

Agenda Report

June 23, 2014

TO: Honorable Mayor and City Council

THROUGH: Municipal Services Committee (June 10, 2014)

FROM: Water and Power Department

SUBJECT: AUTHORIZE THE CITY MANAGER TO ENTER INTO A POWER SALES AGREEMENT WITH THE SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY FOR THE PURCHASE OF RENEWABLE ENERGY FROM THE EXISTING PUENTE HILLS LANDFILL GAS-TO-ENERGY PROJECT

RECOMMENDATION:

It is recommended that the City Council:

1. Find that the recommended contract authorization is exempt from the California Environmental Quality Act ("CEQA") pursuant to State CEQA Guidelines Section 15061(b)(3) (General Rule); and
2. Authorize the City Manager to enter into a Power Sales Agreement with the Southern California Public Power Authority¹ ("SCPPA") for the purchase of renewable energy and capacity from a 13/43 share of the 43 MW existing Los Angeles County Sanitation Districts' ("LACSD") Puente Hills Landfill Gas-to-Energy Project ("Puente Hills"), for a total of up to 13 MW for a term of 14 years beginning January 1, 2017.
3. Find that neither competitive bidding nor competitive selection is required pursuant to City Charter Section 1002(h), and Pasadena Municipal Code Section 4.08.049 A.3, contracts with other governmental entities.

MUNICIPAL SERVICES COMMITTEE RECOMMENDATION:

On June 10, 2014, the Municipal Services Committee recommended that the City Council authorize the City Manager to enter into the Power Sales Agreement with SCPPA for the purchase of renewable energy and capacity from the Puente Hills project.

¹ The Southern California Public Power Authority is a joint powers agency whose members include the cities of Anaheim, Azusa, Banning, Burbank, Cerritos, Colton, Glendale, Pasadena, Riverside, Vernon, the Los Angeles Department of Water and Power, and the Imperial Irrigation District.

EXECUTIVE SUMMARY:

Puente Hills is an existing 43 MW (net) landfill gas-to-energy generation project that is located near Whittier, in an unincorporated area of Los Angeles County, approximately 14 miles east of downtown Los Angeles. The plant includes two steam boilers that are fired 100% by landfill gas from the now closed Puente Hills Landfill. The landfill and associated generation project are owned by the LACSD, which include several independent special districts functioning on a regional scale to provide wastewater and solid waste management. The landfill gas-to energy generation facility commenced operation in 1986. The generation output is currently sold under a Qualifying Facility² contract to Southern California Edison ("SCE") that expires at the end of 2016. The useful life of the landfill gas production and generation facility is expected to be approximately fourteen (14) years after the expiration of the SCE contract.

Under the proposed 14-year contract, PWP expects to procure approximately 102,222 MWh in calendar year 2017, or approximately 9.2% of retail sales, of Portfolio Content Category 1 ("PCC1")³ renewable energy from the Puente Hills project at a cost of approximately \$8.2 million. Because Puente Hills is a closed landfill, its production of methane gas, and associated renewable electricity generation, will continually decline over the 14 year contract term. By the last year of the contract (2030), PWP expects to procure approximately 45,097 MWh at a cost of approximately \$3.6 million.

The Puente Hills Power Purchase Agreement was approved by the SCPPA Board on May 15th, 2014. Subject to approval by their individual governing bodies, the output of the project will be purchased through SCPPA via Power Sales Agreements by the Cities of Pasadena (13/43 share), Colton (10/43 share), Vernon (10/43 share), Banning (9/43 share), and Azusa (1/43 share).

BACKGROUND:

The City of Pasadena has adopted a number of environmental goals applicable to the Pasadena Water and Power Department ("PWP"), including a Renewable Portfolio Standard ("RPS") goal to supply 40 percent of its retail energy sales with renewable resources by 2020. Meeting the RPS goal is a key component of PWP's plan to reduce greenhouse gas emissions by 40 percent by 2020. These goals were adopted by the City Council as part of PWP's Integrated Resource Plan ("IRP") in 2009.

