



California ISO

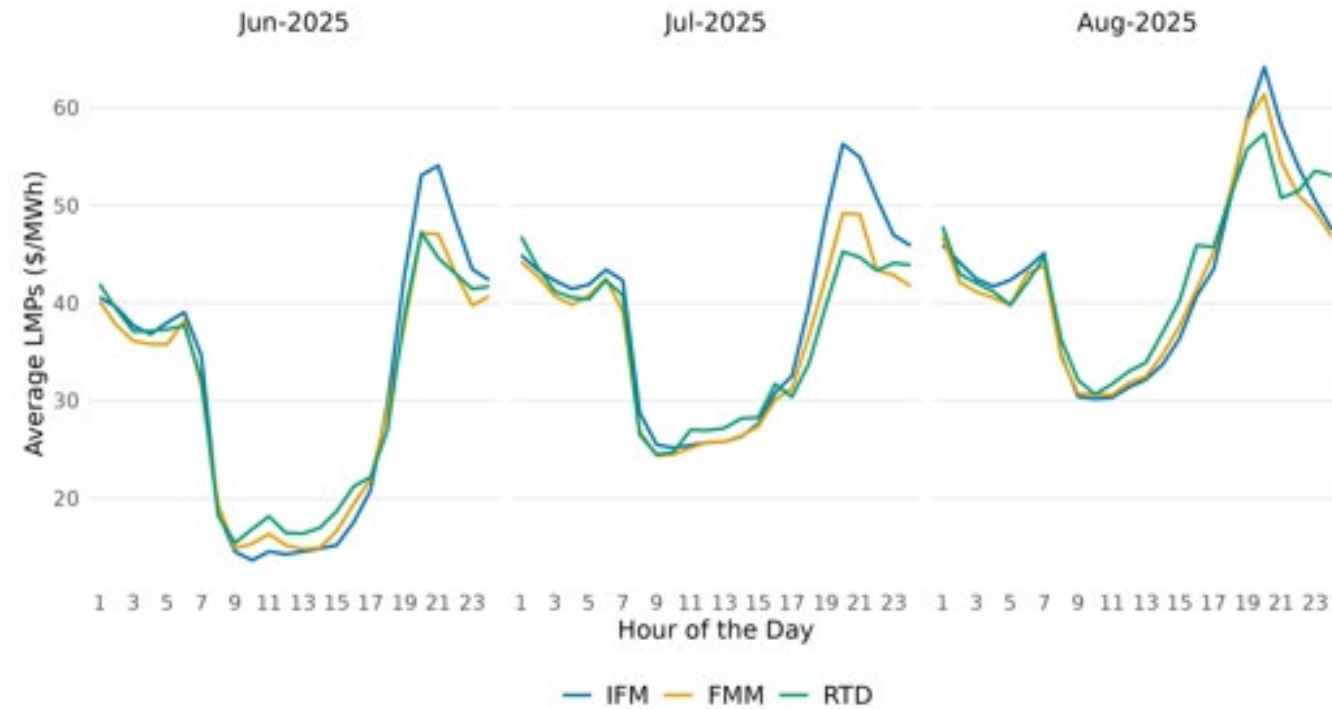
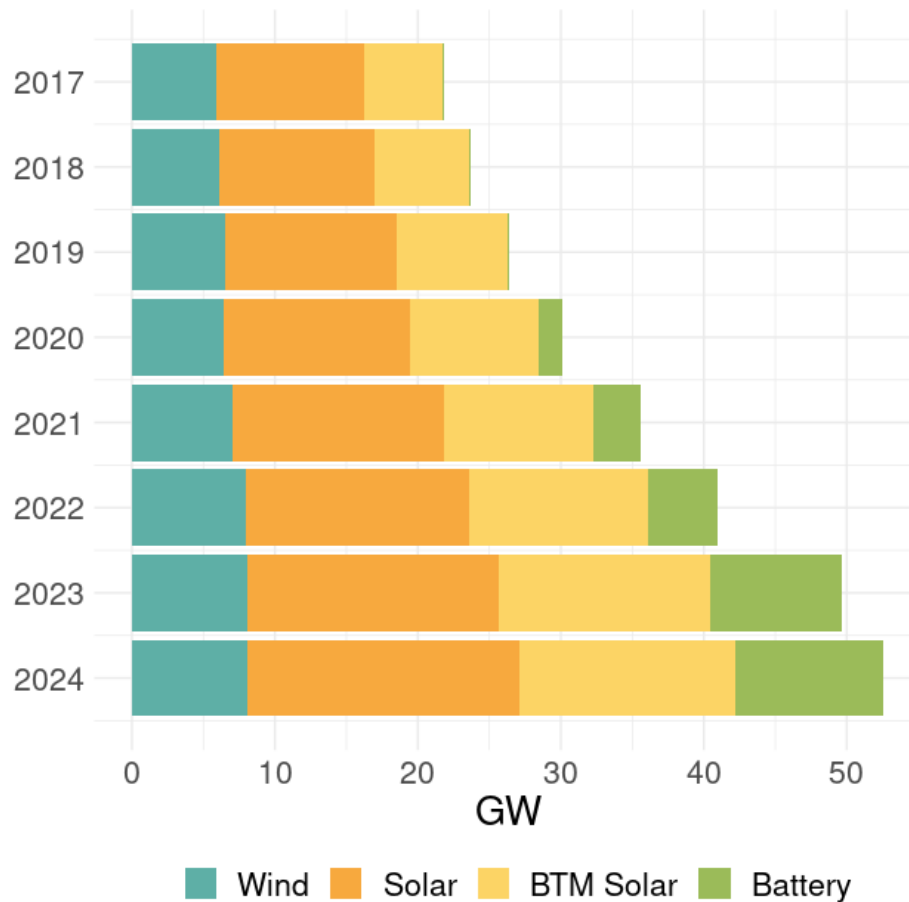
IEA International Workshop on Electricity Market Design: The Role of Electricity Market in the Digital and Green Transformation Era

