GRIDWORKS

LOCAL DEVELOPMENT BUSINESS PLAN: INITIAL INPUT COLLECTED BY GRIDWORKS

February 7, 2018

BACKGROUND

Gridworks, a 501c3 non-profit based in Oakland, previously known as More Than Smart, was engaged by East Bay Community Energy (EBCE) to assist in reviewing the Local Development Business Plan (LDBP). The purpose of the review is to gain a breadth of perspective on the analysis and recommendations of the LDBP in support of EBCE's decision-making.

These comments stem from Gridworks' review of the following draft elements of the LDBP:

- Demand Response Assessment
- Net Energy Metering Assessment
- Analysis of Locational Benefit Factors
- Energy Efficiency Assessment
- Energy Storage Contracting Strategy Recommendations
- Capacity Building Recommendations

These materials are the second installment of the LDBP, produced by EBCE's consultants, and provided for public review in December 2017.[1] They will be complemented by additional forthcoming deliverables.

Consistent with Gridworks' mission – *to convene, educate and empower stakeholders to decarbonize electricity grids* – our review is supported by input from a broad cross-section of experienced California clean energy stakeholders.[2] That support came in the form of feedback provided by stakeholders at a Gridworks' convened stakeholder meeting on January 11, a webinar on January 31, and individual feedback stakeholders provided directly. The following feedback is our own perspective, informed by that received from participating stakeholders. This summary has considered with an open mind, but does not represent, every perspective provided.

OVERARCHING FEEDBACK

In first round comments provided to EBCE,[3] Gridworks emphasized the following overarching feedback: "a key challenge facing EBCE as it determines its strategy for local development is

[1] http://ebce.org/local-development-business-plan/

[2] Initial stakeholder feedback received from Tesla, Pacific Gas & Electric, Gridlab, MRW Associates, Morrison & Foerster, Engie, Lorenzo Kristov, E3, Mike Florio, CAISO, EBCE Community Advisory Committee, Local Clean Energy Alliance, TerraVerde Renewable Partners

[3] https://ebce.org/wp-content/uploads/LDBP_Comments_MTS_120817.pdf

how to maintain sensitivity to customer costs, and by extension a competitive offering relative to incumbent PG&E, without sterilizing its consideration of local benefits." In its draft "*Recommendation for EBCE Capacity Building"* Optony expresses a similar sentiment stating,

> *EBCE must balance costs with environmental and social benefits. High rates or rate volatility have the potential to drive customers toward "opting out," thereby withdrawing their load and revenue from the CCA. In the first years of launch, EBCE faces the challenge of providing a 'better' service at a lower cost than alternative provider PG&E. (Page 6)*

As the LDBP recommendations near completion, EBCE will face an important question: how will it achieve the balance identified by Optony? At least two options emerge from the draft LDBP materials:

1. Portfolio Approach: Assemble a portfolio which mixes low costs energy and capacity with relatively higher-cost programs delivering local environmental and social benefits, achieving balance at the portfolio level; or
2. Competitive Approach: Pursue local development where it increases EBCE's competitive position, forego it when it does not; achieve balance through pursuit of local DER when/where it promotes EBCE's competitive position (only).

The following figures illustrate the differences in these approaches conceptually:

Figure 1: Portfolio Approach

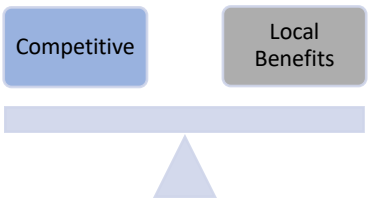
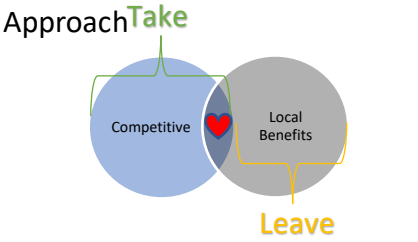


Figure 2: Competitive Approach



As illustrated, the Portfolio Approach balances choices that serve competitive demands – the delivery of power at a lower cost than competitors – with the desire to pursue local benefits. A Portfolio Approach addresses the challenge described by Optony through strategic management of the tension between the two ends; it accepts some non-competitive choices to promote local benefits. In contrast, the Competitive Approach "takes" competitive choices, including some which produce local benefits and "leaves" choices which are non-competitive. Figure 2 acknowledges there is a sweet spot with a symbolic heart.

