



Staff Report Item 6

TO: East Bay Community Energy Board of Directors

FROM: Marie Fontenot, Vice President of Power Resources

SUBJECT: Update on timeline and process for EBCE's 2022 Integrated Resource Plan

DATE: September 21, 2022

Recommendation

Receive an informational update on EBCE's 2022 Integrated Resource Planning (IRP) process in anticipation of a October review of results and request for Board approval of compliance filing.

Background and Discussion

The IRP proceeding includes two primary components: the biennial study workstream and the mandated procurement workstream. This memo refers only to the biennial study workstream.

The IRP is a long-term planning proceeding intending to evaluate all of the CPUC's electric procurement policies and programs and the reliability and cost-effectiveness of the CPUC-jurisdictional entities'¹ electric supply with the goal of reducing the cost of achieving GHG reductions and other CPUC policy goals. The IRP proceeding looks 10 years forward to determine the least-cost resource mix required to meet these goals while maintaining system reliability.

The IRP also evaluates the contribution of individual entities' resource portfolios to the State's greenhouse gas (GHG) emissions. This IRP cycle, the CPUC is requiring each entity to submit distinct portfolios that achieve their proportional share of two alternative statewide electric sector GHG targets. EBCE will report analysis results and proposed resource portfolios that address the question "what are the desired portfolios of resources based on a statewide electric sector goal of achieving (1) 30 million metric tons (MMT) of GHG emissions by 2030; and (2) a maximum of 25 MMT of GHG emissions by 2030." The inputs and assumptions used

¹ In context of IRP requirements, includes Investor Owned Utilities (IOUs), Energy Service Providers (ESPs), and Community Choice Aggregators (CCAs).

in the 30 MMT and 25 MMT scenario must be consistent with CPUC-assumptions; the required assumptions are discussed below. Entities are also permitted to submit an alternative portfolio that uses different assumptions, provided those assumptions are identified and justification for the discrepancies are described.

All CPUC-jurisdictional entities are required to file and serve their individual IRPs with the CPUC by November 1, 2022. CPUC Decision 22-02-004, issued February 10, 2022, adopted the 2021 IRP Preferred System Plan and established the November filing deadline. An subsequent Ruling, issued on June 15, 2022 established the final load forecasts and GHG benchmarks for the 2022 IRP Plans. The Ruling also clarified that load serving entity filing must include three documents: (1) a Narrative Template, (2) the Resource Data Template which details the resources in each LSE's proposed portfolio, and (3) the Clean System Power (CSP) Calculator which calculates GHG and other emission results for each LSE's portfolio. Staff will present the results of the 2022 IRP analysis and the recommended portfolio of resources in the October Board meeting. In this meeting, staff will seek the Board approval of the filing prior to the filing, consistent with the CPUC's requirement of IRP filings completed by CCAs.

Financial Impact

None. Informational update only.

Attachments

- A. Presentation

SEPTEMBER, 2022

Integrated Resource Plan Update



- **Integrated Resources Plan (IRP): a biennial analysis and filing required by CPUC.**
 - Load serving entities (LSEs) submit long-term procurement plans to the CPUC
- **Evaluate LSEs' ability to contribute to emissions reduction while meeting electricity-related compliance obligations.**
- **CPUC evaluates California's resource needs for 10 coming years.**
 - Important: can result in CPUC-mandated procurement

CPUC

- 1) Analyses based on CPUC-prescribed elements & with EBCE-specified changes
- 2) Narrative - analyses, process, results, lessons learned, procurement targets
- 3) Resource Data Template - conforming and preferred portfolios
- 4) Clean System Power Calculator

EBCE Board

- 1) All CPUC materials for review and approval pre-filing
- 2) Understand drivers of portfolio costs
- 3) Evaluate macro-level resource ability
- 4) Identify potential threats to EBCE OMMT 2030 portfolio; later develop mitigations

Timeline

Date	Event
February 2022	Decision Adopting 2021 PSP, Establishing 2022 IRP Schedule
April 20, 2022	ALJ Ruling Proposes 2022 IRP load forecasts & GHG benchmarks
June 28, 2022	Final load forecasts & GHG benchmark inputs
July 15, 2022	Final Clean System Power Calculator (Emission analysis tool)
July 15, 2022	Final Filing Requirements and guides published
Aug 24, 2022	Final Resource Data Template
Aug - Sept 2022	EBCE performs quantitative analyses, develops portfolios
Sept - Oct 2022	EBCE refines portfolio results, prepares filing narrative materials
Oct 19, 2022	Presentation to EBCE Board; staff seeks approval to file
Nov 1, 2022	IRP filing deadline to CPUC

