



Platte River
Power Authority

Estes Park • Fort Collins • Longmont • Loveland

Board of directors

Oct. 29, 2020



Distributed energy resources strategy committee update

Oct. 29, 2020



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DER strategy committee

Estes Park

- Reuben Bergsten, director of utilities

Fort Collins

- Tim McCollough, committee co-chair and deputy director of light and power
- John Phelan, energy services senior manager

Longmont

- Dave Hornbacher, committee co-chair and executive director of electric services
- Kate Medina, internal services director

Loveland

- Bill Crowell, power operations manager
- Tracey Hewson, customer relations manager

Platte River

- Andy Butcher, chief operating officer
- Alyssa Clemsen Roberts, chief strategy officer



DER strategy consultant

- **Smart Electric Power Alliance (SEPA)**
 - Focus on grid modernization and decarbonization
 - Membership-based non-profit organization
 - More than 700 utilities, over 70% of the electricity sold in U.S.
 - Competitive solution providers,
 - Governmental organizations focused on energy issues
 - Services: research, education, advisory services, facilitation of DER working groups

Role for our project

- Facilitation and guidance
- Research and industry knowledge
- Stakeholder engagement

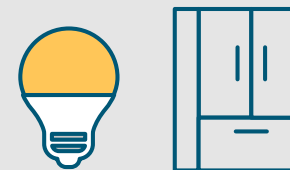
What are DERs?

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



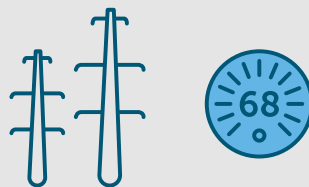
Energy efficiency

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 motivations

- Customer interest
- Owner community interest
- Manage DER from multiple utility perspectives
- Resource Diversification Policy (“advancements”)

DER strategy goals

- A vision shared by Platte River and the owner communities for DER integration
- Guiding principles and approaches for integrating DER through coordinated evaluation and planning, operations, and customer programs
- A DER evaluation framework that considers benefits and costs of DER across the electric system
- A coordinated approach to securing customer and system data
- Input from and support of affected internal and external stakeholders
- Improved outcomes for DER integration

Committee work and accomplishments

- Lay project foundations (September 2019-March 2020)
 - Steering committee formed, project charter drafted, RFP issued and consultant selected
- Project pause – COVID-19 (March-June 2020)
- Project kickoff, direction setting and data gathering (June to present)
- SEPA one-on-one interviews
- Workshop 1
 - Part 1 – Utility DER strategy orientation
 - Part 2 – Utility of the future and visioning
 - Part 3 – DER evaluation framework
 - Public engagement planning (July 2020 on)



DER strategy vision

A joint DER strategy will promote collaboration and coordination between the owner communities and Platte River regarding DERs and reflect the values of reliability, financial sustainability, environmental responsibility and enhanced customer experience. The DER strategy will support Platte River's Resource Diversification Policy and the policy goals of each community.

This collaboration and coordination encompass guiding principles for DER evaluation and planning, operations and customer programs with the overall objective of providing value to all customers through electric system optimization and/or individual customer benefits.

DER strategy guiding principles

1. Strengthen system reliability and financial sustainability while enhancing environmental responsibility and customer experience.
2. Implement safety practices in all facets of DER planning, operations and customer programs to protect the public, utility employees, contractors and customers.
3. Maintain physical and cybersecurity of grid assets and privacy of customer data.
4. Facilitate deployment of DERs that provide benefits to customers and the electrical system and result in equitable outcomes for all.
5. Focus on partnerships with customers enabling individual choice for DERs and associated flexibility.
6. Provide consistency, transparency and flexibility among Platte River and the owner communities.
7. Employ common processes, industry best practices and innovation for the integration of DER technologies.

