

June Monthly Meeting

Chair: Thad LeVar

Chair of the Utah Public Service Commission

Vice-Chair: Hayley Williamson

Chair of the Nevada Public Utilities Commission

Staff: Bonnie Lamond and Woori Lee

Western Interstate Energy Board

June 9, 2023

Agenda

- **Welcome Remarks and Announcements** – *BOSR Chair LeVar*
- **Transmission Activities at the ISO** – *Neil Millar, VP, Infrastructure and Operations Planning, California ISO*
- **CAISO Summer Readiness** – *Neil Millar, VP, Infrastructure and Operations Planning, California ISO*
- **California AB 538 Update** – *Stacey Crowley, VP, External Affairs, California ISO*
- **Announcement from WIEB Staff**

Neil Millar

Vice President, Infrastructure and Operations Planning, California ISO



Transmission activities at the ISO

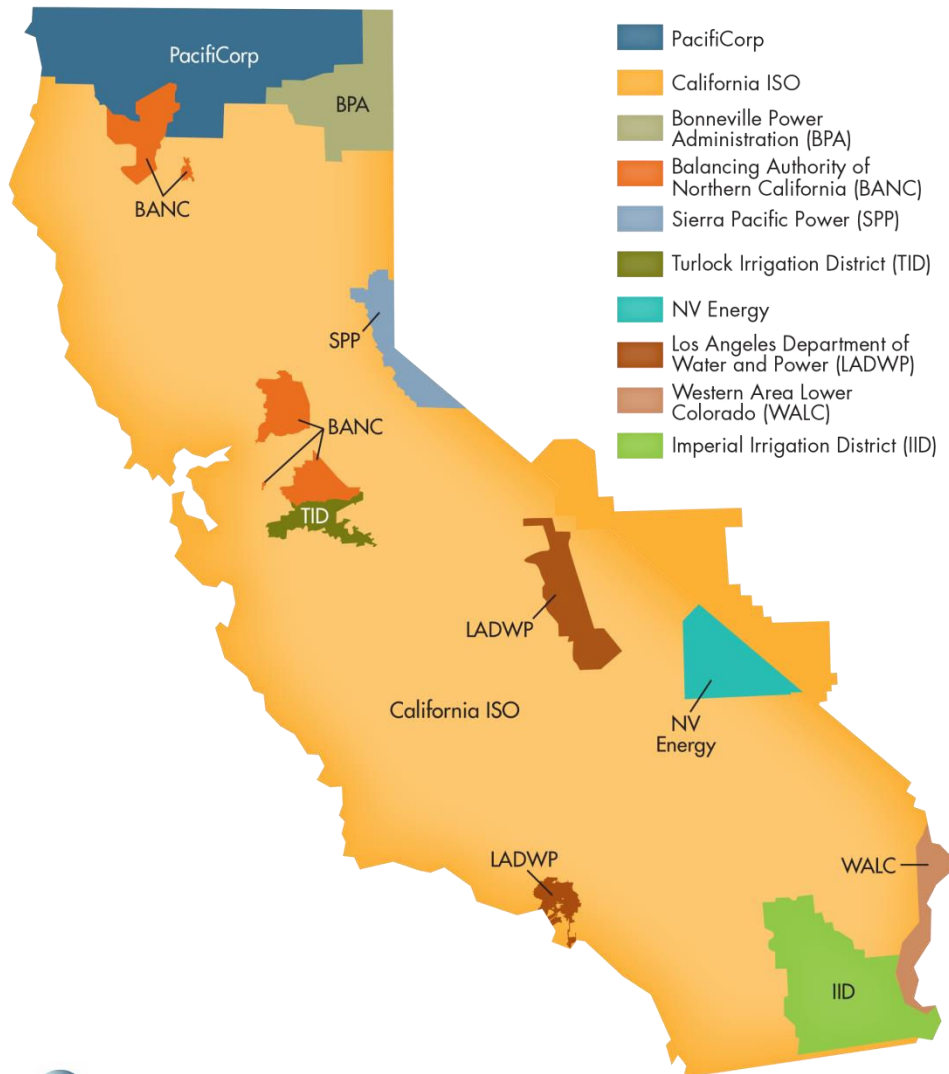
Neil Millar

Vice President, Infrastructure and Operations Planning

Body of State Regulators

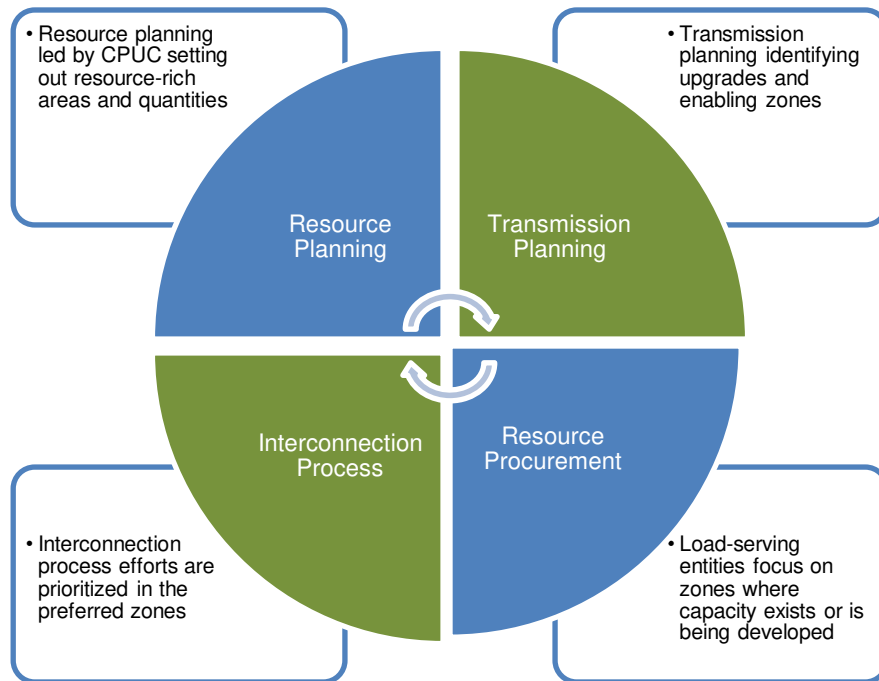
June 9, 2023

California ISO by the numbers



- Serves **80%** of state
- **32** million consumers
- **26,000** miles of wires
- **76,000** MW plant capacity
- **52,061** MW record peak demand (Sept. 6, 2022)
- **225** million megawatt-hours of electricity delivered annually (2020)
- **\$10.8** billion market (2020)

The 2022-2023 Transmission Plan addresses the rapidly escalating need for new resources and sets the foundation for a focused zonal approach to resource development

