



Platte River
Power Authority

Estes Park • Fort Collins • Longmont • Loveland

Board of directors

July 29, 2021



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WEIM update

July 29, 2021

Agenda

- Historical timeline of western power markets
- Why Platte River chose the Western Energy Imbalance Market (WEIM)*
- Why reconsider
- Options
- Considerations: risk management and market governance
- Summary
- Next steps

*California's Western Energy Imbalance Market

Timeline of western markets

2000-2013

IndeGO, RTO West, Grid West, Desert Star, the Northwest Power Pool's Market Assessment and Coordination Committee forms

2014

CAISO Western Energy Imbalance Market (WEIM) starts

2019

Platte River, PSCo*, Black Hills and CSU** announce intention to join WEIM

2021 Q3 & Q4

Platte River is evaluating potential options

2013

Mountain West Transmission Group (MWTG) coordination begins and issues a request for proposals

2018

PSCo withdraws from MWTG

Q2 2021

SPP Western Energy Imbalance Services (WEIS) starts; CSU elects to join WEIS

*Public Service Company of Colorado (PSCo)

**Colorado Springs Utilities (CSU)

Why Platte River chose the WEIM

Brattle study results showed WEIM had the highest market value

- WEIM has the lowest startup costs
- WEIM has no exit fees versus WEIS' requirement to repay startup costs with early exit
 - No exit fees allows for a "no regret" decision
 - Platte River could gain structured market experience without a long-term commitment

Study specifics

- The purpose was to model and compare the potential market values of WEIM and WEIS
- It assumed that PSCo, Black Hills, CSU and Platte River would participate in the same market
- Market values were compared against the projected Joint Dispatch Agreement (JDA) value

Why reconsider

Diminished benefits

- In May, Colorado Springs Utilities announced their intention to join SPP WEIS
- Tri-State is moving load from PSCo's balancing authority (BA) into WACM's BA and is joining SPP WEIS
- PSCo has also elected to delay joining the WEIM and is considering other options
- PSCo increased the rate for flex reserve requirement to carry reserves for intermittent resources
- With surrounding entities joining SPP WEIS, Platte River's access to CAISO WEIM has become limited

Regulatory action

- In May, FERC approved CAISO's tariff change allowing EIM entities to prioritize service of California's native load over out-of-state load
- In June, the Colorado legislature passed a law requiring all investor-owned utilities in the state to join a regional transmission organization (RTO) market by 2030

Options

Short-term

- Participate in the WEIM
- Participate in the WEIS and move Platte River's load and resources into WAPA's BA

Long-term alternatives to the WEIM

- Proposed SPP RTO-west option
- Possible new RTO in the west

Platte River will remain with the JDA until an RTO option is selected and implemented

Risk management considerations

- Geographic diversity of market footprint and potential for future expansion
- Resource diversity across footprint to balance growth in renewables
- Sufficient reserves and ancillary services to manage the intermittency of renewables
- Resource adequacy construct to ensure reliability during extreme conditions
- Transmission cost allocation based on cost causation principles
- Effective congestion hedging mechanisms
- Robust interconnection to ensure market access
- Seams agreements with neighboring transmission systems and markets

Market governance considerations

- Transparent stakeholder regulatory process with balanced representation by market segment
- Reasonable market administration fees
- Market start-up and exit costs
- Strong governance structure which incorporates market participant preferences
- Market price formation which ensures proper siting of new generation and incentivizes appropriate market behavior
- Robust transmission planning and resource interconnection process
- Authority to construct transmission to relieve congestion or ensure reliability

Summary

- CAISO WEIM decision was made based on assumptions that no longer hold true
- A delay in action will deny Platte River the opportunity to participate in market formation
- Platte River must determine the best option amid a great deal of uncertainty
 - Market choice of other utilities, impacting footprint diversity and market value
 - Additional regulatory changes in CAISO or SPP
- In the short term, Platte River may choose to join either the WEIS or the WEIM
- Platte River could also delay joining an RTO until other options materialize or actively pursue alternatives to the WEIS and the WEIM

