**CleanPowerSF Build-Out**

**Roadmap and Strategies**

***DRAFT***

SFPUC Power Enterprise

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#

# Summary

# BACKGROUND

This presents strategic direction for CleanPowerSF’s (CPSF) proposed build-out of local energy resources. CPSF is a community choice aggregator (CCA) in the City and County of San Francisco, and implemented by the San Francisco Public Utilities Commission (SFPUC), that intends to begin serving power to an estimated 90,000 residential accounts in early 2014. Consistent with program rules promulgated by the California Public Utilities Commission (CPUC), CPSF will eventually offer service to all San Francisco residents.

Build-out of electricity resources in the community and on property that is owned by the City and County of San Francisco (the City) is an essential component of CPSF’s business model. Although community stakeholders, elected officials and SFPUC staff may not have always agreed on the pace and nature of CPSF’s build-out plan, all three groups appear to agree that one of the benefits of having a CCA manage electricity purchases is that it can be a vehicle for a more comprehensive effort to promote environmental values within the City while strengthening the local economy.

CPSF’s build-out would support the general public policy goals of CCSF’s 2011 Updated Electricity Resource Plan (adopted by the SFPUC Commission in March 2011 and endorsed by the Board of Supervisors in August 2011), as follows:

* Assure Reliable Power
* Maximize Energy Efficiency
* Develop Renewable Power
* Increase Local Control
* Affordable Electric Bills
* Improve Air Quality
* Support Environmental Justice
* Promote Economic Opportunities

CPSF’s strategic direction is also informed by the Mayor’s Climate Plan and the City’s Renewable Task Force Report.

CPSF’s build out strategies would contribute to the implementation of certain specific recommendations of the 2011 Electricity Resource Plan (ERP), which are to:

* Improve and expand energy efficiency programs in San Francisco (Recommendation #1).
* Promote the development of behind-the-meter resources to create jobs and encourage the optimal combination of energy efficiency, on-site generation (e.g. on-site wind or solar as well as efficient, low emitting cogeneration) and load-shifting and demand response capability through smart-grid technology and energy storage (Recommendation #2).
* Develop San Francisco as a “Green Test Bed” to promote and encourage the deployment of new energy technologies within the City and attract green energy firms to locate within the City, including finding alternate or new financing opportunities (Recommendation #3).
* Advance and support Community Scale Energy Systems, both privately-owned as part of new development and through increased use of City-provided infrastructure where possible (Recommendation #4).
* Promote back-up storage deployment as an alternative to the existing use of diesel and natural gas-powered back-up generation (Recommendation #6).
* Incorporate locally-developed renewable and GHG-free resources (including energy efficiency) into CPSF’s supply portfolio where feasible and cost-effective (Recommendation #7).

“Build-Out” in the context of the CPSF program generally includes two components: energy efficiency and locally-owned or controlled electricity resources. Management of supplies and demand (e.g. with technologies that control load curves) are included in these program components.

CPSF has adopted a short term procurement strategy that relies primarily on market purchases from a procurement contractor, Shell Energy North America (SENA), for up to about 30 megawatts (MW). The City’s policy is for CPSF’s electricity supply portfolio to be 100% renewable at all times, whether CPSF relies exclusively on market purchases or as it develops a more diversified portfolio with local resources.

# PROGRAM FUNDS AND COSTS

In order to assure a sustainable program, CPSF must cover its costs with revenues from participating customers. The Commission’s “not-to-exceed” rate is intended to recover all on-going program costs and, in some scenarios, to collect funds that could be used to affect local build-out of energy resources. The SENA contract pricing terms are designed to minimize the risk that CPSF customers will experience more than negligible price increases over the first four and a half years (Phase 1 of the program), effectively relieving SFPUC staff of managing procurement of market supplies and thereby permitting them to focus on local resource and program development.

