



CITY OF HAYWARD

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File #: ACT 17-068

DATE: November 13, 2017

TO: Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT

East Bay Community Energy - Possible Purchase of Local Renewable Energy for City Facilities

RECOMMENDATION

That the Committee reviews this report and makes a recommendation to Council.

ATTACHMENTS

Attachment I Staff Report

Attachment II Options for Local Renewable Energy Projects



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RECOMMENDATION

That the Committee reviews this report and makes a recommendation to Council.

SUMMARY

East Bay Community Energy (EBCE) intends to develop new renewable energy facilities within Alameda County and offer default rates that are competitive with Pacific Gas & Electric (PG&E). To support initial energy contracts with new local energy sources, EBCE is asking cities to commit to purchasing electricity at rates higher than those currently paid to PG&E.

BACKGROUND

In December 2016, Hayward joined ten other cities in Alameda County and the County of Alameda to establish a joint powers authority to form East Bay Community Energy (EBCE). The cities of Newark and Pleasanton did not join and the City of Alameda is served by its own electric utility. The EBCE Board of Directors had its first meeting on January 30, 2017 and has since held regular meetings. EBCE Board meeting packets are available at <http://ebce.org/archive/>. All previous Council and Committee reports regarding EBCE are available at <http://www.hayward-ca.gov/cce>. The last update to the Committee was presented at the meeting of May 8, 2017.

The joint powers agreement for EBCE includes several Recitals including guiding principles stating that EBCE seeks to

- (a) Provide electricity rates that are lower or competitive with those offered by PG&E for similar products;

- (b) Offer differentiated energy options (e.g. 33% or 50% qualified renewable) for default service, and a 100% renewable content option in which customers may “opt-up and voluntarily participate;
- (c) Develop an electric supply portfolio with a lower greenhouse gas (GHG) intensity than PG&E, and one that supports the achievement of the parties’ greenhouse gas reduction goals and the comparable goals of all participating jurisdictions;
- (d) Establish an energy portfolio that prioritizes the use and development of local renewable resources and minimizes the use of unbundled renewable energy credits;
- (e) Promote an energy portfolio that incorporates energy efficiency and demand response programs and has aggressive reduced consumption goals;
- (f) Demonstrate quantifiable economic benefits to the region (e.g. union and prevailing wage jobs, local workforce development, new energy programs, and increased local energy investments);
- (g) Recognize the value of workers in existing jobs that support the energy infrastructure of Alameda County and Northern California. The Authority, as a leader in the shift to a clean energy, commits to ensuring it will take steps to minimize any adverse impacts to these workers to ensure a “just transition” to the new clean energy economy;
- (h) Deliver clean energy programs and projects using a stable, skilled workforce through such mechanisms as project labor agreements, or other workforce programs that are cost effective, designed to avoid work stoppages, and ensure quality;
- (i) Promote personal and community ownership of renewable resources, spurring equitable economic development and increased resilience, especially in low income communities;
- (j) Provide and manage lower cost energy supplies in a manner that provides cost savings to low-income households and promotes public health in areas impacted by energy production; and
- (k) Create an administering agency that is financially sustainable, responsive to regional priorities, well managed, and a leader in fair and equitable treatment of employees through adopting appropriate best practices employment policies, including, but not limited to, promoting efficient consideration of petitions to unionize, and providing appropriate wages and benefits.

DISCUSSION

As noted in item ‘b’ above, EBCE will offer customers a standard or default product that will be sourced from more renewable energy than that provided by PG&E and another product that will be 100% renewable energy. EBCE’s CEO, Nick Chaset, approached member jurisdictions, including the City of Hayward, to consider a third product for municipal use that would be 100% renewable and local at a higher price. EBCE’s CEO is asking cities to consider purchasing a portion of their electricity for a premium price to support the development of new renewable energy facilities in Alameda County. As noted by Mr. Chaset in Attachment II,

“Developing local renewable energy is one of the most important priorities for East Bay Community Energy (EBCE), but doing so in a cost-effective manner, particularly during the initial years after launch will be a challenge. With this in mind, I have engaged our technical experts and renewable energy community to consider a set of novel rate options that would allow individual cities and the county to opt-up to a 100% local renewable rate that would carry some price premium but could deliver a near term proof point of how to quickly develop local, renewable energy while preserving maximum flexibility for a start-up CCA.”

