



RISK ASSESSMENT REPORT

San Francisco
Community Choice Aggregation Program
Clean Power SF

Prepared for:
San Francisco Local Agency Formation
Commission



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Executive Summary

Navigant Consulting was retained by the City and County of San Francisco's ("CCSF") Local Agency Formation Commission ("LAFCO") to prepare this Risk Assessment Report ("Report") to support the implementation of CCSF's Community Choice Aggregation Program, Clean Power SF. Specifically, this Report:

- Identifies and describes key program risks;
- Explains the relative importance of each; and
- Suggests how identified risks may be mitigated and managed.

Clean Power SF is itself a means to mitigate risks associated with the provision of electric service and electricity consumption in San Francisco. The program structurally addresses fundamental risks related to increasing electricity costs, dependence on fossil fuels, carbon, and reliance on remote energy sources. The defined approach minimizes risks to CCSF and its constituents by assigning operational risks to a third party supplier with structured rates that preclude the pass-through of unanticipated costs to customers. The 360 MW renewable infrastructure developed through the program will significantly reduce exposure to volatile fossil fuel prices as well as future carbon costs. The Implementation Plan establishes ratepayer protections that are not provided under the status quo, were PG&E allowed to pass cost increases through to ratepayers.

In developing this report, Navigant Consulting carefully reviewed the City and County of San Francisco Community Choice Aggregation Program Description and Revenue Bond Action Plan and Draft Implementation Plan ("Draft Implementation Plan") to identify risks contained within the proposed implementation and operation of Clean Power SF. The Draft Implementation Plan defines a specific approach to achieving CCSF's program objectives whereby an Energy Services Provider ("ESP" or "supplier") is selected to operate the program, including the deployment of specific categories of resources, under contract pursuant to rates that meet or beat PG&E's. This report examines the risks under the proposed approach and identifies options for mitigating the identified risks.

In general, the risks implicit in Clean Power SF fall into two broad categories: 1) strategic risks; and 2) commercial/operational risks. Strategic risks may threaten the startup or viability of Clean Power SF based on political or structural dynamics/considerations. Commercial/Operational risks may threaten the success of the program due to problems with execution at any of the program phases.

The most important strategic risks are summarized below, and others are discussed in the main body of this report.



Supplier Selection and Performance

The critical role designated for the ESP places the supplier selection process and the ensuing performance of the supplier in meeting its contractual responsibilities at the forefront of key factors for program success. There are specific strategic risks within the overarching task of securing an acceptable ESP agreement. These include the need to attract responsive bids from qualified suppliers, ensure sufficient protections are in place to monitor and protect against supplier default, and ensure the supplier performs in accordance with its contractual obligations to the satisfaction of Clean Power SF.

Attracting Qualified Bids

Attracting qualified bids and selecting the program's supplier through the RFP process is the most important action CCSF will take during program implementation. The single greatest risk that would jeopardize program startup would be the inability of CCSF to attract interest from and contract with an ESP meeting CCSF's requirements. CCSF has already taken an important step in mitigating the risk of failing to obtain a qualified supplier by gauging market interest through a recently conducted Request for Qualifications ("RFQ") which yielded responses from two potential suppliers.

If CCSF wishes to increase the number of potential bidders to its RFP, NCI recommends conducting interviews with both responsive and non-responsive recipients of the RFQ to determine the aspects of the potential project that appealed to or concerned them. The results of this exercise should provide valuable feedback in crafting the planned Term Sheet and ultimate RFP. Other options described in this report for increasing the pool of bidders range from providing additional information in advance to bidders to more significant structural changes that would re-allocate risk between the ESP and Clean Power SF. Of course, any such a re-examination and potential rebalancing of risks must be careful not to negate the basic rationale or objectives for the Program.

Supplier Credit and Performance

A high degree of due diligence is required before entering into a contract with a supplier. There is a risk that the selected supplier fails to perform its obligations satisfactorily or becomes financially unsound during the course of the agreement, thereby potentially defaulting on its obligations. Mitigation strategies discussed in this report include close monitoring of the supplier's operations and financial conditions, mandatory supplier reporting, increased CCSF ownership of generation resources, posting of performance bonds, and creation of contingency plans for finding a replacement provider or developing equivalent internal capabilities.

CCSF must devote sufficient staff and focused accountability to manage the Clean Power SF partnership. While most functions are outsourced to the ESP, Clean Power SF is ultimately CCSF's program. Structurally, the ongoing viability and acceptable performance of the ESP is a key issue. The creation of a "supplier relationship manager" whose main responsibility is to be an expert in all matters relating to the ESP is a possible component to managing supplier performance risk. Early recognition of and intervention in potential ESP problems may prevent them from growing.



CCSF might also consider developing more in-house expertise to build a capability of stepping into ESP functions if the ESP fails to adequately perform. This could be an integral part of the supplier relationship manager's function.

Further, early thought should be given to the worst-case scenario of supplier failure. There would be a benefit in having contingency plans related to the transition of the supplier's functions to another capable entity (including possibly Clean Power SF itself, if its personnel were sufficiently trained). Failing that, other plans should be in place regarding the disposition of customers, physical facilities, supply contracts and commitments, and Clean Power SF in general.

PG&E and Political Opposition

A second prominent strategic risk is political opposition, primarily from PG&E, the utility which stands to lose the citizens of San Francisco as electric generation customers. PG&E's original stance on CCA programs was neutrality, but has since shifted to active opposition. Recently, the San Joaquin Valley Power Authority announced it was suspending its program because of several issues that hindered its ability to negotiate an acceptable contract with an ESP. SJVPA cited strong opposition from PG&E and marketing by PG&E in order to retain customers as roadblocks to program implementation.

PG&E recently sponsored a ballot initiative for a state constitutional amendment. This amendment, under the rubric of the "Taxpayer Right to Vote Act," would require a vote of approval from two-thirds of the potential ratepayers within a CCA service territory to allow the commitment of public funds to start a CCA program. PG&E should be expected to seek other legislative or regulatory changes to eliminate or contain the CCA option. It also should be expected to conduct a publicity campaign designed to foment customer opt-out.

Messaging and branding are keys to retaining customers in the face of PG&E opposition. The Program has many attributes that distinguish it positively from PG&E and should appeal to many of the citizens of CCSF, including a much better environmental profile, long-term rate stability, and local generation, among others. Pre-emptive publicity and active public education concentrating on the benefits, pre-empting the objections, and emphasizing that the customer is choosing a new path to public power and sustainability may enhance customer retention.

Excellent customer service will help keep enrollments high once Clean Power SF becomes operational. CCSF may consider a particular outreach to its larger customers to ensure they support and value participation in Clean Power SF. This may include staff liaison in the form of account managers to assist the supplier in handling customer issues that inevitably will arise from time to time. The use of individual contracts for large customers may also be explored to retain them in the Program. Particular scrutiny should be applied during the RFP process to the ESP's capabilities regarding billing and other customer services with a direct impact on customers. The ability of the ESP to expend resources in marketing Clean Power SF should be a factor in supplier selection.



A mitigation to counter the Taxpayer Right to Vote Act and other such legislation may be a coordinated response with other CCAs, potential CCAs, and allies such as municipal power agencies. This would include lobbying and brainstorming potential legal challenges and/or counter legislation. Funding such challenges will be an issue.

Program Financing

The potential issuance of revenue bonds, referred to as H Bonds in the Draft Implementation Plan, to finance construction of the 360 MW clean energy portfolio, is an important plan element that could pose a risk if there are problems with the bond structuring or issuance. Successful issuance will require demonstration to the satisfaction of investors and credit rating agencies of a secure revenue stream sufficient to cover debt service. The Clean Power SF enterprise creates a revenue stream that makes it well-suited to use of H Bonds. Program terms and conditions governing customer payments and the potential for customer departure from the program must be well-defined to ensure a strong credit profile for the program.

To mitigate this risk, CCSF should consider retaining an investment banker or financial advisor in the near future to begin structuring the H bond issuance. As part of this effort, additional details regarding the program's terms and conditions influencing the program's credit profile would be developed. These include policies regarding collection of customer payments, customer deposit policies and administration, and policies in place to prevent or mitigate loss of customers.

Commercial / operational risks are those which may impede program success or the achievement of its objectives due to failure to manage the implementation, transition, or ongoing business processes, or through the rise of unfavorable financial circumstances.

These risks can generally be mitigated through clear expectations, conscientious preparation, and assiduous management. Some of these risks are extensions of strategic risks (for example, changes in laws or regulations after the program has been launched) while others are operational and may present themselves in the transition, implementation, or operational phases.

Rate Management

Additional clarity should be provided regarding pricing structures that would be acceptable to CCSF, particularly in regards to how the meet or beat requirement will be measured initially and over time as PG&E's future rates are highly unpredictable. Changes in the cost responsibility surcharge that PG&E will assess on the monthly bills of Clean Power SF's customers will also impact the comparison between Clean Power SF's rates and PG&E's. If an objective is for Clean Power SF rates to be more stable and predictable than PG&E's, it is possible that program rates may not always be at or below PG&E's, even if they start out the same. Appropriate program messaging will be important to maintaining customer loyalty. CCSF should also clarify whether the ESP is required to match all rate structures offered by PG&E or if the meet or beat requirement is measured on a different basis, such as a weighted average for all customers, potentially with adjustments for energy efficiency and conservation impacts.