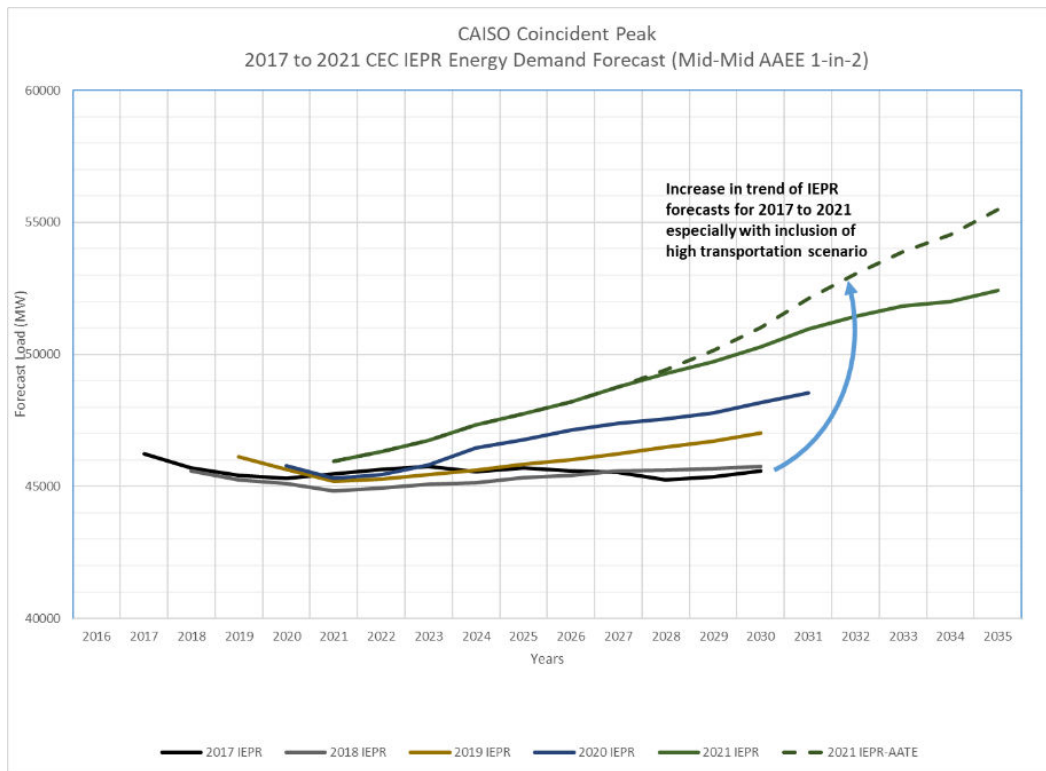


The strategic direction for transformational change in process alignment was established in the CPUC/CEC/ISO Memorandum of Understanding signed in December, 2022 to:

- Tighten the linkage between resource and transmission planning, procurement direction, and the ISO interconnection process to the greatest extent possible.
- Create formal linkage between CEC SB 100/IEPR activities and the ISO and CPUC processes
- Reaffirm the existing state agency and single forecast set coordination

