Briefing on extended day-ahead market initiative

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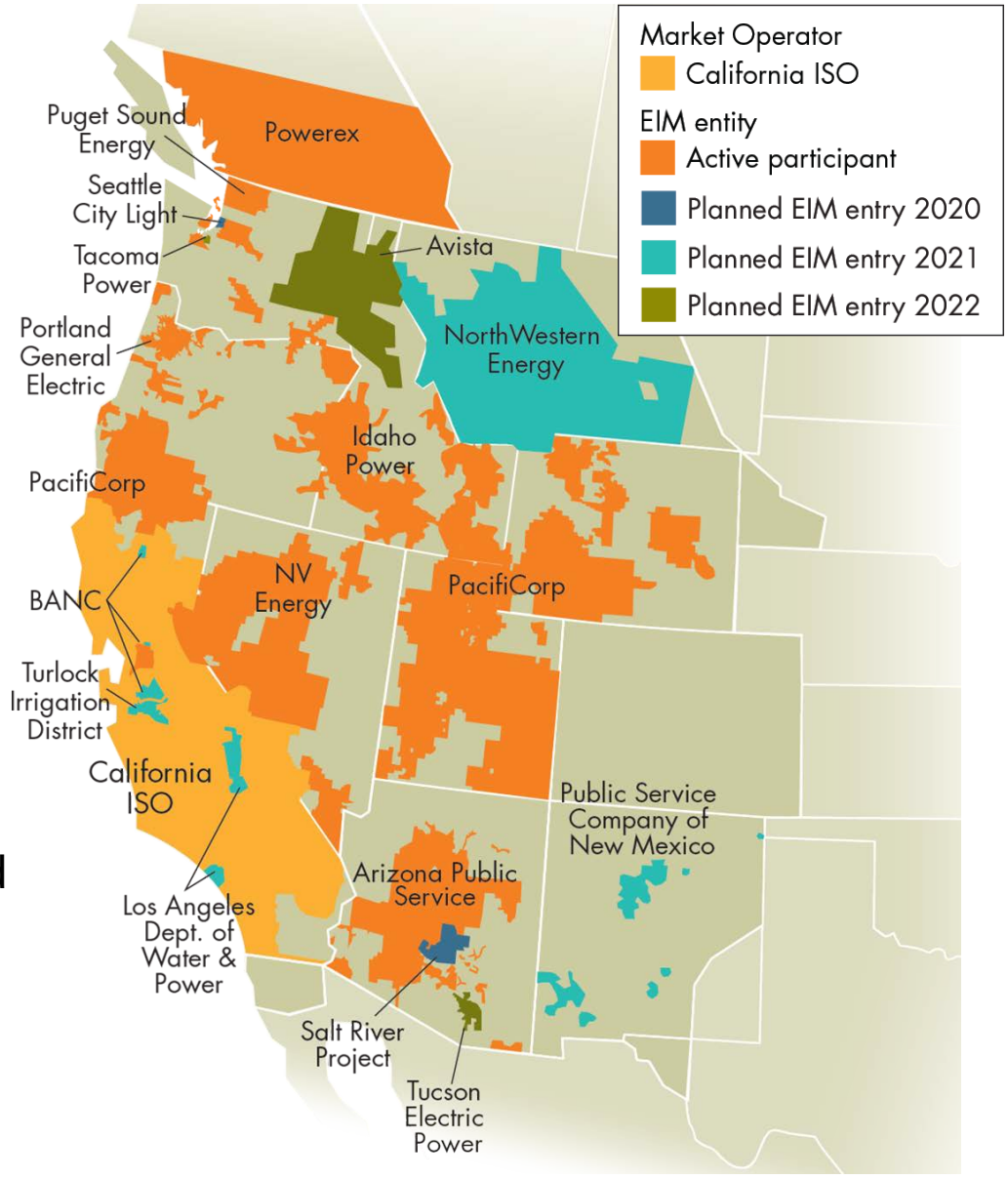
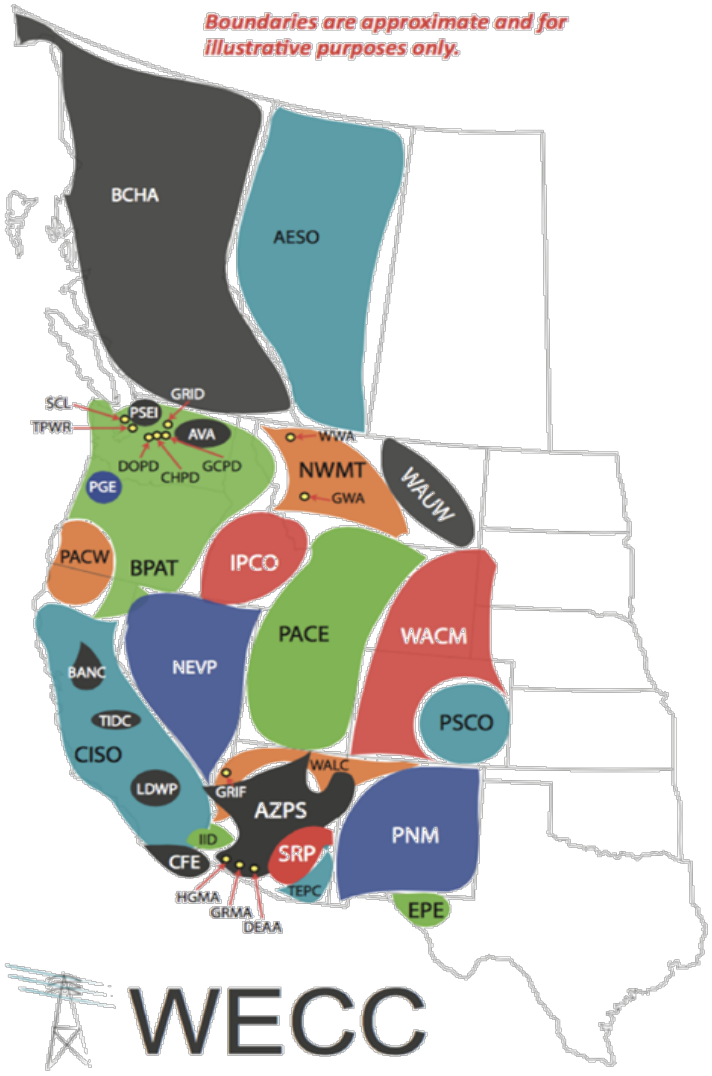
What is EDAM?

