



EDAM

EXTENDED DAY-AHEAD MARKET

2024 ISAES Schedulers Meeting

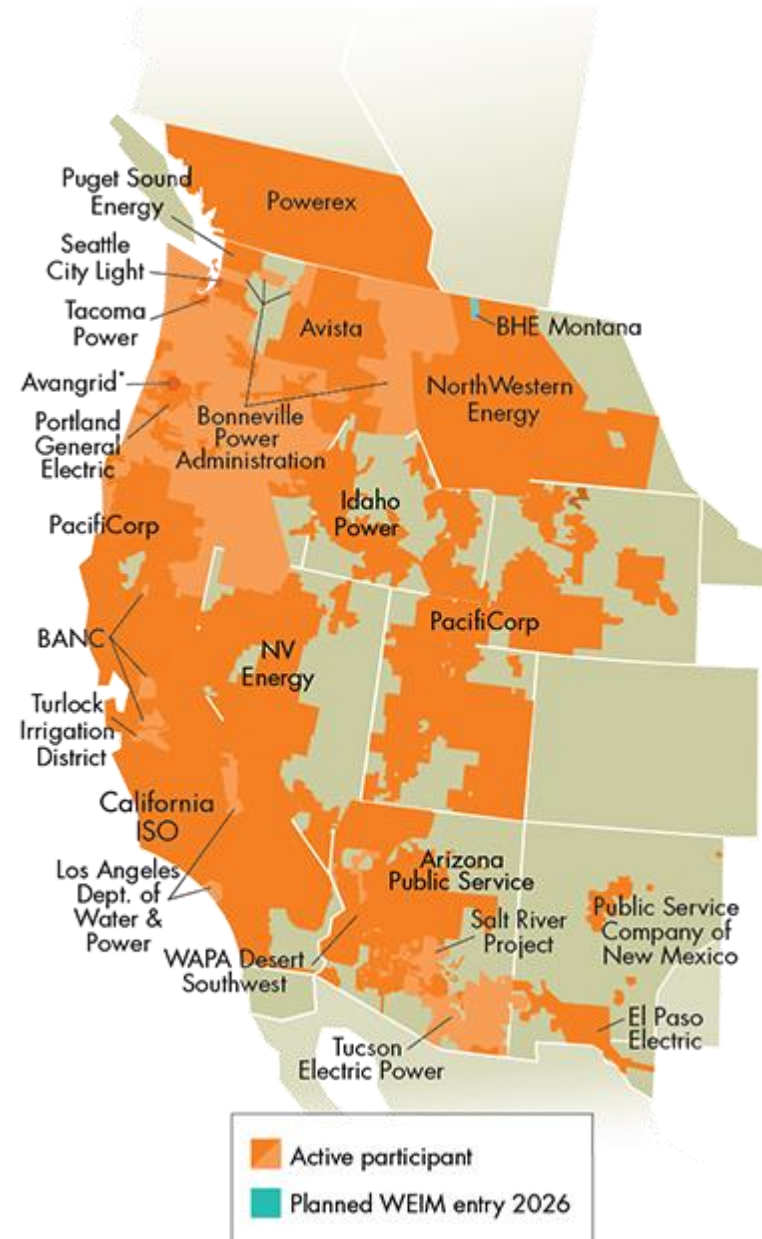
22 Feb 2024



California ISO

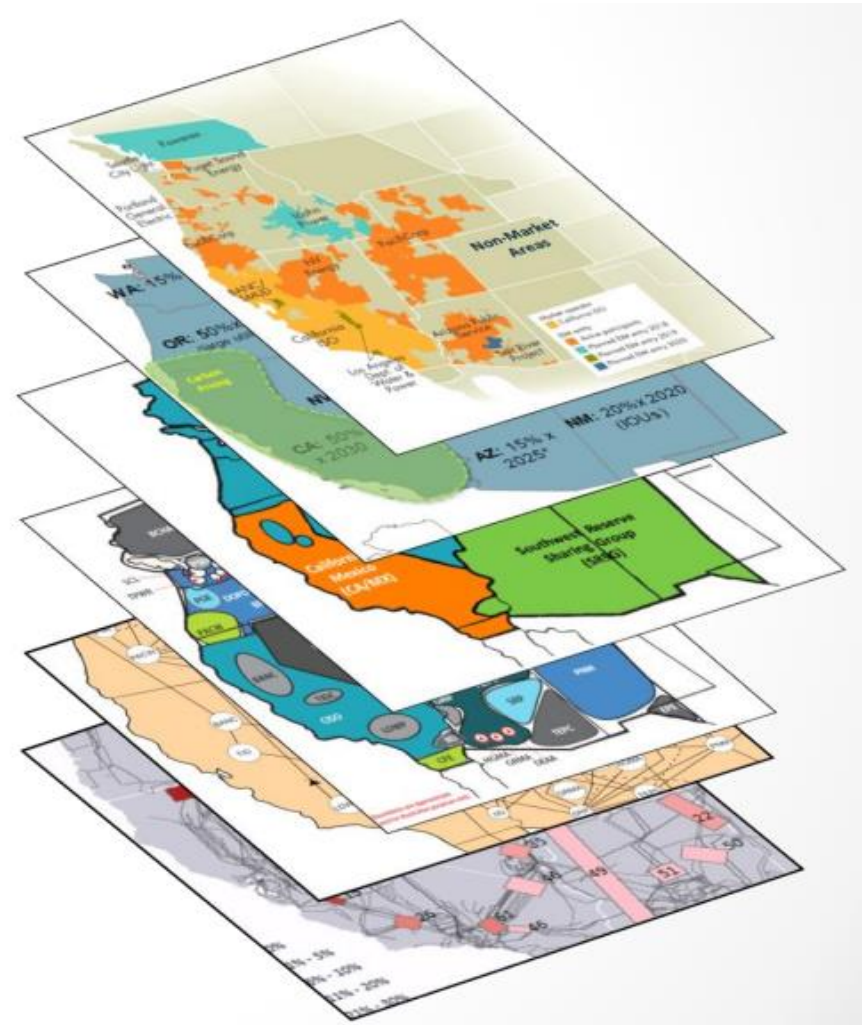
Western Market Landscape

- In Nov 2014, the CAISO and PacifiCorp launched the Western Energy Imbalance Market (WEIM).
- Currently, 22 participating balancing areas in eleven Western states totaling nearly 80% of the load in WECC.
- Economic benefits totaling over \$5.05 billion since inception.



What is the EDAM?

- An extension of the day ahead market across the West allowing for optimized commitment of generation in the day ahead timeframe.
- Builds upon the WEIM, providing incremental economic, reliability, and environmental benefits.
- Balancing areas participating in EDAM continue to retain their resource planning, transmission planning and reliability operation functions.



Harnessing the Benefits of a Day-Ahead Market in the West

Economic

- Optimized unit commitment in day ahead timeframe across footprint
- Savings associated with serving load with least cost supply

Reliability

- Reduced operational risk and visibility into supply conditions, improved coordination
- Access to diverse resource pool across footprint

Environmental

- Reduced curtailment of renewable generation
- Respecting evolving state policies

EDAM Participation Framework

- WEIM balancing areas can voluntarily elect to join and resources within a balancing area “participate” in the EDAM.