Becky Robinson

Director of Market Policy Development

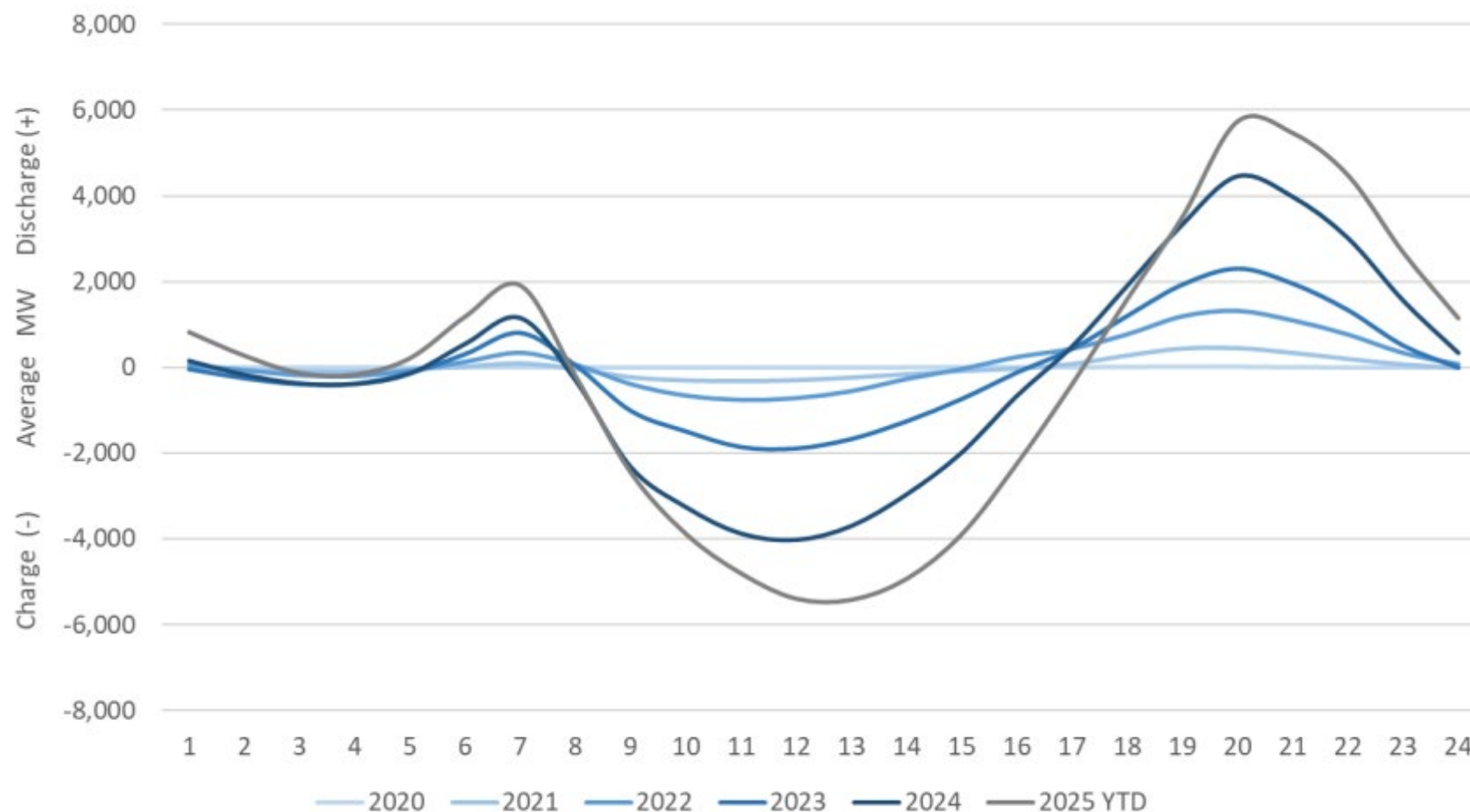
December 4th, 2025

The large and growing amounts of renewables and batteries impact