



AGENDA REPORT

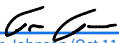
TO: Jestin D. Johnson
City Administrator

FROM: Joe DeVries
Deputy City Administrator

SUBJECT: Deployment Of Solar And Battery
Energy Systems At Critical Municipal
Facilities

DATE: September 12, 2024

City Administrator Approval


Jestin Johnson (Oct 11, 2024 05:37 PDT)

Date: Oct 11, 2024

RECOMMENDATION

Staff Recommends That City Council Adopt Resolution Authorizing The City Administrator To Negotiate And Enter Into A Power Purchase Agreement With Ava Community Energy For The Deployment Of Solar And Battery Energy Systems At Critical Municipal Facilities

EXECUTIVE SUMMARY

Ava Community Energy (Ava), Oakland's local electricity generation provider, has the primary objectives of providing its member agencies with local energy control and oversight, providing cleaner electricity at competitive rates, driving investment in renewable energy, and improving the resilience of local communities. With these objectives in mind, Ava is offering its Joint Powers Authority (JPA) members, including the City of Oakland (City), the opportunity to participate in a new procurement program, the Critical Municipal Facilities Procurement Program (Program), to deploy solar and battery energy storage systems at critical municipal facilities. City staff have been working with Ava to prepare plans and agreements for the installation of solar and batteries at eleven City facilities: the Oakland Ice Center, Municipal Service Center, East Oakland Sports Center, 81st Ave. Library, Fire Station 3, Fire Station 17, Equipment Maintenance Facility, Fire Station 15, Fire Station 20, Main Library, and Fire Station 1/Emergency Operations Center. The installations would be financed through a Power Purchase Agreement (PPA) between the City and Ava Community Energy. The PPA would allow a third-party developer to own, operate, and maintain the generating equipment and the City would agree to host the systems and purchase the electric output for 25 years. When the 25-year term ends, the City may choose to negotiate a new agreement or request that the systems are removed by the solar developer. Participating in this opportunity would advance Oakland's climate and resilience goals, provide utility cost stability, and ensure that more of

Oakland's critical facilities are prepared for PG&E Public Safety Power Shutoff events, rolling blackouts, and other potential power outages such as those caused by disasters such as heat waves, fires, and earthquakes.

BACKGROUND / LEGISLATIVE HISTORY

Solar and battery energy storage systems provide clean, renewable electricity to buildings and can reduce time-of-use energy costs during peak pricing periods. In addition, the storage systems create resilience benefits, allowing critical facilities to continue to operate on a limited basis during a power outage using clean electricity stored and generated onsite, reducing dependency on backup diesel generators for back-up power. Deployment of solar and battery energy storage systems at critical municipal facilities aligns with the City's greenhouse gas emissions reductions goals and resilience goals as set forth in its Equitable Climate Action Plan. It also supports Oakland's emergency response programs.

The City of Oakland has installed relatively few solar systems on municipal buildings due to high up front costs and maintenance needs. In 2005, the City installed a 372 kilowatt (kW) system atop the Oakland Ice Center and a 760 kW system atop the Municipal Service Center in the Coliseum Business Park. These systems are owned and operated by the City and require a large amount of money up front. Other ways of managing costs can include using a PPA, whereby a third party owns and maintains the systems and the City pays for the energy generated by the systems at a pre-negotiated price less than the price of grid-based electricity supplied by the utility.

East Bay Community Energy (EBCE), formed in 2016 as a JPA to provide cleaner, greener energy at lower rates to Alameda County customers (EBCE was renamed Ava Community Energy beginning in 2023). Ava started providing electricity to commercial and municipal accounts in June 2018 and residential customers in November 2018. In July 2018, the Ava Board of Directors, which includes Oakland City Council Member Dan Kalb, approved a Local Development Business Plan (LDBP) identifying several strategies to direct investments throughout Alameda County to build renewable energy generation, create local jobs, and help member cities reduce greenhouse gas (GHG) emissions. Ava has since expanded to include communities in San Joaquin County.

As part of its LDBP implementation efforts, Ava collaborated with its JPA members, including the City, to identify a cost-effective portfolio of solar and battery energy storage projects for municipal buildings. Under the Program, Ava provided an upfront assessment of municipal facilities by an independent engineer (hired by Ava) to identify potential roof, structural or electrical capacity upgrades that might be required to install solar and storage systems and act as the counterparty for a standardized PPA contract between a PPA vendor and its JPA partner municipalities. Compared to a traditional PPA where the City conducts its own procurement and holds a contract directly with the PPA provider, Ava would represent multiple jurisdictions and a large portfolio to streamline the procurement process, reduce risk, and bring down costs.

