



Meeting of the Operations Board of Directors

Wednesday, September 6, 2017

9:00 am

City of Watsonville City Council Chambers

275 Main Street, 4th Floor

Watsonville, CA 95076

AGENDA

11. **Approval of MBCP Procurement Plan and Power Supply Mix** (*Action Item*)



Staff Report Item 11

TO: MBCP Operations Board of Directors

FROM: Tom Habashi, Chief Executive Officer

SUBJECT: MBCP Procurement Plan and Power Supply Mix

DATE: September 6, 2017

Summary of Recommendations

In consideration of recent feedback provided by MBCP's Operations and Policy Boards, available market information, the ongoing implementation of Assembly Bill 1110 (which addresses the retail-level reporting of greenhouse gas emissions intensity by California electricity sellers, including MBCP), and pertinent operational considerations affecting CCAs, staff recommends that MBCP, for the next three calendar years, pursue an electric energy supply portfolio that would be comprised of 70 to 100% renewable and carbon-free sources. This metric would be determined on an annual basis in consideration of MBCP's total procured quantity of renewable and carbon-free electricity supply (as measured in megawatt hours, or "MWh") divided by MBCP's total retail sales (also measured in MWh).

To achieve the aforementioned portfolio composition, staff further recommends that MBCP issue a short-term request for offers ("Short-Term RFO") as well as a Long-Term RFO, addressing certain portions of MBCP's longer-term clean-energy requirements (meaning, such requirements that occur over the upcoming 10- to 20-year planning horizon), particularly long-term renewable energy contracting requirements reflected within California's Renewables Portfolio Standard ("RPS") program.

Background

The conventional approach to power supply acquisition is to plan for the least cost and most diverse power portfolio (term, technology, providers, etc.). In California, retail electricity sellers, including CCAs, are required to procure renewable energy resources (exclusive of hydroelectric generators in excess of 30 MW) to serve a portion of their respective annual retail sales. In particular, California's RPS program requires retail sellers to procure increasing amounts of "RPS-eligible" renewable energy over time. Currently effective legislation, namely Senate Bill 350 (de Leon, 2015), mandates that 50% of all retail electricity sales be served by RPS-eligible

renewable energy resources by 2030, including a requirement which specifies that a minimum of 65% (by 2021) of such supply be procured under long-term contracts with durations of 10 years or more.

Under the RPS program, the legislatures described RPS-eligible renewable energy through the use of three distinct products; 1) Portfolio Content Category 1 (“PCC 1” or “Bucket 1”) – renewable energy produced by resources located within or connected directly to the state of California (or resources located outside of California, which schedule electricity deliveries to defined areas within California); 2) Portfolio Content Category 2 (“PCC 2” or “Bucket 2”) – renewable energy produced by resources located outside California which “bundle” related renewable energy certificates (“RECs”) with other sources of regionally produced electricity; and 3) Portfolio Content Category 3 (“PCC 3” or “Bucket 3”) – RECs that are produced by an RPS-eligible renewable generator but sold separately from such electricity.

To encourage development of renewable resources in California, the legislature mandated that a minimum 75% of each retail seller’s RPS procurement obligation must be met by PCC 1 products; retail sellers may also use a maximum 10% of PCC 3 products; any residual RPS procurement obligations may be sourced from PCC 2 products or additional PCC 1 purchases. Note that there are no limitations with regard to the use of PCC 1 products when demonstrating compliance with California’s RPS procurement mandate.

For certain retail sellers, including MBCP and many other CCAs, pursuing planning and procurement strategies that rely heavily on carbon-free power supply is highly important. To achieve such portfolio characteristics, retail sellers are generally limited to procuring specified quantities of renewable energy or hydroelectricity. Such resource options can vary widely in terms of cost and delivery characteristics, making portfolio composition an exercise in tradeoffs for cost-sensitive retail sellers.

