



Office of the City Manager

CONSENT CALENDAR
March 23, 2021

To: Honorable Mayor and Members of the City Council
From: Dee Williams-Ridley, City Manager
Submitted by: Jordan Klein, Interim Director, Planning and Development Department
Subject: Partnership with East Bay Community Energy to Pursue Solar and Battery Energy Storage Systems on Municipal Facilities

RECOMMENDATION

Adopt a resolution authorizing the City Manager to continue pursuing widespread deployment of solar and battery energy storage systems (battery systems) at critical municipal facilities in partnership with the City's public power provider, East Bay Community Energy (EBCE), and commit to installing these systems through a standard Power Purchase Agreement (PPA) with EBCE should the City determine that the project results in benefits to the City budget and the community.

FISCAL IMPACTS OF RECOMMENDATION

This resolution does not have any fiscal impacts at this time. It commits the City to continue to pursue procurement for solar and battery systems through a PPA with EBCE but does not make any financial commitment on the part of the City of Berkeley. In this model, EBCE will issue a Request for Proposals (RFP) for solar and battery systems and enter into a PPA on behalf of the City. The PPA provider will own the systems and cover the costs of installation, operations and maintenance. The City will contract with EBCE to pay the PPA provider for the power that is generated and used by the installed systems. All the terms of the PPA will be agreed upon by the City and EBCE prior to EBCE issuing the RFP.

CURRENT SITUATION AND ITS EFFECTS

EBCE is collaborating with its Joint Power Authority (JPA) members in Alameda County, including the City of Berkeley, to identify a cost-effective portfolio of solar and battery systems for municipal buildings for an upcoming RFP. EBCE is piloting a new procurement model in which they contract directly with a PPA provider and execute standardized contracts with each JPA member. The advantage of EBCE acting as the intermediary is that it will create a larger portfolio of sites, streamline the procurement process, reduce risk to the PPA provider, and bring down overall project costs, compared to a traditional PPA where the City would conduct its own procurement and contract directly with a PPA provider.

EBCE analyzed more than 300 critical municipal facilities throughout Alameda County, including a list of potential sites submitted by the City of Berkeley (Attachment 2), to establish which sites are best suited for solar and battery systems. From that list, EBCE is conducting an initial feasibility analysis to determine which subset of the potential facilities will be eligible for a more complete independent engineering analysis and ultimately which facilities can be included in the first procurement portfolio (Phase I). If this procurement model is successful, additional facilities may be considered in subsequent phases. Other Berkeley municipal buildings are also being evaluated for solar-only installations, to increase the cost-effectiveness of Berkeley's overall project portfolio.

EBCE will hire an independent engineer to complete a structural, roof condition and electrical capacity assessment of critical facilities under consideration for the Phase I procurement list. EBCE will cover the upfront cost of the independent engineering analyses, which will be paid back as part of the agreed-upon PPA rate on utility bills. These analyses, alongside staff input, will identify which sites are the most technically viable and cost-effective portfolio of facilities for inclusion in Phase I. Sites which require upgrades could potentially be included in future procurement phases. EBCE will also conduct a financial analysis to determine the cost-effectiveness of the proposed sites, based on actual electricity load, current and projected electricity costs, solar potential, and site conditions, including the cost of any required facility upgrades. EBCE and the City will review the results of both the engineering and financial analyses to confirm that the Phase I sites deliver benefits to the City budget and the community. Once all of the analyses are complete and the Phase I facility list is finalized, the selected facilities will be included in the RFP.

The City facilities that are selected for the RFP will be able to utilize the electricity generated from the installed solar and battery systems on a daily basis and in the case of a grid outage. The equipment will be owned, operated and maintained by the third-party PPA provider under its contract with EBCE. The terms of the PPA will be agreed upon by the City and EBCE prior to EBCE issuing an RFP for vendor services.

EBCE plans to release the RFP for a PPA on behalf of its municipal partners in mid-to-late 2021. EBCE would be the signatory partner with the PPA, holding a contract with the third-party vendor and with each individual participating local government. The goal is to deploy the systems in 2022.

The benefits of this project include:

- Local, renewable energy and enhanced community resilience at municipal facilities with no capital costs for installation.
- A feasibility analysis of solar and battery systems at critical municipal facilities.

