

Standard LSE Plan

MONTEREY BAY COMMUNITY POWER

2018 INTEGRATED RESOURCE PLAN

AUGUST 1, 2018

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1. Executive Summary¹

Monterey Bay Community Power (“MBCP”) is a Joint Powers Authority formed on February 21, 2017 pursuant to California Government Code §§ 650 *et. seq.* by the Counties of Monterey, San Benito and Santa Cruz and each of the following cities: Santa Cruz, Watsonville, Salinas, Marina, Sand City, Seaside, Carmel, Monterey, Pacific Grove, Greenfield, Gonzales, Soledad, Hollister, San Juan Batista, Capitola and Scotts Valley. The California Public Utilities Commission (“Commission” or “CPUC”) certified MBCP’s Implementation Plan on November 14, 2017. MBCP commenced service to its commercial, industrial and agricultural customers in March 2018, followed by commencement of service to its residential customers in July 2018. As ordered in Commission Decision 18-02-018 (“IRP Decision”), MBCP respectfully submits its Conforming 2018 Integrated Resource Plan (“IRP”) using the Standard LSE Plan Template.

The Commission and MBCP’s governing board exercise concurrent jurisdiction and have shared responsibilities in this IRP process. MBCP shares the Commission’s goal of meeting the state’s greenhouse gas (“GHG”) reduction and renewable energy goals and looks forward to a cooperative relationship with the Commission in fulfilling the direction of Senate Bill (“SB”) 350 (2015).

MBCP’s Conforming 2018 Integrated Resource Plan submitted herein estimates the optimal resource portfolio needed to meet or exceed its portion of the electric sector’s GHG targets for 2030 using the individual load-serving entity (“LSE”)-specific GHG benchmarks identified in the “*Administrative Law Judge’s Ruling Finalizing Load Forecasts and Greenhouse Gas Benchmarks for Individual Integrated Resource Plan Filings*” issued on June 18, 2018 (“Finalizing ALJ Ruling”). While MBCP supports the goal of the IRP proceeding for purposes of long-term statewide resource planning, MBCP will likely create another IRP later in 2018 or in 2019 to further assist the MBCP governing board’s planning efforts. This additional IRP may reflect an alternate resource planning mix that meet’s MBCP’s own GHG goals, which will meet or exceed statewide GHG goals. MBCP will make its IRP available to the public on its website, and MBCP will provide the portfolio identified in this IRP as an alternative portfolio to the Commission in the next iteration of the Commission’s IRP planning process.

As described in detail in Section 2, below, MBCP took the following steps to prepare its IRP. First, MBCP compiled all its supply contracts for both energy and Resource Adequacy (“RA”). MBCP then compared the current supply to the 2017 CEC IEPF Forecast allowing it to identify its short position through 2030. MBCP then populated the Baseline Resource Template with all current contracts as well as generic future contracts with existing resources to help fill the short position. MBCP also populated its New Resources Template with detailed information on projects for which it is currently negotiating power purchase agreements and future generic contracts for new solar, storage and wind. Finally, MBCP utilized position data from the Baseline and New Resource Templates to populate the GHG Calculator and the resulting emissions factors. MBCP intends to meet or exceed its RPS obligations by 2030 with a

¹ Capitalized terms used in this plan shall have the meaning initially ascribed to them in the body of this plan. A full list of acronyms used in this plan is set forth in Appendix A.

near even split of wind and solar and the remaining short position satisfied by large hydro or other carbon free resources.

Per SB 350 (Pub. Util. Code Section 454.52(b)(3)), MBCP submitted its 2018 IRP to its Board on July 26, 2018. Recognizing that submittal of the IRP to the CPUC is a planning exercise, and not a formal procurement compliance requirement, MBCP's Board approved the IRP as a valid plan that achieves the goals set forth in Pub. Util. Code Section 454.52(b)(3), subsections A-C, and that will inform MBPC's actual procurement going forward.