Public outreach and engagement

Completed first public engagement (Sept. 28 – Oct. 16)

Anticipate three more by end of this project

Outreach included:

- DER strategy microsite: www.prpa.org/der
- Email
- Survey
- Press release

Types of survey questions

- Familiarity with different types of DER
- Feedback on vision and guiding principles
- Relative importance of goals for DER strategy (e.g., low bills, equitable costs and services, environment, reliability)

Next steps: coordination in a high-DER future

| | | | | Focus areas/subcommittees | | | | | | | | |
|-----------|-------------------|----------------|-----------------------------|---------------------------------|-----------------------|--|-------------------|--|-----------------------|------------------------------|----------------|-------------------|
| | | | | Planning and evaluation | Operations | Customer programs and business models | | | | | | |
| Functions | • Forecasting DER | • T&D planning | • Hosting capacity analysis | • Integrated resources planning | • DER interconnection | • DER monitoring, control and dispatch | • DER aggregation | • Transmission and distribution coordination | • Retail DER programs | • DER asset ownership models | • Retail rates | • Wholesale rates |

Sample discussion topics

- What does coordination look like in high-DER future?
- Who leads, who participates and who is informed?
- What information, tools, systems and processes are required?

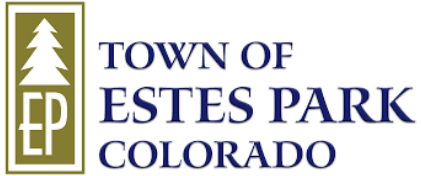
Project timeline

| 6/20 | 7/20 | 8/20 | 9/20 | 10/20 | 11/20 | 12/20 | 1/21 | 2/21 | 3/21 | 4/21 | 5/21 |
|-------------------------------|------|------|------|----------------|-------|--------------------|------|--------------------|------|------|------|
| Kickoff and direction setting | | | | Gap assessment | | | | Report development | | | |
| Data gathering | | | | | | Report development | | | | | |
| Stakeholder engagement | | | | | | | | | | | |

- Establish vision and guiding principles
- Determine current and desired future state for DER integration
- Stakeholder landscape

- Gap assessment and closure analysis
- Subcommittee/focus area discussions
- DER evaluation framework development
- Stakeholder engagement

- Finalize DER strategies
- Finalize DER evaluation framework
- Finalize report
- Continue stakeholder engagement



Questions and discussion



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2021 proposed strategic budget update

Agenda

- Budget changes since work session
- Financial results
- Highlights – 2021 strategic budget

Budget changes since work session

- Production cost model updates
 - Reduction in market price assumptions for surplus sales revenue, reduced volume
 - Increases in market price assumptions for joint dispatch agreement purchases
- Refinements to departmental operations and maintenance expenses
- Updates to capital projects
 - Windy Gap Firming Project
 - Combustion upgrades – Rawhide Unit 1
 - Energy trading software
 - Airflow spoilers
- Updates to depreciation and amortization
 - Change in depreciation method
 - Additional Windy Gap water unit sales

Budget changes since work session

| | |
|--|---|
| <p>⬇ Sales for resale (\$2.8M)</p> <ul style="list-style-type: none"> ▪ Production cost model updates ▪ Decreases: <ul style="list-style-type: none"> ▪ 4.9% average price to \$21.00 from \$22.09 ▪ 7.1% volume | <p>⬆ Purchased Power (\$2.3M)</p> <ul style="list-style-type: none"> ▪ Increase primarily as a result of 93.2% average price to \$11.11 from \$5.75 of joint dispatch agreement power after production cost model update ▪ Partially offset by reduction in Xcel Energy's estimated tariff for purchased reserves |
| <p>⬇ Fuel \$2.2M</p> <ul style="list-style-type: none"> ▪ Decrease in coal and natural gas generation as a result of the production cost model update and the decrease in the sales for resale average market price and volume | <p>⬆ Other expenses (\$0.1M)</p> <ul style="list-style-type: none"> ▪ Increases: department budgets including vegetation management, nonroutine projects and consulting ▪ Decreases: Windy Gap Firing Project pooled financing arrangement |
| <p>⬇ Capital additions \$13.9M</p> <ul style="list-style-type: none"> ▪ Decreases: Windy Gap Firing Project change in accounting method, Combustion upgrades reduction in scope, Clinker grinder seal upgrade, Craig units 1 and 2 projects ▪ Increases: Distribution switches on CT units A-D and F, Airflow spoilers increased scope, Energy trading software, other new or refined projects | <p>⬇ Contingency \$2.0M</p> <ul style="list-style-type: none"> ▪ Appropriation is approximately 10% of operating expenditures and capital additions. Due to the net reduction in those categories, less contingency appropriation is needed |
| <p>⬆ Depreciation and amortization (\$0.6M)</p> <ul style="list-style-type: none"> ▪ Impacted primarily from accounting policy using GASB 62, net increase <ul style="list-style-type: none"> ▪ deferred net loss ▪ gains on the sale of Windy Gap water units | |