- An independent engineering analysis and cost estimate of potential structural, roof condition and electrical capacity upgrades necessary to advance deployment of solar and battery systems.
- A streamlined procurement process, where EBCE would contract with the PPA on behalf of its municipal JPA members, including the City of Berkeley and reduced participation costs.
- Solar-only systems at some non-critical municipal facilities with no capital cost for installation.
- Operation and maintenance contracts for the solar and battery equipment and systems wrapped into the PPA contract.
- Daily load management from solar and batteries will shift energy use away from peak usage times, when electricity has higher costs and carbon content.
- Renewable back-up power when the electrical grid is down as an alternative to diesel-powered generators.

This project is a Strategic Plan Priority Project, advancing the City of Berkeley's goals to: 1. Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities; 2. Create a resilient, safe, connected, and prepared city; and 3. Be a global leader in addressing climate change, advancing environmental justice, and protecting the environment.

BACKGROUND

Solar and battery systems provide clean, renewable electricity to buildings on a daily basis and can reduce time-of-use charges during peak pricing periods, generally from 4 pm to 9 pm. The systems provide enhanced resilience benefits, allowing municipal critical facilities to continue to operate on a limited basis during a power outage using the electricity stored and generated onsite.

In 2016, staff researched the feasibility of developing a clean energy microgrid community in downtown Berkeley that could island from the main grid and provide clean back-up power in the case of a power outage. It was determined that under current conditions, solar and battery energy storage at individual critical facilities rather than a full microgrid would be a more cost-effective solution¹.

In 2019, EBCE kicked-off a 12-month project, funded through a \$300,000 Bay Area Air Quality Management District (BAAQMD) grant, to identify critical facilities in Alameda County and conduct preliminary assessments for back-up power from solar and battery systems at these sites. EBCE hired a technical consultant to compete a facility screening process. Berkeley submitted a list of critical facility sites for analysis. Each facility was scored according to four screening criteria:

¹ <https://www.cityofberkeley.info/microgrid/>

- Hazard score (accounts for the range and severity of hazards faced by each site according to its location)
- Service score (ranks facilities based on number of people served in the immediate area)
- Priority zone score (additional recognition for sites located within either Disadvantaged Communities (DAC) zones, Low Income zones, or both); and
- Solar feasibility (high-level analysis of solar photovoltaic (PV) feasibility based on roof area and shading)

ENVIRONMENTAL SUSTAINABILITY

Increasing solar and battery systems is a key strategy of the Climate Action Plan, Fossil Fuel Free Berkeley resolution, and the Resilience Strategy. On a day-to-day basis, on-site solar production and consumption will reduce greenhouse gas emissions and the battery systems will shift energy usage from peak times, thereby reducing the need for natural gas-fired power plants to come online to meet demand. During power outages, the solar and battery systems will increase community resilience and lessen the need for dirty diesel generators for back-up power.

RATIONALE FOR RECOMMENDATION

EBCE is offering this first-of-its-kind collaborative procurement model to all of its JPA members across Alameda County as a public benefit to increase community resilience at critical facilities. EBCE is reducing risks to all parties by hiring an independent engineer to complete an analysis for buildings currently in the Phase I portfolio and contracting with the PPA on behalf of its municipal JPA members which will bring down costs, streamline procurement, and reduce the City staff time required. Participation increases the potential for on-site solar generation, advances Berkeley towards its goal of building electrification, and ensures that more of Berkeley's critical facilities are prepared for PG&E Public Safety Power Shut-off events, rolling blackouts, and other power outages including those caused by a major disaster.

ALTERNATIVE ACTIONS CONSIDERED

City of Berkeley could choose to not continue to pursue this joint procurement with EBCE and not install solar and battery energy storage systems at critical facilities. Alternatively, another funding source could be identified and the City could install, operate and maintain proprietary systems as funding is secured.

CONTACT PERSON

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Attachments:

- 1: Resolution
- 2: List of Potential Critical Municipal Facilities Submitted to East Bay Community Energy

RESOLUTION NO. ##,###-N.S.