EBCE is seeking commitments from member jurisdictions because the cost of developing local renewable energy is significant. The table below, from Attachment II, shows that the cost of developing renewable energy in Alameda County is much more than the state average.

2016 Average Price for New Solar in CA	Cost of Utility Scale Solar in Alameda County (20 MW)	Cost of Utility Scale Wind in Alameda County (55 MW)	Cost of Distributed Solar in Alameda County (20 MW)
\$38/MWh	\$52/MWh	\$70/MWh	\$85/MWh

EBCE is currently evaluating two potential utility-scale projects in Alameda County by developers Salka Energy and Clenera. Salka is developing a 55-megawatt wind project in the Altamont Pass while Clenera is developing a 20-megawatt solar project in eastern Alameda County. Pricing provided by the developers of these projects would require rates that are higher than PG&E. As proposed by Mr. Chaset, EBCE would create a distinct ‘100% Local Renewables’ rate category that cities would opt up into understanding that they would be making multi-year commitments and paying some premium and in return would be sourcing their energy from new renewables built in Alameda County. EBCE could sign a contract with one or both of the large solar and wind projects located in Alameda County and then allocate the costs and benefits of the electricity directly to these municipal accounts. To enable EBCE to contract with the local projects, the customers opting up would be required to stay on the rate for ten to twenty years.

EBCE consultants evaluated the total electricity member jurisdictions purchase from PG&E to determine what portion of the load would be needed to support these local projects. To make the Clenera solar project financially feasible, 20%-25% of EBCE’s municipal load would need to opt up. To proceed with the Salka wind project, EBCE would need close to 100% of municipal load to opt up. Once EBCE knows the total load jurisdictions are willing to commit to this program, EBCE will determine which project(s) to pursue. As shown in the table below, also from Attachment II, the premium for these local projects would range from 5% to 11% in the first year, with the premium declining over time as PG&E rates increase. The rates associated with these projects would remain flat. Both projects have the potential to be built and start generating energy in 2018.

Total CCA Bill, % change	2018	2019	2020	2021
Solar+Wind (Clenera & Salka)	8.1%	5.2%	5.0%	4.8%
Wind Only (Salka)	11.1%	8.4%	8.4%	8.5%
Solar Only (Clenera)	5.1%	2.0%	1.6%	1.2%

What Would the Proposal Mean for Hayward?

- City facilities use approximately 21.8 million kWh/year.
- City facilities generate approximately 57% of the electricity used each year.
- Hayward currently purchases approximately 9.4 million kWh/year for City facilities for about \$2.24 million.
- Purchased electricity will be further reduced with the completion of the Library in May and the improvement of several fire stations in the next year or so.
- Staff has also started developing a project to add between 1 to 2 mega-watts of additional solar photovoltaic generation at the City's Water Pollution Control Facility, which could generate an additional 2.3 to 4.6 million kWh of energy per year.

While the table on the previous page shows a premium of 5.1 to 8.1% in year one, Mr. Chaset subsequently indicated that he believed the premium would likely be 3 to 7% in the first year. He also indicated that EBCE may be able to proceed with the local projects if just 10% of municipal loads were committed to the projects. If Hayward committed to purchasing 10% of the electricity that Hayward currently purchases, then the City would purchase approximately 940,000 kWh per year at the special rate. The table below shows the additional annual cost for Hayward assuming a 7% premium in year one and decreasing to 4% by year four.

	2018	2019	2020	2021
Premium %	7%	6%	5%	4%
Premium \$	\$15,666	\$13,428	\$11,190	\$8,952

On [December 6, 2016](#), Council adopted a goal of producing 100% of the electricity used at City facilities by 2025. City staff is currently exploring the best tariff to use for new electricity generation at City facilities. Depending on tariffs set by EBCE, it may be more beneficial to sell electricity to EBCE rather than to use net metering or bill credit transfer. Over time, the City's relationship with EBCE could shift from a purchaser of electricity to a seller of electricity. Staff recommends that any commitment to purchase electricity should be limited in quantity to 10% of what the City would be purchasing from EBCE for municipal use and in duration to no more than ten years.

STRATEGIC INITIATIVES

This agenda item does not relate to one of Council's three Strategic Initiatives.

