

**Public Comment to Local Development Business Plan 2018 draft**, particularly to:

**Section I. 5.** Collaborative Procurement, **c. Community Net Energy Metering** (pp. 22-25)

**Section I. 6.** Enhanced NEM Program, Financial Value Adders, **Category 1. Community Value Adder** (p.28)

**Section I. 6.** Enhanced NEM Program, Financial Value Adders, **Category 3. Supply-Shift Adders / Energy Storage** (pp. 29-30)

**Section II.** Supporting Resources, Policies, & Strategies, **Energy Storage Contracting Strategies** (p.46)

**A proposal whereby East Bay Community Energy (EBCE) underwrites or otherwise supports reduced-cost Solar+Storage Systems for non-profit faith-based Institutions (churches, mosques, temples, synagogues, etc.) in low-income areas of Alameda County.**

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**Proposal in Brief.** This proposal envisions EBCE forming mutually beneficial agreements with religious institutions in areas of high poverty (identified using a CalEnviro map of areas of high poverty in Alameda County, as a first step). Participating institutions would contribute volunteer labor and draw on other community resources to help defray the cost of installing small (10-50 kW) solar+storage systems on their properties. EBCE would underwrite or otherwise support the remaining cost in return for access to dispatchable electricity at regular, agreed upon hours during the workweek. The religious institutions would own the solar+storage systems from program inception or, depending on financing strategy, become the owners after a period of time.

**Background.** Access to long-lasting benefits of an expanding local green economy can be very difficult for low-income residents and historically excluded communities of color. Oftentimes the obstacle is simply reaching these groups to invite them in. This proposal rests on two ideas: 1) Religious institutions serve as anchor institutions for neighborhoods and social groups, much like, though perhaps not as stable as schools and hospitals. 2) Many of these religious institutions themselves maintain outreach programs to their poorest members that can serve as channels of contact to EBCE and local economic development.

**Benefits for EBCE.** In facilitating the ownership of solar+storage systems by religious institutions, EBCE would satisfy a number of its community goals while also serving its fundamental operations. Those community goals include:

- a. Fostering local green economic development.
- b. Broadening access to the green economy for low-income communities of color, including through partnerships with community college and non-profit programs.
- c. Promoting the widest possible participation in EBCE programs, spreading awareness of job opportunities and the role of rooftop solar, energy efficiency, demand response and other strategies to serve county-wide load with ever greener renewable energy.
- d. Winning trust and appreciation for EBCE.

These goals are inseparable from EBCE's operational mission. This solar+storage proposal would serve EBCE's load balancing operations, giving the agency reliable dispatchable power when needed most, i.e., in the late afternoon and evening on weekdays or at moments of unanticipated demand. This source of dispatchable renewable energy would also count toward EBCE's Resource Adequacy, as required of a utility's Integrated Resource Planning.

**Benefits for the Faith-based Institutions.** For their part of the collaboration, the churches, mosques, temples, etc. would derive major benefit from the program.

- a. The institutions would acquire solar+storage systems, allowing them to benefit from the Net Energy Metering program that significantly reduces their utility bills and potentially generates new income from exporting surplus power back to the grid. The institutions acquire ownership of the solar+storage systems in exchange for EBCE access to dispatchable electricity at regular times during the work week. The institutions could also benefit from upgrades to building roofs, electrical systems and other infrastructure.
- b. This collaborative relationship with EBCE would allow the religious institutions to fully utilize their facilities. Pending the findings of a specific survey, it would appear that collaboration with EBCE would be a good fit, pairing an institution's lower electricity usage during the week with EBCE's need for power at just those times, i.e., 3-10pm Monday-Friday.
- c. By utilizing volunteers from their communities and partnering with local non-profit programs, the institutions would serve as pathways for their neighborhoods to "job training" in solar and its many related fields. Low-income neighborhoods would benefit economically, especially if links develop to real employers, including EBCE. Moreover, in keeping project costs down and archiving project information, contacts, contract templates and administrative experience, an initial round of agreements/installations could support subsequent rounds of projects with other religious institutions.

**Possible Financing Strategies.** A few ways to finance a program of solar+storage systems for non-profit religious institutions could include the following.

- a. Applying a collaborative procurement approach with attendant cost savings, EBCE could draw up parameters for a first round of installations in agreement with the selected faith-based institutions and issue an RFP for public bids. The total cost to EBCE, reduced by the savings from volunteer and community participation and discounts from acquisition in bulk, would be offset by the bankable value of the regularly dispatchable power it gains for managing peak loads.
- b. EBCE could provide a seed fund to underwrite a first round of reduced-cost system acquisitions in agreement with the selected religious institutions, with EBCE replenishing the fund as it evaluates program benefits versus costs. The participating institutions undertake to archive their experience in such areas as enlisting volunteers, engaging with non-profits for energy assessments and installation design, procuring permits and inspection by city offices, and setting up replicable administrative forms and procedures.
- c. EBCE could collaborate with established non-profits like RE-volv, an organization that advances funding to non-profits for solar installations using crowdfunding and matching outside grants. In a financing model in partnership with RE-volv, for example, EBCE could match crowdfunded donations to create the seed fund for the first round of installations. Long-term leases are created, by the end of which the institutions become full owners of the solar+storage systems.

**Program Scope.** A first step toward estimating program participation, and ultimately the benefits that could accrue to EBCE (and their community partners) would be to survey the number of faith-based institutions in the areas of high poverty in Alameda County, their suitability for the program and their siting potential for solar+storage. For now, such a survey lies beyond the scope of this proposal. One can guess, however, that there is significant potential for enrolling program participants. A quick Google search of churches alone ("churches West Oakland") in an area bounded by highways 580, 980 and 880, for example, yielded 19 entries. Such a result surely

underestimates the number of faith-based institutions, counting only “churches” and only those able to maintain a web presence. The result also overlooks nearby churches and other religious institutions just outside the search boundaries.

A methodology for designing and conducting a useful survey would need to be developed.

**Estimated Program Cost and Benefit for EBCE.** From EBCE’s operational perspective, a key question to answer would be how much dispatchable energy could be acquired at what cost. This proposal can only suggest where such a calculation might begin. Focusing on the battery end of rooftop solar+storage systems, Ardani, McClurg and Labrador note the numerous choices facing the customer (e.g. long slow discharge v. usage optimizing for power, AC v. DC coupled, etc.) and suggest “total installed price” as a useful metric for pricing solar+storage systems.<sup>1</sup> They arrive at a range of \$45,328 - \$47,171 for their “big battery” case (PV 5.6 kW + storage battery 5 kW/ 20 kWh). Although this proposal envisions generally larger rooftop systems for the religious institutions, the price range cited gives us some starting point for extrapolating potential cost and benefit for EBCE (exclusive of all accruing community benefits). Hypothetically, if 10 faith-based institutions participated in the first round, with an average solar+storage system size of PV 10 kW + storage battery 5 kW/ 20 kWh, at an average cost of \$60,000 per system, the cost/benefit could be \$600,000 for 100 kW of solar capacity + storage power of 50 kW/ capacity of 200 kWh. This does not include any cost reductions from volunteer contributions, savings from collaborative procurement and the like.

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<sup>1</sup>Kristen Ardani, Chris McClurg, David Labrador, “How Much Does a Rooftop Solar System with Batteries Cost?” [gtm](https://www.greentechmedia.com/articles/read/how-much-does-a-rooftop-solar-system-with-batteries-cost#gs.WiFBWDI), April 12, 2017. <https://www.greentechmedia.com/articles/read/how-much-does-a-rooftop-solar-system-with-batteries-cost#gs.WiFBWDI>