For EBCE there are risks inherent in both approaches. One risk which emerges from the Portfolio Approach which may be overlooked: complacency. With a Portfolio Approach, accepting options which reduce EBCE's competitive advantage can be justified – they will be balanced out by other more competitive parts of the portfolio. This mindset leads to risky rationalization of non-competitive choices; excuses like "it's just for the start-up… it's just a

small amount… we'll grow out of it…the costs will be spread out" become common. These excuses are complacency setting in, enabling the acceptance of competitive disadvantage.

Our overarching feedback is to caution EBCE against complacency. Rather than accepting options which raise its cost of service to fund local benefits, EBCE needs to proactively pursue the overlap between competitive choices and local benefits. EBCE should be obsessed with the heart of Figure 2: how can local resources increase our competitive advantage? how do we efficiently seize and grow those opportunities? How do we promote our success in doing so, to maximize customer satisfaction? What immediate steps can we take toward those ends? Inversely, what recommendations can we set aside immediately because they do not clearly enhance EBCE's competitive position?

The balance of these comments aims to crystallize this overarching feedback by highlighting one recommendation that may diminish EBCE's competitiveness (Net Energy Metering) and one that enhances it (Energy Efficiency).

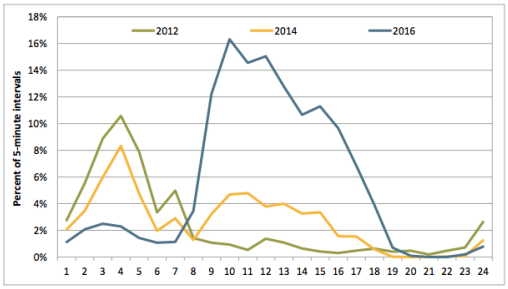
FEEDBACK ON DRAFT LDBP MATERIALS

Net Energy Metering Assessment

The draft LDBP NEM Assessment suggests EBCE offer NEM to all customers with up to $.02/kWh in adders for customer based on exports, community benefit, workforce, and supply-shift. The assessment finds this benefit would yield 286,000 MWh/year at a cost of up to $1.8 million/year at maturity. Among supporting reasons for this recommendation, the Assessment sites mission progress, community relationship-building, and reduced energy procurement costs and risk.

This recommendation should be considered in context of energy market conditions and the core functions of a CCA in navigating those conditions. In California, a prevailing trend underpinning energy prices is the rapid influx of solar power in energy markets, resulting in a growing numbers of negative price events each year. The following figure demonstrates this change:

Figure 4.6 Hourly frequency of negative 5-minute prices by year (ISO LAP areas)



Source: CAISO 2016 Annual Report on Market Issues and Performance (May 2017)

Further, while these particular comments spare you the avian visual, we note the corresponding "duck curve" shows the inverse of this trend: the rising net load to be served as the sun sets, calling on relatively scarce non-solar sources for energy and flexibility. This scarcity is driving higher prices during that period.

These trends introduce new risk for energy sellers and buyers. Sellers face the risk that they pay people to take their power when the sun is shining, rather than being paid. Buyers, who may now enjoy making hay while the sun shines, face the risk that prices may be relatively high just after sunset, due in large part to the need to use expensive generating units to manage the rapid ramp from the duck belly up the duck neck. Managing their exposure to these dynamics is a core function of any load serving entity; those who do better will gain customers, those who do worse will lose them.