During Phase 1, CPSF expects to have the following sources of funding for build-out efforts:

* An allocation by the City of $2 million to supplement the existing GoSolarSF program, with priority given to low income CPSF customers (available at launch).[[1]](#footnote-1)
* An allocation by the City of $2 million for energy efficiency improvements, with priority given to low income CPSF customers (available at launch).[[2]](#footnote-2)
* An allocation by the City of $2 million to facilitate studies related to build-out activities (available at launch).[[3]](#footnote-3)
* Collected reserves from customer billings estimated to be $.05 million-$4 million (available annually).
* Funds from bonds in unspecified amounts, up to an estimated $200 million, depending on program revenues and strategies (potentially available in the third program year and beyond).

In addition to the funds available specifically for build-out efforts, CPSF may purchase local electricity supplies using the revenues streams from customers to either (1) supplement market purchases under the SENA contract or (2) add additional customers to the program. The success of this strategy will depend on the relative prices of market supplies and local (smaller) energy facilities.

# CRITERIA FOR EVALUATING STRATEGY OPTIONS

CPSF staff will develop and pursue build-out strategies on the basis of how these strategies serve explicit program goals adopted by the Board of Supervisors and the Commission on behalf of the community, and whether they contribute to the sustainability of CPSF. More specifically, the criteria for evaluation will include (in no particular order):

* Customer Service Quality and Benefit – Provision of reliable energy services according to the needs of CPSF customers as well as non-participating residents and businesses;
* Community Support – Assurance that strategies and implicit program values are consistent with the community’s interests;
* Environmental Impact – Achieving greenhouse gas (GHG) reductions, supporting goals related to clean air, clean water and sound land use;
* Bill and Rate Impacts – Reasonable rates and electric bills;
* Environmental Justice and Fairness – Equitable treatment of all neighborhoods, communities, constituencies and customer classes;
* Portfolio Diversity – An energy resource mix that is diversified in ways that serve objectives related to environmental values, community resources, system reliability and support for the local economy.;
* Local Economic Development – Jobs creation and support of local economy;
* Cost-effectiveness – Overall net economic benefits;
* Practicality – Feasibility, ease and time of deployment; and
* Regulatory and Legal Requirements – Compliance with state, local and federal rules, statutes, and case law.

# TIMING OF A BUILD-OUT

The build out of local energy resources would serve several City policy objectives related to the City’s pursuit of environmental values, jobs creation, and a robust local economy. CPSF will certainly have some resources to support local build-out and, after the program has secured steady customer revenue streams, may be able to issue revenue bonds to support an aggressive build-out strategy.

Earlier discussions regarding build-out have assumed that the entirety of CPSF’s power supply would be purchased through SENA in the first four and a half years after the CCA first initiates service. CPSF would subsequently switch over to a structure that emphasizes local purchases. This strategy presents several issues. First, it may delay CPSF’s ability to comply with the statutory requirement that CCAs ultimately offer service to all residential customers in the jurisdiction. While there is no adopted schedule for a CCA to comply with this requirement, CPSF should leave open the option to expand the program with additional resources as opportunities present themselves over Phase 1. Furthermore, the idea that CPSF would move from an “all-market” procurement strategy to a “mostly-local” procurement strategy almost overnight could present logistical challenges (e.g. if a large project does not finish construction on time or fails) as well as financial ones (e.g. local projects may be more expensive than power purchases on the state’s grid).

On the other extreme, Local Power Inc. proposed that CPSF invest about $1 billion from bond revenues in local projects in the first several years of the program. Neither CPSF nor the SFPUC will have the capacity to issue bonds before developing a proven revenue stream that corresponds to bonding amounts, which may be leveraged at a ratio of about 10 to one. CPSF would probably not have the bonding capacity to raise $1 billion for many years. Moreover, spending $1 billion cost-effectively in a short period would likely be extremely difficult.

The purpose of relying on SENA to purchase power for the first years of the program is to provide a period of transition to a more diverse and comprehensive power purchase strategy. It provides time for planning and construction, as well as an opportunity for CPSF to take incremental steps to invest in local power, with the backstop provided by SENA’s commitment to procure highly reliable, renewable power at stable prices.

