Platte River Power Authority

IRP community engagement questions

As part of its 2024 IRP process, Platte River committed to conducting three public engagement meetings at its headquarters in Fort Collins, Colo. Platte River staff also presented on the IRP over two dozen times to town and city councils, boards and community groups in partnership with the distribution utilities' staff. Below is a list of questions and answers captured during engagement meetings and presentations. Platte River has edited the questions and answers for clarity and has removed redundant questions.

About the IRP process

What is an Integrated Resource Plan (IRP)?

Resource planning is a continuous and dynamic process at Platte River. As part of this ongoing effort, Platte River develops an IRP together with our owner communities. The IRP is a critical tool for establishing a near-term action plan and long-term trajectory that will ensure an adequate supply of reliable, financially sustainable and environmentally responsible electricity.

What is the process for producing an IRP?

With the volume of information and supporting studies that must be evaluated, the 2024 planning process starts in Q2 2023 and goes into Q3 2024. A specific set of criteria is required by the Western Area Power Administration (WAPA), one of four power marketing administrations within the U.S. Department of Energy, to complete the IRP. In addition to satisfying WAPA's criteria, Platte River's IRP process will consist of the following efforts:

- Community listening sessions to assess customer sentiment toward the composition of Platte River's future generating mix
- Collecting information to be used in the evaluation of future generation portfolios, such as cost and performance characteristics
- Reports from independent advisors regarding subjects that will provide insight to guide the overall IRP analysis
- An analysis of a wide range of generation options that can be used to meet portfolio planning objectives
- Variations of key variables to determine a range of outcomes with different costs and performance outcomes to understand risks and rewards for different levels of renewable integration
- Recommendation of a portfolio for implementation
- Distribution of findings, including final recommendations to the board and our community owners

Why are you only doing one listening session for the 2024 IRP instead of four like you did for the 2020 IRP?

A combined listening session for all community members, instead of one in each community, allows for a unified discussion around our energy future. In total, there will be three community listening sessions during the 2024 IRP process.

Why do you talk so much about the future but have so few people involved in the IRP who are under 35?

Platte River and its owner communities promote the hybrid listening sessions on social media as well as through local media outlets. In doing so, we hope to reach and encourage all community members to be engaged in the integrated resource planning process.

How can I get involved?

We encourage you to take part in Platte River's 2024 IRP process by:

- Attending one of the community listening sessions
- Providing your comments or sending your questions via email to 2024IRP@prpa.org
- Visit www.prpa.org/2024IRP for more information and to sign up to receive updates

Resource diversification

Your website and published guide state that Platte River's goal is 100% renewable by 2030 but the presentation states you'll be 88% renewable by 2030.

The Platte River Board of Directors approved the Resource Diversification Policy in 2018, which directs Platte River's leadership to proactively work toward a 100% noncarbon energy mix by 2030, provided the foundational pillars of system reliability, environmental responsibility and financial sustainability can be maintained. The policy also includes nine caveats that must be met, including expansion of transmission infrastructure, development and implementation of distributed energy resources and maturation of battery storage technology.

Modeling from our 2022 resource plan shows a path to an 88% noncarbon energy mix is possible by 2030. Current modeling for the 2024 Integrated Resource Plan (IRP) confirms this forecast and we are confident we will provide 85%+ noncarbon energy in 2030.

Beyond 2030, Platte River and our owner communities (Estes Park, Fort Collins, Longmont, and Loveland, Colorado) will continue to work toward the goal of 100% noncarbon energy without sacrificing our three foundational pillars until the goal is met.

How confident are you that you'll hit 88% renewable in 2030?

Modeling from the 2022 resource plan shows a path to an 88% noncarbon energy mix is possible by 2030. Current modeling for the 2024 IRP has thus far confirmed this forecast and we are very confident that we will provide 85%+ noncarbon energy in 2030.

I am interested in how Platte River is going to move to 100% renewable energy. If not 2030, then when?

The Resource Diversification Policy directs Platte River to proactively work toward 100% noncarbon energy by 2030 while maintaining system reliability, environmental responsibility and financial sustainability. If technology and reliability challenges remain as obstacles to achieving 100%, Platte River and the owner communities will continue to work toward the goal in a responsible and sustainable manner that maintains system reliability.

Why have you only jumped 8% in renewables in the portfolio from 2018?