- Extended Day-Ahead Market
- Similar to EIM:
  - Voluntary
  - Incremental benefits
  - Use of existing infrastructure
- EDAM would be an additional market service layered on top of EIM
- EIM would continue to respond to imbalances between day-ahead and real-time



What EDAM is **Not**.

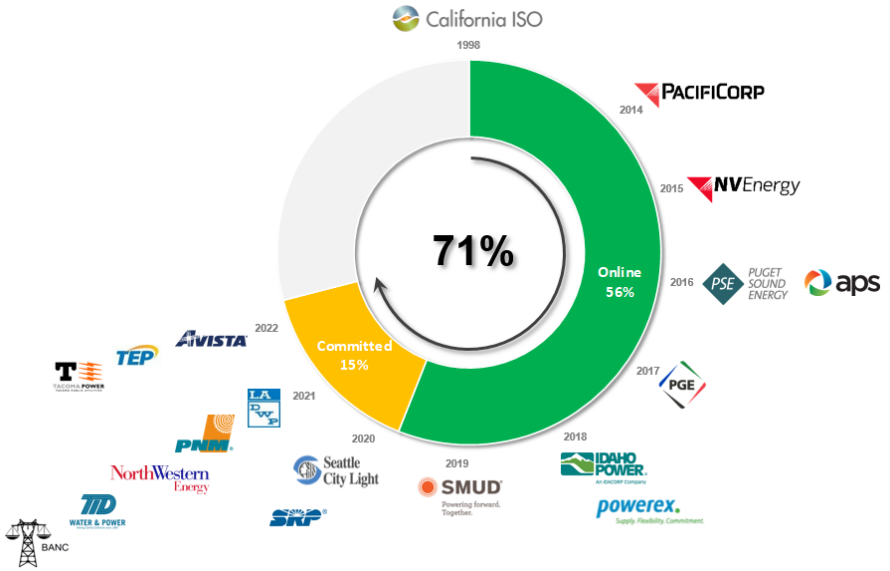
- EDAM is not equivalent to becoming a full member of CAISO (or any other RTO)
  - Transmission planning and operational control remains with member utility;
  - Resource adequacy and planning remain with member utilities and their regulatory authorities.
  - Balancing area control performance compliance remains with member utilities.
- EDAM is not intended to result in any changes to state regulatory authority.



