Board of directors

Oct. 26, 2023

Energy leaders since 1973
Dispatchable capacity

Raj Singam Setti, chief transition and integration officer
Introduction

• Background
• Electric Power Research Institute (EPRI) Vice President, Integrated Grid and Energy Systems Daniel Brooks
• Large Public Power Council (LPPC) President John Di Stasio
• Key takeaways
• Resolution of support
Progress made since passing the Resource Diversification Plan in 2018

- 225 MW of Roundhouse wind
- Announcement to retire coal resources
- Developed a distributed energy resources strategy
- 22 MW Rawhide Prairie Solar with 2 MWh battery
- 150 MW Black Hollow Solar power purchase agreement
- Finalizing winning proposals from 2022 solar and battery storage RFPs
- Planning to issue wind and storage RFP this year

Renewable generation increase

- Committed 7x increase in solar energy
- Achieved 3x increase in wind energy
- Hydro is predicted to reduce due to drought conditions
Between now and 2030
Significant renewable generation added
Clean Energy Transition

- Platte River is developing 2024 IRP in line with:
  - Three pillars of reliability, financial sustainability and environmental responsibility
  - Our customers desires and directives
  - The best business practices of taking measured risks (financial and technological)
    - Uncertainty & variability
    - Emerging technologies of the future
- Dispatchable capacity is critical for clean energy transition goals
  - Long duration storage
  - Virtual power plant
  - Aeroderivative capacity with rapid start-up and ramp-up & down
Reliability and Resiliency for the Clean Energy Transition

Platte River Power Authority
Board of Directors Meeting

Daniel Brooks
Vice President – Integrated Grid & Energy Systems

2023 October 26
Presentation Outline

1. Energy System Modeling for Pathways
2. Resulting Grid Reliability Challenges
3. Key Developments Needed for Reliable & Resilient Grid
Recent EPRI analyses of technology deployments to meet U.S. 2030 (50%) and 2050 (Net-Zero) emission reduction targets show drastic changes required for energy systems and end uses.
2050 Net-Zero: U.S. Total Installed Capacity Mix

- Highly renewable, inverter-based system
- Decentralized and digital resources (PV/BESS)
- Dispatchable supply to meet peak load

2020

2050 Reference (No CO₂ Target)

2050 Net-Zero

All Options

Higher Fuel Cost

Limited Options

- Rooftop PV
- Solar PV
- Off. Wind
- On. Wind
- Storage
- Hydrogen
- Gas CCS
- New Gas
- Ex. Gas
- Coal CCS
- Coal
- Bio CCS
- Other/Bio
- Hydro
- Geothermal
- New Nuc.
- Ex. Nuc.
- Peak Load

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U.S. 2050 Net-Zero: Electricity Supply and Demand

• Electric demand increases 40-250%
• 2050 EV demand 40-50% of 2020 total
• Efficiency gains temper larger demand increases

TWh

2020
2050 Reference
(No CO₂ Target)

All Options
High Fuel Cost
Limited Options

Electricity Supply and Demand

Solar
Wind
Hydro

LDVs
MD/HD

Bio +CC
NG +CC
w/o CC
H₂

Electrolysis

DAC input
2050 Net-Zero: Electricity Share of End-Use Energy

Electric Sector Share of End-Use Energy

- 2050 Reference (No CO₂ Target)
- All Options: 2050 Net-Zero
- Higher Fuel Cost: 54%
- Limited Options: 59%

- Rooftop PV
- Solar PV
- Off. Wind
- On. Wind
- Storage
- Hydrogen
- Gas CCS
- New Gas
- Ex. Gas
- Coal CCS
- Coal
- Bio CCS
- Other/Bio
- Hydro
- Geothermal
- New Nuc.
- Ex. Nuc.
- Peak Load

Electric System Resiliency Must Increase as Energy Transition Occurs
Beyond Decarbonization Pathways: Reliability/Resiliency Planning

**INTEGRATED STRATEGIC SYSTEM PLANNING (ISSP)**

- **Policy Analysis & Capacity Expansion** (Net-Zero Technology Pathways)
- **Distribution Planning** (Power Flow and Reliability)
- **Transmission Planning** (Power Flow and Stability)
- **Grid Operations Models** (Resource Adequacy and Production Costs)

**T&D RESOURCE ADEQUACY**
- Additional resources to meet energy needs for resiliency to extreme future scenarios

**T&D DELIVERY ADEQUACY**
- Regional T&D capacity to integrate renewables and DER and meet increased electrification demand

**BALANCING AND FLEXIBILITY**
- Flexibility resources and operating reserves to manage variability and uncertainty

**GRID STABILITY**
- Resources and controls to maintain frequency and voltage for much faster dynamic system

EPRI’s ISSP process provides a seamless analytical framework to assess future expansion plans across supply and delivery (T&D) incorporating operational reliability and resiliency realities of emerging resources.
Inertia of a synchronous AC system opposes frequency changes after sudden generation loss.

