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2023 Summer Loads and Resources Assessment

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CEC Summer Reliability Workshop

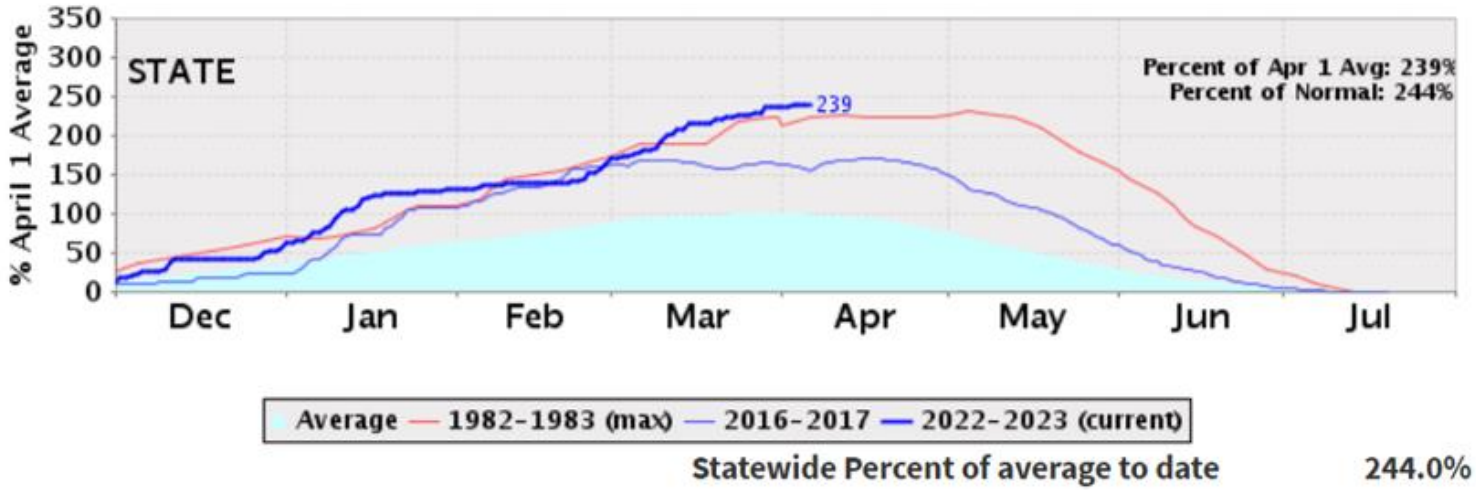
May 17, 2023

The ISO is showing considerable improvement in the resource situation driven by new resources and high hydro conditions

- New resource development is continuing through the summer:

Resource Type	Incremental Installed Capacity Between Sept 1 2022 and June 1, 2023	Incremental Installed Capacity Between Sept 1 2022 and Sept 1, 2023
Wind	**518**	**518**
Solar	**2,478**	**3,774**
Battery Storage	**2,293**	**4,302**

- Hydro conditions are tracking to record highs:



Improved resource conditions more than offset modest increases in CEC load forecasts

CEDU 2022 Planning Forecast for ISO Balancing Authority Area

	Forecast for 2023	Last year's forecast for 2022
1-in-2 forecast	46.8 GW	46.3 GW
1-in-5 forecast	48.8 GW	48.3 GW
1-in-10 forecast	49.9 GW	49.4 GW

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

Assessing progress towards resource planning targets

1. Assessing the adequacy of the CPUC's Preferred System Portfolio (PSP) to meet resource planning targets for the CEC's load forecast

2. Determine the actual resource requirement to precisely meet the planning targets based on surpluses or shortfalls in the PSP