***STRATEGY #1: CPSF plans to use the 4.5 year term of the planned SENA contract to develop a multi-pronged approach to local build-out and take immediate action to induce local build-out activities and projects.***

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| ***Work Task*** | ***Timing*** |
| Introduce specific products, services and purchasing strategies that promote local build-out | At launch and continuing |
| Plan for longer term build-out efforts, including program and project funding opportunities | Ongoing |
| Develop metrics and a cost-effective process for “layering in” local power supplies with SENA power purchases that includes an assessment of whether and when to expand CPSF’s customer base | Ongoing |

# COMPONENTS OF BUILD-OUT: ENERGY EFFICIENCY AND RELATED IMPROVEMENTS

Local build-out for CPSF means developing local energy resources that can supplant market purchases of electricity. Consistent with the Board of Supervisors’ policies, the SFPUC Commission’s adopted policy statements and the ERP, the focus of the local build-out has always been on energy efficiency and renewable facilities. Local build-out can also include energy projects and strategies that are not technically classified as renewable under California state law, but that can be “greened” with the purchase of renewable energy credits (RECs).

The City-adopted “loading order”[[4]](#footnote-4) for new energy resources places energy efficiency first, that is, a priority energy resource for San Francisco consumers to meet future electricity needs. For CPSF, effective energy efficiency improvements would not only satisfy the City’s goals related to GHG reductions, but would also be inexpensive relative to market energy purchases. Moreover, energy efficiency can reduce total electric bills, which will be especially important to many CPSF customers if CPSF’s rates are higher than PG&E’s rates.

In the short run, energy efficiency would not increase CPSF revenues or margin. However, energy efficiency improvements could allow CPSF to reduce participating customers’ load and cost-effectively expand the program to more San Francisco customers—as required by California law—by making it more attractive and accessible to new customers. Some demand side management programs, such as HVAC cycling, may also reduce program costs by reducing power requirements during periods when power supplies are most expensive.

The City’s municipal buildings and customers are probably not candidates for CPSF’s energy efficiency improvements because the City serves its own load with clean Hetch Hetchy power and ancillary services. Although energy efficiency improvements on municipal properties would be valuable to the City in many ways, CPSF’s support of municipal projects would not directly benefit CPSF customers or promote the sustainability of CPSF, a concern that will be especially critical in the early years of CPSF’s operation. In addition, because the City’s municipal buildings pay very low electricity rates to the SFPUC, they may require more inducements than other utility customers to spend scarce resources on energy efficiency improvements.

**RESIDENTIAL CUSTOMER PROGRAMS**

Upon launch, CPSF will immediately have funds to support residential energy efficiency programs. Specifically, the City has allocated $2 million for CPSF to spend on energy efficiency services targeting low income customers. The program may have additional funds from customer electricity sales and, at some point, from bond revenues.

Most of CPSF’s initial customer base is likely to be comprised of relatively small electricity users who live in apartments and condominiums in the northeast and southeast portions of the City. Residential energy efficiency programs are not likely to be cost-effective if they focus on individual customer units and are limited to improvements in the efficiency of electricity demand. On the other hand, multi-unit residential buildings within the CPSF customer territory may be good candidates for energy retrofits focusing on common areas and facilities.

To make the most out of limited funds, CPSF could coordinate its efforts with the City’s Department of the Environment (SFE), which manages a number of residential energy efficiency programs. The Mayor’s Office of Housing may be able to assist with identifying good project candidates and helping to coordinate their management. Other nonprofit and government programs may also permit leveraging to improve electricity consumption while, for example, improving the efficiency of natural gas use or providing home repairs to low income households.

***Potential Concerns:***

* Whether CPSF should limit participation in residential energy efficiency programs to CCA customer properties;
* Whether CPSF’s efforts to improve the efficiency of electricity use should include program components for natural gas or other household improvements;
* Whether CPSF should target program funds for projects that are most cost-effective—for example, common areas of multi-unit buildings—or make them available to any CCA customer;
* Whether and how CPSF can leverage existing programs and other agencies’ community connections to make efficient use of limited resources.

