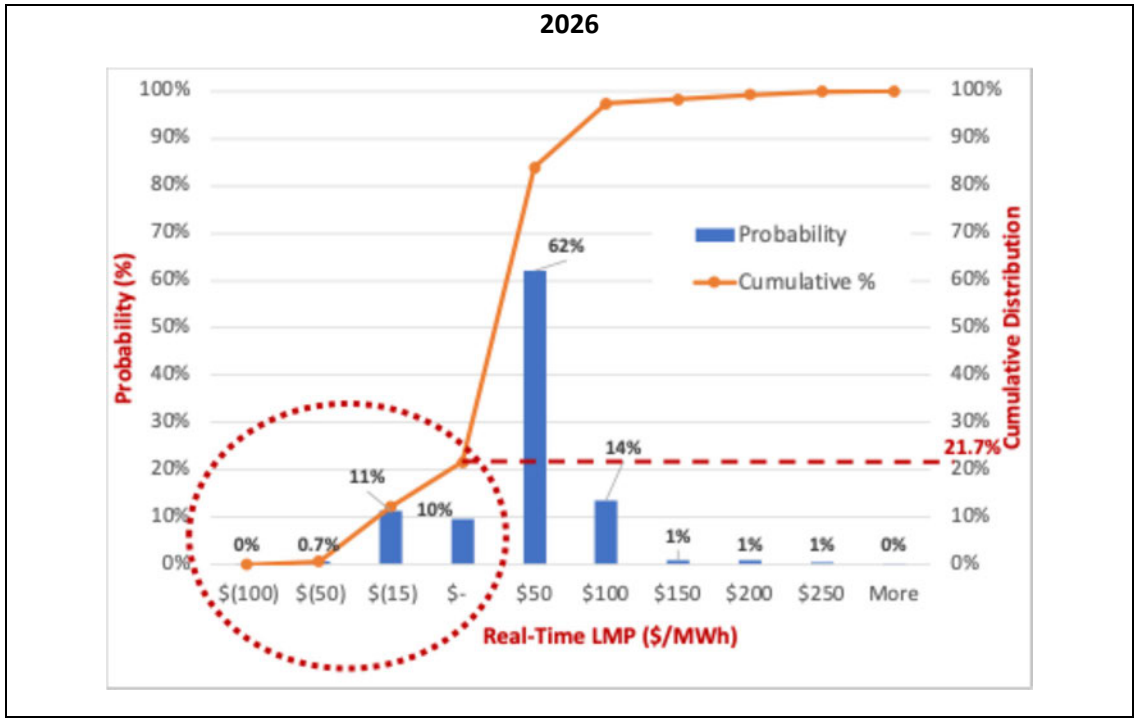
percent to 12 percent at some locations of CleanPowerSF's interest. This trend continues with such instances increasing to as high as 18 percent and 29 percent at some of the locations of CleanPowerSF's interest in the first quarters of 2024 and 2025, respectively. However, instances of negative day-ahead market prices have reduced to 11 percent in Q1 2026, likely due to increased battery storage penetration and evolving transmission topology.[24] These results suggest that, although negative pricing risk remains, its magnitude and frequency may be moderating in specific areas as system conditions evolve. Also, these trends are consistent with CleanPowerSF's strategy of procuring geographically diverse renewable resources and co-located storage to mitigate localized oversupply conditions and manage curtailment risk. The forecast CleanPowerSF used to evaluate storage projects in fall 2019 identified negative pricing at the ultimately selected project locations in one to five percent of market intervals in 2022. In comparison, from January through May 2022, the actual DAM LMPs were negative at those locations in the range of one to three percent of the intervals.

Low-cost renewable resources often bid at or below zero, increasing the potential of becoming the marginal energy source for low-priced periods. This leads to a higher frequency of negative prices in the real-time markets ("RTM"), which experience more negative prices than the DAM. RTM prices can be volatile, with periods of extremely positive or negative prices; even a short period of extremely high or low prices can significantly impact average prices. The RTM price distributions plotted in Figure 5 show that, from January through April 2025, the actual RTM LMPs were negative at the ultimately selected project locations, approximately 17.1 percent (adding the bars to the left of $0/MWh in the top figure) of the intervals. For the same period in 2026, the actual negative RTM LMP occurrences at those locations increases to 21.7 percent of the intervals.

[24] CAISO, Open Access Same-Time Information System (OASIS), Negative Day-Ahead Market Prices, Jan. 1, 2026-Mar. 31, 2026, <https://oasis.caiso.com/mrioasis/logon.do> [accessed May 2026].

Figure 5. Distribution of Real-Time LMPs At Selected Project Locations in the Months of January through April, 2025 vs. 2026





Source: *CAISO OASIS data, accessed May 2026*

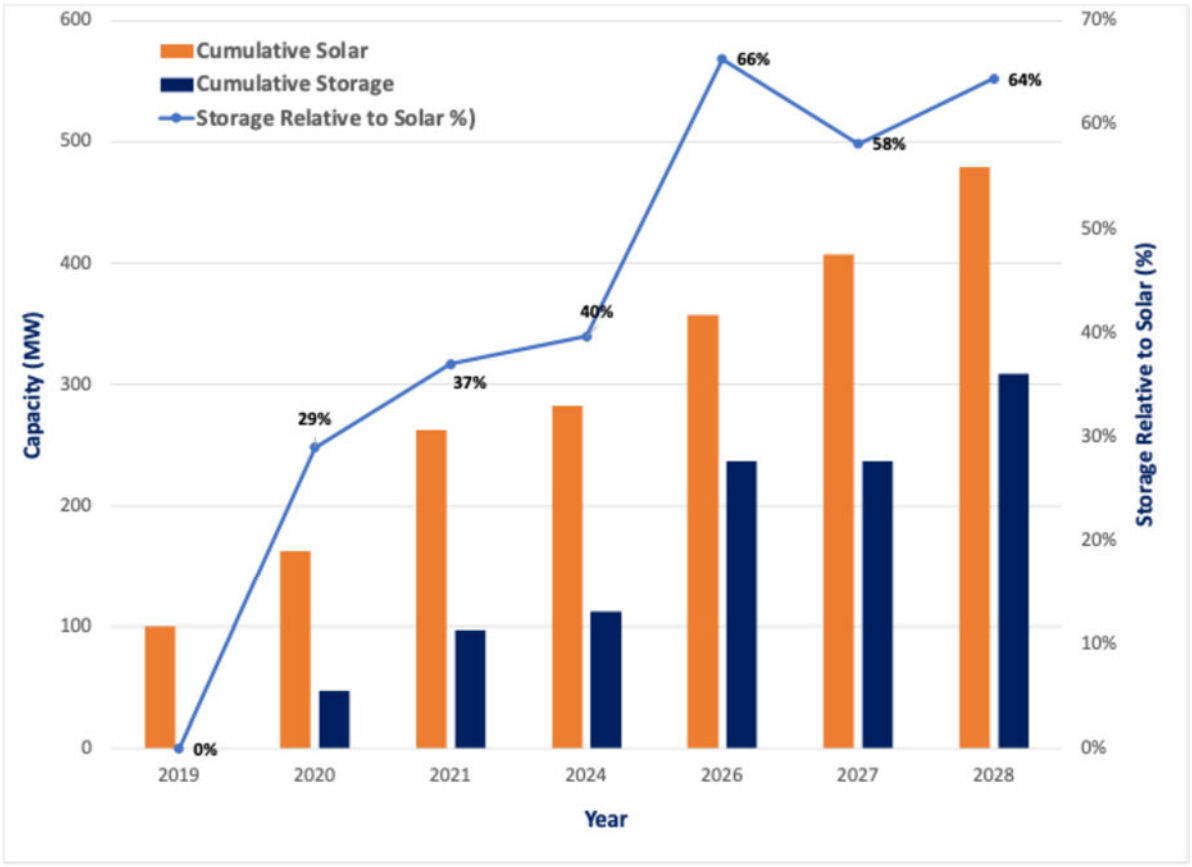
In previous years, negative $15/MWh appears to have been a common proxy for the lost renewable energy credit ("REC") value below which curtailment is preferred over generating at a negative price. However, increasing REC values in 2023 and 2024 appear to have motivated parties to have lower floor bids to reflect the higher REC values. This is because the value of the RECs generated offset the negative market price value down to the negative floor prices parties bid.[25]

As shown in Figure 5, RTM LMPs were less than negative $15/MWh during January through May for 7.5 percent and 12.2 percent of the intervals in 2025 and 2026, respectively, and were less than negative $50/MWh during 0.5 percent and 0.7 percent of the intervals during the periods, respectively. CleanPowerSF continues to monitor pricing trends and refine our forecast of future LMPs to support our portfolio analysis of curtailment and negative pricing over a 10-year planning horizon.

Through our procurement activities, CleanPowerSF takes actions to limit the impacts of curtailment on our ratepayers, including issuing solicitations for storage resources at existing and future solar project locations. CleanPowerSF's executed PPAs are listed below in Table 5. Four (4) solar PV projects totaling 282.5 MW and three (3) wind projects totaling 210.4 MW are already online. CleanPowerSF added storage to two previously negotiated solar project PPAs and included storage with three new solar projects, representing between 75 percent and 100 percent of the generation capacity of these projects, as shown in Table 5 and Figure 6. Figure 6 also shows that CleanPowerSF has increased the proportion of storage capacity relative to the amount of solar capacity in its portfolio from 0 percent in 2019 to 40 percent in 2024. For resources under contract in 2028, that ratio is projected to be 64 percent storage to solar.

[25] CPUC, *Calculation of the Market Price Benchmarks for the Power Charge Indifference Adjustment Forecast and True Up* (Sep. 2022), available at <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/community-choice-aggregation-and-direct-access/calculation-of-the-market-price-benchmarks-20220930.pdf> [last visited June 11, 2026].

Figure 6. Solar and Storage Capacity, and Storage Capacity Relative to Solar Capacity in CleanPowerSF's Portfolio, by Year



Three (3) In-Development geothermal projects total [redacted] with a much lower percentage of production expected to take place during curtailment periods than for solar projects.

Table 5. CleanPowerSF's Executed Long-Term Contracts

Project Name	Contract Capacity (MW)	Technology Type	Overall Project Status	Commercial Operation Date	Location
San Pablo Raceway	100	Solar PV	Online	8/2/19	Los Angeles County
Geysers Geothermal	50	Geothermal	Online	5/1/2018	Sonoma County
Blythe Solar IV	62.5 (PV) + 47 (Storage)	Solar PV + Storage	Online	9/11/20	Riverside County
Voyager Wind IV	50.1	Wind	Online	3/30/21	Kern County
Oasis	60.3	Wind	Online	10/12/21	Kern County
Maverick Solar VI	100 (PV) + 50 (Storage)	Solar PV + Storage	Online	12/1/21	Riverside County
Paulsell Solar	20 (PV) + 15 (Storage)	Solar PV + Storage	Online	6/1/24	Unincorporated Stanislaus County
Fish Lake Geothermal	2.436	Geothermal	In Development	7/1/27	Esmeralda County, Nevada
Gonzaga Ridge Wind Farm	147.5 (Wind) + 50 (Storage)	Wind	In Development	[redacted]	Merced County
Aramis	75 (PV) + 75 (Storage)	Solar PV + Storage	In Development	[redacted]	Alameda County
SunZia Wind	100	Wind	Online	5/22/26	New Mexico
Easley II	50	Solar PV	In Development	1/1/27	Riverside County
Ormat Geothermal Dogwood	[redacted]	Geothermal	In Development	9/1/27	Imperial County California, and Nevada
Ormat Geothermal [redacted]	[redacted]	Geothermal	In Development	[redacted]	[redacted]
Darden	71.5 (PV) + 71.5 (Storage)	Solar PV + Storage	In Development	[redacted]	Fresno County

In addition, CleanPowerSF implements contract terms that recognize and limit the potential financial impacts of negative pricing and give CleanPowerSF significant flexibility to direct economic curtailment. These terms allow CleanPowerSF to curtail the renewable resource output during periods where the impact of negative prices exceeds the value of the renewable energy credits associated with the project. As renewable resources become the predominant resources on the grid, the value of the renewable energy credits is expected to eventually decline to the point that these projects will be curtailed any time the locational marginal prices at the project locations become negative. Further, as storage capacity increases relative to the amount of low variable cost resources, the incidence of negative prices is also expected to decrease.

As evident from Table 5, CleanPowerSF is pursuing the addition of storage, of varying durations, in its portfolio. CleanPowerSF's decisions in this regard are also informed by the CAISO's production cost simulation studies performed as part of its annual transmission planning process ("TPP"). For instance, CAISO's battery storage remapping study performed under the 2020 to 2021 TPP, has identified suitable locations for battery storage that would reduce renewable curtailments and congestion in the long term. In particular, these studies identify certain transmission locations in the Tehachapi, East of Lugo, Carrizo, and Fresno-Kern areas as better candidates than others for battery storage. The CAISO found siting storage resources at appropriate locations to be more effective than building new transmission upgrades in mitigating transmission congestion and renewable curtailment in local areas and across the system.[26] CleanPowerSF has verified that our current battery storage capacity and locations align with the system-level assumptions made under the more recent CAISO 2025-2026 TPP.[27]

CleanPowerSF's pro forma PPA includes terms that specify economic bidding rights and provide appropriate incentives for the project operator to generate in line with CAISO dispatch instructions. At the direction of CleanPowerSF, the renewable project's Scheduling Coordinator

[26] CAISO, *2020-2021 Transmission Plan* (Mar. 24, 2021) § 3.8, pp. 224-27, available at <https://www.caiso.com/documents/boardapproved2020-2021transmissionplan.pdf> [last visited June 11, 2026].
[27] CPUC, *Final Modeling Assumptions for the 2025-2026 Transmission Planning Process* (Feb. 2025) Table 3, p. 15. available at <https://files.cpuc.ca.gov/energy/modeling/LTPP/Modeling_Assumptions_25-26TPP_Final_2025-02-20.pdf > [last visited June 11, 2026].

("SC")[28] is responsible for submitting Economic Bids for project energy into CAISO markets at the Delivery Point. The SC submits Economic Bids in the CAISO Day-Ahead ("DA") Market at the DA Bid Price determined by CleanPowerSF for volumes of energy specified by CleanPowerSF (up to the full Day-Ahead forecast). The flexibility for setting the DA Bid Price allows CleanPowerSF to indicate the lowest price it is willing to accept in the CAISO's settlement processes, which may be negative, and below which the project should economically curtail. Such economic curtailment flexibility is also provided by the CAISO's dispatch software in its Real-Time market processes, including the 5-minute dispatch of the CAISO-forecasted project generation.

CleanPowerSF has some experience managing the cost impacts of increasing incidences of overgeneration and negative market prices. To date, seven of the new contracted renewable facilities have commenced commercial operation. There have been instances in which available generation from the project has not cleared the CAISO markets as a result of the prices bid exceeding the locational marginal price. This economic curtailment allowed CleanPowerSF to avoid having to pay the CAISO more than the value of the REC to accept this generation. CleanPowerSF continues to monitor market conditions to inform bidding strategies, regularly evaluating curtailment risk and negative price exposure to develop and execute strategies to mitigate risks that may emerge over time.

IV.C. Portfolio Optimization

CleanPowerSF manages our portfolio to maximize ratepayer value, while meeting State and local clean energy supply targets. CleanPowerSF uses State RPS requirements, local program portfolio content goals, and Commission procurement directives over short- and long-term time horizons to plan our RPS procurement and manage our RPS portfolio. To optimize the cost effectiveness of the portfolio, CleanPowerSF conducts procurement in a manner that maintains a larger open energy position in the long-term that is gradually closed over time. CleanPowerSF manages the open position to minimize risks associated with having a large near-term need while

[28] In its early PPAs, the seller acts as the SC for projects under contract to CleanPowerSF, but CleanPowerSF in 2022 began taking over SC obligations for some existing and all new PPAs to have more direct control over its contracted resources.

providing opportunities to take advantage of technological innovations and favorable market conditions.

CleanPowerSF's portfolio optimization also accounts for the Commission's MTR procurement orders. D.21-06-035, D.23-02-040 and D.26-02-057 created procurement obligations for every load serving entity ("LSE") through 2032. D.21-06-035 identifies four distinct resource categories for procurement and sets online dates. The resource categories are:

- Generic NQC capacity;
- Zero emission generation, generation paired with storage or demand response resources;
- Long-Duration Storage of 8 hours or more; and
- Firm zero-emitting resources.[29]

Table 6 below summarizes CleanPowerSF's MTR obligation under D.21-06-035[30],D.23-02-040 [31] and D.26-02-057.[32]

Table 6. CleanPowerSF MTR Obligation

<table>
<tr><th></th><th>2023</th><th>2024</th><th>2025</th><th>2026</th><th>2027</th><th>2028</th><th>2029</th><th>2030</th><th>2031</th><th>2032</th></tr>
<tr><td>Generic NQC Capacity</td><td>31 MW</td><td>93 MW</td><td>23 MW</td><td>31 MW*</td><td>31 MW*</td><td></td><td></td><td>36 MW</td><td>36 MW</td><td>36 MW</td></tr>
<tr><td>Minimum Zero-Emitting Capacity</td><td colspan="3">39 MW**</td><td></td><td></td><td></td><td></td><td colspan="3"></td></tr>
<tr><td>Long-Duration Storage</td><td colspan="5">15 – 16 MW***</td><td></td><td colspan="3">27 MW****</td></tr>
<tr><td>Clean Firm Capacity</td><td colspan="5">15 – 16 MW***</td><td></td><td colspan="3"></td></tr>
</table>

** Note that CleanPowerSF's total responsibility in 2026 and 2027 total 63 MW even though the listed obligation for 2026 and 2027 totals 62 MW.*[33]

[29] D.21-06-035, pp. 2-3.
[30] *Id.* p. 56.
[31] D.23-02-040, p. 31.
[32] D.26-02-057, Attachment A.
[33] *Id.*

***Zero-emitting capacity is a subset of the Generic NQC Capacity.*[34]
****Long-Duration Storage and Clean Firm Capacity must sum up to 31 MW.*
***** Long-Duration Storage and Clean Firm Capacity are a subset of the Generic NQC Capacity.*

Strategies articulated in CleanPowerSF's IRPs provide guidance to our RPS procurements. Specifically, CleanPowerSF's 2022 IRP highlighted the increasing value of intermittent resources by pairing them with energy storage. An efficient way to bring new storage capacity online is to add storage and pair it with existing RPS resources. Building off the success of our agreements with the Maverick, Blythe, and Paulsell projects, CleanPowerSF procured additional renewable plus storage resources with the Darden solar, Aramis solar and Gonzaga wind projects. In doing so, CleanPowerSF can shift the renewable generation produced by these projects to higher-value hours, reducing the likelihood of curtailment.

To identify the most cost-effective resource mix to meet our regulatory obligations, CleanPowerSF considers a resource's contributions to both our MTR and RPS targets. The declining NQC value of solar towards MTR compliance reaffirms CleanPowerSF's 2022 IRP battery-pairing strategy. In our current and upcoming renewable and energy storage solicitations, CleanPowerSF will seek offers from RPS resources that are able to contribute towards our MTR obligations.

Due to its complementary generation profile with solar, the 2026 IRP preliminary results identify wind as a beneficial resource for CleanPowerSF to procure. To meet our IRP procurement targets and support our objective of developing a clean energy portfolio that is more time-coincident with customer demand, CleanPowerSF procured 100 MW of wind in New Mexico from the SunZia Wind project.

As discussed, paired storage is a critical component of CleanPowerSF's procurement strategy. CleanPowerSF continues to evaluate the impact of paired storage resources and their round-trip efficiency on RPS volumes. As the storage capacity in CleanPowerSF's portfolio continues to increase, so could the energy losses associated with charging and discharging cycles. These losses are incorporated into CleanPowerSF's RNS at the levels appropriate for storage technologies under contract to ensure delivered RPS energy meets CleanPowerSF's annual RPS targets and overall portfolio content objectives.

[34] D.23-02-040, p. 28.

RPS-eligible procurement through VAMO supports CleanPowerSF's further optimization of our portfolio by increasing supply. VAMO deliveries from PG&E began in January 2023. In 2023, CleanPowerSF bid into SCE's Long-Term Market Offer process, contracting for RPS resources with deliveries beginning in late 2023 through 2040. The addition of these resources to CleanPowerSF's portfolio have increased our VMoP.

For more discussion on CleanPowerSF's solicitations, refer to section IV.A.

IV.C.1 Conformance with the IRP Proceeding

CleanPowerSF is conducting portfolio modeling for its 2026 IRP, which is due on August 10, 2026. CleanPowerSF will select a portfolio to submit as our Preferred Portfolio under the CPUC-defined statewide emissions benchmark, which will be used by the CPUC for aggregation and long-term resource planning. CleanPowerSF acknowledges the importance of consistency between information provided in the RPS Procurement Plan and IRP for resource planning, The CPUC established an August 10, 2026 filing deadline for the IRP, which occurs after the deadline for this RPS Procurement Plan.[35] Given the on-going work on the 2026 IRP, CleanPowerSF provides information based on an incomplete IRP process in Table 7 below.

Table 7. CleanPowerSF RPS Alignment with 2026 IRP

IRP Section / Subsection	RPS Alignment with IRP
III. Study Results A. Conforming and Alternative Portfolios B. Preferred Conforming Portfolio	CleanPowerSF is currently developing its 2026 IRP, which will be informed by this RPS Procurement Plan. CleanPowerSF expects the RPS resources identified in this Plan to align with, and be used to implement, the renewable resource assumptions included in its 2026 IRP Preferred Conforming Portfolio. 1. Existing and online RPS resources under contract that are included in the RPS quantitative templates are expected to be included as baseline inputs in CleanPowerSF's 2026 IRP modeling. These resources include

[35] Email from Julie Fitch, Administrative Law Judge, California Public Utilities Commission, to R.25-06-019 Service List (March 9, 2026, 2:09 PM) (on file with CleanPowerSF).

	CleanPowerSF's existing solar, wind, geothermal, and renewable plus storage resources. 2. CleanPowerSF expects to continue evaluating existing RPS resources through competitive solicitations, bilateral opportunities, and procurement processes such as VAMO where such resources support RPS compliance, local renewable energy goals, affordability, portfolio diversity, and risk management. 3. CleanPowerSF has contracted with seven RPS resources currently in development that are expected to support the 2026 IRP portfolios. These resources are presented in the Project Development Status Update (Appendix B). 4. CleanPowerSF is addressing its MTR obligations with a mix of existing and new resources, including renewable plus storage resources and long-duration storage resources. Blythe Solar IV plus storage, Maverick Solar VI plus storage, and Paulsell Solar plus storage are online and contribute to CleanPowerSF's D.21-06-035 MTR obligation. CleanPowerSF will continue to evaluate resources that can support compliance with D.21-06-035, D.23-02-040, and D.26-02-057. CC Power also issued an All Source RFO in October 2025, through which CleanPowerSF may receive future offtake. CleanPowerSF also advertised PRO.0223(R), its DAC-GT RFO, on February 6, 2026 and is planning to issue a new renewable energy solicitation by the end of calendar year 2026
IV. Action Plan A. Proposed Procurement Activities and Potential Barriers	CleanPowerSF expects its 2026 IRP portfolios to rely on a diverse mix of solar, wind, geothermal, storage, and other clean resources to meet RPS requirements, local clean energy goals, reliability needs, and GHG reduction objectives. CleanPowerSF's proposed procurement activities are designed to support the resources identified in its Conforming and Alternative Portfolios and to align RPS planning with IRP portfolio development. 1. CleanPowerSF issued a competitive long-term RFO in July 2024 seeking standalone renewable energy, standalone storage, and renewable energy paired with storage. The solicitation supported RPS compliance, local renewable energy objectives, and applicable Commission procurement mandates, including MTR obligations under D.21-06-035, D.23-02-040, and D.26-02-057.

	2. CleanPowerSF evaluates new RPS resources based on commercial viability, development status, interconnection progress, deliverability, technology type, expected generation profile, contribution to RPS and reliability needs, and overall portfolio value. New resources in development are reflected in the Project Development Status Update and are risk-rated for purposes of the RNS analysis. 3. CleanPowerSF primarily uses competitive RFOs to procure long-term renewable energy and storage resources, including standalone renewable energy, renewable energy paired with storage, standalone storage, long-duration storage, clean firm resources, and other resources that support RPS compliance and reliability objectives. CleanPowerSF may also consider bilateral opportunities and joint procurement through CC Power where those opportunities provide value to customers and support regulatory and policy objectives. 4. CleanPowerSF released a competitive long-term RFO in July 2024, evaluated proposals in 2024, and began contracting with selected bidders in early 2025. CleanPowerSF expects to continue issuing solicitations as needed based on forecasted RPS needs, IRP portfolio development, MTR requirements, market conditions, and local policy objectives. 5. CleanPowerSF seeks commercial operation dates that align with applicable RPS compliance periods, MTR deadlines, and IRP portfolio needs. CleanPowerSF has enough contracted resources expected to come online to meet its obligation of D.21-06-035 and D.23-02-040, subject to any applicable extensions and procurement-track requirements. CleanPowerSF will align its IRP modeling to reflect its procurement to meet its procurement obligations. 6. CleanPowerSF's procurement planning is designed to maintain RPS compliance, support San Francisco's renewable and GHG-free energy goals, diversify CleanPowerSF's portfolio, manage cost and market risk, and reduce exposure to overgeneration and negative pricing. CleanPowerSF's procurement strategy also considers RA value, time-of-day delivery, geographic diversity, technology diversity, development risk, interconnection risk, affordability, and consistency with statewide resource planning requirements.
IV. Action Plan A. Proposed Procurement	CleanPowerSF has identified several potential barriers to implementing the RPS resources expected to support its 2026 IRP Conforming Portfolios. These barriers are discussed throughout this Plan, including in Sections VI

Activities and Potential Barriers	and VII, and are incorporated into CleanPowerSF's RNS and risk assessment framework. 1. Key risks include project development delays, permitting delays, interconnection and transmission upgrade delays, supply chain disruptions, inflationary pressures, tariff and trade policy uncertainty, financing constraints, equipment availability, and changes in market conditions. CleanPowerSF has observed these risks in recent project development experience. CleanPowerSF mitigates these risks through portfolio diversity, ongoing project monitoring, risk-adjusted RNS calculations, and maintaining procurement above minimum RPS requirements through its MMoP and VMoP. 2. CleanPowerSF monitors the operating status, contract terms, and expected performance of existing RPS resources relied upon for future compliance. Potential risks include contract expiration, resource underperformance, changing market economics, transmission constraints, curtailment, and operational issues that could reduce expected deliveries. CleanPowerSF mitigates these risks by maintaining a diverse RPS portfolio, pursuing additional long-term procurement, evaluating existing and new resources through solicitations, and updating its RNS and portfolio planning analyses as new information becomes available.

IV.C.2 Responsiveness to Local and Regional Policies

Local and State policies, regulations and ordinances shape CleanPowerSF's RPS procurement efforts. San Francisco's "energy loading order" is a guiding local policy adopted by the Board of Supervisors in 2001 in recognition of the environmental harms in Southeast San Francisco.[36] The Board of Supervisors later reaffirmed this foundational policy in 2008 in support of the State's Energy Action Plan.[37] These ordinances seek to reduce the negative environmental effects of electric supply choices and further the City's environmental justice goals through a

[36] See San Francisco Board of Supervisors Ordinance No. 124-01 (Adopting Human Health and Environment Protections for New Electric Generation) (June 8, 2001), available at <https://sfbos.org/ftp/uploadedfiles/bdsupvrs/ordinances01/o0124-01.pdf> [last visited June 11, 2026].
[37] See San Francisco Board of Supervisors Resolution No. 227-08 08 (Adopting the State of California's Energy Priorities) (May 13, 2008), available at <https://sfbos.org/ftp/uploadedfiles/bdsupvrs/resolutions08/r0227-08.pdf> [last visited June 11, 2026].

hierarchy of energy efficiency and conservation, demand response, renewable generation, and distributed generation.

The SFPUC adopted the goal of delivering at least 50 percent RPS-eligible renewable energy in our default Green product supply portfolio by 2020, or sooner if possible, in May 2017, after initiating CleanPowerSF.[38] The CleanPowerSF Green product has exceeded this goal since 2020. For example, in 2023, RPS-eligible content for the Green product was 53 percent, in 2024 it was 89 percent, and in 2025 it was 84 percent.

CleanPowerSF's 2022 IRP charted a path for a 100 percent renewable and/or GHG-free electricity supply by 2025, 20 years ahead of the SB 100 target and 5 years sooner than San Francisco's original goal.[39] CleanPowerSF's 2026 IRP will identify RPS-eligible portfolio content planning targets for its default Green product procurement through 2036, as shown in Table 8. The table compares RPS targets for the CleanPowerSF products to the SB 100 RPS requirements.

Table 8. CleanPowerSF's 2022 IRP Planning Targets for RPS-Eligible Renewable Energy

Content Goals	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
CleanPowerSF RPS-Eligible Targets	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
SB 100 RPS Requirements	49.3%	52%	54.7%	57.3%	60%	60%	60%	60%	60%	60%	60%

CleanPowerSF's RPS planning also reflects local ordinances designed to decarbonize San Francisco's building sector. Ordinance 220-19, passed in 2019, requires non-residential buildings over 50,000 square feet to meet electricity demand with 100 percent GHG-free supply by 2030, with a phased implementation that began in 2022. This ordinance has significantly increased demand for CleanPowerSF's 100 percent RPS-eligible SuperGreen product. In 2020, Ordinance

[38] San Francisco Public Utilities Commission Resolution No. 17-0102 (Adopting New Target of 50 Percent Renewable Energy for CPSF) (May 9, 2017), available at <https://sfpuc.sharefile.com/share/view/s885b58732ca4f709> [last visited June 10, 2026].
[39] CleanPowerSF 2022 Integrated Resource Plan, pp. 6-8, available at <https://cleanpowersf.org/s/CPSF_public_v1.pdf> [last visited June 11, 2026].

237-20 amended the Building Code to require all-electric new construction beginning June 2021. CleanPowerSF accounted for these shifts in its 2026 IRP and continues to monitor the resulting impacts on electricity demand and product selection.

While no new local policies were enacted in 2025 that materially impact RPS procurement, San Francisco's Climate Action Plan ("CAP") was finalized in 2026.[40] CleanPowerSF is planning to incorporate the CAP's recommendations into the 2026 IRP and this RPS procurement plan, including the development of at least 150 MW of solar and battery storage projects in the nine Bay Area counties, increasing our SuperGreen 100% RPS-eligible product sales to 20% of total retail sales, and the development of solar projects on City-owned properties.

CleanPowerSF's portfolio planning reflects these regional policy drivers through elevated renewable content targets, consideration of product segmentation, and proactive forecasting of SuperGreen demand growth. These strategies ensure that CleanPowerSF's RPS procurement not only complies with State law but also furthers San Francisco's local climate, environmental justice, and electrification goals.

IV.D. Lessons Learned – Assessment of RPS Portfolio Supplies and Demand

As CleanPowerSF continues to bring projects online and enter into additional long-term contracts, we will continue to improve our contracting process to account for past and future trends. These trends include increasing renewable curtailment and integrating energy storage and emerging clean energy technologies in our portfolio.

CleanPowerSF has emphasized reliability in our portfolio planning efforts, especially during the evening ramp. Building upon the 2022 IRP, CleanPowerSF's 2026 IRP modeling analysis is applying a constraint on CAISO system purchases during the evening ramp hours to better understand how renewable resources could be best integrated into the grid in a cost-effective and reliable manner. Both the 2022 IRP and the 2026 IRP preliminary results identify energy storage as a key component for maximizing the reliability of CleanPowerSF's RPS energy

[40] San Francisco Environment Department (SFE), *San Francisco Climate Action Plan 2026*, available at <https://www.sfenvironment.org/climateplan> [last visited on June 11, 2026].

portfolio, and CleanPowerSF has since worked to develop storage contract terms that optimize reliability benefits.

As previously discussed, CleanPowerSF is an active member of CC Power. CC Power aggregates participating CCAs' buying power to procure new cost-effective clean energy and reliability resources to continue advancing local and State climate goals. This procurement approach provides CleanPowerSF with two key advantages that are expected to deliver lower costs to ratepayers. Joint procurement allows an LSE, such as CleanPowerSF, to contract for a portion of a larger project than it might be able to procure otherwise, improving procurement scale efficiencies. This approach also allows CleanPowerSF to contract for portions of multiple projects instead of contracting for a single project, providing portfolio diversification and project development risk mitigation advantages.

CleanPowerSF collaborated with other CCAs through CC Power to solicit bids and ultimately execute contracts from new long-duration energy storage projects. As a result of this process, CleanPowerSF has gained valuable experience evaluating the costs and benefits of long-duration energy storage resources, as well as the project development and market integration hurdles emerging, long-duration energy storage technologies face. CleanPowerSF continues exploring emerging technologies, especially energy storage technologies, for inclusion in its portfolio.

Procurement to cost-effectively meet San Francisco's renewable and GHG-free goals has been challenged by a tenacious combination of development and interconnection delays, supply chain challenges, economic inflation, high market prices, and limited availability of new generating resources. CleanPowerSF has integrated these experiences into our risk mitigations through a combination of flexible contracting provisions, frequent portfolio analysis, and streamlined administrative processes.

V. Project Development Status Update

CleanPowerSF has entered into a total of fifteen contracts with new renewable facilities as a result of its own solicitations and our participation in CC Power. Of these contracts, seven are not in commercial operation yet. On a risk-adjusted basis, expected renewable energy volume

from resources under development represents approximately 23 percent of CleanPowerSF's forecasted retail sales over the 2026-2036 RPS Procurement Plan planning horizon

Table 9 (included as Appendix B, Project Development Status Update) provides details on the remaining seven contracts CleanPowerSF has executed for facilities that have not yet reached commercial operation.

