



White Paper: Offsite Renewables in Community Choice Aggregation

Introduction

Community choice aggregation (CCA) is poised to transform California's and our nation's electric utilities to a degree not seen since the Public Utility Holding Company Act of 1935. CCA is now legal in seven states and under consideration in three more. In California alone, there are five CCAs currently in operation, with another 10 set to launch in 2017 and 2018. There are also 17 other California jurisdictions in the process of exploring the idea. If this trend continues unabated, CCAs will be the dominant electric utility in California within a decade.

With the rising dominance of CCAs and a shifting regulatory setting comes an opportunity to expand the use of distributed energy resources and provide new choices for California's electricity customer. One such choice is the ability to obtain customized electric power from renewable energy sources that are located offsite from the power consumer, (hereafter "offsite renewables"). With proper attention, CCAs can lead the way to greater customer choice through the dissemination of offsite renewables.

The purpose of this white paper is to explore options for offsite renewables in Community Choice Aggregation, with the hope that it spurs discussion and assists CCA planners and CPUC regulators as they consider opportunities for customer choice in this evolving energy landscape.

Slow Progress on Distributed Energy Resources

For all the lip service paid to promoting distributed (renewable) energy resources in California in recent years, progress has been slow. The investor-owned utilities (IOUs) have, of course, been cool to the idea of replacing large utility-scale power plants with small, decentralized power plants fueled with renewable resources. First, significant portions of the IOUs' market share are being taken up by CCAs, so California IOUs are curtailing, not expanding, procurement of renewable energy. Second, the proliferation of distributed energy resources raises concerns about grid operations, given that distributed energy resources could add to the cost of grid management and even introduce an element of unpredictability. Third, given that IOUs' profits

are tied to legacy portfolios, returns on investment would suffer devaluation should the IOUs default on its long-term commitments in favor of new renewable assets. Finally, the IOUs' caution reflects an economic reality: utility-scale projects—be they natural gas plants or large solar arrays—enjoy an economy of scale that can result in energy prices that are hard to match with smaller projects.

Predictably, the IOUs caution has led to a proliferation of CCA agencies that promise greener power portfolios, a greater emphasis on distributed energy resources, and local benefit. Unlike the IOUs, the CCA begins operations with a somewhat cleaner slate. While the CCA shoulders its share of the cost to carry legacy portfolios (through the Power Charge Indifference Adjustment and other mandated non-bypassable charges), its increasing market share allows the CCA to assemble greener power portfolios and plan for distributed energy resources with less detrimental effect—a nimbleness that the IOUs are unable to achieve with their legacy portfolio and declining market share.

While the CCA is delivering on its promise of greener portfolios, its progress on distributed renewable energy has been slow. Marin Clean Energy now offers—after seven years in operation—a 100 percent local renewable option in its menu of products that connects offsite renewables to customers willing to pay a premium for local renewable energy. South Bay Clean Power (Los Angeles) is perhaps the furthest along with a business plan that has heavy emphasis on behind-the-meter distributed energy resources developed in conjunction with member agencies.

Overall, the distributed energy resources puzzle has been tough to solve, and it has been tough for the simple economic reason cited above: lacking the economy of scale enjoyed by utility-scale power development, distributed energy resources can be more expensive to develop. Marin Clean Energy dealt with this problem by charging willing customers a premium to buy power from local renewable sources. This approach at least acknowledges the role to be played by offsite renewables, but relying on “angel” customers to drive development of distributed energy resources is unlikely to result in significant growth for this part of the portfolio. South Bay Clean Power, on the other hand, is approaching the problem more holistically by anticipating distributed energy resources in its upfront portfolio planning. This approach is a significant step forward, but unfortunately, planners at South Bay Clean Power are currently limiting distributed energy resources to behind-the-meter options, missing the broader opportunity for offsite renewables.

In this white paper, we propose a middle way that combines what is best in both the Marin and Los Angeles examples—offsite renewables and upfront portfolio planning in anticipation of distributed energy resources becoming a prominent part of the CCA’s power portfolio.