Rate of change of frequency (ROCOF)

Nadir – Lowest Frequency

Online Inertia Monitoring and Inertia Floors

New Frequency Support Resources/Services

“Synthetic Inertia” from Inverter-Based Resources

Synchronous Condensers

New Operating Practices/Capabilities

- 120 GW *s >= Inertia Normal
- 120 GW *s > Inertia >= 110 GW *s Yellow
- 110 GW *s > Inertia >= 100 GW *s Orange
- 100 GW *s < Inertia Red

Emergency BPs in inactive System inertia: 99.999 MW*s
SCED: 00:04:00
RLC: 00:00:06
STLF Forecast High: 21.6
STLF Next 30 Mins: Normal
QSE ICCP: Normal

Redispatch to Reduce Largest Contingency
Project concluding summer 2023 with recommendations and tools to support new RA process
Metrics and Criteria

Different metrics expose different levels of risk

LOLE is a frequency metric and typically evaluated on average

Metrics that include magnitude and duration expose additional risk

Potential for very different customer impacts for same LOLE level

NPCC Case Study: Risk conveyed by metrics

<table>
<thead>
<tr>
<th>Region</th>
<th>Daily LOLE</th>
<th>Hourly LOLE</th>
<th>EUE-norm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.10</td>
<td>0.15</td>
<td>0.37</td>
</tr>
<tr>
<td>B</td>
<td>0.10</td>
<td>0.34</td>
<td>0.99</td>
</tr>
<tr>
<td>C</td>
<td>0.10</td>
<td>0.39</td>
<td>3.37</td>
</tr>
<tr>
<td>D</td>
<td>0.10</td>
<td>0.25</td>
<td>1.00</td>
</tr>
<tr>
<td>E</td>
<td>0.10</td>
<td>0.48</td>
<td>2.54</td>
</tr>
<tr>
<td>F</td>
<td>0.10</td>
<td>0.28</td>
<td>0.34</td>
</tr>
</tbody>
</table>

NPCC Case Study: Risk conveyed by metrics

Metric Scope
- Frequency
- + Duration
- + Magnitude

Relative Risk
- Same
- 3X
- 10X
Resource Models: Weather Dependent Outages (WDO)

Gas-CC Weather-Dependent Outage Curves

- Constant
- PJM
- PJM -10°C

PJM WDO curves from CMU/Sinnott Murphy

CC Gas FOR (%) vs Temp (deg C)

Extreme temperature impacts generator forced outage rates

ERCOT Case Study: WDO Impacts

Including WDO in RA risk assessment exposes additional risk

EPRI RAI provides methodology for creating generation WDO curves, modeling guidance (renewables, storage, and transmission, et al.), and guidance on data and application in tools
Resource Models: Demand Flexibility Potential Value

Potential reduction in LOLE (loss of load event) from 900 MW (3% peak demand) of various distributed resource types (technology and tariff) for specific utility system.

Results vary with regional load shapes, climates, energy mixes and demand resource performance.

EPRI RAI provides methodology for modeling flexible demand contributions to RA.
### Prerequisites for a Reliable, Resilient, Decarbonized Grid

<table>
<thead>
<tr>
<th>New Grid Operation Capabilities</th>
<th>Revised Market Designs</th>
<th>Grid Investment and Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>New protection, control, and other technologies to reliably and resiliently operate the grid</td>
<td>Markets incent investment and properly compensate resources for grid services</td>
<td>Adequate investment, supply chain, and workforce to develop extensive new supply, demand, and T&amp;D resources</td>
</tr>
</tbody>
</table>

#### Efficient Regulation and Collaboration

- Faster timelines for siting, permitting, and building new infrastructure and developing and deploying new technologies

#### Clean, Dispatchable Supply Technologies

- Development, demonstration, and deployment of new clean, firm supply technologies to support reliable grid operation supporting a net-zero economy
Together...Shaping the Future of Energy®
PRPA Board Meeting
October 26, 2023

Location: PRPA Headquarters
2000 E Horsetooth Rd, Fort Collins, CO, 80525
ABOUT LPPC

The Large Public Power Council (LPPC) is the voice of large public power in Washington, DC. We advocate for policies that support reliability, affordability and environmental stewardship for the communities we serve, while recognizing regional differences and respecting local governance.
LPPC By The Numbers

28 of the largest public power systems in the U.S.

30.5 million consumers served across 22 states and Puerto Rico

80,000 megawatts of generation capacity

35,000+ circuit miles of high-voltage transmission lines

54,000+ local jobs supplied
POLICY PRIORITIES

- Infrastructure Financing
- Infrastructure Development
- Reliability, Resilience, and Security
- Environmental
- Support for Customers and Workers
Member Utilities
Climate & Environmental Stewardship

“LPPC supports federal actions and policies to responsibly advance a clean energy transition. These federal actions should be well-coordinated and part of an overall economy-wide approach that recognizes the need to maintain electric reliability and affordability for consumers, promotes a technology-neutral policy, respects regional differences, encourages innovative technologies, and enables flexible compliance”.
Wholesale systems without explicit targets