Table 9. CleanPowerSF Projects In Development

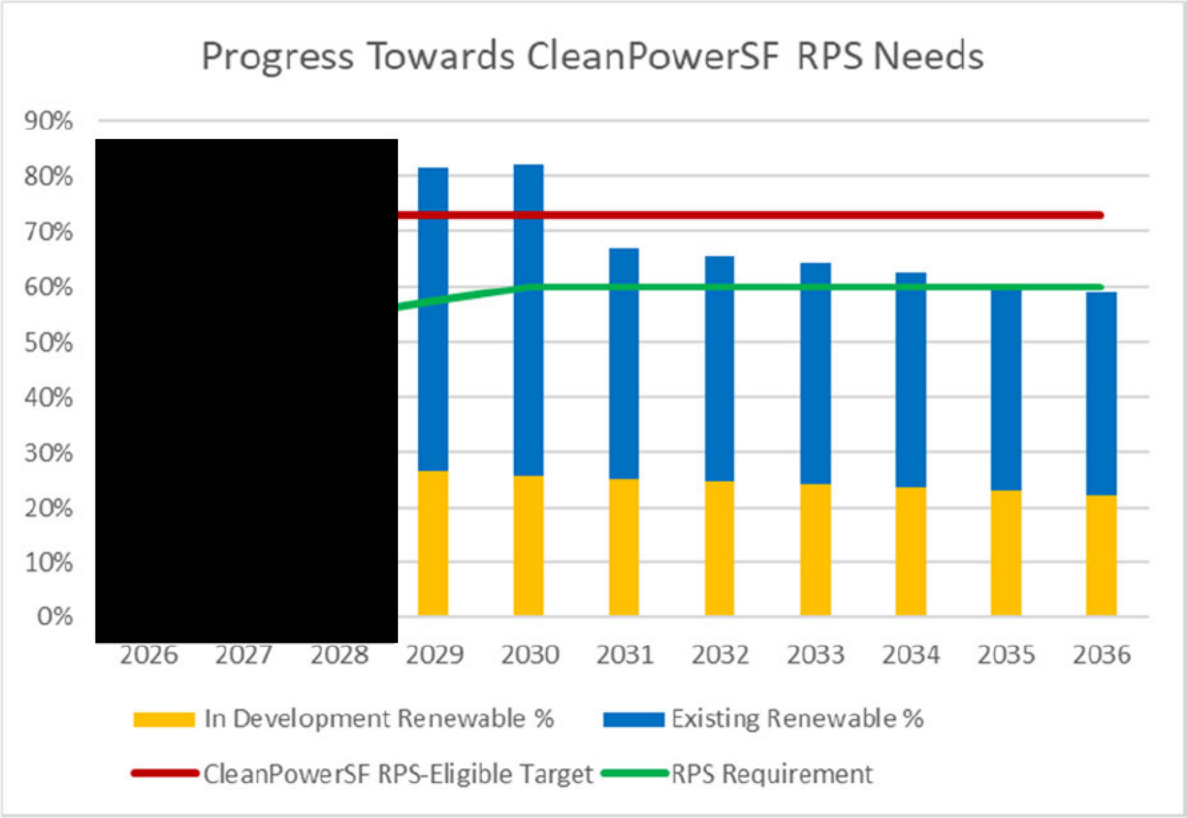
Facility Name	Capacity (MW)	Contract Length	Location	COD	Technology Type	Contract Start and End Dates	Annual Generation & Total Contract Volume
Project Development Phase: Pre-Construction							
CC Power OME Fish Lake Geothermal Project	2.436 MW	20 Years	Esmeralda, NV	7/1/2027	Geothermal	4/30/2027 to 4/29/2047	12.53 GWh 252.54 GWh
CC Power Ormat Dogwood Geothermal Project	[redacted]	20 Years	Imperial County, CA	9/1/2027	Geothermal	[redacted]	[redacted]
CC Power Ormat [redacted] Geothermal Project	[redacted]	Approx. 19 Years	Imperial County, CA	[redacted]	Geothermal	[redacted]	[redacted]
Gonzaga Ridge Wind Farm	147.5 MW	20 Years	Merced County, CA	[redacted]	Wind	[redacted]	324.37 GWh 6451.23 GWh
Aramis Renewable Energy Project	75 MW solar 75 MW 4-hr storage	25 Years (solar) 15 Years (storage)	Alameda County, CA	[redacted]	Solar + Storage	[redacted]	152.59 GWh 3856.14 GWh
Easley II Solar Project	50 MW solar	10 Years	Riverside County, CA	1/1/2027	Solar	1/1/2027 to 12/31/2036	134.59 GWh 1345.94 GWh
Darden Solar Project	71.5 MW solar 71.5 MW 4-hr storage	15 Years	Fresno County, CA	[redacted]	Solar	[redacted]	205.85 GWh 3093.64 GWh

Seven contracts (CC Power's OME Fish Lake Ormat [redacted], Ormat Dogwood, Gonzaga Ridge, Easley II, Darden, and Aramis) are in the pre-construction development phase. Current CODs reflect the most recent project development timelines for transmission upgrades. Since last reported, three contracts have new commercial online dates. CC Power OME Fish Lake's COD is July 2027[redacted], Ormat Dogwood's new COD is September 2027[redacted]. CleanPowerSF has mitigated these delayed deliveries through new RPS contracts and does not anticipate any shortfalls through CP 8 as a result of these delays.

The risk-adjusted expected annual megawatt-hours of generation from projects in development are included in the RNS Quantitative Response in Variable Fb, "Risk-adjusted RECs from RPS facilities in Development." The risk-adjusted volumes from existing facilities are projected to exceed CleanPowerSF's State RPS requirement in the near term. The risk-adjusted volumes from existing and in development facilities exceed annual RPS compliance requirements through CP 6.

The expected risk-adjusted generation from in-development projects reaches [redacted] MWh in 2028, as additional facilities are projected to come online. This generation represents an average of about 24 percent of CleanPowerSF's total sales over the Plan horizon once all projects are online by the end of calendar year 2028, as demonstrated in the figure below.

Figure 7. Progress Towards CleanPowerSF RPS Needs



As CleanPowerSF has already procured enough renewable energy to exceed our RPS compliance requirements through CP 8, there is no immediate need to conduct additional long-term renewable procurement for RPS compliance purposes. However, CleanPowerSF will continue to contract for renewable generation with new and existing facilities to meet our 2026 IRP targets, as needed, in a manner that comports with the risk mitigation practices detailed in Section VII of this Plan.

VI. Potential Compliance Delays

CleanPowerSF anticipates meeting our RPS compliance obligations. While numerous issues are under ongoing analysis for their potential to cause development delays, and other supply or demand risks, per the discussion in Sections VII, VIII, and IX below CleanPowerSF employs a comprehensive set of compliance risk mitigation strategies – including our substantial margin of renewable procurement above State compliance.

Potential issues could include, but are not limited to, tariffs, supply chain issues, macroeconomic conditions, inadequate transmission capacity, permitting delays, insufficient eligible renewable energy resources supply, unanticipated curtailment, and unanticipated increase in retail sales.

As stated herein, CleanPowerSF's aggressive renewable energy content goals have resulted in historical and planned RPS procurement above the State's requirements through CP 6. When planning our RPS portfolio, CleanPowerSF makes risk adjustments for online and in-development facilities and has established an MMoP and VMoP to ensure State renewable energy goals and mandates are met. After applying risk factors to projected RPS volumes, CleanPowerSF still has sufficient volumes under contract to meet our State RPS compliance requirements through CP 6. CleanPowerSF fully anticipates meeting our RPS compliance requirements through this compliance period and beyond. Sections VII through IX provide more detail on CleanPowerSF's RPS portfolio risk adjustment methodology.

CleanPowerSF plans on adding more short- and long-term renewable energy contracts in the near- to mid-term. This procurement will further contribute to CleanPowerSF's RPS and MTR compliance and create insurance against any delays or under-generation from our existing contracts. As such, CleanPowerSF is well positioned to meet our RPS compliance contracting requirements through CP 8.

VII. Risk Assessment

CleanPowerSF assesses and aims to mitigate RPS risks associated with, but not limited to permitting, transmission, interconnection and development, tariffs and macroeconomic factors, supply chains, and financing. Potential impacts of these risks on CleanPowerSF's RPS-eligible energy supplies are incorporated into the program's portfolio planning and management activities. The risk adjusted expected generation used by CleanPowerSF to manage supply risks are included in Appendix C, RNS Quantitative Response.

Generation variability, resource availability, and market conditions might impact the amount of future electricity delivered to a retail seller. CleanPowerSF acknowledges the possibility that contracted volumes of electricity, especially from as-available and variable resources, might

not be delivered as expected under contract. Delays such as these have affected projections of generation, although CleanPowerSF plans to mitigate the delays. CleanPowerSF considers this potential risk in contracting, forecasting, procurement review, and programmatic decision-making and requires industry standard contractual protections for under- and over-deliveries to address RPS compliance and financial risks.

VII.A Compliance Risk

Risk Rating: Low

CleanPowerSF uses a comprehensive, iterative enterprise risk management framework to regularly evaluate risk areas across our business, identify mitigation strategies, and execute on those strategies. CleanPowerSF regularly monitors and manages power supply cost and risks in a manner that is consistent with best utility industry practice. CleanPowerSF has identified the following renewable energy supply risks that might impact RPS compliance and whose management are critical to ensure a low-cost, stable, and predictable power portfolio:

- Variable resource availability risk: Many forms of renewable power are variable and not dispatchable, meaning the actual power produced cannot be controlled or produced on demand. Due to this variability, renewable energy is typically sold as-available, meaning that while a specified capacity is dedicated to the purchaser, the actual watt-hours are delivered based on production, which might be higher or lower than planned due to changing weather and other conditions.
- Technology risk: Energy generation technology is rapidly evolving; entering into excessive long-term contracts, therefore, may commit CleanPowerSF to a particular technology that might become obsolete or more expensive than energy available in later years. Overcommitting to certain technologies in the near-term might also limit future investments in emerging technologies.
- Development risk/project delays: When entering into a contract for power from a facility that is not yet constructed and/or operational, CleanPowerSF is exposed to the risk that the energy supply may not be delivered on time or at all due to development, permitting, interconnection, transmission, supply chain, financing, or other project implementation delays or cancellation. Several in-development

resources, have experienced schedule movement or remain subject to development, transmission, and interconnection dependencies. In addition, the Aramis Renewable Energy Project previously experienced a land use permit challenge that delayed the project schedule; although that challenge has since been resolved, permitting issues remain a potential barrier for other renewable projects. CleanPowerSF continues to monitor project development status and accounts for these risks through ongoing portfolio planning, risk-adjusted RNS analysis, MMoP, and VMoP. In general, interconnection upgrade delays are a widely known issue that many new renewable projects are facing. The increase in renewable procurement among California LSEs, has driven an extremely high amount of interconnection requests in recent years. Although CAISO is working to mitigate the backlog of interconnection requests through its Interconnection Process Enhancements process, interconnection delays remain a concern in connecting new renewable projects to the grid in a timely manner.

- Counterparty credit risk: A financially weak or unviable counterparty might expose CleanPowerSF to the risk that contracted supply will not be delivered, exposing the program to a supply shortage and more market price volatility than desired. High inflation increases the cost of capital for counterparties with low credit ratings.
- Supply chain risk: As many of the components for new energy facilities are imported from other countries, U.S. international relations can impact the renewable project supply chain and project development timelines. While supply chain issues due to COVID-19 have eased, generationally-high inflation and recent tariff measures and a volatile policy environment have increased the cost of capital, increased component costs, and lengthened project timelines, putting upward pressure on total costs and development timeframes causing supply chain risk.

CleanPowerSF evaluates both the likelihood and severity of the risks identified above as part of its risk management and portfolio planning processes. These risks are assessed based on their potential impact on RPS compliance, delivery certainty, and cost stability, and are managed through a combination of diversified procurement, conservative modeling assumptions, contractual protections, and ongoing portfolio monitoring.

The likelihood and severity of these risks, along with corresponding mitigation measures, are summarized in the risk assessment matrix below.

Table 10. CleanPowerSF Risk Assessment Matrix

Risk Factor	Risk Description	Likelihood	Impact	Mitigation Measures
Resource Underperformance / Variability	Variable solar/wind resource conditions; geothermal outage risk; as-available deviations.	Medium	Low	Risk-adjusted generation forecasts in Appendix C; portfolio diversity; and financial protections for contract underperformance.
Technology Risk	Overcommitting to a given technology can limit investment flexibility as policy and the industry evolves.	Medium	Low	Diversified procurement across multiple renewable and firm clean technologies; staggered contract execution and CODs across the planning horizon; balanced mix of long, medium, and short-term contracts.
Development Risk / COD Delays	Permitting, interconnection upgrades, supply chain or equipment delays.	Medium	Medium	Diversified long-term portfolio; MMoP/VMoP buffers; and contractual delay protections.
Counterparty Credit / Financial Stability	Bankruptcy risk, inability to secure financing, rising cost of capital.	Low	Medium	Creditworthiness screens, parent guarantees/Letters of Credit for Development Assurance and Performance Assurance, diversified counterparties, ongoing financial monitoring.

Any of these risks might impact the amount of renewable generation available for RPS compliance. CleanPowerSF manages and minimizes the risks described above on an ongoing basis through energy supply portfolio diversification, contract provisions, and counterparty risk assessments. The diversification of suppliers and projects procured reduces the impact of development delays or energy delivery shortfalls of any one project, and credit risks from any one counterparty. As discussed, CleanPowerSF is well positioned to meet our RPS compliance requirements – therefore, while the above risks present real challenges that can affect procurement margins, CleanPowerSF believes the severity of the risk to our RPS compliance (including long-term contacting requirements) is low. Potential under-deliveries from the identified risks are addressed through an MMoP, a significant VMoP, and portfolio diversification as discussed above.

CleanPowerSF also analyzes the risk that changes in demand (both increases and decreases) pose to our RPS compliance. The City has adopted aggressive climate goals, including the decarbonization of building and transportation sectors through electrification. Increases in electrification will likely increase CleanPowerSF program demand and total volumes needed for RPS compliance. CleanPowerSF's 2026 IRP analysis is still in progress, and will reflect updated load forecasts, policy requirements, market conditions, and building and transportation electrification. The 2026 IRP modeling evaluates how these factors may affect CleanPowerSF's long-term renewable energy demand, clean energy supply needs, and reliability requirements. Through portfolio modeling and sensitivity analysis, CleanPowerSF can assess a range of scenarios and potential future procurement needs to update its supply and demand projections as market and policy conditions continue to develop. This ongoing planning allows CleanPowerSF to procure additional renewable resources as needed to maintain compliance with State RPS requirements and support San Francisco's clean energy and climate goals.

VII.B Risk Modeling and Risk Factors

Risk: Low

CleanPowerSF energy supply modeling uses stochastic and deterministic approaches, which allow for specific scenarios using different inputs for contract volumes, timelines, and product content types to be modeled hourly against different customer demand scenarios, renewable and GHG-free content goals, SuperGreen product subscription levels, and projected forward prices. CleanPowerSF portfolio modeling uses loss-adjusted program demand forecasts and renewable portfolio targets to 2036 and compares this volume to hourly expected deliveries from all CleanPowerSF energy contracts. CleanPowerSF models this data hourly, monthly, and annually for the forward three to four years and monthly and annually for years beyond.

VII.C. Lessons Learned – Risk Assessment

The past few years have presented numerous challenges and risks that have influenced renewable procurement. Lessons learned from these challenges are informing future CleanPowerSF risk assessment and risk mitigation activities.

For example, to understand the impacts of uncertain customer demand, CleanPowerSF models our customer demand under a range of economic and weather scenarios, which allows our power supply team to evaluate and adjust our procurement strategy as needed. This process will help CleanPowerSF prepare for unprecedented demand impacts in the future by increasing the breadth of our demand forecasting, strengthening modeling linkages between economic activities and program demand, and supporting robust demand forecasting for outlier situations.

CleanPowerSF has also learned about the challenges and opportunities of participating in joint procurements through our work on multiple solicitations and negotiations in partnership with CC Power. This joint procurement approach provides CleanPowerSF with two key advantages that are expected to deliver lower costs to ratepayers: 1) joint procurement allows LSEs such as CleanPowerSF to contract for a portion of a larger project that has scale efficiencies we might not attain through procurement on our own; and 2) this approach allows CleanPowerSF to contract for portions of multiple projects instead of contracting for a single project, providing portfolio diversification and project development risk mitigation benefits.

Procurement to meet San Francisco's aggressive renewable and GHG-free goals in a cost-effective manner has met headwinds in recent years. Development and interconnection delays, supply chain scarcities, inflation, high market prices, uncertain federal policies, and limited availability of new generating resources have all been challenging. For all these reasons, it is has been more difficult to contract for renewable resources in recent years. CleanPowerSF has reflected on these experiences and is reviewing how to mitigate risks associated with them through a combination of improving contracting provisions, more frequent portfolio analysis, and streamlined administrative processes for procurement.

VIII. Renewable Net Short Calculations

In accordance with the ACR and the methodology established in the ALJ Ruling on RNS in R.11-05-005 to evaluate potential risk impacts, CleanPowerSF has conducted a project viability and delivery sensitivity assessment for this Draft 2026 RPS Plan.[41] Under this project viability and delivery assessment, CleanPowerSF has evaluated expected renewable generation from new and

[41] See ACR (March 27, 2026), § 6.8; R.11-05-005, Administrative Law Judge's Ruling on Renewable Net Short (May 21, 2014).

existing facilities under contract and adjusted it depending on a project's development status as each development stage has its own set of unique risks. These risks include, but are not limited to, project development and viability, market, and technology risk. The methodologies used to calculate risk-adjusted annual generation for each contract and the CleanPowerSF resultant RNS are detailed in this section below. The outcomes of these analyses are included in Appendix C, RNS Quantitative Response.

CleanPowerSF calculates our RPS-eligible renewable energy procurement need using our latest retail demand forecast and annual RPS-eligible renewable energy targets through 2036. This calculation includes CleanPowerSF's annual RPS compliance requirement, the MMoP to address compliance risk, and the VMoP associated with meeting San Francisco's local renewable energy goals. CleanPowerSF also forecasts additional renewable energy demand attributed to growth in customer enrollment in our SuperGreen product, CleanPowerSF's voluntary 100 percent RPS-eligible renewable energy product. Generation associated with SuperGreen sales is incremental to RPS compliance requirements. Additional renewable energy procurement needs are calculated for a SuperGreen sales rate of up to 20 percent of CleanPowerSF's total retail sales over this RPS Procurement Plan's 10-year planning horizon. Forecasts are regularly updated, so changes in renewable energy demand can be addressed in CleanPowerSF's ongoing procurement planning processes.

When evaluating our renewable energy supply and net short to meet both RPS compliance and local renewable energy targets, CleanPowerSF has conducted the risk analyses detailed below and adjusted the expected renewable generation in the RNS Quantitative Response accordingly. By discounting expected deliveries in accordance with the RNS methodology, CleanPowerSF can mitigate risk across our RPS portfolio by identifying higher risk projects and planning for the procurement of additional renewable energy to cover generation that has been risk-adjusted.

For generation forecasts for new renewable generation projects, CleanPowerSF uses the five viability categories and weights provided in the RNS Ruling to calculate risk-adjusted project generation:

- Technology (10 percent) – Higher scores were assigned to projects that use commercialized technology already available at similar scale;

- Developer Experience (15 percent) – Higher scores were assigned to projects from developers with more experience developing projects at similar scale;
- Site Control (25 percent) – Higher scores were assigned to projects with control of site and right of way for gen-tie line;
- Permitting Status (25 percent) – Higher scores were assigned to projects further along in permitting process for all required permits;
- Interconnection Progress (25 percent) – Higher scores were assigned to projects that have achieved more milestones in interconnection process.

The RNS Ruling outlines how point values were assigned to each of the viability categories.[42] Individual projects were assigned a weighted risk-adjusted score using criteria that was applied to the mean value to determine the expected generation for the RNS calculations. These expected generation values were then adjusted down 10 percent in accordance with CleanPowerSF risk management practices for as-available renewable contracts that are new or with less than two years of operational data. For online projects with more than two years of operational data, this mean generation forecast is used without any derates for failure. The final risk-adjusted volumes are included as inputs in the RNS Quantitative Response accompanying this filing. These same assessment categories are used to evaluate bids received in response to CleanPowerSF renewable solicitations as a component of the LCBF methodology, which assigns additional points to more viable projects and helps reduce portfolio risk. CleanPowerSF also contracts with existing renewable facilities to meet our RPS compliance needs and has executed a mix of as-available and firm delivery contracts.

CleanPowerSF's as-available renewable contracts with existing renewable facilities are for the energy generated from a specified amount of renewable generating capacity over a period of time. Contracts include annual projected generation consistent with the P50 value, but actual deliveries might be affected by factors like weather patterns, mechanical issues, or *force majeure* events, such as wildfires. CleanPowerSF actively monitors monthly deliveries received from these contracts to determine the projects' performance against expected volumes. CleanPowerSF analyzes past delivery trends to project whether future expected volumes should be adjusted to

[42] R.11-05-005, Administrative Law Judge's Ruling on Renewable Net Short (May 21, 2014), pp. 14-15.

reflect a project's performance for RPS procurement planning. CleanPowerSF performs regular sensitivity analyses to determine renewable position and cost impacts for up to 10 percent above and below P50 expected deliveries. The lower range of these values — 90 percent of expected deliveries — is used for the RNS quantitative analysis to determine CleanPowerSF's RNS.

Firm delivery contracts are typically short-term and executed for a set volume from a diverse pool of facilities. The generator pool typically consists of different technologies and geographic locations that can be updated at a seller's discretion, which minimizes risk. Under-deliveries from these contracts are less likely, as lower-than-expected generation from any one facility in the pool can be made up by other generators in the pool. Because CleanPowerSF expects to receive the full quantity of energy from firm delivery contracts each year, it has not discounted the expected annual quantity of energy from these contracts in our RNS calculation.

IX. Minimum Margin of Procurement ("MMoP")

IX.A. MMoP Level

CleanPowerSF is developing an electricity supply portfolio to achieve State mandates and City goals for increasing RPS-eligible renewable energy supply over time. Table 11 shows the margin of RPS over-procurement based on the difference between the Public Utilities Code section 399.15(b)(2)(B) and the CleanPowerSF RPS procurement targets. The bottom row in this table reflects CleanPowerSF's VMoP.

Table 11. State and Local Renewable Energy Requirements

RPS Content Goals	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
SB 100 RPS Targets	49.3%	52%	54.7%	57.3%	60%	60%	60%	60%	60%	60%	60%
CleanPowerSF RPS Eligible Procurement Targets (2022 IRP)	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
CleanPowerSF RPS Margin of Over-procurement	23.7%	21%	18.3%	15.7%	13%	13%	13%	13%	13%	13%	13%

As noted in Table 11, CleanPowerSF's total portfolio RPS-eligible renewable energy target is 73 percent, and remains at that level for the foreseeable future, consistent with the goal to achieve 100 percent RPS and/or GHG-free electricity portfolio by 2025 and beyond. CleanPowerSF achieved this goal by 2023, two years earlier than the target and has continued to achieve this goal in the years since. CleanPowerSF's 2026 IRP will map out a course for CleanPowerSF to maintain a 100 percent RPS-eligible and/or GHG-free electricity resource portfolio, ensuring CleanPowerSF will also maintain a significant margin of procurement over the SB 100 mandates. CleanPowerSF's efforts to meet the City's renewable energy targets provide a buffer above the State requirements and serve as a VMoP.

To address RPS compliance risk, CleanPowerSF uses our risk assessments, including our RNS calculations to establish an MMoP to guide RPS compliance procurement planning.

IX.A.1 MMoP Methodology and Inputs

CleanPowerSF's MMoP is intended to address the RPS failure rate determined in the RNS calculation. In the event of contract under-deliveries or project failures, the MMoP should be sufficient to ensure CleanPowerSF is compliant with the RPS procurement requirements. CleanPowerSF's VMoP are the annual RPS-eligible content goals identified in the 2026 IRP.

Section VIII describes how CleanPowerSF risk-adjusts the energy delivery estimates for RPS contracts with as-available resources and resources that are under development. Therefore, CleanPowerSF plans to procure additional RPS energy equal to our MMoP quantity. Table 12 below lists the projected RPS under-generation (for operating projects) and failure rates (for in-development projects) and resultant MMoP and is consistent with the inputs in the RNS Quantitative Response.

Table 12. CleanPowerSF Annual MMoP Values

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Forecasted Under-Generation Rate (RPS Facilities Online)	[redacted]	[redacted]	[redacted]	4.3%	5.1%	5.1%	5.1%	5.0%	5.0%	4.6%	4.2%

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Forecasted Failure Rate (RPS Facilities In-Development)	[redacted]	[redacted]	[redacted]	11.7%	11.7%	11.7%	11.7%	11.7%	11.7%	11.7%	11.7%
MMoP (MWh)	[redacted]	[redacted]	[redacted]	229,828	228,715	228,818	228,719	228,226	226,121	207,658	183,522

Since we began serving customers in 2016, CleanPowerSF has consistently exceeded the State RPS requirements. CleanPowerSF expects to continue meeting or exceeding the RPS requirements through CP8.

IX.A.2 MMoP Scenarios

CleanPowerSF projects meeting our annual RPS procurement targets identified in Table 13 over the 10-year planning horizon.

Table 13. CleanPowerSF and SB 100 RPS Procurement Requirements

Content Goals	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
CleanPowerSF RPS-Eligible Targets	73.0%	73.0%	73.0%	73.0%	73.0%	73.0%	73.0%	73.0%	73.0%	73.0%	73.0%
SB 100 RPS Requirements	49.3%	52.0%	54.7%	57.3%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%

CleanPowerSF set our 2026 RPS-eligible renewable energy target at 73 percent, 23.7 percentage points above the State's RPS requirement. The RNS included in the RNS Quantitative Template incorporates the program's MMoP, VMoP, and additional RPS-eligible renewable energy need resulting from forecasted growth of enrollment in SuperGreen, CleanPowerSF's voluntary 100 percent RPS-eligible renewable energy product. SuperGreen 100 percent RPS-eligible renewable product content is incremental to RPS compliance requirements. Forecasted SuperGreen sales represent up to 20 percent of total program demand through the planning horizon. CleanPowerSF models a range of SuperGreen sales levels as MMoP sensitivities to understand the potential impacts of different participation levels on the program's RNS.

In our contracting with specific renewable projects, CleanPowerSF assesses all the risks described in the Risk Assessment section above and incorporates them into our MMoP sensitivity analyses. CleanPowerSF staff regularly review CleanPowerSF's overall current and forecasted renewable energy position with special consideration for renewable projects in development with CODs planned in the next twelve months. Progress on these projects is tracked through monthly and quarterly development progress updates from suppliers' development team staff. Informed by these updates, variations to expected deliveries are modeled to quantify the potential impact on various CleanPowerSF performance metrics, including RPS-eligible renewable content[43] Green-e eligible content, GHG emissions, locally-sourced energy, energy supply by technology, and energy deliveries under long-term contracts.

Resources procured through the VAMO process (discussed in Section IV.A above) contribute to CleanPowerSF's VMoP. As discussed above, CleanPowerSF regularly analyzes demand-side sensitivities that might impact CleanPowerSF's demand and supply balance and MMoP for RPS procurement in the future. Sensitivities include increases in EV adoption, building electrification, and changes in SuperGreen participation.

X. Bid Solicitation Protocol, Including Least Cost Best Fit Methodologies

CleanPowerSF's renewable procurement aligns with the renewable energy needs identified in Sections IV to IX of this Plan and includes specific needs for eligible renewable energy resources, generation capacity, deliverability characteristics, locational preferences, and required online dates to assist in determining what resources fit best within CleanPowerSF's supply portfolio. These products might include those related to energy, capacity, and others that might be defined through legislative, regulatory, and market design changes.

CleanPowerSF's regular procurement activities can include competitive solicitations, programmatic purchases and activities, demand-side programming, project development, and participation in the electricity markets run by the CAISO. When engaging in these activities,

[43] CleanPowerSF models its renewable procurement volumes against its 100 percent RPS-eligible renewable SuperGreen product and its default Green product renewable goals. This modeling creates a trajectory to a 73 percent RPS-eligible renewable energy Green product by 2025 and results in a total portfolio that is projected to be up to 26 percent more renewable as compared to the State's RPS program requirements, depending on the year.

CleanPowerSF implements the City's energy loading order referenced in Section IV.B to limit impacts of its electricity supply on the environment and to further its environmental justice goals.

CC Power procurements, described in Section IV, contribute toward member CCAs' ability to meet both State RPS compliance targets and MTR obligations. CC Power is actively managing two long-duration storage projects in development and two FCR projects also under development. These FCR contracts contribute towards participating CCAs' MTR Procurement Track obligations.[44] CC Power might issue additional solicitations in the future, including for RPS renewable energy resources.

X.A. Bid Selection Protocols

Consistent with Public Utilities Code Section 399.13(a)(5)(C), CleanPowerSF conducts bid solicitations for procuring energy resources that include specific needs for eligible renewable energy resources, generating capacity, locational preferences, generation profile, and required online dates to assist in determining what resources fit best within our portfolio. Procurement policies and decisions for CleanPowerSF are overseen by the San Francisco Public Utilities Commission, whose members are appointed by the Mayor, and the San Francisco Board of Supervisors, who are elected by the people of San Francisco. Their decisions seek to ensure compliance with State law and seek to satisfy local renewable energy procurement policies that exceed the State's RPS requirements.

CleanPowerSF's regular procurement activities include the issuance of competitive solicitations for energy products. Consistent with Section VII on risk assessment and management, CleanPowerSF uses best industry practices in forward contracting, including staggering and laddering forward commitments. This limits CleanPowerSF's exposure to the spot market in the near term, while ensuring we are not over-committed in the long-term. Through regular solicitations, CleanPowerSF diversifies our supply portfolio with respect to generating technologies, plant geographies, suppliers, and contract terms.

CleanPowerSF's solicitation protocols include the following components:

[44] For more information, see *CA Community Power: 2021 Request for Offers for Firm Clean Energy Resources* (October 25, 2021), available at <https://cacommunitypower.org/wp-content/uploads/2021/10/CCPower-FCR-RFO-Due-12-13-21_digital.pdf> [last visited June 11, 2026].

- A description of the products being sought, including the requirement that all eligible renewable resources must be California RPS-certified, consistent with Public Utilities Code Section 399.12 and Section 25741 of the California Public Resources Code;
- CleanPowerSF's preference for bids featuring energy from projects located within the nine San Francisco Bay Area counties;
- CleanPowerSF's requirements for initial delivery dates and preferred contract term lengths;
- Requirements for each proposal submission;
- A schedule of key dates related to the RPS solicitation; and
- CleanPowerSF's *pro forma* Renewable Power Purchase Agreement.[45]

CleanPowerSF solicitation protocol does not currently include specific consideration for identifying or preferring projects that are located within Disadvantaged Communities. However, CleanPowerSF's protocol does give a preference for projects located in the nine Bay Area counties, which supports local economies and workforce. CleanPowerSF is also an administrator of the DAC-GT program in our service area. For projects in the DAC-GT program, the State requires participating customers to be located in or near eligible disadvantaged communities. In addition, CleanPowerSF also gives preference to renewable projects that participate in the SFPUC's Social Impact Partnership Program, which encourages developers of projects to provide specific community benefits to impacted communities.

In 2024, CleanPowerSF issued two solicitations for renewable energy supplies and standalone or co-located storage.[46] The RFOs seek bids for energy, environmental attributes, capacity attributes, ancillary services, and related products from new and existing co-located renewable energy resources directly connected to the CAISO Balancing Authority Area. One RFO specifically seeks products eligible for the MTR or supplemental MTR order.

[45] CleanPowerSF 2024 Renewable Energy Supplies (PUC.PRO.0280), Appendices (July 09, 2024), available at <https://sfbid.sfwater.org/opportunity/details/?cid=280#tab=details> [last visited June 10, 2026].
[46] For more information, see CleanPowerSF 2022 Renewable Energy Supplies (PUC.PRO.0263) (Oct. 6, 2022), available at <https://sfbid.sfwater.org/opportunity-details/263/cleanpowersf-2022-renewable-energy-supplies> [last visited June 11, 2026]; 2024 CleanPowerSF Renewable Energy Supplies (PUC.PRO.0280) (July 10, 2024), available at <https://sfbid.sfwater.org/opportunity/details/?cid=280#tab=details> [last visited June 11, 2026].

With respect to one of these solicitations, CleanPowerSF is negotiating with short-listed bidders who submitted offers for the renewable energy supplies and co-located storage solicitation of 2024. This RFO prioritized resources eligible to meet the MTR orders, with a special focus on resources that can be used to meet the Diablo Canyon Power Plant ("DCPP") Replacement category; it also expressed a preference for projects located within the nine Bay Area counties.

CC Power issues solicitations for renewable resources on behalf of CleanPowerSF and its eight other member CCAs. CC Power's solicitation protocol includes the following components:

- A description of the projects and products being sought;
- CC Power's requirement that resources directly interconnect to the transmission or distribution system and be able to directly participate in CAISO electricity markets or have the ability to provide RA as a dynamic transfer;
- CC Power's requirements for initial delivery dates and preferred contract term lengths;
- Requirements for each proposal submission;
- A schedule of key dates related to the FCR solicitation; and
- CC Power's *pro forma* Term Sheet.[47]

CleanPowerSF plans to issue annual solicitations to procure renewable energy and hybrid and stand-alone storage resources located in California to meet CleanPowerSF's renewable energy procurement targets and procurement obligations as ordered by the Commission. Consistent with our past renewable energy solicitations, CleanPowerSF will evaluate bids based on the qualifications and experience of the bidder, project viability, bid value and portfolio fit, and generating resource location.

[47] For more information, see CA Community Power, "California Community Power Issues Request for Proposals: Clean Generation and Capacity Resources," available at <https://cacommunitypower.org/solicitations/2025allsourcerfp/> [last visited June 10, 2026].

X.B. Solicitation Protocols for Renewable Sales

CleanPowerSF occasionally conducts and bids into counterparty solicitations to sell excess RPS supplies in our portfolio to generate revenue.

CleanPowerSF's solicitation protocols for sales are similar to the protocols for purchases and include the following components:

- A description of the products being sought, including a requirement that all eligible renewable resources must be California RPS-certified, consistent with Public Utilities Code Section 399.12 and Section 25741 of the California Public Resources Code;
- Requirements for initial delivery dates and preferred contract term lengths;
- Requirements for each proposal submission; and
- A schedule of key dates related to the RPS solicitation.

CleanPowerSF issued a solicitation in September 2023 to sell, purchase, or swap short-term RPS-eligible renewable energy supplies. This RFO sought bids and offers for energy, environmental attributes, and capacity from new and existing eligible renewable energy resources. This solicitation was the only one issued in 2023 that requested bids or swaps for CleanPowerSF's RPS supplies. Priority was given to volumes with deliveries from 2024 to 2027, but volumes for 2027 and beyond were also considered. Bidders were required to identify the generating facilities pool, including the generator name, fuel source, and location at the time of transaction. Additionally, CleanPowerSF issued a solicitation for renewable, hybrid, and standalone storage resources on July 11, 2024. CleanPowerSF also plans to hold another RFO later this year.

X.C. Least-Cost Best-Fit (LCBF) Criteria

CleanPowerSF's LCBF approach includes both quantitative and qualitative values in our evaluation of bids. The LCBF methodology accounts for the following quantitative components in the determination of the net cost of each bid:

- The cost of energy delivered to the project's generator node as well as the value of the energy delivered to NP15, incorporating congestion costs to deliver the power to CleanPowerSF and potential for curtailment;
- The valuation of RA capacity attributes associated with the bid; and
- Time-of-delivery profile of the energy generation and its effect on the market value and CleanPowerSF's hourly energy position.

This LCBF approach incorporates the impact of a bid's expected net cost in relation to CleanPowerSF's power supply budget.

When evaluating bids, CleanPowerSF also considers a resource's portfolio-adjusted value and its overall fit within our resource portfolio. This evaluation includes:

- An assessment of CleanPowerSF's portfolio energy supply position and RPS content, Green-e eligible content, emissions, and a resource's contribution to a diversified portfolio;
- An assessment of the resource's hourly and monthly generation profile in relation to the supply and demand balance and energy delivery needs identified in CleanPowerSF's IRP, as updated on an on-going basis;
- An assessment of the operational flexibility of the resource as it relates to participation in the CAISO market and integration into CleanPowerSF's existing resource portfolio;
- Consideration of the qualifications and experience of respondents, including financial viability, and contributions to CleanPowerSF supplier diversity; and
- Generating resource location with a preference for local resources located within the nine Bay Area counties and in alignment with San Francisco's environmental justice policy.

CleanPowerSF applies a consistent evaluation and comparison of proposals of different energy supply quantities, project in-service dates, and contract length. As outlined in CleanPowerSF's 2024 RFO, bid requirements and minimum qualifications are mandatory criteria underlying the evaluation process. CleanPowerSF will continue to apply the LCBF methodology

described above to the evaluation of bids received in forthcoming solicitations, subject to modification as regulatory requirements change.

XI. Safety Considerations

CleanPowerSF holds safety as a top priority in all our business activities. While CleanPowerSF does not presently own, operate, or control any renewable generation facilities, we actively take measures to minimize safety risks associated with our renewable energy procurement. The CleanPowerSF renewable portfolio does not pose any unique safety risks. However, CleanPowerSF does take actions to minimize any safety risks associated with our renewable portfolio.