FISCAL IMPACT

As noted above, if the City commits to purchasing approximately 940,000 kWh of electricity annually with the premium rate, the impact to the City's General Fund may be approximately \$16,000 in calendar year 2018. Because PG&E rates are expected to increase over the coming years, the relative impact to the General Fund is expected to decrease over time. If PG&E rates happen to remain less than the cost of local renewables, then the City would be locked into a relatively higher rate for the term of the agreement.

If the City does not elect to participate in the local 100% local renewable program, Hayward's electricity costs will still rise over the years, but depending on rates set by EBCE, could realize savings relative to PG&E.

SUSTAINABILITY FEATURES

Participation in the EBCE program is directly in line with General Plan policy NR 4.8, which states, "The City shall assess and, if appropriate, pursue participation in community choice aggregation, or other similar programs. The City shall seek partnerships with other jurisdictions to minimize start up and administration costs." In addition, the program is expected to provide electricity from clean and renewable sources that reduce our reliance on fossil fuels and minimize pollutants and has the potential to reduce GHG emissions, helping Hayward to meet its Climate Action goals.

NEXT STEPS

In summary, the proposal at hand would further EBCE's goals of developing local renewable energy facilities and providing local jobs. However, participation in the proposal comes at a cost. The proposal will only move forward if all or most member jurisdictions participate and participation by other jurisdictions will have an impact on the final rates. Prior to presenting this item to Council, staff will refine the anticipated fiscal impact. Upon a recommendation from the Committee, staff will present EBCE's proposal to the full Council.

Prepared by: Erik Pearson, Environmental Services Manager

Recommended by: Alex Ameri, Director of Utilities & Environmental Services

Approved by:



Kelly McAdoo, City Manager

Options for Local Renewable Energy Projects: near term opportunities and challenges

Developing local renewable energy is one of the most important priorities for East Bay Community Energy (EBCE), but doing so in a cost-effective manner, particularly during the initial years after launch will be a challenge. With this in mind, I have engaged our technical experts and renewable energy community to consider a set of novel rate options that would allow individual cities and the county to opt-up to a 100% local renewable rate that would carry some price premium but could deliver a near term proof point of how the quickly develop local, renewable energy while preserving maximum flexibility for a start-up CCA.

Why Can't EBCE Just Contract with These Local Renewables Itself?

One of the primary issues facing EBCE as it considers local renewable energy options is the considerable price premium that comes along renewables located in Alameda County.

Figure 1

2016 Average Price for New Solar in CA ¹	Cost of Utility Scale Solar in Alameda County (20 MW) ²	Cost of Utility Scale Wind in Alameda County (55 MW) ³	Cost of Distributed Solar in Alameda County (20 MW) ⁴
\$38/MWh	\$52/MWh	\$70/MWh	\$85/MWh

While any single local renewable energy project would likely represent a small portion of EBCEs overall energy supply mix, the inclusion even a relatively small amount of high cost energy could create challenges as EBCE gears up to launch with pricing that is lower than PG&E.

Figure 2⁵

Exp. Avg. Cost of Renewables (EBCE Implementation Plan)	Exp. Avg. Cost of Renewables (if large scale AC solar and wind procured)	Exp. Avg. Cost of Renewables (if large scale AC solar and wind procured and rooftop solar procured)
\$43.60/MWh	\$35.50/MWh	\$34.4/MWh

Figure 2 above illustrates that even modest procurement of higher cost renewables would make it very challenging for EBCE to be able to meet the target price expected to be necessary to beat PG&E rates. This analysis also raises questions about whether EBCE would have any

¹ Reported PPA price for 155 MW solar project in Kern County with LA Dept of Water and Power

² Indicative pricing for Alameda County 20 MW solar project

³ Indicative pricing for Alameda County 55 MW wind project

⁴ Estimated pricing for 20 1 MW rooftop/ground mount solar projects

⁵ Source: EES analyzed how the inclusion of local solar and wind would impact EBCEs overall energy pricing during the first year of operations.

residual capacity for other local energy procurement if it started out procuring higher cost, local renewables.

The risk to EBCE of signing high cost renewables contracts during the first few years of operation is further magnified by uncertainty surrounding the Power Charge Indifference Adjustment (PCIA) which is currently in the range of \$0.025 – \$0.022 per MRW's assessment⁶. This quantity could end up being higher if the California Public Utilities Commission or the California Legislature were to adopt a formula similar to the Utility proposed Portfolio Adjustment Mechanism (PAM). Given that MRW found that the expected differential between EBCEs energy costs and PGEs rates was 10% or less, a modest increase in the PCIA could create considerable risk for EBCE⁷.