PREPA & JEA not included

Carbon Reduction Targets

- Colorado Springs Utilities
  - 2030: 80% Mass
  - 2035: 100% Carbon-Free
- SMUD
  - 2030: 100% Carbon-Free
- Platte River Power Authority
  - 2030: 100% Carbon-Free
  - 2040: 100% Carbon-Free
- LIPA
  - 2035: 100% Carbon-Free
- Austin Energy
  - 2035: 100% Carbon-Free
- Los Angeles Department of Water & Power
  - 2040: 100% Carbon-Free
- New York Power Authority
  - 2045: All 100% Carbon-Free

- Seattle City Light
  - 2045: All 100% Carbon-Free

Net-Zero
- IID
  - 80% Mass
- CPS Energy
  - Net-Zero
- SRP
  - 90% Intensity
- OPPD
  - Net-Zero
- OUC
  - Net-Zero

Clark Public Utilities

PUD
Gas to support the clean energy transition

- No members are retiring natural gas given its role in supporting reliability and flexibility.
- 13 LPPC members are investing in new natural gas.
- OPPD recently approved 1.5 GW of new natural gas assets through 2032.
- SMUD is exploring carbon capture to maintain a plant critical for regional reliability.
- GRDA commissioned a new single cycle natural gas plant for flexibility.
- CPS Energy is adding new gas-fired generation to replace existing coal.
- JEA bringing on new natural gas to balance renewable intermittency.
- PREPA has added gas to serve peak and for ramping flexibility.
- Nearly all new gas is planned to operate at much lower capacity factors, allow for up to 30% co-firing with hydrogen, and focused on reliability and system flexibility.
- The focus is not on resources, but resource attributes.
Key takeaways

- Clean Energy Transition with Dispatchable Capacity to:
  - Support renewable resource performance
  - Ensure resource adequacy
  - Maintain reliability
  - Situational awareness & operational continuity
  - Integrate technologies of the future
Board of directors

Oct. 26, 2023

Energy leaders since 1973
Proposed 2024 Strategic Budget update – public hearing

Jason Harris, senior manager, financial reporting and budget
Agenda

• Budget changes since work session
• Financial results
• Highlights – 2024 Strategic Budget
Budget changes since work session

- Updates to revenues and production cost model
  - New sales for resale contracts (revenue certainty)
  - Updated market assumptions
  - Fuel price and generation
  - Wheeling and interest income
- Refinements to departmental operations and maintenance expenses
- Updates to capital projects
# Budget changes since work session

## Favorable/(Unfavorable) change

<table>
<thead>
<tr>
<th>Category</th>
<th>Change Amount</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales to owner communities</strong></td>
<td>$0.3 million</td>
<td>Final adjustments for production cost model estimates</td>
</tr>
<tr>
<td><strong>Interest and other income</strong></td>
<td>$0.2 million</td>
<td>Interest rates are projected to be higher, partially offset by keeping fiber rates flat</td>
</tr>
<tr>
<td><strong>Operating expenses</strong></td>
<td>$0.1 million</td>
<td>Decreases: Nonroutine projects (CT inspection timing), water expenses and wheeling expenses. Increases: Xcel’s estimated tariff for ancillary services, contracted services, Yampa operating expenses</td>
</tr>
<tr>
<td><strong>Capital additions</strong></td>
<td>$2.3 million</td>
<td>Increases: Bay connection to Severance Substation — noncarbon resources, Evergreen controls hardware upgrade — Rawhide Unit 1, Evaporative cooling and wet compression — combustion turbine Unit F, other new projects. Decreases: Solar substation 230 kV — Severance Substation, Gas control valve replacement — combustion turbine Unit F, Hydrogen dryer and auto-purge — combustion turbine Unit F</td>
</tr>
<tr>
<td><strong>Wheeling revenue</strong></td>
<td>$0.2 million</td>
<td>Updated assumptions and projected loads</td>
</tr>
<tr>
<td><strong>Purchased power</strong></td>
<td>$4.9 million</td>
<td>Updated production cost model including increased purchases from WEIS and bilateral markets, increase in replacement power outage accrual. Xcel’s estimated tariff also increased purchased reserves.</td>
</tr>
<tr>
<td><strong>Fuel</strong></td>
<td>$1.7 million</td>
<td>Updated assumptions for prices and generation volumes for coal and natural gas resources</td>
</tr>
<tr>
<td><strong>Contingency appropriation</strong></td>
<td>$1 million</td>
<td>Approximately 20% of operating expenses and capital additions</td>
</tr>
</tbody>
</table>
## Financial results

### Strategic financial plan indicators

<table>
<thead>
<tr>
<th>Target minimums</th>
<th>2023 budget</th>
<th>2024 budget</th>
<th>Increase (decrease)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net income as a percentage of projected operating expenses</td>
<td>3%</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>Fixed obligation charge coverage ratio</td>
<td>1.50x</td>
<td>2.43x</td>
<td>2.49x</td>
</tr>
<tr>
<td>Debt ratio</td>
<td>&lt; 50%</td>
<td>25%</td>
<td>24%</td>
</tr>
<tr>
<td>Unrestricted days cash on hand</td>
<td>200</td>
<td>422</td>
<td>430</td>
</tr>
</tbody>
</table>

(1) Excludes projections for a portion of revenues that will be deferred to a future period and will be reflected in year-end results
(2) Will change with the update to the 2023 estimate in the final budget document.

