



# 2024 Summer Loads and Resources Assessment

Aditya Jayam Prabhakar

Director, Resource Assessment and Planning

ISO Board of Governors meeting

General Session

May 23, 2024

# Review of Summer 2023

## Moderate demand and weather conditions in California compared to 2022

- Peak demand 44.5 GW in 2023 versus 52 GW in 2022
- Extended heat and elevated demand in neighboring balancing areas in July, particularly in the Desert Southwest

## Improved supply conditions

- Strong hydro production
- Significant new resource additions – primarily solar and storage

# 2024 Summer Outlook: Loads, Resources, and Weather

## New Resource Additions

4,502 MW of capacity added through 4/1, since 9/1/2023

Expect an additional 4,569 MW of new resources by 6/30/2024

A total of 9,071 MW expected or online since 9/1/2023

## 2023 CEC IEPR Demand Forecast

Softening of near-term load forecasts

July peak of 46,244 MW, HE 18

Forecasted system peak shifted to July and two hours forward

## Weather Outlook

Above normal temperatures are likely June through August

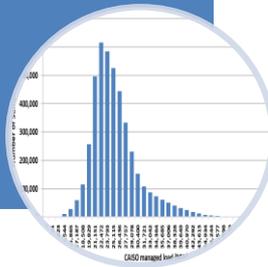
Increased chance of heat events in August and September

Average to moderately above-average hydro conditions in CA

# These gains are demonstrated in both metrics the ISO is using to assess summer preparedness

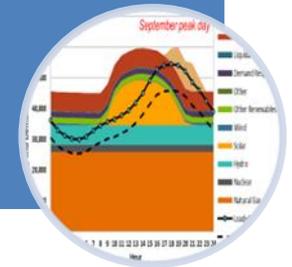
- A 2,550 MW of surplus was observed above the minimum needed to achieve target
- Note the loss of load expectation (LOLE) relates to the probability of calling on emergency measures, not actual load shed

The calculated LOLE exceeds the target 1-in-10 level



- The 18.5% reserve margin is an ISO-derived measure assessing ability to maintain operating reserve margins in reasonably stressed conditions
- Does not ensure a 1-in-10 LOLE target will be achieved

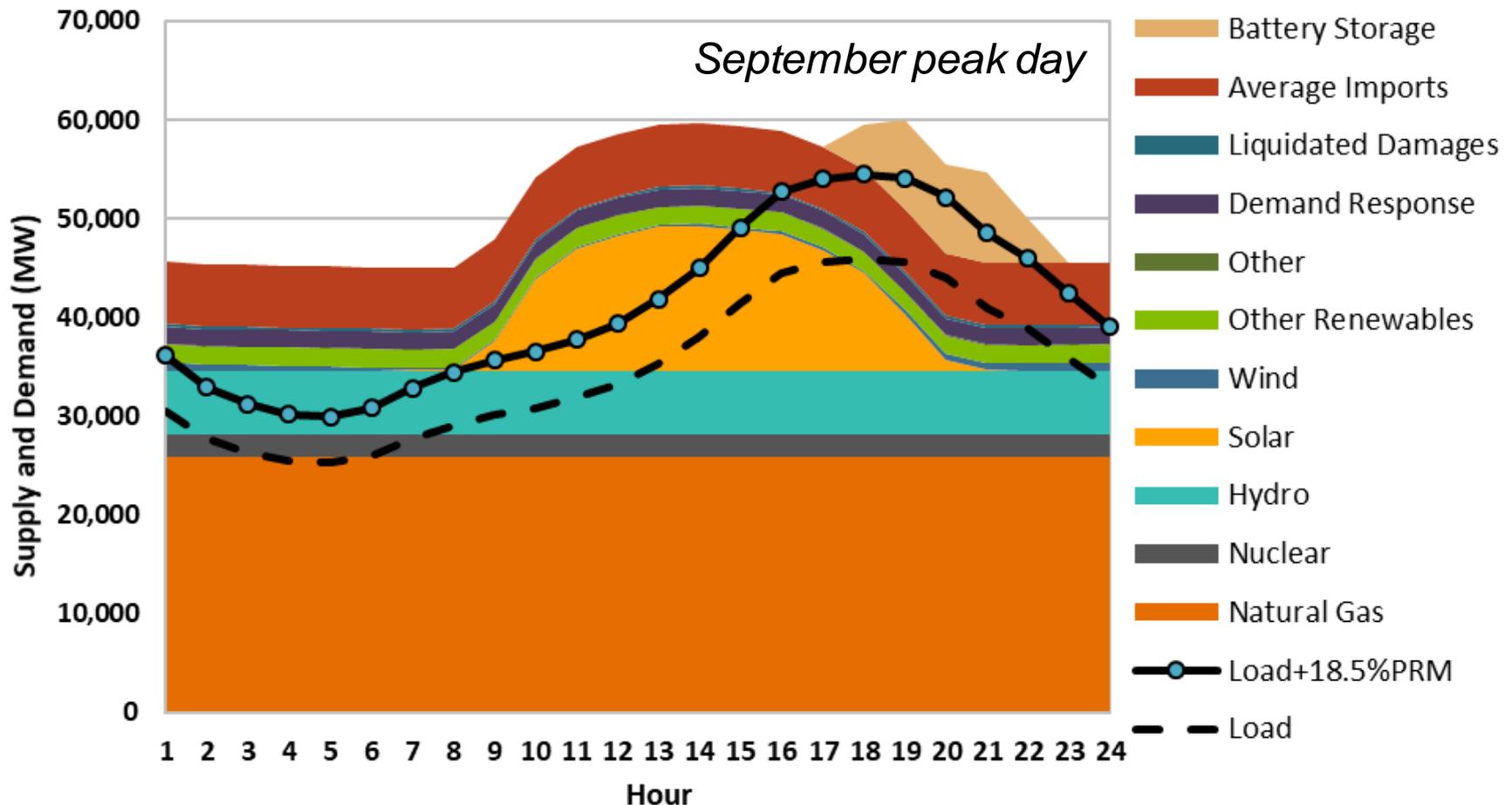
The “stack analysis” capacity analysis found a surplus of at least 3,500 MW above an 18.5% reserve margin across net peak load hours



