

Public Generating Pool

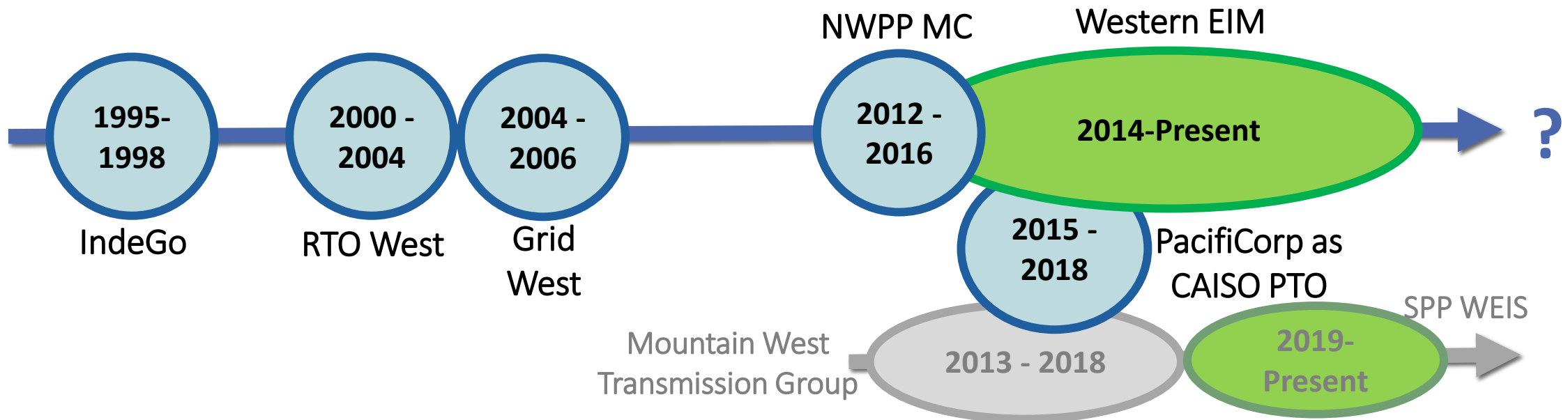
MARKET RETROSPECTIVE



OCTOBER 2021

Market Retrospective Purpose

- Review past regional efforts to create shared market functions
- Identify challenges impacting the success of the efforts
- Summarize key learnings
- Identify potential actions in support of future efforts



Market Functions

Shared Transmission Planning

- Single entity develops plan for reliability of the bulk electric system

Single Transmission Service Provider

- Single entity develops and administers transmission tariff and provides transmission service

Single Transmission Operator

- Single entity responsible for reliability and operation of transmission system

Single Balancing Authority Area

- Single entity maintains load interchange-generation balancing and interconnection frequency in real-time

Common Resource Adequacy Standard

- Single entity develops, implements and manages a commonly applied resource adequacy standard

Market Operator

- Single entity manages tariff, operation of security constrained dispatch model & commercial interfaces with reliability functions

Western Initiatives

	Shared Transmission Planning	Single Transmission Service Provider	Single Transmission Operator	Single Balancing Authority Area	Common Resource Adequacy Standard	Market Operator: Day-Ahead	Market Operator: Real-Time
Traditional RTO/ISO	✓	✓	✓	✓	✓	✓	✓
<u>IndeGo</u> 1995 - 1998	✓	✓	✓	✓			
<u>RTO West/Grid West</u> 2000 - 2006	✓	✓	✓	✓		✓	
<u>NWPP MC Initiative</u> 2012 - 2016							✓
<u>CAISO EIM</u> 2014 - Present							✓
<u>PacifiCorp as CAISO PTO</u> 2015 - 2018	✓	✓	✓	✓	✓	✓	✓
<u>Mountain West</u> 2013 - 2018	✓	✓	✓	✓	✓	✓	✓
<u>SPP WEIS</u> 2019 - Present							✓

Challenges in Western Coordination Initiatives

IndeGO 1995 – 1998

Create ISO to operate single BA and evolve into a single transmission provider

- Transmission cost allocation among participants
- Different interests on level of transmission to be included
- BPA legal determination that it could not sell, lease or transfer control of transmission without legislation