### Budget results ($ millions)

<table>
<thead>
<tr>
<th></th>
<th>2023 budget</th>
<th>2024 budget</th>
<th>Increase (decrease)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total revenues</td>
<td>$ 305.0</td>
<td>$ 313.0</td>
<td>2.6%</td>
</tr>
<tr>
<td>Total expenditures</td>
<td>$ 298.6</td>
<td>$ 299.4</td>
<td>0.3%</td>
</tr>
<tr>
<td>Board contingency</td>
<td>$ 52.0(3)</td>
<td>$ 56.0</td>
<td>7.7%</td>
</tr>
</tbody>
</table>

(3) Contingency transfer to be determined later in the year.
## Financial Impact

<table>
<thead>
<tr>
<th>$ in thousands</th>
<th>Proposed budget</th>
<th>Prices &amp; model update impacts</th>
<th>Other O&amp;M net increase and contingency impact</th>
<th>Capital &amp; depreciation, amortization &amp; accretion impacts (1)</th>
<th>Favorable (unfavorable) changes</th>
<th>Updated proposed budget</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenues</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales to owner communities</td>
<td>$ 236,072</td>
<td>$ (335)</td>
<td>$ (335)</td>
<td>$ (335)</td>
<td>$ 235,737</td>
<td></td>
</tr>
<tr>
<td>Sales for resale - long-term</td>
<td>$ 11,494</td>
<td>$ 8,592</td>
<td>$ (8,583)</td>
<td>$ (8,583)</td>
<td>$ 20,086</td>
<td></td>
</tr>
<tr>
<td>Sales for resale - short-term</td>
<td>$ 44,939</td>
<td>$ (8,583)</td>
<td>(181)</td>
<td>(181)</td>
<td>36,356</td>
<td></td>
</tr>
<tr>
<td>Wheeling</td>
<td>$ 9,123</td>
<td>$ 226</td>
<td>(181)</td>
<td>(181)</td>
<td>$ 8,942</td>
<td></td>
</tr>
<tr>
<td>Interest and other income</td>
<td>$ 11,627</td>
<td>$ 226</td>
<td>$ 226</td>
<td>$ 226</td>
<td>$ 11,853</td>
<td></td>
</tr>
<tr>
<td><strong>Total revenues</strong></td>
<td>$ 313,255</td>
<td>$ (281)</td>
<td>(281)</td>
<td>(281)</td>
<td>$ 312,974</td>
<td></td>
</tr>
<tr>
<td><strong>Operating expenses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchased power</td>
<td>$ 58,881</td>
<td>$ (3,611)</td>
<td>(1,284)</td>
<td>(1,284)</td>
<td>$ (4,995)</td>
<td>$ 63,776</td>
</tr>
<tr>
<td>Fuel</td>
<td>$ 52,831</td>
<td>$ 1,723</td>
<td>$ 1,723</td>
<td>$ 1,723</td>
<td>$ 51,108</td>
<td></td>
</tr>
<tr>
<td>Production</td>
<td>$ 55,538</td>
<td>$ 59</td>
<td>$ 59</td>
<td>$ 59</td>
<td>$ 51,079</td>
<td></td>
</tr>
<tr>
<td>Transmission</td>
<td>$ 21,098</td>
<td>$ (98)</td>
<td>(98)</td>
<td>(98)</td>
<td>$ 21,196</td>
<td></td>
</tr>
<tr>
<td>Administrative and general</td>
<td>$ 36,298</td>
<td>$ (85)</td>
<td>(85)</td>
<td>(85)</td>
<td>$ 36,313</td>
<td></td>
</tr>
<tr>
<td>Distributed energy resources</td>
<td>$ 13,807</td>
<td>$ 209</td>
<td>209</td>
<td>209</td>
<td>$ 14,016</td>
<td></td>
</tr>
<tr>
<td><strong>Total operating expenses</strong></td>
<td>$ 238,453</td>
<td>$ (1,829)</td>
<td>(1,238)</td>
<td>(1,238)</td>
<td>$ (3,067)</td>
<td>$ 241,386</td>
</tr>
<tr>
<td><strong>Capital additions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production</td>
<td>$ 8,722</td>
<td>$ (1,720)</td>
<td>(1,720)</td>
<td>(1,720)</td>
<td>$ 10,442</td>
<td></td>
</tr>
<tr>
<td>Transmission</td>
<td>$ 14,938</td>
<td>(137)</td>
<td>(137)</td>
<td>(137)</td>
<td>$ 15,075</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>$ 12,305</td>
<td>(488)</td>
<td>(488)</td>
<td>(488)</td>
<td>$ 12,717</td>
<td></td>
</tr>
<tr>
<td>Asset retirement obligations</td>
<td>$ 933</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$ 933</td>
<td></td>
</tr>
<tr>
<td><strong>Total capital additions</strong></td>
<td>$ 36,996</td>
<td>$ (2,345)</td>
<td>(2,345)</td>
<td>(2,345)</td>
<td>$ (2,345)</td>
<td>$ 39,641</td>
</tr>
<tr>
<td><strong>Total operating expenses and capital additions</strong></td>
<td>$ 275,351</td>
<td>$ (1,829)</td>
<td>(1,238)</td>
<td>(1,238)</td>
<td>$ (5,412)</td>
<td>$ 280,763</td>
</tr>
<tr>
<td><strong>Debt expenditures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 18,638</td>
<td>$ (1,000)</td>
<td>(1,000)</td>
<td>(1,000)</td>
<td>$ (1,000)</td>
<td>$ 18,638</td>
</tr>
<tr>
<td><strong>Total expenditures</strong></td>
<td>$ 293,989</td>
<td>$ (1,829)</td>
<td>(1,238)</td>
<td>(1,238)</td>
<td>$ (5,412)</td>
<td>$ 299,401</td>
</tr>
<tr>
<td>Contingency appropriation</td>
<td>$ 55,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$ 55,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total expenditures and contingency</strong></td>
<td>$ 348,989</td>
<td>$ (1,829)</td>
<td>(2,238)</td>
<td>(2,238)</td>
<td>$ (6,412)</td>
<td>$ 355,401</td>
</tr>
<tr>
<td>Change in net position</td>
<td>$ 25,922</td>
<td>$ (2,110)</td>
<td>(1,238)</td>
<td>(1,238)</td>
<td>$ (3,399)</td>
<td>$ 22,523</td>
</tr>
</tbody>
</table>