MBCP's preferred portfolio out to 2030 is identified in the GHG Calculator and in further detail in the Baseline Resources Template and New Resources Template. In general, however, MBCP's 2030 portfolio includes the following resources:

- 312 and 246 megawatts ("MW") of Renewables Portfolio Standard ("RPS")-eligible solar and wind, respectively;
- 607 MW of carbon-free energy;
- 98 MW of energy storage resources.

MBCP's action plan includes the following key steps, goals, and targets:

- Ensure adequate supply and SB 350 compliance using short and long-term contracts;
- Strategically procure eligible RPS Portfolio Content Category ("PCC")¹ resources to meet and exceed RPS requirements through bilateral transactions, request for offers ("RFOs") for large resources and RFOs for local resources (MBCP service territory);
- Procure carbon-free energy;
- Launch programs that will benefit disadvantaged communities ("DAC") as well as other programs that will benefit all MBCP customers and the environments in which they live.

2. Study Design

This section describes the process used by MBCP to develop its IRP. In this IRP, MBCP demonstrates that it has a clear plan to meet its CEC 2017 IEPR load forecast through 2030 with a resource portfolio comprised of carbon free energy and RPS-eligible energy sources. MBCP also demonstrates that it will meet (and beat) the 2030 GHG Emissions Benchmark of .592 MMT.

Load Assignment

To project its load from 2018-2030, MBCP used the load forecast set forth in the Finalizing ALJ Ruling. Under the Finalizing ALJ Ruling, MBCP’s 2030 load forecast is 3,331 GWh.

The tables below show MBCP’s load forecast as shown in the Mid Baseline mid-AAEE mid-AAPV version of Form 1.1C and MBCPs 2030 emissions threshold.

Table I: Load Forecast

Table 1

Metric	Unit	2018	2022	2026	2030
Managed Retail Sales Forecast for Monterey Bay Community Power Authority	GWh	2,370	3,452	3,389	3,331

Portfolio

MBCP’s IRP includes one portfolio, a “Conforming Portfolio,” based on MBCP’s assigned load forecast and the Commission’s “Reference System Portfolio.” MBCP’s portfolio is fully consistent with the Commission’s Reference System Portfolio:

- MBCP’s portfolio uses the LSE-Specific 2030 GHG Emissions Benchmark of 0.592 Million Metric Tons (“MMT”) assigned to MBCP in the June 18, 2018 ALJ Ruling.
- MBCP’s portfolio was developed using the same inputs and assumptions used by the Commission to develop the Reference System Plan, with the following Commission-approved exceptions:
 - MBCP used the load assignment set forth in the June 18, 2018 ALJ Ruling.
 - MBCP used the load modifier assumptions from the 2017 IEPR demand forecast projections of both PV and non-PV self-generation, and load-modifying demand response included in the “mid Baseline mid AAEE mid AAPV” case.

MBCP has elected not to submit an Alternative Portfolio.

GHG Emissions Benchmark and GHG Accounting

MBCP developed and evaluated its Portfolio using its specific GHG Emissions Benchmark as assigned in the June 18, 2018 ALJ Ruling. Using the Clean Net Short methodology utilized in the GHG Calculator, MBCP’s Portfolio would account for 0.1513 MMT of GHG emissions in 2030, which is below MBCP’s assigned GHG emissions benchmark of 0.592 MMT.

Table 2

	2030 GHG Emissions (MMT)
Emissions Benchmark for MBCP	0.592

Based on the Commission’s Clean Net Short methodology and associated calculator tool, MBCP’s portfolio would account for a total of .1513 MMT in GHG emissions in 2030. This falls below MBCP’s GHG benchmark of .592 MMT.