Analysis

Similar to many other California CCAs, MBCP’s founding municipalities have determined that the organization should strive to acquire a proportion of renewable energy resources in excess of statewide procurement mandates as well as supply percentages reported by the incumbent utility. Due to the costs associated with this planning objective, which are expected to exceed typical market prices associated with conventional supply sources, MBCP must evaluate the rate-related impacts associated with such procurement decisions, moderating renewable energy purchases, as necessary, to ensure that customer rates remain competitive over time. MBCP anticipates that effectively balancing these competing objectives will positively influence customer retention rates, meaning that opt-out rates are expected to remain relatively low to the extent that MBCP’s retail generation rates generally remain aligned with similar rates charged by the incumbent utility.

The following analysis assumes that MBCP will match PG&E’s generation rates exactly and will source renewable resources to meet California’s RPS requirement at the lowest possible cost. This should result in a healthy net revenue during MBCP’s first few years of operation, which can be used to increase the proportion of renewable and carbon-free resources in MBCP’s power supply portfolio over time.

Staff examined 6 portfolio options, each focused on a different composition of renewable energy resources:

- Maximize the use of local (Monterey Bay region) renewable resources, namely solar;
- Maximize the use of PCC 1 products;
- Maximize the use of PCC 2 products;
- Maximize the use of PCC 3 products;
- Maximize the use of carbon-free resources (mainly regionally produced hydroelectricity); and
- A mix of PCC 1 and regionally produced hydroelectricity – this represents staff's recommended options.

While maximizing the use of PCC 3 products is the most economical approach to increasing renewable energy use, there has been considerable resistance from certain stakeholders as well as potential adverse emissions accounting impacts (related to AB 1110 implementation) from such procurement strategies. Typical criticisms of such strategies tend to focus on issues related to “additionality” (meaning, the impact of PCC 3 procurement on new renewable resource development) and portfolio “green-washing” (meaning that the unbundled nature of such products somehow decreases the environmental value associated with PCC 3 procurement – this is a viewpoint which has been repeatedly noted by certain stakeholder groups).

For supply portfolios that are heavily reliant on PCC 2 products, current implementation proposals related to AB 1110 seem to reflect elements that would reduce, if not eliminate, the favorable emissions profile typically associated with PCC 2 products. In particular, staff of the California Energy Commission (“CEC”) have proposed that PCC 2 products assume an emissions factor that is not directly related to the underlying renewable energy resources, which would substantially reduce the benefits of procuring PCC 2 products (as a result of attributing emissions factors typically associated with conventional generating resources to such products). While the rulemaking for AB 1110 is not yet underway, the aforementioned CEC staff proposal raises concerns about the planning viability of PCC 2 products following the implementation of AB 1110 emissions reporting (which commences in 2020 for all power purchases made on/after January 1, 2019).

Therefore, over the short-term (1-3 years), staff recommends that MBCP assemble a renewable energy portfolio that is comprised entirely of PCC 1 products with the balance of MBCP’s carbon-free resource requirements sourced from regionally produced hydroelectricity. While this combination of resources will likely result in somewhat higher costs (relative to the composition of a renewable energy portfolio utilizing PCC 2 and/or PCC 3 products), it is likely to be the least controversial while also promoting methodological consistencies with AB 1110 emissions accounting for carbon-free resources. Stated somewhat differently, this portfolio planning approach should optimize MBCP’s opportunities for retail-level GHG emission reductions.

MBCP is also required to fulfill the long-term renewable contracting requirements of California’s RPS program, which necessitate the execution of power purchase agreements with durations of 10 years or more. To accommodate these requirements, staff recommends that MBCP begin identifying suitable long-term contracting options as soon as practical. Such an

approach is prudent in consideration of project development lead times typically required for newer renewable energy resources and will ensure that MBCP identifies suitable renewable energy contract options that will begin producing electricity in advance of 2021 (the date by which MBCP must begin meeting the long-term contracting requirements of SB 350). In pursuing such contracting opportunities, MBCP may choose to join other CCAs, which may reduce concerns regarding MBCP's limited credit history while providing pricing efficiencies typically offered by larger renewable energy projects.