(1) Depreciation, amortization and accretion expense increased by approximately $51K impacting change in net position.
Highlights – 2024 Strategic Budget

2024 budget: $355.4 M

Strategic initiatives
- Resource diversification planning and integration (dispatchable resource, noncarbon resources, distributed energy resources, integrated resource plan, organized energy markets)
- Community partner and engagement
- Workforce culture
- Process management and coordination (ERP, enterprise risk management, project management)

Core operations
- Baseload and peaking generation, transmission, energy efficiency
- PPAs for existing renewable resources & hydropower
- Predictive maintenance
- Proactive capital investments to maintain reliability, efficiency and environmental compliance

Revenues
- Stable owner community loads
- Decreasing sales for resale
- Increasing wheeling and interest income
- 5% average wholesale rate increase

Foundational pillars
1. System reliability
2. Environmental responsibility
3. Financial sustainability

Operating expenses and capital additions: $280.8 million
Board of directors

Oct. 26, 2023

Energy leaders since 1973
Strategic Financial Plan update

Shelley Nywall, director of finance
Agenda

• Platte River financial governance framework
• Strategic financial plan
  • Updates, review and advantages
• Long-term financial sustainability benefits
• Financial flexibility in an uncertain environment
• Next steps
Platte River financial governance framework

- List of items that govern or influence our financial decisions
- Future plan is to create a comprehensive financial governance document
Strategic Financial Plan updates

- Last update was 2018
- Core of the plan remains unchanged; changes reflect documenting strategies and updates to current terminology
  - Added language reflecting rate stability strategies
  - Edited language and layout enhancing readability
  - Financial metric title changes
    - Debt ratio to adjusted debt ratio
    - Net income to change in net position
    - Unrestricted cash on hand to adjusted liquidity on hand
- Reviewed by Platte River’s financial advisor, PFM Financial Advisors LLC
- Review with the board at least every five years (staff reviews throughout every year)
- Recommended changes do not impact current long-term rate projections
## Strategic Financial Plan review

<table>
<thead>
<tr>
<th>Goals</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Support foundational pillars of providing reliable, environmentally responsible and financially sustainable energy and services</td>
<td></td>
</tr>
<tr>
<td>• Support mission, vision and values</td>
<td></td>
</tr>
<tr>
<td>• Preserve long-term financial sustainability</td>
<td></td>
</tr>
<tr>
<td>• Manage financial risk</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objectives</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Generate adequate earnings margin and cash flows</td>
<td></td>
</tr>
<tr>
<td>• Maintain sufficient liquidity for operational stability</td>
<td></td>
</tr>
<tr>
<td>• Maintain access to low-cost capital</td>
<td></td>
</tr>
<tr>
<td>• Provide wholesale rate stability</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Financial and rate requirements</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Colorado Revised Statute 29-1-204(3)(j)</td>
<td></td>
</tr>
<tr>
<td>• Power Supply Agreements</td>
<td></td>
</tr>
<tr>
<td>• General Power Bond Resolution</td>
<td></td>
</tr>
<tr>
<td>• <em>Documents relate to fixing rates and revenues sufficient to cover all expenses, bond service expenses and to provide reasonable reserves and adequate earnings margin to obtain favorable debt financing</em></td>
<td></td>
</tr>
</tbody>
</table>
Strategic Financial Plan review

To meet objectives and requirements, staff established financial metrics and rate stability strategies.