(unfavorable)/favorable change

Financial impact

| \$ in thousands | Proposed budget | Prices & model update impacts | Other O&M net decrease | Capital & depreciation & amortization impacts* | Favorable (unfavorable) changes | Updated proposed budget |
|---|-------------------|-------------------------------|------------------------|--|---------------------------------|-------------------------|
| Revenues | | | | | | |
| Sales to owner communities | \$ 193,930 | \$ (21) | | | \$ (21) | \$ 193,909 |
| Sales for resale - long-term | 18,664 | | | | - | 18,664 |
| Sales for resale - short-term | 23,674 | (2,769) | | | (2,769) | 20,905 |
| Wheeling | 6,324 | | | | - | 6,324 |
| Interest and other income | 1,804 | | | | - | 1,804 |
| Total revenues | \$ 244,396 | \$ (2,790) | | | \$ (2,790) | \$ 241,606 |
| Operating expenses | | | | | | |
| Purchased power | \$ 54,896 | \$ (2,519) | \$ 222 | | \$ (2,297) | \$ 57,193 |
| Fuel | 36,646 | 2,235 | | | 2,235 | 34,411 |
| Production | 45,512 | 18 | 20 | | 38 | 45,474 |
| Transmission | 18,682 | | (32) | | (32) | 18,714 |
| Administrative and general | 22,504 | | (127) | | (127) | 22,631 |
| Distributed energy resources | 11,667 | | | | - | 11,667 |
| Total operating expenses | \$ 189,907 | \$ (266) | \$ 83 | | \$ (183) | \$ 190,090 |
| Capital additions | | | | | | |
| Production | \$ 102,600 | | | \$ 15,773 | \$ 15,773 | \$ 86,827 |
| Transmission | 2,580 | | | (806) | (806) | 3,386 |
| General | 1,882 | | | (1,105) | (1,105) | 2,987 |
| Total capital additions | \$ 107,062 | | | \$ 13,862 | \$ 13,862 | \$ 93,200 |
| Total operating expenses and capital additions | \$ 296,969 | \$ (266) | \$ 83 | \$ 13,862 | \$ 13,679 | \$ 283,290 |
| Debt expense | \$ 18,226 | | | | \$ - | \$ 18,226 |
| Total expenditures | \$ 315,195 | \$ (266) | \$ 83 | \$ 13,862 | \$ 13,679 | \$ 301,516 |
| Contingency appropriation | \$ 30,000 | | | \$ 2,000 | \$ 2,000 | \$ 28,000 |
| Total expenditures and contingency | \$ 345,195 | \$ (266) | \$ 83 | \$ 15,862 | \$ 15,679 | \$ 329,516 |
| Net income | \$ 16,664 | \$ (3,056) | \$ 83 | \$ (615) | \$ (3,588) | \$ 13,076 |

*Depreciation and amortization expense increased by approximately \$0.6M impacting net income.