Next steps

- There are several moving pieces and unknowns
- The dynamics across the western interconnect continue to evolve
- Platte River staff is committed to selecting a market by the end of 2021
- In the interim, staff will include relevant new information in future board packets
- Staff will also deliver board presentations to discuss significant developments as they occur

Questions



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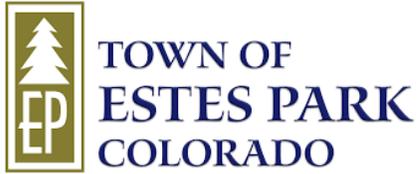


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Distributed energy resource strategy

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DER strategy committee

Estes Park

- Reuben Bergsten
- Sarah Clark

Fort Collins

- Tim McCollough, committee co-chair
- John Phelan

Longmont

- Dave Hornbacher, committee co-chair
- Kate Medina

Loveland

- Bill Crowell
- Tracey Hewson

Platte River

- Alyssa Clemsen Roberts
- Pat Connors

Project manager

- Paul Davis, Platte River

Project consultant

- Smart Electric Power Alliance (SEPA)



DER strategy motivations

- Customer interest
- Owner community goals
- Resource Diversification Policy
- Manage and integrate DERs from multiple utility perspectives

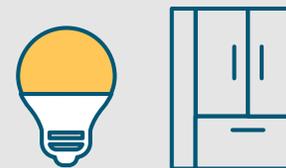
What are DERs?

DERs are physical or virtual devices or systems that can be deployed on the electric distribution system or on customer premises that can be used to provide value to all customers through electric system optimization and/or individual customer benefits.



Distributed generation

Technologies located on the distribution system that generate energy, like rooftop solar



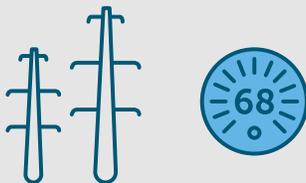
Energy efficiency

Methods of reducing energy used by equipment, an appliance or process while still providing the same beneficial result



Beneficial electrification

Replaces fossil fuel use with electricity to reduce emissions and energy costs, including greater use of electric vehicles and electric heat pump technology



Demand response

Also known as responsive load, refers to shifts in energy usage to better align with times that energy supply is more readily available



Distributed energy storage

Includes technologies like batteries that can store energy from the electric system when it's plentiful or inexpensive and return it to the system when needed



DER strategy goals

- A shared vision for DER integration
- Guiding principles for integrating DERs
- A framework that considers benefits and costs of DERs across the electric system
- A coordinated approach to securing customer and system data
- Improved outcomes for DER integration

