Date August 20, 2009 Item No. 6

LOCAL AGENCY FORMATION COMMISSION

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☐ **Exceeds 20 pages; see file to review**
Available for review at City Hall, Room 244

Completed by: Linda Wong **Date:** August 17, 2009

***This list reflects the explanatory documents provided**

Local Power

35 Grove Street Suite 118
San Francisco, CA 94102

August 17, 2009

Nancy Miller, Interim Director
San Francisco Local Agency Formation Commission
City Hall, 1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco CA 94102

Re: San Francisco CCA Program - LPI Review of SFPUC Consultant Reports, Task 1 & 2; Theoretical and Technical Potential for Renewable Energy Resource Development in the City and County of San Francisco as part of the CCA Program

Interim Director Miller/LAFCO Commissioners,

Local Power, Inc. (LPI) has been asked to report on SFPUC's progress as reflected in the work of its consultant, George Sansoucy Engineering and Appraisal Services Inc. (GES). LPI has reviewed recent work for the CCA program performed by GES which has completed two draft reports, identified by SFPUC as Task 1 and Task 2 out of 5 tasks. Apart from an initial delay in receiving the two draft reports, SFPUC staff and GES have been responsive to requests from LPI for data and communication.

Chronology of LPI Review of GES Report

July 30: LPI discussion with Mike Campbell regarding report
July 31: SFPUC delivers to LPI a 9-page summery on technical potential of evaluated technologies
Aug. 4: Date of Draft Report
Aug 7: LPI receives copy of draft report & reference spreadsheets from SFPUC Staff
Aug 14: LPI meeting with GES & SFPUC staff to discuss LPI questions about reports
Aug 17: LPI comments due to LAFCO
Aug 20: LAFCO Commission Meeting & LPI presentation

Comments

The GES feasibility studies examine the potential for developing selected energy resources inside of San Francisco. The reports looked at solar, wind, tidal, biogas, fuel cells, and combined heat and power, and evaluated their "theoretical" and "technical" potential in terms of megawatts of capacity as well as megawatt-hours of generation. Theoretical capacity is the largest value, and represents resource potential without the constraint of practicality for development. Technical potential looks at how much is practical, and in most cases does not consider economic factors. The future task 4 is due to look at economic potential.

Both the theoretical and technical potential for resources in the report can meet the targets established in the Community Choice Draft Implementation Plan. Carrying out the Plan would result in developing about 1/3 of the technical potential, and 9% of the theoretical potential for local renewable generation:

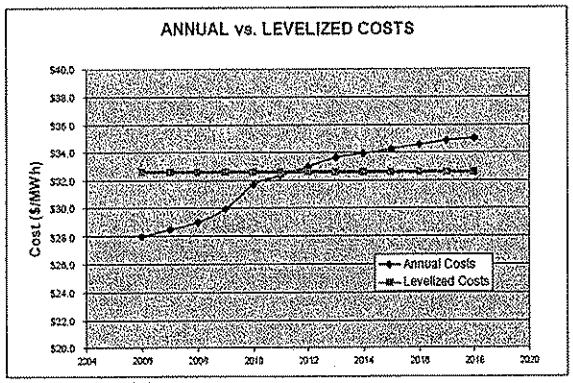
	Theoretic Potential	Technical Potential	Existing in SF	CCA IP Target
	mw	mw	mw	mw
Solar PV	**500**	**100**	**7**	**31**
Renewable DG:				
Wind	560	15	0.5	
Biogas	55	55	3	
Tidal	3	3	0	
Total Renewable DG	**618**	**73**	**3.5**	**72**
Other DG:				
Fuel Cells	750	10	0.2	
Combined Heat and Power	130	130	30	
Total Other DG	**880**	**140**	**30.2**	
Combined DG Resources	**1998**	**313**	**40.7**	**103**

There are a number of resources, some of which are required components of prospective CCA Supplier's proposals, that *have not been included* in these first two reports:

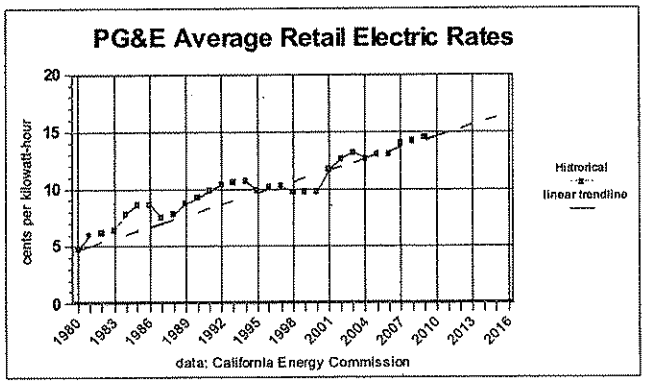
- GES considered, but did not include for analysis, the potential for offshore wind and wave power, both of which are likely to be significant in the future as technology develops further.
- The scope of the assigned tasks excludes the City's potential for energy storage systems, energy efficiency, demand response, interruptible load, and conservation.
- The potential to develop resources outside of the City, such as the 150 megawatt wind farm included in the CCA Implementation Plan, is to be included in a subsequent task.