Program Elements Requiring Further Development

Several identified risks stem from current unknowns in the Clean Power SF Program that can be mitigated with additional information. Areas that would benefit from further detailed development include program policies and procedures relating to customer credit, rules for customer migration after the initial opt-out period, additional information regarding the preferred locations and other details of the anticipated 360 MW portfolio, the amount of CCSF administrative costs that are required to be incorporated in supplier bids, and information on likely H bond financing details such as timing of potential issuance and anticipated terms.



Clean Power SF Objectives

In large part, CCA is a risk management response to the catastrophic failure of the energy markets in 2000-2001. This event, known as the California Energy Crisis, resulted in wholesale power and gas costs in the spot market that were many multiples of the corresponding retail rates. A fundamental cause of the Energy Crisis was a utility procurement strategy that relied almost exclusively on very short term purchases. CCA programs allow municipalities and other local agencies to increase the amount of control they have over their exposure to the energy markets, and to insulate themselves to some degree from the decisions of large utilities and other third parties.

Clean Power SF's proposed supply portfolio, which emphasizes owning generation facilities that do not rely on natural gas or other fuels that are subject to price volatility, mitigates exposure to spot market prices, which was at the core of the financial breakdown of the investor-owned utilities. Another risk management element of the Program design is the requirement of the supplier to bear the financial risks of containing wholesale costs within rates.¹ Ownership of non-fuel generation resources and to a lesser extent long-term contracts reduces Clean Power SF's exposure to increasing energy costs. The focus on local, renewable resources also mitigates exposure to increasing fossil fuel prices, carbon costs, and transmission congestion charges that would be applicable to delivery from remote generation sources.

Current State of Energy Service in San Francisco and Envisioned End-State

Currently, the residents of San Francisco are bundled electric customers of PG&E. Some portion of the load for CCSF-owned facilities is served by hydroelectric power generated from CCSF's Hetch Hetchy water supply facility in the Sierra Nevada Mountains. Hetch Hetchy power is, by law, limited to municipal use and not currently available to be sold directly to residents. About 25 percent of CCSF's large commercial and industrial customers, representing about 12 percent of CCSF's load, are direct access customers and obtain their electricity from third parties.

Individual PG&E customers have no influence on the proportion of renewable energy in their energy mix unless they personally undertake renewable projects—for example, by installing solar electric systems on their residences or businesses. PG&E, like the other major investor-owned utilities in California, is behind meeting its Renewable Portfolio Standards (RPS) goal of 20% by 2010. In fact, PG&E customers, including most San Francisco businesses and residents, received only 14% of their power supply from qualifying renewable generating facilities in 2008.² CCSF aspires to a much higher level of renewable energy.

¹ This structural mitigation does amplify the credit risk associated with the supplier, and thus emphasizes the need for credit management and contingency plans for possible supplier failure.

² PG&E Power Content Label bill insert (April 2009), actual 2008 Annual Power Mix.



CCSF also believes that PG&E's rates may increase substantially due to PG&E's history of rate increases in general, and to its specific exposure to costs related to carbon emissions from its fleet of gas-fired generators and to expenses associated with the Diablo Canyon nuclear power plant.

Clean Power SF envisions the City of San Francisco as having the highest proportion of self-supplied RPS energy of any municipality in the United States. Its goal is to satisfy 51 percent of its residential and commercial electric load with renewable energy (much of it installed within CCSF), energy efficiency, and conservation by 2017. Clean Power SF intends to achieve this goal at electric rates that are less than or equal to those of the incumbent utility, PG&E.

Clean Power SF, as the provider of electric generation service for the residents and commercial enterprises of CCSF, has several objectives, including:

- An electric supply resource mix including 360 megawatts of newly built capacity (nominal)³ that is significantly lower in greenhouse gas emissions per kilowatt hour than PG&E's, while maintaining or improving electric supply reliability and meeting or exceeding any State of California requirements for RPS and Resource Adequacy Requirements (RAR). At a minimum, the CCA's resource mix will achieve a 51% RPS, using solar photovoltaics, distributed renewable generation, and energy efficiency measures, by 2017.
- The establishment of rates for electric power that, on a weighted-average basis, meet or beat an equivalent weighted average of PG&E rates, and that are more stable than PG&E's.
- The award of a contract to a single supplier to provide all energy and related services, which supplier will bear all financial risks associated with such provision.
- Ownership of certain electric generation facilities initially procured or built by the supplier with financing from municipal revenue bonds (H Bonds).

Expected Benefits

Identified potential benefits of Clean Power SF include:

- CCA customers will enjoy a lower risk of rate hikes compared to PG&E customers, based on PG&E history of rate increases and its particular exposure to carbon and nuclear-related costs. CCA rates will be more stable and predictable.

³ The intermittent nature of some of the resources that comprise the 360 megawatts of nominal capacity means that the California Independent System Operator will credit a somewhat lower number for resource adequacy requirements.



- Increased reliability and energy security from a shift to local renewable resources from remote fossil and nuclear resources.
- Protection from rate increases through two bonds or other financial guarantees, obtained at supplier expense: one to cover the costs of customers returning to PG&E service, and the other to insure the completion of the construction of any facilities.
- Dramatically accelerated renewable energy development for CCSF, including the achievement of 51% RPS by 2017.
- Other beneficial services for customers, such as photovoltaic purchase and installation, distributed generation, and energy efficiency and conservation systems.

Cost and Rates

The cost of constructing and installing all facilities and systems and the cost of staffing all administrative, operational, maintenance, and energy procurement, and some customer care functions, will be the responsibility of the supplier.

Facility construction may be financed through H Bonds. If such bonds are issued, the principal and interest payment will come from ratepayer revenues in accordance with the rate structure that the ESP bids.

The supplier's compensation will be integrated into rates. The supplier retains whatever ratepayer revenues remain after it has paid required program costs. The supplier will bid structured rates that provide transparency in rate changes during the course of the agreement.

Resource Mix

Clean Power SF intends to install 360 MW of electric generation capacity or its equivalent in energy conservation and energy efficiency in the following proportions:

Resource	Capacity
Load Reduction (Management and Efficiency Measures)	107 MW
In-City Solar Energy	31 MW
Small Scale Distributed Generation	72 MW
New Wind Energy	150 MW



Customer / Ratepayer / Geographic Coverage

The service territory of Clean Power SF is bounded by the jurisdictional boundaries of CCSF. As CCAs are by law “opt-out” programs, all customers within the jurisdiction of the City and County of San Francisco would be default participants in the program. Under current regulations, existing direct access customers, which have bilateral energy supply contracts with third-party (non-PG&E) providers, would be automatically enrolled unless they affirmatively opt-out. CCA customers will have four opportunities to opt out during the transition and remain full-service PG&E customers.

CCSF continues to be interested in acquiring PG&E’s electric distribution system. At present, such acquisition is not an active part of the Draft Implementation Plan.

Organization / Staffing / Administration / Budget

The San Francisco Board of Supervisors assigned the responsibility to monitor and prepare necessary documents for implementation of Clean Power SF to the LAFCO, while the SFPUC has the authority to actually implement the project, per Ordinance 86-04. It is anticipated that LAFCO as well as SFPUC will consider and approve the budget for the implementation of the CCA Program for recommendation to the Board of Supervisors Budget and Finance Committee. This process provides CCSF’s top elected officials with direct oversight of the CCA team.

In implementing the Program, LAFCO is authorized to exercise a broad array of functions and powers to accomplish the objective, including, but not limited to: negotiating contracts, managing finances, and consulting with the SFPUC to issue H Bonds. Once the Board of Supervisors has determined that Clean Power SF has been implemented, LAFCO’s authority will terminate, and full responsibility for the Program will transfer to SFPUC.

The Program was authorized an initial budget of \$5.0 million, \$3.2 million of which was placed in reserve pending information on the progress of Program startup. A key premise of the Draft Implementation Plan is that CCSF will incur no large-scale CCA expenditures until a contract with a supplier is imminent.

The CCSF Attorney’s office, assisted by LAFCO and SFPUC, represents Clean Power SF at the CPUC, CEC, and other state and federal agencies.



Overview of Assumptions and Clean Power SF Implementation Approach

To provide the appropriate context for the risk assessment, it is important to review Clean Power SF's key assumptions and implementation approach.

- The San Francisco LAFCO will monitor San Francisco's community choice aggregation program, Clean Power SF, in conjunction with the SFPUC's implementation efforts and report to the Budget and Finance Committee of the Board of Supervisors.
- H Bonds may be used to finance renewable power generation facilities that are to be designed, built, operated, maintained, and integrated into the CCA power portfolio by CCSF's chosen supplier.
- Suppliers will compete for sole award of the Clean Power SF contract in a Request for Proposal process. Potential suppliers will bid the retail electric rate schedule that they will charge to serve the ratepayers of the program. These rates will be all-in, and include all costs for:
 - Procuring and scheduling electric power.
 - Procuring ancillary services, including resource adequacy.
 - Managing all aspects of the interface with the California Independent System Operator and Pacific Gas and Electric Company for system operation.
 - Servicing and repaying the H Bonds issued to support facility design and construction, including photovoltaic, wind, and other distributed generation facilities within CCSF; a wind farm outside CCSF limits; any interconnects required for such facilities; demand response systems; and customer energy efficiency installations.
 - Managing the construction and commissioning of the above facilities.
 - Acquiring and maintaining permits, certificates, and other authorizations for constructing and operating the above facilities.
 - Operating and maintaining all renewable generation, energy conservation, and related facilities, systems, and programs once built or implemented.
 - Ongoing administration of portions of the program, including billing and interface with Clean Power SF offices and PG&E. The San Francisco Public Utility Commission will be responsible for customer service and administration of a customer call center, customer opt-out processing, and management of energy efficiency programs.