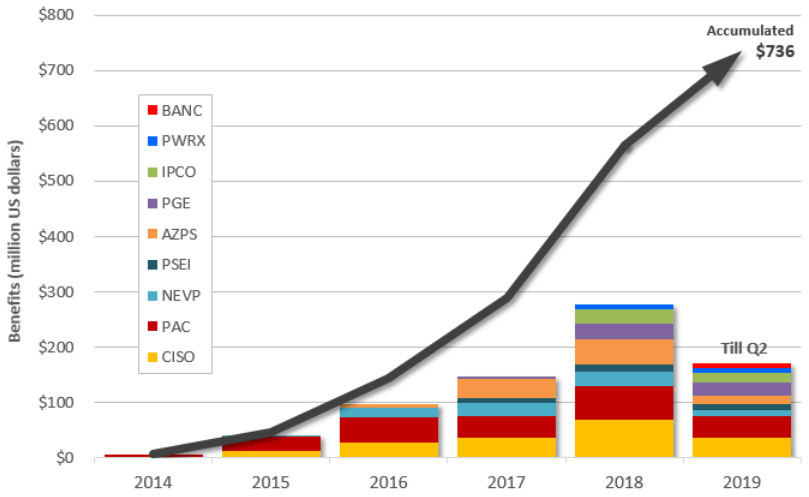
Source: Western Electricity Coordinating Council

Figure 2. Thirty-eight Western BAs

The Western EIM is growing and delivering benefits



Seventy-one percent of electricity demand in the western interconnection is served by entities that are either participating in the EIM or committed to by 2022.



As of 2019 second quarter, the EIM has reported $736 million in gross benefits since starting in November 2014.

Beyond the existing EIM,
EDAM could provide incremental benefits and build upon existing market capability

EDAM Feasibility Assessment

- The assessment began in January 2019
- Fifteen EIM entities participated in the assessment
- Brattle and E3 were contracted to develop a high-level model to conduct the assessment
- The model assessed potential production cost benefits in order to gauge interest

Potential benefits of EDAM

- Potential production cost savings through:
  - More efficient day-ahead hourly trading and use of available transmission activity through an organized market
  - More efficient day-ahead unit commitment
  - Day-ahead base schedule at hourly granularity throughout the footprint prior to real-time
- Diversity of imbalance reserves
- Potential environmental benefits such as reduced renewable curtailment

Feasibility Assessment Summary of Results

- Range of production cost benefits: $119 million to $227 million annually
- Production cost benefits were studied considering:
  - Natural gas price spreads
  - Level of exports that can be achieved without EDAM
  - Transmission availability and cost structures
- Annual benefits from 1-2 GWh of reduced renewable curtailment estimated translate into additional tens of millions dollars
- Although EDAM results may inform procurement and infrastructure development, no attempt was made to quantify long term investment benefits.

Next steps

- October 3, 2019 – Webinar on Feasibility Assessment
- October 2019 – Start stakeholder process to address the following key details:
  - Resource sufficiency
  - Transmission
  - Green house gas accounting
  - Price formation
- Governance Review Committee considers potential changes