- **CPUC-coordinated planning promotes a more stable statewide electricity system**
- **Alignment with CPUC view of the market; identification of specific differences in respective views**
- **Evaluation of costs & risks of different portfolios under different potential policy futures**
- **Identify barriers to EBCE's emission reduction objectives**
- **Open-source software can expand modeling & analytic capabilities w/in EBCE**
 - Potential for EBCE to do future modeling in-house

Analytical Approach

Capacity Expansion Model (CEM)

- Zonal modeling explores the tradeoffs between resource types and their suitability to serve California's growing electricity needs
- GridPath modeling software optimizes statewide resource additions to lower emissions while still ensuring sufficient capacity on the system to avoid rolling blackouts

Production Cost Model (PCM)

- Hourly dispatch modeling of all generators in state determines price environment which EBCE will be operating into the future
- Captures expected shifts in price patterns that may arise from combinations of increased solar resource on the CA grid, electrification efforts, eventual retirement of Diablo Canyon, etc.

Portfolio Expansion Modeling (PEM)

- In the context of the CA energy system modeled above, EBCE optimizes resource procurement over the next 20 years to minimize the cost purchased energy while achieving state-mandated or locally-driven goals

Modeling Framework

Capacity Expansion Model (CEM)

- California Public Utilities Commission (CPUC) requires that all load-service entities (LSEs) submit plans consistent with a 30 million metric tons (MMT) and 25 MMT statewide emissions targets
- Staff considers the 25 MMT case to be our “base case”
- EBCE has developed its own case in which capacity concerns keep Diablo and select natural gas-fired plants on the system beyond the retirement dates specified in the CPUC cases

Production Cost Model (PCM)

- The base case assumes normal hydro conditions and a return to lower natural gas prices
- Staff will also look at a case in which constrained hydro availability and potential ongoing natural gas supply disruptions put upward pressure on CA electricity prices

Portfolio Expansion Modeling (PEM)

- The base case assumes no expansion of EBCE territory and that all projects are completed on schedule
- Staff will explore the impact of adding Stockton / San Joaquin County in 2024 (?)
- Staff is also looking at a case in which supply chain disruptions lead to project delays, to understand the magnitude of the market exposure that arises in these cases and consider strategies to mitigate that exposure

Framing an IRP



Aisle 1

30 MMT grid emissions *

25 MMT grid emissions *

Diablo retirement delayed

O-T-C Gas retirement delayed

Global Supply Chain / new resource delays

Aisle 2

CPUC Price Assumptions *

Stable Prices

Extreme (high) Prices

Extreme (low) Prices

Prices Variation

Aisle 3

CPUC “base” portfolio *

EBCE Extreme Project Delays

EBCE service territory expansion

EBCE electrification

Framing an IRP



Aisle 1

30 MMT grid emissions *

25 MMT grid emissions *

Diablo retirement

Delayed retirements

delayed

Global Supply Chain / new resource delays

Aisle 2

CPUC Price Assumptions *

Stable Prices

Extreme (high) Prices

Extreme (low) Prices

Prices Variation

Aisle 3

CPUC “base” portfolio *

EBCE Extreme Project Delays

FRCF service

EBCE load growth

electrification

* Indicates CPUC requirement

IRP-Directed Procurement Trend: More capacity procurement, more procurement of specific technologies

- 2018 IRP: CPUC ordered 3,300 MW of incremental procurement online in 2021-2023.
- 2020 IRP: CPUC ordered 11,500 MW of incremental procurement online in 2024-2026, including 1,000 MW of Geothermal and 1,000 MW of Long-Duration Energy Storage.
- 2022 IRP Cycle indicates CPUC interest in Long-Duration Energy Storage (>4 hr) and Off-Shore Wind development.
- IRP Procurement Program proposal could start as early as 2023 with ongoing oversight of LSEs.

Risk that IRP Procurement Displaces EBCE's Resource Portfolio Design

- IRP-driven procurement may mandate higher volumes of technology-specific procurement such as geothermal, off-shore wind, energy storage, or other resources than EBCE would select on its own.

Thank You!



Questions? Give us a call:
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