Recommendations for Capacity Building
Outsourcing, Insourcing, and Wholesale Procurement Strategies

Overview of Draft Deliverable
Samuel Irvine, Optony, Inc.
January 31, 2018
Capacity is made up of the resources EBCE needs to:

Develop an energy portfolio that prioritizes local development and balances financial, environmental, and social considerations while being operationally and contractually flexible.
Resources Include:

- Human Capacity (Staff or Consultants)
- Energy Resources (Local or Wholesale)
- Information Technology Capacity (Internal or External)
- Tools and Resources

**Big questions addressed:**
Where do these resources come from and how are they sourced?
When are they needed?
Do needs change over time?
Phases of Capacity Building

**Phase 1**
Defining Risk Tolerance and Needs
- Forecasts
- ETRM Policy
- Portfolio Manager
- Data Management

**Phase 2**
Building Energy Supply & Resource Adequacy
- Wholesale Procurement
- RFP’s/RFO’s
- Auctions

**Phase 3**
Developing Local Resources
- Incentives/Adders
- Collaborative Procurement
- Demand-side Management
- Aggregation (VPP)
Phase 1
Define Risk Tolerance and Needs

Forecasts
ETRM Policy
Portfolio Manager
Data Management
Forecasts & Goals:

- Cost analysis, CAISO wholesale market and demand forecasts
  - Real Time, Day Ahead, Monthly, Annual, 3 Year Forecast
  - Needed to define RA goals and inform financials & rates
  - RPS, GHG, Local Generation goals

Phase 1
- Define Risk Tolerance and Needs

Phase 2
- Building Energy Supply & Resource Adequacy

Phase 3
- Developing Local Resources
Energy Trading and Risk Management (ETRM)

- Policies addressing wholesale procurement risks and mitigations
- Defines rules for traders
- Provides RA needs without overextending
- Tied closely to forecasting activities, and requires tracking NOP
- More coming in 6.5 Analysis of Risks and Mitigations

---

Phase 1
Define Risk Tolerance and Needs

Phase 2
Building Energy Supply & Resource Adequacy

Phase 3
Developing Local Resources
Portfolio Manager

- EBCE selected Northern California Power Agency (NCPA) to provide Portfolio Management and Wholesale Energy Services
- Able to manage trading support and scheduling on CAISO markets
- Support implementing Energy Trading Risk Management (ETRM)
- Recommended to rely primarily on PM through year 5, at which point rate design, forecast, and procurement moves mostly in house
Data Management and Analytics

Next to it’s customers Data is a CCA’s most valuable resource

Data Enables EBCE to:

1. Identify Opportunities
2. Manage Client Interaction
3. Perform Evaluation, Measurement and Verification

Phase 1
Define Risk Tolerance and Needs

Phase 2
Building Energy Supply & Resource Adequacy

Phase 3
Developing Local Resources
Integrated Data Management and Analytics

What it looks like: An in-house, online platform

What data it contains: Load, customer interaction, socio-economic, geospatial, weather data

What Features it has: Web-based, Multi-level Secure Access, User Friendly, Searchable, Built-in Analytic Tools, KPI tracking, Open Architecture, API Compatible

Who builds it: Starts as a SAAS platform, transitions to internal management

What it enables: Insights to target load and inform program development. Unlocks EE, Rate Pilots, OBF, Community Solar, Energy Storage, Automated DR, and VPP aggregation
Phase 2
Building Energy Supply & Resource Adequacy

Wholesale Procurement
RFP’s/RFO’s
Auctions
Methods for Wholesale Procurement

Request for Proposals/Offers (RFP/RFO)
- Used both to solicit power or services
- Balance length with flexible service
- Tie to PPAs with a buyout clause
- Predefine scoring, include points for community benefit/local vendor
- Use adders when applicable

Energy Supply Auctions
- Can drive down prices, but that comes with risk
- Single Clearing Price:
  
  *Lowest price projects selected incrementally until capacity is filled, highest selected bid sets price.*

- Open auction:
  
  *Current bid price is known to all bidders/participants in real-time through live auction platform, and bidders can adjust their bid price*
Phase 3
Developing Local Resources

- Incentives/Adders
- Collaborative Procurement
- Demand-side Management (DSM) Programs
- Aggregations (VPP)
Incentives/Adders

- Dispatchability, community benefit, small project adders
- NEM and FIT
- TOU Rate Pilots
- Value of Distributed Energy Resources (VDER)
Collaborative Procurement

- Partner with EBCE member jurisdictions, local government agencies, colleges/universities, C&I accounts, municipal and investor-owned utilities
- Gain credit enhancement by bringing in a second balance sheet
- Revolving funds, leverage outside grant financing
- Negotiate lower costs through pooled procurement
- Include asset control provisions or buyout clauses in PPA contracts
- In exchange for incentives, EBCE gets control of the asset
Demand Side Management (DSM)

- Pay for performance contracting
- Targeted Energy Efficiency
- Demand Response
- Energy Storage
- Fuel switching
  - Building and vehicle electrification
- More on these in related LDBP deliverables