CleanPowerSF contracts with experienced project developers and power marketers to procure renewable energy to serve our customers. Through our renewable energy contracts, CleanPowerSF seeks to contribute positively to the State's safety, wildfire risk mitigation, and vegetation management efforts. For example, CleanPowerSF holds our counterparties to Good Utility Practice, which includes safety and wildfire mitigation standards. In its Form PPA, San Francisco requires facility owners to abide by the Good Utility Practice defined in the CAISO tariff as:

> Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods, and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be any one of a number of the optimum practices, methods, or acts to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region. [48]

While we do not presently own, operate, or control any generation facilities, CleanPowerSF requires in our contracts that facility owners obtain, provide evidence of, and adhere to the requirements of all necessary permits for the renewable energy facility's construction and

[48] CAISO Tariff Appendix V (Large Generator Interconnection Agreement), p. 9, available at <http://www.caiso.com/Documents/AppendixV-LargeGeneratorInterconnectionAgreement-asof-Sep1-2022.pdf> [last visited June 11, 2026].

operation through the end of its useful life. Facility decommissioning and useful end of life disposal are the responsibility of facility owners. Decommissioning plans are typically required of developers as part of local permitting and the California Environmental Quality Act (CEQA) process.

CleanPowerSF recognizes that RPS procurement can support California's wildfire mitigation efforts. One way LSEs can do so is by encouraging vegetation management through biomass procurement. San Francisco has not adopted a policy that prohibits procurement from biomass-derived sources in support of the CleanPowerSF program. In response to our solicitations, CleanPowerSF has received few offers from biomass resources and has not executed any direct contracts with biomass facilities to date.[49] CleanPowerSF will continue to welcome bids from these facilities in future energy RFOs. Any biomass bids received will be evaluated using the bid selection and LCBF criteria described in Section X of this plan.

CleanPowerSF also notes that our customers receive transmission and distribution services from PG&E. As PG&E customers, CleanPowerSF ratepayers pay non-bypassable charges, such as the Tree Mortality Non-Bypassable charge and Wildfire Fund Non-Bypassable Charge, which contribute to statewide vegetation management and wildfire impact mitigation efforts.

Additionally, CleanPowerSF is exploring ways to incorporate climate change adaptation measures into our renewable energy bid evaluation process. For example, CleanPowerSF can account for the vulnerability of project sites to the effects of climate change, such as increased wildfire, flooding risks or sea level rise, during our bid evaluation. Taking these factors into consideration would help CleanPowerSF minimize the risks climate change might pose to our RPS portfolio and compliance.

San Francisco continues to monitor Public Safety Power Shutoff (PSPS) events, recognizing that future PSPS events or other unplanned outages could disrupt CleanPowerSF's renewable energy portfolio and impact San Franciscans.

CleanPowerSF has had RPS facilities under contract taken offline due to wildfires or wildfire risks. These unanticipated shutdowns did not impact CleanPowerSF's RPS compliance, because CleanPowerSF's MMoP and VMoP provided a buffer above the minimum RPS

[49] CleanPowerSF has received energy produced from biomass facilities under short-term renewable contracts.

procurement requirements. In addition, CleanPowerSF has developed a geographically diverse portfolio that is not reliant on production from any single facility or region, reducing the likelihood of having multiple resource interruptions caused by a single wildfire event. CleanPowerSF will continue implementing these and the other risk mitigation strategies outlined in this RPS Procurement Plan with the goal of minimizing negative effects of future PSPS or wildfire events that could jeopardize CleanPowerSF's RPS compliance.

XII. Consideration of Price Adjustment Mechanisms

The vast majority of the renewable energy contracts CleanPowerSF has entered into to date are fixed price contracts that do not use price adjustment mechanisms to minimize risks. CleanPowerSF has incorporated price adjustment mechanisms in two recent contracts to address uncertainties and volatility in project costs, tariffs and duties that made it difficult for project developers to offer a reasonable fixed price. Contract price adjustments in all instances would only occur based on actual costs realized by project developers according to a pre-determined formula that shares responsibility for incremental costs. CleanPowerSF has developed contract language for use and invites bidders to propose both fixed-price and alternative pricing options, including indexed pricing in its renewable energy solicitations. CleanPowerSF manages the impact that price adjustments might have on ratepayers by maintaining a diverse and hedged portfolio, as well as by building reserves into its rate setting. In this way, ratepayers are largely shielded from rate shocks that could arise from a fully variably priced portfolio.

XIII. Cost Quantification

CleanPowerSF's completed Cost Quantification template is attached as Appendix D.

XIV. Impact of Transmission and Interconnection

This section is not required/applicable to CCAs.

XV. Appendix A: Redlined Version of the Draft

See Appendix A below.

CONCLUSION

CleanPowerSF respectfully submits our Draft 2026 RPS Plan.

Retail seller name:	**YES/ NO**	**NOTES**
I. Summary of Major Changes to RPS Plan	Yes	
II. Executive Summary Key Issues	Yes	
III. Compliance with Recent Legislation and Impact of Regulatory	Yes	
IV. Assessment of RPS Portfolio Supplies and	Yes	
IV.A Portfolio Supply and Demand	Yes	
IV.A.1 Long-term Procurement	Yes	
IV.B Portfolio Diversity and Reliability	Yes	
IV.B.1 Forecasting for Increased Transportation Electrification	Yes	
IV.B.2 Curtailment Frequency, Cost, and Forecasting	Yes	
IV.C Portfolio Optimization	Yes	
IV.C.1 Conformance with the IRP Proceeding	Yes	
IV.C.2 Response to Local and Regional Policies	Yes	
IV.D Lessons Learned – Assessment of RPS Portfolio Supplies and Demand	Yes	
V. Project Development Status Update	Yes	
VI. Potential Compliance Delays	Yes	
VII. Risk Assessment	Yes	
VII.A Compliance Risk	Yes	
VII.B Risk Modeling and Risk Factors	Yes	
VII.C Lessons Learned – Risk Assessment	Yes	
VIII. Renewable Net Short Calculations	Yes	
IX. Minimum Margin of Procurement (MMoP)	Yes	
IX.A MMoP Level	Yes	
IX.A.1 MMoP Methodology and Inputs	Yes	
IX.A.2 MMoP Scenarios	Yes	
X. Bid Solicitation Protocol	Yes	
X.A Bid Selection Protocols	Yes	
X.B Solicitation Protocols for Renewables Sales	Yes	
X.C Least-Cost Best-Fit (LCBF) Criteria	Yes	
XI. Safety Considerations	Yes	
XII. Consideration of Price Adjustments	Yes	
XIII. Cost Quantification	Yes	
XIV. Impact of Transmission and Interconnection Delays	No	NA for CCAs
Appendix A: Redlined Version of the Draft	Yes	

2026 RPS Procurement Plan Checklist- Task Completed

Officer Verification

I am an officer of the reporting organization herein, and am authorized to make this verification on its behalf. The statements in the foregoing document are true of my own knowledge, except as to matters which are therein stated on information or belief, and as to those matters I believe them to be true. The spreadsheet templates used within this filing have not been altered from the version issued or approved by Energy Division.

Executed on June 12 , 2026, at San Francisco, CA.

Michael Hyams, Deputy Assistant General Manager, CleanPowerSF and Power Resources

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San Francisco Water Power Sewer

Services of the San Francisco Public Utilities Commission

CleanPowerSF

Appendix A

Redlined Version of the Revised Final 2025 RPS Procurement Plan

PUBLIC (REDACTED)

–BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Implementation and Administration, and Consider Further Development, of California Renewables Portfolio Standard Program.	Rulemaking 24-01-017 (Filed January 25, 2024)

~~REVISED FINAL 2025~~DRAFT 2026 RENEWABLES PORTFOLIO STANDARD PROCUREMENT PLAN OF CLEANPOWERSF

(PUBLIC VERSION)

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Dated: ~~April 6~~June 12, 2026

~~REVISED FINAL 2025~~DRAFT 2026 RENEWABLES PORTFOLIO STANDARD PROCUREMENT PLAN OF CLEANPOWERSF

(PUBLIC VERSION)

In accordance with ~~Decision (D.) 25-12-025 , and~~ the Assigned Commissioner and Assigned Administrative Law Judge's Ruling Identifying Issues and Schedule of Review for ~~2025~~2026 Renewables Portfolio Standard Procurement Plans (dated ~~April 17, 2025~~March 27, 2026) ("ACR"), the City and County of San Francisco ("San Francisco") hereby submits the attached ~~Revised Final 2025~~Draft 2026 Renewables Portfolio Standard Procurement Plan ("~~Revised Final 2025~~Draft 2026 RPS Plan") and required appendices on behalf of CleanPowerSF.[1]

~~In D.25-12-025, the Commission identified deficiencies in Sections IV.A.1 and VII in CleanPowerSF's Draft 2025 Renewables Portfolio Standard Procurement Plan. The Final 2025 RPS Plan corrected those identified deficiencies on pages 15–16 and pages 47–48, respectively. Energy Division identified an error in Table 3 of the Final 2025 RPS plan which was communicated via email on March 23, 2026. This Revised Final 2025 RPS Plan corrects the error in Table 3 and replaces the Final 2025 RPS Plan filed on January 26, 2026.~~ As directed by the ACR, CleanPowerSF's RPS Procurement Plan is organized according to the issues identified in Sections 6.1 through 6.15 of the ACR.

[1] CleanPowerSF is the Community Choice Aggregation ("CCA") program developed and operated by San Francisco, through the San Francisco Public Utilities Commission ("SFPUC").

~~April 6~~June 12, 2026

Respectfully submitted,

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By: ____*/s/William Rostov*_____
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~~REVISED FINAL 2025~~DRAFT 2026 RENEWABLES PORTFOLIO STANDARD PROCUREMENT PLAN

~~April 6~~June 12, 2026

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INTRODUCTION AND BACKGROUND

CleanPowerSF is the Community Choice Aggregation ("CCA") program developed and operated by San Francisco, through the San Francisco Public Utilities Commission ("SFPUC"). CleanPowerSF began serving customers on May 1, 2016. The City and County of San Francisco ("San Francisco" or "the City") aims to offer all San Franciscans the option to purchase electricity generated from clean and renewable resources at competitive rates through CleanPowerSF. CleanPowerSF currently offers three levels of supply service: (1) Green, the default service, which contains at least 50 percent California Renewables Portfolio Standard ("RPS")-eligible renewable energy; (2) SuperGreen, a premium option, which offers 100 percent RPS-eligible renewable energy, and (3) SuperGreen Saver, CleanPowerSF's branded Disadvantaged Communities-Green Tariff ("DAC-GT") Program, which offers qualified customers a 20 percent discount on 100 percent RPS-eligible renewable energy.

CleanPowerSF currently serves ~~more than 380~~nearly 390,000 accounts with an annual energy requirement of approximately 3,000 gigawatt hours ("GWh"). The program has maintained a participation rate of approximately 95 percent and has ~~more than~~nearly 8,000 accounts taking service on the 100 percent RPS-eligible renewable SuperGreen product. Approximately 1,~~600~~400 customers take service on the SuperGreen Saver product.

I. Summary of Major Changes to RPS Plan

Major changes from the Revised Final ~~2024~~2025 Renewable Portfolio Standard Procurement Plan ("Final 2025 RPS Plan") to the Draft ~~2025 RPS Plan~~2026 Renewable Portfolio Standard Procurement Plan ("Draft 2026 RPS Plan") are summarized in Table 1 below.[2]

[2] A redlined version of the Draft ~~2025~~2026 RPS Plan compared to the CleanPowerSF Final ~~2024~~2025 RPS Procurement Plan is included as Appendix A.

Table 1. Major Changes from Final ~~2024~~2025 RPS Procurement Plan to Draft ~~2025~~2026 RPS Plan

Plan Reference	Plan Section	Summary/Justification of Change
Section IV.A	Portfolio Supply and Demand	Updates portfolio supply and demand discussion to reflect the 2026 planning horizon through 2036, inclusive of CP 8, updated retail sales and RNS assumptions, and CleanPowerSF's current contracted renewable portfolio. Updates include newly online and in-development resources, revised project capacities, updated geothermal procurement information, and continued alignment with CleanPowerSF's local renewable and GHG-free energy goals.
Section IV.B.1	Transportation Electrification	Updates transportation electrification consumption forecast including new modeling assumptions, San Francisco-specific inputs, and a comparison to the ~~2024~~2025 Integrated Energy Policy Report ("IEPR~~")~~"). The section also updates forecast years through 2036 and explains CleanPowerSF's approach to monitoring local transportation electrification trends.
Section IV.C.1	Conformance with IRP Proceeding	Updates IRP conformance narrative to reflect ~~progress toward~~ the ~~next~~ongoing 2026 IRP~~, new executed contracts,~~ process, the August 10, 2026 IRP filing deadline, the revised ACR Table 2 format, consistency with ~~Mid-Term Reliability ("MTR")~~current IRP procurement orders including D.26-02-057, and ~~expanded discussion of resource~~ alignment

Plan Reference	Plan Section	Summary/Justification of Change
		between CleanPowerSF's RPS planning, IRP modeling, executed contracts, and ~~implementation risk~~planned procurement activities.
Section ~~X.B~~V	~~Bid Selection Protocols~~Project Development Status Update	~~Added more detail on CleanPowerSF's bid selection protocol to encourage projects that support local communities~~Updates project development status to reflect current online and in-development resources, current commercial operation dates, updated capacity figures, and key development, transmission, and interconnection risks.

II. Executive Summary Key Issues

CleanPowerSF's ~~Final 2025~~Draft 2026 RPS Plan demonstrates CleanPowerSF's progress towards meeting our RPS-eligible renewable energy content requirements set forth in Senate Bill ("SB") 100,[3] as well as San Francisco's local renewable energy goals of 100 percent renewable electricity by 2025.[4] As demonstrated in this Plan, San Francisco's ~~aggressive~~ambitious renewable energy content goals and procurement practices are expected to result in CleanPowerSF RPS procurement above the State's requirements through the Plan's ~~time~~2036 planning horizon ~~of 2035~~, inclusive of Compliance Period ("CP") ~~6. CleanPowerSF's 2022~~8. CleanPowerSF is currently developing its 2026 Integrated Resource Plan ("IRP~~") identified a path for a~~"), which

[3] ~~Sen. Bill No. 100; Stats. 2018, ch. 312, § 3 (~~Pub. Util. Code § 399.15(b)(2)(B), as amended by Stats. 2018, ch. 312, § 3 (Sen. Bill No. ~~).)~~ 100 (2017-2018 Reg. Sess.)).

[4] San Francisco Environment Code, ch. 9, § 902(b)(3). See also, San Francisco Board of Supervisors Ordinance No. 81-08 available at ~~<https://sfbos.org/ftp/uploadedfiles/bdsupvrs/ordinances08/o0081-08.pdf> [last visited July 18, 2024~~<https://sfbos.org/ftp/uploadedfiles/bdsupvrs/ordinances08/o0081-08.pdf> [last visited June 10, 2026] and San Francisco Public Utilities Commission Resolution No. 17-0102 available at ~~<https://sfpuc.sharefile.com/share/view/s885b58732ca4f709>~~<https://sfpuc.sharefile.com/share/view/s885b58732ca4f709> [last visited June ~~18, 2025] .~~11, 2026].

will evaluate procurement pathways to continue serving its load with 100 percent renewable and/or greenhouse gas ("GHG") free ~~portfolio by 2025 and for all renewable~~ energy ~~generation to meet at least 90 percent of customer demand on an hourly basis by~~ supplies and to support consistency between CleanPowerSF's RPS procurement planning, local clean energy goals, and statewide planning requirements~~2030~~.[5]

In this RPS Procurement Plan, CleanPowerSF assesses our portfolio supply and demand and the risks that might impact our compliance with State and local renewable energy policies. The Plan also provides detail on the risk mitigation strategies employed to ensure compliance, which include increasing portfolio diversity with respect to resource and technology types, project geographies and contracting terms, and establishing a Minimum Margin of Over-Procurement ("MMoP")[6] and a Voluntary Margin of Over-Procurement ("VMoP") above the State RPS mandates.

A specific way that we continue to mitigate procurement and cost risk is by partnering with other CCAs to jointly procure renewable energy through the joint powers agency, California Community Power ("CC Power"). CC Power supports CleanPowerSF and the other member CCAs to achieve economies of scale by pooling our demand for new cost-effective clean energy, renewable integration, and reliability resources.[7] Through CC Power, new Firm Clean Resource ("FCR") projects first discussed in the 2022 RPS Procurement Plan are being ~~shepherded~~advanced from development to commercial operation.

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[5] ~~R.20-05-003, *CleanPowerSF 2022 Integrated Resource Plan Compliance Filing* (Nov. 1, 2022) pp. 30-34 ("CleanPowerSF 2022 IRP").~~Preliminary Results are available at ~~<https://www.cleanpowersf.org/resourceplan>~~<https://www.cleanpowersf.org/resourceplan> (After following the hyperlink, scroll down and select ~~the tab named, "CleanPowerSF IRP Narrative.")~~"Review the Presentation") [last visited June ~~18, 2025].~~11, 2026]. San Francisco achieved its 100% renewable and/or GHG-free portfolio in 2023 and 2024, two years earlier than the City's goal.

[6] The MMoP is defined in the *Assigned Commissioner and Assigned Administrative Law Judge's Ruling Identifying Issues and Schedule of Review for ~~2025~~2026 Renewables Portfolio Standard Procurement Plans* (dated ~~April 17, 2025~~March 27, 2026) (ACR) as a retail seller's level of procurement above the minimum required procurement level. "A minimum margin of procurement (MMoP) above the minimum RPS procurement level is necessary to comply with the RPS program's requirement for retail sellers to mitigate risk that renewable projects under contract are delayed or terminated or projects do not perform as expected." ACR, p. ~~29~~32.

[7] Since spring 2021, CleanPowerSF and nine other northern and central California CCAs have been coordinating on procurement of new cost-effective clean energy, renewable integration, and reliability resources in support of California's climate goals. Currently, CC Power members represent nearly 2.7 million customers across 112 municipalities from Humboldt County to Santa Barbara County. Current California Community Power Members are: Ava Community Energy, Central Coast Community Energy, CleanPowerSF, Peninsula Clean Energy, Redwood Coast Energy Authority, San Jose Clean Energy, Silicon Valley Clean Energy, Sonoma Clean Power, and Valley Clean Energy. MCE was a founding member that later ended its participation.

CleanPowerSF also continues to issue solicitations for RPS resources to meet our power supply procurement objectives. ~~From our September 2022 solicitation, CleanPowerSF executed a new power purchase agreement in February 2024 and is currently negotiating other agreements.~~ In the Bid Solicitation Protocol section, CleanPowerSF outlines our renewable energy procurement process including bid solicitation, evaluation, and selection. This section also describes CleanPowerSF's bid selection processes, and Least Cost Best Fit ("LCBF") criteria, which is consistent with the LCBF criteria set forth in Commission decisions.

CleanPowerSF's renewable procurement will meet or exceed the renewable energy needs identified by the Renewable Net Short ("RNS") methodology through ~~CP 6~~2036, as described in Section VIII and presented in Appendix C.[8]

The Curtailment Frequency, Cost, and Forecasting discussion (Section IV.B.2) provides an overview of financial risks associated with renewable curtailment and negative pricing. This section also details how CleanPowerSF minimizes risks associated with contract curtailment by specifying economic bidding requirements, such as minimum bid prices under which projects must economically curtail.

Finally, ~~this RPS Plan aligns with~~ the renewable and carbon-free energy procurement targets of CleanPowerSF's ~~2022~~2026 IRP Preferred Conforming Portfolio ("PCP~~").~~") which is currently under development, will align with this RPS Plan.

III. Compliance with Recent Legislation and Impact of Regulatory Changes

CleanPowerSF's renewable energy procurement remains aligned with the State's statutes, CPUC decisions, and California Energy Commission's ("CEC") guidelines governing the RPS program. ~~While~~ CleanPowerSF ~~continues to rely on the modeling and procurement assumptions developed in the 2022 IRP, we are in the process of updating our~~is currently developing its 2026 IRP to reflect ~~more~~ recent policy developments, market dynamics, and load growth ~~expectations.~~forecasts. Modeling and procurement analysis from that process are informs this 2026 Draft RPS Plan. The ~~2022~~2026 IRP ~~incorporated~~modeling process incorporates annual and compliance period RPS requirements as explicit constraints in portfolio development, ensuring

[8] See Appendix C, Row 41, Column R.

that both the PCP and Alternative Portfolios met the statutory obligations under SB 100. The Preferred Portfolio~~, identified as the Time Coincident Case, supported~~ will support CleanPowerSF's goal of ~~supplying~~continuing to supply customers with 100 percent renewable and/or GHG-free electricity on an annual basis ~~by 2025, while also achieving high levels of hourly load coverage during peak evening hours~~. These forward-looking procurement strategies have positioned CleanPowerSF to remain on track for full RPS compliance through CP ~~6~~8, while informing ongoing planning for long-term procurement through 2045~~2035~~.

CleanPowerSF actively manages RPS compliance risk in its portfolio management and contracting activities to assure compliance with the RPS requirements. Risks associated with new construction and intermittent generation are considered in the calculation of the CleanPowerSF MMoP, which is discussed in Section IX. These measures provide protection against unplanned events that might affect the renewable generation in CleanPowerSF's portfolio. CleanPowerSF also actively monitors our short-term supply and demand to identify any changes that might impact our RPS position. This monitoring includes regularly ~~running~~forecasting load ~~forecasts~~ for the upcoming three-year time horizon and evaluating the performance of our renewable energy contracts. If a change occurs, such as under-generation of a resource or an increase of ~~program~~customer demand that creates or increases the RNS, CleanPowerSF can respond in a timely manner and procure additional renewable resources to cover the projected net short position.

In addition to tracking our total RPS position, CleanPowerSF actively tracks our compliance with the long-term contracting requirement established in SB 350.[9] CleanPowerSF compares risk-adjusted energy supply from long-term renewable contracts against program demand projections through the planning horizon to determine the additional renewable energy volumes needed to comply with the long-term contracting requirement. CleanPowerSF regularly updates this analysis. CleanPowerSF considers our long-term contracting position when determining how much energy and capacity for which to contract in our solicitations and creates a risk management buffer above the minimum requirement, known as our MMoP, to account for unexpected project delays, under-generation, or increases in demand.

[9] Pub. Util. Code, § 399.12.5(b)(4).

CleanPowerSF projects that our portfolio will meet or exceed the RPS obligations under SB 350 and SB 100, including the long-term contracting requirement through CP ~~68~~. Further, CleanPowerSF's annual Supplier Diversity Plan addresses CleanPowerSF's compliance with SB 255 and General Order 156.[10]

No new legislation was passed in ~~2024~~2026 that materially impacts RPS planning. CleanPowerSF will continue to monitor and respond to future legislative or regulatory changes that may affect our RPS compliance obligations.

IV. Assessment of RPS Portfolio Supplies and Demand

CleanPowerSF has a goal of providing 100 percent renewable and/or GHG-free energy to San Franciscans through the procurement of new and preferably local sources of electric generation.[11] CleanPowerSF's ~~adopted 2022 IRP serves~~2026 IRP, currently under development, will serve as our roadmap for procuring sufficient renewable energy to meet State mandated RPS requirements as well as the City's own renewable and clean energy targets. CleanPowerSF projects that our portfolio will meet or exceed the RPS obligations as well as local renewable targets.

IV.A. Portfolio Supply and Demand

This section presents CleanPowerSF's assessment of renewable portfolio supply and demand through 2036~~2035~~, including a near-term outlook (~~2025–~~2026–2028~~2027~~) that aligns procurement with forecasted RNS, State targets, and local goals.

Supply

In developing ~~our~~its renewable power portfolio, CleanPowerSF prioritizes resources that ~~provide~~support mandated procurement requirements, operational ~~flexibility~~reliability, affordability, and long-term rate stability for ~~our~~ customers. The initial 2026 IRP analysis indicates

[10] CleanPowerSF, *CleanPowerSF Supplier Diversity 2024 Annual Plan Report - 2025 Annual Plan* (Mar. ~~1, 2025) < https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/bco/cca-procurement-reports/2024/clean-power-sf-2025-0204_1178-cpsf-supplier-diversity-report-final.pdf > [last visited June 18, 2025].~~ 1, 2025), available at <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/bco/cca-procurement-reports/2024/clean-power-sf-2025-0204_1178-cpsf-supplier-diversity-report-final.pdf > [last visited June 11, 2026].

[11] See San Francisco Environmental Code ch. 9, sec. 902(b)(3).

that no single resource type can meet CleanPowerSF's ~~PCP, our adopted IRP portfolio, sets~~ planning objectives. Instead, the eventual Preferred Conforming Portfolio will rely on a ~~goal~~balanced mix of ~~supplying at least 90 percent of forecasted~~variable renewable generation, clean firm resources, and storage to meet demand, RPS, GHG, and reliability requirements while managing customer ~~demand on an hour by hour basis with renewable and/or GHG free energy resources and no system power purchases between 5 to 10 p.m. The 2022 IRP analysis showed that pairing~~cost impacts. Pairing storage with intermittent renewable resources, particularly solar, ~~is the most~~remains a cost-effective ~~and reliable~~ strategy for ~~delivering lower cost~~shifting renewable generation ~~during~~into evening hours when ~~there is a growing need for~~customer demand and clean energy ~~supply.~~needs are higher. The ~~PCP~~preferred portfolio will prioritizes ~~acquiring~~ resources that complement as-available solar and wind generation, such as wind, geothermal, storage, and other ~~intermittent generation~~ clean firm resources ~~such as wind, baseload geothermal, and long-duration energy storage.~~[12]that improve reliability and support compliance with state procurement mandates. Since CleanPowerSF began serving customers in 2016, ~~we have primarily~~it has almost exclusively used Portfolio Content Category ("PCC") 1 renewable energy to meet its RPS obligations.

CleanPowerSF regularly issues new solicitations for long-term renewable energy supplies, with a goal of issuing a new solicitation once per year, depending on forecasted needs. As part of our procurement process, CleanPowerSF staff analyze the resource delivery profile and value of potential contracts as well as their impact on projected portfolio costs and use that information for renewable energy procurement decisions. As a result of RPS solicitations conducted to date, CleanPowerSF has long-term contracts with ~~eleven renewable energy projects for a total nameplate capacity of approximately 685 MW. This volume includes the San Pablo Raceway (100 MW solar), Blythe Solar IV (62.5 MW solar), Voyager Wind Expansion IV (50.1 MW wind), Oasis~~ fifteen renewable energy projects for a total nameplate capacity of approximately 897 MW. Additional project-specific information, including capacity, technology type, commercial operation status, and development status, is provided in Section V and Appendix B. CleanPowerSF's procurement of storage and other resources that support Mid-Term Reliability requirements is discussed further in Section IV.C.~~Wind (60.3 MW wind), Maverick Solar 6 (100~~

[12] ~~CleanPowerSF 2022 IRP, pp. 5-6, 25-26.~~

~~MW solar), Paulsell (20 MW solar), Aramis (75 MW solar), Ormat (17.38 MW geothermal), Fish Lake (1.89 MW geothermal), Easley II (50 MW solar) and Gonzaga Ridge (147.5 MW wind) projects. In addition to these renewable energy supply resources, CleanPowerSF has contracted for 237 MW of 4-hour storage paired with solar or wind to optimize these resources, that includes Gonzaga Ridge (50 MW), Paulsell (15 MW), Maverick Solar 6 (50 MW), Blythe Solar IV (47 MW), and Aramis (75 MW). CleanPowerSF also contracted with the Corby stand-alone storage project (75 MW 4 hours).~~

CleanPowerSF released a new solicitation on July 11, 2024 requesting offers[13] that contribute to our annual renewable energy procurement needs, support continued compliance with the State's long-term RPS contracting requirement, and ensure CleanPowerSF is on track to meet our IRP and local renewable procurement goals.[14] From this solicitation, CleanPowerSF began contracting with selected bidders in early 2025. CleanPowerSF also plans to publish a new solicitation, following the completion of the IRP, later this year.

CleanPowerSF has also participated in the Investor-Owned Utilities' ("IOUs") Voluntary Allocation and Market Offer ("VAMO") processes adopted in D.21-05-030. CleanPowerSF elected to receive short-term slices of PG&E's short-term and long-term allocation for 2023 and 2024. In 2023, CleanPowerSF bid into Southern California Edison's Market Offer solicitation and was awarded a contract totaling over 10 million MWhs through December 2040.[15] The VAMO process has been a good way for CleanPowerSF to procure from existing renewable energy resources to meet our State and local RPS procurement targets.

~~CleanPowerSF proactively manages exposure to negative market prices through careful portfolio shaping and resource selection. By procuring resources with evening delivery profiles and including storage in solar and wind contracts, we reduce exposure to oversupply during midday hours when negative prices typically occur. Lessons from past procurement cycles have reinforced this approach, particularly in light of increased midday solar penetration across California.~~

[13] 2024 CleanPowerSF Renewable Energy Supplies (PUC.PRO.0280), available at: <https://sfbid.sfwater.org/opportunity/details/?cid=280> [last visited June 10, 2026].

~~[14] 2024 CleanPowerSF Renewable Energy Supplies (PUC.PRO.0280), available at: Opportunity Details (sfwater.org) [last visited June 18, 2025].~~

~~[15] See Resolution E-5291. This contract was executed in 2023 and approved by the Commission via resolution E-5291 on November 2, 2023.~~

~~To support CleanPowerSF's renewable integration and compliance with Mid-Term Reliability ("MTR") procurement obligations, CleanPowerSF has included long duration storage ("LDS") projects in our current portfolio.~~

Development is underway on RPS-eligible FCR projects that will supply CleanPowerSF with ~~complimentary~~complementary baseload renewable energy pursuant to two CC Power-executed agreements~~. The~~: 1) the Open Mountain Energy ("OME") Fish Lake Geothermal Project is a ~~13~~16.8 MW project ~~located in Esmeralda County, Nevada.~~

~~The~~and 2) the Ormat Portfolio of Projects includes multiple geothermal facilities with a combined capacity of up to 125 MW. ~~CleanPowerSF submitted a Tier 2 Advice Letter requesting an extension of a portion of CleanPowerSF's long lead-time resource requirements until 2031 due to delays in the Ormat Portfolio commercial online date).~~[16]

Geothermal resources expected to supply the Ormat Portfolio of Projects will be located in California and Nevada. CleanPowerSF's total share of the combined OME Fish Lake Geothermal Project and the Ormat Portfolio of Projects is ~~up to 19.27 MW of nameplate capacity~~reflected in the Project Development Status Update and related procurement templates.

Demand

CleanPowerSF regularly prepares a long-term customer demand forecast each year, conducting periodic reviews throughout the year and occasional updates, if necessary. This forecast supports our RPS compliance through 2036~~2035~~, as presented in Appendix C RNS Quantitative Response.

Our forecast models quantify the relationship between energy demand per customer and various demand drivers, including date characteristics and weather. Forecasters calibrated the models by aligning per customer energy demand to growth rates derived from the California

[16] ~~CleanPowerSF Advice Letter 39-E. Available at: https://cpucadviceletters.org/#/documents/documents/13383/preview/. [Last visited on June 26, 2025].~~

Energy Commission's Energy Demand Forecast.[17] Conceptually, these growth rates represent the expected year-over-year percentage increase in energy demand as a result of economic growth (e.g., ~~COVID~~continued recovery from the COVID-19 pandemic) and modifications such as increased building electrification, fuel switching, and expanded electric vehicle ~~("~~("EV~~")~~") charging. We assume that these growth rates apply equally to all rate classes.

Table 2~~.~~ Annual Growth Rates, California Energy Demand Forecast [18]

Year	Growth Rate
~~2025~~2026	~~0.34~~4.07%
~~2026~~2027	~~5.17~~3.53%
2028~~2027~~	~~1.90~~2.78%
2029~~2028~~	~~4.24~~6.85%
2030~~2029~~	~~2.39~~3.98%
~~2030~~2031	~~2.22~~3.93%
2032~~2031~~	~~1.61~~4.38%
2033~~2032~~	~~2.04~~4.24%
2034~~2033~~	~~1.74~~3.01%
2035~~2034~~	~~1.91~~2.41%
2036~~2035~~	~~2.00~~1.48%

Our forecasting team develops several load projections to capture a range of weather scenarios impacting customer demand. ~~As well, the~~The forecast includes the incremental impact of building and transportation electrification on our procurement. We discuss transportation electrification in Section IV.B.1 Forecasting for Increased Transportation Electrification. This forecasted customer load along with State RPS targets and local goals and policies inform our procurement of RPS-eligible resources. This demand forecast directly informs the RNS calculations presented in Section VIII, which serve as the basis for quantifying CleanPowerSF's

[17] Cal. Energy Com. (CEC~~,~~), *California Energy Demand ~~2023~~2025 Forecast - Hourly Forecast Data ~~for CAISO, PG&E~~, Planning Scenario, 2023-2040~~,~~*, TN ~~Number: 257302~~No. 268127 Title, (~~Nov. 9, 2023~~)Jan. 5, 2025), available at <~~https://efiling.energy.ca.gov/GetDocument.aspx?tn=257302~~https://efiling.energy.ca.gov/GetDocument.aspx?tn=268127&DocumentContentId=105135> [last visited June ~~18, 2025~~11, 2026].

[18] ~~California Energy Commission (~~CEC~~), CEDU 2024~~, *CED 2025 Baseline Forecast – LSE and BAA Tables*, Form 1.1c, updated ~~April 22, 2025.~~February 19, 2026, available at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=268722> [last visited June 11, 2026]. Year-over-year load growth rates derived from the "CCA - CleanPowerSF" category (Row 10). ~~Available at: < https://www.energy.ca.gov/data-reports/california-energy-planning-library/forecasts-and-system-planning/demand-side-2> [last visited June 26, 2025].~~

procurement targets through 20362035 and aligning supply strategies with forecasted net short positions.

As presented in Appendix C, RNS Quantitative Response, demand for RPS-eligible resources includes significant voluntary procurement to meetexceed the state's RPS targets and meet local goals and policies. Throughout the RPS Procurement Plan horizon, CleanPowerSF's RPS position exceeds the state target, in some years by as much as 3050 percentage points. In 20242025, CleanPowerSF met nearly 90 percent of customer demand with RPS-eligible resources, exceeding the state's 4447 percent target. Similarly, for CP 45 spanning 2021 – 20242025 – 2027, CleanPowerSF anticipates meeting 68[redacted] of customer demand with RPS-eligible resources, exceeding the state's 40% target.

CleanPowerSF's quantitative RNS calculations in Section VIII directly inform this portfolio assessment. Specifically, the forecasted RNS positions through 20362035 help guide annual procurement targets and inform the volume and type of renewable resources CleanPowerSF seeks in solicitations. This ensures consistency between our procurement actions and modeled compliance outcomes. Enrollment in our optional 100 percent RPS product, SuperGreen, also contributes to this additional RPS demand. Our 10-year forecast reflects robustmoderate growth in the SuperGreen load. Implementation of San Francisco's Renewable Energy Ordinance ("REO") for commercial buildings has spurred much of thisstrong growth in SuperGreen demand in recent years.[19] The REO requires that all on-site electricity demand be met through either RPS-eligible or GHG-free resources for commercial occupants of large buildings. A surge in SuperGreen opt-ups following the December 31, 2024 compliance deadline for commercial occupants of buildings 250,000 square feet or larger under the REO.

IV.A.1. Long Term Procurement

Beginning in 2021, at least 65 percent of the RPS-eligible renewable energy used to satisfy the Procurement Quantity Requirement in each compliance period must be sourced from

[19] See San Francisco Environment Code, Ch. 30, § 3003.

contracts with a term of 10 years or longer.[20] CleanPowerSF has been contracting to meet this requirement, and we forecast that we will exceed the long-term contracting requirement through CP 6 (~~year~~years 2028 through 2030~~),~~) and beyond, with expected risk-adjusted generation from in-development projects ~~reaching 676,423~~increasing from [redacted] MWh in 2028~~.~~ to approximately 853,000 MWh in 2030 (see Figure 1 below).

As detailed in Section IV.A above, CleanPowerSF has entered into ~~twelve~~fifteen long-term RPS-eligible energy contracts. In addition to the projects identified in Section IV.A. above, CleanPowerSF ~~has~~ made a long-term commitment to procure from an existing local renewable resource, the Sunset Reservoir solar facility. ~~It~~Sunset Reservoir is a 5 MW solar photovoltaic project located in the City of San Francisco.~~-~~ CleanPowerSF plans on procuring additional RPS resources through solicitations that will contribute to compliance with its long-term contracting requirements as well as renewable and GHG reduction portfolio objectives.