California's climate change goals are driving escalating load forecasts

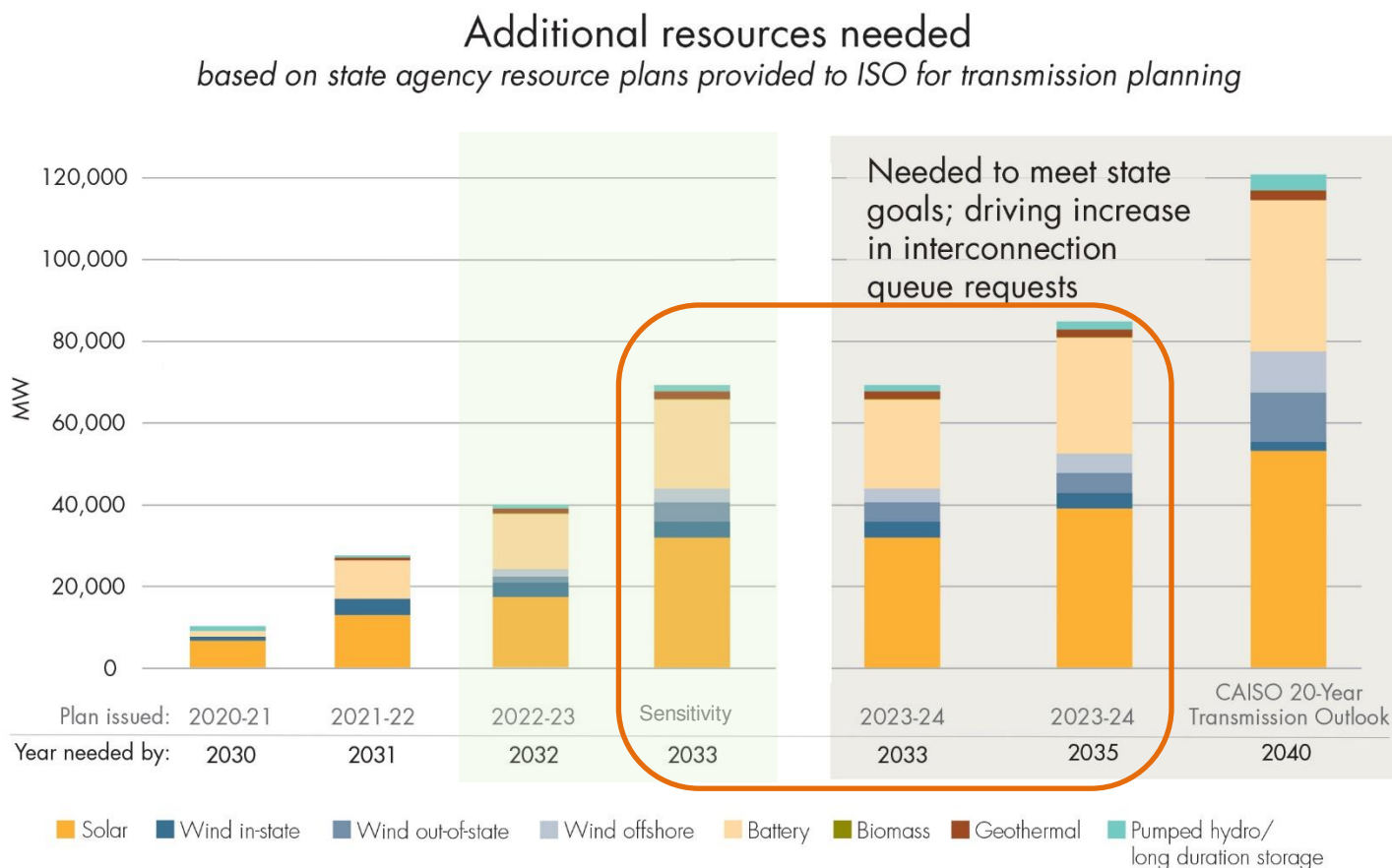
The CEC's load forecast is used in both the CPUC's Integrated Resource Planning process and the ISO's transmission planning process.



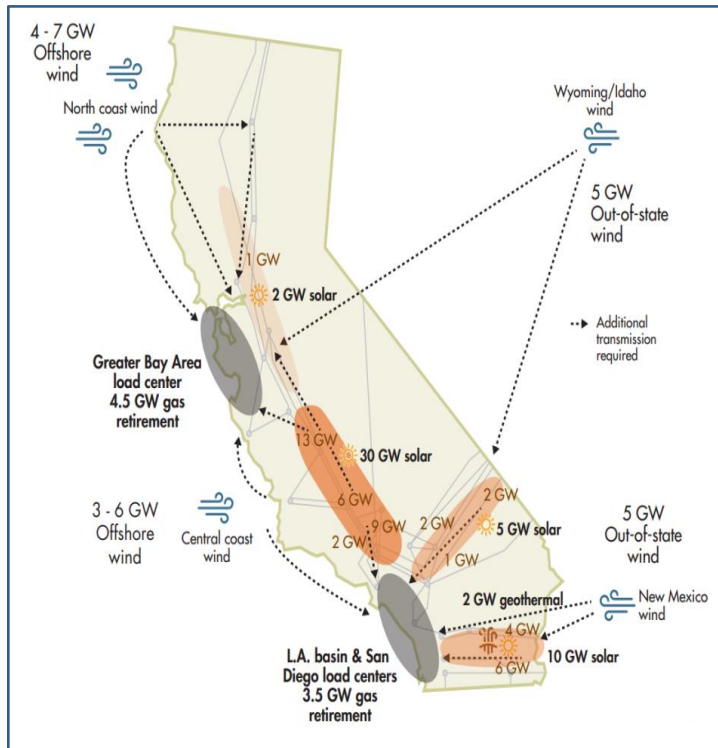
The ISO uses:

- 1-year-in-10 weather event forecast for local reliability studies
- 1-year-in-5 weather event forecast for bulk system reliability-driven and policy-driven studies
- 1-year-in-2 weather event forecast for economic (market efficiency) studies

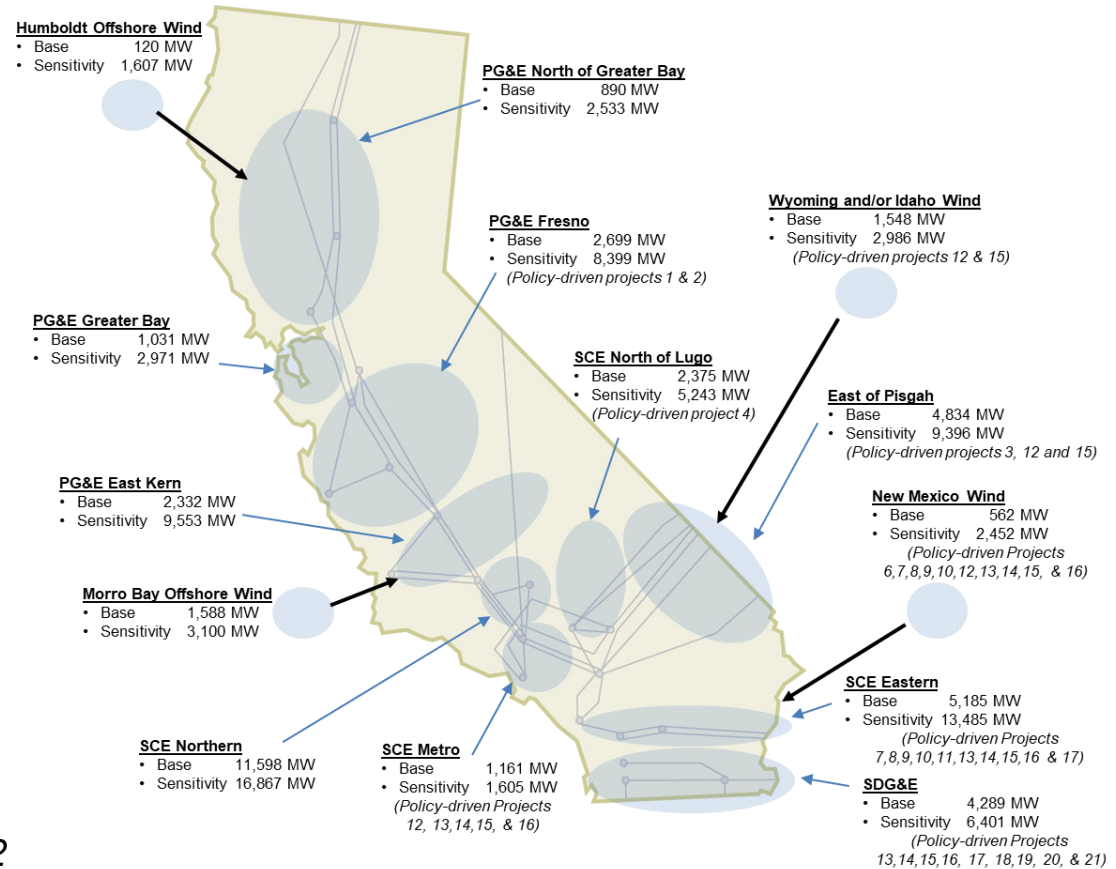
California's climate change goals and escalating load forecasts then lead to unprecedented resource needs



2022-2023 transmission plan uses a zonal approach which enables clear direction and prioritization, aligned with 20-Year Outlook



CAISO 20-year Transmission Outlook - 2022



CAISO 2022-2023 Transmission Plan

This resulted in the ISO's largest transmission plan:

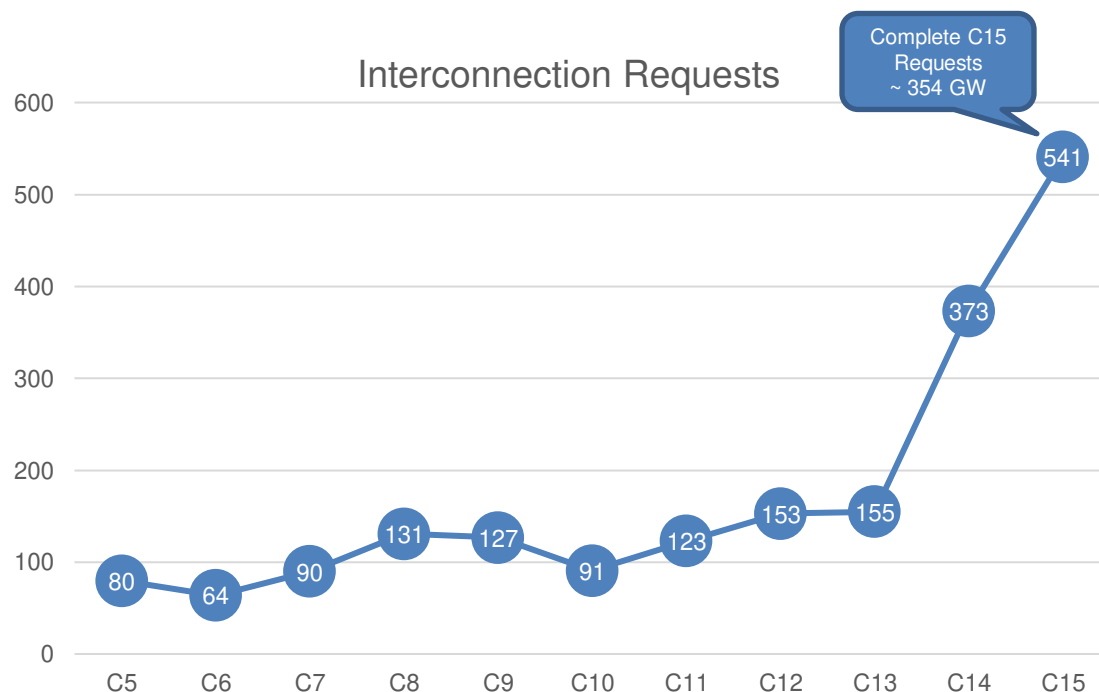
- 24 reliability projects were approved, totaling \$1.76 billion
 - Driven by load growth and evolving grid conditions as the generation fleet transitions to increased renewable generation
- 21 transmission projects that are policy driven were approved, totaling \$5.53 billion
 - Driven by the renewable generation requirements established in the CPUC-developed renewable generation portfolios
 - Three are eligible for competitive procurement (Imperial Valley-North Gila, Imperial Valley-North of Songs, and North of SONGS-Serrano 500 kV lines)
 - A recommendation for an additional \$2 billion project, Trout Canyon-Lugo 500 kV, was deferred to a later date

Additional recommendations may be made at later date as a part of this planning cycle on the following

