



Services of the San Francisco Public Utilities Commission



Staff Highlights on LPI Key Business Case & Financial Deliverable

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LPI Business Case Assumptions & Risks: Scenario 11

- Up to **600 MW** program (CPSF Phase 1 = 20-30 MW) with 25% of supply from local sources by year 2017.
- **303,184** customers by year **2017** (CPSF Phase 1 = up to 90,000 residential customers).
- **~79% of commercial/industrial customers participate to achieve economies of scale & savings shared with residential customers.**
- City **borrowing over \$1B** for infrastructure, of which **\$648M** for private improvements.
- Local build-out by 2017 (funded through City borrowing, generation starts one year after debt issuance):
 - **5,450** new sites of energy efficiency installations.
 - **300** new sites of Internal Combustion Combined Heat & Power (CHP).
 - **1** site for District Heating CHP.
 - **600** sites for Solar Photovoltaic panels.
 - **1** site for Wind.
- New natural gas & biogas commodity purchases – Total **\$91M** through **2017**.
- **48%** dependence on Hetchy surplus in Year 1, then 7% beginning in 2015 at subsidized rate.
- Significant dependence on wholesale purchases which introduces significant power cost volatility and risk of under-recovery of program costs from ratepayers.
- Rates & Revenue – Under collection if \$ borrowed and customers don't stay with the program over the 20-30 year borrowing period.
- Behind-the-Meter revenue grows to **\$80M+** by **2017**, or >20% of total revenues.



Current CleanPowerSF Program, Phase 1

Presents limited financial risk to the City.

- Mitigates program risk through targeted and phased 20-30 MW program.
- Allows commercial customers to participate to further mitigate risk of unsubscribed power purchases.
- Establishes wholesale energy costs and sets rates to recover those costs from participating customers.

Future borrowing capacity is sized based on Phase 1 demand.

- If program is successful/over-subscribed, new Phases to follow.

Contract with Shell Energy permits local build resource substitution.

- Once customer revenue stream established, renewable build-out to follow, with participating customers funding City resources layered in to replace Shell resources.

Studies of potential renewables projects and development already underway.



Current CleanPowerSF Program Fosters Long-Term Local Build-Out

Shell contract is a 4.5-year bridge to a long-term, diversified portfolio of City-controlled renewable resources.

Up to \$13.5M of reserves recovered through rates for local build-out and/or start-up repayment (a policy decision ultimately).

Appropriation includes \$6M to create incentives for participation and spur investment in new, local CPSF renewable resources over the next 2-3 years, including:

- \$2M - Energy Efficiency targeted to low income
- \$2M - GoSolarSF Incentives targeted to low income
- \$2M - Facilitate Development of Local Renewables Generation

CPSF intends to offer Net Energy Metering Rates (as presented to Rate Fairness Board) for small-scale (rooftop) solar PV installations.

CPSF intends to offer Feed-in-Tariff for small-scale, local renewable generators.

CPSF intends to regularly issue standard Requests for Offers (RFOs) for development of energy efficiency, demand response, and larger renewable generation projects.

Additional phases will allow for expansion of local build-out beyond 20-30 MW.



List of Potential Solar PV Projects City-Controlled Locations

LARGEST AND MOST SUITABLE POTENTIAL PV PROJECTS							
Location	Annual Solar Resource (kWh/m²/day)	Project Area (sq ft)	Project Size (MW-AC)	Cost (range in \$millions)	\$/W	Levelized cents/kWh (City-owned-no subsidies)¹	Levelized cents/kWh (PPA w 30% federal tax credit, bonus depreciation)²
Outside CCSF							
Warnerville Substation (subject to land acquisition)	4.8	3,500,000	35	\$140M - \$210M	4.00 - 6.00	15.36 - 23.04	11.26 - 16.90
Tesla Portal	4.8	500,000	5	\$20M - \$30M	4.00 - 6.00	15.36 - 23.04	11.26 - 16.90
Sunol Valley	4.8	2,000,000	20	\$80M - \$120M	4.00 - 6.00	15.36 - 23.04	11.26 - 16.90
SFO Parking Lot (subject to SFO approval to use land)	4.7	1,000,000	10	\$50M - \$70M	5.00 - 7.00	19.20 - 26.89	14.08 - 19.71
Inside CCSF							
Hunters Point - Parcel E (subject to environ approvals for land)	4.7	1,000,000	10	\$40M - \$60M	4.00 - 6.00	21.27 - 31.91	15.60 - 23.40
University Mound - North Basin (subject to seismic upgrade)	4.6	300,000	3	\$15M - \$21M	5.00 - 7.00	26.59 - 37.23	19.50 - 27.30
Sutro Reservoir / Summit Pump Station	4.5	300,000	3	\$15M - \$21M	5.00 - 7.00	26.59 - 37.23	19.50 - 27.30
Total (all)			86	\$360M - \$532M			

¹ Assumes 4% interest rate over 25 years for City-owned projects with no subsidies; does not include transmission and distribution costs.

² Assumes 30% federal tax credit and bonus depreciation per the American Taxpayer Relief Act of 2012, which requires facilities to be online by the end of 2016.

Questions?