### Financial metrics

- **Cash flow metric**: Generate minimum 1.50 times fixed obligation charge coverage ratio
  - Legal bond service coverage ratio requirement minimum 1.10 times
- **Earnings metric**: Generate minimum change in net position equal to 3% of annual operating expenses
- **Leverage metric**: Target adjusted debt ratio less than 50%
- **Liquidity metric**: Target minimum 200 days adjusted liquidity on hand
  - Includes rate stabilization fund - purpose is to reduce or eliminate the rate impact from an event that affects the ability to meet the minimum legal bond service coverage ratio requirement, but not to smooth the rate impacts of continued typical business operations
  - *Based on rating agency criteria targeting a “AA” category credit rating*
  - *Metrics provide adequate reserves and balance between financing capital investments with cash and debt*

### Rate stability strategies

- **Fiscal responsibility**
  - Revenue generation
  - Expense management
- **Rate smoothing**
  - Accounting policies to manage revenues and expenses for rate making purposes (GASB 62)
  - Multi-year rate smoothing strategies will also be used to avoid greater single year rate impacts or to accomplish specified financial objectives

Strategic Financial Plan advantages

- Targets “AA” category credit rating
- Financial metrics
  - Provide balance between cash and debt financing
  - May not be met in all years if staff considers the deficiency temporary
- Financial flexibility
  - Obtain access to capital markets at a lower cost of capital
  - Take advantage of opportunities for capital investments, lower expenses and provide benefits to the owner communities
  - Manage industry-related financial risks
  - Respond in a timely and value-maximizing manner to unexpected changes
- Stable more predictable rates
- Long-term financial sustainability
Long-term financial sustainability benefits

Platte River has benefited from its strong financial position, favorable credit rating and sound financial decisions

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>Established favorable counterparty credit in the energy market and for power purchase agreements</td>
</tr>
<tr>
<td>2022</td>
<td>Blended the intermittent and dispatchable variable cost energy charges with the ability to absorb the shift of the risk of cost variances back to Platte River from the owner communities</td>
</tr>
<tr>
<td>2020</td>
<td>Provided a one-time $1 million owner distribution to the governing body of the owner communities to assist with the COVID-19 pandemic impacts within their communities and refinance bonds resulting in $4.6 million in net present value savings</td>
</tr>
<tr>
<td>2018</td>
<td>Adopted the resource diversification policy to transition Platte River to a noncarbon future as a significant initiative requiring a strong financial position and financial flexibility</td>
</tr>
<tr>
<td>2015</td>
<td>Refinanced bonds resulted in $13.7 million of net present value savings</td>
</tr>
<tr>
<td>2009</td>
<td>Series DD bonds were paid off, the last bond issue requiring a bond reserve fund and Platte River’s strong financial position eliminated the requirement to maintain bond required reserve funds, which were maintained at a negative arbitrage due to earnings restrictions</td>
</tr>
<tr>
<td>2008</td>
<td>Used cash reserves to fund combustion turbine Unit F and avoided private use restrictions associated with the use of tax-exempt bonds, which would have reduced the economic benefit of a long-term capacity sale</td>
</tr>
</tbody>
</table>

Sound financial strategies
- Preventative and predictive maintenance strategies and proactive capital investments are prioritized to provide long-term system benefits and efficiencies
- Various accounting policies to manage revenues and expenses for rate making purposes (GASB 62)
Financial flexibility in an uncertain environment

Electric utilities operate in a capital-intensive industry with investments in long-term generation and transmission assets. While Platte River implements the resource transition plan over the next few years, plans that have yet to be put in place are uncertain.

The Strategic Financial Plan financial metrics, rate stability strategies and “AA” category credit rating provide critical financial stability and flexibility, preserves long-term financial sustainability and more stable and predictable wholesale rates.

- Capital investment forecast
- Coal inventory sales
- Commodity prices
- Debt issuance costs
- Economic externalities
- Integrated Resource Plan
- Load forecast
- Regulations
- Staffing
- Surplus sales prices and volumes

Challenges from evolving industry
- Asset integration schedule
- Federal hydropower allocations
- Decommissioning
- Deferred revenues and expenses
- Distributed energy resources and strategy
- Emissions expense
- Noncarbon energy curtailments
- Organized energy markets
- Resource diversification policy
- Supply chain
Next steps

• Board approval of the Strategic Financial Plan requested at the December 2023 board meeting
• Staff will continue to evaluate the financial metrics to determine the best path forward to achieve financial and operational goals, objectives and strategic initiatives for Platte River and the owner communities
IRP community engagement update

Eddie Gutiérrez, chief strategy officer
Key highlights from engagement

• Extreme weather modeling and climate change
• What is a dispatchable resource?
• Energy market and resource planning
  • Source of "other purchases"
• Electrification efforts and growth in demand/load
• Equity
• Behavioral change vs. adding more resources
Community meetings

Longmont

Completed
• Longmont Sustainability Advisory Board
• Longmont Neighborhood Group
• City council

Planned
• Climate Action Sunday (community event)
• Latino chamber of commerce
• Longmont economic development partnership
• Equitable climate action team

Loveland

Completed
• City council
• Loveland Utilities Commission
• Downtown Development Authority
• Renewables Now Loveland

Planned
• League of Women Voters
• FUEL – Loveland’s young professional group
• Loveland Chamber of Commerce Ambassadors
Community meetings