Since 2018, Platte River has made significant progress toward our Resource Diversification Policy goal. We have added 225 MW of wind, 22 MW of solar and a 2 MWh battery. At the same time, our hydropower allocations have steadily declined due to a long-standing regional drought. Even with reduction in hydro generation, in 2022 we provided 60% more renewable generation compared to 2018. Moving forward, the Black Hollow Solar project will add 150 MW of solar (expected to be operational in 2025). We are currently evaluating an RFP for solar and storage issued in 2022. During October 2023, we issued an RFP for up to 250 MW wind. With these projects, we will continue our journey towards a deeply decarbonized portfolio in 2030.

How is Platte River partnering with its owner communities to specifically address their adopted sustainability plans?

Platte River is working toward the goal set by the Resource Diversification Policy, which the board passed to help the owner communities reach their respective, but united, goals of a noncarbon energy future.

Resource planning

If you had to put the three pillars in order of priority for resource planning, what would be the order from most important to third most important?

As Platte River moves toward a noncarbon energy future, it must maintain its three foundational pillars of reliability, financial sustainability and environmental responsibility,

as mandated in the 2018 board-approved Resource Diversification Policy. Platte River's three foundational pillars are equally important.

What does "dispatchable resources" mean?

A dispatchable resource is a resource where power output can be changed quickly to complement renewable generation intermittency. A dispatchable generation resource will balance load and renewable generation in real time. It can start, stop, speed up and slow down quickly to produce more or less generation when needed.

I hear the solution you are leaning towards is natural gas. Is that true?

The 2024 IRP studies and modeling will help to identify future resources needed to maintain Platte River's three foundational pillars. Platte River's solution based on current technology will include a combination of many resource types and technologies, including solar, wind, batteries and dispatchable thermal resources.

Are you considering the carbon released as methane leakage from wells in Northern Colorado when considering your backup "dispatchable resources"?

We buy gas from the gas companies in the pipeline system and not at the well. When we burn that gas, we consider CO_2 released. We are planning to acquire state-of-the-art, high-efficiency and highly flexible dispatchable resources that could burn hydrogen in the future to minimize CO_2 emissions.

Looking at future load, will 200 MW of new dispatchable capacity be enough?

Based on our current analysis, 200 MW of dispatchable thermal capacity will be enough. We will continue to refine our analysis and recommend a final portfolio by Spring 2024. We don't expect the final value to be widely different.

What is happening around green hydrogen projects?

There is a lot of planning for green hydrogen occurring around the world. The US Department of Energy (DOE) and the European Union have announced goals to bring the cost of green hydrogen to $1.0/Kg by 2030. The DOE recently announced funding for seven hydrogen hubs across the country. Unfortunately, Colorado's application for hydrogen hub was not selected.

Platte River hired a consultant to investigate the availability and cost of green hydrogen to be used in the aeroderivative, flexible fuel combustion turbine technology. Their preliminary investigation indicates that green hydrogen could be available in commercial quantities by the middle of the next decade.

Have you all considered geothermal and/or micro-nuclear?

For our 2030 portfolio needs, we are considering only commercially proven and economical technologies. There are not many known sources of commercially proven geothermal energy in our area and micro-nuclear technology is in the early development stage, and therefore, has not been considered. As these technologies continue to improve and gain commercial acceptance, we will consider them for our future needs.

Are you exploring "waste" to energy technologies? E.g., industrial waste converted to energy in plant adjacent to industrial facility.

Typically, waste-to-energy plants are smaller. When they are economical, the industrial owners install them next to the existing processing facilities where waste energy is available. These plants have to be located within the industrial unit, and are generally owned and operated by the industry, not the utility. Platte River does not consider current waste-to-energy technologies available to Platte River as commercially viable.

Are you using Artificial Intelligence (AI) to predict the future?

The short answer is not directly and not generally. However, some of our consultants use predictive analytics in load and renewable forecasting. Predictive analytics use historical data as well as current data (such as temperature, wind speed, etc.) to develop forecasts. Predictive analytics models have been trained with historical data which is sometimes referred to as "machine learning". Machine learning is one of the techniques/process used in AI.

What is the plan for Rawhide?