Gridworks struggles to reconcile the recommendation to pay customers extra to export solar power with these trends in California's energy market. There are an increasing number of days each year when EBCE customers *could be paid to consume solar power*, *yet the recommendation is to pay them extra to produce it*. From a purely competitive power service perspective, EBCE would be better off if NEM customers opt-out of its service territory, thereby weighing down their competitor. As is, the recommendation effectively raises the cost on some customers in order to attract other customers to whom you give an incentive.

A bright spot in the NEM assessment is its recommendation to encourage co-location of solar and storage, which could mitigate EBCE's exposure to rising prices during the evening ramp. But we find the commitment of a $.005/kWh adder insufficient. It will take much more to encourage customers to adopt a battery and store the power for later discharge.

Pursuit of these NEM recommendations may be sensible under a Portfolio Approach in which NEM alone delivers local benefits. But there is little reason to believe this is the case. In the service territory of Alameda Municipal Power, with which EBCE shares a border, demographics, economic conditions, and solar workforce, net metering was discontinued in 2017. There NEM was replaced by a compensation structure which decreased payment for exports,[4] the opposite of the recommendations being made for EBCE. Nevertheless, demand for the tariff continues to be robust.[5]

Gridworks encourages EBCE to instead pursue an approach to compensating customer generation that could deliver local benefits while increasing EBCE's competitiveness. Mirroring AMP's approach may be a simple solution. Alternatively, EBCE could much more aggressively support solar co-located with storage. A detailed approach to achieving this goal was recently

[4] https://www.alamedamp.com/erg-solar-compensation-and-billing
[5] General Manager's Report, December 2017. Available at http://media.alamedamp.com/assets/PUB/2018/01/18-0122-6A-gmr-O.pdf

outlined in "Sustaining Solar Beyond Net Metering," a publication emerging from a six-month NEM stakeholder engagement led by Gridworks.

Energy Efficiency Assessment

The Energy Efficiency Assessment hits the mark. Rooted in a strong analysis of customer usage data, oriented toward solving EBCE's energy needs through targeting by time and location, and relying on performance-based compensation – the EE Assessment offers a creative approach to delivering local benefits that would make EBCE more competitive.

As the EE Assessment points out and the Capacity Building Recommendations reiterate, "next to its customers, data is a CCA's most valuable resource and mining that data to extract that value is of critical importance to EBCE…" (page 21). Gridworks finds the push for prioritization of an integrated data platform to support targeted analysis of EBCE customer needs persuasive. This sort of analysis will be required to, as the Assessment correctly concludes, "enable the measurement of time and locational-specific impacts of EE on the project and programmatic level, unlock investment capital, and support more cost-effective pay for-performance approaches to securing bankable outcomes from energy efficiency measures." (page 38)

Gridworks offers only two minor quibbles with the EE Assessment. First, the assessment points out that commercial and industrial loads make up a huge share of overall consumption and that their peak-to-average usage ratios make them prime targets for efficiency upgrades. This observation is both correct and dated. In fact, PG&E programs have targeted these customers, with very active oversight from a motivated regulators, for years to little avail. Expectations about their conversion at this point should be managed. Gridworks finds some of the innovative suggestions about reaching the residential sector more encouraging, even if the fruit hangs higher up the tree. Second, many of the great recommendations to advance EE at EBCE are suggested for Year 3. This seems unduly conservative.

CONCLUSION

Gridworks appreciates the opportunity to support EBCE's decision-making regarding the LDBP. We thank the people who contributed to our review of these materials.

We conclude by acknowledging that the challenges and opportunities of reviewing the LDBP and making business decisions based on its recommendations are central to the mission of EBCE. However, the implications of this case go well beyond the East Bay. Indeed, California's embrace of a distributed energy future and Community Choice Aggregation means that the case of EBCE is representative of critical questions facing California going forward. Gridworks will be working to raise these critical questions and values the partnership of EBCE, the Alameda County community, and our diverse community of stakeholders toward that end.