A PUBLIC AGENCY
NCPA
NORTHERN CALIFORNIA POWER AGENCY

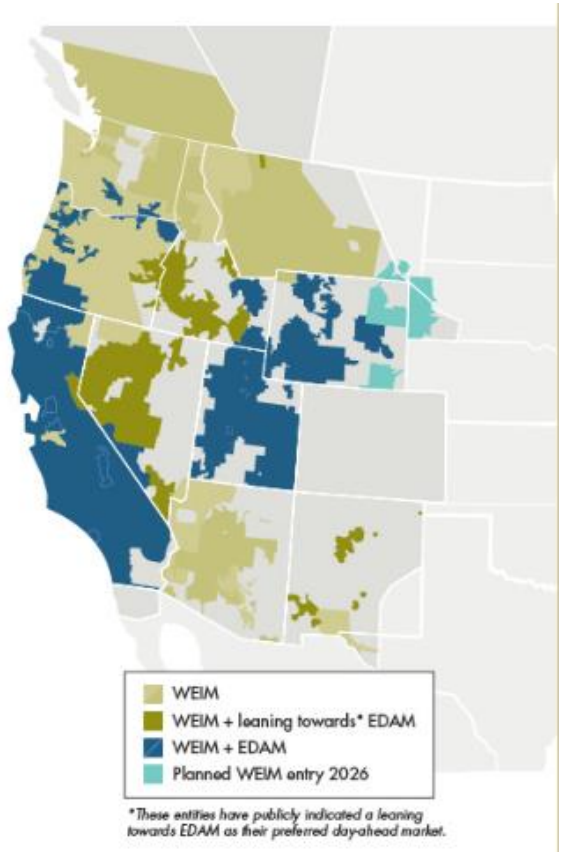
Pathways Regional Market Initiative

Senate Informational Hearing

March 13, 2025

Energy Markets are Expanding

- The Extended Day-Ahead Market (EDAM) is an effort to extend the DAM optimization throughout the EIM footprint
- Proposed benefits:
  - Increased reliability benefits
  - Economic efficiency benefits
  - Environmental benefits
- Timing and Participation
  - Estimated launch in 2026
  - Current Participants: PacificCorp (2026), PGE (2026), BANC (2027), LADWP (2027)