***STRATEGY #2: CPSF will coordinate with government agencies and nonprofits in order to take advantage of existing program infrastructure in the community and leverage limited funding.***

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| ***Work Task*** | ***Timing*** |
| Work with SFE and community-based nonprofit organizations to leverage their connections in the community, funding and expertise | Ongoing |
| Coordinate with SFPUC’s outreach staff to ensure CPSF marketing and “opt-out” materials provide information about energy efficiency opportunities available to CPSF customers | Ongoing |
| Coordinate with GoSolarSF regarding installations of solar and energy efficiency improvements on identified properties | Ongoing; project work beginning at launch |

***STRATEGY #3:*** ***CPSF will dedicate its residential energy efficiency funds to CPSF customers. The funds would be used to support projects that create electricity savings but would be leveraged through partnerships with existing programs that perform home improvements on low income properties. Prospective projects will be prioritized on the basis of cost-effectiveness and may include improvements to common areas and common facilities.***

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| ***Work Task*** | ***Timing*** |
| Identify potential low income programs and properties for leveraging initial allocation | Immediately after approval of not-to-exceed rates |
| Assess whether and when CPSF will have resources for other energy efficiency programs and projects, and establish priorities for use of funds | Year 1 and continuing |
| Apply to the CPUC for CCA allocation of energy efficiency funds to administer new programs | Year 1 |

**COMMERCIAL AND INDUSTRIAL CUSTOMER PROGRAMS**

CPSF does not plan to include commercial or industrial customers in the initial opt-out process.  Commercial and industrial customers may, however, proactively request to participate in CPSF. Unlike the funds for residential energy efficiency programs, CPSF may not immediately have funding to support commercial or industrial energy efficiency. Future funding may be obtained from customer electricity sales or bond revenues, or requested from the CPUC to administer new energy efficiency programs.

However, PG&E, SFE and other government agencies currently offer a variety of programs to promote commercial customer investments in energy efficiency. These programs address a range of solutions, including process improvements (such as ways to reduce energy use in manufacturing or replace inefficient equipment), upgrading facilities (like HVAC systems, boilers and lighting), and utilizing systems controls (light sensors or timed HVAC cycling).

Small- to medium-sized commercial customers are most likely to request participation in CPSF. These customer classes include but are not limited to restaurants, green businesses, retail stores, and professional service firms. At the outset, CPSF will coordinate its efforts with SFE, nonprofits, and other government agencies to facilitate and maximize participation in existing energy efficiency programs for commercial customers. Over time, as experience is developed and additional funding opportunities are identified, CPSF will seek to form its own programs and expand energy efficiency services to larger commercial and industrial customers.

***Potential Concerns:***

* Whether CPSF should use revenues from its residential customer accounts to induce commercial investments in energy efficiency;
* Whether CPSF should use energy efficiency program offerings as a way to attract commercial customers;
* Whether CPSF should manage demand and resource adequacy with cycling programs and other on-site controls;
* Whether and how CPSF can leverage existing programs and other agencies’ community connections to make efficient use of limited resources.

***STRATEGY #4: CPSF will support for energy efficiency improvements in commercial buildings as a way to attract commercial customers.***

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| ***Work Tasks*** | ***Timing*** |
| Assess how CPSF should use energy efficiency program offerings as a way to attract commercial customers  | Year 1 and continuing  |
| Initiate a pilot program with SFE that would identify candidates for subsidized commercial energy efficiency improvements as inducement for becoming CPSF customers | Year 1 and continuing |
| Determine whether and how CPSF could manage demand and resource adequacy with cycling programs and other on-site control technologies | Year 1 and continuing |
| Develop ways to leverage existing programs and other agencies’ community connections to make efficient use of limited resources | Ongoing |

# COMPONENTS OF BUILD-OUT: RENEWABLE ENERGY PRODUCTION AND PURCHASES

Consistent with City policy, CPSF plans to promote investments in renewable energy facilities, such as solar photovoltaic, wind farms, and small hydro projects. Except for facilities that are behind-the-meter on customer properties, most renewable electricity projects would meet the State’s “renewable portfolio standards” (RPS), which gradually increase through 2017 to require that 33% of total purchases use renewable electricity produced from RPS-qualifying facilities. Developing local renewable resources would allow CPSF to either replace market purchases of RPS products or increase the mix of “bundled” renewable power in its portfolio.