Estes Park

Completed
• Town board
• League of Women Voters
• Estes Park Sierra Club

Planned
• Chamber of Commerce
• Rotaries

Fort Collins

Completed
• Fort Collins Energy Board
• Colorado State University
• Fort Collins Natural Resources Advisory Board
• COSSA
• Northern Colorado Renewable Energy Society
• City council
• Fort Collins Sustainability Group
• Larimer County
Fall marketing campaign
Marketing campaign

Overview

• Celebrating 50 years of serving Estes Park, Fort Collins, Longmont and Loveland
• Highlights our commitment to the principles that have shaped our history and will direct our transition to a noncarbon energy future
• As we plan for the next 50 years, we remain committed to our foundational pillars:
  • Reliability
  • Environmental responsibility
  • Financial sustainability
The giving you the power campaign

Radio ads, digital billboards, newspaper and digital ads, social media ads and posts

Platte River introduction

English

Spanish

Platte River's future

English

Spanish
Marketing strategy

• Celebrate 50 years of reliable power and ongoing collaboration with our owner communities
• Wholistic approach utilizing all platforms: digital, print, out of home
• Educate and inform on ongoing resource planning, align with 2024 IRP efforts and related community engagement
  • Proactive media approach
  • Website page with more information and continued transparency
  • Educational social media campaigns
  • Continue to schedule community meetings
Questions
Board of directors

Oct. 26, 2023

Energy leaders since 1973
SPP RTO West update

Melie Vincent, chief operating officer
Agenda

- SPP RTO West refresher
- SPP RTO West participation requirements
- SPP RTO West latest developments
- Platte River SPP RTO West steering committee
SPP RTO West

Regional footprint

Market participants
- Basin Electric Power Cooperative
- Colorado Springs Utilities (CSU)
- Deseret Power Electric Cooperative
- Municipal Energy Agency of Nebraska (MEAN)
- Platte River Power Authority (PRPA)
- Tri-State Generation and Transmission Association
- Western Area Power Administration (WAPA) – LAP and CRSP

Fast facts
- Go-live April 1, 2026
- ≈ 10,000 miles of high voltage transmission
- ≈ 21 TWh annual net energy load
SPP RTO West versus SPP WEIS

RTO responsibilities

- Tariff administration and design
  - Resource commitment and dispatch
- Market monitoring
- Open access transmission
- Resource adequacy
- Congestion management
- Parallel path flow management
- Ancillary services
- Transmission planning and expansion
- Interregional coordination

Energy imbalance requirements

- Tariff administration and design
  - Resource dispatch
- Market monitoring
- Open access transmission in real-time
- Supply adequacy
Benefits of RTO West

Versus SPP WEIS

- Unit commitment leads to more economic resource operation
- Resource adequacy requirements improve reliability of the region
- Regional transmission planning allows development of a more efficient grid network
- Network transmission in day-ahead and real-time markets reduces power delivery costs
- Co-optimization of energy and ancillary service dispatch reduces overall costs
- Congestion hedging mitigates risk of price divergence between resources and load
- Allows for integration of greater volumes of intermittent, renewable resources
SPP RTO West participation requirements

- Credit rating of BBB- or higher and minimum capitalization requirements
- Annual risk management certification
- Load serving entities must meet resource adequacy requirements
- Energy trading risk management system
- Market operations system
- Security administrator on staff
- Digital communication including inter-control center communications (ICCP)
- Automatic dispatch systems for resources to follow market instructions
- Energy management system to collect and communicate data to SPP
- Reliable system metering
SPP RTO West development

- Technical Discussions Terms and Conditions Review – Members Forum
  - Jan. – July 2021

- Terms and Conditions – Members Forum, MOPC
  - July 2021

- DC Tie T&C approved by West Interested Parties and SPP Board of Directors/Regional State Committee
  - July 2022

- SPP Board Approval of updated Terms and Conditions for WAPA-CRSP
  - January 2023

- Execution of Membership Commitment Agreement by the West Interested Parties
  - July 1 2023

- File Tariff Modifications with FERC to implement the RTO on the West Market Development Begins
  - Q2 – 2024

- FERC Tariff Approval BA Certification
  - Q4 – 2025

- Governing Document and Tariff Review
  - Feb. – May 2021

- Policy Level Agreement - approved by West Interested Parties and SPP BOD/RSC
  - July 2021