Rawhide Unit 1 will retire by 2030, 16 years before its planned retirement date. The Rawhide Energy Station has multiple generation resources that employees will need to maintain and support. Platte River is developing plans to smoothly transition employees to new roles after Unit 1 retires, as directed by Platte River's Board Resolution No. 08-20: Responsible Transition for Rawhide Employees. Beginning in 2030, Unit 1 will undergo a lengthy decommissioning process.

Are you considering converting Rawhide Unit 1 to natural gas? Or turning Rawhide into a thermal plant with solar thermal capability?

No, for both questions.

As for the first question, Platte River has already announced the retirement of Rawhide Unit 1 by 2030. Besides, this coal plant was designed to run as a base load unit. After adding a large amount of wind and solar in the next few years, Platte River will need a very flexible source of power that can start generating power within minutes as wind stops blowing or clouds pass over our solar fields. Rawhide Unit 1, converted to gas, will not be able to perform this duty cycle requiring extreme flexibility.

Similarly, for the second question, a solar thermal plant will have the same limitations (lack of flexibility).

While these are interesting propositions, we are not aware of any utility which is considering these options for old coal plants.

How is Platte River going to eventually get rid of coal and natural gas?

Platte River plans to retire all its coal resources by the end of 2029. In 2030, we expect renewables to provide more than 85% of Platte River's load. During the next decade, we expect the development and commercialization of long duration energy storage and green hydrogen technologies which will eventually enable 100% noncarbon supplies.

Are you learning from other countries that are 100% renewable in certain industries?

We are not aware of any large country that provides 100% renewable energy to its power grid on a 24/7 basis. Norway and Sweden can provide large amounts of electricity from renewable resources due to abundant hydroelectric energy. As most of the wind and solar equipment suppliers are global players, they are using their experiences from across the world to improve their technologies. When Platte River acquires solar, wind and storage technologies, we are taking advantage of the latest developments across the world.

Do you collaborate with other cities that have 100% renewable energy like Burlington, VT and Salt Lake City (targeting 2030)?

Platte River is an active member of the Large Public Power Council and the American Public Power Association where numerous member utilities have aggressive carbon-reduction goals. We regularly collaborate with these member utilities and discuss the challenges, opportunities and lessons learned from decarbonizing energy portfolios.

Will the cost of renewables continue to climb 70-80% every three years?

Hopefully not. The recent increases were driven by large demand, emphasis to nationalize production and some supply chain issues lingering from the impacts of COVID-19. Renewable equipment supply is a commodity business, and, like any commodity, the prices will continue to fluctuate.

What is the right amount of solar for Platte River?

We are finalizing portfolios for the 2024 IRP. Our interim portfolios suggest Platte River should add about 400 MW of solar by 2030. A final recommended number will be included in the IRP report by Spring 2024.

How much of an impact can behavior, EVs and home electrification have on modeling?

Behavior determines how much flexibility our customers have with respect to the use of electricity. The concept of a VPP (virtual power plant) relies on customers willing to alter their usage patterns when the grid needs their support. As Platte River implements its DER (distributed energy resources) strategy, customer behavior will be a key success

factor. For modeling purposes, we expect to get 32 MW of VPP capacity in 2030 out of the total enrolled capacity of about 70 MW.

EVs and home electrification are expected to greatly impact electricity demand in the coming years. We are modeling EVs and home electrification will increase our demand by more than 5% by 2030 and by more than 20% by 2040.

Does aging infrastructure affect electrification efforts?

Platte River and its owner communities maintain their power supply infrastructure according to the best utility practices. There is general belief that as more and more customers add EV and HE load, some parts of the power supply infrastructure, especially wires and transformers may need to be upgraded to handle the additional load.

Is it better to produce electricity closer to you? What is lost in the transmission delivery?

There are losses associated with delivery of energy to load. This ranges from 1-5% depending on distance and transformation to different voltages. It is not limited to transmission and includes distribution of energy. The placement of resources across a wide geographic footprint is important to ensure reliable service.

Do you consider third-party or peer-reviewed data or only data from vendors?

We use credible data sources and validate from a second set of sources where possible. For example, when we conduct competitive procurement of solar and wind, we get valuable data on the current cost of wind and solar in our area. For the future cost of renewables, we use data published by NREL (National Renewable Energy Laboratory). However, as per NREL's own admission, their data has a lag of more than one year. We calibrate NREL data with the current data received from our competitive procurements to develop our forecasts. Another example is Planning Reserve Margin (PRM) used in resource planning. Our consultant suggested using a PRM of 20%. We validated it with the recommendation of WECC (Western Electricity Coordination Council), which is a non-profit corporation that exists to promote reliable electric systems in our part of the country. We also use our vendors and other credible public sources such as the US Energy Information Administration (EIA) for data and trends.