Offsite Renewables Program for CCAs

At this historical juncture, when CCAs are transforming the electric utility, CCAs planners have it within their ability to solve at least part of the distributed energy resource puzzle. Our proposal is this: each newly forming CCA should consider dedicating some percentage of market share to their member jurisdictions for the development of offsite renewables. The CCA would, for this limited purpose, act as an umbrella under which member jurisdictions could develop distributed energy resources on old landfills, municipal rooftops and parking lots, and even airport tarmacs. The participating jurisdiction would then sell the resulting power “indirectly” through the CCA to a customer with the financial capability to service a long-term power purchase agreement. The participating jurisdiction would be responsible for finding the local buyer for the power it intends to produce, which could be a large commercial or industrial use lacking sufficient roof and parking lot space for its own renewable development or even a group of homeowners in a neighborhood without good solar access. The power produced by the participating jurisdiction would be held separately from the CCA’s bundled portfolio and subject to its own program pricing to be established by the CCA for the customer participating in the current offering of the Offsite Renewables Program. Each successive offering could conceivably be priced differently, depending on market conditions.

Under this arrangement, the CCA would be empowered to act essentially as a third-party intermediary. The CCA would enter into an agreement with a power-producing jurisdiction to purchase local renewable power and then sell the same power to a previously-identified CCA customer who has been pre-qualified to participate in the program. The program would be essentially revenue neutral to the CCA, wherein the CCA would charge a small administrative fee for program management and a one-time opportunity charge equal to some set percentage of project capitalization,¹ but otherwise the CCA would forego any mark-up on the cost of power generation. The value of this mark-up would, instead, be passed in part to the producer to incentivize the development of local distributed energy resources and in part to the participating customer who then enjoys lower electricity costs (in effect, monetizing the customer’s financial strength that enables it to enter into a long-term power purchase commitment). Finally, the

¹ This opportunity fee would allow the CCA to reap some advantage from the Investment Tax Credit and the MACRs accelerated depreciation, as the fee could be treated as a development expense by the developer/investor and written off in large part accordingly.

program would be designed to shield the CCA from any liability in the event of default on the part of one or both of the parties participating in the three-way arrangement.

Financial Impacts of an Offsite Renewables Program

First and foremost, the “Offsite Renewables Program” outlined above could help solve the economy-of-scale problem that has historically hampered the development of distributed energy resources. By connecting the power-producing local jurisdiction more directly to the power-consuming customer, the power producer should earn better returns than if it simply sold power on the wholesale market. These returns should be sufficient to service power purchase agreements that provide adequate returns to the investor/developer, quick payback periods for host agencies, and possibly even lower prices for the power purchaser that has the financial wherewithal to service the long-term PPA obligation.

Second, program impacts on the CCA should be manageable. Distributed energy resources engender two related categories of financial impact—loss of market share and the stranding of assets. When distributed energy resources are brought online, the electric utility experiences a double hit. It loses an account from which it earned a margin (loss of market share), and this loss of market share in turn produces excess inventory that is no longer generating revenue to service power purchase obligations (stranding of assets). The CCA has an historic opportunity to break the chain of financial impact that links market share and stranded assets. The CCA can, at agency formation, plan portfolios that anticipate some devolvement of market share to member jurisdictions and by so doing should be able to achieve standard financial goals (albeit for a slightly reduced market share).

A note about transmission charges is warranted. The current practice by the California Independent System Operator (CAISO) of imposing transmission charges on all generated power, including power delivered from local sources, adds about \$0.03 per kilowatt-hour to the cost of energy. This arrangement is scheduled to be reviewed by CAISO this year and is also the subject of SB 692 currently before the California Legislature. Reform of these transmission charges to account for delivery distances would provide substantial support for the development of local renewable energy.