Phase 1
Define Risk Tolerance and Needs

Phase 2
Building Energy Supply & Resource Adequacy

Phase 3
Developing Local Resources
Aggregation and Virtual Power Plant (VPP)

- Ownership models may be flexible
- Bring network of DER assets under EBCE dispatchable control
- Offset wholesale procurement
- Address risk (i.e., CAISO imbalance fees, high Day Ahead/Real Time pricing, etc)
- Requires advanced data management & smart controls
## Human Resource Considerations

### Recommendations for EBCE Capacity Building

The anticipated internal staffing needs for each of the core activities identified are shown in the table below.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Primarily Insourced or Outsourced Activity</th>
<th>Activities</th>
<th>Internal Capacity Required (Full-Time Equivalent FTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load and Rate Analysis</td>
<td>ST: Outsource MT: Mix LT: Insure</td>
<td>• Identify and track electric volume needs for the EBCE service area for short-term, mid-term, and long-term time horizons.</td>
<td>ST: 5 MT: 1 LT: 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Assist in innovative and beneficial rate design to promote local DER deployment, stable competitive rates and fiscal health.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Support Cost of Service analysis and cost-benefit analysis based on program development.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Manage policy risk and rate stabilization.</td>
<td></td>
</tr>
<tr>
<td>Program Marketing and Outreach</td>
<td>ST: Outsource MT: Mix LT: Insure</td>
<td>• Market alternative power mix options such as “Local 100” and “Brilliant 100” programs.</td>
<td>ST: 5 MT: 1.5 LT: 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prevent Opt-out risk through customer interaction and brand awareness.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Program liaison to Key Account and Customer Service Representatives to support customer education and outreach activities and program promotion.</td>
<td></td>
</tr>
<tr>
<td>Demand-side Management Programs</td>
<td>ST: Outsource MT: Mix LT: Mix</td>
<td>• Identify opportunity areas for savings.</td>
<td>ST: 5 MT: 1 LT: 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Design programs and projects that result in customer savings (EE, DR, Pilots).</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Secure financing and capital investment for EE and DR deployment.</td>
<td></td>
</tr>
<tr>
<td>Local Development (New Generation, EVs, Energy Storage)</td>
<td>ST: Outsource MT: Mix LT: Mix</td>
<td>• Site mapping for DER deployment</td>
<td>ST: 5 MT: 1.5 LT: 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Managing local DER development portfolio</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Collaboration with stakeholders, project developers, service providers, and community shared solar organizations.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Incentivize local generation through program financing, FIT, NEM (and NEM Successor), Rate Design, Incentives, and Collaborative Procurement strategies.</td>
<td></td>
</tr>
<tr>
<td>Program Evaluation, Measurement and Verification</td>
<td>ST: Outsource MT: Mix LT: Insure</td>
<td>• Develop Key Performance Indicators (KPIs) for all local programs to track outcomes.</td>
<td>ST: 0 MT: 1 LT: 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Analyze, track and manage data for pay-for-performance contracting.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Package data and analysis into stories that inform decision making.</td>
<td></td>
</tr>
</tbody>
</table>

### Internal Energy Risk Management

<table>
<thead>
<tr>
<th>Activities</th>
<th>ST: Outsource MT: Mix LT: Insure</th>
<th>Internal Capacity Required (FTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Risk Management</td>
<td></td>
<td>ST: 0 MT: 1 LT: 2</td>
</tr>
<tr>
<td>Regulatory/Legislative Engagement</td>
<td></td>
<td>ST: 5 MT: 1 LT: 2</td>
</tr>
<tr>
<td>Local Project Development Finance</td>
<td></td>
<td>ST: 0 MT: 1 LT: 2</td>
</tr>
<tr>
<td>Integrated Data Management and Analytics</td>
<td></td>
<td>ST: 5 MT: 1 LT: 2</td>
</tr>
</tbody>
</table>

**FTE TOTALS:** Short Term (ST) = 8 | Mid Term (MT) = 10 | Long Term (LT) = 20

**Notes:**
- ST: Short-term (ST) = Year 1, Mid-term (MT) = Year 2-4, Long-term (LT) = Year 5+
Recommendations Years 1-2

- Outsource data management, load and rate analysis, wholesale procurement, regulatory engagement
- Outsource planning and procurement of Resource Adequacy (RA) to Portfolio Manager
- Work collaboratively with existing organizations (East Bay Energy Watch, BayREN, StopWaste Energy Council) to provide energy efficiency and DSM programs
- Outsource design, development, and testing of EBCE’s in-house integrated data management platform and energy analytics
Recommendations Years 3-6

- Year 3: Transfer load and rate analysis to internal management; finalize energy trading and risk management (ETRM) practices prior to self-directed long-term energy purchase contracts
- Years 3-5: pay-for-performance contracts to solicit DSM and load-shaping services
- Year 4-5: Outsources management of aggregation of distributed energy resource (DER) projects (e.g., energy storage, dispatchable electric vehicle charging, microgrids, smart appliances, etc.)
- Year 5: Transfer wholesale procurement services to internal EBCE team, with minimal (ad-hoc) external support
- Year 6: Transfer operation of pilot DER aggregation to internal EBCE team to manage as Virtual Power Plant (VPP)