- Bidders will also bid the term (duration) of the CCA Program contract, which will be another factor considered in making the award.
- The initial contract with the supplier is expected to have a term of 15 to 20 years, to coincide with the likely funding mechanisms.
- A contract that would result in customer rates higher than PG&E's will not be approved. The Board of Supervisors will not change the rate structure approved in the ordinance awarding the contract to the chosen supplier, except as an emergency measure.
- CCSF will own some or all facilities built under the CCA contract.
- Satisfying CCSF's RPS requirements will involve a combination of building and buying. The supplier is expected to purchase wind capacity and energy from merchant generators and possibly Renewable Energy Credits (RECs) from third parties in order to achieve the goal of 51% RPS.
- The "build not buy" approach for renewable generation resources provides the potential benefit of reducing rates over time, utilizing financing strategies that would result in the lowest possible rates for customers, and the absence of fuel costs combined with low operations and maintenance costs which are attributes of renewable generation technologies. Many facilities are expected to continue to generate electricity for thirty to fifty years, while bonds financing the projects are expected to have been paid off within 20 years, yielding many years of extremely low-cost electric generation.
- Clean Power SF expects to be self-funding through rates, with the exception of reasonable administrative start-up costs approved by the SFPUC and/or Board of Supervisors.
- The implementation of Clean Power SF will proceed in five phases:
 - Start up
 - Program Development
 - Procurement / Supplier selection
 - Implementation / Construction / Bond issuance
 - Operations and Maintenance

The implementation approach and assumptions described above clearly identify specific programmatic elements and requirements that are important to CCSF's CCA initiative. These elements/requirements define overarching objectives for Clean Power SF, structural responsibilities, performance obligations of the chosen supplier and financial considerations, as well as other details. CCSF was thoughtful and



thorough in developing these elements, which significantly limit procedural ambiguity and public uncertainty regarding the proposed CCA Program.

The defined approach minimizes risks to CCSF and its constituents by assigning operational risks to the third party supplier with structured rates that preclude the pass-through of unanticipated costs to customers. The 360 MW renewable infrastructure developed through the program will significantly reduce exposure to volatile fossil fuel prices as well as future carbon costs. The Implementation Plan establishes ratepayer protections that are not provided under the status quo, which allows PG&E to pass cost increases through to ratepayers.

However, the care that was taken in developing specific programmatic details may present certain challenges for prospective energy service providers. The risks and mitigation strategies identified in the following sections will provide additional discussion regarding the manner in which CCSF can effectively pursue Program implementation, consistent with the key goals and objectives that have been established.



Strategic Risks and Mitigation

Clean Power SF is a visionary and ambitious undertaking with many components and interdependencies. At a high level, successful program startup requires execution of the following major tasks:

- The negotiation of an acceptable contract with a qualified ESP;
- Development of the various interfaces between the program, the ESP and PG&E;
- Issuance of H-bonds to the extent such proceeds are to be used to finance the 360 MW portfolio or other elements of the program; and
- Program marketing, customer outreach and retention of customers through the initial opt-out process.

Strategic risks are those factors that may impede successful completion of these tasks, affecting the ability of the program to come into being due to political or structural reasons.

Supplier Selection and Performance

As specified in Ordinance 86-04 and the Draft Implementation Plan, the ESP is central to the program as it is responsible for procuring electric supplies, developing, operating and maintaining the 360 MW portfolio, and integrating proceeds from H Bond issuances by CCSF into the Program's investment and cash flow requirements. The critical role designated for the ESP places the supplier selection process and the ensuing performance of the supplier in meeting its contractual responsibilities at the forefront of key factors for program success.

There are specific strategic risks within the overarching task of securing an acceptable ESP agreement. The following pages discuss these strategic risks in detail.

Attracting Qualified Bids

The single-supplier approach specified in the Implementation Plan offers many benefits. It integrates the various aspects of the resource plan, insulates CCSF from many major risk elements, relieves CCSF of the need to manage certain issues at a detailed level, and provides a single, accountable point of contact. In essence, the Draft Implementation Plan describes a situation in which CCSF will outsource virtually the entire electric utility function of the CCA to a single provider. The Plan constrains the price of this service by requiring that the supplier extract all compensation and costs from rates which cannot exceed PG&E rates. The single supplier will bear the financial risk of providing this comprehensive service within that rate.



Accordingly, attracting qualified bids and selecting the program's supplier through the RFP process is the most important action CCSF will take during program implementation. The single greatest risk that would jeopardize program startup would be the inability of CCSF to attract interest from and contract with an ESP meeting CCSF's requirements.⁴

Possible Mitigation

CCSF has already taken an important step in mitigating the risk of failing to obtain a qualified single supplier by gauging supplier interest through a recently conducted Request for Qualifications ("RFQ") which yielded responses from two potential suppliers. While the responses of potential suppliers are expressions of interest and not binding, they do provide valuable confirmation of market interest, and provide input as to what provisions or adjustments to the Implementation Plan might be included in the Request for Proposal that is due to be issued in October 2009.

If CCSF wishes to increase the number of potential bidders to its RFP, the RFQ could be followed up by interviews with both responsive and non-responsive providers to determine the aspects of the potential project that appealed to or concerned them. In fact, ongoing, bilateral communication between LAFCO, the SFPUC and prospective energy suppliers will likely facilitate implementation activities and will provide CCSF with current information regarding market impacts on program pricing and other considerations. Ongoing communication with prospective suppliers will also provide opportunities for CCSF to convey pertinent information related to project siting developments, political and public opinion related to the program and other concerns. The results of this exercise should also provide valuable feedback in crafting the planned Term Sheet and ultimate RFP. Other options for increasing the pool of bidders are described under *Options for Increasing the Number of Potential RFP Respondents*.

Supplier Credit

The long-term viability of the supplier is crucial to program success. While the selected supplier will be entering the relationship voluntarily through a competitive solicitation, which presumes interest in and commitment to the program, supplier failure once the Program is active would create difficulties for the Program in identifying a qualified successor that will be willing to step in. The anticipated long-term nature and large notional value of the ESP contract elevate credit as a major risk element that will need to be addressed in the ESP contract. Both CCSF and the supplier will have credit requirements that could become impediments to successful negotiation of an ESP contract.

A bond or other financial assurance is required to cover PG&E's market exposure if CCA customers are returned to PG&E service involuntarily. The amount of the bond or other assurance must cover six months of related costs. This may be difficult and/or expensive to obtain.

⁴ This risk stems from the scope, complexity, heterogeneity, and strictly specified portfolio of the Clean Power SF Program as envisioned in the Draft Implementation Plan, as well as the allocation of risks and rewards for the ESP.



To minimize supplier credit and performance risks, due diligence efforts by LAFCO and the SFPUC as to the creditworthiness, professionalism, and competence of the supplier is paramount.

Possible Mitigation

Typical credit arrangements in wholesale power contracts provide for defined credit thresholds that, once exceeded by the mark-to-market value of the contract, trigger a requirement to post a letter of credit or other form of acceptable credit support. Typically, such credit provisions are reciprocal, meaning that both parties to the transaction are required to provide credit support under defined conditions. Such a "margining" obligation would likely not be acceptable to CCSF, and the ESP would likely need to look solely at revenues generated by the CCA program as its sole source of payment assurance. Other CCA programs have provided credit assurance to the supplier by granting a security interest in customer account receipts sufficient to cover the CCA's obligations under the contract. For example, the San Joaquin Valley Power Authority's (SJVPA) CCA program granted a security interest to its chosen supplier, Citigroup Energy, Inc. (CEI), for its customer accounts receivables. It also committed to using bonds to prepay its energy purchases, if such a prepayment was determined to be feasible and provide economic benefits to the program.

Finding an appropriate at-scale method for the supplier to provide credit assurance to CCSF is more problematic. It may be difficult to find an ESP willing to enter into a contract that requires it to post hundreds of millions of dollars of credit support. As a practical matter, due to the sheer dollar value of the contract, respondent ESPs may seek to negotiate for a relatively high credit threshold for the ESP or waiver of such a threshold altogether as long as the ESP maintains an acceptable credit rating. In that case, CCSF would be relying upon the general creditworthiness of the ESP, or its credit support provider. As an example, the agreement negotiated between CEI and SJVPA required CEI to provide a parental guarantee from Citigroup or a replacement guarantee from an entity with a credit rating of A3/A- or better.

A high degree of due diligence is required before entering into a contract with a supplier. A high credit rating for the chosen supplier is mandatory; even so, further investigation and continual credit monitoring is warranted. CCSF should monitor the appropriate press sources for any information related to the supplier. It may be beneficial to create a position of "supplier relationship manager," who would be responsible for maintaining an in depth, near-real time knowledge of the financial "health" and general business activities undertaken by the supplier. Suggested responsibilities should include thorough reviews of current Securities and Exchange Commission filings, the supplier's investor presentations, its publicity, and web content, as well as popular and industry press reports on all related topics, including other projects. Program management should receive regular briefings based on these reviews; a clear process should be established for communicating any concerning findings to Program management in a timely manner. The effectiveness of this mitigation would be a direct function of the status and focus assigned to the position.

Ownership of generation facilities as set forth in the Implementation Plan mitigates credit risk significantly, but exposure remains for residual power purchases. A potential mitigation would be to increase the plans for CCSF-owned generation facilities beyond the 360 MW established in the draft



Implementation Plan. The completion bonds specified in the Draft Implementation Plan further mitigate this risk by ensuring that the renewable generation facilities will be built. However, delays in construction are possible, and replacing the power in the interim will be the responsibility of the ESP, with attendant credit implications. Nonetheless, increasing generation asset ownership will diminish the volume of power that must be purchased as well as associated credit exposure.