Finally, the Offsite Renewables Program could also inform the discussion currently taking place regarding Customer Choice. CPUC President, Charles Picker, recently announced his interest in pursuing Customer Choice,² and early analysis suggests that such an initiative might look to

² GTM’s Interchange podcast with CPUC President Michael Picker, dated March 1, 2017

broader retail competition in the state, potentially allowing customers to invest directly in renewable energy offsite to meet their electricity needs. The Offsite Renewables Program proposed in this white paper offers a way forward on Customer Choice that benefits the local jurisdictions. Building on this concept, the CPUC could allow electricity customers the freedom to shop at any local jurisdiction in any CCA region that hosts such a program. This would create a competitive market between local offsite energy producers that would provide downward pressure on prices for distributed energy resources. It might also help satisfy the demand for Customer Choice from California's business community and provide another competitive edge for California as it works to attract new economic development.

Case Study – Monterey Bay Community Power

To bring home the potential benefits of Customer Choice, we took a closer look at what its impacts would be if implemented in a newly forming CCA—Monterey Bay Community Power or (MBCP). MBCP is composed of local jurisdictions in three-county region formed by Santa Cruz, San Benito, and Monterey Counties. According to the “Monterey Bay Community Power Technical Study” (Pacific Energy Advisors, Inc, 2016), the MBCP Region is estimated to have 286,000 potential customers and a customer load of 3.7 million megawatt-hours. For comparison, this is 40 percent larger than Sonoma Clean Energy, whose service area has 218,000 customers and a customer load of 2.8 million megawatt-hours.

The MBCP Technical Study presented a hypothetical power portfolio that included procurement of 390 megawatts of renewable energy by 2024. Of this, 200 megawatts (51 percent) was expected to come from utility-scale solar; 100 megawatts (25 percent) would come from wind energy; and another 80 megawatts (21 percent) would come from geothermal, landfill gas other power. Only 10 megawatts (three percent) would be expected to come from local community- or residential-scale solar. If we consider utility-scale solar alone, this part of the portfolio conservatively represents \$300 million in renewable energy investment (assuming \$1.50 per watt development cost). While some of this utility-scale solar might be developed in the three-county MBCP Region, it's likely that most of it would be developed outside the region and perhaps even outside the state. This leakage out of the region represents a significant loss of economic benefit for the MBCP Region.

This economic leakage could be largely plugged, however, if MBCP dedicated a 10 percent of its market share to an Offsite Renewables Program benefiting its member jurisdictions. Such a share would offset most of the utility-scale portfolio called for in the hypothetical portfolio and equate to roughly 180 megawatts of new solar development produced locally by member MBCP

agencies.³ If the benefit was distributed among member jurisdictions roughly according to governing board representation, large jurisdictions might be allowed up to 15 megawatts, while the share for the smallest jurisdictions would be closer to four (4) megawatts.

At this 10 percent share, MBCP could leverage \$270 million in local renewable energy investment—a boon to local economic development. Money earned by the local jurisdiction through the program (which would offset the loss experienced by local jurisdictions that would no longer participate in the IOUs' Renewable Energy Self-Generation Bill Credit Transfer Program) could underpin a new financial model for city halls across the region, lessening reliance on commercial development to fill municipal coffers. Most importantly, the benefits that accrue to the local jurisdiction should not compromise the ability of MBCP planners to achieve financial goals. With the proper portfolio planning, the CCAs would be able to achieve financial success with the remaining 90 percent of customer base.

Summary

The CCA movement and the transformation of the electric utility that it catalyzes is an historic opportunity to develop distributed energy resources. For the first time in 80 years, legacy power portfolios are being supplanted en masse by new, greener power portfolios being assembled from scratch by the CCAs. The CCAs can seize this historic opportunity by anticipating devolvement of some set percent of market share to an Offsite Renewables Program, in essence assembling portfolios with fuller knowledge of the expected impacts that would result from the loss of market share, and in so doing, largely avoid stranding assets. While such an arrangement would slightly reduce the CCAs' market share, these impacts would be more than offset by the regional economic benefits of developing local distributed energy resources.

Respectfully,

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³ If MBCP achieves an 85 percent participation rate, its customer load would be approximately 3.1 million megawatt-hours. A 10 percent share of this load represents 310,000 megawatt-hours of demand.