CleanPowerSF focuses its procurement planning on fulfilling San Francisco's renewable energy targets, which exceed the State's requirements. This approach mitigates the risk of noncompliance with the State's RPS requirements that could result from project development delays, terminations, or contract underperformance. Since it began serving customers, CleanPowerSF has planned for renewable content in excess of RPS requirements. Aggressive local goals ~~allowed~~have encouraged CleanPowerSF to quickly ramp up to the 65 percent long-term contracting requirement. Further, ambitious local goals have yielded a renewable procurement buffer that minimizes CleanPowerSF's risk of noncompliance with the State's RPS requirements in the event of lower-than-expected renewable energy deliveries.

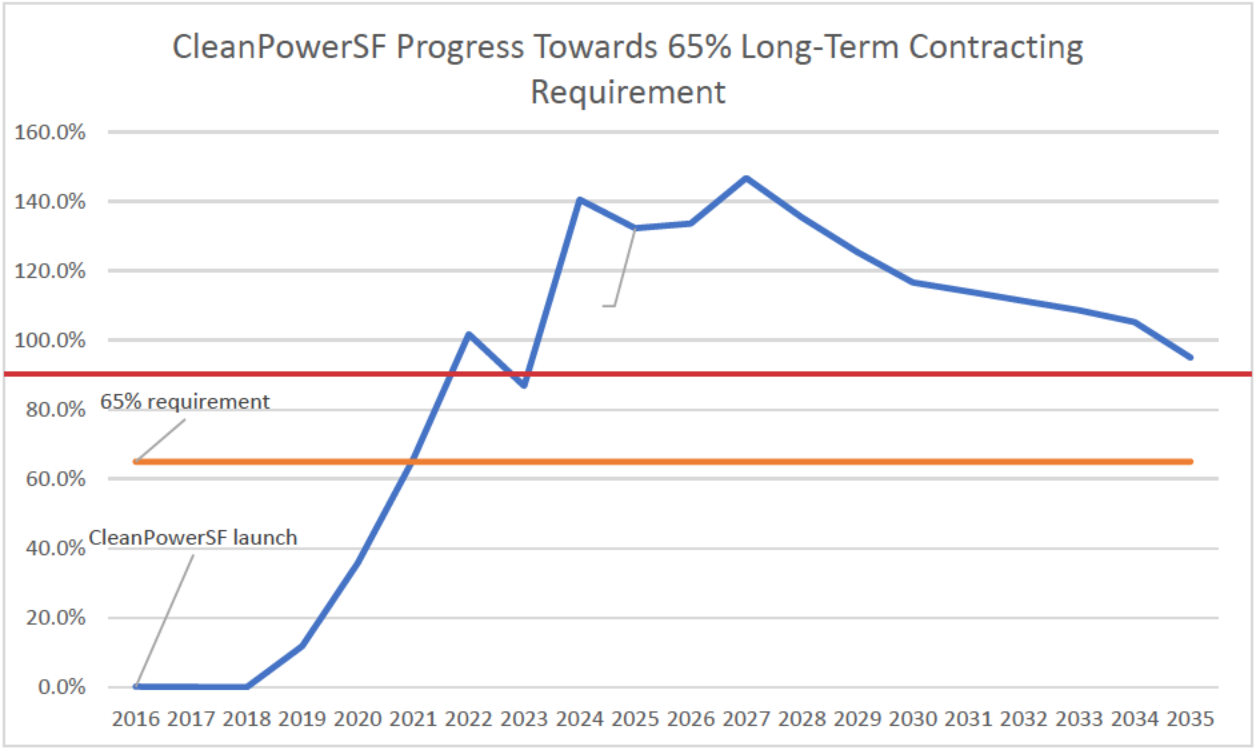
CleanPowerSF's risk management practice has proven to be effective. As stated in CleanPowerSF's ~~2024~~2025 Final RPS ~~Procurement~~ Plan, certain in-development resources, including the Aramis ~~project has been affected by supply chain and other issues that have delayed its commercial online date ("COD") by 36 months. Additionally~~Renewable Energy Project, the OME Fish Lake Geothermal Project ~~has been delayed by~~, and the Ormat Portfolio of Projects, have experienced schedule movement or remain subject to development, permitting ~~and~~, transmission, interconnection ~~upgrade~~, or other project implementation risks. CleanPowerSF continues to monitor project development status and accounts for these risks through ongoing

[20] D.17-06-026, p. 41 (Conclusion of Law No. 1); and Pub. Util. Code, § 399.12.5(b)(4).

portfolio planning, risk-adjusted RNS analysis, MMoP, and VMoP. Despite project development delays ~~and, as a result, its planned COD has been extended significantly since its initial online date. The Ormat Portfolio of Projects have also been delayed by interconnection upgrade delays and, as a result, the COD of the first project to deliver under that contract has been extended by several months. Project development delays notwithstanding~~, CleanPowerSF expects that~~, with our~~ its long-term RPS procurement~~, it~~ will continue to exceed the State's long-term contracting requirement through the ~~2025~~2026 RPS Procurement Plan horizon of ~~2035. However, to mitigate against further delays or development failures and meet the additional procurement needed to fulfill our 2022 IRP, CleanPowerSF plans to procure more RPS-eligible resources under long-term contract~~2036.

Figure 1 shows CleanPowerSF's compliance with the long-term contracting requirement through ~~2035~~2036. As illustrated in Figure 1 CleanPowerSF will have sufficient RPS-eligible renewable energy supply under long-term contract to exceed its obligations ~~— in fact, these purchases exceed 100% of CleanPowerSF's total RPS obligations in most years —~~ through the next three RPS reporting periods.

Figure 1. CleanPowerSF Progress with Long-Term Contracting Requirement



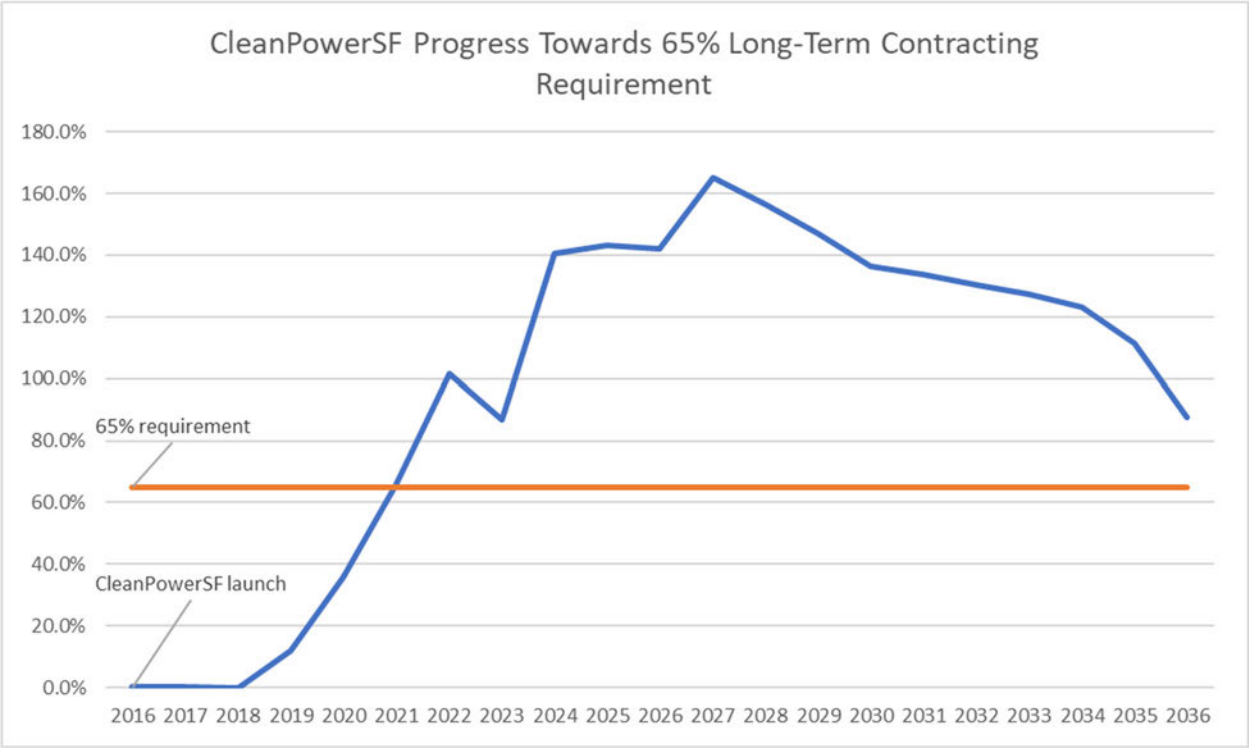


Table 3 presents CleanPowerSF's projected retail sales, RPS requirements, and long-term contract volumes on a year-by-year basis through ~~2035~~2036. The table quantifies CleanPowerSF's long-term RPS-eligible procurement relative to its annual RPS obligation, demonstrating compliance with the State's long-term contracting requirement.

Table 3 and Figure 1 show CleanPowerSF's progress toward the 65 percent long-term contracting requirement. As shown, CleanPowerSF holds enough long-term RPS-eligible contracts to meet or exceed its long-term contracting obligations.

Table 3. CleanPowerSF Long-Term Contract Volume

Year	~~2025~~2026	2027~~2026~~	2028~~2027~~	2029~~2028~~	2030~~2029~~	2031~~2030~~	2032~~2031~~	2032033	2033034	2034035	2035036

RPS Requirement % of Retail Sales	~~46.67~~49.33%	~~49.33~~52.00%	~~52.00~~54.67%	~~54.67~~57.33%	~~57.33~~60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%
Annual Retail Sales Forecast (GWh)	[redacted]			3,~~390~~219	3,~~475~~294	3,~~561~~371	3,~~638~~450	3,~~726~~532	3,~~811~~616	3,~~901~~729	3,~~995~~837
Long-Term RPS Procurement Requirement (GWh)				1,~~205~~199	1,~~295~~284	1,~~389~~315	1,~~419~~346	1,~~453~~377	1,~~486~~410	1,~~521~~454	1,~~557~~496
Long-Term Contracted RPS Volume (GWh)				2,~~509~~849	2,~~499~~403	2,~~492~~411	2,~~489~~411	2,~~488~~411	2,~~483~~411	2,~~462~~411	2,~~278~~237
Long-Term Contracted Volume % of ~~Long-Term~~RPS Requirement				~~208.2~~237.5%	~~193.0~~187.1%	~~179~~183.4%	~~175.4~~179.2%	~~171.2~~175.0%	~~167.1~~171.0%	~~161.9~~165.8%	~~146.3~~149.5%

IV.B. Portfolio Diversity and Reliability

CleanPowerSF considers a resource's deliverability characteristics in our procurement process (including a resource's dispatchability, time-of-day delivery, and available capacity). CleanPowerSF prioritizes sourcing renewable energy from numerous technologies, stages of development (existing and new resources), and geographies via contracts with a number of suppliers that have a range of delivery terms.

Using renewable energy from different technologies and geographies significantly reduces the risk that weather, transmission constraints, or other local circumstances that might ___reduce or impair renewable energy production could have a significant impact on the overall CleanPowerSF portfolio, which helps maintain the reliability of the portfolio.

CleanPowerSF takes into account a resource's Resource Adequacy ("RA") value when evaluating renewable resource bids. Considering a resource's RA value, along with contract cost,

location, and delivery schedule supports the optimization of cost, value, and risk for CleanPowerSF's ratepayers. Section X.C describing CleanPowerSF's LCBF methodology provides more detail on how a resource's contributions to reliability are considered in the bid evaluation and selection processes.

Consistent with the analysis we are conducting for our ~~2022~~2026 IRP, CleanPowerSF aims to ~~develop and maintain a high level of time coincidence within the CleanPowerSF portfolio.[21]~~not only meet annual clean energy targets, but also to minimize purchasing energy from the grid during peak hours. A diverse portfolio of energy supply resources and energy storage to support as-available renewable integration is critical to achieve this goal, especially as the overall renewable energy content of the portfolio increases.

When considering adding RPS resources to our portfolio, CleanPowerSF compares the resource's generation profile to the program's energy position. A project may receive a lower score in the bid evaluation process if its generation profile does not contribute to meeting demand in hours when CleanPowerSF has a need.

CleanPowerSF has incorporated battery storage into its portfolio to increase reliability and better match program demand and supply. To date, CleanPowerSF has entered into ~~four~~five solar plus battery storage contracts, one wind plus battery storage contract, and three standalone storage contracts (including two ~~of~~that are long-duration) and will be considering additional energy storage resources in our current and upcoming solicitations. A number of CleanPowerSF's existing renewable contracts include options to explore the addition of battery storage at the project site where feasible. CleanPowerSF continually monitors the economics of storage technology as well as developments in both regulations and market rules regarding the use of storage technologies to support a complete evaluation of the costs and benefits of integrating storage technology into our portfolio. Additionally, due to their complementary generation profiles with solar, ~~the 2022 IRP~~CleanPowerSF has identified wind and geothermal as beneficial resources ~~for CleanPowerSF~~ to procure for portfolio diversity.

~~[21] R.20-05-003, *CleanPowerSF 2022 Integrated Resource Plan Compliance Filing* (Nov. 1, 2022) pp. 30-34 ("CleanPowerSF 2022 IRP"), available at <https://www.cleanpowersf.org/resourceplan> (After following the hyperlink, scroll down and select the tab named, "CleanPowerSF IRP Narrative.") [last visited June 18, 2025].~~

CleanPowerSF's ~~2022~~2026 IRP ~~serves~~will serve as a roadmap to support continued development of a diverse resource mix and renewable integration on the grid. CleanPowerSF ~~evaluated~~is evaluating the suitability of a range of emerging technologies like hybrid storage, offshore wind, incremental geothermal, and long-duration storage for inclusion in our preferred portfolio. The ~~2022~~2026 IRP analysis ~~compared~~will compare these resources' delivery profiles, RA value, and costs against CleanPowerSF's hourly net short and reliability needs. The ~~2022~~2026 IRP modeling ~~considered~~will consider changes to demand based on building and transportation electrification as well as other sensitivities such as extreme weather events. The ~~2022~~2026 IRP modeling also ~~evaluated~~will evaluate the benefits and challenges of developing local energy resources. ~~CleanPowerSF modeled four portfolio scenarios in its IRP: two that conformed to the Commission-provided inputs and assumptions, and two drawing from locally derived inputs and assumptions.[22]~~

~~CleanPowerSF's Time Coincident Case meets~~CleanPowerSF is still finalizing the 2026 IRP. All portfolios currently being considered meet CleanPowerSF's power content goals of serving our customers with a combination of 100 percent renewable and/or GHG-free ~~electricity by~~ scenarios being considered include several time coincident cases which~~2025.[23] By 2030, energy generation in the Time Coincident Case~~ meets at least 90 percent of projected customer demand on an hour-by-hour basis~~ with no system power purchases~~. CleanPowerSF will choose the portfolio which balances between ~~5~~affordability, reliability, environmental stewardship, and ~~10 p.m. This Time Coincident Case resulted in the greatest diversity and most cost-effective portfolio for~~local investment, while meeting CleanPowerSF's renewable energy supply goals.~~[24] CleanPowerSF is making strong progress in procuring new storage, solar, wind, and geothermal resources~~.

IV.B.1. Forecasting for Increased Transportation Electrification

~~[22] Ibid.~~

~~[23] Ibid., 5~~

~~[24] Ibid., 4-7~~

CleanPowerSF's procurement planning accounts for increased customer load resulting from transportation electrification. CleanPowerSF developed an electrification forecast using a fuel-switching model in May 2025. This forecast integrates new EV charging demand with CleanPowerSF's baseline demand trends. The electrification scenarios differ based on the expected pace of EV adoption and building electrification, and all are layered atop a consistent baseline forecast created using hourly regression models calibrated against recent actual CleanPowerSF demand data.

The EV charging model forecasts energy demand from light-duty and medium-/heavy-duty EVs based on county-specific adoption of plug-in electric vehicles, new vehicle sales rates, survival curves, vehicle miles traveled, and charging efficiency by vehicle type. Charging profiles were assigned based on hourly load shapes to reflect residential and commercial charging behavior, including at-home and heavy-duty charging.

When compared to CleanPowerSF's share of transportation electrification load forecasted in the ~~2024~~2025 Integrated Energy Policy Report ("IEPR"), CleanPowerSF's transportation electrification load planning update ~~was on par in the early years but more conservative in the later years, as shown in Table 4 below.[25]~~ projects lower transportation electrification load in the early years, but a smaller relative gap in later yearsas shown in Table 4 below.[26] In addition, Table 4 shows that CleanPowerSF's forecasts are more closely aligned to the IEPR 2024 forecasts than IEPR 2025 values. CleanPowerSF has consistently noted that in recent years that the IEPR's actual load and forecasted loads for CleanPowerSF is significantly higher than what we observe (for actual data) and forecasted. For example, IEPR 2024 forecast for 2024 data was 3,185 GWh, while actual load was 2,975 GWh (or 7% higher). Similarly, for IEPR 2025, the forecast for 2025 was 3,268 GWh , while actual load was 2,991 GWh (or 9% higher). This consistent overestimate load contributes significantly to the difference in transportation electrification estimates between CleanPowerSF's forecasts and IEPR estimates. CleanPowerSF

~~[25] See CEC, *California Energy Demand 2023 Forecast – Hourly Forecast Data for CAISO, Planning Scenario,2023-2040*. TN Number: 257302 Title, (Nov. 9, 2023) available at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=257302> [last visited June 18, 2025].~~

[26] See CEC, *California Energy Demand 2024 Forecast - Hourly Forecast Data for CAISO, Planning Scenario,2024-2040*, TN No. 262289 (Mar. 20, 2025), available at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=262289> [last visited June 11, 2026].

believes that our transportation electrification projections are lower due to slower average electrification load growth in San Francisco's transportation sector than the State average, likely due to the City's transit first policies, lower vehicle ownership in the City than on average throughout the State, and/or we have less medium/heavy duty vehicles as part of the electrification load.

Table 4. Summary of CleanPowerSF's Transportation Electrification Load Projections (Incremental MWh)

	2025 2026	20272026	20282027	20292028	20302029	20312030	20322031	20332032	20342033	20352034	20362035
20252026 Forecast	[redacted]	[redacted]	[redacted]	75,74496,798	77,044122,433	78,344149,910	69,644179,406	80,944210,806	82,244,031	83,544283,857	84,844330,451
20242025 IEPR	37,384145,317	59,770187,673	91,422236,471	118,19629,947	147,65236,063	175,15243,237	196,025519,442	218,969606,694	236,570701,661	254,882800,920	270,437904,705
2024 IEPR	51,588	77,486	102,957	128,214	155,325	184,377	215,518	248,657	283,743	320,561	359,287
Transportation Electrification Load Planning2026 Forecast vs. 20242025 IEPR	[redacted]	[redacted]	[redacted]	6432%	5233%	4534%	3635%	3735%	35%	3335%	3137%

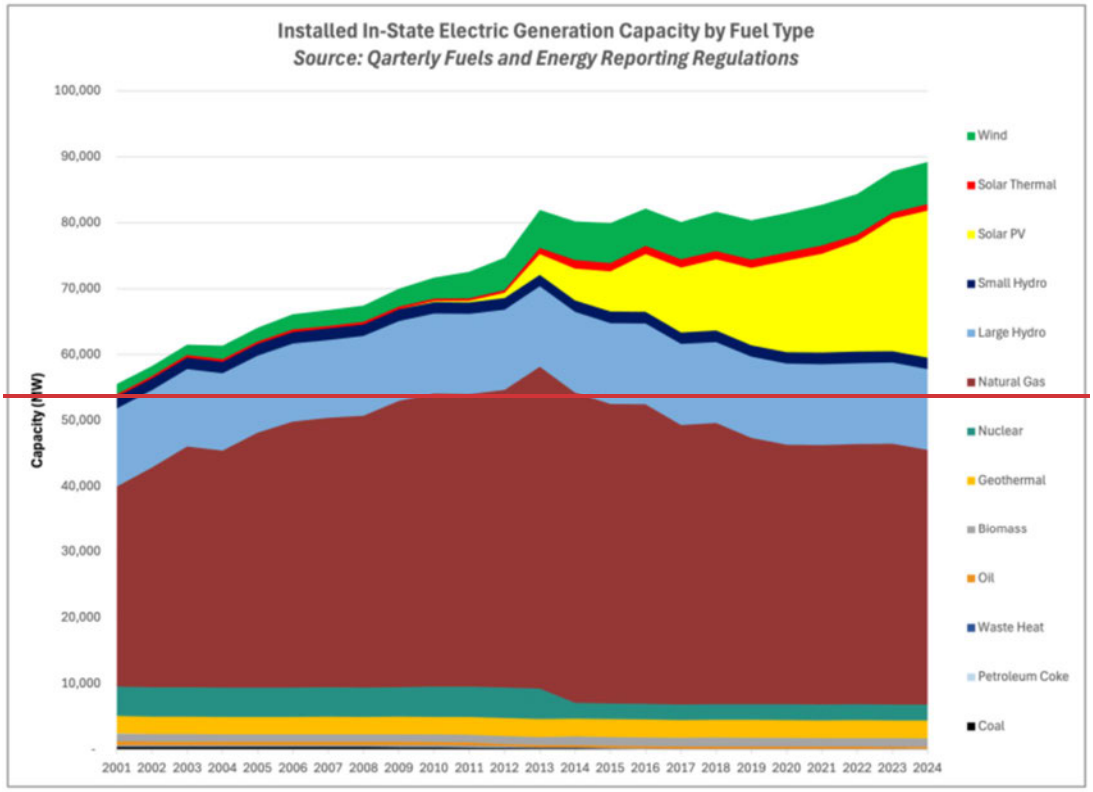
CleanPowerSF believes our projections are appropriately conservative for a dense, transit-oriented city like San Francisco. Lower vehicle ownership per household, high transit ridership, and limited space for large-scale fleet charging infrastructure all contribute to a slower growth rate relative to the statewide IEPR projections-, which increased significantly from the 2024 forecast to the 2025 forecast. We will continue to analyze local transportation electrification trends and update our load forecasts as CleanPowerSF receives updated information on vehicle adoption, charging infrastructure, and building electrification trends. Our next IRP process will include updated electrification forecasts as required.

IV.B.2 Curtailment Frequency, Cost, and Forecasting

The increases in renewable project development and California's RPS goal from 33 percent

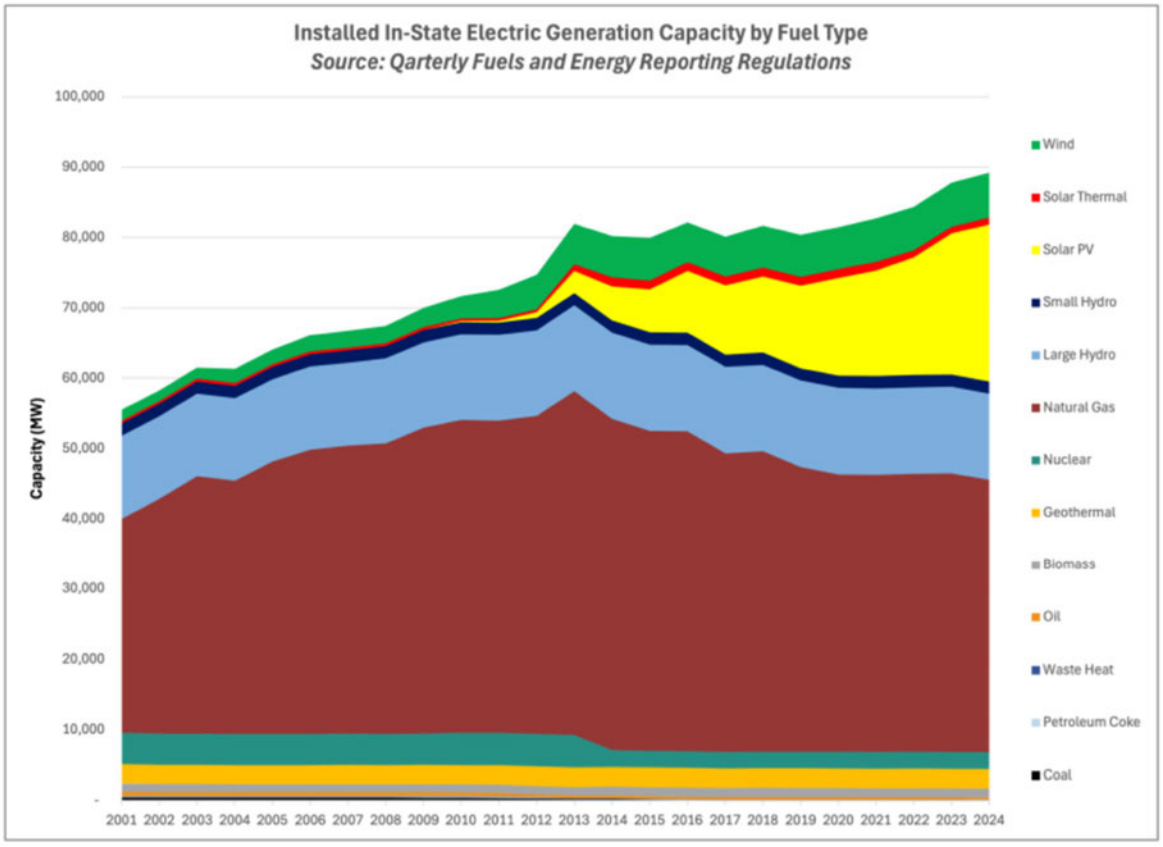
to 60 percent by 2030 will result in additional variable generation resources on the grid and increased curtailment due to over-generation. California's in-front-of-the-meter installed renewable generation capacity continued to increase over the past several years, as shown in Figure 2 below.[27] The ~~CEC's~~California Energy Commission's ("CEC") Midterm Reliability Analysis ~~projects~~projected that ~~the~~ gas-fired capacity ~~will reduce~~would be reduced by approximately 12 percent between 2022 and 2026, and most of that reduction ~~will~~would be offset by the addition of new renewable generation and energy storage.[28]

Figure 2. Installed Generation in California by Fuel Type: 2001-2024



[27] CEC, *QFER CEC-1304 Power Plant Data Reporting*, available at <~~https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/electric-generation-capacity-and-energy~~https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/electric-generation-capacity-and-energy> [last visited June ~~18, 2025~~11, 2026].

[28] CEC, *Midterm Reliability Analysis,* Table A-12: Total Baseline Nameplate Capacity for Resource Adequacy (Sept. 2021) p. A-19, available at ~~<https://www.energy.ca.gov/sites/default/files/2021-09/CEC-200-2021-009.pdf> [last visited May 5, 2025].~~<https://www.energy.ca.gov/sites/default/files/2021-09/CEC-200-2021-009.pdf> [last visited June 11, 2026].



Source: *CEC, QFER CEC-1304 Power Plant Data Reporting*

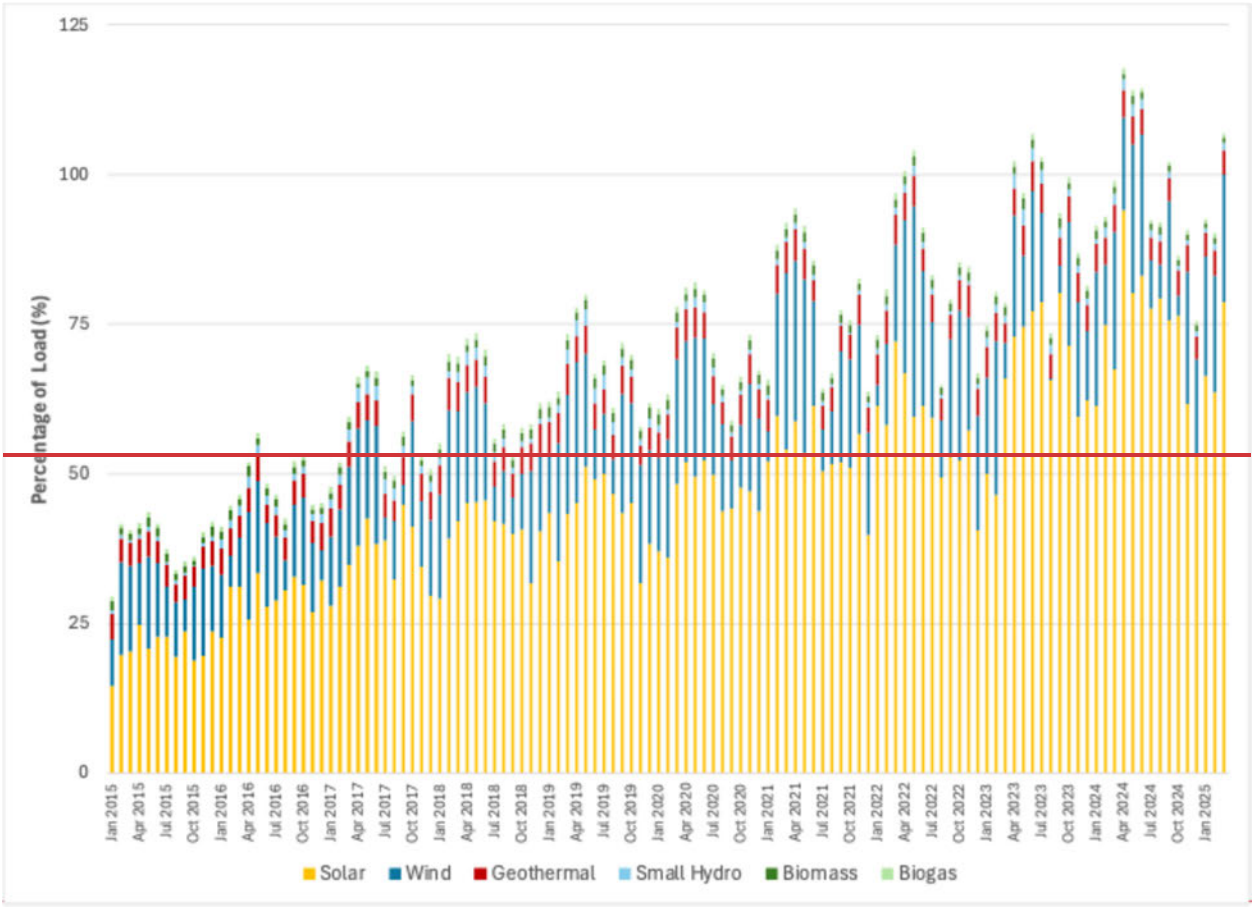
Since that time, the CEC has updated its mid-term reliability assessment through the California Energy Resource and Reliability Outlook, 2025, which reflects updated assumptions regarding resource retirements, procurement, and additions over the 2025–2029 period. While the 2025 Outlook does not project the same percentage reduction, it continues to show a resource mix evolution characterized by reduced reliance on gas-fired generation and increasing contributions from renewable resources and energy storage to meet reliability needs.[29]

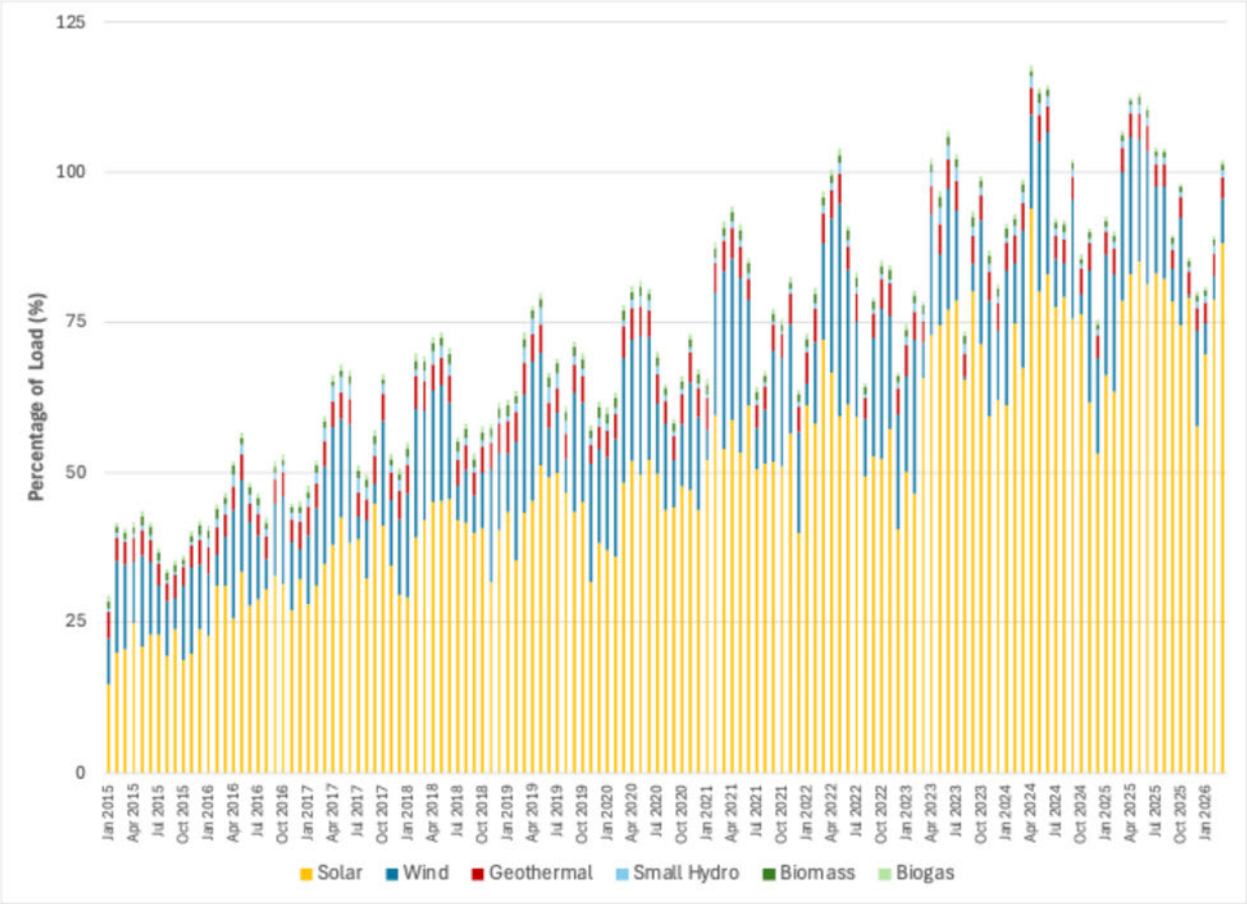
At times, the variable generation from this installed capacity exceeds the energy being consumed in the State. Over the last ~~three~~four years, the monthly maximum load served by wind and solar on the California Independent System Operator ("CAISO") system regularly exceeded 85 percent, and in April 2024 and March 2025 exceeded 100 percent, with solar alone representing

[29] CEC, *California Energy Resource and Reliability Outlook, 2025*, CEC-200-2025-011 (Draft Staff Report, May 2025), available at <https://www.energy.ca.gov/publications/2025/california-energy-resource-and-reliability-outlook-2025> [last visited June 11, 2026].

approximately 78 percent ~~(see Figure 3 below).~~. In March 2026, the monthly maximum load served by wind and solar was about 96%, with solar's contribution increasing to 88 percent (see Figure 3 below).