2.1. Objectives

MBCP developed its IRP in accordance with the following objectives:

- Objective 1: identify and select a portfolio that is based on and consistent with the Commission’s reference system portfolio.
- Objective 2: identify and select a portfolio that reduces MBCP’s 2030 GHG emissions to a level below the assigned benchmark of .592 MMT.
- Objective 3: select a portfolio that uses cost-effective resources, as determined by MBCP’s Policy and Operations Boards.
- Objective 4: select a portfolio that minimizes negative impacts and emphasizes benefits for Disadvantaged Communities (“DACs”).
- Objective 5: select a portfolio that, to the maximum degree possible consistent with MBCP’s other goals and requirements, independently meets MBCP’s share of procurement requirements, minimizing or eliminating any need for “on behalf of” procurement by investor owned utilities (“IOUs”).
- Objective 6: Adhere to MBCP’s Governing Board’s procurement policies, including (e.g., reduce market risks for energy procurement through long-term acquisition of renewable resources at fixed price, developing local energy projects, etc.).

2.2. Methodology

2.2.1. Modeling Tool(s)

MBCP utilized the CPUC’s GHG Calculator for IRP v1.4.4 (with updated profiles) and the CEC’s 2017 IEPR load forecast to complete its 2018 IRP.

2.2.2. Modeling Approach

MBCP used the templates provided by the CPUC to produce its Conforming Portfolio. MBCP did not conduct any formal modeling in the preparation of its IRP.

2.2.3. Assumptions

Inputs and assumptions used by MBCP for its 2018 IRP did not differ from the corresponding assumption(s) used by the Commission to prepare the Reference System Plan.

3. Study Results

3.1. Portfolio Results

As shown in Table 3 below, MBCP's estimated 2030 GHG emissions, when calculated using the CPUC's GHG Calculator, are significantly less than the CPUC Benchmark for MBCP. For more detail, see MBCP's completed version of the CPUC's GHG Calculator (Attachment III).

Table 3

	2030 GHG Emissions (MMT)
CPUC Benchmark for MBCP	0.5920
MBCP's Calculated Emissions	0.1513

MBCP's Conforming Portfolio consists of the resources listed in the Baseline Resource Data Template (Attachment I) and the New Resources Data Template (Attachment II). MBCP's resource portfolio consists of the following new and existing resources:

New Resources

Resulting from an RFO jointly issued by Silicon Valley Clean Energy (“SVCE”) and MBCP in September 2017, MBCP and SVCE are partnering on several Power Purchase Agreements (“PPA”) for solar plus storage and wind energy. MBCP and SVCE intend to receive 45% and 55%, respectively, from the following new resources (a-c). Item “d” represents new contracts for resources not yet identified and may result from additional joint RFOs or MBCP stand-alone RFOs.”

- a. 200 MW wind energy located in New Mexico that will be directly connected to the CAISO
- b. 128 MW Solar PV and 40 MW of storage located in Kern County, CA
- c. 150 MW Solar PV and 45 MW of storage located in Kings County, CA
- d. Other as-of-yet-identified solar, storage and wind projects with online dates of 2022 and then 2026

Existing Resources

MBCP is currently contracting for the following existing Resources that are delivered into the CAISO (includes future contracts with existing resources):

- a. RPS Portfolio Content Category I (“PCC1”): Wind, solar PV, solar thermal, landfill gas, biomass, geothermal and other PCC1 resources not yet specified by MBCP’s suppliers. These resources are in California, Oregon, Washington and British Columbia.
- b. Carbon-free energy: Hydroelectric resources located in the Pacific Northwest, Nevada, Arizona and locations not yet specified by MBCP’s suppliers.
- c. CAISO System Power: MBCP utilizes shaped system power for its day-ahead load.
- d. Resource Adequacy (“RA”): MBCP has numerous RA-only contracts to comply with its RA requirements. The RA program requires LSEs to demonstrate specific quantities of system, local and flexible capacity in both year-ahead and month-ahead time frames. MBCP has listed its current and future RA-only contracts in the Baseline Resource Data Template. MBCP intends to fully comply with all RA requirements and will continue its practice of procuring long-term, multi-year, year-ahead and month-ahead RA.

