



California ISO

# Capacity Procurement Mechanism (CPM) Enhancements – Track 2


Stakeholder Workshop

May 11, 2023

# Reminders

- This call is being recorded for informational and convenience purposes only. Any related transcriptions should not be reprinted without ISO's permission.
- If you need technical assistance during the meeting, please send a chat to the event producer.

# Instructions for raising your hand to ask a question

- If you are connected to audio through your computer or used the “call me” option, select the raise hand icon  located on the bottom of your screen.  
**Note:** #2 only works if you dialed into the meeting.
  - Please remember to state your name and affiliation before making your comment.
- You may also send your question via chat to either Kaitlin McGee or to all panelists.

# Today's Agenda

Time	Topic	Presenter	Organization
1:00 – 1:05	Welcome and today's agenda	Kaitlin McGee	CAISO
1:05 – 1:20	Introductory Remarks	Partha Malvadkar	CAISO
1:20 – 1:50	Background on CPM	Abdul Mohammed-Ali	CAISO
1:50 – 2:20	Methodology for Considering an Update to the Soft Offer Cap	CB Hall	CAISO
2:20 – 2:25	<i>Break</i>		
2:25 – 3:00	Fixed Cost Outputs from the CEC's Cost of Generation Model	Bryan Neff	CEC
3:00 – 3:25	CPM Enhancements Track 2: proposed scope and schedule	CB Hall	CAISO
3:25 – 3:30	Next steps	Kaitlin McGee	CAISO

# CAISO Policy Initiative Stakeholder Process



We are here

# Introductory Remarks

# Introductory Remarks

## Purpose of CPM Enhancements Track 2

- The ISO is required to open a stakeholder initiative every four years (at the latest) to examine the CPM soft offer cap and consider whether it needs to be changed<sup>1</sup>
- The last time the ISO opened a stakeholder initiative to examine the CPM soft offer cap was May 2019
- It is prudent to re-examine the CPM soft offer cap given changes occurring on the ISO grid and throughout the western interconnection
- More substantial CPM and resource adequacy (RA) reforms will be considered in subsequent tracks and initiatives

<sup>1</sup> ISO tariff section 43A.4.1.1.2

# Background on CPM



# Background on CPM

## Capacity Procurement Mechanism (CPM) Fundamentals

- Used by the ISO to address RA deficiencies and potential reliability concerns (refer to six designation types on following slide)
- Often referred to as “backstop” procurement
  - CPM designations are generally used after a cure period
- RA capacity and RMR capacity are not eligible for CPM designations
- CPM resources are obligated to bid into the market and are subject to the RA Availability Incentive Mechanism (RAAIM) penalty
- CPM designations rely on capacity willingly offered to the ISO by scheduling coordinators through annual, monthly and intra-monthly competitive solicitation processes (CSPs)

# Background on CPM

## **CPM designation types<sup>2</sup>:**

1. Insufficient local capacity area resources shown in an annual or monthly RA plan
2. Collective deficiency in local capacity area resources
3. Insufficient RA resources shown in a load-serving entity's annual or monthly RA plan
4. A CPM significant event
5. A reliability or operational need for an exceptional dispatch CPM
6. A cumulative deficiency in the total flexible RA capacity included in the annual or monthly flexible RA capacity plans, or in a flexible capacity category in the monthly flexible RA capacity plans

<sup>2</sup> ISO tariff section 43A.2

# Background on CPM

## Competitive Solicitation Process (CSP)

- CPM designations rely on capacity willingly offered to the ISO by scheduling coordinators through annual, monthly and intra-monthly competitive solicitation processes (CSPs)
- In CSPs, scheduling coordinators may offer their capacity to the ISO at prices up to a soft offer cap, currently set at \$6.31/kW-month
  - The soft offer cap serves as both a safe harbor for resources providing offers as well as a way to mitigate resources from exercising market power
  - The soft offer cap was designed to be high enough to cover going-forward fixed costs for marginal resources on the system
- Offers above the soft offer cap must be cost-justified at FERC to recover up to a resource-specific cost of service rate<sup>3</sup>