Figure 3. Monthly Maximum Percent of Load Served by Renewables in CAISO: Jan 2015 – March ~~2025~~2026

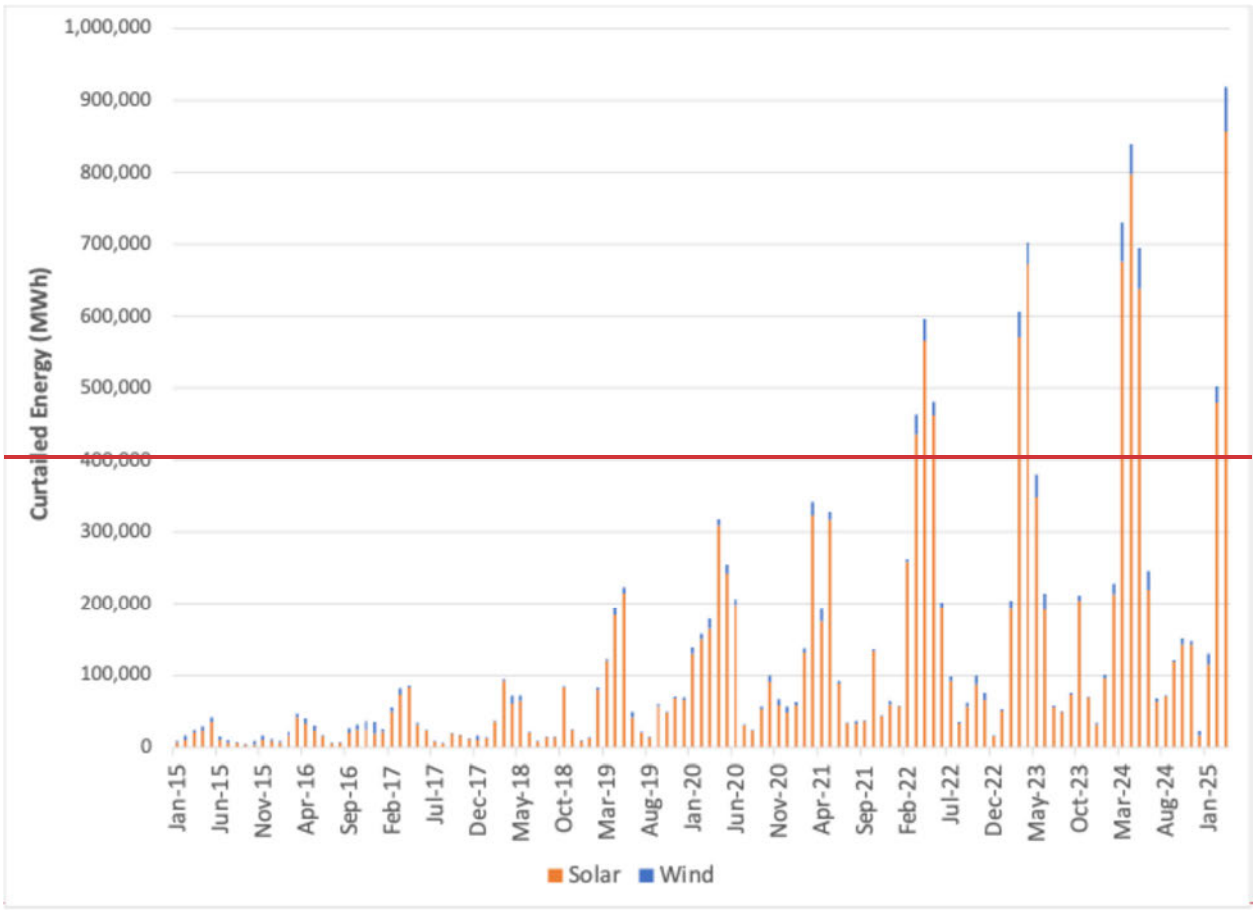




Source: *CAISO Monthly Renewable Performance Report – March ~~2025~~2026*

To address the resulting instances of over-supply, the amount of curtailment of wind and solar in the CAISO has significantly increased each year, from 187,700 MWh in 2015 to 3,~~421,337~~765,628 MWh in ~~2024~~2025 (see Figure 4 below). In Q1 2025, the total curtailment of solar and wind ~~year was~~had already reached 1,551,~~640~~803 MWh, with over 857,~~030~~177 MWh of curtailment of solar alone in March 2025.

Figure 4. Wind and Solar Curtailment Totals by Month (MWh): Jan 2015 – ~~March~~December 2025


1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Curtailed Energy (MWh)
Jan-15
Jun-15
Nov-15
Apr-16
Sep-16
Feb-17
Jul-17
Dec-17
May-18
Oct-18
Mar-19
Aug-19
Jan-20
Jun-20
Nov-20
Apr-21
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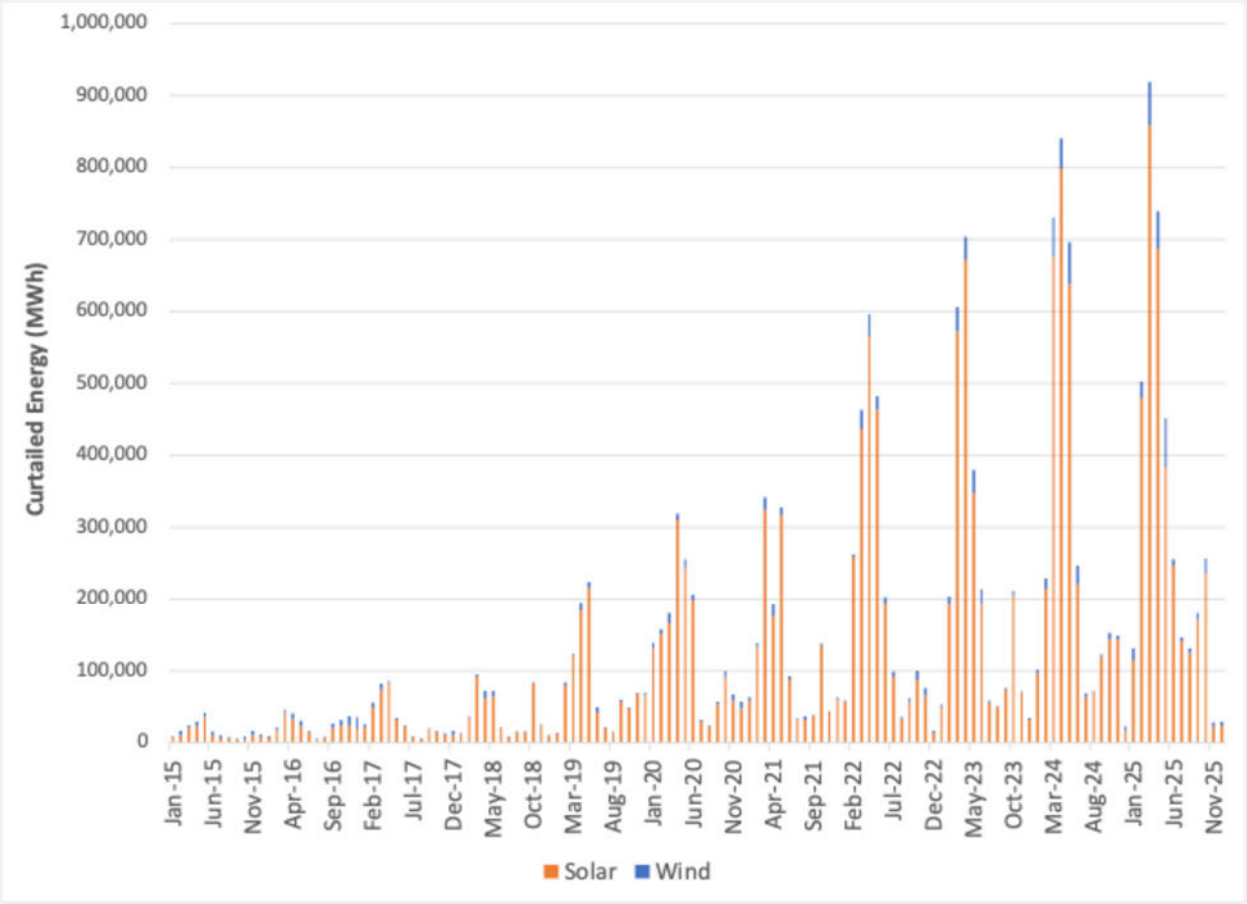
Feb-22
Jul-22
Dec-22
May-23
Oct-23
Mar-24
Aug-24
Jan-25
Solar
Wind



Source: *CAISO Production and Curtailment Data*

CleanPowerSF recognizes this increased curtailment risk and has been ~~developing~~implementing mitigation measures. As further discussed later in this Section (see Figure 6), CleanPowerSF has increased the proportion of storage capacity relative to the amount of solar capacity in its portfolio from 0% in 2019 to 40% in 2024 and has contracted for ~~43~~64% storage vs. solar in 2028~~2027~~. CleanPowerSF also has contracted with wind and geothermal resources that are able to contribute more energy to the system during non-solar production hours. CleanPowerSF monitors CAISO reports on curtailment activity, and tracks trends in curtailment by resource type (solar or wind) and by cause category (system or local). While system-level causes of overgeneration attract much attention, CleanPowerSF also monitors local curtailments. These localized events could affect CleanPowerSF's supply portfolio if our sources ~~supply~~are located in high-risk transmission constrained regions. CleanPowerSF monitors the CAISO

Transmission Planning Process and the development status of transmission expansion efforts across California to facilitate greater delivery of renewable energy from supply pockets to load centers and takes this information into account in our bid evaluation process.

CleanPowerSF considers the impact of curtailment and negative pricing on our individual portfolio and factors potential curtailment into our long-term planning. Negative prices tend to be the most common when renewable production is high, but demand is low. Due to the difficulty in accurately forecasting curtailment, CleanPowerSF also reviews the historical data on curtailment and negative pricing for the regions where CleanPowerSF has contracted with or is considering contracting with generating resources. When CleanPowerSF ~~is evaluating~~evaluates new procurement, the potential amount of future curtailment is one factor that ~~CleanPowerSF~~it considers. CleanPowerSF commissions forecasts of future locational marginal prices ("LMP") that indicate potential curtailment in locations with low or negative prices. Historically, many potential project locations were forecast to have increasing amounts of negative prices as more solar capacity is added to the system. Over time, however, as more and more battery storage capacity is co-located with existing and new renewable resources, the frequency and magnitude of negative prices are expected to decline.[30] The day-ahead market ("DAM") LMPs in the first and second quarters of 2021, in general, were negative only for one to four percent of the intervals, well below the six to eight percent range observed for the same period in 2020.[31] This trend continued in 2022 and 2023, with no negative prices in the day-ahead market in the second quarters of 2022, 2023, 2024, or ~~2024~~2025.[32] However, in the first quarter of 2023, instances of negative day-ahead market

[30] A 2026 Aurora Energy study (using CAISO data) shows that in a specific interval, negative prices would have cleared at –$50/MWh without batteries, whereas with batteries charging, the actual cleared price was –$8.34/MWh. This study illustrates batteries acting as incremental demand during oversupply and effectively "putting a floor" under prices. See PV Magazine, "Batteries buying "free" California solar, driving up price" (Apr. 8, 2026), available at <https://pv-magazine-usa.com/2026/04/08/batteries-buying-free-california-solar-driving-up-price/> [last visited June 11, 2026].

[31] CAISO, *Q2 2021 Report on Market Issues and Performance* (Oct. 5, 2021) pp. 26-27, available at ~~<https://www.caiso.com/Documents/2021-Second-Quarter-Report-on-Market-Issues-and-Performance-Oct-5-2021.pdf>~~<https://www.caiso.com/Documents/2021-Second-Quarter-Report-on-Market-Issues-and-Performance-Oct-5-2021.pdf> [last visited June ~~18, 2025~~11, 2026].

[32] CAISO, *Q2 2022 Report on Market Issues and Performance* (Oct. 14, 2022) pp. 22-23, available at ~~< https://www.caiso.com/documents/2022-second-quarter-report-on-market-issues-and-performance-2022-10-14.pdf> [last visited July 15, 2024~~<https://www.caiso.com/documents/2022-second-quarter-report-on-market-issues-and-performance-2022-10-14.pdf> [last visited June 11, 2026]; CAISO, *Q2 ~~2022~~2023 Report on Market Issues and Performance* (Nov. 16, 2023) pp. 19-20, available at ~~<https://www.caiso.com/documents/2023-second-quarter-report-on-market-issues-and-performance-nov-16-2023.pdf>~~https://www.caiso.com/documents/2023-second-quarter-report-on-market-issues-and-performance-nov-16-2023.pdf> [last visited June ~~18,~~11, 2026]; CAISO, *Q2*

prices returned, ranging from 10 percent to 12 percent at some locations of CleanPowerSF's interest. This trend continues with such instances ~~increased~~increasing to as high as 18 percent and 29 percent at some of the locations of CleanPowerSF's interest in the first quarters of 2024 and 2025, respectively. However, instances of negative day-ahead market prices have reduced to 11 percent in Q1 2026, likely due to increased battery storage penetration and evolving transmission topology.[33] These results suggest that, although negative pricing risk remains, its magnitude and frequency may be moderating in specific areas as system conditions evolve. Also, these trends are consistent with CleanPowerSF's strategy of procuring geographically diverse renewable resources and co-located storage to mitigate localized oversupply conditions and manage curtailment risk. The forecast CleanPowerSF used to evaluate storage projects in fall 2019 identified negative pricing at the ultimately selected project locations in one to five percent of market intervals in 2022. In comparison, from January through May 2022, the actual DAM LMPs were negative at those locations in the range of one to three percent of the intervals.

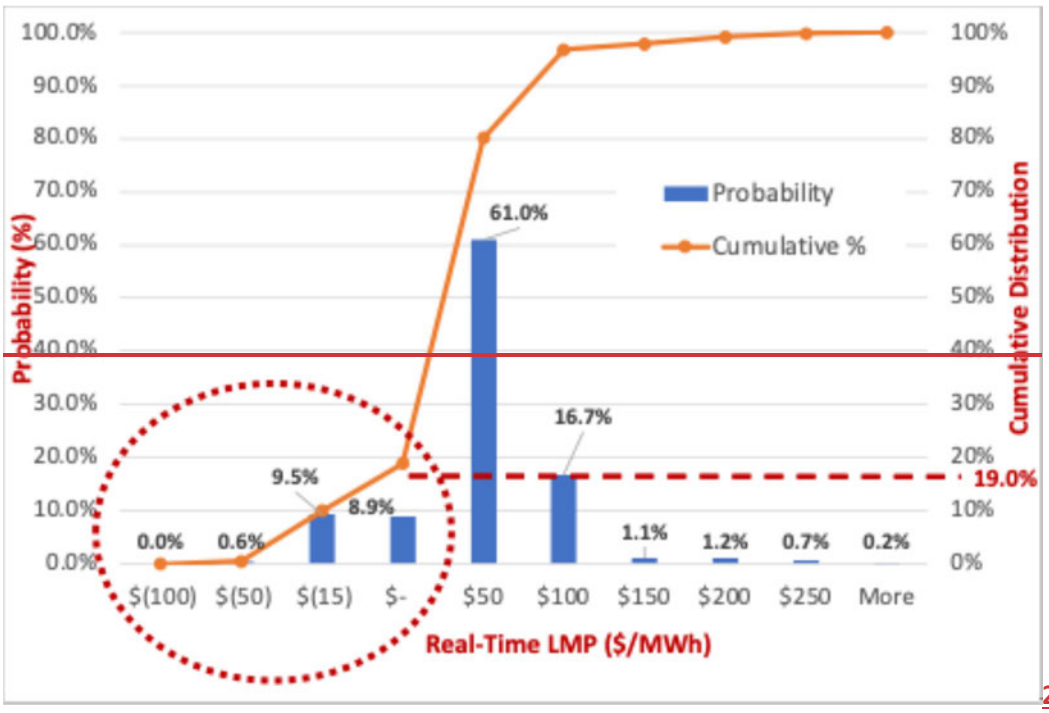
Low-cost renewable resources often bid at or below zero, increasing the potential of becoming the marginal energy source for low-priced periods. This leads to a higher frequency of negative prices in the real-time markets ("RTM"), which experience more negative prices than the DAM. RTM prices can be volatile, with periods of extremely positive or negative prices; even a short period of extremely high or low prices can significantly impact average prices. The RTM price distributions plotted in Figure 5 show that, from January through ~~May 2024~~April 2025, the actual RTM LMPs were negative at the ultimately selected project locations, approximately ~~19~~17.1 percent (adding the bars to the left of $0/MWh in the top figure) of the intervals. For the same period in ~~2025~~2026, the actual negative RTM LMP occurrences at those locations ~~decrease slightly~~increases to ~~17.1~~21.7 percent of the intervals.

2024 Report on Market Issues and Performance (Nov. 22, 2024) pp. 15-17, available at <https://www.caiso.com/documents/2024-second-quarter-report-on-market-issues-and-performance-nov-22-2024.pdf> [last visited June 11, 2026]; CAISO, *Q2 2025 Report on Market Issues and Performance* (Oct. 3, 2025) pp. 41-42, available at <https://www.caiso.com/documents/2025-second-quarter-report-on-market-issues-and-performance.pdf> [last visited June 11, 2026].

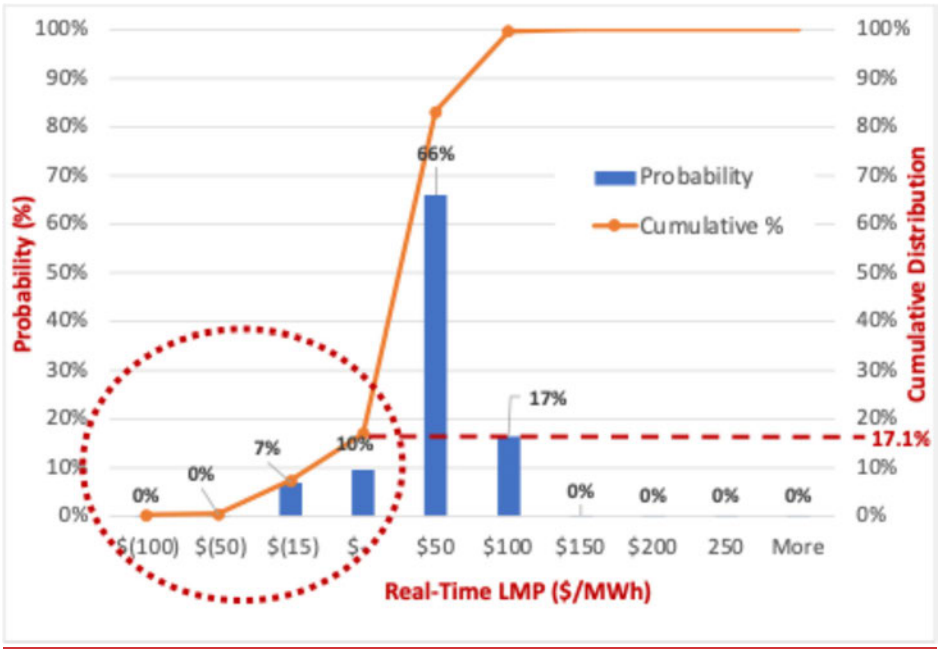
[33] CAISO, Open Access Same-Time Information System (OASIS), Negative Day-Ahead Market Prices, Jan. 1, 2026-Mar. 31, 2026, <https://oasis.caiso.com/mrioasis/logon.do> [accessed May 2026].

Figure 5. Distribution of Real-Time LMPs At Selected Project Locations in the Months of January through April, ~~2024~~2025 vs. ~~2025~~2026

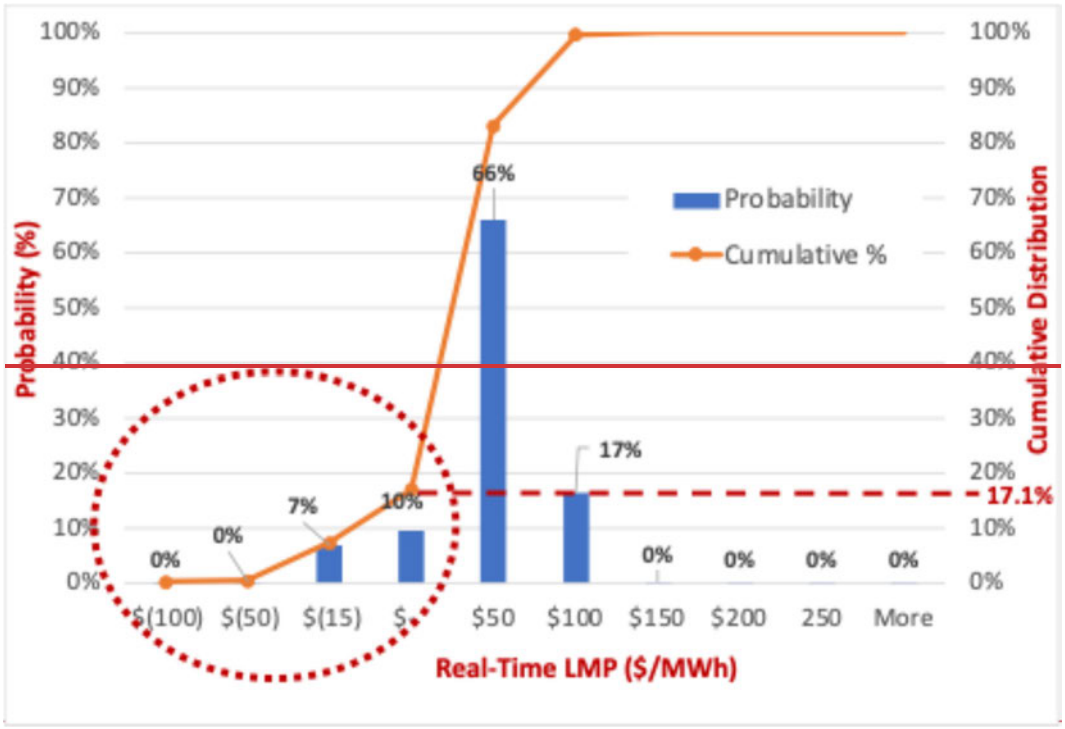
~~2024~~



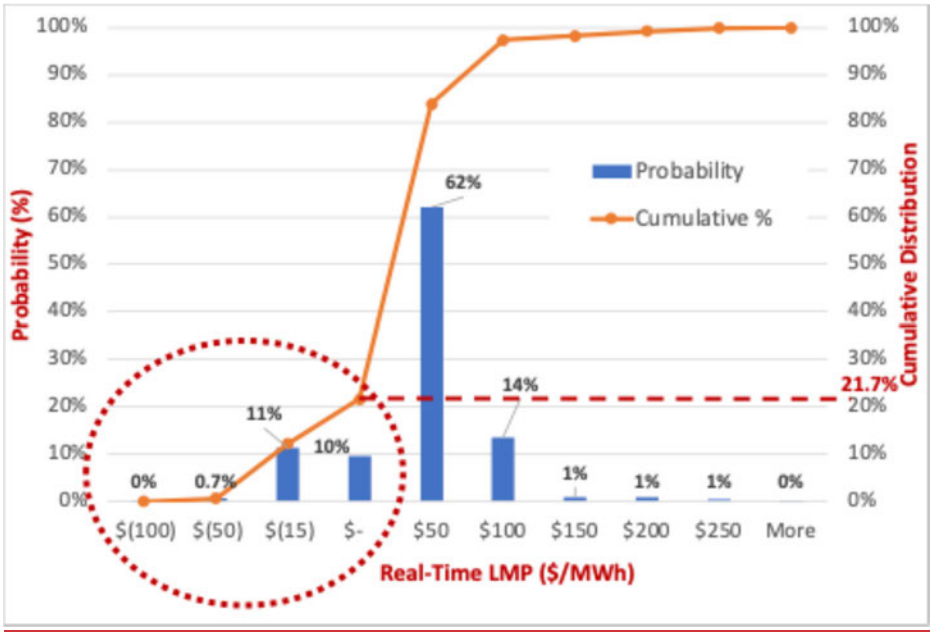
2025



~~2025~~



2026



Source: *CAISO OASIS data, accessed May 2026*

In previous years, negative $15/MWh appears to have been a common proxy for the lost renewable energy credit ("REC") value below which curtailment is preferred over generating at a negative price. However, increasing REC values in 2023 and 2024 appear to have motivated

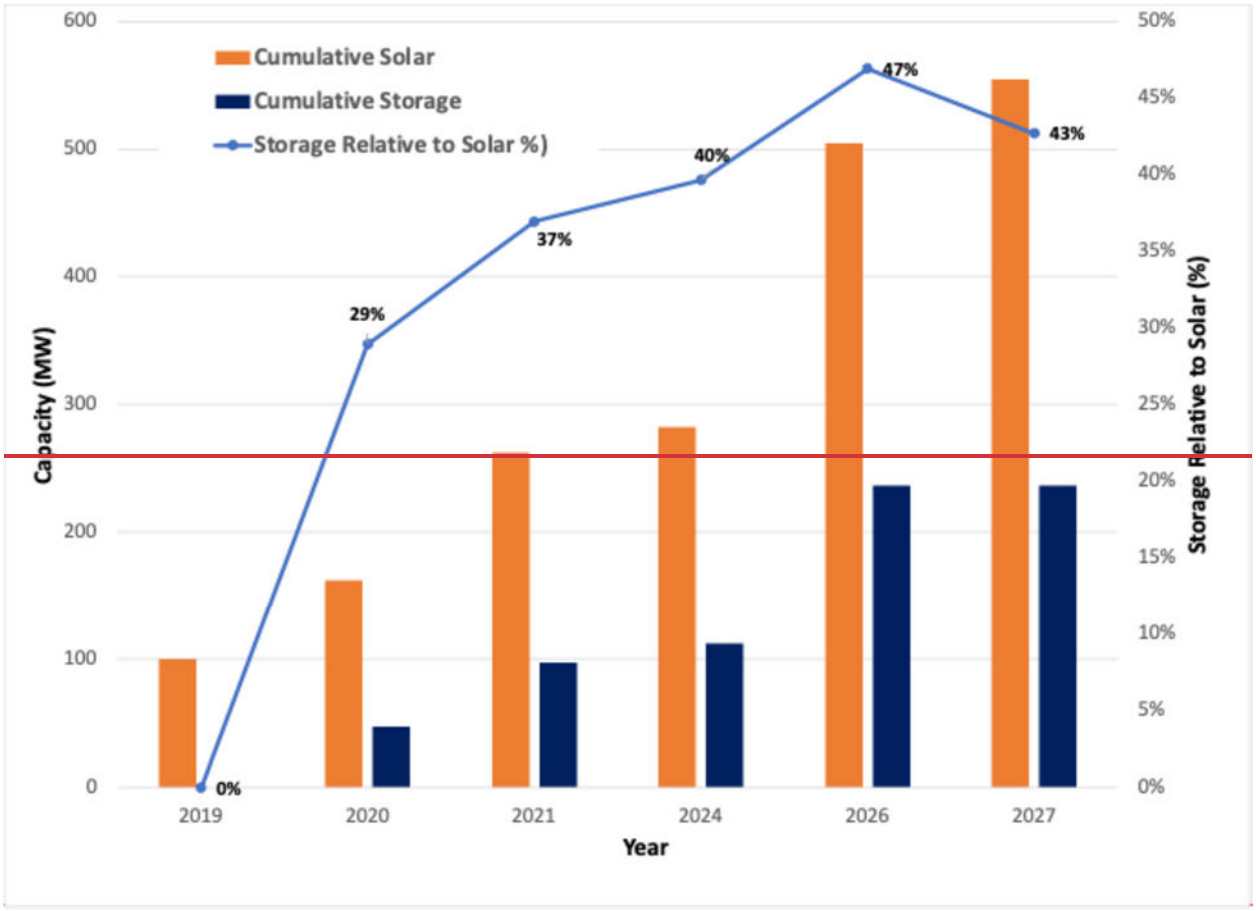
parties to have lower floor bids to reflect the higher REC values. This is because the value of the RECs generated offset the negative market price value down to the negative floor prices parties bid.[34]

As shown in Figure ~~6~~5, RTM LMPs were less than negative $15/MWh during January through May for ~~10.1 percent and~~ 7.5 percent and 12.2 percent of the intervals in ~~2024~~2025 and ~~2025~~2026, respectively, and were less than negative $50/MWh during 0.~~6~~5 percent and 0.~~5~~7 percent of the intervals during the periods, respectively. CleanPowerSF continues to monitor pricing trends and refine our forecast of future LMPs to support our portfolio analysis of curtailment and negative pricing over a 10-year planning horizon.

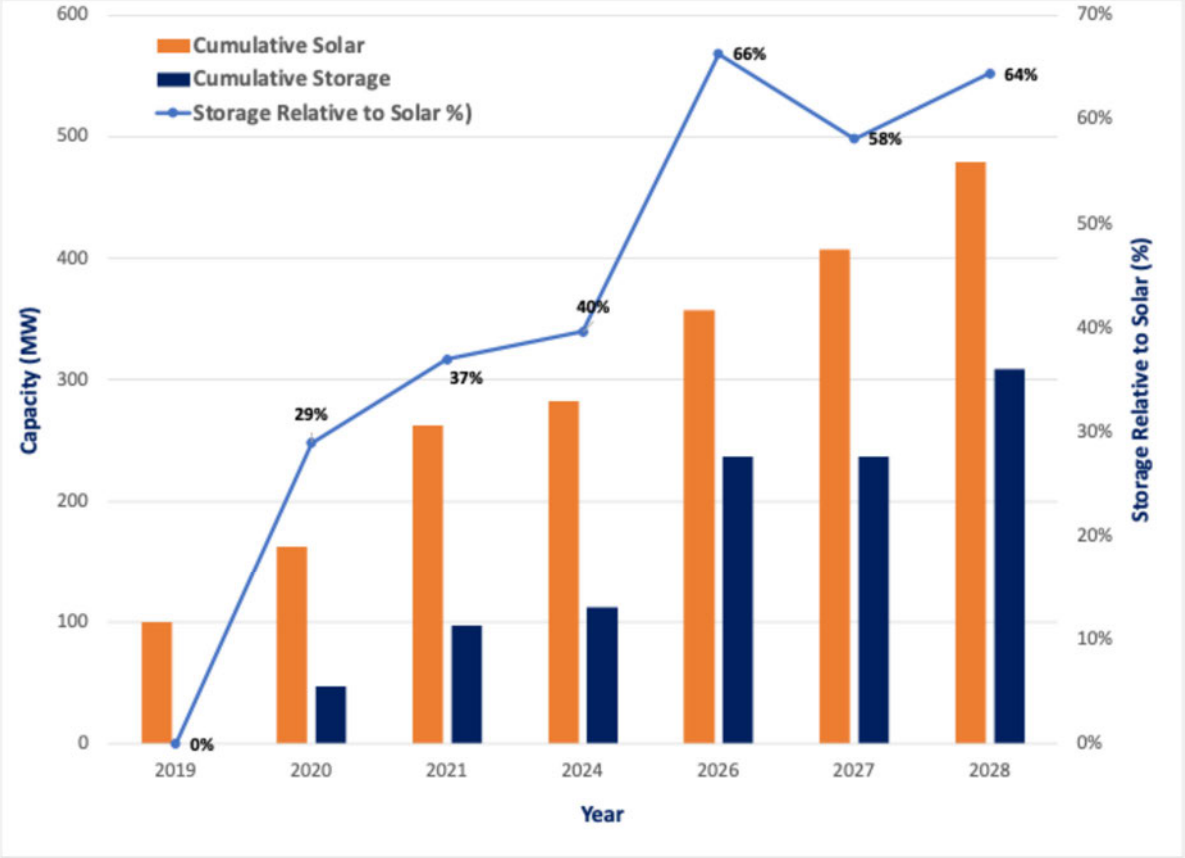
Through our procurement activities, CleanPowerSF takes actions to limit the impacts of curtailment on our ratepayers, including issuing solicitations for storage resources at existing and future solar project locations. CleanPowerSF's executed PPAs are listed below in Table 5. ~~Three~~Four (4) solar PV projects totaling 282.~~5MW~~5 MW and ~~two~~three (3) wind projects totaling ~~110.4MW~~210.4 MW are already online. CleanPowerSF added storage to two previously negotiated solar project PPAs and included storage ~~to two~~with three new solar projects, representing between ~~34~~75 percent and 100 percent of the generation capacity of these projects, as shown in Table 5 and Figure 6. Figure 6 also shows that CleanPowerSF has increased the proportion of storage capacity relative to the amount of solar capacity in its portfolio from 0 percent in 2019 to 40 percent in 2024 ~~and has contracted for 43~~. For resources under contract in 2028, that ratio is projected to be 64 percent storage ~~versus~~to solar ~~in 2027~~.

[34] CPUC, *Calculation of the Market Price Benchmarks for the Power Charge Indifference Adjustment Forecast and True Up* (Sep. 2022~~)~~), available at ~~<~~<https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/community-choice-aggregation-and-direct-access/calculation-of-the-market-price-benchmarks-20220930.pdf> [last visited June ~~27, 2025~~11, 2026].

Figure 6. Solar and Storage Capacity, and Storage Capacity Relative to Solar Capacity in CleanPowerSF's Portfolio, by Year



~~*Two*~~



Three (3) In-Development geothermal projects total ~~19.27~~ [redacted], with a much lower percentage of production expected to take place during curtailment periods than for ~~the~~ solar ~~project~~projects.

Table 5. CleanPowerSF's Executed ~~Power Purchase Agreements~~ Long-Term Contracts

Project Name	Contract Capacity (MW)	Technology Type	Overall Project Status	Commercial Operation Date	Location
San Pablo Raceway	100	Solar PV	Online	8/2/19	Los Angeles County
Geysers Geothermal	50	Geothermal	Online	5/1/2018	Sonoma County
Blythe Solar IV	62.5 (PV) + 47 (Storage)	Solar PV + Storage	Online	9/11/20	Riverside County
Voyager Wind IV	50.1	Wind	Online	3/30/21	Kern County
Oasis	60.3	Wind	Online	10/12/21	Kern County
Maverick Solar VI	100 (PV) + 50 (Storage)	Solar PV + Storage	Online	12/1/21	Riverside County
Paulsell Solar	20 (PV) + 15 (Storage)	Solar PV + Storage	Online	6/1/24	Unincorporated Stanislaus County
Fish Lake Geothermal	~~1.89~~2.436	Geothermal	In Development	~~4/30/~~7/1/27 ~~2027 (Contract Date)~~	Esmeralda County, Nevada
Gonzaga Ridge Wind Farm	147.5 (Wind) + 50 (Storage)	Wind	In Development	~~5/31/2026 (Contract Date)~~ [redacted]	Merced County
Aramis	75 (PV) + 75 (Storage)	Solar PV + Storage	In Development	12/31/~~2026 (Contract Date)~~26	Alameda County
SunZia Wind	100	Wind	Online	5/22/26	New Mexico
Easley II	50	Solar PV	In Development	1/1/27~~2027 (Contract Date)~~	Riverside County
Ormat Geothermal Dogwood	[redacted]	Geothermal	In Development	9/1/27	Imperial County California, and Nevada
Ormat Geothermal [redacted]	[redacted]~~.38~~	Geothermal	In Development	[redacted]	[redacted]

Project Name	Contract Capacity (MW)	Technology Type	Overall Project Status	Commercial Operation Date	Location
Darden	71.5 (PV) + 71.5 (Storage)	Solar PV + Storage	In Development	[redacted]	Fresno County

In addition, CleanPowerSF implements contract terms that recognize and limit the potential financial impacts of negative pricing and give CleanPowerSF significant flexibility to direct economic curtailment. These terms allow CleanPowerSF to curtail the renewable resource output during periods where the impact of negative prices exceeds the value of the renewable energy credits associated with the project. As renewable resources become the predominant resources on the grid, the value of the renewable energy credits is expected to eventually decline to the point that these projects will be curtailed any time the locational marginal prices at the project locations become negative. ~~As~~Further, as storage capacity increases relative to the amount of low variable cost resources, the incidence of negative prices is also expected to decrease.