3.2. Preferred and Conforming Portfolios

MBCP requests that the Commission certify its Preferred Portfolio, which is a Conforming Portfolio. MBCP’s Conforming Portfolio is consistent with each relevant statutory and administrative requirement stated in Public Utilities Code Section 454.52(a)(1):

(a) (1) Beginning in 2017, and to be updated regularly thereafter, the commission shall adopt a process for each load-serving entity, as defined in Section 380, to file an integrated resource plan, and a schedule for periodic updates to the plan, to ensure that load-serving entities do the following:

(A) Meet the greenhouse gas emissions reduction targets established by the State Air Resources Board, in coordination with the commission and the Energy Commission, for the electricity sector and each load-serving entity that reflect the electricity sector's percentage in achieving the economywide greenhouse gas emissions reductions of 40 percent from 1990 levels by 2030.

Using the CPUC's GHG Calculator for IRP v1.4.4, MBCP demonstrates that projected emissions are significantly less than the CPUC Benchmark.

(B) Procure at least 50 percent eligible renewable energy resources by December 31, 2030, consistent with Article 16 (commencing with Section 399.11) of Chapter 2.3.

Through this Conforming Portfolio, MBCP demonstrates that it will achieve a portfolio comprised of at least 50% RPS-eligible resources by 2030.

(C) Enable each electrical corporation to fulfill its obligation to serve its customers at just and reasonable rates.

CCA rates are adopted by their local governing boards and are not set or overseen by the Commission. MBCP's governing board has determined that MBCP's portfolio achieves environmental, reliability, and other benefits in a cost-effective manner. MBCP checked the rate impact of its portfolio by incorporating the planned resources in MBCP's financial model. For this analysis, MBCP assumed that other LSEs will procure resources in a manner consistent with the Reference System Plan, and MBCP costs will be competitive while providing the GHG reduction, system reliability, and other benefits described in this narrative.

Numerous market factors could change the projected cost trajectory, including but not limited to the following:

- Wholesale energy prices;
- Locational marginal prices;
- Resource adequacy costs;
- Costs for services provided by the CAISO (e.g., ancillary services);
- Production from contracted resources and potential curtailment costs;
- Costs associated with allocated resources procured by other entities (e.g., CAM, RMR, etc.).

While MBCP rates are influenced by power supply costs, customer rates will not necessarily change in lock-step with the projected change in power supply costs over time, as financial reserves are available to help provide rate stability.

(D) Minimize impacts on ratepayers' bills.

Because MBCP's rates are competitive to those of PG&E, impact on ratepayers' bills is minimal.

(E) Ensure system and local reliability.

In order to meet CPUC and CAISO RA requirements, MBCP procures system, local and flexible RA on a long-term, multi-year, year-ahead and month-ahead basis. In addition, MBCP is continuously improving load forecasts and related supply portfolio to minimize hourly imbalances between its load and supply.

(F) Strengthen the diversity, sustainability, and resilience of the bulk transmission and distribution systems, and local communities.

MBCP is dedicated to ensuring a bulk electric system that is increasingly more diverse, sustainable and resilient. MBCP procures power from a variety of generation technologies that are geographically diverse.

(G) Enhance distribution systems and demand-side energy management.

MBCP intends to explore demand-side energy management programs with significant input from its recently formed Community Advisory Council.

(H) Minimize localized air pollutants and other greenhouse gas emissions, with early priority on disadvantaged communities identified pursuant to Section 39711 of the Health and Safety Code.

3.2.1. Local Air Pollutant Minimization

MBCP was formed to provide locally-controlled, GHG-free electricity to residents and businesses in Monterey, San Benito and Santa Cruz Counties through the Community Choice Aggregation model established by the State of California.