<sup>3</sup>ISO tariff section 43A.4.1.1.1

# Background on CPM

## **Soft Offer Cap Uses:**

1. Cap for the CSP offers
2. RA Availability Incentive Mechanism (RAAIM) Price
  - The RAAIM price shall be 60 percent of the CPM Soft Offer Cap Price<sup>4</sup>

<sup>4</sup> ISO tariff section 40.9.6.1

# Methodology for Considering an Update to the Soft Offer Cap

## ISO Tariff Guidance: Considering a Soft Offer Cap Update<sup>5</sup>

- The stakeholder process shall consider whether the CPM Soft Offer Cap adequately reflects 120% of the levelized going-forward fixed costs of the reference resource at the time of the stakeholder initiative.
- The basis of such consideration shall be the final results from the CEC Cost of Generation Study and Model (or similar study or model).
- The reference resource shall be a merchant-constructed mid-cost, 550 MW combined cycle with duct firing or similar advanced combined cycle resource
- The stakeholder process also may consider, but would not reassess automatically, either what resource serves as the reference resource, the components of fixed costs that are considered in setting the CPM Soft Offer Cap, or the use of a 20% adder to costs to set the CPM Soft Offer Cap.

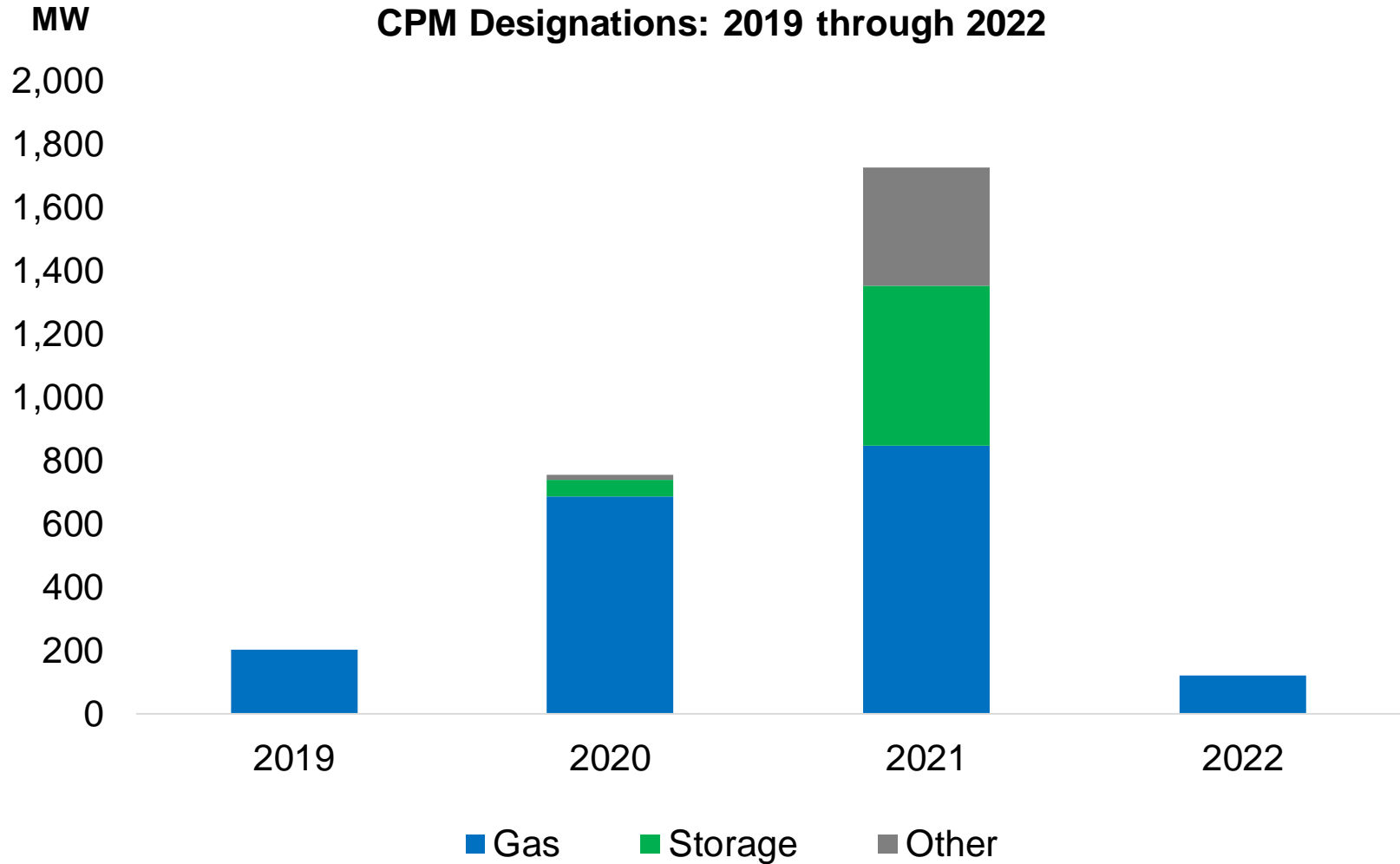
<sup>5</sup> ISO tariff section 43A.4.1.1.2