 - Similar to WEIM, 6-month notice period to exit EDAM and no applicable exit fees.
- Resources in EDAM balancing areas participate through submission of bids (economic bids and/or self-schedule bids).
 - Bids are required in both DA ahead and RT markets.
 - DA awards result in must offer obligations in real-time.
 - The market can still use bids in real-time to economically optimize.
 - **NOTE: There is NO hourly base scheduling of resources for EDAM participants.**

EDAM Participation Framework (cont.)

- EDAM entities continue to administer their OATTs and retain their existing resource planning, transmission planning and reliability operation functions.

Day Ahead Resource Sufficiency Evaluation (RSE)

- Tests that each EDAM area, including the ISO, has sufficient supply to meet its next day expected obligations prior to engaging in energy transfers.
 - Avoids leaning and instills confidence in emerging market transfers.
 - Provide transparency of RSE status before close of market.
- The RSE tests ability of an EDAM entity balancing area to meet:
 - Forecasted demand
 - Uncertainty component (variability in renewable resource output **AND** load forecast)
 - Ancillary service needs
- Design introduces financial consequences for failing the day ahead RSE through an administrative surcharge that incents sufficiency.
 - Surcharge is based on a 16-hour block energy product.
 - A tiered consequence structure recognizes that a *de minimis* RSE failure does not trigger financial consequences.