As required by the CPUC, MBCP used CalEnviroScreen 3.0 tool to identify areas within MBCP's service territory that are within the top 25% of impacted census tracts on a statewide basis, based on overall score, as well as the top 5% without an overall score but with the highest pollution burden. MBCP service territory does not include any tracts in the top 5% of pollution burden. However, of its approximately 235,000 expected residential accounts, 13% represent disadvantaged communities ("DACs") (located within 7 census tracts within the tri-county area) and 25% are California Alternate Rates for Energy ("CARE") customers. MBCP estimates that this group of customers represents 4.35% of its service territory in terms of total disadvantaged residential population.

MBCP offers several service options that will benefit the DACs and low-income communities it serves. The MBchoice service option offers rates that results in a cost savings of 3% in the form of an annual rebate as compared to the rates of PG&E. MBCP's disadvantaged and low-income ratepayers are expected to receive rebates totaling \$325K in the first year, growing to

\$540K in the second year. A second service offering, MBshare, promotes customers to donate their rebate to fund local non-profit projects that lower GHG emissions and support low income rate-payers. MBCP is pleased to report that customers have already begun donating their rebates to MBshare.

Regarding customer programs, any future MBCP program will be reviewed by the Community Advisory Council, approved by the Board of Directors in 2018 and implemented in 2019. Since emission inventories in the tri-county service area of MBCP are the highest in the transportation sector, the first residential program(s) launched will incent the purchase or lease of new or used light-duty electric vehicles. MBCP will negotiate bulk discounts on Electric Vehicles (“EVs”) from manufacturers and dealers that will be offered to all customers. MBCP will provide additional incentives to residents that purchase new, leased or used EVs.

CARE and self-identified DAC customers will receive a higher rebate than other customers. To improve low income and DAC access to charging stations, MBCP will incent charging station installations at multi-unit dwellings and worksite locations. Moving forward, MBCP will continue to explore and implement programs to electrify the transportation and built environment sectors which will catalyze economic equality and improve indoor and outdoor air quality for DACs.

Additionally, MBCP is partnering with local transit agencies to support electrifying aging, fossil fuel powered buses and installing charging station infrastructure through possible equipment funding, specialized tariffs and/or storage options to manage demand charges. These programs are expected to benefit our low income and DACs.

Finally, MBCP will work with local NGOs and other community-based organizations to identify customers in need of support and the programs that best meet these customers’ needs.

3.2.2. Cost and Rate Analysis

CCA rates are adopted by their local governing boards and are not set or overseen by the Commission. As part of its approval of MBCP’s IRP, MBCP’s governing board has determined that MBCP’s portfolio achieves environmental, reliability, and other benefits in a cost-effective manner. MBCP projects that procuring the resource mix identified in its portfolio will have a minimal rate impact of while providing the GHG reduction, system reliability, and other benefits described in this narrative.

To support the development of new generation resources to ensure electric reliability, the CPUC adopted the Cost Allocation Mechanism (“CAM”), which allows the costs and benefits of new generation to be shared by all benefiting customers in an IOU’s service territory. Accordingly, on a year-ahead and quarter-ahead basis, MBCP is allocated Resource Adequacy volumes and corresponding costs. In developing its IRP portfolio, MBCP assumed its future

resource adequacy obligations would be reduced by its proportional share of the resource adequacy value itemized in the year-ahead CAM list.

3.3. Deviations from Current Resource Plans

MBCP will be submitting an RPS Procurement Plan (“RPS Plan”) in August 2018 as required by Public Utilities Code § 399.12(j) and §399.13(a)(1).² While much of MBCP’s RPS Plan will be consistent with its 2018 IRP, MBCP’s RPS Plan will be based on its own internal retail sales forecast as well as unit-specific (forecasted) generation output. This contrasts with CEC’s 2017 IEPR load forecast and the generic generation profiles found in the GHG Calculator.

3.4. Local Needs Analysis

MBCP procures system, local and flexible RA on a long-term, multi-year, year-ahead and month-ahead time frames per CPUC and CAISO requirements. To demonstrate meeting its local RA requirements, MBCP reports the capacity it has purchased in specific transmission-constrained (i.e., “local”) areas equal to its assigned share of the CAISO’s need for each month of the year.