Requiring an ESP to post a bond for the costs of returning customers back to PG&E in the event of supplier failure also mitigates risk, but this is strictly a financial mitigation. According to the Joint Motion of City of Victorville, Pacific Gas And Electric Company (U 39-E), San Diego Gas & Electric Company (U 902-E), San Joaquin Valley Power Authority, Southern California Edison Company (U 338-E), and the Utility Reform Network for Adoption of Settlement Agreements, (CCA Bond Settlement), such bond or financial guarantee must be updated semiannually, and reflect the then-current market. The CCA Bond Settlement mitigates the risk of obtaining sufficient coverage by allowing the CCA to grant PG&E a securitized interest in its accounts receivable. Alternatively, CCSF could obtain a letter of credit to cover the involuntary return risk, using the municipality's good credit rating, or potentially provide self insurance against the risk.⁵

Requiring such a bond does not address the sustainability of Clean Power SF. In fact, this risk mitigation measure, if implemented, would effectively terminate the program. CCSF should explore the possibility of structuring the ESP bond so that the proceeds can be used by CCSF in finding a replacement ESP or other sources of requisite energy supply. It may be possible to obtain a second bond or an option that would cover the incremental cost of energy required to serve CCA customers, but would not require the customers to be returned to PG&E. Under this potential approach, Clean Power SF would be kept intact. The cost of the first bond would remain specific to the return of the customers (and the cost responsibility of the supplier), but CCSF may consider funding its own bond, if that supports a broader plan to keep the Program intact.

Further, early thought should be given to the worst-case scenario of supplier failure. There would be a benefit in having contingency plans related to the transition of the supplier's functions to another capable entity (including possibly Clean Power SF itself, if its personnel were sufficiently trained). Failing that, other plans should be in place regarding the disposition of customers, physical facilities, supply contracts and commitments, and Clean Power SF in general. The ideal mitigation would be to find a creditworthy and capable replacement supplier immediately. This is not likely to be easy, especially in an environment in which high or volatile prices were the underlying driver of the problem. However, CCSF may require the supplier to report in detail on its purchased power and gas portfolio, which may help in two ways. One, it will provide assurance that the portfolio is properly diversified. Two, it will reveal the counterparties. It is conceivable that CCSF could negotiate directly with existing

⁵ An open issue at the CPUC is responsibility for customer reentry costs if the posted bond proves insufficient to fully cover these costs. While there are strong arguments in favor of spreading any such costs across all ratepayers, there is some risk that the CPUC will rule that the CCA program or the returning CCA customers themselves should be solely responsible for these costs.



supplier counterparties that were to continue delivery. This would require CCSF to have the administrative capability to carry out this function, and would specifically require power purchase contracts to be in place or to be negotiated very quickly. Use of standardized industry contracts, such as the Edison Electric Institute (EEI) or Western States Power Pool (WSPP) agreements would facilitate quick negotiations of replacement agreements. A related mitigation strategy in support of the above would be to divide the CCA contract award among more than one supplier such that one could step up in the case of default of the other. However, this approach would contradict the planned program structure under which a single supplier provides requisite energy services and may not be feasible.

Supplier Performance

Other supplier performance issues could include unsatisfactory customer service, untimely development of the 360 MW portfolio obligation, or failure to meet regulatory requirements. In such a case, it may not be desirable to use the ability to return customers to PG&E by invoking the bond secured for such a contingency.

The scale and schedule of the build-out of RPS facilities is ambitious as Clean Power SF seeks to transform in significant ways the manner in which electricity is produced, transmitted and consumed in San Francisco. It is possible that the supplier may not be able to achieve the RPS facility construction schedule goals. The siting, permitting and construction of energy-related facilities could experience significant delays that may force the supplier onto the open market to make spot purchases of power.⁶ The Implementation Plan calls for the supplier to substitute market RPS power to the extent that it is unable to timely construct RPS facilities. The Plan also provides for the issuance of additional H Bonds and contract extensions for the supplier (which must be approved by ordinance).⁷ The Implementation Plan requires the supplier to obtain a performance bond or other financial guarantee to cover any of its performance failures (including its subcontractor's failures) in the roll-out of the CCA's 360 Megawatt renewable and energy efficiency portfolio. To the extent this is a construction bond, the risk of obtaining

⁶ To the extent that the desired projects and related actions will result in environmental impacts, CCSF, its legal counsel and other technical advisors should consider potential requirements imposed by the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA), which may obligate CCSF to perform environmental analyses and related documentation once specific projects are proposed. Because of San Francisco's predominantly urban landscape, numerous concerns related to land use, traffic and circulation, noise and utilities and public service impacts will likely surface during public planning discussions and activities. CCSF's Major Environmental Analysis (MEA) Division of the Planning Department is responsible for administering Chapter 31 of the San Francisco Administrative Code, which describes local guidelines for CEQA implementation. MEA should be consulted during the project planning phase to determine the requirements of Chapter 31 that may be applicable when developing local projects. Satisfying the prescribed requirements of CEQA and local implementation guidelines described in Chapter 31 may be costly and time consuming, depending on expected environmental impacts, and should be reflected in the timeline for project deployment that is communicated to prospective energy suppliers.

⁷ Plan, p. 15.



the desired level of coverage at a manageable premium is low. To the extent the bond covers non-traditional installation issues (e.g., market losses related to unplanned electric energy purchases driven by a failure to timely complete renewable generation construction), the risk of finding a creditworthy underwriter willing to underwrite the risk at a premium that fits within the rate cap increases.

Possible Mitigation

The contract should contain sufficient incentives and penalties to direct appropriate supplier performance, including incentives for completing the 360 MW rollout in accordance with defined milestones. CCSF may wish to begin the process of devising such a contract, based on one of the industry standard contracts identified above.

Due diligence regarding the supplier's performance in any related endeavor is warranted. While past performance may not be an indicator of future performance in financial instruments, it is an excellent indicator for individuals and companies.

As noted above, the creation of a single responsible function (a "supplier relationship manager") to monitor all aspects of the supplier's performance and its general operation and financial health may provide early warning and intervention opportunity to prevent small problems from growing.

CCSF might also consider developing more in-house expertise, both to help manage the supplier to minimize potential problems, and to build a capability of stepping into supplier functions if the supplier fails to satisfactorily meet expectations. This could be an integral part of the supplier relationship manager's function.

Local Power Inc., in its *Community Choice Aggregation Program Report* of February 28, 2008, analyzes the siting risks associated with local renewable resources extensively and identifies potential mitigations that CCSF can take to expedite the construction of revenue-producing facilities, including: Alter the permit process to allow for expedited installation of wind and solar. Consolidate/streamline the existing multiple-agency process. Relevant departments could draft new design guidelines and process. The San Francisco Urban Wind Task Force should be brought into CCA planning process and its duties expanded to find locations where larger scale, higher towers for wind generators would be acceptable. Modify codes to allow pole-mounted systems. Create an overlay zoning ordinance. Demonstration Projects should be implemented.⁸

In addition, CCSF may consider taking on some of the risk of any delay caused in part by problems with CCSF processes, such as local permitting.

⁸ Community Choice Aggregation Program Report, February 28, 2009, by Local Power Inc., p. 36.



Political Opposition

PG&E has opposed the creation of any CCA in its service territory and will no doubt attempt to undermine Clean Power SF. PG&E has already expended considerable resources in opposing other CCA programs, notably the program planned by the San Joaquin Valley Power Authority, which cited PG&E's opposition as a significant factor in its recent decision to suspend implementation of its Community Choice program.

Lessons from SJVPA

With SJVPA, PG&E undertook an aggressive public relations and lobbying campaign. PG&E's tactics included the following:

- Presentations at city council meetings highlighting risks to ratepayers and cities that PG&E claims are associated with the CCA program.
- Creation of customer mailers criticizing the opt-out nature of the program.
- Letters to elected leaders disputing the validity of the program's economic analyses and rate projections.
- Statements to public officials creating an apparent linkage between public goods funded energy efficiency programs and continued bundled service from PG&E.
- Lobbying of city council-members to discourage their jurisdiction from joining the program and encouraging their withdrawal and promoting similar organized efforts by others.
- Statements and presentations criticizing the key program agreements, including the electric supply agreement.
- Creation of a web-page to allow customers to opt out of the program prior to the noticing and opt-out process being conducted by SJPVA.
- An Op/Ed piece written by the Chief Executive Officer of PG&E Corporation criticizing the SJVPA's decisions and governance practices and casting doubt on the analyses developed in support of the program.

PG&E ultimately entered into a settlement agreement with SJVPA where the utility agreed to a number of disclosure requirements and the functional separation of marketing employees from utility employees for purposes of communicating with customers regarding the SJVPA program. PG&E has not applied the provisions of the settlement to other CCA efforts outside of the SJVPA area.

PG&E would be expected to undertake the same kind of actions in opposing Clean Power SF. CCSF should also anticipate PG&E conducting a mass media campaign to convince customers to remain with PG&E electric generation service.



The risk of high rates of opt-out by Clean Power SF's potential constituents largely stems from the ability of PG&E or other opponents to mount a public relations campaign in which they will attempt to instill doubt about the viability of the program in the public mind. If a contract is signed with an ESP, opponents may design an opt-out campaign to undermine the reputation or credibility of the ESP. For example, some ESPs may have involvement in aspects of the energy industry that CCSF may object to, such as nuclear power, liquefied natural gas, or oil exploration and production. Opponents may seek to exploit the perceived deficiencies in the ESP to divide the support base for the Program. Any risks that are allocated to program customers, however appropriate, will be highlighted and any remaining uncertainties associated with the program will be exploited to encourage opt-out.