Ava issued a Request for Offers (RFO) on July 31, 2023 to solicit proposals to deliver cost effective solar + storage PPAs for the Critical Municipal Facilities Program for the eight cities. After reviewing bids and interviewing respondents, Ava selected Green Bridge Energy as the project owner and contractual counterparty. Green Bridge Energy has in turn selected Gridscape Solutions as its developer. Gridscape is a local developer, located in Fremont, that has extensive experience developing solar + storage microgrids for public agencies including the City of Fremont.

In 2022, Ava requested that agencies interested in participating in the Program adopt a resolution indicating intent to evaluate the procurement of solar and battery storage at municipal facilities. Oakland approved Resolution [89536 C.M.S](#) and joined seven other member agencies (Berkeley, Emeryville, Fremont, Hayward, Livermore, Pleasanton, and San Leandro) in participating in the program

The Critical Municipal Facilities PPA offer for the City of Oakland would include installation of solar panels and battery storage systems at eleven different sites. These systems will generate approximately 1,794 kW of solar power and store up to 3,406 kWh of energy in rechargeable batteries. The PPA would cover a 25-year term. There are 61 project sites across eight cities participating in this program, throughout Oakland, Berkeley, Emeryville, Fremont, Hayward, Livermore, Pleasanton and San Leandro.

Site	Solar Capacity (kW DC)	Battery Storage (kWh)	OakDOT Geographic Equity Priority
Oakland Ice Center	381.2	928.8	High
Oakland Municipal Service Center	316.05	464.4	High
East Oakland Sports Center	541.5	1083.6	High
Oakland Public Library: 81st St Branch	106.3	154.8	Highest
Oakland Fire Station 3	52.92	77.4	Medium/Highest
Oakland Fire Station 17	36.75	77.4	Low/Medium
Oakland Equipment Maintenance Facility	178.85	309.6	Medium/High
Oakland Fire Station 15	52.92	77.4	Medium
Oakland Fire Station 20	36.75	77.4	Highest

Oakland Public Library - Main	37.73	77.4	Medium
Oakland Fire Station #1	53.41	77.4	Medium/High
<i>Total</i>	<i>1,794</i>	<i>3,406</i>	

Figure 1: Critical Municipal Facilities Proposed PPA Sites

The City and Ava selected these sites through a process that balanced critical functions, equity metrics, building conditions, and space for rooftop solar. The City identified municipal buildings that had infrastructure in place to support solar panels, projects identified as potential resilience hubs, and facilities that were critical to emergency operations. Each of these potential facilities was evaluated using the Oakland Department of Transportation's Geographic Equity Toolbox. This tool assigns each census tract in Oakland a level of priority in from lowest to highest, determined by seven demographic factors: 1) People of Color [25% of score], 2) Low-Income Households (<50% Area Median Income) [25% of score], 3) People with Disability [10% of score], 4) Seniors 65 Years and Over [10% of score], 5) Single Parent Families [10% of score], 6) Severely Rent-Burdened Households [10% of score], and 7) Low Educational Attainment (less than a bachelor's degree) [10% of score]. Priority was assigned to buildings that fell within the higher priority census tracts, according to the Toolbox. Ava's engineering team then evaluated the list of potential buildings for their suitability for solar panels and backup power and found that the buildings listed in **Figure 1** were feasible. City staff accompanied the Ava team on site visits to verify feasibility and review designs.

ANALYSIS AND POLICY ALTERNATIVES

The Ava Program provides the City with an opportunity to receive distributed energy systems at a number of public facilities with the goals of further reducing greenhouse gas emissions and utility bills as well as increasing the City's energy resiliency. If the Program is successful in generating cost-effective bids for new solar and battery energy storage systems, it will advance Oakland's goals of creating resilience hubs and reducing its GHG footprint. The first round of installation would occur in late 2025 and will be coordinated with Oakland Public Works (OPW) and on-site department staff so that operations are not disrupted.