² *Qualifying Facilities are certain small renewable power production facilities that have the right to sell energy and capacity to a utility at the utility's avoided cost or at a negotiated rate. Although popular in the 1980s, QF contracts are all but obsolete today, because the utilities' avoided cost is generally too low to be attractive.*

³ *A bundled electricity and renewable attribute product that must be generated by an eligible renewable energy resource that has its first point of interconnection within the metered boundaries of a California balancing authority area, or that otherwise meets the criteria specified for PCC1 by law and the California Energy Commission.*

PWP has continued to review numerous proposals submitted through the open SCPPA Request for Proposals process, in search of renewable resources that can operate continuously (“baseload”) to complement the recent solar (“peaking”) contracts that have been approved and executed in the past year. Procuring renewable resources with a variety of diverse operational characteristics, terms/expiration dates, counterparties, and resource types is consistent with PWP’s regulatory and reliability requirements, as well as its Renewable Portfolio Standard Procurement Plan, approved by the City Council July 22, 2013.

The recommended contract was determined by PWP to be the most competitive and attractive of the available baseload project offers. The contract will be with Sanitation District No. 2 of Los Angeles County, the authorized administrator on behalf of the LACSD. The Sanitation Districts are highly creditworthy public entities, and will stand behind the power purchase agreement’s financial guarantees. The fact that this is an existing, operating facility eliminates the project development and transmission interconnection risk PWP typically faces with new renewable energy contracts. The facility is located in the LA Basin near PWP’s load, and will provide a high level of guaranteed local resource adequacy capacity, with a credit of \$5.10/MWh against the purchase price if the local resource adequacy is not available.

The Puente Hills Landfill was one of the largest landfills in the nation. It pioneered the development of advanced environmental control systems that are now used at modern landfills throughout the state and nation. These systems, designed to protect air quality and groundwater, include extensive landfill gas collection networks and underground liners. Puente Hills Landfill closed permanently on October 31, 2013 after 43 years of operation. Biogas, generated during the decomposition of organic material managed in the landfill, is used to generate electricity. By collecting and burning this biogas to produce renewable energy at the Puente Hills energy recovery facility, the project:

- Provides a reliable source of renewable power to help reduce reliance on fossil fuels;
- Destroys potentially odorous landfill gas by combustion; and
- Reduces greenhouse gas emissions.

Methane normally leaks or is flared from landfills. The biogas collection system at Puente Hills maintains a vacuum that minimizes methane gas leakage. Burning this biogas to produce renewable energy also reduces the discharge of a very harmful greenhouse gas to the atmosphere. Methane is a much more potent greenhouse gas than carbon dioxide.

Table I summarizes the contract price for various renewable resources authorized by the City Council, as well as the price for the Puente Hills Project under the proposed contract. Forecast market prices for non-renewable “brown power” are also provided for comparison.

Table I
Renewable Energy Contract Price Comparison

Resource Name/Type	Contract Execution Year	Contract Energy Price ⁽¹⁾ by Calendar Year (\$/MWh)				
		2015	2016	2017	2020	2025
LACSD Puente Hills ⁽²⁾ ⁽³⁾	2014			\$80.00	\$80.00	\$80.00
Amended Silverado Solar ⁽²⁾ ⁽³⁾	2014		\$71.25	\$71.25	\$71.25	\$71.25
Recurrent Energy Projects ⁽²⁾ ⁽³⁾	2013	\$69.98	\$69.98	\$69.98	\$69.98	\$69.98
Kingbird Solar	2013	-	\$68.50	\$68.50	\$68.50	\$68.50
WM Biomethane ⁽²⁾	2011	\$94.92	\$94.92	\$94.92	\$94.92	-
Sequent Biomethane ⁽²⁾	2011	\$94.92	\$94.92	\$94.92	\$94.92	-
EDF Biomethane ⁽²⁾	2011	\$98.00	\$98.00	\$98.00	\$98.00	-
Milford Wind ⁽³⁾	2009	\$72.19	\$73.45	\$74.74	\$78.73	\$85.86
Ormat Geothermal Phase 2 ⁽³⁾	2008	\$83.24	\$84.49	\$85.76	\$89.67	\$96.60
Minnesota Methane	2006	\$81.07	\$83.58	-	-	-
Chiquita Canyon LFG ⁽²⁾ ⁽³⁾	2006	\$65.25	\$65.25	\$65.25	\$65.25	\$65.25
Ormat Geothermal Phase 1 ⁽³⁾	2005	\$65.74	\$66.73	\$67.73	\$70.83	\$76.30
Iberdrola Renewables	2003	\$53.50	\$53.50	\$53.50	\$53.50	-
Market Forecast ⁽⁴⁾ (brown power)		\$47.87	\$47.53	\$48.75	\$54.58	\$63.37