Possible Mitigation

Messaging and branding are keys to retaining loyal customers in the face of PG&E opposition. The Program has many attributes that set it apart in a positive light from PG&E, including a much better RPS profile, long-term rate stability, and local generation, among others. Pre-emptive publicity and active public education, concentrating on the benefits and pre-empting the objections will help to retain customers.

A neighborhood-by-neighborhood implementation of the program has been suggested, to take advantage of perceived stronger support in certain neighborhoods to build a critical mass that may persuade areas with perceived potentially higher opt-out rates to remain in the CCA Program. Other phase-in schemes could be designed to offer the program first to customers who are eager to join, with later roll-out to all customers once tangible evidence of success is proven. It may even be possible to start the program on a pilot opt-in basis before full implementation of the opt-out program.

Any type of phased implementation would require a change in the Draft Implementation Plan, which states that "The City and County will not attempt to implement a phase-in of customers on a neighborhood-by-neighborhood basis nor on a customer class-basis, but shall offer its service to any and all PG&E electric generation customers who do not elect to continue to be served by Pacific Gas and Electric procurement pursuant to 366.2(a)(2) of the Public Utilities Code."⁹

CCSF could seek to have legislation introduced to revise Public Utilities Codes section 366.2 to clarify that the requirement for a utility to fully cooperate with the CCA program precludes the utility from marketing against or undermining the CCA program. As currently written, the law could be interpreted to limit the scope of utility cooperation to the provision of data:

"All electrical corporations shall cooperate fully with any community choice aggregators that investigate, pursue, or implement community choice aggregation programs. Cooperation shall include providing the entities with appropriate billing and electrical load data, including, but not

⁹ Draft Implementation Plan, Appendix A, SF CCA Draft Implementation Plan CPUC Compliance Submission Document, pg. 15.



limited to, data detailing electricity needs and patterns of usage, as determined by the commission, and in accordance with procedures established by the commission."

The CPUC's implementing regulations were developed in the context of PG&E statements that it was neutral to CCA and would not compete with CCA for electric generation customers. This was consistent with PG&E's support for AB 117. However, PG&E is now on record as opposing CCA generally and has demonstrated its intention to compete against the CCA program to retain customers, albeit using shareholder rather than ratepayer funds. Since Clean Power SF will be dependent upon PG&E for many services critical to the program's operation, including both the processing of customer opt-outs and the billing and collections of Clean Power SF customers, the ability for PG&E to compete against the program poses numerous risks. Had it been understood during development of the CCA implementing regulations that the utility would be competing for customers, it is likely that provisions would have been adopted to address the inherent conflict of interest. As a mitigation measure, CCSF may wish to appeal or modify the CPUC's decision allowing for utility marketing against CCA programs or otherwise impose restrictions to proscribe use of the utility's monopoly position to unfairly compete against Clean Power SF.

Since there are no other jurisdictions required to join Clean Power SF, PG&E's lobbying of officials to discourage jurisdictions from joining is moot. However, PG&E should be expected to step up lobbying of local elected officials and agencies as the program progresses.

Politically Motivated Changes in Law

PG&E recently announced its support for a ballot initiative that would amend the California constitution to require a vote of approval from two-thirds of the potential ratepayers within a CCA service territory to allow the commitment of public funds to start a CCA program. The so-called "Taxpayer Right to Vote Act" was filed with the Attorney General's office on May 28, 2009. PG&E's position opposing CCA is clear, and it should be expected to seek other legislative or regulatory changes to eliminate or contain the CCA option.

Such legislative assaults become increasingly likely as time goes on with no operational CCA programs.

Possible Mitigation

Initiating the program, whether in whole or in part, will create a higher hurdle for legal changes. However, CCSF is cautioned not to rush the Program to implementation in a way that would compromise other Program components or create or amplify other risks.

CCSF can and should make its interests understood to legislators, whether individually or in concert with others. A mitigation specifically to counter the Taxpayer Right to Vote Act may be a coordinated response with other CCAs, potential CCAs, and allies such as municipal power agencies. CCSF could form and/or support a coalition of like-minded cities. It could also align with non-utility power suppliers and direct access providers, who have a natural interest in creating more competitive energy



markets. This effort would include lobbying and brainstorming potential legal challenges and/or counter legislation. Funding such challenges will be an issue.

Customer Retention

To promote maximum viability and achievement of the envisioned benefits, Clean Power SF needs to retain as many customers as possible to keep its volumes high and stable. Higher, more stable volumes are less costly to manage for a potential supplier than lower, unpredictable volumes. Thus, more suppliers may be attracted and may be more likely to bid a rate bid that is favorable if Clean Power SF can deliver higher, more stable volumes. Program financing also depends upon a stable and secure customer base.

The initial opt-out process is one driver of volume risk as discussed above. Once the Program is operational, the risk of customer defection is largely a function of customer satisfaction. Many issues can provoke customer dissatisfaction. The Plan by default covers off one major source: the initial price cannot be higher than PG&E's. However, there are administrative risks in the customer relationship, notably account set-up and billing that, if performed poorly, can quickly create unsatisfied customers and negative press.

Conversely, as the Program matures, which will include the phase-in of various efficiency measures, the size and character of the customer load may change. The supplier will be largely responsible to coordinate supply with demand. However, CCSF also bears some responsibility in this regard. To the extent it can retain potential customers, and particularly potential direct access customers who tend to have flatter, more manageable load requirements, CCSF strengthens the likelihood of Program success.

Load growth must also be considered, particularly the addition of any large loads or expansion of the program to other geographical areas.

Finally, volume can fluctuate due to weather. This is a normal risk for a supplier to manage, but there is a cost that the supplier will embed in its rate schedule.

Possible Mitigation

First, CCSF should make sure the program is as viable and carefully structured as possible. This risk analysis is part of that effort.

Second, CCSF should ensure that the selected ESP is highly qualified, credible, and financially sound. Particular scrutiny should be applied to the ESP's capabilities regarding billing and other customer services with a direct impact on customers. The ability of the ESP to expend resources in marketing Clean Power SF should be a factor in supplier selection.

Third, CCSF might itself conduct a promotional and educational campaign that emphasizes the positive attributes of the program. A key fact supporting Clean Power SF is that the U.S. and California are full of successful municipal utilities whose rates are lower than for-profit utilities. The economic advantages are



structural: publicly owned utilities don't have to make 10-12% profit to attract capital. Also, they are tax-advantaged—their borrowing costs are lower due to the capacity to issue tax-free bonds. A CCA is very similar to a municipal utility in this respect. In addition, San Francisco already has a successful, experienced municipal utility. Clean Power SF is an extension of in-place expertise and capabilities.

To combat potential opponent arguments and assertions, CCSF may task individuals now to identify them in a brainstorming process and develop pre-rebuttals.

Fourth, excellent customer service will keep enrollments high. CCSF may consider a particular outreach to its larger customers to ensure they support and value participation in Clean Power SF. This may include staff liaison in the form of account managers to assist the supplier in handling customer issues that inevitably will arise from time to time. The use of individual contracts for large customers may also be explored to retain them in the Program.

CCSF should also consider negotiating with PG&E for audit rights related to customer data, particularly during the opt-out process. CCSF might also consider trying to obtain a change in CCA rules that would allow CCSF to process opt-outs. This would entail an expanded administrative function, with the attendant costs and management issues, but would eliminate a situation where the competitor has a direct role in determining the Program's customer base.

Fifth, CCSF could limit customer departures from the Program after the initial opt-out period by imposing a charge to leave or mandating minimum stay requirements, or a combination of both. Municipal utilities have the advantage of a stable customer base because once a municipal electric service area has been officially instituted, customers have no alternative supply option. The dilemma faced by Clean Power SF is that any rules or fees designed to restrict customer migration may act as a disincentive for participation. Additional definition surrounding program rules for customer migration will be necessary.

Program Financing

Another strategic risk relates to the need to obtain adequate financing to support the program and potentially the 360 MW infrastructure projects that will be developed by the ESP. Obtaining adequate startup capital depends largely on how the financing decision-makers perceive the viability of the enterprise. In private industry, the key financing decision-maker is typically a bank, which will lend money or raise equity on behalf of the startup. For a public enterprise such as the CCA Program, a key financing vehicle is municipal bonds, which may be issued to support development of the electric generation facilities. In this case, the specific bonds to be offered to the market are known as H Bonds, which were authorized by the citizens of San Francisco in 2001 (Charter Section 9.107.8, Ammiano). As revenue bonds, interest payments and repayment of principal to investors will come from rates paid by customers of the CCA program for electricity and related services produced by the facilities that the bonds finance.



The interest rate and market appetite for H Bonds will be influenced by the opinions and the credit ratings of agencies such as Standard & Poor's, Moody's Investor Service, and Fitch Ratings. These credit agencies will analyze the business plan of the proposed enterprise, the ESP contract, and program terms and conditions, with an eye toward any risk that may jeopardize repayment.

A strategic risk for Clean Power SF is failing to satisfy the credit agencies that component risks have been sufficiently identified and planned for, leading to unfavorable pricing or suboptimal market acceptance of the H Bonds. This may inhibit the Program's ability to obtain adequate financing, assuming such financing is included in Clean Power SF's plans. This risk is noted in Appendix J, Program Risk Analysis, of the Draft Implementation Plan, which states "[I]n a complex program environment, the application of early proactive efforts to [identify and resolve issues] should reduce the quantity of problems ultimately faced by the program." This *Risk Assessment Report* is presented in the spirit of anticipating the questions and potential issues that the rating agencies and other key stakeholders may have, which will assist LAFCO in developing appropriate plans and mitigations for such risks, and to a successful presentation of the H Bonds to the investor market.