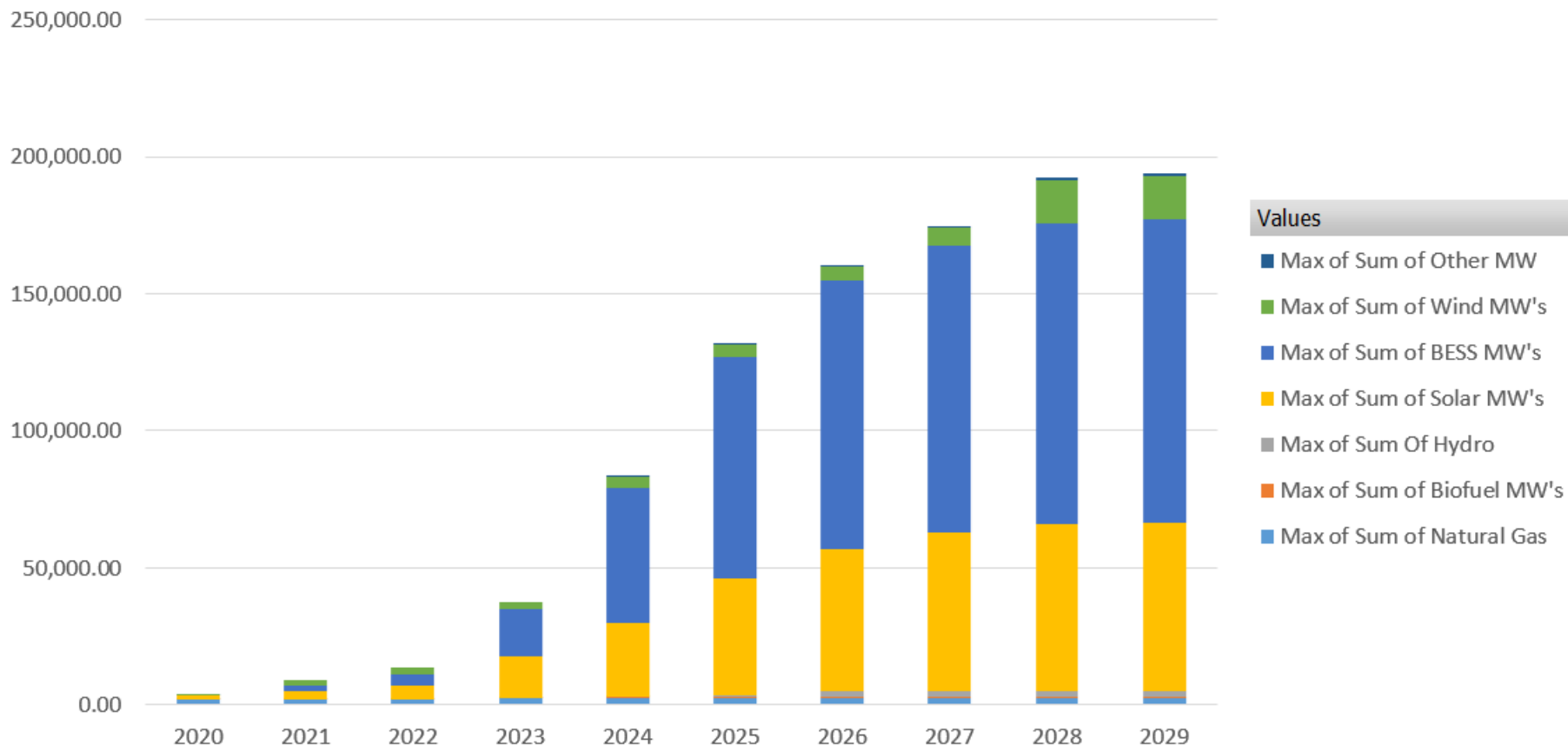
- SWIP-North transmission project;
 - Accessing wind from Idaho
- Pacific Transmission Expansion Project; and
 - Facilitating gas-fired generation in LA Basin and potential joint project with LADWP
- Trout Canyon-Lugo 500 kV transmission project
 - Recommendation for the Trout Canyon-Lugo 500 kV has been held back pending additional analysis of stakeholder input

The ISO is exploring transformative change to its interconnection process through a stakeholder process

- Current circumstances have reinforced the need for these transformative changes - Interconnection requests continue to skyrocket
 - This April, Cluster 15 applications greatly exceeded last year's informal survey results of about 300 expected requests
 - Many in areas not part of state resource plans, and in excessive volumes even in those areas



These volumes are above the already existing ~180 GW in the ISO queue



Questions?