From LPI's perspective, the first task report shows that there is no theoretical or technical limitation on available resources that would prevent San Francisco from achieving the in-City renewable targets of the Implementation Plan. We find this to be a useful and positive result.

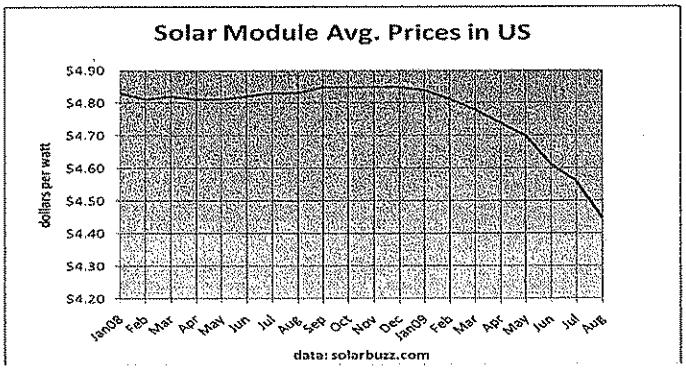
The second task report analyzed the cost of the renewable resources in depth. In general, the cost to operate a power plant increases over time as the plant ages, and cost of fuel, maintenance, labor and other factors increase. Thus, early cost of renewables will be lower than the levelized cost. The inclusion of first-year costs is a significant contribution of this report, which should be considered when evaluating whether a generator can be competitive with utility rates. The trendline of increasing levelized cost closely mirrors the tendency of electric power rates to increase over time; a factor that is favorable to renewable energy.



Source: Energy Commission

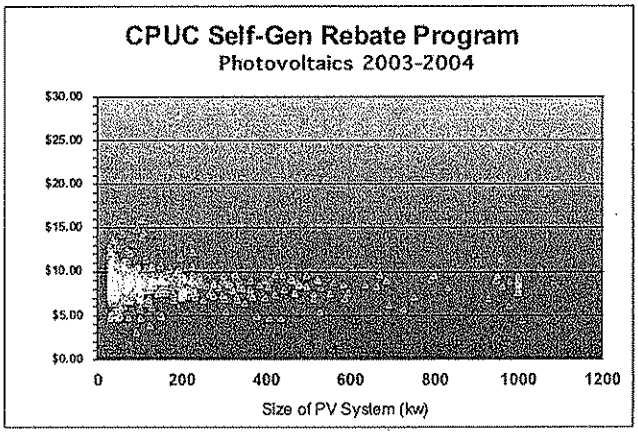


LPI identified two dozen technical questions about the reports, and discussed these with GES. For example, LPI is concerned that some cost estimates may be high, especially for solar photovoltaics. GES stated that they used data from May. However, solar panel prices have decreased over the summer.



In LPI's opinion, the report represents good work. And while LPI has questions regarding some of the assumptions and conclusions GES made, the analysis appears to LPI to be reasonable.

From a larger perspective, LPI's more important concern is with how this work relates to implementing the CCA program and developing the RFP. While levelized costs are a helpful framework for establishing feasibility of the CCA Plan, this is not the entire picture. In markets, the price of a renewable plant may vary dramatically. For example, in 2003 the price of photovoltaic installation varied between $3 and nearly $30 per watt. This compares with the GES relatively narrow levelized cost projection of approximately $8 to $10.50 per watt.

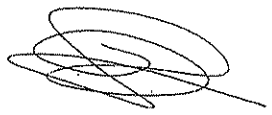


This illustrates that there are opportunities to "shop around" for better prices, and even to include program elements that may affect the cost of renewable energy. For example, while the levelized cost assessment is based upon purchasing individual units, the CCA program offers the opportunity for bulk purchase discounts; a point with which GES has generally agreed. GES also has listed and evaluated in their reports a wide range of existing incentive programs to help reduce the cost of the program.

Existing incentives may be supplemented by appropriate design of the program, such as including purchase of renewable energy certificates (RECs) from local renewable generators as described in the CCA Plan. Some things might be "left to the market" to decide. However, the SF CCA program design is novel, and the market may benefit from guidance on the City's vision. In addition, some planning elements—such as assistance with permitting or zoning rules, planning for state efficiency funds, defining the RFP terms, and issuing bonds—are things that the City is in the best position to do. It is important to clarify the appropriate role and actions for the City, and what should be left to the market.

LPI has proposed to provide a list of program design elements that can enhance the value and reduce the cost of the CCA infrastructure. SFPUC has indicated that they are interested in this list, and it is our understanding that they will consider for incorporation in Task 5. It is our hope that Task 5 will provide the needed connection between this series of tasks and practical guidance for development of the RFP.

Sincerely Yours,



Paul Fenn
Chief Executive Officer