When you look at an economic impact analysis, do you consider the impact on the community?

Platte River develops its plans in-line with the three pillars of reliability, financial sustainability and environmental responsibility. These plans strive to maintain the current level of reliability, minimize cost and minimize CO2 emissions. While our target is to reach 100% noncarbon energy mix by 2030, our modeling and analysis show that such a resource mix portfolio will not be reliable and will significantly increase the cost for our customers. Therefore, we are recommending and planning for a portfolio to reach 85%+ noncarbon energy. This portfolio is expected to be reliable and will have reasonable cost impact to our customers.

Can dispatchable capacity RFPs be for "any source" so bidders can propose alternatives to fossil fuel for dispatchable capacity?

Since the passage of the RDP in 2018, Platte River has been focused on expanding its renewable generation portfolio by issuing multiple 'all-renewable resource' RFPs. In the last five years, Platte River has added 225 MW of wind generation, 22 MW of solar coupled with a 2 MW-hour short-duration battery system and is actively finalizing details to add another 150 MW of solar.

Over the last two years, Platte River has issued multiple 'all-renewable resource' RFPs, including:

- 150 MW of solar with 25% nameplate capacity short-duration battery storage
- Up to 150 MW of wind generation
- A distributed energy storage project

During 2023, Platte River evaluated over 70 responses, including 40 from renewable developers, to these all-renewable resource RFPs. The Platte River team is in the final stages of preparing an all-renewable resource RFP for short-duration battery storage set to be issued early 2024. We will keep stakeholders apprised of all resource planning solicitations and how they support the RDP.

Aeroderivative combustion turbines

Why are we moving forward now [October 2023] to gain board approval for starting the application to build a new gas fired plant?

Platte River has determined that the new generation needs to be operational by early 2028 to allow time to test and prove reliability of the new units prior to Rawhide coal Unit 1 being decommissioned. Construction and permitting for the new units are expected to take approximately four years. So, to meet critical deadlines Platte River needs to begin permitting in early 2024.

Are you seeking approval for funding this fall [2023] to construct the new dispatchable resource?

Platte River is seeking board support for the future deployment of a dispatchable thermal generation resource. With the board's support, Platte River's proposed 2024 Strategic Budget includes a request for funds associated with the detail design and technical specifications. Platte River's budget also includes a request for funds to begin the multi-year distributed energy management system (DERMS) to enable visibility into distributed energy resources as part of the virtual power plant. Funding will also be requested for the

distributed energy resources programs related to electric vehicles and heat pumps. Battery storage is in Platte River's long-term transition plan beyond 2024.

Some people use the word methane instead of natural gas. What is the difference, and will the new aeroderivative combustion turbines burn natural gas or methane?

We refer to the new aeroderivative combustion turbines as firing natural gas because that is the primary fuel. Methane (CH_4) is a major component of natural gas prior to combustion. Platte River is required to test the natural gas used at Rawhide periodically. Prior to being combusted, roughly 90% of the natural gas is comprised of methane. However, once burned the greenhouse gas (GHG) emissions from the combustion turbines are roughly 99.9% carbon dioxide (CO_2).

What is "renewable natural gas?"

