East Bay Community Energy

Local Development Business Plan

Energy Storage Contracting Strategy

Overview of Draft Deliverable

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The Offset Project

Clean Coalition
Making Clean Local Energy Accessible Now

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Outline

- Why Storage?
- Credit Worthiness
- Loan Loss Reserves
- Collaborative Procurement
- PPA's with buyout clauses
- Virtual Power Plant
- Phase 1: Residential Market Program
- Phase 2: C&I Programs
- Key Recommendations

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Why Storage?

- Manage duck curve and mitigate curtailment
- Reduce need for wholesale energy procurement
- Lower risk and stabilize rates
- Create local benefit and social justice outcomes

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Skinner Mandate

CPUC says:

- 1% of peak load under ES contract by 2020. Built by 2023

EBCE's full enrollment load = ~1400 MW

1% peak = **14 MW (in contracted ES capacity by 2020)**

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Credit worthiness: a barrier to ES

EBCE starts with <u>no credit rating</u>

- Difficult to secure low cost capital necessary to design, build, and own equipment

Solutions

- Loan loss reserves
- Credit Enhancement - Collaborative procurement
- PPAs (with buyout option) to phase in ownership overtime
- Virtual Powerplant (VPP) aggregation

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Loan Loss Reserves *(aka "Lockbox")*

1. Set aside a portion of revenues to act as collateral against debt services
2. Improves credit worthiness, and may lower cost of capital (interest rates)
3. Similar to self "underwriting" a loan
4. Can be used to directly purchase equipment
5. Build in "waterfalls" to fund new projects and can be quickly turned into a revolving fund

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Credit Enhancement & Collaborative Procurement

1. Subordinated and senior capital structures
2. Work to improve credit worthiness by brining in a second balance sheet
3. Potential partners include, Colleges/schools, large commercial/industrial accounts, government agencies
4. Can work with on bill financing, or to securitize savings into renewable energy bonds

Example: PG&E & EBCE Oakland Clean Energy Initiative RFO.

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PPAs with Control Agreements/Contracts

- Use PPAs to contract DR, but include control
- Include buyout clause options to transfer the asset into direct EBCE control once a credit rating is established

Example: Current RFP for early procurement of local resources being considered by EBCE board and staff

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Phase 1: Residential Market

A: CARE Customer Small Storage– 1 MW

- Could be grant funded w/ non-profit partner or revenue pilot
- SGIP + ITC backed, third party funded
- Small 2.2 kW system ~$2000, ½ paid up front ½ over time

B: NEM Adders & TOU Rate Pilots – 5 MW

- Incent dispatchability
- Price based on VDER pricing to offset wholesale energy purchase requirements
- Piggyback on PG&E pilots

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Phase 2: C&I Market

A: Collaborative Procurement– 5 MW

- Partner with private/public sector (Uni's, Manufacturers)
- Set up PPA w/ buy out option after year 5+
- Get credit enhancement by bringing in 2nd balance sheet

B: NEM & FIT Adders & TOU Rate Pilots – 3 MW

- Incent dispatchability
- Price based VDER to offset wholesale energy purchase requirements
- Piggyback on PG&I pilots

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Residential/C&I Programs + Grid-scale ES to Meet Skinner Mandate

1 MW CARE Small Storage
5 MW NEM/TOU Rate Incentives
= 6 MW Residential

5 MW Collaborative Procurement
3 MW NEM/TOU Rate Incentives
= 8 MW C&I

Total: 14 MW of ES
under contract by 2020

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Virtual Power Plant Aggregation

1. **Deploy a diverse portfolio of dispatchable DER** *(i.e., EE, DR, DG, ES, EVSE, etc.)* in early years

2. **Aggregate those DER assets into a Virtual Power Plant** to allow remote monitoring and control in the mid-term
   - Requires strong data management platform
   - Requires contractual agreements that allows EBCE to control assets
     - Supplier Agreements *(i.e., Supply Contracts, PPA's, etc.)*
     - Customer Agreements *(i.e., Conditional requirements for participating in EBCE LDBP Programs)*
   - Creates dispatchable network able to respond to wholesale market volumetric and price risk

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Summary of Key Recommendations

1. Residential market CARE customer small scale storage Implement residential
2. NEM and FIT Dispatchability/Supply-shift adders to incentivize ES deployment
3. TOU Pilots that provide incentives for customers to install ES
4. Use LLR to secure debt services, and build revolving fund
5. Implement collaborative procurement efforts to obtain credit enhancement required to build storage capacity
6. **Aggregate distributed storage resources in year 5+ to form an operational Virtual Power Plant**

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