pricing patterns in CAISO markets



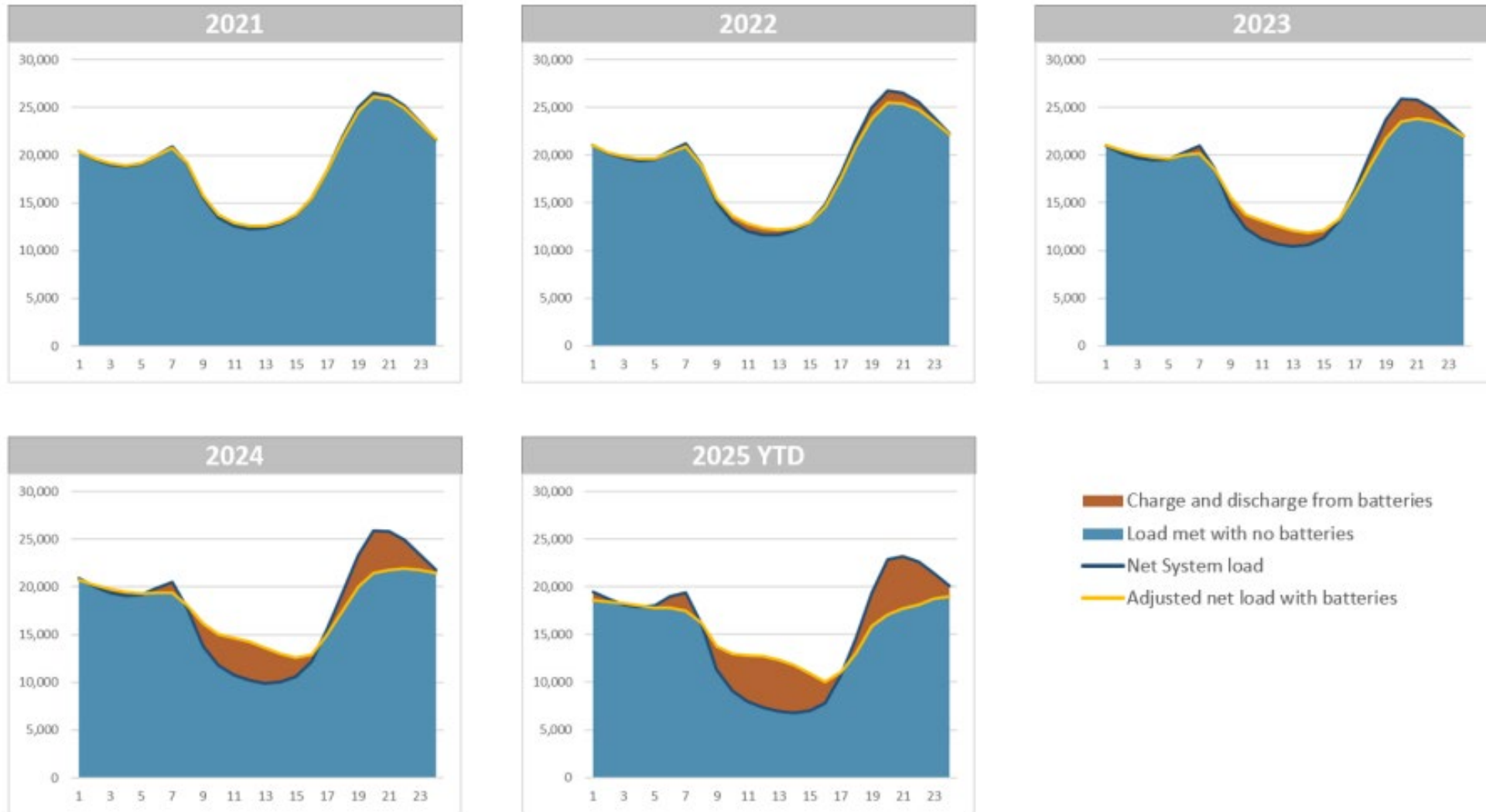
<https://www.caiso.com/documents/presentation-market-performance-planning-forum-oct-01-2025.pdf>