⁽¹⁾ Contract prices exclude costs of transmission, losses, and integration fees. All contract prices include applicable cost of System Resource Adequacy and Local Resource Adequacy capacity, if provided

⁽²⁾ These contracts provide, or are expected to provide, Local Resource Adequacy capacity

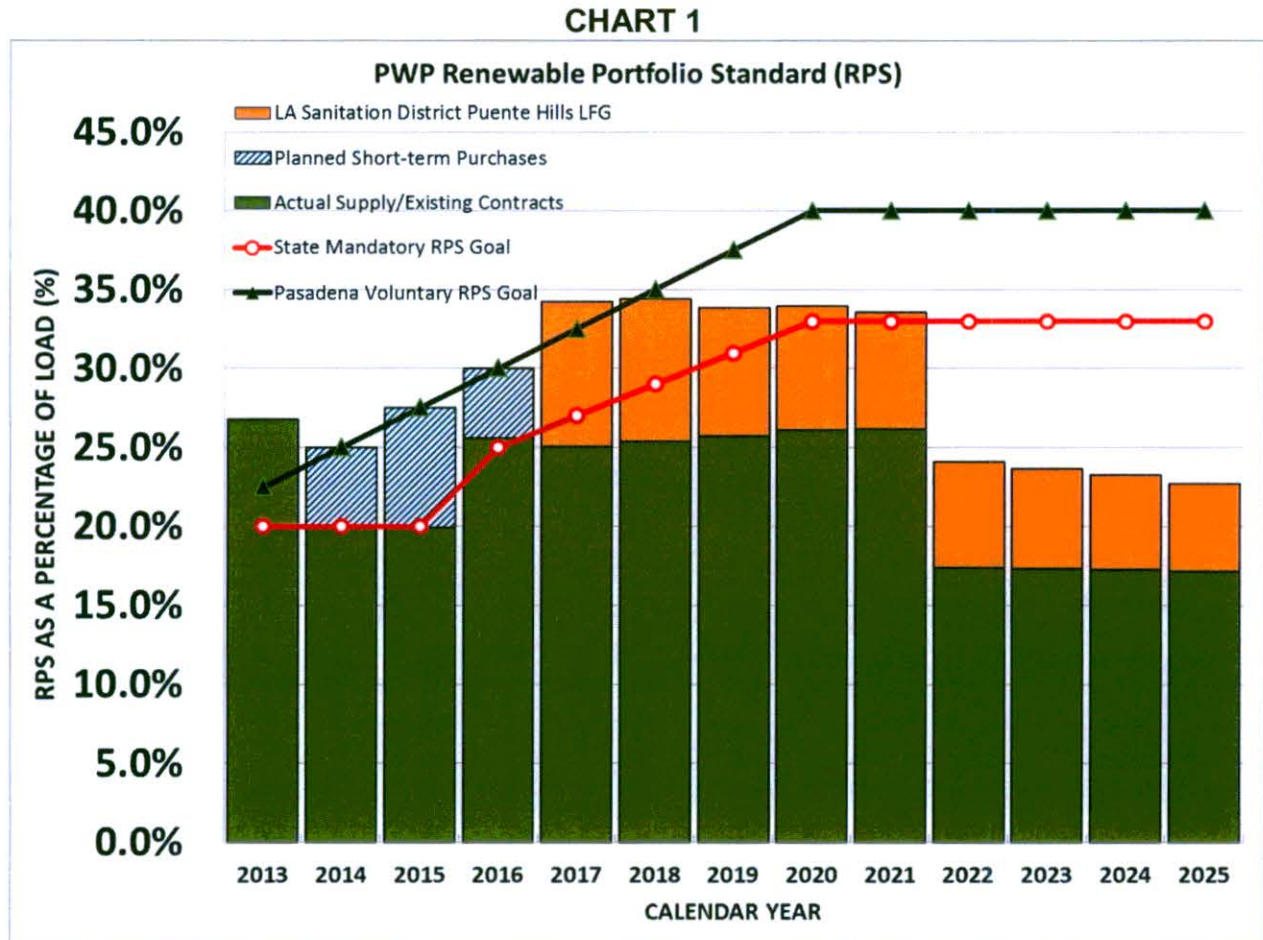
⁽³⁾ Contract is through the Southern California Public Power Authority ("SCPPA")