To the extent H Bond proceeds are made available to the ESP, the revenue needed to service the H Bonds will be funded through the supplier's energy pricing schedule implicit in its bid. Since any bond issuance would occur after the ESP is under contract, the ESP must estimate the revenue that will be available from the bonds if it is proposing use of such funding. The accuracy and supportability of the rates that the supplier bids may be affected by the need for the supplier to estimate these costs with very limited data.

Risk Mitigation

CCSF could retain an investment banker or financial advisory firm in the near future to begin efforts to structure the bond financing so that more can be made known to potential suppliers prior to issuance of the RFP. This effort will also help identify program terms and conditions important to enhancing the credit profile of the program. For example, since program revenues are the sole funding source for debt service, market acceptance of the bonds will be influenced by the security of the revenue stream. Investors will look to program rules regarding collection of customer payments, customer deposit policies and administration, and policies in place to prevent or mitigate loss of customers. These policies should be well-defined and able to withstand scrutiny from the rating agencies/bond investors.

Concurrently, to the extent CCSF anticipates making public goods funds available to the ESP, it should more clearly define the amount of such funding and the process and timing for making the funds available.

CCSF should provide as much direction and support data as possible to assist the bidders in formulating accurate rate estimates. The more accurate the data, the more supportable the bids, which will reduce the chance of problems with the supplier not being able to support its bid in the implementation phase, or create issues with bond repayment and/or facility construction/program implementation.



Market Timing

Current electric and gas commodity prices are off significantly from their 2008 highs, making the environment for obtaining bids that compare favorably to PG&E's rates much more attractive than they would have been just a year earlier. However, the credit markets are much more constrained than before last year's banking crisis, and the era of easy and abundant credit appears to have ended for the foreseeable future. This market environment applies to all market participants. Most significantly for Clean Power SF, PG&E has filed a preliminary notice that it expects to reduce its electric generation rates on January 1, 2010.

The volatile nature of the energy markets as well as the unpredictability of PG&E's electric generation rates pose challenges to timing the launch of Clean Power SF, particularly under a strict meet-or-beat rate requirement.

Possible Mitigation

The best mitigation for market timing is to keep abreast of the market and maintain flexibility in terms of the timing for soliciting final price bids. CCSF can take the necessary administrative actions to be in a position to execute the ESP contract and commence program implementation when market conditions best allow for the City to meet its objectives. Development of a term sheet and a pro forma ESP agreement, preferably with input from potential suppliers, would allow the City to act quickly to take advantage of market opportunities. This strategic flexibility must be balanced against the natural urgency to initiate this important program for CCSF.

The CCA is required to submit an Implementation Plan to the CPUC for review. Under Clean Power SF's single-supplier model, the ESP will need to be identified in the Implementation Plan before it is certified and before Clean Power SF can be registered to begin offering service to customers. The possibility for delay in the CPUC's review can create risk to the ESP if it causes a delay in the agreed upon start date, as its supply acquisition commitments would become out of synch with its supply delivery obligations, requiring the supplier to dispose of supply at the prevailing market price. Obtaining timely regulatory approvals, including CPUC approval of the Implementation Plan, would likely be included as a condition precedent in the ESP agreement.

The CPUC completed its review of the SJVPA Implementation Plan within a 90-day review window, with a relatively modest administrative process, consistent with the CPUC's self-defined role of limiting its review to ensuring that statutory requirements are met and that the plan conforms to the CCA tariffs. Based on its record to date, the risk of the CPUC delaying its review of the Clean Power SF Implementation Plan appears low. However, delays should be anticipated in program planning. CCSF should ensure its implementation timeline allows for a minimum of 90 days for CPUC review, plus a contingency for potential delay. CCSF can also preview drafts of the plan with CPUC staff to clarify issues in the interest of expediting the review process. Providing sufficient lead time (six to nine months) between execution of the ESP contract and the commencement of service under the contract mitigates the risk of delays in obtaining regulatory approvals. A lead time longer than six to nine



months introduces the risk of change occurring in the PG&E rates used to benchmark the ESP's prices, as PG&E changes its rates at least annually.



Commercial / Operational Risks and Mitigation

Commercial/ operational risks are those which may impede program success or the achievement of its objectives due to failure to manage the implementation, transition, or ongoing business processes, or through the rise of unfavorable financial circumstances.

Changes in Regulations, Laws, or Fundamental Market Conditions

The RPS standards that Clean Power SF has set for itself far exceed the current standards in any applicable regulation. During the course of a long-term ESP contract contemplated by Clean Power SF, RPS standards may become more stringent or other regulatory or legal changes may affect the Program's viability or the supplier's ability to manage it while continuing to support its rate commitments.

Additionally, fundamental market conditions may affect the finances of the supplier, CCSF, or its customers in a way that may potentially threaten the viability of the Program.

Regulatory and legal changes cannot be controlled by the ESP. Its acceptance of such risks would come at a premium. As the Draft Implementation Plan states, risks should be allocated to the party in the best position to manage the risk. While it is tempting to try to assign all risk to the ESP, doing so would result in risk adders in the supplier's bid that may undermine the ability of rates to meet or beat PG&E's. Generally, the ESP will likely not bid premiums for risks it can control or hedge, while it is likely to bid a potentially significantly higher price if it must accept risks it cannot control or hedge.

Reinstatement of direct access, whereby individual customers are able to choose an alternative energy supplier on an opt-in basis, would become a risk if it erodes the program's customer base or if the competitive threat causes additional marketing expenses to be incurred. Further, reinstatement of direct access could throw the ESP and CCSF into conflict if the ESP wishes to market to program customers via direct access. (The volumetric aspect of this risk is discussed with other volumetric risks in section *Customer Retention*.)

Possible Mitigation

Certain risks may be better borne by the Program than the ESP. Regulatory changes that affect all load serving entities, such as changes to the RPS, RA requirements, or costs of carbon regulation, are best borne by the Program because these changes are likely to impact PG&E's rates as well, so customers would be no worse off by bearing them under the Program than under the status quo. Customers may actually be in a better position *vis a vis* these risks, considering the forward-looking resource plan of Clean Power SF and the 51% RPS target established for the Program; the Program should have less exposure to an increase in the RPS to 33% and the potential costs of carbon regulation than does PG&E.

The potential for regulatory changes that adversely affect the ability of the ESP to deliver on its obligations will likely be addressed in a Material Changes clause of the ESP contract. A Material Changes clause would allow for a re-opening of the contract if some fundamental regulation, law, or



market condition has changed. Any such provision would need to be carefully crafted to ensure it accomplishes an appropriate balancing of risks and minimizes the potential for dispute.

CCSF should continue to monitor regulatory developments and actively participate in those that may affect CCA viability. CCSF has been active at the CPUC on CCA related matters and should plan for an expanded regulatory organization to support Clean Power SF as it comes to fruition. CCSF will be impacted through the Program directly or indirectly by virtually every major electric proceeding at the CPUC, including those directly impacting the program and its costs as well as those impacting PG&E's costs and rates. CCSF will also need to be active at the Federal Energy Regulatory Commission (FERC), particularly in regards to its regulation of the California Independent System Operator's markets and operations.

As for Direct Access risk, CCSF can mitigate, to some extent, by including a non-compete clause in its ESP agreement. Providing excellent customer service and effective public relations will be important to maintaining satisfied customers and minimizing the risk of loss to potential competitors.

Cost Responsibility Surcharge

Clean Power SF customers will be responsible to compensate PG&E for financial commitments it made for electric generation that must be adjusted due to changes in load caused by departures of its customers to the CCA Program. PG&E will assess a fee, known as the Cost Responsibility Surcharge (CRS), on the monthly bills of Clean Power SF customers. The reason that CCA regulations allow PG&E to impose a fee for departing customers is because it upsets the balance between their supply commitments and their delivery. If PG&E has made forward financial commitments based on a certain load, and that load changes, then PG&E is exposed to the market for that difference. The CPUC agreed that it is unreasonable for PG&E to bear the full impact of a risk it has no control over.

The cost responsibility surcharge (CRS) risk manifests in two ways. Initially, the ESP's rates must account for the CRS in the meet or beat comparison to PG&E. Secondly, the CRS is an annually determined rate that changes based on both the costs of PG&E's energy supply portfolio and to the market price benchmark used to derive the CRS. As such, it is essentially impossible to forecast accurately. The CRS will decline over time as supply commitments expire, but the risk of an uncertain CRS is difficult to hedge.

Possible Mitigation

CCSF has the option to utilize the Open Season process in PG&E Rule 23.2, whereby advance, binding notice is given to PG&E that CCA service will commence on a date certain. The Open Season rules define a standard, annual time window for providing a binding notice of intent (BNI) but also allow for alternative binding commitments to be made outside of the Open Season. The advantage of the Open Season or BNI is a potential reduction in Cost Responsibility Surcharge liabilities because, under the Open Season rules, any PG&E supply commitments made after the date of the BNI will be excluded from the CRS liabilities. The BNI is not without risk because the rules also provide for CCSF to be liable



to PG&E for increased procurement costs if CCSF does not meet its obligations to commence service on the specified date.