Stakeholder engagement and feedback

Outreach channels

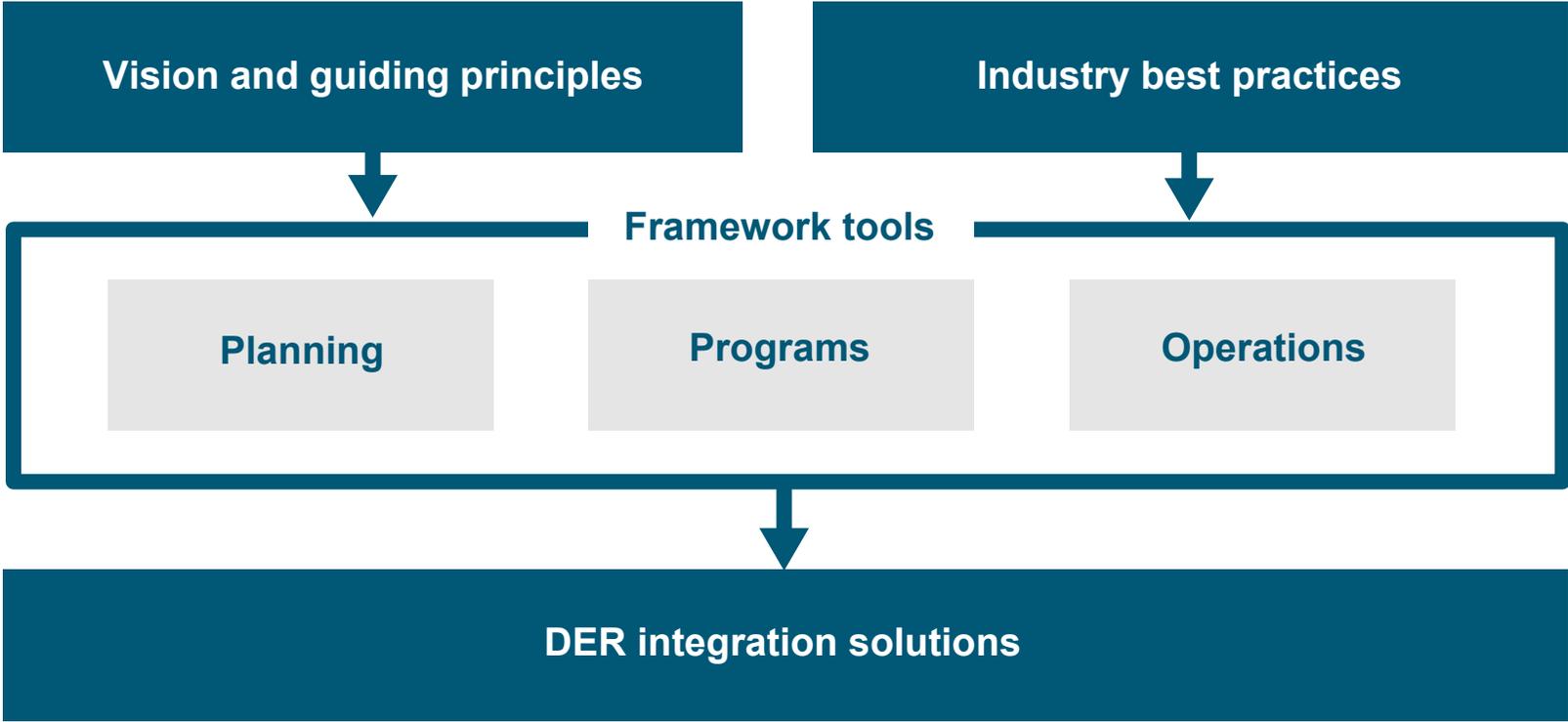
- DER strategy microsite
- Email to customers and known stakeholders
- Social media
- Virtual meetings

Four engagement events

- Stakeholder outreach, recruitment and survey (fall 2020)
- Virtual workshops on DER goals, vision and guiding principles (winter 2021)
- Virtual workshops on DER gap assessment, evaluation framework and solution development (spring 2021)
- Virtual presentation on DER strategy (August 2021)



DER strategy



DER strategy vision

To integrate DERs into the electric system through collaboration and coordination between the owner communities and Platte River to provide value to all customers.