**PRIVATELY-OWNED PROJECTS ON CITY PROPERTY AND CITY-OWNED PROJECTS**

The ERP recommends the City purchase power from renewable facilities owned and operated by private developers and on City-owned infrastructure, such as government buildings, open space and parking lots. Private developers may take advantage of particular incentives and federal tax provisions that lower the cost of renewable energy investments. CPSF can leverage these tax benefits, which are not available to government agencies, by contracting with private developers for long term power purchases from facilities built on City property. CPSF may also be able to invest directly in projects constructed on City property. City-owned projects could be constructed using private contractors or by agreement with the San Francisco Department of Public Works.

Table 1 and Table 2 summarize renewable projects for CPSF in terms of potential costs, size and location. The costs of these projects are expected to be considerably lower than at the time they were originally analyzed. CPSF should also investigate whether the program or its customers could get the benefit of reduced transmission costs for projects that are located in or adjacent to CCA territory. SFPUC staff has also surveyed possible candidates for smaller rooftop solar projects and small hydro systems.

***Potential Concerns:***

* Whether and under what conditions CPSF should finance and construct renewable projects as opposed to entering into PPAs with project developers;
* Whether and under what circumstances CPSF should pursue construction of renewable projects on identified City property or issue RFPs for projects that would be constructed according to the property and resources available to developers;
* The timing of CPSF’s development of City projects

***STRATEGY #5: CPSF will investigate City sites that might be attractive for construction of privately owned projects, building on the information provided by existing analysis of individual projects. It will continue to identify prospects for City-owned projects and privately-owned projects on City property.***

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| ***Work Task*** | ***Timing*** |
| Work with SFPUC Power Enterprise staff (e.g. Renewables group, Energy Efficiency group, Redevelopment) to identify potential sites for build out | Ongoing |
| Evaluate potential for CPSF to invest in small hydro at University Mound | Ongoing |
| Develop an RFP for a solar project in Sunol that would be cost-effective for CPSF customers | Immediately after approval of not-to-exceed rates |
| Investigate prospects for petitioning the CPUC to change the ratemaking policy that requires CCA customers to pay for transmission services they don’t use | Year 1 |

**BEHIND THE METER (BTM) RESOURCES**

“Behind-the-meter” (BTM) facilities are generally located at customer sites that provide all or a portion of the site’s electricity needs. BTM facilities are attractive to customers because they reduce energy use and eliminate the cost of distribution and transmission on PG&E bills. Roof top solar is currently the most common type of BTM technology, but emerging new and improved technologies could also reduce energy or peak demand, and potentially provide excess energy to CPSF.

One consideration in emphasizing BTM investments by CPSF is that they are not likely to bring in revenue. Like energy efficiency improvements, they are potentially low cost investments to reduce demand, which will provide opportunities for increasing CPSF’s customer base in other parts of the City, while serving multiple other public policy goals, such as reducing GHG emissions, advancing local workforce development and reducing the City’s reliance on market purchases. In addition, support for BTM projects may induce local residents and businesses to participate in CPSF as BTM projects can also substantially lower customer bills, even if CPSF’s rates are higher than PG&E’s.

The SFPUC’s popular GoSolarSF program promotes investments in distributed solar projects and has created over 6 MW of installed capacity to date. GoSolarSF has provided incentive payments to residents, businesses, and non-profits that install solar panels at their properties. The City has allocated $2 million in GoSolarSF incentives to support solar installations for low-income customers of CPSF.

***Potential Concerns:***

* The priority of BTM projects relative to those that produce energy dedicated to CPSF;
* The prospects of leveraging bond funds to support BTM projects at customer sites;
* The viability of using BTM project subsidies as a way to attract new CPSF customers;
* The best way to allocate CPSF funds dedicated to GoSolarSF projects at low income properties.