Financial results

| Budget results (\$ millions) | 2020 budget | 2021 budget | Increase (decrease) | |
|------------------------------|----------------|-----------------|------------------------|------|
| Total revenues | \$ 240.5 | \$ 241.6 | ↑ | 0.5% |
| Total expenditures | \$ 286.2 | \$ 301.5 | ↑ | 5.3% |
| Board contingency | \$ 26.0 | \$ 28.0 | ↑ | 7.7% |

| Strategic financial plan indicators | Target minimums | 2020 budget | 2021 budget | Increase (decrease) | |
|--|--|----------------|----------------|------------------------|---------|
| Net income (\$ millions) | 3% of projected operating expenses* | \$ 17.2 | \$ 13.1 | ↓ | (23.8%) |
| Fixed obligation charge coverage ratio | 1.50x | 1.79x | 1.97x | ↑ | 10.1% |
| Debt ratio | < 50% | 34% | 21% | ↓ | (38.2%) |
| Unrestricted days cash on hand | 200 | 256 | 302** | ↑ | 18.0% |

* 3% of projected operating expenses for 2020 and 2021 is \$5.7 M for both years.

** Will change with the update to the 2020 estimate with the final budget document.

Highlights – 2021 strategic budget

Platte River's core pillars



Reliability



Environmental responsibility

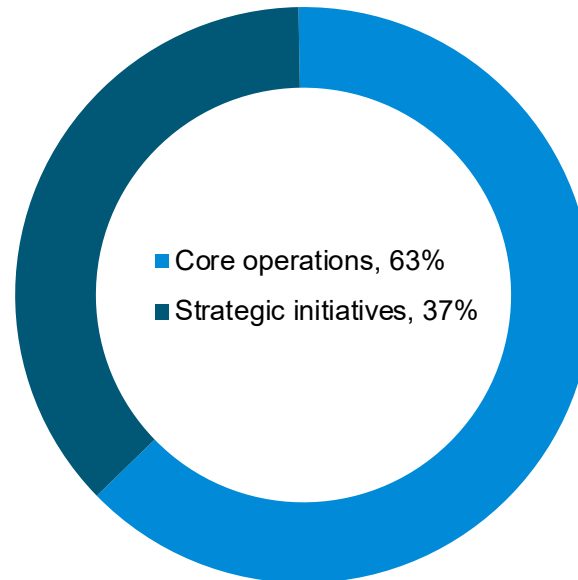


Financial sustainability

Operating expenses and capital additions: \$283.3 million

Strategic initiatives

- DER (EE, DR, DER)
- Public engagement and communications
- Resource planning
 - operational flexibility
 - planning for new resources
 - DER strategy
- Energy imbalance market preparedness
- Infrastructure advancement
 - Windy Gap Firming Project
- Energy Engagement Center



Core operations

- Rawhide Unit 1 seven-week scheduled maintenance outage
- Baseload and peaking generation, transmission
- PPAs for existing renewable resources & hydropower
- Predictive maintenance
- Proactive capital investments

Revenues

- Reduced owner community loads
- New contract sales for resale
- 1.5% rate increase

2021 budget: \$329.5 M

Questions



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September operational results

| Category | September variance | | YTD variance | |
|----------------------|--------------------|---|--------------|---|
| Municipal demand | 1.5% | ◆ | (3.2%) | ■ |
| Municipal energy | (2.2%) | ■ | (1.6%) | ◆ |
| Baseload generation | (23.8%) | ■ | (16.4%) | ■ |
| Wind generation | 19.9% | ● | 19.9% | ● |
| Solar generation | (50.1%) | ■ | (37.2%) | ■ |
| Surplus sales volume | (1.1%) | ◆ | 11.6% | ● |
| Surplus sales price | 14.1% | ● | 13.9% | ● |
| Purchase volume | 243.7% | ■ | 122.4% | ■ |
| Purchase price | (23.8%) | ● | (16.3%) | ● |
| Dispatch cost | (2.1%) | ● | (5.3%) | ● |

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



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Financial summary

| Category | September variance from budget (\$ in millions) | Year to date variance from budget (\$ in millions) |
|-------------------------------------|---|--|
| Net income | \$0.5 ● | \$12.8 ● |
| Fixed obligation charge coverage | 1.12x ● | .88x ● |
| Revenues | \$0.5 ● | \$4.9 ● |
| Operating expenses | \$1.0 ● | \$7.9 ● |
| Capital additions | \$3.4 ● | \$32.2 ● |

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



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