As evident from Table 5, CleanPowerSF is pursuing the addition of storage, of varying durations, in its portfolio. CleanPowerSF's decisions in this regard are also informed by the CAISO's production cost simulation studies performed as part of its annual transmission planning process ("TPP"). For instance, CAISO's battery storage remapping study performed under the 2020 to 2021 TPP, has identified suitable locations for battery storage that would reduce renewable curtailments and congestion in the long term. In particular, these studies identify certain transmission locations in the Tehachapi, East of Lugo, Carrizo, and Fresno-Kern areas as better candidates than others for battery storage. The CAISO found siting storage resources at appropriate locations to be more effective than building new transmission upgrades in mitigating transmission congestion and renewable curtailment in local areas and across the system.[35] CleanPowerSF has verified that our current battery storage capacity and locations align with the system-level assumptions made under the more recent CAISO ~~2024~~ 2025-2026 TPP.[36]

CleanPowerSF's pro forma PPA includes terms that specify economic bidding rights and provide appropriate incentives for the project operator to generate in line with CAISO dispatch instructions. At the direction of CleanPowerSF, the renewable project's Scheduling Coordinator

[35] CAISO, *2020-2021 Transmission Plan* (Mar. 24, 2021) ~~sec.~~§ 3.8, pp. 224-27, available at ~~<https://www.caiso.com/documents/boardapproved2020-2021transmissionplan.pdf>~~<https://www.caiso.com/documents/boardapproved2020-2021transmissionplan.pdf> [last visited June ~~18, 2025~~11, 2026].

[36] CPUC, *Final Modeling Assumptions for the ~~2024~~ 2025-2026 Transmission Planning Process* (Feb. ~~2024~~2025) Table 3, p. ~~14~~15. available at ~~< https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2023-irp-cycle-events-and-materials/assumptions-for-the-2024-2025-tpp/modeling_assumptions_24-25tpp.pdf~~<https://files.cpuc.ca.gov/energy/modeling/LTPP/Modeling_Assumptions_25-26TPP_Final_2025-02-20.pdf > [last visited ~~May 5, 2025~~June 11, 2026].

("SC")[37] is responsible for submitting Economic Bids for project energy into CAISO markets at the Delivery Point. The SC submits Economic Bids in the CAISO Day-Ahead ("DA") Market at the DA Bid Price determined by CleanPowerSF for volumes of energy specified by CleanPowerSF (up to the full Day-Ahead forecast). The flexibility for setting the DA Bid Price allows CleanPowerSF to indicate the lowest price it is willing to accept in the CAISO's settlement processes, which may be negative, and below which the project should economically curtail. Such economic curtailment flexibility is also provided by the CAISO's dispatch software in its Real-Time market processes, including the 5-minute dispatch of the CAISO-forecasted project generation.

CleanPowerSF has some experience managing the cost impacts of increasing incidences of overgeneration and negative market prices. To date, ~~six~~seven of the new contracted renewable facilities ~~-~~have commenced commercial operation. There have been instances in which available generation from the project has not cleared the CAISO markets as a result of the prices bid exceeding the locational marginal price. This economic curtailment allowed CleanPowerSF to avoid having to pay the CAISO more than the value of the REC to accept this generation. CleanPowerSF continues to monitor market conditions to inform bidding strategies, regularly evaluating curtailment risk and negative price exposure to develop and execute strategies to mitigate risks that may emerge over time.

IV.C. Portfolio Optimization

CleanPowerSF manages our portfolio to maximize ratepayer value, while meeting State and local clean energy supply targets. CleanPowerSF uses State RPS requirements, local program portfolio content goals, and Commission procurement directives over short- and long-term time horizons to plan our RPS procurement and manage our RPS portfolio. To optimize the cost effectiveness of the portfolio, CleanPowerSF conducts procurement in a manner that maintains a larger open energy position in the long-term that is gradually closed over time. CleanPowerSF manages the open position to minimize risks associated with having a large near-term need while

[37] In its early ~~PPA's~~PPAs, the seller acts as the SC for projects under contract to CleanPowerSF, but CleanPowerSF in 2022 began taking over SC obligations for some existing and all new PPAs to have more direct control over its contracted resources.

providing opportunities to take advantage of technological innovations and favorable market conditions.

CleanPowerSF's portfolio optimization also accounts for the Commission's MTR procurement orders. D.21-06-035 ~~and~~, D.23-02-040 and D.26-02-057 created procurement obligations for every load serving entity ("LSE") through 2032~~2028~~. D.21-06-035 identifies four distinct resource categories for procurement and sets online dates. The resource categories are:

- Generic NQC capacity;
- Zero emission generation, generation paired with storage or demand response resources;
- Long-Duration Storage of 8 hours or more; and
- Firm zero-emitting resources.[38]

Table 6 below summarizes CleanPowerSF's MTR obligation under ~~both~~ D.21-06-035[39] ~~and~~ ,D.23-02-040 [40] and D.26-02-057.[41]

Table 6. CleanPowerSF MTR Obligation

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Generic NQC Capacity	31 MW	93 MW	23 MW	31 MW*	31 MW*					
Minimum Zero-Emitting Capacity	39 MW**									
Long-Duration Storage	15 – 16 MW***									
Clean Firm Capacity	15 – 16 MW***									

** Note that CleanPowerSF's total responsibility in 2026 and 2027 total ~~63MW~~63 MW even though the listed obligation for 2026 and 2027 totals 62 MWs.*[42]
***Zero-emitting capacity is a subset of the Generic NQC Capacity.*[43]
****Long-Duration Storage and Clean Firm Capacity must sum up to 31 MW.*

[38] D.21-06-035, pp. 2-3.
[39] *Id.* p. 56.
[40] D.23-02-040, p. 31.
[41] D.~~23~~26-02-~~040, p. 31.~~057, Attachment A.
[42] *Id.*
[43] D.23-02-040, p. 28.

***** Long-Duration Storage and Clean Firm Capacity are a subset of the Generic NQC Capacity.*

Strategies articulated in CleanPowerSF's IRPs provide guidance to our RPS procurements. Specifically, CleanPowerSF's ~~2020 and later,~~ 2022 ~~IRPs~~IRP highlighted the increasing value of intermittent resources by pairing them with energy storage. An efficient way to bring new storage capacity online is to add storage and pair it with existing RPS resources. ~~CleanPowerSF amended two of our contracts to pair storage with existing solar facilities, adding 4-hour batteries to Maverick Solar 6 (operational in June 2022) and to Blythe Solar IV (operational in September 2022).~~ Building off the success of our agreements with the Maverick ~~and~~, Blythe, and Paulsell projects, CleanPowerSF procured ~~from a solar~~ additional renewable plus storage ~~hybrid resource~~resources with the ~~Paulsell Energy Center, which reached COD in June 2024 and began delivering energy to CleanPowerSF on August 1, 2024.~~Darden solar, Aramis solar and Gonzaga wind projects. In doing so, ~~we~~CleanPowerSF can ~~time~~ shift the ~~load and not be subject to intermittency, further optimizing the portfolio~~renewable generation produced by these projects to higher-value hours, reducing the likelihood of curtailment.

To identify the most cost-effective resource mix to meet our regulatory obligations, CleanPowerSF considers a resource's contributions to both our MTR and RPS targets. The declining NQC value of solar towards MTR compliance reaffirms CleanPowerSF's 2022 IRP battery-pairing strategy. In our current and upcoming renewable and energy storage solicitations, CleanPowerSF will seek offers from RPS resources that are able to contribute towards our ~~remaining and newly ordered~~ MTR obligations.

~~The 2022 IRP emphasized the time coincidence of renewables with CleanPowerSF customer demand.~~ Due to its complementary generation profile with solar, the ~~2022~~2026 IRP ~~identified~~preliminary results identify wind as a beneficial resource for CleanPowerSF to procure. To meet our IRP procurement targets and support our objective of developing a clean energy portfolio that is more time-coincident with customer demand, CleanPowerSF ~~recently~~ procured ~~147.5~~100 MW of wind in ~~Merced County~~New Mexico from the ~~Gonzaga Ridge~~SunZia Wind ~~Farm~~project.

As discussed, paired storage is a critical component of CleanPowerSF's procurement strategy. CleanPowerSF continues to evaluate the impact of paired storage resources and their round-trip efficiency on RPS volumes. As the storage capacity in CleanPowerSF's portfolio

continues to increase, so could the energy losses associated with ~~battery~~ charging~~.~~ and discharging cycles. These losses are incorporated into CleanPowerSF's RNS at the levels appropriate for storage technologies under contract to ensure delivered RPS energy meets CleanPowerSF's annual RPS targets and overall portfolio content objectives.

RPS-eligible procurement through VAMO supports CleanPowerSF's further optimization of our portfolio by increasing supply. VAMO deliveries from PG&E began in January 2023. In 2023, CleanPowerSF bid into SCE's Long-Term Market Offer process, contracting for RPS resources with deliveries beginning in late 2023 through 2040. The addition of these resources to CleanPowerSF's portfolio have ~~buttressed~~increased our VMoP.

~~We also identified in the 2022 IRP that we need to procure additional baseload generation, and geothermal procured through CC Power helps us optimize the portfolio. In summary, using the 2022 IRP as a roadmap, procuring to meet the MTR obligations, and adding VAMO resources enables CleanPowerSF to meet our portfolio strategies and goals.~~

For more discussion on CleanPowerSF's solicitations, refer to section IV.A.

IV.C.1 Conformance with the IRP Proceeding

CleanPowerSF is ~~preparing to model portfolios~~conducting portfolio modeling for ~~our next~~its 2026 IRP, which ~~will be filed by in the coming months~~is due on August 10, 2026. CleanPowerSF will select a portfolio to submit as our Preferred Portfolio under the CPUC-defined statewide emissions benchmark, which will be used by the CPUC for aggregation and long-term resource planning. CleanPowerSF acknowledges the importance of consistency between information provided in the RPS Procurement Plan and IRP for resource planning~~. However, CleanPowerSF is still conducting our IRP modeling and analysis, and receiving input on the Plan from local stakeholders.~~, The CPUC ~~staff has yet to finalize the 2025 IRP filing requirements, which according to Commission staff may delay the November 1, 2025~~established an August 10, 2026

filing deadline.[44] for the IRP, which occurs after the deadline for this RPS Procurement Plan.[45] Given the status ofon-going work on the 20252026 IRP process, CleanPowerSF provides as much detail as possibleinformation based on an incomplete IRP process in Table 7 below.

Table 7. CPSFCleanPowerSF RPS Alignment with 2026 IRP

IRP Section / Subsection	RPS Alignment inwith IRP
III. Study Results A. Conforming and Alternative Portfolios B. Preferred Conforming Portfolio	CleanPowerSF is currently developing its 2026 IRP, which will be informed by this RPS Procurement Plan. CleanPowerSF expects the RPS resources identified in this Plan to align with, and be used to implement, the renewable resource assumptions included in its 2026 IRP Preferred Conforming Portfolio. 1. Existing and online RPS resources under contract that are included in the RPS quantitative templates are expected to be included as baseline inputs in CleanPowerSF's 2026 IRP modeling. These resources include CleanPowerSF's existing solar, wind, geothermal, and renewable plus storage resources. 2. CleanPowerSF expects to continue evaluating existing RPS resources through competitive solicitations, bilateral opportunities, and procurement processes such as VAMO where such resources support RPS compliance, local renewable energy goals, affordability, portfolio diversity, and risk management. 3. CleanPowerSF has contracted with seven RPS resources currently in development that are expected to support the 2026 IRP portfolios. These resources are presented in the Project Development Status Update (Appendix B).

[44] Email from Sophie Babka, Energy Analyst, Integrated Resource Planning, Energy Division, California Public Utilities Commission, to R.20-05-003 Service List (June 5, 2025, 2:48 PM) (on file with CleanPowerSF).

[45] Email from Julie Fitch, Administrative Law Judge, California Public Utilities Commission, to R.25-06-019 Service List (March 9, 2026, 2:09 PM) (on file with CleanPowerSF).

III. Study Results A. Conforming and Alternative Portfolios	CleanPowerSF intends our 2025 IRP to be informed by this RPS Procurement Plan. CleanPowerSF's annual RPS goals in the 2025 RPS Procurement Plan are consistent with our approach to modeling Conforming and Alternative Portfolios' RPS content. We address this in the narrative and quantitative templates. CleanPowerSF anticipates that the RPS content of the PCP include (1) resources already under contract, (2) existing resources CleanPowerSF plans to contract with, and (3) new RPS resources CleanPowerSF plans to contract. 1. Existing and online resources under contract that are included in the RPS quantitative templates have been included as baseline inputs in CleanPowerSF's IRP modeling. They will be included in all IRP portfolios developed and reflected in the PCP as part of the CleanPowerSF 2025 IRP filing. Resources under contract are consistent between the IRP we will file and this RPS Procurement Plan. 2. CleanPowerSF intends that our modeling for the 2025 IRP will result in a PCP that will include updated annual RPS targets to achieve lower GHG emissions and policy goals. CleanPowerSF evaluated the volume of existing renewable energy we can reasonably expect to procure to meet our renewable net short using the existing resources included in the CPUC's Preferred System Plan. Using this information and strategies consistent with those included in the risk assessment hedging included in Section VII of this Plan, the IRP portfolios will reflect an optimized mix of long-term contracts with new resources and contracts with existing resources that will allow CleanPowerSF to take advantage of favorable market conditions and emerging technologies. 3. CleanPowerSF's recently approved Easley II 50 MW solar project in California will help deliver long-term renewable energy at affordable prices to CleanPowerSF customers. CleanPowerSF presents new build renewable energy projects in the Revised Final 2025 RPS Plan that will be included in the 2025 IRP PCP. As discussed in Sections IV.A.1, V, and IV.B.2, CleanPowerSF has contracted with four RPS resources currently in development. Two contracts originated from the solicitation administered by the SFPUC: Aramis solar (75 MW) and storage (75 MW four-hour battery storage), and the Gonzaga Ridge Wind Farm (147.5 MW). Two other expected new renewable energy facilities are contracted through CC Power; they are CC Power OME Fish Lake and Ormat Portfolio of Projects geothermal resources. CleanPowerSF's

	~~shares are 1.89 MWs and 17.38 MW of nameplate capacity, respectively. These projects are presented in the Project Development Status Update (Appendix B). In addition, CleanPowerSF issued a solicitation in June 2024 seeking renewable energy and storage from new and existing resources. CleanPowerSF began contracting with selected bidders in early 2025.~~ ~~4.~~ 4. CleanPowerSF is addressing ~~our~~its MTR ~~obligation adopted in D.21-06-035 with a mix of existing and new resources and our supplemental MTR obligation adopted in D.23-02-040 with new resources. CleanPowerSF has made significant progress in meeting our~~ obligations ~~documented in Section IV.A.2.~~with a mix of existing and new resources, including renewable plus storage resources and long-duration storage resources. Blythe Solar IV plus storage, Maverick ~~6 solar~~Solar VI plus storage, and Paulsell Solar plus storage ~~and Paulsell solar plus storage project~~ are online and ~~are contributing to meeting~~contribute to CleanPowerSF's D.21-06-035 MTR obligation. ~~Additionally,~~ CleanPowerSF ~~has contracted for Clean Firm Capacity through our participation in CC Power.~~ ~~CleanPowerSF~~ will continue ~~our renewable energy procurements through competitive solicitations in~~ to evaluate resources that can support ~~of its PCP and in fulfillment of MTR procurement orders~~ compliance with D.21-06-035, D.23-02-040, and D.~~21-06-035 and D.23~~26-02-~~040.~~057. CC Power also issued an All Source RFO in October 2025, through which CleanPowerSF may receive future offtake. CleanPowerSF also advertised PRO.0223(R), its DAC-GT RFO, on February 6, 2026 and is planning to issue a new renewable energy solicitation by the end of calendar year 2026
IV. Action Plan A. Proposed Procurement Activities and Potential Barriers	~~1. CleanPowerSF's upcoming IRP PCP will~~ CleanPowerSF expects its 2026 IRP portfolios to rely on a diverse ~~energy~~ mix of ~~wind,~~ solar, wind, geothermal, ~~and~~ storage, ~~with solar generation projected to account for half of CleanPowerSF's total energy supply beginning in 2026. The Revised Final 2025 RPS Plan is consistent with the PCP in identifying~~and other clean resources ~~and timeline~~ to meet ~~State~~ RPS requirements, ~~as well as MTR procurement orders. CleanPowerSF also anticipates that we will enter one or more contracts as a result of our 2024 solicitation for long-term renewable energy and storage.~~ ~~2. CleanPowerSF issued a solicitation for long-term renewable energy for MTR D.23-02-040 compliant resources in June 2024, with anticipated contract CODs by 2032. CleanPowerSF describes potential barriers to~~

~~meeting RPS compliance requirements in Sections VI and VII; potential obstacles might include higher than anticipated component costs, supply chain disruptions, and permitting and interconnection delays that might impede our~~local clean energy goals, reliability needs, and GHG reduction objectives. CleanPowerSF's proposed procurement activities~~. CleanPowerSF conducts an analysis of resource viability in this Revised Final 2025 RPS Plan; results~~ are ~~presented in the RNS Quantitative Response (Appendix C) and discussed in Sections VIII and IX. New resources in~~designed to support the resources identified in its Conforming and Alternative Portfolios and to align RPS planning with IRP portfolio development~~ are risk rated according to the Commission's RNS methodology articulated in R.11-05-005~~.

1. CleanPowerSF issued a competitive long-term RFO in July 2024 seeking standalone renewable energy, standalone storage, and renewable energy paired with storage. The solicitation supported RPS compliance, local renewable energy objectives, and applicable Commission procurement mandates, including MTR obligations under D.21-06-035, D.23-02-040, and D.26-02-057.

2. CleanPowerSF evaluates new RPS resources based on commercial viability, development status, interconnection progress, deliverability, technology type, expected generation profile, contribution to RPS and reliability needs, and overall portfolio value. New resources in development are reflected in the Project Development Status Update and are risk-rated for purposes of the RNS analysis.

~~IV. Action Plan~~

~~B. Procurement Activities~~

3. CleanPowerSF ~~proposes to use RPS-eligible resources to implement both the Conforming and Alternative Portfolios in our 2025 IRP. The following narrative outlines planned procurement activities, consistent with the guidance provided in the 2025 RPS ACR:~~

~~1. CleanPowerSF issued a~~primarily uses competitive RFOs to procure long-term ~~Request for Offers ("RFO") in June 2024. The solicitation sought~~renewable energy and storage resources, including standalone renewable energy, ~~standalone storage, and~~ renewable energy paired with storage, ~~with a strong emphasis on~~standalone storage, long-duration storage, clean firm resources, and other resources that ~~meet the requirements of D.21-06-035 and D.23-02-040. CleanPowerSF particularly prioritized offers from baseload or FCR such as geothermal and solar plus storage projects that could contribute both renewable energy and capacity value. The RFO was designed to~~ support

CleanPowerSF's long-term RPS compliance and reliability and emissions reduction objectives and to diversify its portfolio with resources that offer varied profiles and durations.

2. The RFO was released in June 2024,[46] with proposals due later that summer. Evaluation and selection occurred in late 2024, followed by contract negotiations extending into early 2025. CleanPowerSF began executing contracts with shortlisted bidders in Q1 2025.

3. CleanPowerSF seeks commercial operation dates that align with applicable regulatory deadlines. For Mid-Term Reliability compliance, CleanPowerSF expects contracted resources under D.21-06-035 to be online by August 1, 2026, and resources under D.23-02-040 to be online by June 1, . CleanPowerSF may2028. For longer-term planning needs, CleanPowerSF also anticipates that selected projects will deliver energy and capacity consider bilateral opportunities and joint procurement through at least CC Power where those opportunities provide value to customers and support regulatory and policy2032, supporting lower GHG emissions and reliability targets adopted in the IRP proceeding.

4. The 2024 RFO was guided by multiple procurement objectives: to meet statutory RPS and MTR requirements, to build a reliable and cost-effective portfolio, and to hedge against market and development risks. CleanPowerSF sought to acquire resources with high viability and secured interconnection positions, ideally with full or partial deliverability in CAISO territory. The RFO also encouraged participation from developers with projects located in or benefiting Disadvantaged Communities. CleanPowerSF's procurement planning is iterative and adaptive, and future solicitations will continue to be informed by regulatory developments, evolving market conditions, and system planning needs identified in the IRP.

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4. CleanPowerSF released a competitive long-term RFO in July 2024, evaluated proposals in 2024, and began contracting with selected bidders in early 2025. CleanPowerSF expects to continue issuing solicitations as needed based on forecasted RPS needs, IRP portfolio development, MTR requirements, market conditions, and local policy objectives.

[46] CleanPowerSF 2024 Renewable Energy Supplies (PUC.PRO.0280), Appendices (July 09, 2024), available at <https://sfbid.sfwater.org/opportunity/details/?eid=280#tab=docs> [last visited May 28, 2025].

	5. CleanPowerSF seeks commercial operation dates that align with applicable RPS compliance periods, MTR deadlines, and IRP portfolio needs. CleanPowerSF has enough contracted resources expected to come online to meet its obligation of D.21-06-035 and D.23-02-040, subject to any applicable extensions and procurement-track requirements. CleanPowerSF will align its IRP modeling to reflect its procurement to meet its procurement obligations. 6. CleanPowerSF's procurement planning is designed to maintain RPS compliance, support San Francisco's renewable and GHG-free energy goals, diversify CleanPowerSF's portfolio, manage cost and market risk, and reduce exposure to overgeneration and negative pricing. CleanPowerSF's procurement strategy also considers RA value, time-of-day delivery, geographic diversity, technology diversity, development risk, interconnection risk, affordability, and consistency with statewide resource planning requirements.
IV. Action Plan A. Proposed Procurement Activities and Potential Barriers ~~IV. Action Plan~~ ~~C. Potential Barriers~~	CleanPowerSF has identified several potential barriers to implementing the RPS resources expected to support its 2026 IRP Conforming Portfolios. These barriers are discussed throughout this Plan, including in Sections VI and VII, and are incorporated into CleanPowerSF's RNS and risk assessment framework. ~~CleanPowerSF has identified a range of implementation~~ 1. Key risks ~~to delivering its PCP in the 2025 IRP, particularly as they relate to the~~ include project development~~, viability, and retention of RPS resources. These risks span market, regulatory, financial, and technical domains and are summarized below:~~ ~~1. Several macroeconomic and policy-related risks continue to challenge the timely and cost-effective development of new RPS resources. CleanPowerSF continues to monitor the impact of project~~ delays ~~resulting from global~~, permitting delays, interconnection and transmission upgrade delays, supply chain disruptions, ~~tariff and macroeconomic uncertainty, and Department of Commerce investigations into solar component imports.~~ ~~Increased costs for commodities, materials, and financing driven in part by~~ inflationary pressures, tariff ~~uncertainty,~~ and ~~ongoing federal~~ trade ~~investigations have made it more difficult for developers to deliver projects at the prices agreed upon in executed PPAs. The expiration of the federal solar tariff waiver in 2024 has added further uncertainty for solar~~policy uncertainty, financing constraints, equipment availability, and changes in market conditions. CleanPowerSF has

observed these risks in recent project ~~delivery timelines. Additionally, the potential for higher import tariffs on lithium ion batteries and other renewable energy components could significantly raise project costs, affecting both RPS compliance and IRP implementation.~~

~~The CAISO interconnection process continues to present a major source of risk, especially for projects in Cluster 14 and beyond. Delays in interconnection studies, limited transparency in deliverability allocations, and the rising cost and long lead times for required network upgrades have made it difficult to assess project viability, expected online dates, and the capacity value projects can ultimately provide. While CAISO has initiated reforms~~ development experience. CleanPowerSF mitigates these risks through ~~its ongoing Interconnection Process Enhancements (IPE) initiative some of which are being implemented in Clusters 15 and 16 the benefits of these changes are not expected to significantly improve the outlook for Cluster 14 projects in the near term. As such, considerable uncertainty remains for projects currently navigating the interconnection queue.~~

~~CleanPowerSF's ability to contract with FCR located outside of CAISO also depends heavily on the CAISO's Maximum Import Capability ("MIC") framework. Long term import commitments and the MIC allocation process are subject to rigid timing restrictions: the MIC process begins only two years before COD, and import commitments may not be secured until 13 months before COD. This uncertainty affects whether these out of state resources will ultimately contribute firm capacity into the CAISO balancing authority and fulfill CleanPowerSF's obligations under D.21-06-035 and D.23-02-040.~~

~~2. In addition to the risks facing new resource development, CleanPowerSF must also manage risks associated with the potential retirement of existing RPS resources. As legacy contracts approach expiration and aging assets face decommissioning or repowering decisions, there is a risk of abrupt reductions in renewable energy deliveries. Some existing resources may also face declining performance or environmental compliance challenges, which could affect their reliability or eligibility under RPS rules.~~

~~To mitigate these risks, CleanPowerSF employs several~~ portfolio ~~management strategies. These include entering into new contracts with staggered start and end dates to avoid large scale expirations in any given year, continuously assessing resource viability and counterparty creditworthiness, and accounting for technology and delivery risks in its long term~~diversity, ongoing project monitoring, risk-adjusted RNS

	calculations, and maintaining procurement ~~planning. These strategies are further detailed in Sections IV.A, V, and VII of this Plan and reflected in the RNS analysis.~~ ~~CleanPowerSF also recognizes the need to maintain flexibility in our procurement strategy to avoid overcommitment to any single technology type. Diversification across resource types, geographies, and contract structures provides resilience against changing market dynamics and ensures CleanPowerSF can adjust course as needed to meet our RPS and GHG targets.~~ ~~-~~above minimum RPS requirements through its MMoP and VMoP. 2. CleanPowerSF monitors the operating status, contract terms, and expected performance of existing RPS resources relied upon for future compliance. Potential risks include contract expiration, resource underperformance, changing market economics, transmission constraints, curtailment, and operational issues that could reduce expected deliveries. CleanPowerSF mitigates these risks by maintaining a diverse RPS portfolio, pursuing additional long-term procurement, evaluating existing and new resources through solicitations, and updating its RNS and portfolio planning analyses as new information becomes available.

IV.C.2 Responsiveness to Local and Regional Policies

Local and State policies, regulations and ordinances shape CleanPowerSF's RPS procurement efforts. San Francisco's "energy loading order" is a guiding local policy adopted by the Board of Supervisors in 2001 in recognition of the environmental harms in Southeast San Francisco.[47] The Board of Supervisors later reaffirmed this foundational policy in 2008 in support of the State's Energy Action Plan.[48] These ordinances seek to reduce the negative environmental effects of electric supply choices and further the City's environmental justice goals through a

[47] See San Francisco Board of Supervisors Ordinance No. 124-01~~.~~ (Adopting Human Health and Environment Protections for New Electric Generation) (June 8, 2001), available at <https://sfbos.org/ftp/uploadedfiles/bdsupvrs/ordinances01/o0124-01.pdf> [last visited June ~~18, 2025~~11, 2026].

[48] See San Francisco Board of Supervisors Resolution No. 227-08~~.~~ 08 (Adopting the State of California's Energy Priorities) (May 13, 2008), available at <https://sfbos.org/ftp/uploadedfiles/bdsupvrs/resolutions08/r0227-08.pdf> [last visited June ~~18, 2025~~11, 2026].

hierarchy of energy efficiency and conservation, demand response, renewable generation, and distributed generation.

The SFPUC adopted the goal of delivering at least 50 percent RPS-eligible renewable energy in our default Green product supply portfolio by 2020, or sooner if possible, in May 2017, after initiating CleanPowerSF.[49] The CleanPowerSF Green product has exceeded this goal since 2020. ~~In~~For example, in 2023, RPS-eligible content for the Green product was 53 percent, in 2024 it was 89 percent, and in 2025 it was 84 percent.

CleanPowerSF's 2022 IRP charted a path for a 100 percent renewable and/or GHG-free electricity supply by 2025, 20 years ahead of the SB 100 target and 5 years sooner than San Francisco's original goal.[50] CleanPowerSF's ~~2022~~2026 IRP ~~identified~~will identify RPS-eligible portfolio content planning targets for its default Green product procurement through ~~2035~~2036, as shown in Table 8. The table compares RPS targets for the CleanPowerSF products to the SB 100 RPS requirements.

[49] San Francisco Public Utilities Commission Resolution No. 17-0102~~,~~ (Adopting New Target of 50 Percent Renewable Energy for CPSF) (May 9, 2017), available at ~~<https://sfpuc.sharefile.com/share/view/s885b58732ca4f709>~~<https://sfpuc.sharefile.com/share/view/s885b58732ca4f709> [last visited June ~~18, 2025~~10, 2026].

[50] ~~CleanPowerSF 2022 IRP, pp. 6-8.~~ CleanPowerSF 2022 Integrated Resource Plan, pp. 6-8, available at <https://cleanpowersf.org/s/CPSF_public_v1.pdf> [last visited June 11, 2026].

Table 8. CleanPowerSF's 2022 IRP Planning Targets for RPS-Eligible Renewable Energy

Content Goals	~~2025~~ 2026	~~2026~~2027	~~2028~~ ~~027~~	~~2029~~ ~~2028~~	~~2030~~ ~~029~~	~~2031~~ ~~030~~	~~2032~~ ~~2031~~	~~2033~~ ~~2032~~	~~2033~~ 2034	~~2034~~ 2035	~~2035~~ 2036
CleanPowerSF RPS-Eligible Targets	~~68~~73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
SB 100 RPS Requirements	~~46.7~~49.3%	~~49.3~~52 %	~~52~~54.7 %	~~54.7~~57.3%	~~57.3~~60 %	60%	60%	60%	60%	60%	60%

CleanPowerSF's RPS planning also reflects local ordinances designed to decarbonize San Francisco's building sector. Ordinance 220-19, passed in 2019, requires non-residential buildings over 50,000 square feet to meet electricity demand with 100 percent GHG-free supply by 2030, with a phased implementation that began in 2022. This ordinance has significantly increased demand for CleanPowerSF's 100 percent RPS-eligible SuperGreen product. In 2020, Ordinance 237-20 amended the Building Code to require all-electric new construction beginning June 2021. CleanPowerSF accounted for these shifts in its ~~2022~~2026 IRP and continues to monitor the resulting impacts on electricity demand and product selection.

While no new local policies were enacted in ~~2024~~2025 that materially impact RPS procurement, San Francisco's Climate Action Plan ("CAP") ~~update process is underway~~was finalized in ~~2025~~.2026.[51] CleanPowerSF ~~will assess and~~ is planning to incorporate ~~any relevant supply-side policy targets from~~ the ~~updated CAP, particularly those related to the electricity sector,~~CAP's recommendations into ~~future~~the 2026 IRP and this RPS procurement plan, including the development of at least 150 MW of solar and ~~IRP planning~~battery storage projects in the nine Bay Area counties, increasing our SuperGreen 100% RPS-eligible product sales to 20% of total retail sales, and the development of solar projects on City-owned properties.

CleanPowerSF's portfolio planning reflects these regional policy drivers through elevated renewable content targets, consideration of product segmentation, and proactive forecasting of

[51] San Francisco Environment Department (SFE), *San Francisco Climate Action Plan 2026*, available at <https://www.sfenvironment.org/climateplan> [last visited on June 11, 2026].

SuperGreen demand growth. These strategies ensure that CleanPowerSF's RPS procurement not only complies with State law but also furthers San Francisco's local climate, environmental justice, and electrification goals.

IV.D. Lessons Learned – Assessment of RPS Portfolio Supplies and Demand

As CleanPowerSF continues to bring projects online and enter into additional long-term contracts, we will continue to improve our contracting process to account for past and future trends. These trends include increasing renewable curtailment and integrating energy storage and emerging clean energy technologies in our portfolio.

CleanPowerSF has emphasized reliability in our portfolio planning efforts, especially during the evening ramp. Building upon the ~~2020~~2022 IRP, CleanPowerSF's ~~2022~~2026 IRP modeling analysis ~~applied~~is applying a constraint on CAISO system purchases during the evening ramp hours to better understand how renewable resources could be best integrated into the grid in a cost-effective and reliable manner. Both the ~~2020 and~~ 2022 ~~IRPs identified~~IRP and the 2026 IRP preliminary results identify energy storage as a key component for maximizing the reliability of CleanPowerSF's RPS energy portfolio, and CleanPowerSF has since worked to develop storage contract terms that optimize reliability benefits. ~~CleanPowerSF's time coincident PCP revealed that the majority of our marginal reliability need could be met by a mix of new and existing long-term energy contracts and short-term capacity contracts.~~

~~As discussed above, CleanPowerSF collaborated with other CCAs through CC Power to solicit bids and ultimately execute contracts from new long-duration energy storage projects. As a result of this process, CleanPowerSF has gained valuable experience evaluating the costs and benefits of long-duration energy storage resources, as well as the project development and market integration hurdles emerging, long-duration energy storage technologies face. CleanPowerSF continues exploring emerging technologies, especially energy storage technologies, for inclusion in its portfolio.~~

As previously discussed, CleanPowerSF is an active member of CC Power. CC Power aggregates participating CCAs' buying power to procure new cost-effective clean energy and reliability resources to continue advancing local and State climate goals. This procurement

approach provides CleanPowerSF with two key advantages that are expected to deliver lower costs to ratepayers. Joint procurement allows an LSE, such as CleanPowerSF, to contract for a portion of a larger project than it might be able to procure otherwise, improving procurement scale efficiencies. This approach also allows CleanPowerSF to contract for portions of multiple projects instead of contracting for a single project, providing portfolio diversification and project development risk mitigation advantages.

CleanPowerSF collaborated with other CCAs through CC Power to solicit bids and ultimately execute contracts from new long-duration energy storage projects. As a result of this process, CleanPowerSF has gained valuable experience evaluating the costs and benefits of long-duration energy storage resources, as well as the project development and market integration hurdles emerging, long-duration energy storage technologies face. CleanPowerSF continues exploring emerging technologies, especially energy storage technologies, for inclusion in its portfolio.

Procurement to cost-effectively meet San Francisco's renewable and GHG-free goals has been challenged by a tenacious combination of development and interconnection delays, supply chain challenges, economic inflation, high market prices, and limited availability of new generating resources. CleanPowerSF has integrated these experiences into our risk mitigations through a combination of improvingflexible contracting provisions, frequent portfolio analysis, and streamlined administrative processes.

V. Project Development Status Update

CleanPowerSF has entered into a total of elevenfifteen contracts with new renewable facilities as a result of its own solicitations and our participation in CC Power. Of these contracts, fiveseven are not in commercial operation yet. The On a risk-adjusted basis, expected renewable energy volume from resources under development represents approximately six23 percent of CleanPowerSF's forecasted retail sales duringover the 2026-2036 RPS Procurement Plan planning horizon.

Table 9 (included as Appendix B, Project Development Status Update) provides details on the remaining ~~five~~seven contracts CleanPowerSF has executed for facilities that have not yet reached commercial operation.