The potential cost of participating in the Open Season process is fairly open ended, in that PG&E would charge CCSF for its actual costs to buy power for load it hadn't planned to serve in the event the Program did not meet the commencement date set forth in the BNI. Depending upon market conditions and the length of the delay in actual service, the exposure could be quite large. The benefits of participating in the Open Season process (reduced CRS) are difficult and possibly impossible to quantify without access to confidential procurement information retained by PG&E. Nonetheless, it may be appropriate to provide an advance BNI under certain circumstances, and the option need not be completely ruled out. For example, if Clean Power SF progresses to a point where it were just a few months from commencing service and CCSF became aware of a large, high cost supply commitment being considered by PG&E, a BNI could avoid this cost at relatively little risk.

Considering the CRS is difficult to predict and that it will decline and eventually disappear, consideration should be given to how to allocate the risk of changes in the CRS between the ESP and program customers. It is unlikely that an ESP would accept the risk of changes in the CRS without charging a risk premium that could undermine the ability to offer competitive rates. If customers implicitly accept the risk of changes to the CRS, they would also get the benefit of long-term reductions in this cost element.

Administrative and Overhead Costs

CCSF will have to organize a significant function to manage the ESP contract. The extensive outsourcing of functionality and risk does not relieve CCSF of ultimate responsibility for the Program. The contract can and should be devised with strong incentives for positive supplier performance and strong disincentives for negative supplier performance, but the wise risk management strategy is to head off potential supplier problems before they grow too large.

Among other functions, there will be a requirement to manage the various existing energy programs and integrate or coordinate them (such as individual solar installations).

The Draft Implementation Plan specifies that CCSF's administrative costs are to be rolled into the supplier's rate bid. Since the supplier does not know the extent of CCSF's desire to provide oversight, and may resist the notion at some level as an intrusion, the requirement that the supplier make such an estimate can be problematic. Additionally, the City's administrative costs estimates must be provided in advance for the suppliers to include in their bids.

Possible Mitigation

The SFPUC already has a considerable staff with expertise in energy and contract management areas. However, the scale and strategic importance of the Program and the key relationship with the supplier suggests that careful planning take place early on in the process to develop a pro-forma contract with an eye to identifying areas that may benefit from or require dedicated management. This, however, is in



conflict with the requirement that the supplier pay for such oversight. CCSF might consider a fixed amount that the supplier must be responsible for to support the cost of CCSF administration of Clean Power SF in its bid. If so, City costs in excess of the agreed upon amount would not be the supplier's responsibility.

Customer Credit

Customer payments will provide 100 percent of the revenue the supplier needs to pay its expenses, earn its profit, and service any the H Bonds used to finance operations. Minimizing customer nonpayment is crucial to program success. The Implementation Plan identifies the risk of customer non-payment or late payment. It notes that San Francisco's delinquency rate is high compared to its load and number of accounts.¹⁰

The San Francisco CCA Program is committed to universal access. All customers will be accepted into the program, irrespective of credit history. All mitigations for potential customer nonpayment must by policy be oriented to remedial action.

One potential remedy for a nonpaying customer is to suspend service. Utilities take this action from time to time. Much regulation surrounds this contingency in order to prevent abuse while minimizing the potential for rate increases driven by failures to pay. In the case of CCAs, delinquency in the payment of charges for electric service is not a "disconnectable" situation. Therefore, there is some risk that CCA customer delinquency will not necessarily lead to a shut-off of service, and unpaid bills may accumulate. PG&E collects ratepayer money on behalf of the CCA. Its tariffs (Rule 23.R) obligate it to take "the appropriate actions to recover the unpaid amounts owed the CCA." Partial payments are allocated proportionally between PG&E charges and CCA charges. In evaluating a delinquent residential account for service termination, partial payments must be allocated first to delinquent disconnectable charges.

Possible Mitigation

CCSF will need to define the Program's policies and procedures for treatment of delinquent accounts. At a higher level, CCSF should consider trying to identify ways to reduce delinquency and establishing alternative payment arrangements when necessary. The Implementation Plan identifies returning chronically late- or non-paying customers back to PG&E, because PG&E alone has the legal right to disconnect such customers. The feasibility and desirability of this mitigation is subject to verification.

¹⁰ "According to PG&E, delinquent balances on electric energy accounts in San Francisco represent 13% of total delinquencies in the utility's system. This figure is disproportionately high compared to San Francisco's contribution to PG&E's system total number of accounts (approximately 7%) and total electrical energy demand (approximately 5%). Plan, pg 156.



Rate Management

The supplier will be required to meet or beat PG&E's generation rates that are in effect at the time of the initial opt-out period, and to commit to a fixed or indexed structured schedule of rates thereafter according to a forecast of PG&E retail rates and wholesale power market prices.

The language regarding rates in the Draft Implementation Plan does not specify the index the ESP must use for changes to its rates over time. The Implementation Plan could be interpreted that the supplier can bid a rate structure that could, over the course of the term of the agreement, sometimes be above PG&E's, depending on timing.

PG&E will change its rates from time to time, typically annually. This would tend to confuse whether the Programs rates were still comparable and met the goal of being at or below such rates.

PG&E may also completely revise its rate structure at some point during the Program's existence. For example, it could consolidate the residential tiered rate structure or introduce additional time-of-use rates. This would also tend to confuse whether the Programs rates were still comparable and met the goal of being at or below such rates.

There is an inherent risk in tightly tying program rates to PG&E's rates due to the dynamic and unpredictable nature of PG&E's rates. If the ESP contract rates for an upcoming year are approved based on a forecast of PG&E rates, there is a chance that PG&E's actual rates in that year will come in above or below the forecast. If PG&E rates are lower than the forecast, the rates contracted with the ESP may no longer meet or beat PG&E's.

Possible Mitigation

More definition should be given to the nature of the rate bid and what constitutes "comparable" bids in light of likely timing differences between PG&E's rates and Program rates over the duration of the supplier contract, and in light of potential changes to PG&E's rate structure. A weighted-average rate for all customers with adjustment for energy efficiency and conservation impacts appears to be a viable method to analyze.

Also, to the extent that mismatches between PG&E's rates and Program rates arise (especially earlier in the Program, before an appreciable capacity of renewable generation is installed), with PG&E able to promulgate lower rates for some period, messaging is important. Customer loyalty might be reinforced by messaging that focuses on the long-term rate reductions and stability that will be achieved in the "build not buy" model.

Contract Term

Contract term must be bid by the supplier. The Implementation Plan assumes that the term is likely to be consistent with the H Bond payback period, under the assumption that the supplier would utilize H



Bond proceeds for the development of elements of the 360 MW. However, it is conceivable that a supplier might bid less than the expected 15-20 year term of the proposed bonds.

Possible Mitigation

CCSF's bid acceptance criteria should favor bids that are consistent with the bond period for proposals that include H Bond financing. CCSF should provide itself with a high level of assurance that revenue-generating facilities with sufficient capacity will be built within the term of the supplier's contract so that the bonds can be repaid timely. Additional work on structuring the bonds will also help tighten the bidding requirements for acceptable contract terms.

Resource Adequacy Requirements

Clean Power SF must meet the CPUC's Resource Adequacy Requirements (RAR), which require Load Serving Entities (LSEs) to control operating and planning reserves that exceed peak load by a minimum of 15 percent for current demand as well as the year-ahead summer peak. CAISO currently identifies San Francisco as a resource-constrained area. As PG&E power is supplanted by new renewable generation and conservation/demand response facilities, it will have to demonstrate specific in-CCSF or at least Greater Bay Area electric resources to serve its customers.

Much of the renewable generation contemplated in the Draft Implementation Plan is intermittent (e.g., photovoltaic and wind). As such, they have dependable capacity factors substantially lower than their rated output capacity.

Potential Mitigation

Sufficient physical resource adequacy capacity already exists to serve San Francisco's current load. Therefore, what is required is a transfer of contractual rights to the Program/ESP. As load transfers from PG&E to Clean Power SF, PG&E will have a reduced need for resource adequacy capacity and would be expected to release the related contracts. Coordination with PG&E at the outset will be necessary, particularly if the timing for commencement of service does not coincide with the regulatory resource adequacy needs determination and demonstration cycle. CCSF should begin discussions with the California Energy Commission, which has responsibility for defining resource adequacy requirements annually for jurisdictional load-serving entities, including CCAs.

The 360 MW rollout will help meet the Program's resource adequacy requirements, although the qualifying capacity will be less than 360 MW due to the intermittency of some of the elements (e.g., wind and solar). CCSF should initiate discussions with the CAISO to better understand the resource adequacy value of the 360 MW portfolio component as these resources are more definitively specified in subsequent implementation efforts.



Options for Increasing the Number of Potential RFP Respondents

This section discusses options CCSF could consider if it wishes to increase the number of likely bids to the RFP. Options range from providing additional information in advance to bidders to more significant structural changes that would re-allocate risk between the ESP and Clean Power SF. Any such a re-examination and potential rebalancing of risks must be careful not to negate the basic rationale or objectives for the Program. Toward that end, CCSF may consider a preliminary exercise in which the main Program objectives are prioritized, so that any potential rebalancing retains the appropriate focus.

Risk Allocation Between Clean Power SF and ESP

As identified in Appendix J of the Draft Implementation Plan, a key risk management priority is to effectively and fairly allocate risk between the CCA Program and the supplier. The Implementation Plan states that while it is “tempting for an owner to allocate as much risk as possible to a contractor . . . there are two main disadvantages to this approach; the likelihood of excessive bid price contingency and a higher likelihood of conflict and claims as the project advances.”¹¹

One way to increase the number of potential bidders would be for Clean Power SF to accept a greater share of risk internally to the program and for the program administrators to accept a more prominent role in the Program’s operations. Clean Power SF staff could take greater responsibility for integrating multiple electric supply contracts and contractors during the deployment of the 360 MW portfolio, similar to the way in which a municipal electric utility typically operates. Alliances or joint action with established publicly owned utilities for purposes of energy procurement and resource development is also possible and could be explored. While there are clear advantages to having a single contractor manage the electric supply, infrastructure development, and operations of the program - particularly the limited risk imposed on CCSF - other models are feasible for an enterprise of this size.