## Derivation of current soft offer cap price

Current soft offer cap is based on a 550 MW combined cycle resource with levelized going forward fixed costs of \$63.06, multiplied by 120% = \$75.67/kw-year, or \$6.31/kw-month

Merchant CC with Duct Firing (\$/kw-yr)	2014
A. Insurance	\$8.09
B. Ad Valorem	\$11.74
C. Fixed O&M	\$43.23
<b>Sum (A,B,C)</b>	<b>\$63.06</b>
Multiplier	120%
<b>Calculated Soft Offer Cap Price</b>	<b>\$75.67</b>

# Recent CPM Designations by Fuel Type





# Fixed Cost Outputs from the CEC's Cost of Generation Model



# California Energy Commission

CEC Cost of Generation Model: Fixed Costs Study for CAISO's CPM Soft Offer Cap

Bryan Neff

May 11, 2023



# Cost of Generation Model

- Excel model that uses bottom-up assumptions and cash flow analysis to estimate levelized costs of utility-scale electric generation technologies.
- Recent model versions: 2014 and 2018 (published 2015 and 2019, respectively).
- Report associated with most recent model available online:  
<https://www.energy.ca.gov/publications/2019/estimated-cost-new-utility-scale-generation-california-2018-update>



# Fixed Costs: 2014

- Components of fixed costs: insurance, ad valorem, fixed O&M.
- Soft Offer Cap includes a 20% adder.
- CAISO used the merchant constructed mid-cost 550MW CC with duct firing for its SOC reference resource in 2016.

Version	Capacity (MW)	Insurance (\$/kW-yr)	Ad Valorem (\$/kW-yr)	Fixed O&M (\$/kW-yr)	Going Forward Fixed Costs (\$/kW-yr)	Soft Offer Cap (\$/kW-yr)	Soft Offer Cap (\$/kW-mo)
2014	550	\$8.09	\$11.74	\$43.23	\$63.06	\$75.67	\$6.31



# Fixed Costs: 2018

- In 2018, the combined cycle project capacity changed in the COG Model to more accurately model projects going through the CEC siting process.
  - E.g. Huntington Beach Energy Project and Alamitos Energy Center, both ~640MW combined cycle projects with no duct firing.
- 700MW CC with duct firing considered during 2019/2020 CPM SOC review.

Version	Capacity (MW)	Insurance (\$/kW-yr)	Ad Valorem (\$/kW-yr)	Fixed O&M (\$/kW-yr)	Going Forward Fixed Costs (\$/kW-yr)	Soft Offer Cap (\$/kW-yr)	Soft Offer Cap (\$/kW-mo)
2018	700	\$7.10	\$10.03	\$41.77	\$58.90	\$70.68	\$5.89

- CAISO decided to retain the existing cap.