Table 9. CleanPowerSF Projects In Development

Facility Name	Capacity (MW)	Contract Length	Location	COD	Technology Type	Contract Start and End Dates	Annual Generation & Total Contract Volume
Project Development Phase: Pre-Construction							
CC Power OME Fish Lake Geothermal Project	~~1.89~~2.436 MW	20 Years	Esmeralda, NV	[redacted]	Geothermal	4/30/2027 to 4/29/2047	~~16~~12.53 GWh ~~318~~252.54 GWh
CC Power Ormat ~~Portfolio of Projects~~Dogwood Geothermal Project	~~17.3~~ [redacted]	20 Years	~~Various~~Imperial County, CA		Geothermal	[redacted]	
CC Power Ormat [redacted] Geothermal Project	[redacted]	Approx. 19 Years	Imperial County, CA		Geothermal		
Gonzaga Ridge Wind Farm	147.5 MW	20 Years	Merced County, CA		Wind	[redacted]	~~354~~1.44324.37 GWh ~~708~~28.76451.23 GWh
Aramis Renewable Energy Project	75 MW solar 75 MW 4-hr storage	25 Years (solar) 15 Years (storage)	Alameda County, CA		Solar + Storage		~~179.52~~152.59 GWh ~~448~~7.83856.14 GWh
Easley II Solar Project	50 MW solar	10 Years	Riverside County, CA	1/1/2027	Solar	1/1/2027 to 12/31/2036	~~149.75~~134.59 GWh ~~146~~3.851345.94 GWh
Darden Solar Project	71.5 MW solar 71.5 MW 4-hr storage	15 Years	Fresno County, CA	[redacted]	Solar	[redacted]	205.85 GWh 3093.64 GWh

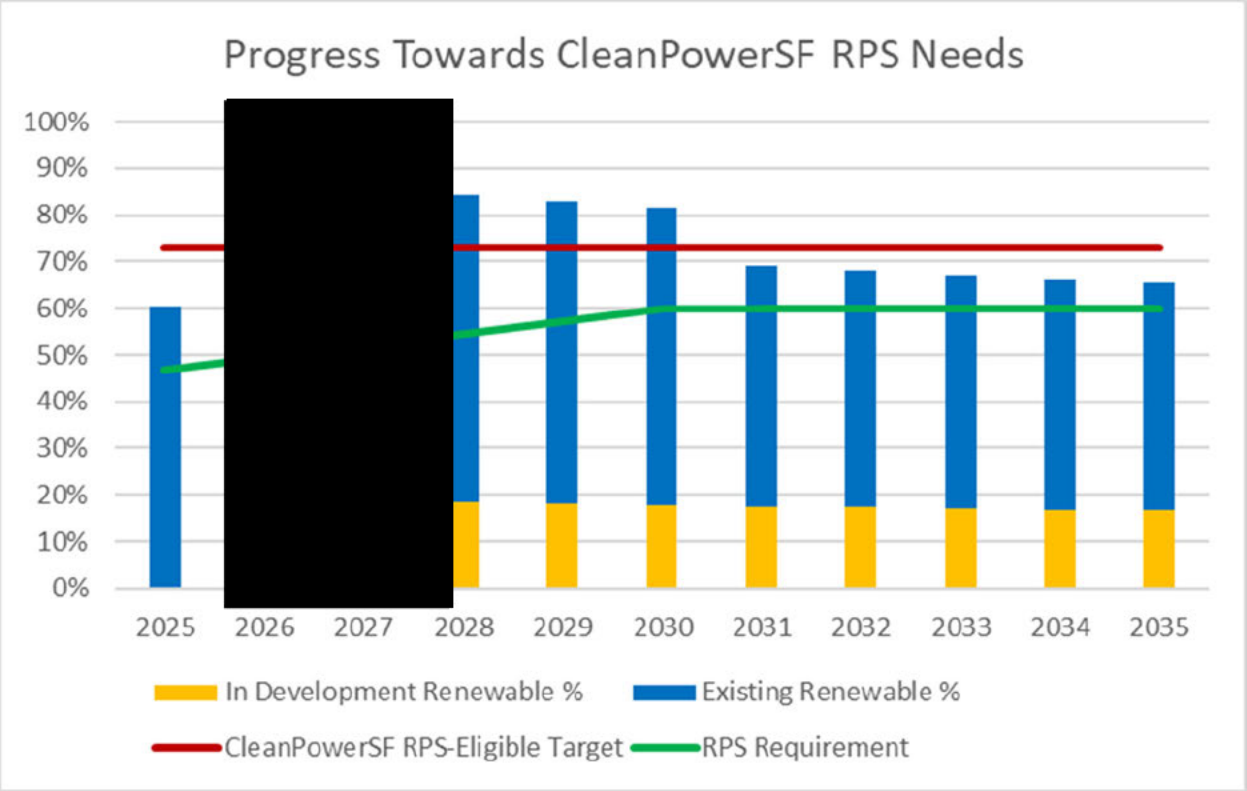
~~Five~~Seven contracts (CC Power's OME Fish Lake ~~and~~ Ormat ~~Portfolio of Projects~~ [redacted], Ormat Dogwood, Gonzaga Ridge, Easley II, Darden, and Aramis) are in the pre-construction development phase. ~~The transmission status for the listed contracts has remained~~

~~the same since the 2023 RPS Procurement Plan filing.~~ Current CODs reflect the most recent timelines ~~to~~for transmission upgrades. Since last reported, three contracts have new commercial online dates. ~~The Paulsell contract came online on June 20, 2024.~~ CC Power OME Fish Lake's COD is [redacted] July 2027 [redacted] Ormat ~~Portfolio of Projects'~~Dogwood's new COD is [redacted] September 2027 [redacted] CleanPowerSF has mitigated these delayed deliveries through new RPS contracts and does not anticipate any shortfalls through CP ~~6~~8 as a result of these delays.

The risk-adjusted expected annual megawatt-hours of generation from projects in development are included in the RNS Quantitative Response in Variable Fb, "Risk-adjusted RECs from RPS facilities in Development." The risk-adjusted volumes from existing facilities are projected to exceed CleanPowerSF's State RPS requirement in the near term. The risk-adjusted volumes from existing and in development facilities exceed annual RPS compliance requirements through CP 6.

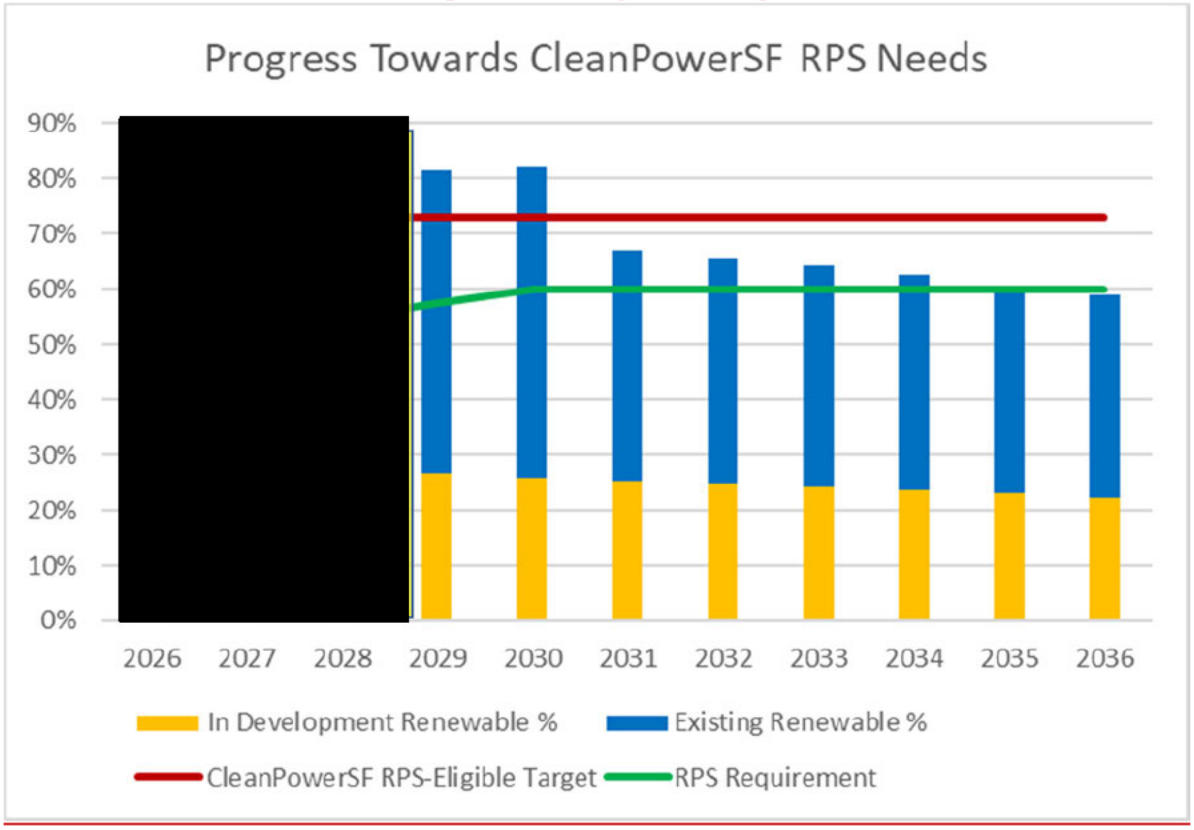
The expected risk-adjusted generation from in-development projects reaches ~~676,423~~ [redacted] MWh in 2028, as additional facilities are projected to come online. This generation represents an average of about ~~18~~24 percent of CleanPowerSF's total sales over the Plan horizon once all projects are online by the end of calendar year 2028, as demonstrated in the figure below.

Figure 7. Progress Towards CleanPowerSF RPS Needs



~~CleanPowerSF expects to sign additional renewable energy contracts in the near term with existing and new renewable energy facilities that will contribute further to meeting our RNS, for~~

~~example, the Easley Solar Project.~~



As CleanPowerSF has already procured enough renewable energy to exceed our RPS compliance requirements through CP ~~6~~8, there is no immediate need to conduct additional long-term renewable procurement for RPS compliance purposes. However, CleanPowerSF will continue to contract for renewable generation with new and existing facilities to meet our ~~2022~~2026 IRP targets, as needed, in a manner that comports with the risk mitigation practices detailed in Section VII of this Plan.

VI. Potential Compliance Delays

CleanPowerSF anticipates meeting our RPS compliance obligations. While numerous issues are under ongoing analysis for their potential to cause development delays, and other supply or demand risks, per the discussion in Sections VII, VIII, and IX below CleanPowerSF employs a comprehensive set of compliance risk mitigation strategies – including our substantial margin of renewable procurement above State compliance.

Potential issues could include, but are not limited to, tariffs, supply chain issues, macroeconomic conditions, inadequate transmission capacity, permitting delays, insufficient eligible renewable energy resources supply, unanticipated curtailment, and unanticipated increase in retail sales.

As stated herein, CleanPowerSF's aggressive renewable energy content goals have resulted in historical and planned RPS procurement above the State's requirements through CP 6. When planning our RPS portfolio, CleanPowerSF makes risk adjustments for online and in-development facilities and has established an MMoP and VMoP to ensure State renewable energy goals and mandates are met. After applying risk factors to projected RPS volumes, CleanPowerSF still has sufficient volumes under contract to meet our State RPS compliance requirements through CP 6. CleanPowerSF fully anticipates meeting our RPS compliance requirements through this compliance period and beyond. Sections VII through IX provide more detail on CleanPowerSF's RPS portfolio risk adjustment methodology.

CleanPowerSF plans on adding more short- and long-term renewable energy contracts in the near- to mid-term. This procurement will further contribute to CleanPowerSF's RPS and MTR compliance and create ~~additional~~ insurance against any delays or under-generation from our existing contracts. As such, CleanPowerSF is well positioned to meet our RPS compliance contracting requirements through CP ~~6~~8.

VII. Risk Assessment

CleanPowerSF assesses and aims to mitigate RPS risks associated with, but not limited to permitting, transmission, interconnection and development, tariffs and macroeconomic factors, supply chains, and financing. Potential impacts of these risks on CleanPowerSF's RPS-eligible energy supplies are incorporated into the program's portfolio planning and management activities. The risk adjusted expected generation used by CleanPowerSF to manage supply risks are included in Appendix C, RNS Quantitative Response.

Generation variability, resource availability, and market conditions might impact the amount of future electricity delivered to a retail seller. CleanPowerSF acknowledges the possibility that contracted volumes of electricity, especially from as-available and variable resources, might

not be delivered as expected under contract. Delays such as these have affected projections of generation, although CleanPowerSF plans to mitigate the delays. CleanPowerSF considers this potential risk in contracting, forecasting, procurement review, and programmatic decision-making and requires industry standard contractual protections for under- and over-deliveries to address RPS compliance and financial risks.

VII.A Compliance Risk

Risk Rating: Low

CleanPowerSF uses a comprehensive, iterative enterprise risk management framework to regularly evaluate risk areas across our business, identify mitigation strategies, and execute on those strategies. CleanPowerSF regularly monitors and manages power supply cost and risks in a manner that is consistent with best utility industry practice. CleanPowerSF has identified the following renewable energy supply risks that might impact RPS compliance and whose management are critical to ensure a low-cost, stable, and predictable power portfolio:

- Variable resource availability risk: Many forms of renewable power are variable and not dispatchable, meaning the actual power produced cannot be controlled or produced on demand. Due to this variability, renewable energy is typically sold as-available, meaning that while a specified capacity is dedicated to the purchaser, the actual watt-hours are delivered based on production, which might be higher or lower than planned due to changing weather and other conditions.
- Technology risk: Energy generation technology is rapidly evolving; entering into excessive long-term contracts, therefore, may commit CleanPowerSF to a particular technology that might become obsolete or more expensive than energy available in later years. Overcommitting to certain technologies in the near-term might also limit future investments in emerging technologies.
- Development risk/project delays: When entering into a contract for power from a facility that is not yet constructed and/or operational, CleanPowerSF is exposed to the risk ~~of~~that the energy supply may not ~~being~~be delivered on time or at all due to development, permitting, interconnection, ~~and~~transmission, supply chain, financing, or other project implementation delays or cancellation. ~~For example, the~~

~~CC Power OME Fish Lake Geothermal Project has been delayed by permitting and~~ Several in-development resources, have experienced schedule movement or remain subject to development, transmission, and interconnection ~~upgrade delays and as a result, the COD was extended significantly. The Ormat Portfolio of Projects was also delayed by interconnection upgrade delays. As a result, the earliest CODs for these projects have now been extended significantly. Furthermore, in the past~~dependencies. In addition, the Aramis Renewable Energy Project previously experienced a land use ~~permits were challenged in court creating a delay in the initial COD. Although this~~permit challenge that delayed the project schedule; although that challenge has since been resolved, permitting issues ~~could be~~remain a potential barrier for other renewable projects ~~meeting their initial CODs as well~~. CleanPowerSF continues to monitor project development status and accounts for these risks through ongoing portfolio planning, risk-adjusted RNS analysis, MMoP, and VMoP. In general, interconnection upgrade delays are a widely known issue that many new renewable projects are facing. The increase in renewable procurement amongst California LSEs, has driven an extremely high amount of interconnection requests in recent years. Although CAISO is working to mitigate the backlog of interconnection requests through its Interconnection Process Enhancements process, interconnection delays remain a concern in connecting new renewable projects to the grid in a timely manner.

- Counterparty credit risk: A financially weak or unviable counterparty might expose CleanPowerSF to the risk that contracted supply will not be delivered, exposing the program to a supply shortage and more market price volatility than desired. High inflation increases the cost of capital for counterparties with low credit ratings.
- Supply chain risk: As many of the components for new energy facilities are imported from other countries, U.S. international relations can impact the renewable project supply chain and project development timelines. While supply chain issues due to COVID-19 have eased, generationally-high inflation and recent tariff measures and a volatile policy environment have increased the cost of capital, increased component costs, and lengthened project timelines, putting upward pressure on total costs and development timeframes causing supply chain risk.

CleanPowerSF evaluates both the likelihood and severity of the risks identified above as part of its risk management and portfolio planning processes. These risks are assessed based on their potential impact on RPS compliance, delivery certainty, and cost stability, and are managed through a combination of diversified procurement, conservative modeling assumptions, contractual protections, and ongoing portfolio monitoring.

The likelihood and severity of these risks, along with corresponding mitigation measures, are summarized in the risk assessment matrix below.

Table 10. CleanPowerSF Risk Assessment Matrix

Risk Factor	Risk Description	Likelihood	Impact	Mitigation Measures
Resource Underperformance / Variability	Variable solar/wind resource conditions; geothermal outage risk; as-available deviations.	Medium	Low	Risk-adjusted generation forecasts in Appendix C; portfolio diversity; and financial protections for contract underperformance.
Technology Risk	Overcommitting to a given technology can limit investment flexibility as policy and the industry evolves.	Medium	Low	Diversified procurement across multiple renewable and firm clean technologies; staggered contract execution and CODs across the planning horizon; balanced mix of long, medium, and short-term contracts.
Development Risk / COD Delays	Permitting, interconnection upgrades, supply chain or equipment delays.	Medium	Medium	Diversified long-term portfolio; MMoP/VMoP buffers; and contractual delay protections.
Counterparty Credit / Financial Stability	Bankruptcy risk, inability to secure financing, rising cost of capital.	Low	Medium	Creditworthiness screens, parent guarantees/Letters of Credit for Development Assurance and Performance Assurance, diversified counterparties, ongoing financial monitoring.

Any of these risks might impact the amount of renewable generation available for RPS compliance. CleanPowerSF manages and minimizes the risks described above on an ongoing basis through energy supply portfolio diversification, contract provisions, and counterparty risk assessments. The diversification of suppliers and projects procured reduces the impact of development delays or energy delivery shortfalls of any one project, and credit risks from any one

counterparty. As discussed, CleanPowerSF is well positioned to meet our RPS compliance requirements – therefore, while the above risks present real challenges that can affect procurement margins, CleanPowerSF believes the severity of the risk to our RPS compliance (including long-term contacting requirements) is low. Potential under-deliveries from the identified risks are addressed through an MMoP, a significant VMoP, and portfolio diversification as discussed above.

CleanPowerSF also analyzes the risk that changes in demand (both increases and decreases) pose to our RPS compliance. The City has adopted aggressive climate goals, including the decarbonization of building and transportation sectors through electrification. Increases in electrification will likely increase CleanPowerSF program demand and total volumes needed for RPS compliance. CleanPowerSF's ~~2022~~2026 IRP analysis ~~aligns assumptions, targets, and data used~~is still in ~~the latest version of the City's Climate Action Plan, which was released in January 2022 and outlines a path to achieve net zero emissions by 2040.~~progress, and will reflect updated load forecasts, policy requirements, market conditions, and building and transportation electrification. The 2026 IRP modeling evaluates how these factors may affect CleanPowerSF's long-term ~~planning includes projections of how these decarbonization targets are expected to increase CleanPowerSF's~~ renewable energy demand, clean energy supply needs, and reliability ~~needs, complete with scenarios and~~ requirements. Through portfolio modeling and sensitivity ~~analyses to give staff the clearest picture of the higher and lower bands of our future renewable energy and reliability requirements.~~analysis, CleanPowerSF ~~will continue to track our progress against the City's targets and~~ can assess a range of scenarios and potential future procurement needs to update ~~future~~its supply and demand projections ~~to reflect the latest policies, mandates, and available data. Regularly evaluating these and other demand side impacts~~ as market and policy conditions continue to develop. This ongoing planning allows CleanPowerSF to ~~anticipate and quantify increases in demand with enough time to~~ procure additional renewable ~~energy~~resources as needed to ~~remain in~~maintain compliance with ~~both~~ State RPS requirements and support San ~~Francisco renewable~~Francisco's clean energy ~~targets~~and climate goals.

VII.B Risk Modeling and Risk Factors

Risk: Low

CleanPowerSF energy supply modeling uses stochastic and deterministic approaches, which allow for specific scenarios using different inputs for contract volumes, timelines, and product content types to be modeled hourly against different customer demand scenarios, renewable and GHG-free content goals, SuperGreen product subscription levels, and projected forward prices. CleanPowerSF portfolio modeling uses loss-adjusted program demand forecasts and renewable portfolio targets to ~~2035~~2036 and compares this volume to hourly expected deliveries from all CleanPowerSF energy contracts. CleanPowerSF models this data hourly, monthly, and annually for the forward three to four years and monthly and annually for years beyond.

VII.C. Lessons Learned – Risk Assessment

The past few years have presented numerous challenges and risks that have influenced renewable procurement. Lessons learned from these challenges are informing future CleanPowerSF risk assessment and risk mitigation activities. ~~To~~

For example, to understand the impacts ~~in real time and prepare for multiple potential "futures,"~~of uncertain customer demand, CleanPowerSF ~~modeled~~models our customer demand under a range of economic and weather scenarios, which ~~allowed CleanPowerSF~~ allows our power supply team to evaluate and adjust our procurement strategy as needed. This ~~experience has prepared~~process will help CleanPowerSF ~~to better respond to~~prepare for unprecedented demand impacts in the future by increasing the breadth of our demand forecasting, strengthening modeling linkages between economic activities and program demand, and supporting robust demand forecasting for outlier situations.

CleanPowerSF has also learned about the challenges and opportunities of participating in joint procurements through our work on multiple solicitations and negotiations in partnership with CC Power. This joint procurement approach provides CleanPowerSF with two key advantages that are expected to deliver lower costs to ratepayers: 1) joint procurement allows LSEs such as CleanPowerSF to contract for a portion of a larger project that has scale efficiencies we might not attain through procurement on our own; and 2) this approach allows CleanPowerSF to contract for portions of multiple projects instead of contracting for a single project, providing portfolio diversification and project development risk mitigation benefits.

Procurement to meet San Francisco's aggressive renewable and GHG-free goals in a cost-effective manner has met headwinds~~.~~ in recent years. Development and interconnection delays, supply chain scarcities, inflation, high market prices, uncertain federal policies, and limited availability of new generating resources have all been challenging. For all these reasons, it is has been more difficult to contract ~~now~~for renewable resources in recent years. CleanPowerSF has reflected on these experiences and is reviewing how to mitigate risks associated with them through a combination of improving contracting provisions ~~and~~, more frequent portfolio analysis, ~~reporting,~~ and streamlined administrative processes~~. Critically, we have completed contracts earlier to meet more aggressive environmental goals.~~ for procurement.

VIII. Renewable Net Short Calculations

In accordance with the ACR and the methodology established in the ALJ Ruling on RNS in R.11-05-005 to evaluate potential risk impacts, CleanPowerSF has conducted a project viability and delivery sensitivity assessment for this ~~Revised Final 2025~~Draft 2026 RPS Plan.[52] Under this project viability and delivery assessment, CleanPowerSF has evaluated expected renewable generation from new and existing facilities under contract and adjusted it depending on a project's development status as each development stage has its own set of unique risks. These risks include, but are not limited to, project development and viability, market, and technology risk. The methodologies used to calculate risk-adjusted annual generation for each contract and the CleanPowerSF resultant RNS are detailed in this section below. The outcomes of these analyses are included in Appendix C, RNS Quantitative Response.

CleanPowerSF calculates our RPS-eligible renewable energy procurement need using our latest retail demand forecast and annual RPS-eligible renewable energy targets through ~~2035. CleanPowerSF's retail demand forecast assumes that the abnormal weather experienced in the past few years will regularly occur and, thus, drive increases in peak energy demand.~~2036. This calculation includes CleanPowerSF's annual RPS compliance requirement, the MMoP to address compliance risk, and the VMoP associated with meeting San Francisco's local renewable energy goals. CleanPowerSF also forecasts ~~for~~ additional renewable energy demand attributed to growth

[52] See ACR~~, sec.~~ (March 27, 2026), § 6.8 ~~and~~; R.11-05-005, Administrative Law Judge's Ruling on Renewable Net Short (May 21, 2014).

in customer ~~subscription to~~enrollment in our SuperGreen product, CleanPowerSF's voluntary 100 percent RPS-eligible renewable energy product. Generation associated with SuperGreen sales is incremental to RPS compliance requirements. Additional renewable energy procurement needs are calculated for a SuperGreen sales rate of up to 20 percent of CleanPowerSF's total retail sales over this RPS Procurement Plan's 10-year planning horizon. Forecasts are regularly updated, so changes in renewable energy demand can be addressed in CleanPowerSF's ongoing procurement planning processes.

When evaluating our renewable energy supply and net short to meet both RPS compliance and local renewable energy targets, CleanPowerSF has conducted the risk analyses detailed below and adjusted the expected renewable generation in the RNS Quantitative Response accordingly. By discounting expected deliveries in accordance with the RNS methodology, CleanPowerSF can mitigate risk across our RPS portfolio by identifying higher risk projects and planning for the procurement of additional renewable energy to cover generation that has been risk-adjusted.

For generation forecasts for new renewable generation projects, CleanPowerSF uses the five viability categories and weights provided in the RNS Ruling to calculate risk-adjusted project generation:

- Technology (10 percent) – Higher scores were assigned to projects that use commercialized technology already available at similar scale;
- Developer Experience (15 percent) – Higher scores were assigned to projects from developers with more experience developing projects at similar scale;
- Site Control (25 percent) – Higher scores were assigned to projects with control of site and right of way for gen-tie line;
- Permitting Status (25 percent) – Higher scores were assigned to projects further along in permitting process for all required permits;
- Interconnection Progress (25 percent) – Higher scores were assigned to projects that have achieved more milestones in interconnection process.

The RNS Ruling outlines how point values were assigned to each of the viability categories.[53] Individual projects were assigned a weighted risk-adjusted score using criteria that was applied to the mean value to determine the expected generation for the RNS calculations. These expected generation values were then adjusted down 10 percent in accordance with CleanPowerSF risk management practices for as-available renewable contracts that are new or with less than two years of operational data. For online projects with more than two years of operational data, this mean generation forecast is used without any derates for failure. The final risk-adjusted volumes are included as inputs in the RNS Quantitative Response accompanying this filing. These same assessment categories are used to evaluate bids received in response to CleanPowerSF renewable solicitations as a component of the LCBF methodology, which assigns additional points to more viable projects and helps reduce portfolio risk. CleanPowerSF also contracts with existing renewable facilities to meet our RPS compliance needs and has executed a mix of as-available and firm delivery contracts.

CleanPowerSF's as-available renewable contracts with existing renewable facilities are for the energy generated from a specified amount of renewable generating capacity over a period of time. Contracts include annual projected generation consistent with the P50 value, but actual deliveries might be affected by factors like weather patterns, mechanical issues, or *force majeure* events, such as wildfires. CleanPowerSF actively monitors monthly deliveries received from these contracts to determine the projects' performance against expected volumes. CleanPowerSF analyzes past delivery trends to project whether future expected volumes should be adjusted to reflect a project's performance for RPS procurement planning. CleanPowerSF performs regular sensitivity analyses to determine renewable position and cost impacts for up to 10 percent above and below P50 expected deliveries. The lower range of these values — 90 percent of expected deliveries — is used for the RNS quantitative analysis to determine CleanPowerSF's RNS.

Firm delivery contracts are typically short-term and executed for a set volume from a diverse pool of facilities. The generator pool typically consists of different technologies and geographic locations that can be updated at a seller's discretion, which minimizes risk. Under-deliveries from these contracts are less likely, as lower-than-expected generation from any one

[53] ~~*Id.* at pp. 14-15.~~ R.11-05-005, Administrative Law Judge's Ruling on Renewable Net Short (May 21, 2014), pp. 14-15.

facility in the pool can be made up by other generators in the pool. Because CleanPowerSF expects to receive the full quantity of energy from firm delivery contracts each year, it has not discounted the expected annual quantity of energy from these contracts in our RNS calculation.

IX. Minimum Margin of Procurement ("MMoP")

IX.A. MMoP Level

CleanPowerSF is developing an electricity supply portfolio to achieve State mandates and City goals for increasing RPS-eligible renewable energy supply over time. Table 11 shows the margin of RPS over-procurement based on the difference between the Public Utilities Code section 399.15(b)(2)(B) and the CleanPowerSF RPS procurement targets. The bottom row in this table reflects CleanPowerSF's VMoP.

Table 11. State and Local Renewable Energy Requirements

RPS Content Goals	2025~~2026~~	2027~~2026~~	2027~~2028~~	2028~~2029~~	2030~~2029~~	2031~~2030~~	2032~~2031~~	2033~~2032~~	2033~~2034~~	2035~~2034~~	2035~~2036~~
SB 100 RPS Targets	~~46.7~~49.3%	~~49.3~~52%	~~52~~54.7%	~~54.7~~57.3%	~~57.3~~60%	60%	60%	60%	60%	60%	60%
CleanPowerSF RPS Eligible Procurement Targets (2022 IRP)	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
CleanPowerSF RPS Margin of Over-procurement	~~26.3~~23.7%	~~23.7~~21%	~~21~~18.3%	~~18.3~~15.7%	~~15.7~~13%	13%	13%	13%	13%	13%	13%

As noted in Table 11, CleanPowerSF's total portfolio RPS-eligible renewable energy target is 73 percent ~~by 2025~~, and ~~remaining~~remains at that level for the foreseeable future, consistent with the goal to achieve 100~~%~~ percent RPS and/or GHG-free electricity portfolio by 2025 and beyond. CleanPowerSF achieved this goal by 2023, two years earlier than the target and has continued to achieve this goal in ~~2024.~~the years since. CleanPowerSF's ~~2022~~2026 IRP ~~maps the~~will map out a course for CleanPowerSF to ~~attain and~~ maintain a 100 percent RPS-eligible and/or GHG-free electricity resource portfolio ~~by 2025~~, ensuring CleanPowerSF will also maintain a significant margin of procurement over the SB 100 mandates. ~~The upcoming 2025 IRP will~~

~~continue this course.~~ CleanPowerSF's efforts to meet the City's renewable energy targets provide a buffer above the State requirements and serve as ~~the~~a VMoP.

To address RPS compliance risk, CleanPowerSF uses our risk assessments, including our RNS calculations to establish an MMoP to guide RPS compliance procurement planning.

IX.A.1 MMoP Methodology and Inputs

CleanPowerSF's MMoP is intended to address the RPS failure rate determined in the RNS calculation. In the event of contract under-deliveries or project failures, the MMoP should be sufficient to ensure CleanPowerSF is compliant with the RPS procurement requirements. CleanPowerSF's VMoP are the annual RPS-eligible content goals identified in the ~~2022 IRP and are expected to be maintained in the 2025 IRP.~~2026 IRP.

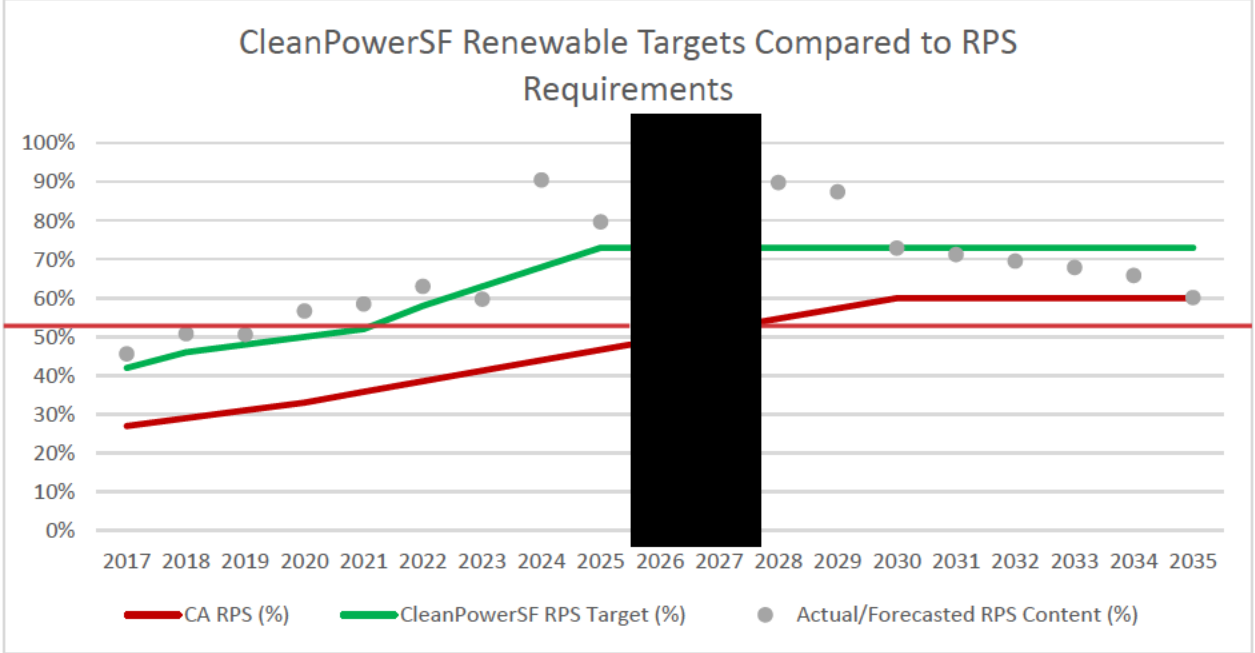
Section VIII describes how CleanPowerSF risk-adjusts the energy delivery estimates for RPS contracts with as-available resources and resources that are under development. Therefore, CleanPowerSF plans to procure additional RPS energy equal to our MMoP quantity. Table 12 below lists the projected RPS under-generation (for operating projects) and failure rates (for in-development projects) and resultant MMoP and is consistent with the inputs in the RNS Quantitative Response.

Table 12. CleanPowerSF Annual MMoP Values

	~~2025~~2026	2027~~2026~~	~~2027~~2028	2029~~20~~28	2030~~20~~29	2031~~203~~0	2032~~30~~31	2033~~2032~~	2033~~203~~4	~~2034~~2035	~~2035~~2036
Forecasted Under-Generation Rate (RPS Facilities Online)	[redacted]			4.3~~.5~~%	~~3.~~5.1%	~~4.2~~5.1%	~~4.2~~5.1%	~~4.2~~5.0%	~~4.2~~5.0%	4.~~1~~6%	~~3.5~~4.2%
Forecasted Failure Rate (RPS Facilities In-Development)				11.~~9~~7%	11.~~9~~7%	11.~~9~~7%	11.~~9~~7%	11.~~9~~7%	11.~~9~~7%	11.~~9~~7%	11.~~9~~7%
MMoP (MWh)				~~176,218~~22 9.828	~~176,816~~22 8.715	~~176,155~~22 8.818	~~175,858~~2 28.719	~~175,759~~22 8.226	~~175,265~~22 6.121	~~173,160~~ 207.658	~~154,697~~ 183.522

Since we began serving customers in 2016, CleanPowerSF has consistently exceeded the State RPS requirements. ~~CleanPowerSF's RPS-eligible renewable energy targets and performance compared to the State RPS requirements from 2017 to date are summarized in Figure 8 below.~~ CleanPowerSF expects to continue meeting or exceeding the RPS requirements through ~~2035~~CP8.

~~Figure 8. CleanPowerSF Renewable Targets Compared to RPS Requirements~~



IX.A.2 MMoP Scenarios

CleanPowerSF projects meeting our annual RPS procurement targets identified in Table 13 over the 10-year planning horizon.

Table 13. CleanPowerSF and SB 100 RPS Procurement Requirements

Content Goals	~~2025~~20 26	2027~~20~~ ~~26~~	~~2027~~20 28	~~2028~~20 29	2030~~20~~ ~~29~~	2031~~20~~ ~~30~~	2032~~20~~ ~~31~~	2033~~20~~ ~~32~~	~~2033~~20 34	~~2034~~20 35	~~2035~~20 36
CleanPowerSF RPS-Eligible Targets	73.0%	73.0%	73.0%	73.0%	73.0%	73.0%	73.0%	73.0%	73.0%	73.0%	73.0%
SB 100 RPS Requirements	~~46.7~~49. 3%	~~49.3~~52. 0%	~~52.0~~54. 7%	~~54.7~~57. 3%	~~57.3~~60. 0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%

CleanPowerSF set our ~~2025~~2026 RPS-eligible renewable energy target at 73 percent, ~~26.33~~23.7 percentage points above the State's RPS requirement. The RNS included in the RNS Quantitative Template incorporates the program's MMoP, VMoP, and additional RPS-eligible renewable energy need resulting from forecasted growth of enrollment in SuperGreen, CleanPowerSF's voluntary 100 percent RPS-eligible renewable energy product. SuperGreen 100 percent RPS-eligible renewable product content is incremental to RPS compliance requirements. Forecasted SuperGreen sales represent up to 20 percent of total program demand through the planning horizon. CleanPowerSF models a range of SuperGreen sales levels as MMoP sensitivities to understand the potential impacts of different participation levels on the program's RNS.

In our contracting with specific renewable projects, CleanPowerSF assesses all the risks described in the Risk Assessment section above and incorporates them into our MMoP sensitivity analyses. ~~Regular reporting of~~CleanPowerSF staff regularly review CleanPowerSF's overall current and ~~forward~~forecasted renewable energy position ~~includes~~with special consideration ~~of new~~for renewable projects in development with ~~COD within~~CODs planned in the next twelve months. Progress on these projects is tracked through monthly and quarterly development progress updates from ~~suppliers and check-ins with~~suppliers' development team staff. Informed by these updates, variations to expected deliveries are modeled to quantify the potential impact on various CleanPowerSF performance metrics, including RPS-eligible renewable content~~,~~[54] Green-e eligible content, GHG emissions, locally-sourced energy, energy supply by technology, and energy deliveries under long-term contracts.