DER strategy guiding principles

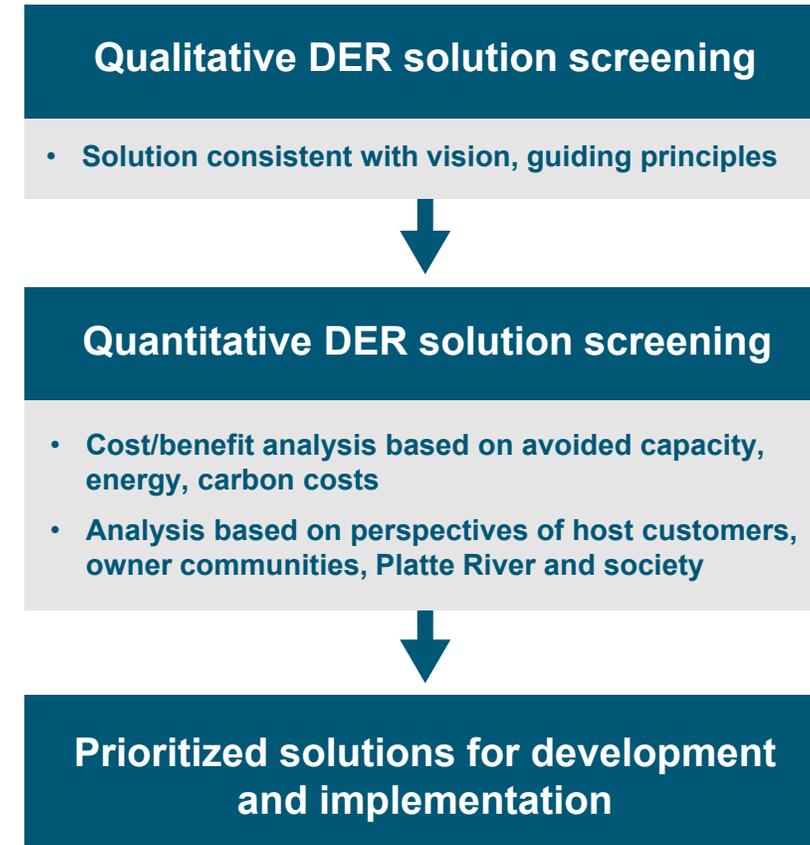
- Maintain system reliability and utility financial sustainability, enhance environmental responsibility and customer experience
- Implement safety practices in all facets of DER planning, operations and customer programs
- Maintain physical and cybersecurity of grid assets, privacy of customer data
- Facilitate deployment of DERs across all customer groups to provide benefits to all
- Provide consistency, transparency and flexibility among Platte River and the owner communities
- Employ common processes, best practices and innovation

DER evaluation framework

A common approach for evaluating DER integration solutions

DER integration solution examples

- Policies
- Processes
- Programs
- Tariffs/rates
- Incentives
- Technology investments



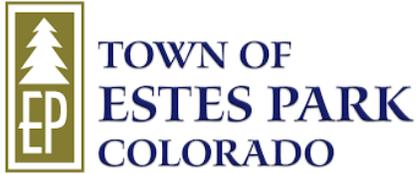
DER integration solution development

DER integration requires greater coordination

- Between planning, programs and operations
- Among owner communities and Platte River

DER integration solutions will be developed by cross-functional teams

Focus areas			
	Planning	Programs	Operations
Functions	Integrated resources planning	Retail DER programs	DER monitoring, control and dispatch
	Transmission and distribution planning	DER asset ownership	DER operational forecast
	DER planning forecast	Retail and wholesale rates	Transmission and distribution coordination
	DER interconnection	DER aggregation	



Questions and discussion



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May and June operational results

Category	May variance		June variance		YTD variance	
Municipal demand	(7.7%)	■	14.4%	●	2.8%	●
Municipal energy	0.1%	◆	11.1%	●	5.7%	●
Baseload generation	11.2%	●	18.1%	●	0.7%	◆
Wind generation	(18.9%)	■	(10.9%)	■	(19.8%)	■
Solar generation	(20.7%)	■	(29.6%)	■	(16.6%)	■
Surplus sales volume	(3.8%)	■	(0.5%)	◆	(14.1%)	■
Surplus sales price	12.3%	●	75.3%	●	32.5%	●
Purchase volume	(21.0%)	●	(28.2%)	●	20.2%	■
Purchase price	(24.1%)	●	(9.1%)	●	(9.3%)	●
Dispatch cost	(0.9%)	◆	3.0%	■	0.8%	◆

Variance key: Favorable: ● >2% | Near budget: ◆ +/- 2% | Unfavorable: ■ <-2%



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Financial summary

Category	May variance from budget (\$ in millions)		June variance from budget (\$ in millions)		Year to date variance from budget (\$ in millions)	
Net income	\$0.8	●	\$3.5	●	\$8.5	●
Fixed obligation charge coverage	.41x	●	1.63x	●	.65x	●
Revenues	\$0.0	◆	\$3.6	●	\$4.8	●
Operating expenses	\$0.8	●	\$(0.1)	◆	\$4.0	●
Capital additions	\$15.5	●	\$2.4	●	\$101.1	●

> 2% ● Favorable | 2% to -2% ◆ At or near budget | < -2% ■ Unfavorable



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