⁽⁴⁾ The Market Forecast is based on SP15 peak energy prices only and does not include the value of Resource Adequacy capacity

The Puente Hills landfill gas-to-energy facility is located in the LA Basin, and qualifies for local resource adequacy capacity. If the facility fails to provide local resource adequacy capacity, the purchase price will be discounted from \$80.00/MWh to \$74.90/MWh. The price of power from this baseload facility is higher than some of PWP's other recent peaking contracts because it provides a reliable high capacity factor⁴ (93 – 96%) vs. the variable, intermittent production from resources such as solar and wind, which have capacity factors ranging from 20 – 40%. Intermittent renewable resources cause PWP to incur additional costs for integration, including additional "flexible" resource adequacy requirements that the utility will avoid with this resource.

⁴ Capacity Factor = actual generation MWh / (maximum capacity MW * total period hours)

Chart 1 below shows the progress PWP will have made toward the state mandated 33% by 2020 and City of Pasadena's 40% by 2020 Renewable Portfolio Standard goals with the addition of this recommended contract.



COUNCIL POLICY CONSIDERATION

The proposed agreement is consistent with the City's Urban Accords Goals with respect to renewable energy and greenhouse gas emission reduction goals, the General Plan Energy Element, the City Council's Strategic Planning Goals, the 2012 Power Integrated Resource Plan and PWP's RPS Procurement Plan. The agreement will help PWP achieve regulatory compliance as well as City Council goals in a cost-effective manner.

ENVIRONMENTAL ANALYSIS:

The proposed agreement is determined to be exempt from the CEQA process pursuant to State CEQA Guidelines Section 15061(b)(3), the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. The proposed action is for the City to enter into an agreement with SCPPA to purchase power from the Puente Hills gas-to-energy facility, which is an existing project that is currently operating in the County of Los Angeles. The City of Pasadena does not have the authority to approve/entitle the Puente Hills facility. Such authority rests with the County of Los Angeles. No physical construction is contemplated or would be authorized, by the actions proposed in this staff report.

FISCAL IMPACT:

With this proposed agreement, PWP expects to procure approximately 102,222 MWh of category 1 renewable energy from the Puente Hills facility in CY2017 (beginning mid FY2017) at a cost of approximately \$8.2 million. The annual production and resulting cost is anticipated to decline by an average of approximately 6% annually after the first year.

Table III summarizes the estimated average net cost premium and rate impacts associated with PWP's existing portfolio of City Council authorized renewable energy supply contracts resource portfolio over the next five fiscal years.

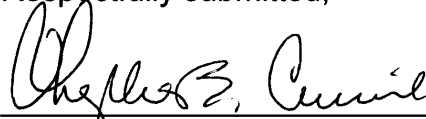
Table II
Impact of Renewable Energy Contracts Executed to Date

Expected Cost or Rate Impact	Renewable Contracts Executed to Date	With Proposed Contract	Increase/ (Decrease)
Renewable Premium (\$/year)	\$8,600,000/year	\$11,100,000/year	\$2,500,000/year
Average Rate Impact of Renewable Premium (\$/kWh)	\$0.00756/kWh	\$0.00984/kWh	\$0.00228/kWh
Average Monthly Bill for 500 kWh/month customer (\$/mo)*	\$87.75/mo	\$88.89/mo	\$1.14/mo
Renewable Premium Portion 500 kWh/month customer (\$/mo)	\$3.78/mo	\$4.92/mo	\$1.14/mo

*The monthly bills do not include any potential changes in electric rates that have been proposed or may occur in the future.

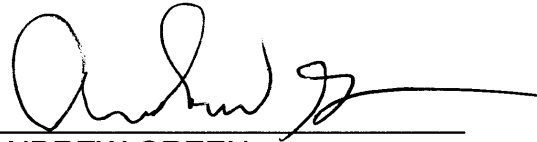
All costs associated with this agreement will be recovered in the Energy Charge component of Pasadena's electric energy rates. These expenses will be budgeted by the department in the appropriate fiscal years..

Respectfully submitted,



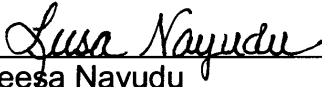
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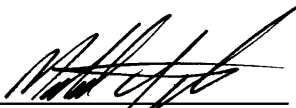
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