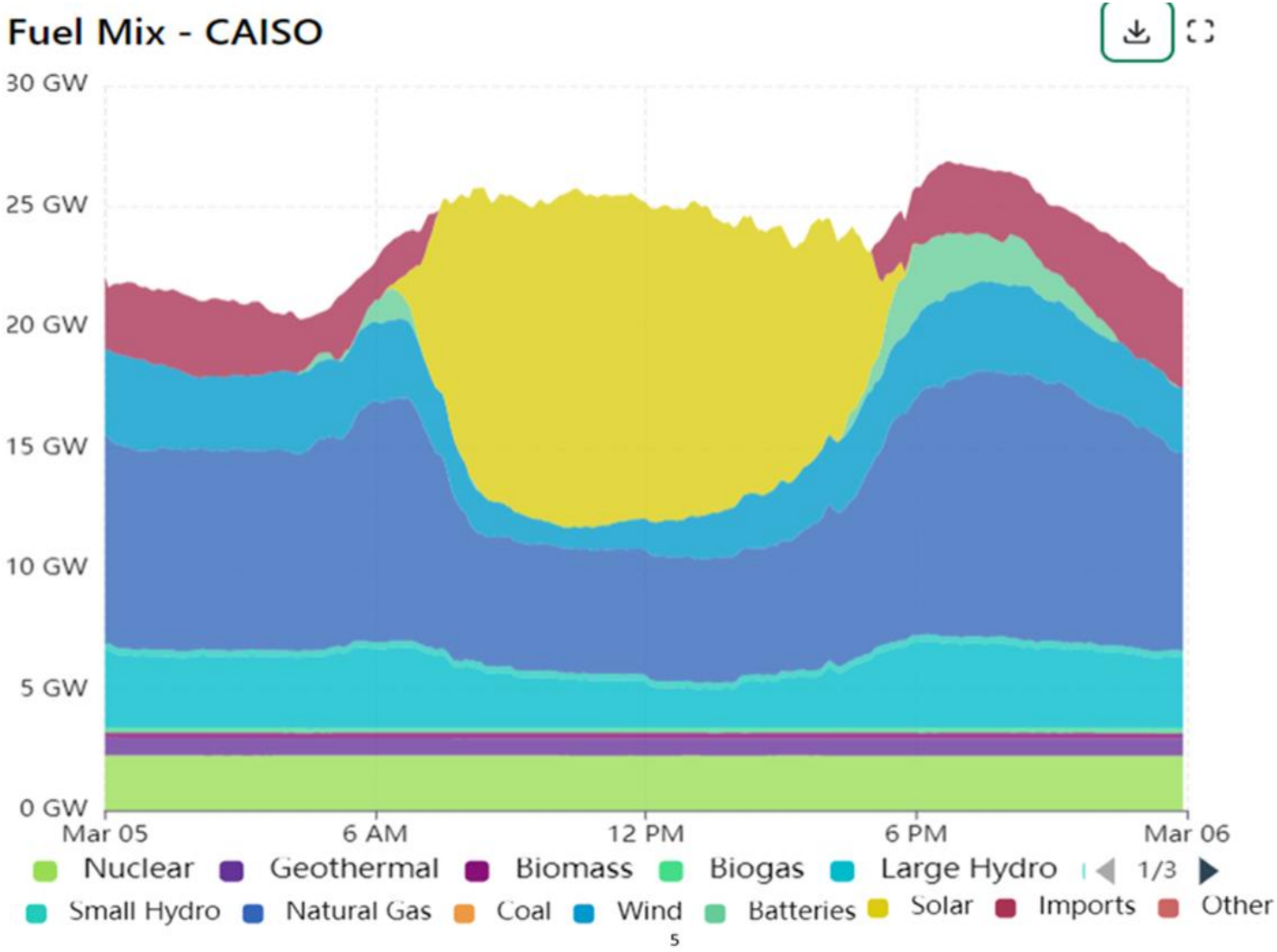


Elements of Pathways Proposal

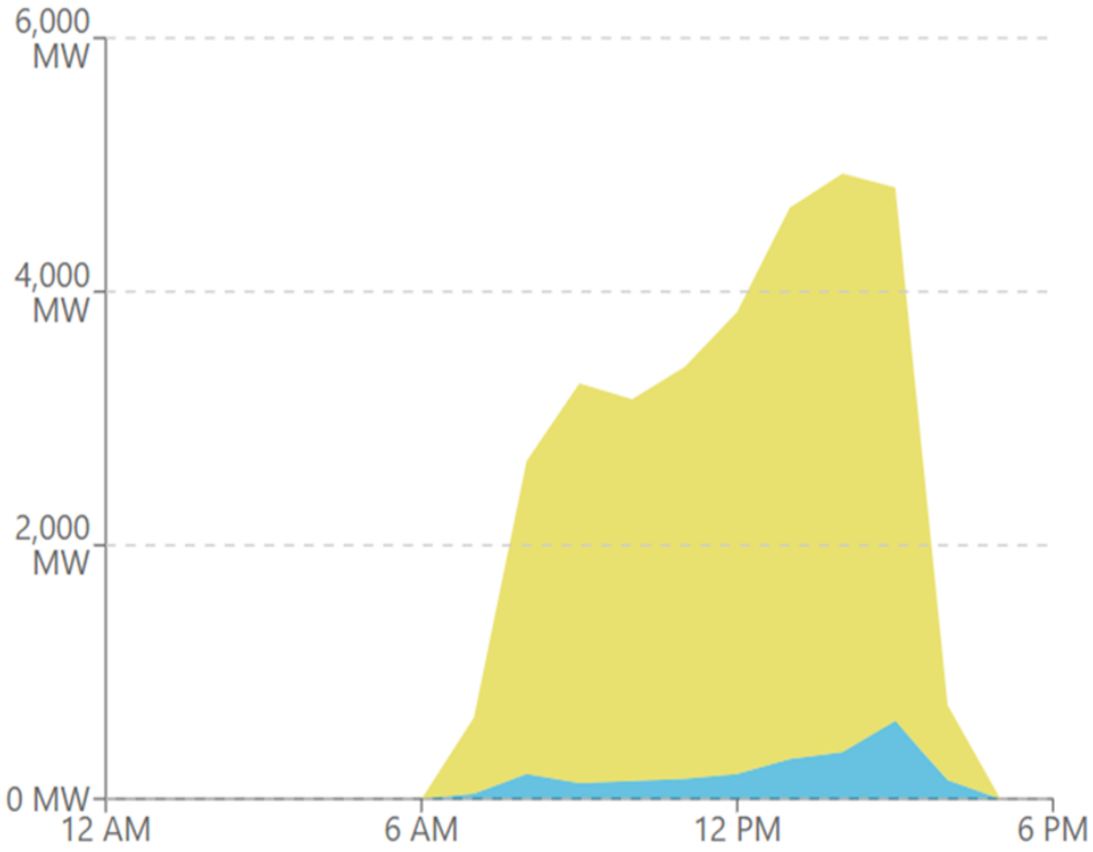
- Voluntary participation structure – participants may engage in both EDAM and WEIM, or only WEIM
- Low cost to participate – using CAISO's existing optimization platform and resources
- Daily resource sufficiency evaluation – to ensure reliable operations of the grid
- Intent to maximize use of available transmission – enable seamless energy transfers across areas
- Support greenhouse gas reduction goals – is designed to support goals regarding GHG reduction programs

How will CA POUs be Impacted?