# Fixed Costs: 2023

- No newer Cost of Generation model version available.
- Per CAISO request to support review of CPM Soft Offer Cap:
  - Made minor updates to model, including labor rates and inflation.
  - Ran model with current start year.
  - Project capacity in model: 700MW CC with duct firing and 640MW CC w/o duct firing.
  - Modified model to re-include 550MW CC with duct firing to match CAISO tariff language.

Version (Start Year)	Capacity (MW)	Insurance (\$/kW-yr)	Ad Valorem (\$/kW-yr)	Fixed O&M (\$/kW-yr)	Going Forward Fixed Costs (\$/kW-yr)	Soft Offer Cap (\$/kW-yr)	Soft Offer Cap (\$/kW-mo)
2018 (2023)	700	\$8.46	\$11.93	\$50.95	\$71.34	\$85.61	\$7.13
2018 (2023)	640	\$8.69	\$12.25	\$50.95	\$71.89	\$86.27	\$7.19
2018 (2023)	550	\$9.32	\$13.14	\$50.95	\$73.41	\$88.09	\$7.34



# Summary: What Changed

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- Updated start year: Incorporates inflation.
- Project capacity: Affects Insurance and Ad Valorum costs.
- Labor Costs: U.S. Bureau of Labor Statistics, National Industry-Specific Occupational Employment and Wage Estimates, NAICS 221100: Electric Power Generation, Transmission and Distribution
- Inflator/Deflator Series: Moody's Analytics



# Summary: What Did Not Change

- Insurance: Percentage was not changed.
- Ad Valorem: Percentage was not changed.
- Fixed O&M Costs: A formula derived from survey of combustion turbine operations that includes labor costs.
  - Considered mature technology, therefore did not consider change in maintenance cost.
  - Formula was not revisited and did not change.
  - Non-labor fixed costs were not updated in real dollars (inflation still applied).





**Thank You!**

# CPM Enhancements Track 2 – Proposed Scope and Schedule

## CPM Enhancements Track 2 – Proposed Scope

### **In Scope**

Consider whether the CPM Soft Offer Cap should be updated based on CEC-provided figures using the ISO tariff-defined methodology and formula: 120% x levelized going-forward fixed costs of 550 MW combined cycle with duct firing

### **Out of Scope**

In 2024 and beyond, consider ideas for improvements to the soft offer cap and/or related aspects of the ISO's CPM processes

## CPM Enhancements Track 2 – Schedule through September

Date*	Milestone
5/11	Stakeholder workshop
6/1	Due date for stakeholder comments on workshop
6/30	ISO publishes straw proposal
7/10	Stakeholder call to discuss straw proposal
7/24	Due date for stakeholder comments on straw proposal
9/7	ISO publishes draft final proposal
9/14	Stakeholder call to discuss draft final proposal
9/28	Due date for stakeholder comments on draft final proposal
2024	Planning for Q1 2024 Board of Governors decision

*\*All dates are tentative until confirmed through a notice in the ISO's Daily Briefing.*

# Next Steps

## Next steps

- Workshop comments are due by end of day **June 1, 2023**. Please submit your comments using the comment template available on the initiative webpage:  
<https://stakeholdercenter.caiso.com/StakeholderInitiatives/Capacity-procurement-mechanism-enhancements>
- Upcoming milestones\*:
  - 6/1: due date for stakeholder comments on workshop
  - 6/30: ISO publishes straw proposal
  - 7/10: stakeholder call to discuss straw proposal

*\*All dates are tentative until confirmed through a notice in the ISO's Daily Briefing.*

## For reference

- Visit initiative webpage for more information:  
[https://stakeholdercenter.caiso.com/StakeholderInitiatives/  
Capacity-procurement-mechanism-enhancements](https://stakeholdercenter.caiso.com/StakeholderInitiatives/Capacity-procurement-mechanism-enhancements)
- If you have any questions, please contact  
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