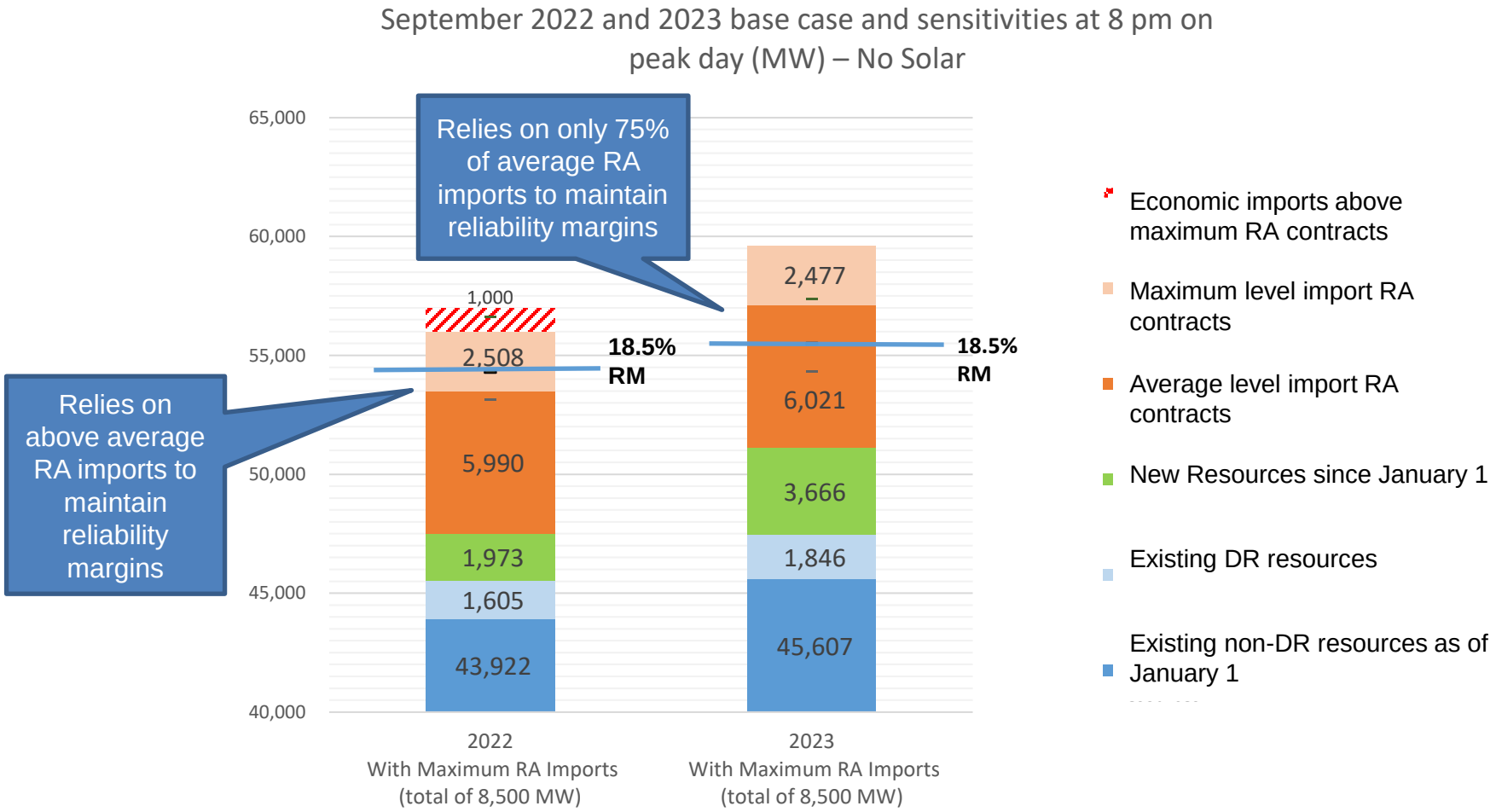
3. Compare the existing resource fleet and resources scheduled to be online by summer against the requirement that meets the planning targets

Overall, the ISO balancing authority area is expected to achieve the reliability planning target of 1-in-10 LOLE

Progress to achieving a 1-in-10 reliability planning target	Resources scheduled online by June 1	Resources scheduled online by September 1
With current high hydro conditions	**~ 200 MW Surplus**	**~ 2300 MW Surplus**
With average hydro conditions	~ 1100 MW Shortfall	~ 960 MW Surplus

There was an estimated 1,700 MW capacity shortfall in 2022 to meet the planning target.

Peak load analysis also shows a significant improvement over 2022 in meeting operating reserves at peak load



An 18.5% reserve margin is needed to meet reserve requirements and allowances for forced outages and to accommodate a 1-in-5 load level.

Key findings:

- Overall 2023 conditions have improved significantly due to:
  - Addition of over 3,000 MW storage supply
  - Beneficial hydro conditions
- 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 these extremes