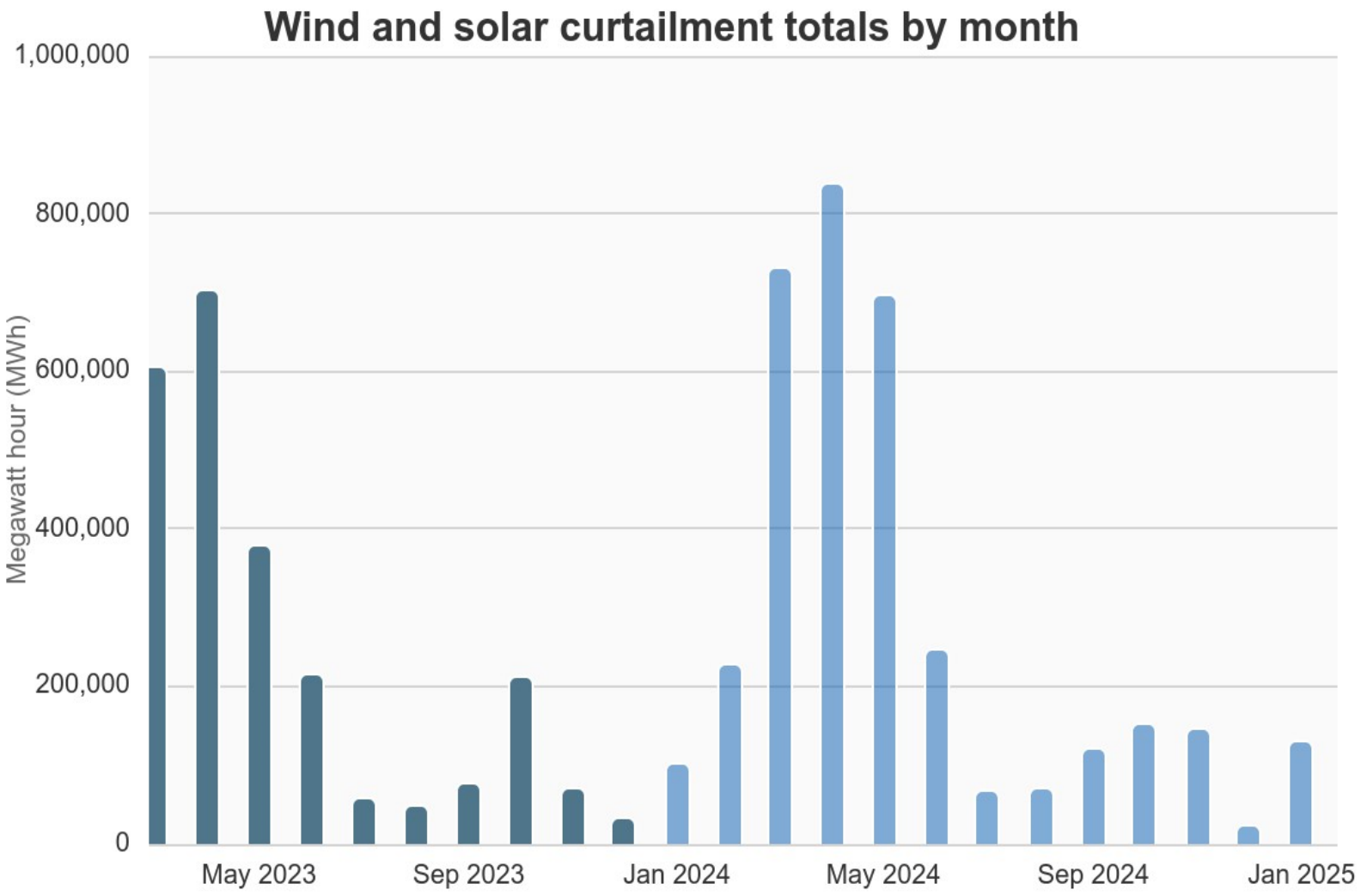
- Market diversification
  - As California continues to strive to achieve carbon free goals, the resources being developed in California are less diversified (solar and BESS)
    - This introduces greater risk of over generation conditions, reduced reliability, and affordability concerns
  - Geographic diversity
    - Timing of solar and wind production will vary more greatly over a larger geographic footprint
  - Bilateral market liquidity has reduced over time (more counterparties are transacting directly through the market); as such, expanding the market may support great counterparty access and diversity