The ISO's analysis of the adjusted CPUC's Preferred System Plan found that the portfolio achieves planning performance targets with a surplus of 2,550 MW

- The ISO assessed the level of reliability achieved by the adjusted Preferred System Portfolio (PSP, adjustments made to align with resources expected by June 30, 2024) and for 2023 CEC IEPR load forecast projections
- Measures the potential of calling on emergency measures, not actual loss of firm load
- Probabilistic simulations suggest that the adjusted PSP achieves the 1-in-10 LOLE reliability planning target with a surplus capacity of 2,550 MW

Multi-hour stack analysis indicates that expected resources are sufficient to meet forecasted demand plus an 18.5 percent reserve margin in all summer months



Strategic reserves and state emergency programs have been mobilized to safeguard against more extreme events



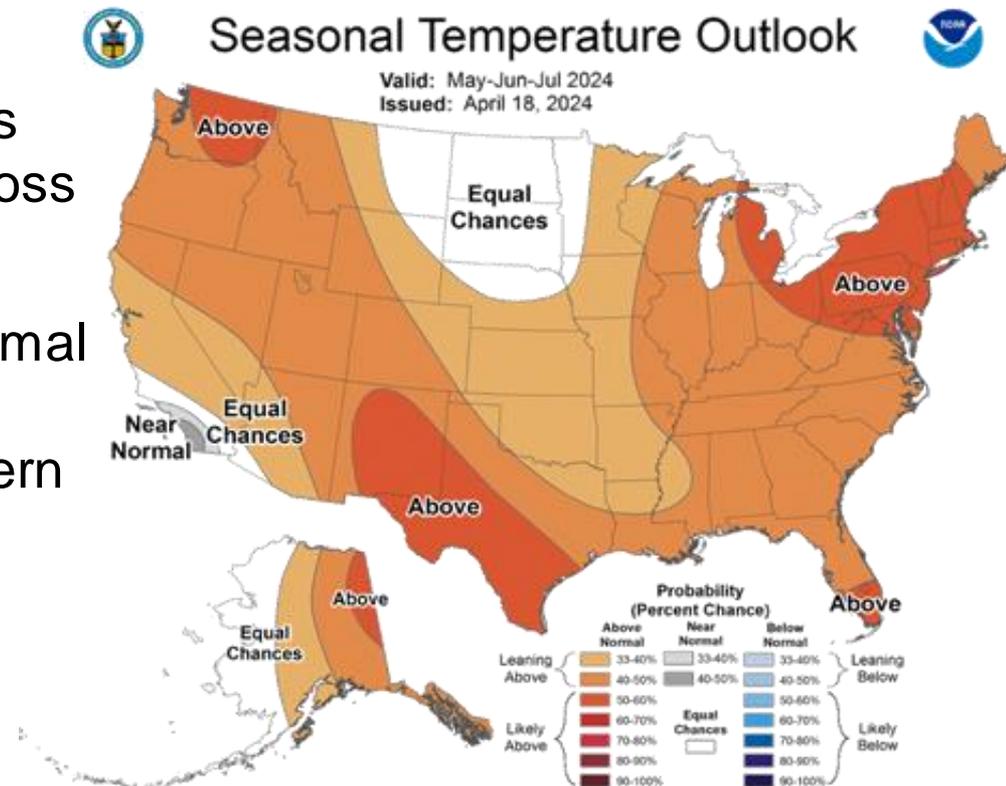
Weather forecast guidance shows an increased chance of above normal temperatures across interior CA, but lower chances of above normal temperatures for coastal CA

**June - August 2024:**

- Above normal temperatures are most likely to occur across the Desert Southwest, and
- Lower chance of above normal temperatures in coastal locations, especially Southern California

**Late July – August 2024:**

- Increased chance of heat events across interior California



## The ISO is showing a positive Summer Outlook for 2024 driven by new resource additions

- In addition, average hydro conditions and softening of the summer 2024 load forecast peak demand; more than offset retirements and the transition of gas-fired once-through cooling generation into the state's strategic reserves
- Extreme drought, wildfires and continued potential for widespread heat events and other disruptions continue to pose a risk for emergency conditions to the ISO grid

***In order to safeguard against more extreme events, the CAISO continues to work with its state partners on the operation and sequencing of strategic reserves and emergency programs for this summer***