Today’s Speakers

- Christine Hironaka, Deputy Cabinet Secretary, Office of the Governor
- Vice Chair Siva Gunda, California Energy Commission
- Neil Millar, Vice President of Transmission Planning & Infrastructure Development, California Independent System Operator
- President Alice Reynolds, California Public Utilities Commission
Vice Chair Siva Gunda
Results Summary

With improved hydro conditions, increased capacity and 2,800 MW of back-up contingency resources secured for use in the event of an extreme event, no electricity shortfalls are expected in 2023.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Projected September 2023 Estimated Surplus or Need for Contingencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under Expected Demand</td>
<td>~ 2,350</td>
</tr>
<tr>
<td>2020 Equivalent Event</td>
<td>~ -250</td>
</tr>
<tr>
<td>2022 Equivalent Event</td>
<td>~ -1,850</td>
</tr>
</tbody>
</table>

Green is surplus, red is shortfall before contingencies. Shortfalls do not include coincident catastrophic fire risk.

Note: Going into summer 2022, the forecasted shortfalls under 2020 and 2022 equivalent event would have been 3,000 and 7,000 MW, respectively.
2023 Summer Outlook Media Briefing

Neil Millar
Vice President
Infrastructure and Operations Planning
Wednesday, May 24, 2023
The ISO is showing considerable improvement in the resource situation driven off of new resources and high hydro conditions

- New resource development is continuing through the summer:

<table>
<thead>
<tr>
<th>Resource Type</th>
<th>Incremental Installed Capacity Between Sept 1 2022 and June 1, 2023</th>
<th>Incremental Installed Capacity Between Sept 1 2022 and Sept 1, 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind</td>
<td>518</td>
<td>518</td>
</tr>
<tr>
<td>Solar</td>
<td>2,478</td>
<td>3,774</td>
</tr>
<tr>
<td>Battery Storage</td>
<td>2,293</td>
<td>4,302</td>
</tr>
</tbody>
</table>

- Hydro conditions are tracking to record highs:
The improved resource situation more than offset modest increases in CEC load forecasts

CEDU 2022 Planning Forecast for ISO Balancing Authority Area

<table>
<thead>
<tr>
<th>Forecast for 2023</th>
<th>Last year’s forecast for 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-in-2 forecast</td>
<td>46.8 GW</td>
</tr>
<tr>
<td></td>
<td>46.3 GW</td>
</tr>
<tr>
<td>1-in-5 forecast</td>
<td>48.8 GW</td>
</tr>
<tr>
<td></td>
<td>48.3 GW</td>
</tr>
<tr>
<td>1-in-10 forecast</td>
<td>49.9 GW</td>
</tr>
<tr>
<td></td>
<td>49.4 GW</td>
</tr>
</tbody>
</table>

In 2022, while the actual peak demand reached 52,061 MW in 2022 – a 1-25 year event (weighted 3-day temperature using 28 years of weather data).
Key observations for 2023:

- Overall 2023 conditions have improved significantly due to:
  - Addition of over 3,000 MW storage supply
  - Beneficial hydro conditions
- Resource fleet expected to exceed 1-in-10 planning target
  - Margin of about 200 MW surplus scheduled online by June 1
  - Margin of about 2,300 MW scheduled by September 1
  - Note estimated 1,700 MW capacity shortfall in 2022
- Grid remains vulnerable to high loads and availability of imports during widespread heat events, especially in late summer
- Hours of most vulnerability are declining and continue to shift to hours after sunset
- Strategic reserves have been mobilized through state efforts to safeguard against extremes
Vice Chair Siva Gunda
California’s Progress Toward 100% Clean Electricity by 2045

Under Embargo Until Thursday, May 25, 2023 at 11:00 a.m.

2021 - 59%

- 37.2% Renewables
- 10.7% Large Hydro
- 10.8% Nuclear
- 1.4% Small Hydro
- 2.6% Biomass
- 5.8% Geothermal
- 11.5% Wind
- 15.9% Solar

Percent renewable and zero-carbon electricity serving CA
California’s Growing Battery Storage Capacity

Under Embargo Until Thursday, May 25, 2023 at 11:00 a.m.

2019: 250 MW
2023: 5,000 MW*
2035: 19,500 MW
2045: 52,000 MW

*Projected as of June 1, 2023 based on California ISO interconnection queue.
New Interactive Dashboards Available

Under Embargo Until Thursday, May 25, 2023 at 11:00 a.m.

Estimated Clean Energy Goal Progress
Questions?