Day Ahead RSE Transition to WEIM RSE

- Entities participating in the EDAM will be subject to only the flexible ramp test in the WEIM RSE.
 - No capacity test or balancing test
- EDAM entities passing the day-ahead RSE will be tested together, as a pool, in the WEIM RSE to preserve the diversity benefit.
- EDAM entities would be excluded from the pool and tested in WEIM RSE alone if:
 - They fail the day-ahead RSE and the market did not have sufficient supply to cure insufficiency; or
 - They fail to tag their day ahead schedules by 5-hours prior to flow or otherwise fail to resupply (bid) untagged day ahead schedules.
- Inclusion in the “pool” preserves the diversity benefit associated with procurement of imbalance reserves to meet uncertainty across footprint.

Maximize Transmission Availability in EDAM

- Design seeks to maximize transmission availability across EDAM interfaces to support robust energy transfers between balancing areas, while respecting exercise of transmission rights.
- Transmission customers holding firm or conditional firm transmission rights can:
 - Schedule their transmission rights in the day ahead market.
 - Release transmission rights to the EDAM (and receive transfer revenue).
 - Leave transmission rights unscheduled and market will optimize its use; holder can later exercise transmission rights in RT.
- Transmission provider makes unsold firm ATC at interfaces between EDAM balancing areas available for optimization.
- Transmission customers can exercise their OATT transmission rights to export or wheel through an EDAM area to a non-EDAM area in RT.
 - Market will redispatch to accommodate exercise of rights.

Day Ahead Market Processes Increase Transparency

- The day-ahead market consists of multiple processes that run sequentially, including the day ahead RSE.
 - Integrated Forward Market (IFM)
 - Residual Unit Commitment (RUC)
- The day-ahead market processes produce:
 - Efficient unit commitment across the EDAM footprint; and
 - Dependable energy transfers between EDAM balancing areas.
- The day ahead market considers several inputs to produce feasible unit commitment and energy transfers, including:
 - Resource bids and load forecasts
 - Transmission system topology
 - Transmission and resource outages

GHG Solution Balances Accounting and State Regulations

- Design extends the current “resource specific” GHG accounting framework present in the WEIM.
- Resources can elect whether the market should consider them for commitment and dispatch to serve load in a GHG area (reflecting state GHG pricing policies).
 - Resources electing to serve load in a GHG area include a bid adder reflecting cost of compliance.
- ISO continues to reforming this design as the EDAM moves forward based on experience and evolution of regulatory frameworks across Western states.

EDAM Enables Reliability & Confidence in Transfers

- The EDAM enables more effective response to changes in system conditions and managing reliability.
 - Diverse resource pool and transmission capability across the footprint allows the market to efficiently re-dispatch and maintain service to load.
 - Decreased frequency or magnitude of emergency conditions by positioning footprint effectively in day ahead timeframe.
- In corner case scenarios, when the market and the individual balancing area have exhausted all available tools, EDAM entities will afford equal priority to transfers and load.
 - Subject to operational discretion, coordination and good utility practice.
 - Provides mutual confidence and dependability of energy transfers between balancing areas to serve load.

Other Design Elements

- Introduction of an optional “net EDAM export transfer constraint” that allows a balancing area to manage exports from the area to support EDAM transfers.
 - EDAM entities have the ability to retain internal supply to manage stressed system conditions.
- Off-system designated network resources, located in non-EDAM area, can economically bid at EDAM entity interties.
 - These resources can economically bid to serve their load located in an EDAM balancing area.

EDAM Milestones

- Dec 07, 2022 Final proposal posted
- Jul 25, 2023 Revised draft tariff language posted
- Dec 20, 2023 FERC approval (ER23-2686)
- Aug 22, 2023 Tariff amendment (ER23-2686)
- Feb 01, 2023 ISO Board of Governors and WEIM Governing Body joint approval
- Oct 01, 2025 deployment
- May 01, 2026 onboarding and activation

EDAM Activities

<https://stakeholdercenter.caiso.com/StakeholderInitiatives/Extended-day-ahead-market>

<p>Web meeting 2/6/2024 09:00 am – 12:00 pm PT Details</p>	<p>Video - Extended Day-Ahead Market and Day-Ahead Market Enhancements Compliance Filing - Feb 6, 2024 02/09/2024</p> <p>Draft Compliance Filing Language - Day-Ahead Market Enhancements and Extended Day-Ahead Market 02/05/2024</p>
--	--