- WAPA-CRSP requests additional terms and conditions
  - October 2022

- WAPA initiates FRN process
  - Q1/Q2 2023

- SPP Staff Begins Tariff Updates
  - Q3 – 2023

- Member Testing Begins
  - Q2 – 2025

- GO LIVE
  - April 1st 2026
# SPP RTO West implementation timeline

<table>
<thead>
<tr>
<th>Activity</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment agreements*</td>
<td>Q3 23</td>
<td>Q1 24</td>
<td>Q1 25</td>
<td>Q1 26</td>
</tr>
<tr>
<td>Tariff and member on-boarding</td>
<td>7/1, 10/10</td>
<td>8/1-3/31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirements and design</td>
<td></td>
<td>10/2-7/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOPC approval</td>
<td></td>
<td></td>
<td>4/1</td>
<td></td>
</tr>
<tr>
<td>Development</td>
<td></td>
<td></td>
<td>4/1-12/31</td>
<td></td>
</tr>
<tr>
<td>Internal Testing (SAT, SIT/FIT)</td>
<td></td>
<td></td>
<td>10/1-7/1</td>
<td></td>
</tr>
<tr>
<td>Member Testing</td>
<td></td>
<td></td>
<td></td>
<td>4/1-12/31</td>
</tr>
<tr>
<td>Parallel Operations</td>
<td></td>
<td></td>
<td></td>
<td>1/26-4/1</td>
</tr>
<tr>
<td>Go-live</td>
<td></td>
<td></td>
<td></td>
<td>4/1</td>
</tr>
</tbody>
</table>
Platte River RTO West steering committee

• The Platte River RTO West steering committee is comprised of seven staff members from across the organization, including power markets, finance, generation, power delivery, legal and IT/OT, with the COO serving as executive sponsor

• Platte River has secured consulting services to manage the implementation project, complete gap assessments and provide expertise to assist in decision-making

• Current market development activity
  • Resource adequacy requirements
  • Transmission zone development
  • Market stakeholder constructs
Summary

- Participation in an RTO is a critical element of the Resource Diversification Policy as well as part of our strategic plan.
- Development and implementation of an RTO is a large undertaking that requires collaboration within and across multiple organizations.
- Working with a consultant with extensive market experience, staff has developed an implementation plan for successful entry into RTO West on April 1, 2026.
- Staff is actively engaged in market participant working groups to develop key aspects of the new market.
Questions
# September operational results

<table>
<thead>
<tr>
<th>Owner community load</th>
<th>Budget</th>
<th>Actual</th>
<th>Variance</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner community demand</td>
<td>608 MW</td>
<td>618 MW</td>
<td>10 MW</td>
<td>1.7%</td>
</tr>
<tr>
<td>Owner community energy</td>
<td>266 GWh</td>
<td>256 GWh</td>
<td>(10 GWh)</td>
<td>(3.8%)</td>
</tr>
<tr>
<td>Net variable cost* to serve owner community energy</td>
<td>$3.8M</td>
<td>$2.0M</td>
<td>$1.8M</td>
<td>47%</td>
</tr>
</tbody>
</table>

*Net Variable Cost = total resource variable costs + purchased power costs - sales revenue

## Market impacts to net variable cost

### Downward pressure

- Higher bilateral sales prices: $2.9M
- Coal generation volume savings: $1.9M

### Upward pressure

- Lower bilateral sales volume: ($0.8M)
- Coal generation prices: ($1.0M)
**YTD operational results**

### Owner community load

<table>
<thead>
<tr>
<th></th>
<th>Budget</th>
<th>Actual</th>
<th>Variance</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner community demand</td>
<td>4913 MW</td>
<td>4843 MW</td>
<td>(70 MW)</td>
<td>(1.4%)</td>
</tr>
<tr>
<td>Owner community energy</td>
<td>2498 GWh</td>
<td>2397 GWh</td>
<td>(101 GWh)</td>
<td>(4%)</td>
</tr>
</tbody>
</table>

### Net variable cost* to serve owner community energy

<table>
<thead>
<tr>
<th></th>
<th>Budget</th>
<th>Actual</th>
<th>Variance</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net variable cost*</td>
<td>$32.5M</td>
<td>$25.5M</td>
<td>$7.0M</td>
<td>21.5%</td>
</tr>
<tr>
<td>$13.02/MWh</td>
<td>$10.65/MWh</td>
<td>$2.37/MWh</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Net Variable Cost = total resource variable costs + purchased power costs - sales revenue

### Market impacts to net variable cost

#### Downward pressure

- Generation and market outcomes pushing costs lower
  - Coal generation volume savings: $17.8M
  - Higher bilateral sales prices: $14.3M

#### Upward pressure

- Generation and market outcomes pushing costs higher
  - Higher market purchase volume and average price: ($6.9M)
  - Lower bilateral sales volume: ($10.7M)
Board of directors

Oct. 26, 2023

Energy leaders since 1973
## September financial summary

<table>
<thead>
<tr>
<th>Category</th>
<th>September variance from budget ($ in millions)</th>
<th>YTD variance from budget ($ in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in net position*</td>
<td>$1.9</td>
<td>$14.7</td>
</tr>
<tr>
<td>Fixed obligation charge coverage</td>
<td>.76x</td>
<td>.48x</td>
</tr>
<tr>
<td>Revenues</td>
<td>$1.3</td>
<td>$(3.6)</td>
</tr>
<tr>
<td>Operating expenses</td>
<td>$0.7</td>
<td>$16.4</td>
</tr>
<tr>
<td>Capital additions</td>
<td>$0.1</td>
<td>$19.1</td>
</tr>
</tbody>
</table>

Variance key:  Favorable: ● | Near budget: ◦ | Unfavorable: ■

* YTD change in net position includes $2.2 million unrealized gains on investments.
Board of directors

Oct. 26, 2023

Energy leaders since 1973