PARTNERSHIP WITH EAST BAY COMMUNITY ENERGY TO PURSUE SOLAR AND
BATTERY STORAGE SYSTEMS ON MUNICIPAL FACILITIES

WHEREAS, the Berkeley City Council has demonstrated its commitment to an environmentally sustainable and resilient future through its policy goals and actions, including energy reduction, clean energy programs, and the expansion of local renewable power supply; and

WHEREAS, on June 2, 2009, the Berkeley City Council adopted the Berkeley Climate Action Plan to reduce greenhouse gas emissions by 80% of Berkeley's 2000 emissions level by 2050; and

WHEREAS, on April 1, 2016, the City of Berkeley released its Resilience Strategy with the goal of "Accelerating Access to Reliable and Clean Energy"; and

WHEREAS, on June 12, 2018, the Berkeley City Council declared a Climate Emergency and resolved to become a "Fossil Fuel-Free City"; and

WHEREAS Berkeley's Strategic Plan sets the goals of providing state-of-the-art, well-maintained infrastructure, amenities, and facilities, creating a resilient, safe, connected, and prepared city and being a global leader in addressing climate change, advancing environmental justice, and protecting the environment; and

WHEREAS, the City of Berkeley conducted a feasibility analysis for a clean energy microgrid community to provide back-up power to critical municipal facilities and determined that solar and battery energy storage was the most cost-effective solution; and

WHEREAS, Community Choice Aggregation is a mechanism by which local governments assume responsibility for providing electrical power for residential and commercial customers in their jurisdiction in partnership with local commercial energy purveyors and owners of transmission facilities, which in the case of Alameda County is Pacific Gas & Electric Co.; and

WHEREAS, on November 1, 2016, the City of Berkeley City Council adopted Resolution No. 67,730-N.S. authorizing Berkeley's participation in East Bay Community Energy (EBCE) and authorized implementation of EBCE in Berkeley; and

WHEREAS, on April 24, 2018, the City Council adopted Resolution No. 68,404-N.S., selecting the Brilliant 100 (100% GHG-free) electric service plan for all municipal accounts; and

WHEREAS, on October 27, 2020, the City Council adopted Resolution No. 69,601–N.S., selecting Renewable 100 (100% Renewable) as the electric service plan for the City of Berkeley’s municipal accounts.

NOW THEREFORE, BE IT RESOLVED that the Council of the City of Berkeley authorizes the City Manager to continue pursuing widespread deployment of solar and battery energy storage systems at critical municipal facilities in partnership with the City’s public power provider, EBCE, and commit to installing these systems through a standard Power Purchase Agreement with EBCE, should the City determine that the project results in benefits to the City budget and to the community.

ATTACHMENT 2

List of Potential Critical Municipal Facilities Submitted to East Bay Community Energy

Below is the original list of potential critical municipal facilities submitted by the City of Berkeley to East Bay Community Energy (EBCE) for consideration to participate in EBCE's Power Purchase Agreement for solar and battery energy storage systems.

Please Note: EBCE is conducting an initial feasibility analysis to determine which subset of these facilities will be eligible for a more complete independent engineering analysis and ultimately which facilities can be included in the Phase I procurement portfolio.

| Number | Site Name |
|---------------|--|
| 1. | Civic Center |
| 2. | Corporation Yard |
| 3. | Emergency Storage Warehouse |
| 4. | Fire House #1 |
| 5. | Fire House #2 |
| 6. | Fire House #3 |
| 7. | Fire House #4, Gas Pump House |
| 8. | Fire House #5 |
| 9. | Fire House #6 |
| 10. | Fire Station #7 |
| 11. | Francis Albrier Recreation Center & San Pablo Park |
| 12. | James Kenny Recreation Center |
| 13. | Live Oak Recreation Center |
| 14. | Main Library |
| 15. | Mental Health Facility |
| 16. | MLK Recreation Center |
| 17. | North Berkeley Library |
| 18. | North Berkeley Senior Center |
| 19. | Public Safety Building and Accessory Building |
| 20. | South Berkeley Senior Center |
| 21. | Spring Animal Shelter |
| 22. | Tarea Hall Pittman South Branch Library |
| 23. | West Berkeley Library |
| 24. | West Berkeley Senior Center |