***STRATEGY #6: CPSF will support installation of behind-the-meter renewable installations as resources permit, but will initially prioritize projects that provide energy supplies to CPSF***.

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| ***Work Task*** | ***Timing*** |
| Analyze the prospects for supporting BTM projects using revenues from bonds and CPSF’s capacity for related project and program management | Planning in Year 1; project construction beginning in year 3 |
| Determine whether and how much of CPSF’s initial funding and future revenues from customer billings should be used to support BTM projects in the first three years of operation | Immediately after approval of not-to-exceed rates |
| Determine if and how BTM subsidies should be used as a mechanism to of attract new CPSF customers | Year 1 |
| Work with SFE to assess whether CPSF can support existing programs to induce investments in BTM in the first three years of operation | Immediately after approval of not-to-exceed rates |

 ***STRATEGY #7: CPSF will prioritize the $2 million for GoSolarSF incentives to support projects at low-income properties where CPSF customers reside, projects that provide energy savings and projects that sell excess power to CPSF through a net metering agreement or tariff.***

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| ***Work Task*** | ***Timing*** |
| Work with the GoSolarSF group to develop a set of criteria for evaluation of potential CPSF sites for solar installations | Ongoing |
| Coordinate with the GoSolarSF group and SFE to identify ideal project candidates at low income properties, and other sources of project support, whether from property owners, CPSF customers or government-sponsored programs | Immediately after approval of not-to-exceed rates |
| Develop an RFP for project construction | Immediately after siting analysis |
| Monitor project progress and, where relevant, establish sales agreements | Ongoing |

**NET ENERGY METERING TARIFFS (NEM)**

NEM tariffs are standardized contracts for providing bill credits or payments in return for purchase of excess electricity produced by CPSF customers, mainly for on-site use, such as rooftop solar on residential buildings. Currently, PG&E does not pay customers for excess power;it gives them a credit at the end of the year for “free” power in future periods. This policy actually discourages conservation by customers because they get no benefit from the NEM tariff unless they use more power in future periods than in previous periods. Purchasing the power – even at discounted levels – could encourage conservation and construction of small power facilities. A net metering tariff may incent PG&E customers to subscribe to CPSF as an electricity customer as well.

CPSF has access to data regarding where NEM customers are located around the City (although it does not specify project size). This information could be used to identify and contact potential CPSF customers that have solar.

***Potential Concerns:***

* Whether CPSF’s NEM tariffs should pay for excess power rather than provide customer credits and if so, at what levels;
* Whether and how CPSF’s NEM tariff should be designed to encourage participation in CPSF by customers who own or would install renewable projects.

***STRATEGY #8: CPSF will offer to purchase excess power produced by small projects at CPSF customer premises, according to a net metering tariff. Such purchases may be used to attract non-CPSF customers with solar installations to the program The NEM rate will be set at or near a price that is comparable to market power prices.***

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| ***Work Tassk*** | ***Timing*** |
| Draft an NEM tariff for SFPUC approval | Immediately after approval of not-to-exceed rates |
| Identify potential NEM participants in all areas of the City and develop a plan to notify them of the NEM tariff offering | Immediately after approval of not-to-exceed rates |
| Publish the NEM tariff and notify potential participants | At launch |

**FINANCING SUPPORT**

CPSF may be able to encourage new construction of renewable facilities if it is willing and able to provide support for project financing, e.g. with loan guarantees, interest rate buy-downs or on-bill repayment opportunities. SFE and other government agencies have developed related products and mechanisms that CPSF customers and contractors may be able to leverage.

CPSF may also be able to issue bonds that would support local build-out once it is able to demonstrate a steady stream of revenue, probably after 2-3 years of program operation.

***Potential Concerns:***

* Program design that will assure pay-back of CPSF bonds;
* Whether and how to take advantage of existing programs designed to support financing of renewable projects;
* Whether and how to directly provide financing support to new or existing projects.