MBCP intends to continue to fully comply with all RA requirements through:

- Existing RA Capacity procurement.
- Planned RA Capacity procurement.
- RA associated with planned renewable resource procurement.
- Allocated RA Capacity credits from PG&E CAM and Demand Response resources.

² On July 17, 2018 Administrative Law Judge Robert Mason granted the Motion of the Cities of Lancaster, Pico Rivera, San Jacinto, Rancho Mirage, and on behalf of the Community Choice Aggregator Parties (Apple Valley Choice Energy, CleanPowerSF, Marin Clean Energy, Monterey Bay Community Power Authority, Peninsula Clean energy, Pioneer Community Energy, Redwood Coast Energy Authority, Silicon Valley Clean Energy Authority, Sonoma Clean Power Authority, and Valley Clean Energy Alliance), for Extension of Time to Submit RPS Plan per the 2018 RPS Plan Schedule set forth in the *Assigned Commissioner and Assigned Administrative Law Judge’s Ruling Identifying Issues and Schedule of Review for 2018 Renewables Portfolio Standard Procurement Plans dated June 21, 2018*. RPS Procurement Plans are now due August 20, 2018.

4. Action Plan

4.1. Proposed Activities

MBCP's energy procurement activities center around satisfying RPS obligations and purchasing carbon-free energy for the remainder of its portfolio. Like any LSE, MBCP constantly monitors legislative and regulatory developments, market trends and other factors that may affect how or when it procures energy to satisfy its portfolio. MBCP is also developing methodologies to forecast future demand by analyzing factors that affect each customer class. Factors such as energy efficiency, transportation electrification, distributed generation, weather, tourism, and a myriad of others must be considered when forecasting demand and the supply to meet that demand.

In the very near term, MBCP recently launched its MBPrime service offering that provides carbon-free electricity generated from sources which are 100% renewable, as defined by the RPS, though small hydro is excluded. With this service offering, MBCP will adjust its procurement strategy to meet this new portfolio need.

Regarding disadvantaged communities, MBCP will work closely with local Non-Governmental Organizations, its own Community Advisory Council and other community-based organizations to identify customers in need of support and the programs that best meet these customers' needs.

4.2. Barrier Analysis

For procurement decisions, MBCP considers market factors which may include the following:

- Market price risks (CAISO LMPs, RA prices, RPS prices, specified-source prices, etc.);
- Counterparty credit risk;
- Curtailments;
- Variance from load forecasts;
- MBCP's customer participation/opt-out rate;
- Assignment of unplanned resources (for example, through CAM, Reliability Must Run ("RMR"), CPM);
- Legislative and regulatory changes (for example, RA and RPS requirements).

4.3. Proposed Commission Direction

This section does not apply to CCAs.

5. Data

5.1. Baseline Resource Data Template

Attached herein as Attachment I is MBCP's Baseline Resources Template.

In its Baseline Resources Template, MBCP provided its best estimates of energy production. Such estimates may not necessarily match the energy production figures from the GHG Calculator, as the Calculator automatically uses default resource profiles rather than project-specific profiles.

5.2. New Resource Data Template

Attached herein as Attachment II is MBCP's New Resources Template.

5.3. Other Data Reporting Guidelines

MBCP utilized the Clean Net Short Methodology (GHG Calculator) to determine its 2030 emissions (See Table 3).

6. Lessons Learned

While some of the simplifications made by the CPUC in its templates and instructions are likely necessary for making a standard reporting process accessible and understandable, MBCP cautions against using the numbers reported under this framework for long-term resource planning purposes. MBCP's 2018 IRP may not provide an adequately certain picture of MBCP's long term resources, load or program impacts for long-term resource planning purposes. MBCP encourages the Commission to use MBCP's planned full IRP, which will be provided to the Commission in the next IRP cycle for planning purposes. We are also committed to working collaboratively with the CPUC on finding ways to improve this process so that better data can be shared across LSEs.