The following tables provide additional information, which contributed to staff's analysis.

Projected MBCP Pro Forma Operating Projections

	2018	2019	2020	2021	2022	2023	2024	2025
Total Revenue (\$M)	173	241	242	249	257	264	272	281
Operating Expenses (\$M)	9	13	13	14	14	14	15	15
Power Cost (\$M)	110	163	175	184	191	198	205	212
Residual (\$M)	54	64	53	51	52	52	53	54

RPS Plus Maximum Local Renewable Resource Utilization

	2018	2019	2020	2021	2022	2023	2024	2025
Minimum Renewable %	27%	29%	31%	33%	34%	36%	38%	39%
Add Local PV in Renewable %	40%	32%	26%	25%	25%	26%	26%	26%
Carbon-based %	33%	39%	42%	42%	40%	39%	37%	35%
Residual Funds (\$M)	-	-	-	-	-	-	-	-

RPS Plus Additional PCC 1 Utilization

	2018	2019	2020	2021	2022	2023	2024	2025
Minimum Renewable %	27%	29%	31%	33%	34%	36%	38%	39%
Add PCC 1 in Renewable %	73%	71%	69%	67%	66%	64%	62%	61%
Carbon-based %	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Residual Funds (\$M)	26	24	14	13	14	15	16	18

RPS Plus Additional PCC 2 Utilization

	2018	2019	2020	2021	2022	2023	2024	2025
Minimum Renewable %	27%	29%	31%	33%	34%	36%	38%	39%
Add PCC2 in Renewable %	73%	71%	69%	67%	66%	64%	62%	61%
Carbon-based %	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Residual Funds (\$M)	43	48	38	36	37	38	38	39

RPS Plus Additional PCC 3 Utilization

	2018	2019	2020	2021	2022	2023	2024	2025
Minimum Renewable %	27%	29%	31%	33%	34%	36%	38%	39%
Add PCC3 in Renewable %	73%	71%	69%	67%	66%	64%	62%	61%
Carbon-based %	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Residual Funds (\$M)	51	60	50	47	48	49	49	50

RPS Plus Additional Large Hydro Utilization

	2018	2019	2020	2021	2022	2023	2024	2025
Minimum Renewable %	27%	29%	31%	33%	34%	36%	38%	39%
Add Hydro in %	73%	71%	69%	67%	66%	64%	62%	61%
Carbon-based %	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Residual Funds (\$M)	49	58	47	45	45	46	47	48

Staff Recommended Portfolio Composition: PCC 1 Plus Large Hydro Utilization

	2018	2019	2020	2021	2022	2023	2024	2025
Minimum Renewable %	27%	29%	31%	33%	34%	36%	38%	39%
Add Hydro in %	73%	71%	69%	67%	66%	64%	62%	61%
Carbon-based %	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Residual Funds (\$M)	48	55	44	41	41	42	42	42

Recommended Revenue and Expense Projections with Staff Recommended Portfolio

	2018	2019	2020	2021	2022	2023	2024	2025
Total Revenue (\$M)	173	241	242	249	257	264	272	281
Operating Expenses (\$M)	9	13	13	14	14	14	15	15
Power Cost (\$M)	116	173	184	194	201	208	216	224

Residual (\$M)	48	55	44	41	41	42	42	42
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Conclusion

Staff recommends that MBCP issue a Short-Term RFO as well as a Long-Term RFO to facilitate MBCP’s achievement of a 70 to 100% carbon-free resource mix during its initial three years of program operations through the exclusive use of PCC 1 and regionally produced hydroelectricity. Such an approach is expected to contribute to an environmentally responsible portfolio mix, competitive electric rates, and healthy financial reserves. Administration of these solicitations will also contribute to MBCP’s compliance with California’s RPS procurement mandates as well as pertinent long-term renewable contracting requirements reflected under this program.