***STRATEGY #9: CPSF will investigate ways to leverage existing programs and policies that support project financing and to consider proposals by individual projects for CPSF to provide financing support. CPSF will develop plans to issue bonds at a time, in amounts and for projects that minimize risk to the City and the CCA.***

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| ***Work Task*** | ***Timing*** |
| Develop a plan for issuing bonds for types of projects and on a timeline that minimizes risk. | Year 1 and beyond |
| Investigate opportunities for financing of renewable projects by leveraging existing programs or helping to support the development of new ones | Ongoing |
| Investigate whether CPSF can directly support individual project development with financial support mechanisms as contract components | Ongoing |

**FEED-IN TARIFFS AND POWER PURCHASE AGREEMENTS (PPAs)**

One way to promote development of local energy resources is to assure a payment stream for power purchases. CPSF can publish Requests for Proposals (RFPs) that describe the kinds of resources needed and create a competitive bidding process. Winning bidders would sell power to CPSF according to negotiated PPAs, which may include terms tailored to the needs CPSF and/or the specific project (for example, different pricing terms depending on power delivery times). For small projects (usually less than 1 MW), “feed-in-tariffs” are standardized contracts for purchased power that typically do not require an elaborate or lengthy RFP process.

***Potential Concerns:***

* Whether CPSF feed-in tariffs or RFPs for power should specify project characteristics such as size, technologies or dispatchability;
* Whether CPSF feed-in tariffs or RFPs for power should specify labor arrangements;
* Whether CPSF should limit projects to those constructed within City-County boundaries;
* When CPSF should issue RFPs.

***STRATEGY #10: CPSF will design power purchase agreements and feed-in tariffs to encourage innovative technologies installed at sites within the City and City-controlled sites. CPSF will design RFPs consistent with City policy and practices with regard to labor arrangements.***

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| ***Work Task*** | ***Timing*** |
| Develop RFP for power purchases | Development ongoing; issuance at launch |
| Develop feed in tariff for power purchases from renewable resources in the City at rates that are comparable to SENA prices for similar products | Development ongoing; issuance at launch |

# OTHER ELECTRICITY PRODUCTION AND PURCHASES

One of the objectives of creating a CCA for the purpose of electricity procurement is to pursue energy resource strategies that reflect local values and support the local economy.

**NON-RENEWABLE LOCAL GENERATION (COMBINED HEAT AND POWER (CHP), FUEL CELLS, BIOMASS, BIOGAS)**

CPSF may have opportunities to purchase local power from facilities that the State of California does not consider “renewable” under RPS law. However, these facilities provide the benefits of supporting the local economy and producing electricity that may be more clean and efficient than central station generating plants. These distributed generation facilities may also help CPSF manage load in ways that produce substantial cost savings. Like the renewable resources discussed in the previous section, they stimulate the development of local jobs and local economic growth, compared to out-of-area facilities, especially central station plants.

Non-renewable energy facilities are tied to various environmental liabilities and the environmental review process for them under the California Environment Quality Act (CEQA) is likely to be more complicated than for some renewable projects. Power from these facilities would need to be “greened” with complementary market purchases (like “RECs”) if the SFPUC wishes to retain a 100% renewable portfolio for CPSF.

***Potential Concerns:***

* Whether CPSF should pay for local power supplies from distributed generation that is not considered renewable under State law, and whether CPSF should encourage the development of related facilities;
* If CPSF decides to purchase such supplies, whether it should pay a lower price for the power than what it pays for state-certified renewable power;
* Whether CPSF should explore using such distributed generation to lower costs relating to peak period energy costs and, if so, how to ensure that CPSF would get the benefit of related investments under the terms of the SENA procurement contract.