An alternative strategy to increase energy resilience at City facilities is to pursue the purchase of solar panels and battery storage on a case-by-case basis as part of the City's Capital Improvement Program. This strategy would require significant additional funding. It would also require additional support and training for the City's Public Works team related to the maintenance of solar panels and batteries. This alternative strategy would likely result in fewer facilities being outfitted with solar panels and batteries. The Oakland Public Works staff would also be required to remove equipment at the end of its useful life. Under the Ava Program, a third party would be responsible for the equipment removal.

The proposed resolution supports several citywide priorities. Providing backup power in community facilities during emergencies supports the priority of **holistic community safety** by allowing residents to charge their electronic devices, refrigerate medicines, and access

information. The clean energy generated by solar panels at City facilities supports the priority of **sustainable infrastructure**. The Program will allow the community to rely on trusted city facilities during power outages and emergencies, supporting the priority of **responsive, trustworthy government**.

FISCAL IMPACT

The proposed resolution would have a positive impacts on the City's budget by reducing the cost of electricity at the eleven sites. It commits the City to work through the Ava Program for procurement for solar and battery energy storage systems using a PPA with Ava should the City determine that the cost-effectiveness of the project portfolio results in benefits to the City's budget and service to the community. With a PPA model, a PPA provider pays for the installation, operations and maintenance of the solar and battery energy storage systems, and the City pays an agreed-upon price per kilowatt-hour for power generated. If PPA pricing under this program is higher than anticipated or if the project terms are found to be otherwise unfavorable to the City, the City is under no obligation to proceed with the installation. There is therefore no fiscal risk from adopting the proposed resolution.

PUBLIC OUTREACH / INTEREST

The City has conducted extensive outreach around resilience hubs and the need for backup power. Community members have repeatedly stressed the need for access to electricity in the event of an emergency to refrigerate medicines, charge communications devices, and for public safety. In the case of a large earthquake or other disaster, access to electricity will be critical to recovery.

COORDINATION

The City Administrator's Office staff collected input on this program from the City's Emergency Management Services Division, the Department of Race and Equity, the City Attorney, and the Budget Bureau. The OPW Capital Improvement Program staff worked with Ava to help identify critical facilities for evaluation. To ensure equitable distribution of solar and battery systems, staff provided Ava with guidance based on the Public Works Equity Committee and the Racial Equity Impact Assessment + Implementation Guide that was adopted alongside the Equitable Climate Action Plan and the Oakland Department of Transportation's Geographic Equity Tool Kit.

SUSTAINABLE OPPORTUNITIES

Economic: Participation in the Program has the potential to lower energy costs for the City. The program would allow the City to purchase clean power at a set rate, which would protect against price volatility. The use of battery storage would allow City facilities to avoid purchasing electricity from the grid during peak pricing hours. Using the solar and battery systems would allow the City to avoid costs associated with the purchase and operation of diesel fuel generators.

Environmental: Using solar and battery storage at critical facilities with high energy usage would lower Oakland's GHG emissions. These systems would reduce reliance on diesel generators, which cause localized air pollution and noise pollution.

Race & Equity: Participation in this Program would provide backup power to City facilities in frontline communities that often do not have access to backup power available at home. This Program would increase the resilience of frontline communities in the face of natural disasters and the effects of climate change. Providing access to backup power for food distribution, air filtration, air conditioning, and first aid will have positive public health impacts in frontline communities. Having backup power at critical municipal facilities will allow City services to continue operation during a power outage. Facilities for solar panels and batteries will be selected in part according to the City's equity screening tools to ensure distribution in these neighborhoods as discussed in the Coordination section above.

Jestin Johnson, City Administrator

Subject: Deployment Of Solar And Battery Energy Systems In Partnership With Ava Community Energy

Date: September 12, 2024

Page 7

ACTION REQUESTED OF THE CITY COUNCIL

Staff Recommends That The City Council Adopt A Resolution Authorizing The City Administrator To Enter Into An Agreement With East Bay Community Energy To Evaluate The Potential For Solar And Battery Storage Systems On Municipal Facilities To Provide Energy Resilience And Clean Energy.

For questions regarding this report, please contact Daniel Hamilton, Sustainability Manager, at 510-238-6179.

Respectfully submitted,



Joe DeVries
Deputy City Administrator

Reviewed by:

Daniel Hamilton

Sustainability and Resilience Director

Prepared by:

Nick Kordesch

Energy Program Coordinator