In light of these risk factors, it is my view that EBCE should avoid pursuing any one-off energy procurement until we have done a full assessment of energy market conditions and are unable to understand the way any given contract will impact our overall power costs. That being said, I do believe there are alternative options to pursue the procurement of local renewable energy in the very near term without triggering the above risk factors. The following is an overview of an opportunity for local governments in EBCE to take a step to enable the build out of local renewables while supporting EBCE's ability to deliver a mainstream energy product that is greener and cheaper than PG&E.

Local Renewables and Local Government Opportunity Overview

As a starting point, I asked our technical consultant, EES, to evaluate how pairing some quantity of municipal electricity usage (electricity used by our cities and the county) specifically with the output of a solar and/or wind project in Alameda County would impact their bill relative to their current PG&E costs. The idea being that EBCE could sign a contract with one or both of a large solar and wind project located in Alameda County and then allocate the costs and benefits of the electricity directly to these municipal accounts. Practically speaking, EBCE would create a distinct '100% Local Renewables' rate category that customers would opt up into understanding that they would be paying some premium and in return would be sourcing their energy from new renewables built in Alameda County. One of the requirements of this rate would be that the customers opting up would be required to stay on the rate for 10-20 years, much like building owners do when they install rooftop solar or when large customers like Kaiser sign power purchase agreements with large scale wind and solar.

The next step in evaluating this opportunity was to meet with two renewables developers with active, mature projects in Alameda County – Salka Energy and Clenera. Salka is developing 55 MWs of wind in the Altamont Pass while Clenera is developing 20 MWs of solar in the east Alameda County. Both developers provided me with project term sheets, including proposed pricing. With this pricing, I asked to EES to evaluate the range of expected rate impacts relative

⁶ EBCE Technical Study

⁷ EBCE Technical Study, p. 24

to current PG&E costs. EES' initial analysis found that the premium for these local projects ranged from 5% to 11% in the first year, with the premium declining over time as PG&E rate increases while these customers rates remain flat due to fact that they locked in renewables.

Figure 3

Total CCA Bill, % change	2018	2019	2020	2021
Solar+Wind	8.1%	5.2%	5.0%	4.8%
Wind Only	11.1%	8.4%	8.4%	8.5%
Solar Only	5.1%	2.0%	1.6%	1.2%

While all three scenarios suggest that the municipal accounts that opt-up would face increased costs initially, both the wind and solar projects carry with them external benefits to Alameda County that local government are uniquely positioned to realize.

Clenera Solar: for the Clenera solar project, one of the key technology vendors is NexTracker, the Fremont California based solar tracking company that has become the leading manufacturer of trackers in the world. Through NextTracker, the project will integrate energy storage from Avalon Battery, an Oakland based storage company that manufactures their batteries in San Leandro. In addition to participation of these two key Alameda County vendors, Clenera has committed to a project labor agreement with at least 75% of construction jobs going to Alameda County residents.

Salka Wind: Salka's Summit wind project has a committed project labor agreement with an Alameda County based construction firm. I am awaiting further details on other specific aspects of their plan to hire locally.

Both projects are in the late stages of project development and have the potential to be built and generating energy in 2018, but both projects require fairly quick commitments to be able to proceed.

Proposed Next Steps

As a starting point, I would like to determine if there are any cities that would be interested in more thorough review of this opportunity, including matching specific municipal loads to the output of either (or both) of these projects. To give a sense of scale, the Clenera solar project would require 20%-25% of identified municipal load to opt up (which is likely quite a bit less than total municipal as a result of challenges we are having working with PG&E to identify which accounts belong to cities and the county). For the Salka wind project, we would need close to 100% of identified municipal load (again this is likely much less than the actual total) to opt up to proceed with this project.

So here is my ask of you, EBCE Board Members:

- 1) Let me know if you think your city (or the county in the case of Supervisor Haggerty) would be willing to consider a 'premium' opt-up rate for new, local renewable energy.
- 2) If you think there is interest, please connect me with the right person in your city who can review the opportunity

I am happy to discussion this opportunity in more specificity with any of you individually.