Additional Research and Information for Potential Bidders

The more information and certainty that can be provided to potential suppliers regarding the sources of CCSF funding, including both H bond proceeds and Public Goods funding available for energy efficiency investments, the lower will be the perceived risk profile from the bidder’s perspective. Benefits of providing more information include encouraging a more diverse set of bidders and reducing the risk premiums that suppliers must charge to cover risk contingencies.

Scheduling one or more pre-bid conferences for potential bidders is a strong potential component of a communication program. It would also provide CCSF with valuable feedback related to any potential

¹¹Ibid., Appendix J, Program Risk Analysis, p.68.



modifications to its requirements or to potential contract language in order to attract interest from highly qualified suppliers.

The Draft Implementation Plan clearly defines bidding requirements for categories of energy investments to be developed by the ESP (i.e., the 360 MW portfolio); however, the locations and detailed specifications of the individual infrastructure projects remain to be identified. There appears to be flexibility as well in the ultimate ownership and contractual arrangements between the ESP and customers for distributed generation and efficiency projects that will be located on customer property. It may be appropriate to leave the detailed design of the infrastructure up to the entities that will be responsible for its deployment, i.e., the ESP, but it should be understood that this requirement introduces a fairly high hurdle to preparing a responsive proposal to the RFP. Considering the breadth of services expected of the ESP and the complexity of the core bidding requirements that may already limit potential RFP responses, CCSF may wish to consider conducting further work to specify in detail the projects it intends for respondents to include in their bids. This would include identifying potential sites for the photovoltaic rollout, and identifying sites and preparing technical descriptions of the distributed generation, conservation, and energy efficiency projects. Furthermore, additional work to clarify how the benefits and costs of behind-the-meter generation and efficiency investments should be allocated between the ESP, the participating customer, and non-participating customers might further mitigate this risk.

An alternative approach, rather than CCSF preparing detailed specifications for the 360 MW portfolio in advance of the RFP or imposing the obligation on bidders to incorporate into their bids, would be to break the RFP into stages. In the first stage, a supplier would be selected for exclusive negotiations for a specified period of time based primarily on its qualifications. Under an MOU or other form of agreement, CCSF and the supplier would then jointly explore and identify sites, identifying what will be built and where. In parallel, CCSF would be structuring and preparing for the bond financing and defining the public goods funding and other sources of funding that will be available to the ESP. Once this information is assembled, the supplier would present a best and final offer for CCSF's consideration, which would only be accepted if it meets the requirements set forth in the Implementation Plan. If the offer is not accepted, CCSF could reopen the program to other bidders or perhaps pursue the identified projects independently.

Overcoming Potential Economic Constraints

Higher than expected ESP bids could arise from several sources: a general scarcity of available renewable energy supplies, the operating and cost characteristics of specific technologies defined for the portfolio, high energy prices generally, or temporarily low PG&E rates. By design, Clean Power SF requires rates to be at or below PG&E rates, which mitigates the risk of customer opt-outs and the consequent detrimental impact to program scale. CCSF risks are also mitigated in that the program cannot begin and significant CCSF commitments will not be made unless bidders are able to offer rates that meet or beat PG&E's.



The SFPUC is conducting a separate study to examine economic issues related to the Program, and this Risk Assessment makes no presumptions regarding the findings of that analysis. However, if it turns out that the feasibility of the meet-or-beat rate objective is in doubt for whatever reason, CCSF may at some point wish to reconsider this requirement of its program design.

Clean Power SF has an advantage it can leverage to counter the rate-limit issue: the energy services that will be offered by Clean Power SF are qualitatively different and superior to the services provided by PG&E. Some residents and businesses may be willing to pay more for the higher quality services. Market research may reveal customer preferences that could allow for a relaxation of the rate cap for certain customers.

In the event that bidders are not able to offer rates that meet or beat PG&E, CCSF could consider a pricing strategy that differentiates the higher quality service. For example, a premium (likely temporary) could be charged to customers who desire a higher renewable energy content, as is being proposed by the Marin Energy Authority for the Marin Clean Energy program. Another pricing strategy would be to offer a fundamentally different rate structure than offered by PG&E, which may be more appealing to customers and would tend to downplay direct cents per KWH rate comparisons. CCSF could package energy efficiency services or distributed solar installations in combination with a fixed monthly charge. The bills of participating customers could be reduced even if the volumetric rate is higher than the default rate schedule from PG&E.

Other factors that could help address economic constraints, if necessary, include revising the timeline for achievement of RPS goals, modifying the elements or timing of the 360 MW portfolio, and reallocating risk between the ESP and the Program as discussed above.

CCSF will also have rights to financial instruments known as Congestion Revenue Rights, which are administered by the CAISO. CRRs may help reduce the cost of the supply portfolio. Under CAISO rules, CRRs are associated with migrating load, and transfer from the old supplier (PG&E) to the new supplier. CCSF can initiate discussions with the CAISO to better define its entitlement to CRRs.



Summary of Recommendations

As discussed herein, Navigant Consulting makes the following recommendations in furtherance of Clean Power SF. These recommendations have been developed in consideration of CCSF's Draft CCA Implementation Plan, applicable ordinances, statutes and regulations, market observations, interaction with energy service providers, Navigant Consulting's direct experience with other CCA initiatives in California and various other factors. The recommendations included in this list have been structured to maximize CCSF's potential for successful implementation of the CCA energy service model as contemplated in its Draft Implementation Plan. To the extent practical, these recommendations attempt to minimize the need for substantive changes in local policy as well as programmatic goals and objectives. In support of CCSF's successful implementation of CCA, Navigant Consulting recommends:

- Conduct RFQ follow up interviews with both responsive and non-responsive providers to determine specific aspects of the Program that were attractive or created cause for concern.
- Engage in ongoing, bilateral communication with prospective energy suppliers to maintain a current understanding of market dynamics affecting CCA implementation, program pricing and other related considerations.
- Following implementation, the Program should actively monitor the creditworthiness of its chosen supplier for the purpose of maintaining an in depth, near-real time knowledge of the financial "health" and general business activities undertaken by this entity; the Program should consider establishing an internal position of "Supplier Relationship Manager" to complete monitoring activities and related reporting.
- CCSF should consider developing in-house expertise focused on requisite operational functions/responsibilities, both to help manage the supplier to minimize potential problems, and to build a capability of stepping into supplier functions if the supplier fails to satisfactorily meet expectations.
- Develop a contingency plan that could be implemented in the event of supplier failure, which would address the disposition of customers, physical facilities, supply contracts and commitments, and Clean Power SF in general.
- CCSF's energy supply contract should contain sufficient incentives and penalties to direct appropriate supplier performance, including incentives for completing the 360 MW rollout in accordance with defined milestones.
- CCSF should consider retaining an investment banker or financial advisory firm in the near future to begin efforts focused on structuring the bond financing and other financial matters related to Program operations (so that potential suppliers can have the benefit of this information prior to issuance of the RFP).



- CCSF should develop a compelling messaging and branding initiative, focused on benefits of the Program, to provide public education and encourage customer participation in the face of PG&E opposition.
- CCSF could consider having legislation introduced to revise Public Utilities Codes section 366.2 to clarify that the requirement for a utility to fully cooperate with the CCA program precludes the utility from marketing against or undermining the CCA program; furthermore, CCSF should continue to monitor regulatory developments and actively participate in those that may affect CCA viability.
- As part of Program implementation, CCSF should establish an outstanding customer service program to maintain its base of customers.
- CCSF should begin defining the Program's policies and procedures for treatment of delinquent accounts.
- CCSF should consider the nature of the desired rate bid and what constitutes "comparable" bids in light of likely timing differences between PG&E's rates and Program rates over the duration of the supplier contract, and in light of potential changes to PG&E's rate structure.
- CCSF's bid acceptance criteria should favor bids that are consistent with the bond period for proposals that include H Bond financing.
- CCSF should initiate discussions with the CAISO and the CEC to better understand the resource adequacy value of its highly renewable 360 MW generation portfolio as well as specific requirements related thereto.
- Prior to and following bid receipt, CCSF should take the necessary administrative actions to be in a position to execute the ESP contract and commence program implementation when market conditions best allow for the City/County to meet its objectives.



Appendix A: Acronyms and Abbreviations

BNI	Binding Notice of Intent
CCA	Community Choice Aggregation
CCSF	City and County of San Francisco
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CPUC	California Public Utilities Commission
CRS	Cost Responsibility Surcharge
EI	Edison Electric Institute
ESP	Energy Service Provider
FERC	Federal Energy Regulatory Commission
LAFCO	Local Agency Formation Commission
LSE	Load Serving Entity
MEA	Major Environmental Analysis Division
NEPA	National Environmental Policy Act
PG&E	Pacific Gas and Electric Company
RAR	Resource Adequacy Requirements
RECs	Renewable Energy Certificates
RFP	Request for Proposals
RFQ	Request for Qualifications
RPS	Renewable Portfolio Standard
SFPUC	San Francisco Public Utilities Commission
SJVA	San Joaquin Valley Power Authority
WSPP	Western States Power Pool