RTO West 2000 – 2004

Create RTO with single BA, single transmission operator, implement a market framework

- 2001 Power Crisis raised concern about the benefits and risks of organized markets
- FERC Standard Market Design negatively impacted productive regional discussions
- Public Power concerns about the costs, a California-style market and federal jurisdiction

Grid West 2004 – 2006

Create RTO with single BA and single transmission operator

- Public power concern about BPA turning over control to independent entity
- Different perspectives on governance

Challenges in Western Coordination Initiatives

NWPP MC 2012-2016

Centralized Market Operator: Within-hour optimization and dispatch

- Cost to build new market design and systems difficult to justify relative to alternatives
- Transmission design that relied on use of BPA system created cost allocation issues and pancaked transmission for those not adjacent to BPA
- Consensus-based approach to decision making was viewed to allow stalling of progress

Western EIM 2014 – Present

Centralized Market Operator: Within-hour optimization and dispatch

- New governance structure was needed for additional entities to be comfortable joining

Challenges in Western Coordination Initiatives

PacifiCorp as CAISO PTO 2015 - 2018

PacifiCorp to become a full Participating Transmission Owner in CAISO's existing market

- CA entity concerns about covering costs for new PacifiCorp transmission, increase in coal dispatch and increased FERC jurisdiction
- Other states required a change in CAISO governance and CA legislature did not pass legislation to authorize the governance change

Mountain West Transmission Group 2013 - 2018

Shared Transmission Provider or join existing SPP RTO

- Public Service of Colorado pulled out of the effort due to concerns about cost and regulatory risks
- Insufficient benefits for remaining parties

Takeaways

- All initiatives struggle over issues of transmission cost allocation, governance and cost relative to benefits.
- The Northwest includes unique considerations and interests that further complicate the challenging issues of transmission cost allocation, governance and costs relative to benefits.
- The Western EIM was formed with a single entity and has expanded rapidly because of its incremental, voluntary nature and reliance on as available, free transmission.
- The changing resource mix and load profiles in the West provide new reasons to evaluate increased market coordination.
- Success is more likely when there are regionally determined benefits rather than federal or other policy mandates.

Proposed Next Steps (1 of 5)

Seek a long-term outcome that benefits the Western Interconnection while minimizing or mitigating harm to individual entities

- Establish overarching objectives and long-term goal for market evolution that provides benefit for the Western Interconnection while minimizing or mitigating harm to individual entities.
- Identify objective criteria to evaluate the alternatives and define the path forward.
- Develop a roadmap that will achieve the end-state, specifically identifying market functions that provide the highest reward relative to risk.

Proposed Next Steps (2 of 5)

Identify any potential barriers for key parties to expanded market coordination

- Barriers for Bonneville participation have arisen in several past initiatives.
- Bonneville assessed several issues in the 2019 EIM Record of Decision related to Bonneville's authority to join the Western EIM; these issues should be evaluated in the context of broader market expansion.
- Other market participants should also identify potential barriers.
- Early identification increases likelihood of success by allowing time to address issues in the design of the market and/or legislatively, if needed.

Proposed Next Steps (3 of 5)

Explore options early for tackling the hardest issues associated with shared transmission

- Explore methods used in other markets to minimize or mitigate the increase or shifts in costs to some entities associated with the shared use of transmission.
- Evaluate regional cost allocation methods and their ability to address concerns about the cost of new transmission.
- Assess other impacts of transitioning from contract path to flow-based use of transmission.

Proposed Next Steps (4 of 5)

Recognize and work to align the varied regional interests around market coordination

- Proactively identify the key interests and risks to public power, investor-owned utilities and independent power producers.
 - Ensure BPA preference customers maintain preference value
 - Recognize and minimize participant risk, including shareholder risk
- Meaningfully engage with state regulators and key stakeholders to ensure their support for final outcome.

Proposed Next Steps (5 of 5)

Establish an independent and objective governance framework early to be used as a foundation for decision-making throughout the effort

- Ensure any collaborative process is managed by a neutral entity empowered to hold the participants accountable to their stated objective.
- Ensure qualified resources with relevant technical, operational, and market experience are empowered as champions to develop solutions.
- Establish rules to that ensure market participants have a commitment to the market outcome and are not involved just to play defense.



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