Resources procured through the VAMO process (discussed in Section IV.A above) contribute to CleanPowerSF's VMoP. As discussed above, CleanPowerSF regularly analyzes demand-side sensitivities that might impact CleanPowerSF's demand and supply balance and MMoP for RPS procurement in the future. Sensitivities include increases in EV adoption, building electrification, and changes in SuperGreen participation.

[54] CleanPowerSF models its renewable procurement volumes against its 100 percent RPS-eligible renewable SuperGreen product and its default Green product renewable goals~~, which create~~. This modeling creates a trajectory to a 73 percent RPS-eligible renewable energy Green product by 2025 and ~~result~~results in a total portfolio that is projected to be up to 26 percent more renewable ~~than that required under~~as compared to the State's RPS program requirements, depending on the year.

X. Bid Solicitation Protocol, Including Least Cost Best Fit Methodologies

CleanPowerSF's renewable procurement aligns with the renewable energy needs identified in Sections IV to IX of this Plan and includes specific needs for eligible renewable energy resources, generation capacity, deliverability characteristics, locational preferences, and required online dates to assist in determining what resources fit best within CleanPowerSF's supply portfolio. These products might include those related to energy, capacity, and others that might be defined through legislative, regulatory, and market design changes.

CleanPowerSF's regular procurement activities can include competitive solicitations, programmatic purchases and activities, demand-side programming, project development, and participation in the electricity markets run by the CAISO. When engaging in these activities, CleanPowerSF implements the City's energy loading order referenced in Section IV.B to limit impacts of its electricity supply on the environment and to further its environmental justice goals.

CC Power procurements, described in Section IV, contribute toward member CCAs' ability to meet both State RPS compliance targets and MTR obligations. CC Power is actively managing two long-duration storage projects in development and two FCR projects also under development. These FCR contracts contribute towards participating CCAs' MTR Procurement Track obligations.[55] CC Power might issue additional solicitations in the future, including for RPS renewable energy resources.

X.A. Bid Selection Protocols

Consistent with Public Utilities Code Section 399.13(a)(5)(C), CleanPowerSF conducts bid solicitations for procuring energy resources that include specific needs for eligible renewable energy resources, generating capacity, locational preferences, generation profile, and required online dates to assist in determining what resources fit best within our portfolio. Procurement policies and decisions for CleanPowerSF are overseen by the San Francisco Public Utilities Commission, whose members are appointed by the Mayor, and the San Francisco Board of

[55] ~~For more information, see: <https://cacommunitypower.org/wp-content/uploads/2021/10/CCPower-FCR-RFO-Due-12-13-21_digital.pdf> [last visited June18, 2025].~~ For more information, see *CA Community Power: 2021 Request for Offers for Firm Clean Energy Resources* (October 25, 2021), available at <https://cacommunitypower.org/wp-content/uploads/2021/10/CCPower-FCR-RFO-Due-12-13-21_digital.pdf> [last visited June 11, 2026].

Supervisors, who are elected by the people of San Francisco. Their decisions seek to ~~assure~~ensure compliance with State law and seek to satisfy local renewable energy procurement policies that exceed the State's RPS requirements.

CleanPowerSF's regular procurement activities include the issuance of competitive solicitations for energy products. Consistent with Section VII on risk assessment and management, CleanPowerSF uses best industry practices in forward contracting, including staggering and laddering forward commitments. This limits CleanPowerSF's exposure to the spot market in the near term, while ensuring we are not over-committed in the long-term. Through regular solicitations, CleanPowerSF diversifies our supply portfolio with respect to generating technologies, plant geographies, suppliers, and contract terms.

CleanPowerSF's solicitation protocols include the following components:

- A description of the products being sought, including the requirement that all eligible renewable resources must be California RPS-certified, consistent with Public Utilities Code Section 399.12 and Section 25741 of the California Public Resources Code;
- CleanPowerSF's preference for bids featuring energy from projects located within the nine San Francisco Bay Area counties;
- CleanPowerSF's requirements for initial delivery dates and preferred contract term lengths;
- Requirements for each proposal submission;
- A schedule of key dates related to the RPS solicitation; and
- CleanPowerSF's *pro forma* Renewable Power Purchase Agreement.[56]

CleanPowerSF solicitation protocol does not currently include specific consideration for identifying or preferring projects that are located within Disadvantaged Communities. However, CleanPowerSF's protocol does give a preference for projects located in the nine Bay Area counties, which supports local economies and workforce. CleanPowerSF is also an administrator of the DAC-GT program in our service area. For projects in the DAC-GT program, the State requires

[56] CleanPowerSF 2024 Renewable Energy Supplies (PUC.PRO.0280), Appendices (July 09, 2024), available at ~~<https://sfbid.sfwater.org/opportunity/details/?cid=280#tab=docs> [last visited May 28, 2025].~~<https://sfbid.sfwater.org/opportunity/details/?cid=280#tab=details> [last visited June 10, 2026].

participating customers to be located in or near eligible disadvantaged communities. In addition, CleanPowerSF also gives preference to renewable projects that participate in the SFPUC's Social Impact Partnership Program, which encourages developers of projects to provide specific community benefits to impacted communities.

~~Recently~~In 2024, CleanPowerSF issued two solicitations for renewable energy supplies and standalone or co-located storage.[57] The RFOs seek bids for energy, environmental attributes, capacity attributes, ancillary services, and related products from new and existing co-located renewable energy resources directly connected to the CAISO Balancing Authority Area. One RFO specifically seeks products eligible for the MTR or supplemental MTR order.

With respect to one of these solicitations, CleanPowerSF is negotiating with short-listed bidders who submitted offers for the renewable energy supplies and co-located storage solicitation of 2024. This RFO prioritized resources eligible to meet the MTR orders, with a special focus on resources that can be used to meet the Diablo Canyon Power Plant ("DCPP") Replacement category; it also expressed a preference for projects located within the nine Bay Area counties.

CC Power issues solicitations for renewable resources on behalf of CleanPowerSF and its eight other member CCAs. CC Power's solicitation protocol includes the following components:

- A description of the projects and products being sought;
- CC Power's requirement that resources directly interconnect to the transmission or distribution system and be able to directly participate in CAISO electricity markets or have the ability to provide RA as a dynamic transfer;
- CC Power's requirements for initial delivery dates and preferred contract term lengths;
- Requirements for each proposal submission;
- A schedule of key dates related to the FCR solicitation; and

[57] For more information, see~~:~~ CleanPowerSF 2022 Renewable Energy Supplies (PUC.PRO.0263) (Oct. 6, 2022), available at <https://sfbid.sfwater.org/opportunity-details/263/cleanpowersf-2022-renewable-energy-supplies> ~~and~~[last visited June 11, 2026]; 2024 CleanPowerSF Renewable Energy Supplies (PUC.PRO.0280) (July 10, 2024), available at <https://sfbid.sfwater.org/opportunity/details/?cid=280#tab=details> [last visited ~~May 28, 2025~~June 11, 2026].

- CC Power's *pro forma* Term Sheet.[58]

CleanPowerSF plans to issue annual solicitations to procure renewable energy and hybrid and stand-alone storage resources located in California to meet CleanPowerSF's renewable energy procurement targets and procurement obligations as ordered by the Commission. Consistent with our past renewable energy solicitations, CleanPowerSF will evaluate bids based on the qualifications and experience of the bidder, project viability, bid value and portfolio fit, and generating resource location.

X.B. Solicitation Protocols for Renewable Sales

CleanPowerSF occasionally conducts and bids into counterparty solicitations to sell excess RPS supplies in our portfolio to generate revenue.

CleanPowerSF's solicitation protocols for sales are similar to the protocols for purchases and include the following components:

- A description of the products being sought, including a requirement that all eligible renewable resources must be California RPS-certified, consistent with Public Utilities Code Section 399.12 and Section 25741 of the California Public Resources Code;
- Requirements for initial delivery dates and preferred contract term lengths;
- Requirements for each proposal submission; and
- A schedule of key dates related to the RPS solicitation.

CleanPowerSF issued a solicitation in September 2023 to sell, purchase, or swap short-term RPS-eligible renewable energy supplies. This RFO sought bids and offers for energy, environmental attributes, and capacity from new and existing eligible renewable energy resources. This solicitation was the only one issued in 2023 that requested bids or swaps for CleanPowerSF's

[58] For more information, see CA Community Power, "California Community Power Issues Request for Proposals: Clean Generation and Capacity Resources," available at <https://cacommunitypower.org/solicitations/2025allsourcerfp/> [last visited June 10, 2026].

RPS supplies. Priority was given to volumes with deliveries from 2024 to 2027, but volumes for 2027 and beyond were also considered. Bidders were required to identify the generating facilities pool, including the generator name, fuel source, and location at the time of transaction. Additionally, CleanPowerSF issued a solicitation for renewable, hybrid, and standalone storage resources on July 11, 2024. CleanPowerSF also plans to hold another RFO later this year.

X.C. Least-Cost Best-Fit (LCBF) Criteria

CleanPowerSF's LCBF approach includes both quantitative and qualitative values in our evaluation of bids. The LCBF methodology accounts for the following quantitative components in the determination of the net cost of each bid:

- The cost of energy delivered to the project's generator node as well as the value of the energy delivered to NP15, incorporating congestion costs to deliver the power to CleanPowerSF and potential for curtailment;
- The valuation of RA capacity attributes associated with the bid; and
- Time-of-delivery profile of the energy generation and its effect on the market value and CleanPowerSF's hourly energy position.

This LCBF approach incorporates the impact of a bid's expected net cost in relation to CleanPowerSF's power supply budget.

When evaluating bids, CleanPowerSF also considers a resource's portfolio-adjusted value and its overall fit within our resource portfolio. This evaluation includes:

- An assessment of CleanPowerSF's portfolio energy supply position and RPS content, Green-e eligible content, emissions, and a resource's contribution to a diversified portfolio;
- An assessment of the resource's hourly and monthly generation profile in relation to the supply and demand balance and energy delivery needs identified in CleanPowerSF's IRP, as updated on an on-going basis;

- An assessment of the operational flexibility of the resource as it relates to participation in the CAISO market and integration into CleanPowerSF's existing resource portfolio;
- Consideration of the qualifications and experience of respondents, including financial viability, and contributions to CleanPowerSF supplier diversity; and
- Generating resource location with a preference for local resources located within the nine Bay Area counties and in alignment with San Francisco's environmental justice policy.

CleanPowerSF applies a consistent evaluation and comparison of proposals of different energy supply quantities, project in service dates, and contract length. As outlined in CleanPowerSF's 2024 RFO, bid requirements and minimum qualifications are mandatory criteria underlying the evaluation process. CleanPowerSF will continue to apply the LCBF methodology described above to the evaluation of bids received in forthcoming solicitations, subject to modification as regulatory requirements change.

XI. Safety Considerations

CleanPowerSF holds safety as a top priority in all our business activities. While CleanPowerSF does not presently own, operate, or control any renewable generation facilities, we actively take measures to minimize safety risks associated with our renewable energy procurement. The CleanPowerSF renewable portfolio does not pose any unique safety risks. However, CleanPowerSF does take actions to minimize any safety risks associated with our renewable portfolio.

CleanPowerSF contracts with experienced project developers and power marketers to procure renewable energy to serve our customers. Through our renewable energy ~~contracting~~contracts, CleanPowerSF ~~contributes~~seeks to contribute positively to the State's safety, wildfire risk mitigation, and vegetation management efforts. For example, CleanPowerSF holds our counterparties to Good Utility Practice, which includes safety and wildfire mitigation

standards. In its Form PPA, San Francisco requires facility owners to abide by the Good Utility Practice defined in the CAISO tariff as:

> Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods, and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be any one of a number of the optimum practices, methods, or acts to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region. [59]

While we do not presently own, operate, or control any generation facilities, CleanPowerSF requires in our contracts that facility owners obtain, provide evidence of, and adhere to the requirements of all necessary permits for the renewable energy facility's construction and operation through the end of its useful life. Facility decommissioning and useful end of life disposal are the responsibility of facility owners. Decommissioning plans are typically required of developers as part of local permitting and the California Environmental Quality Act (CEQA) process.

CleanPowerSF recognizes that RPS procurement can support California's wildfire mitigation efforts. One way LSEs can do so is by encouraging vegetation management through biomass procurement. San Francisco has not adopted a policy that prohibits procurement from biomass-derived sources in support of the CleanPowerSF program. In response to our solicitations, CleanPowerSF has received few offers from biomass resources and has not executed any direct contracts with biomass facilities to date.[60] CleanPowerSF will continue to welcome bids from these facilities in future energy RFOs. Any biomass bids received will be evaluated using the bid selection and LCBF criteria described in Section X of this plan.

CleanPowerSF also notes that our customers receive transmission and distribution services from PG&E ~~Company~~. As PG&E ~~Company~~ customers, CleanPowerSF ratepayers pay non-

[59] CAISO Tariff Appendix V~~,~~ (Large Generator Interconnection Agreement), p. 9, available at ~~<~~ ~~http://www.caiso.com/Documents/AppendixV-LargeGeneratorInterconnectionAgreement-asof-Sep1-2022.pdf>~~<http://www.caiso.com/Documents/AppendixV-LargeGeneratorInterconnectionAgreement-asof-Sep1-2022.pdf> [last visited June ~~18, 2025~~11, 2026].

[60] CleanPowerSF has received energy produced from biomass facilities under short-term renewable contracts.

bypassable charges, such as the Tree Mortality Non-Bypassable charge and Wildfire Fund Non-Bypassable Charge, which contribute to statewide vegetation management and wildfire impact mitigation efforts.

Additionally, CleanPowerSF is exploring ways to incorporate climate change adaptation measures into our renewable energy bid evaluation process. For example, CleanPowerSF can account for the vulnerability of project sites to the effects of climate change, such as increased wildfire, flooding risks or sea level rise, during our bid evaluation. Taking these factors into consideration would help CleanPowerSF minimize the risks climate change might pose to our RPS portfolio and compliance.

San Francisco continues to monitor Public Safety Power Shutoff (PSPS) events, recognizing that future PSPS events or other unplanned outages could disrupt CleanPowerSF's renewable energy portfolio and impact San Franciscans.

CleanPowerSF has had RPS facilities under contract taken offline due to wildfires or wildfire risks. These unanticipated shutdowns did not impact CleanPowerSF's RPS compliance, because CleanPowerSF's MMoP and VMoP provided a buffer above the minimum RPS procurement requirements. In addition, CleanPowerSF has developed a geographically diverse portfolio that is not reliant on production from any single facility or region, reducing the likelihood of having multiple resource interruptions caused by a single wildfire event. CleanPowerSF will continue implementing these and the other risk mitigation strategies outlined in this RPS Procurement Plan with the goal of minimizing negative effects of future PSPS or wildfire events that could jeopardize CleanPowerSF's RPS compliance.

XII. Consideration of Price Adjustment Mechanisms

The vast majority of the renewable energy contracts CleanPowerSF has entered into to date are fixed price contracts that do not use price adjustment mechanisms to minimize risks. CleanPowerSF has incorporated price adjustment mechanisms in two recent contracts to address uncertainties and volatility in project costs, tariffs and duties that made it difficult for project developers to offer a reasonable fixed price. Contract price adjustments in all instances would only occur based on actual costs realized by project developers according to a pre-determined formula

that shares responsibility for incremental costs. CleanPowerSF has developed contract language for use and invites bidders to propose both fixed price and alternative, including indexed, pricing options in its renewable energy solicitations. CleanPowerSF manages the impact price adjustments might have on ratepayers by maintaining a diverse and hedged portfolio, as well as by building reserves into its rate setting. In this way, ratepayers are largely shielded from rate shocks that could arise from a fully variably priced portfolio.

XIII. Cost Quantification

CleanPowerSF's completed Cost Quantification template is attached as Appendix D.

XIV. Impact of Transmission and Interconnection

This section is not required/applicable to CCAs.

XV. Appendix A: Redlined Version of the Draft

See Appendix A below.

CONCLUSION

CleanPowerSF respectfully submits our ~~Revised Final 2025~~Draft 2026 RPS Plan.

San Francisco Water Power Sewer

Services of the San Francisco Public Utilities Commission

CleanPowerSF

Appendix B

Project Development Status

PUBLIC, REDACTED

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	Reporting LSE Name	RPS Contract ID	Project Name	Technology Type	Project Development Phase	City	County	State	Zip Code	Latitude	Longitude	Contract Length (Years)	Contract Execution Date (mm/dd/yyyy)	Contract Start Date (mm/dd/yyyy)	Contract End Date (mm/dd/yyyy)	Contract Capacity	Expected Annual Generation	Total Contract Volume	Commercial Operation Date (COD)	Transmission Status	Storage: Rated Power (MW)	Storage: Capacity (MWh)
2	CleanPowerSF (CPSF)	CPSF60001	Gonzaga Ridge Wind Farm	Wind	Construction	Hollister	Merced	CA	95023	37.065003	-121.1919307	20.00	02/09/24	[redacted]		129.80	285.45	5693.08	[redacted]		50.00	200.00
3	CleanPowerSF (CPSF)	CPSF60002	Gonzaga Ridge Dinosaur Point	Wind	Construction	Hollister	Merced	CA	95023	37.065003	-121.1919307	20.00	02/09/24			17.70	38.92	758.15				
4	CleanPowerSF (CPSF)	CPSF50001	Easley II	Solar PV - Ground M	Pre-Construction	Desert Center	Riverside	CA	92239	33.739607	-115.3788338	10.00	09/09/24	01/01/27	12/31/36	50.00	134.59	1345.94	1/1/2027			
5	CleanPowerSF (CPSF)	CPSF30001	Ormat Dogwood	Geothermal	Pre-Construction	Calexico	Imperial County	CA	92275	33.23448	-115.952	20.00	05/31/22	12/01/27	11/30/47	[redacted]			9/1/2027	[redacted]		
6	CleanPowerSF (CPSF)	CPSF30002	[redacted]	Geothermal	Pre-Construction	[redacted]		CA	[redacted]			19.00	05/31/22	[redacted]					[redacted]			
7	CleanPowerSF (CPSF)	CPSF30003	Fish Lake Geothermal	Geothermal	Pre-Construction	Dyer	Esmeralda County	NV	89010	37.860998	-118.033988	20.00	05/31/22	07/01/27	06/30/47	2.44	12.53	252.54	7/1/2027			
8	CleanPowerSF (CPSF)	CPSF50002	Aramis	Solar PV - Ground M	Pre-Construction	Livermore	Alameda	CA	94551	37.74559091	-121.7777133	25.00	11/20/20			75.00	152.59	3856.14	12/31/2026		75.00	300.00
9	CleanPowerSF (CPSF)	CPSF50003	Darden	Solar PV - Ground M	Pre-Construction	Cantua Creek	Fresno	CA	93608	34.476	-120.216	15.00	11/12/25			71.50	205.85	3093.02			71.48	285.92

San Francisco Water Power Sewer

Services of the San Francisco Public Utilities Commission

CleanPowerSF

Appendix C

Renewable Net Short Quantitative Response

PUBLIC (REDACTED)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
1	**LSE Name:**	CleanPowerSF (CPSF)		Input required		No input required		Hard-coded																
2	**Date Filed:**	6/12/2026																						
3																								
4	Variable	Calculation	Item	2021 Actual	2022 Actual	2023 Actual	2024 Actual	2021-2024	2025 Actual	2026 Forecast	2027 Forecast	2025-2027	2028 Forecast	2029 Forecast	2030 Forecast	2028-2030	2031 Forecast	2032 Forecast	2033 Forecast	2031-2033	2034 Forecast	2035 Forecast	2036 Forecast	2034-2036
5			Forecast Year					CP 4		1	2	CP 5	3	4	5	CP 6	6	7	8	CP 7	9	10	11	CP 8
6			**Annual RPS Requirement**																					
7	A		**Total Retail Sales (MWh)**	2,902,486	2,839,594	2,870,853	2,974,546	11,587,479	2,991,109					3,218,582	3,293,502		3,370,638	3,450,244	3,532,051	10,352,933	3,616,127	3,728,650	3,837,073	11,181,850
8	B		RPS Procurement Quantity Requirement (%)	36%	39%	41%	44%	NA	47%	49%	52%	NA	55%	57%	60%	NA	60%	60%	60%	NA	60%	60%	60%	NA
9	C	A*B	**Gross RPS Procurement Quantity Requirement (MWh)**	1,037,639	1,093,244	1,184,227	1,308,800	1502283.488	1,395,951					1,845,213	1,976,101		2,022,383	2,070,146	2,119,231	2,237,190	2,169,676	2,237,190	2,302,244	-
10	D		Voluntary Margin of Over-procurement (MWh)	648,906	695,466	529,530	1,382,499	3,256,401	1,200,586					504,352	428,155		438,183	448,532	459,167	1,345,882	470,097	484,725	498,819	1,453,641
11	E	C+D	**Net RPS Procurement Need (MWh)**	1,686,545	1,788,710	1,713,757	2,691,299	4,758,685	2,596,537					2,349,565	2,404,256		2,460,566	2,518,678	2,578,398	3,583,072	2,639,773	2,721,915	2,801,063	1,453,641
12			**RPS-Eligible Procurement**																					
13	Fa		**Risk-Adjusted RECs from Online Generation (MWh)**	1,686,545	1,788,710	1,778,757	2,891,299	8145311	2,596,537					2,606,853	2,158,975		2,161,148	2,160,257	2,155,816	6,477,221	2,136,872	1,970,701	1,579,380	5,686,953
14	Faa		Forecast Failure Rate for Online Generation (%)					#DIV/0!						4.3%	5.1%		5.1%	5.1%	5.0%	5.1%	5.0%	4.6%	4.2%	4.6%
15	Fb		**Risk-Adjusted RECs from RPS Facilities in Development (MWh)**					0						856,808	853,364		853,364	853,364	853,364	2,560,092	853,364	853,364	853,364	2,560,092
16	Fbb		Forecast Failure Rate for RPS Facilities in Development (%)					#DIV/0!						11.7%	11.7%		11.7%	11.7%	11.7%	11.7%	11.7%	11.7%	11.7%	11.7%
17	Fc		**Pre-Approved Generic RECs (MWh)**					0												0				0
18	Fd		**Executed REC Sales (MWh)**			65,000	200,000	265000												0				0
19	F	Fa+Fb+Fc-Fd	**Total RPS Eligible Procurement (MWh)**	1,686,545	1,788,710	1,713,757	2,691,299	7,880,311	2,596,537					3,463,661	3,012,339		3,014,512	3,013,621	3,009,180	9,037,313	2,990,236	2,824,065	2,432,744	8,247,045
20	F0		Category 0 RECs			134,062	214,468	348,530												0				0
21	F1		Category 1 RECs	1,686,545	1,788,710	1,579,695	2,476,831	7,531,781	2,596,537					3,463,661	3,012,339		3,014,512	3,013,621	3,009,180	9,037,313	2,990,236	2,824,065	2,432,744	8,247,045
22	F2		Category 2 RECs					0												0				0
23	F3		Category 3 RECs					0												0				0
24			**Gross RPS Position (Physical Net Short)**																					
25	Ga	F-E	**Annual Gross RPS Position (MWh)**	0	-	-	(0)	3,121,626	0					1,114,096	608,083		553,946	494,943	430,782	5,454,241	350,463	102,150	(368,319)	6,793,404
26	Gb	F/A	Annual Gross RPS Position (%)	58%	63%	60%	90%	68%	87%					108%	91%		89%	87%	85%	87%	83%	76%	63%	74%
27			**Application of Bank**																					
28	Ha	J-Hc (from previous CP)	**Existing Banked RECs above the PQR**					0	0			0	0			0	0			0	0			0
29	Hb		RECs above the PQR added to Bank					0				0				0				0				0
30	Hc		Non-bankable RECs above the PQR					0				0				0				0				0
31	H	Ha+Hb	**Gross Balance of RECs above the PQR**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	Ia		Planned Application of RECs above the PQR towards RPS Compliance					0				0				0				0				0
33	Ib		Planned Sales of RECs above the PQR					0				0				0				0				0
34	J	H-Ia-Ib	**Net Balance of RECs above the PQR**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	J0		Category 0 RECs					0				0				0				0				0
36	J1		Category 1 RECs					0				0				0				0				0
37	J3		Category 3 Bundled RECs (Non-CBA Utilities Only)*					0				0				0				0				0
38			**Expiring Contracts**																					
39	K		RECs from Expiring RPS Contracts (MWh)					0				0				0				0				0
40			**Net RPS Position (Optimized Net Short)**																					
41	La	Ga+Ia-Ib-Hc	**Annual Net RPS Position after Bank Optimization (MWh)**	0.255	-	-	(0)	3,121,626	0					1,114,096	608,083		553,946	494,943	430,782	5,454,241	350,463	102,150	(368,319)	6,793,404
42	Lb	(F+Ia-Ib-Hc)/A	Annual Net RPS Position after Bank Optimization (%)	58%	63%	60%	90%	68%	87%					108%	91%		89%	87%	85%	87%	83%	76%	63%	74%

San Francisco Water Power Sewer

Services of the San Francisco Public Utilities Commission

CleanPowerSF

Appendix D

Cost Quantification Quantitative Response

PUBLIC (REDACTED)

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	**LSE Name:**	CleanPowerSF (CPSF)	Input Required		No Input Required								
2	**Date Filed:**	12/06/26											
3													
4		**Table 1: Cost Quantification (Actual Net Costs, $)**	**Actual RPS-Eligible Procurement and Generation Net Costs ($)**										
5	1	**Executed RPS-Eligible Contracts by Technology Type* (Purchases and Sales)**	**T1_2023**	**T1_2024**	**T1_2025**								
6	2	Biogas: Digester Gas	14693.84										
7	3	Biogas: Landfill Gas	464568.40	149560.80									
8	4	Biodiesel											
9	5	Biomass	2188166.88	2151237.90	4730960.00								
10	6	Muni Solid Waste											
11	7	Geothermal	26215322.56	26429829.97	25507652.33								
12	8	Small Hydro (Non-UOG)	1935388.64	919178.55	500500.12								
13	9	Conduit Hydro	331.44										
14	10	Water Supply / Conveyance											
15	11	Ocean Wave											
16	12	Ocean Thermal											
17	13	Tidal Current											
18	14	Solar PV (Non-UOG)	34673626.16	43518730.56	38731374.61								
19	15	Solar Thermal											
20	16	Wind	24924436.14	29722660.47	27471924.86								
21	17	Unbundled RECs (REC Only)											
22	18	Various (Index Plus REC)***	4712301.62										
23	19	Fuel Cell											
24	20	Linear Generator											
25	21	UOG: Small Hydro											
26	22	UOG: Solar PV											
27	23	UOG: Other											
28	24	Executed REC Sales (Revenue)	3185000.00	11065000.00	0.00								
29	25	**Total RPS-Eligible Procurement and Generation Net Cost ($)**	**91943835.68**	**91826198.25**	**96942411.92**								
30	26	Total Retail Sales (MWh)	2870853.00	2974546.00	2991110.00								
31	27	**Incremental Rate Impact**	**3.202666095**	**3.087066001**	**3.241017947**								
32													
33		**Table 2: Cost Quantification (Forecast Costs and Revenues, $)**	**Forecast RPS-Eligible Procurement Costs and Revenues ($)**										
34	1	**Executed But Not Approved RPS-Eligible Contracts (Purchases and Sales)****	**T2_2026_EBNA**	**T2_2027_EBNA**	**T2_2028_EBNA**	**T2_2029_EBNA**	**T2_2030_EBNA**	**T2_2031_EBNA**	**T2_2032_EBNA**	**T2_2033_EBNA**	**T2_2034_EBNA**	**T2_2035_EBNA**	**T2_2036_EBNA**
35	2	Biogas: Digester Gas											
36	3	Biogas: Landfill Gas											
37	4	Biodiesel											
38	5	Biomass											
39	6	Muni Solid Waste											
40	7	Geothermal											
41	8	Small Hydro (Non-UOG)											
42	9	Conduit Hydro											
43	10	Water Supply / Conveyance											
44	11	Ocean Wave											
45	12	Ocean Thermal											
46	13	Tidal Current											
47	14	Solar PV (Non-UOG)											
48	15	Solar Thermal											
49	16	Wind											
50	17	Unbundled RECs (REC Only)											
51	18	Various (Index Plus REC)***											
52	20	Fuel Cell											
53	21	Linear Generator											
54	22	UOG: Small Hydro											
55	23	UOG: Solar PV											
56	24	UOG: Other											
57	25	Executed REC Sales (Revenue)											
58	26	**Total Executed But Not Approved RPS-Eligible Procurement and Generation Cost**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
59	27	Total Retail Sales (MWh)	[redacted]	[redacted]	[redacted]	3218581.78	3293501.89	3370637.80	3450244.50	3532051.19	3616126.99	3728650.30	3837072.90
60	28	**Incremental Rate Impact**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
61	29	**Executed RPS-Eligible Contracts (Purchases and Sales)******	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**
62	30	Biogas: Digester Gas	[redacted]										
63	31	Biogas: Landfill Gas											
64	32	Biodiesel											
65	33	Biomass				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	34	Muni Solid Waste											
67	35	Geothermal				29267067.51	4365045.77	4365045.77	4365045.77	4365045.77	4365045.77	4365045.77	4365045.77
68	36	Small Hydro (Non-UOG)											
69	37	Conduit Hydro											
70	38	Water Supply / Conveyance											
71	39	Ocean Wave											
72	40	Ocean Thermal											
73	41	Tidal Current											
74	42	Solar PV (Non-UOG)				46279588.50	46020550.53	46261502.79	46261502.79	46261502.79	46261502.79	46261502.79	46261502.79
75	43	Solar Thermal											
76	44	Wind				69725897.54	69695621.11	69782994.67	69782994.67	69782994.67	69782994.67	69782994.67	61974772.92
77	45	Unbundled RECs (REC Only)											
78	47	Various (Index Plus REC)***				21126797.34	20961606.29	20887151.52	20862416.63	20738992.28	20212556.79	15594860.45	9558421.84
79	48	Fuel Cell											
80	49	Linear Generator											
81	50	UOG: Small Hydro											
82	51	UOG: Solar PV											
83	52	UOG: Other											
84	53	Executed REC Sales (Revenue)											
85	54	**Total Executed and Approved RPS-Eligible Procurement and Generation Cost**				**166399350.9**	**141042823.7**	**141296694.7**	**141271959.9**	**141148535.5**	**140622100**	**136004403.7**	**122159743.3**
86	55	Total Retail Sales (MWh)				3218581.784	3293501.892	3370637.796	3450244.5	3532051.194	3616126.991	3728650.302	3837072.905
87	56	**Incremental Rate Impact**				**5.16995876**	**4.282457649**	**4.191386897**	**4.094549238**	**3.99621998**	**3.888748939**	**3.647550525**	**3.183670114**
88	57	**Total RPS-Eligible Procurement and Generation Cost**				**166399350.9**	**141042823.7**	**141296694.7**	**141271959.9**	**141148535.5**	**140622100**	**136004403.7**	**122159743.3**
89	58	**Total Incremental Rate Impact**				**5.16995876**	**4.282457649**	**4.191386897**	**4.094549238**	**3.99621998**	**3.888748939**	**3.647550525**	**3.183670114**

	A	B	C	D	E
1	LSE Nam	CleanPowerSF (CPSF)		Input required	No Input Required
2	Date File	46185			

6	Table 3: Cost Quantification (Actual Procurement / Generation and Sales, MWh)		Actual RPS-Eligible Procurement / Generation and Sales (MWh)		
7	1	Technology Type* (Procurement / Generation and Sales)	T3_2023	T3_2024	T3_2025
8	2	Biogas: Digester Gas	133.00		
9	3	Biogas: Landfill Gas	4205.00	4936.00	
10	4	Biodiesel			
11	5	Biomass	19806.00	46493.00	81472.00
12	6	Muni Solid Waste			
13	7	Geothermal	442172.00	462413.00	447465.00
14	8	Small Hydro (Non-UOG)	17518.00	34272.00	20012.00
15	9	Conduit Hydro	3.00		
16	10	Water Supply / Conveyance			
17	11	Ocean Wave			
18	12	Ocean Thermal			
19	13	Tidal Current			
20	14	Solar PV (Non-UOG)	799665.00	1514576.00	1315518.00
21	15	Solar Thermal			
22	16	Wind	450457.00	828609.00	736670.00
23	17	Unbundled RECs (REC Only)			
24	18	Various (Index Plus REC)***	44798.00		
25	19	Fuel Cell			
26	20	Linear Generator			
27	21	UOG: Small Hydro			
28	22	UOG: Solar PV			
29	23	UOG: Other			
30	24	Executed REC Sales (MWh)	65000.00	200000.00	0.00
31	25	Total RPS Eligible Procurement (MWh)	1713757	2691299	2601137

34	Table 4: Cost Quantification (Forecast Procurement / Generation and Sales, MWh)		Forecast RPS-Eligible Procurement / Generation and Sales (MWh)									
35	1	Executed But Not Approved RPS-Eligible Contracts (Purchases and Sales) **	T4_2026_EBNA	T4_2027_EBNA	T4_2028_EBNA	T4_2029_EBNA	T4_2030_EBNA	T4_2031_EBNA	T4_2032_EBNA	T4_2033_EBNA	T4_2034_EBNA	T4_2035_EBNA	T4_2036_EBNA
36	2	Biogas: Digester Gas											
37	3	Biogas: Landfill Gas											
38	4	Biodiesel											
39	5	Biomass											
40	6	Muni Solid Waste											
41	7	Geothermal											
42	8	Small Hydro (Non-UOG)											
43	9	Conduit Hydro											
44	10	Water Supply / Conveyance											
45	11	Ocean Wave											
46	12	Ocean Thermal											
47	13	Tidal Current											
48	14	Solar PV (Non-UOG)											
49	15	Solar Thermal											
50	16	Wind											
51	17	Unbundled RECs (REC Only)											
52	18	Various (Index Plus REC)***											
53	20	Fuel Cell											
54	21	Linear Generator											
55	22	UOG: Small Hydro											
56	23	UOG: Solar PV											
57	24	UOG: Other											
58	25	Executed REC Sales (MWh)											
59	26	Total Executed But Not Approved RPS-Eligible Procurement	0	0	0	0	0	0	0	0	0	0	0
60	27	Executed and Approved RPS-Eligible Contracts (Purchases and Sales) ****	T4_2026_EAA	T4_2027_EAA	T4_2028_EAA	T4_2029_EAA	T4_2030_EAA	T4_2031_EAA	T4_2032_EAA	T4_2033_EAA	T4_2034_EAA	T4_2035_EAA	T4_2036_EAA
61	28	Biogas: Digester Gas	[redacted]										
62	29	Biogas: Landfill Gas											
63	30	Biodiesel											
64	31	Biomass				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	32	Muni Solid Waste											
66	33	Geothermal				482542.30	55197.05	55197.05	55197.05	55197.05	55197.05	55197.05	55197.05
67	34	Small Hydro (Non-UOG)											
68	35	Conduit Hydro											
69	36	Water Supply / Conveyance											
70	37	Ocean Wave											
71	38	Ocean Thermal											
72	39	Tidal Current											
73	40	Solar PV (Non-UOG)				1211347.93	1204383.22	1210963.64	1210963.64	1210963.64	1210963.64	1210963.64	1210963.64
74	41	Solar Thermal											
75	42	Wind				1004608.31	1004443.94	1005531.84	1005531.84	1005531.84	1005531.84	1005531.84	831435.48
76	43	Unbundled RECs (REC Only)											
77	45	Various (Index Plus REC)***				844734.00	838129.00	835152.00	834163.00	829228.00	808179.00	623545.00	382184.00
78	46	Fuel Cell											
79	47	Linear Generator											
80	48	UOG: Small Hydro											
81	49	UOG: Solar PV											
82	50	UOG: Other											
83	51	Executed REC Sales (MWh)											
84	52	Total Executed and Approved RPS-Eligible Procurement				3543232.535	3102153.209	3106844.537	3105855.537	3100920.537	3079871.537	2895237.537	2479780.177
85	53	Total RPS Eligible Procurement (MWh)				3543232.54	3102153.21	3106844.54	3105855.54	3100920.54	3079871.54	2895237.54	2479780.18