***STRATEGY #11: CPSF will develop local nonrenewable projects that are (1) more efficient and cleaner than central station alternatives; (2) cost-effective in helping CPSF manage load, especially during peak periods (3) substantially less expensive or substantially more beneficial than renewable alternatives for managing power delivery; (4) or otherwise contribute to program goals and objectives.***

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| ***Work Task*** | ***Timing*** |
| Confirm that SENA contract terms do not provide disincentives to shave peak load | Ongoing |
| Investigate the SFPUC’s facilities and related data to determine the potential locations and characteristics of cost-effective investments in non-renewable energy facilities | Year 1 and ongoing |
| Issue RFP for local nonrenewable resources that would promote more cost-effective management of power purchases and potentially expand customer base | Year 1 and ongoing |

**HETCH HETCHY POWER SUPPLIES**

The SFPUC may be willing to sell excess Hetch Hetchy generation to CPSF. Although CPSF would be a low priority customer, the power would be very inexpensive. Because the State does not consider Hetch Hetchy a “renewable” facility (due to its large size), power from it would need to be “greened” with REC purchases if CPSF wants to maintain a 100% RPS-eligible renewable portfolio. CPSF may be able to construct small hydro projects on the Hetch Hetchy system that would be considered RPS-eligible. In particular, CPSF may be able to work with Hetch Hetchy to construct small hydro electrical facilities inside water pipelines.

***Potential Concerns:***

* Whether CPSF should or could purchase any excess power (after obligations to the Modesto and Turlock Irrigation Districts) from Hetch Hetchy to supplement SENA purchases;
* Whether CPSF should advocate for development of small hydro projects using the Hetch Hetchy system;
* Whether CPSF could become a higher priority customer in future periods.

***Strategy #12: CPSF will purchase all excess Hetch Hetchy generation, if and when doing so will be cost-effective under the terms of the SENA contract and in compliance with the Raker Act***.

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| ***Work Task*** | ***Timing*** |
| Develop an MOU with Hetch Hetchy for CPSF to take available excess power | Immediately after approval of not-to-exceed rates |
| Work with Power Enterprise staff to determine whether CPSF can be a higher priority customer in the longer term | Year 1 |
| Evaluate prospects for CPSF development of “in-pipe” small hydro such as University Mound | Immediately after approval of not-to-exceed rates |

# FUTURE MARKET PURCHASES

Even under an extremely successful local build-out, CPSF will need to buy and sell power through California’s energy grid because the nature and timing of power produced by local resources will not correspond exactly to local demand. During the program’s first 4.5 years, CPSF plans to rely mainly on SENA for 30MW of customer load. As local resources come on-line, they will either supplant SENA purchases or permit CPSF to expand by adding customer accounts.

CPSF has not yet determined how to manage scheduling, sales and procurement at the end of the SENA contract. If it is to continue to rely on one or multiple third-party procurement agents, CPSF would need to issue another RFP, likely toward the end of the program’s second year. Alternatively, the SFPUC could develop internal capacity for all or some of CPSF’s procurement needs. The SFPUC already has expertise in this area as a publicly-owned utility because the Hetch Hetchy Power System serves San Francisco’s municipal load. More centralized control of this function may permit more cost-effective deployment of local energy resources and more cost-effective purchasing on behalf of the City overall.

***Potential Concerns***

* Whether CPSF should continue to contract with third-party agents for all or some portion of market purchases and sales;
* Whether CPSF should expand existing SFPUC capacity to procure and schedule electricity deliveries, and contract for long term purchases.

***STRATEGY #13: CPSF will begin planning for the possible transfer of CPSF procurement activities to SFPUC, following the termination of the SENA contract.***

|  |  |
| --- | --- |
| ***Work Task*** | ***Timing*** |
| Evaluate whether and to what extent third-party agents should be used to procure energy, and capacity needs for in-house procurement services | Year 1 and continuing |
| Issue RFP for procurement services | Year 2 and subsequently as needed |

# TIMELINE

***[Placeholder for a table or timeline that takes the above work tasks and puts them in order chronologically]***

# CONCLUSION

1. San Francisco Board of Supervisors Resolution 0348-12 (adopted September 18, 2012) [↑](#footnote-ref-1)
2. *Ibid.* [↑](#footnote-ref-2)
3. *Ibid.* [↑](#footnote-ref-3)
4. San Francisco Board of Supervisors Resolution 227-08 (adopted May 13, 2008) [↑](#footnote-ref-4)