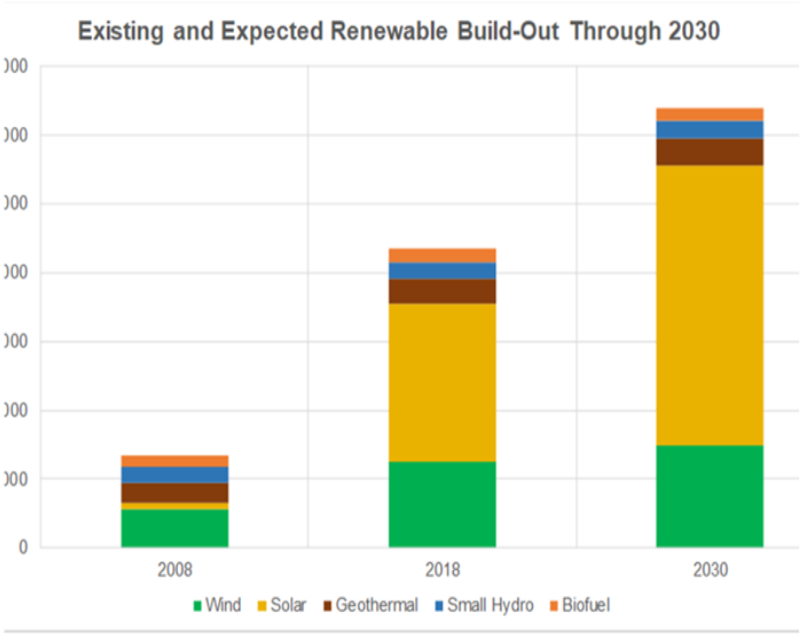

Fuel Mix - CAISO
30 GW
25 GW
20 GW
15 GW
10 GW
5 GW
0 GW
Mar 05
6 AM
12 PM
6 PM
Mar 06
Nuclear
Geothermal
Biomass
Biogas
Large Hydro
1/3
Small Hydro
Natural Gas
Coal
Wind
Batteries
Solar
Imports
Other

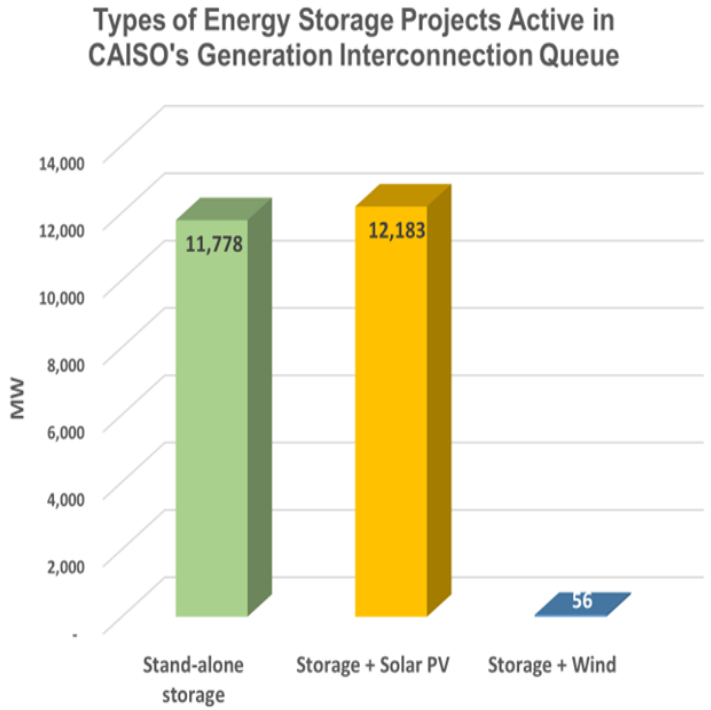
Curtailment - CAISO



Source: CAISO, GridStatus.io. Data is released around 10am PT for the previous day


Wind and solar curtailment totals by month
1,000,000
800,000
600,000
400,000
200,000
0
Megawatt hour (MWh)
May 2023
Sep 2023
Jan 2024
May 2024
Sep 2024
Jan 2025





Growth of renewables to achieve 60% by 2030 is expected to be largely solar, collocated with storage