Storage resources continue to increase energy arbitrage from midday hours to net peak hours



This metric includes both stand-alone and hybrid resources

Storage resources help flatten the net load that needs to be met with other resources



Market design incorporates a flexible ramp product to deliver real-time flexibility needs

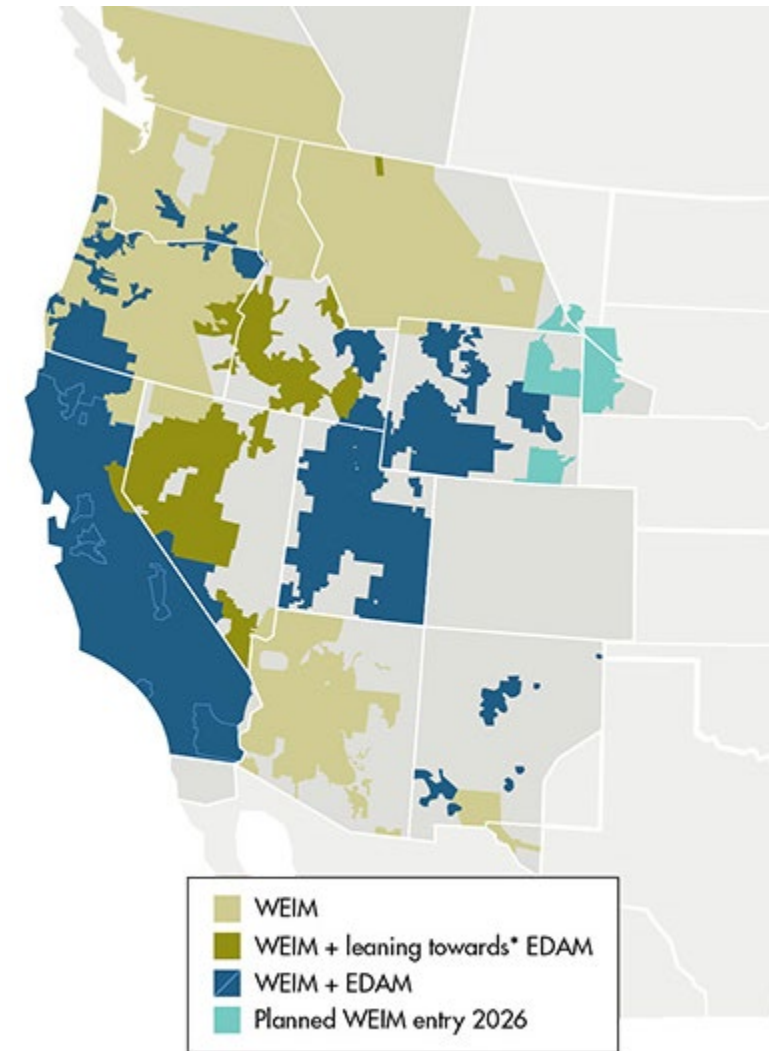
- Real-time market solves not just for the next interval, but for a horizon of one or two hours
- Flexible ramp product ensures feasible dispatch in intervals within that horizon
- Resource awards paid a clearing price based on marginal opportunity cost
- Effective at positioning resource fleet to meet steep ramp needs and address net load uncertainty
- To date, has been less effective at providing a robust revenue stream to support more flexible resources – the opportunity cost is often zero
- In 2026, will incorporate a similar product in the day-ahead market that allows bids

Integrating greenhouse gas policies into wholesale electricity markets

- CAISO does not have a direct role in greenhouse gas reduction policies – individual states determine what, if any, environmental policy to employ
- For carbon pricing jurisdictions, existing “attribution” market mechanism ensures that energy used to serve load complies with carbon pricing policy
- New Oregon policy mandates that utilities reduce carbon emissions, but without a cap-and-trade or a carbon price
- CAISO is introducing a new type of greenhouse gas accounting and reporting to enable market participants to comply with this new type of policy
 - Overlays ownership and contract data with market dispatch results to produce data that will allow reporting entities to see and understand the emissions intensity of what supply served their load, on an hourly basis.

California ISO and Western Energy Markets

- Operates day-ahead and real-time markets for most of California
- Also operates 5 and 15 minute real-time markets for 80% of the Western interconnect; the Western Energy Imbalance Market started in 2014 but has grown to cover 22 balancing areas
- Beginning in 2026, will extend day-ahead market to Western entities who want to join



**These entities have publicly indicated a leaning towards EDAM as their preferred day-ahead market.*