California ISO

Summer Readiness and Grid Reliability

Summer 2022 Review

Key observations for 2023:

- 2023 materially improved conditions due to:
 - Addition of over 3,000 MW storage since summer 2022
 - Beneficial hydro conditions – at or near historical high
- Resource fleet scheduled to be online by June 1 exceeds the 1-in-10 planning target with a margin of approximately 200 MW
- Resources scheduled by September 1 exceeds the 1-in-10 planning target with a margin of approximately 2,300 MW
- Note planning targets address probability of calling on emergency measures, not actual loss of firm load

Key observations for 2023 (continued):

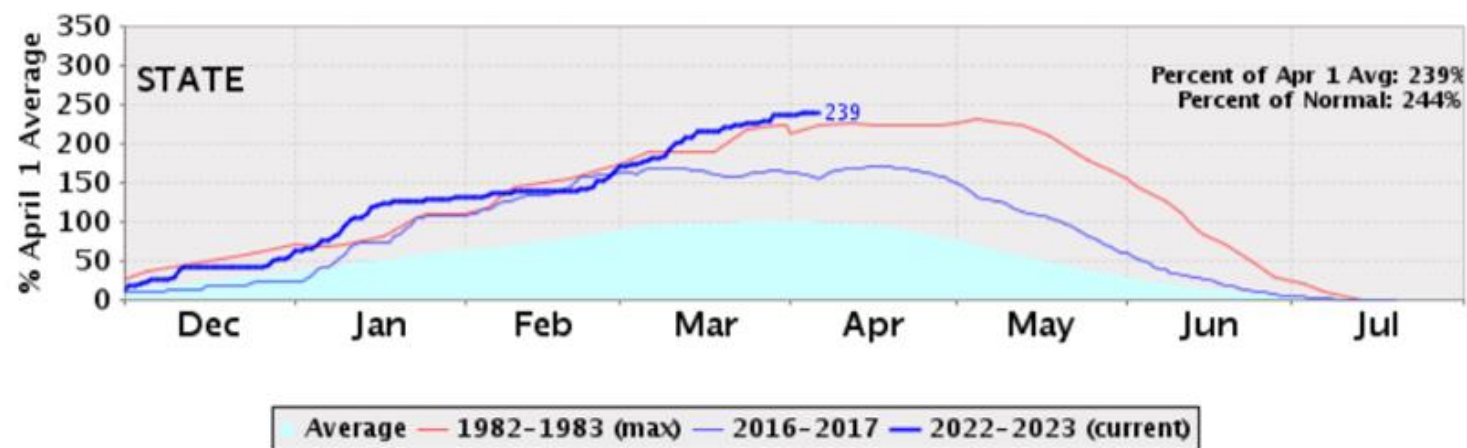
- Grid remains vulnerable to high loads and availability of imports during widespread heat events, especially in late summer
- Hours of most vulnerability continue to shift to hours after sunset when solar output declines
- Strategic reserves have been mobilized to safeguard against these extremes

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:

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

- Hydro conditions are tracking to record highs:



Statewide Percent of average to date

244.0% Page 19



The improved resource situation 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, 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).

2023 Operations – Updates

- Clarification of emergency declaration verbiage for CAISO BA
- Strengthened criteria for the California Flex Alert
- Discussions with RC west customers regarding contingency reserve management
- Improved coordination of internal communication roles and responsibilities
- Continuous improvement of system operations tools

ISO's communications for summer readiness centralizes information about weather, market and grid

- System Conditions Bulletin
 - Provides real-time forecasting and grid conditions
 - Posted when conditions change, with a social media post to drive traffic
- Flex Alert
 - Refreshed FlexAlert.org
 - In partnership with CPUC and CEC
 - Advertising campaign launches in May
 - Campaign includes utility-driven consumer conservation incentive program
- Robust social media plan for grid conditions and Flex Alert
 - Twitter, LinkedIn, Facebook



Questions?

California AB 538 Update

Stacey Crowley

Vice President of External Affairs, California ISO

BOSR Monthly Meeting

Friday, July 14, 2023 at 10:00 AM MDT / 9:00 AM PDT

2023 Wholesale Electricity Market Training Forum

Thursday, August 17 – Friday, August 18

Location: Western Power Pool's Offices

Portland, Oregon

Staff Announcement

Woori Lee

Wholesale Electricity Markets Analyst