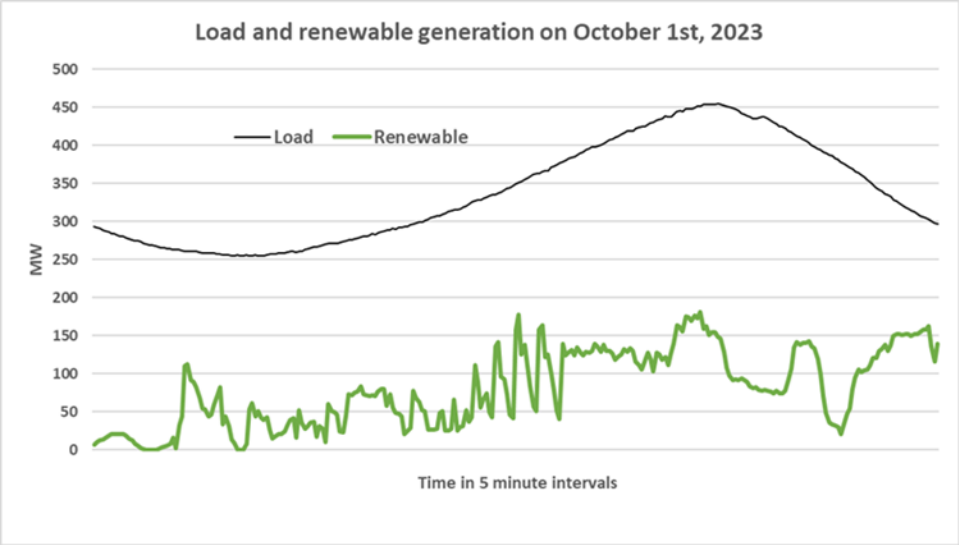
Renewable natural gas typically refers to the methane gas produced at municipal waste facilities that is refined to become equivalent to pipeline quality natural gas.

What will happen to the existing natural gas turbines? Why do we need more natural gas? Can't the existing gas turbines be used to meet demand?

We will continue to use the existing combustion turbines during extreme weather and dark calms.

We need new dispatchable thermal, aeroderivative combustion turbines to complement renewable generation on a minute-to-minute, hour-to-hour and day-to-day basis. They will frequently start, stop, ramp up and ramp down as the output from wind and solar varies from instant to instant. We can illustrate this need with an example.

The following chart shows Platte River's renewable generation and load on Oct. 1, 2023, measured every five minutes. The top black line shows a gradual increase in load while the green line shows total renewable generation. It can be seen that renewable generation changes very frequently. This chart shows renewable generation from wind resources with a maximum potential output of 225 MW and solar facilities with maximum capability of 52 MW. By 2030, Platte River will add another 300-400 MW of wind and about 250-350 MW of solar. This means, for 2030, the absolute level of the green chart will be higher but load and renewable generation patterns will be similarly variable. These variations will require new dispatchable, flexible and efficient aeroderivative combustion turbines to meet customer load even as solar and wind output fluctuates up and down.



Platte River's existing combustion turbines cannot manage this type of wildly varying duty cycle, while aeroderivative turbines are designed for this purpose. Additionally, during dark calm periods, Platte River's load could be as high as 600 – 700 MW. The existing 388 MW of combustion turbines along with about 70 MW of hydro are not enough to meet our customers' future load during the dark calm period. Therefore, we need additional aeroderivative turbines during normal operation and during the dark calms.

Have PRPA and its consultants studied the possibility of installing a smaller (say, 50 MW turbine) to work in conjunction with the existing aeroderivative gas-fired turbines to meet system load requirements after Rawhide Unit 1 has been shut down and before non-carbon or lower carbon alternatives are available? If so, what were your findings? If not, why not?

To avoid confusion, we would like to start by clarifying that the new aeroderivative technology will not be a single unit, but rather a set of units with anticipated capacity of roughly 30 to 50 MW each; each will be able to operate independently of the others. This allows much finer control of aggregate output levels to match operational needs as they change.

And we did study smaller sized new dispatchable thermal generation options, but they did not meet our reliability needs. Platte River's peak load in 2030 and beyond is expected to be 750 MW or more. During a complete dark calm, the existing 388 MW of combustion turbines, plus 70 MW of hydro and a smaller amount of new generation (such as 50 MW mentioned in the question) will not be sufficient and could result in loss of load. Our analyses show we need 200 MW of new thermal dispatchable capacity to protect reliability—and therefore the health and safety of our residents and business—through the multiday dark calms we know will come.

What is the anticipated depreciation period for the proposed 200 MW gas-fired power plant?

Technologies were evaluated over a 33-year period.

If response time is the reason for the new gas plant, wouldn't a 5 – 10 minute capacity battery bank bridge the time for the old turbines to ramp in progressive blocks of 40 to 65MW each?

Response time is one of the reasons for new dispatchable thermal generation. We propose to build 100+ MW of four-hour battery, which will provide quick response. The new dispatchable thermal generation will not only complement battery storage by providing quick response when needed, it will also provide backup generation for days during dark calms.

Also, the problems we need to solve for are not limited to agility of response as renewable resources swing up and down. We must solve for full load service through dark calms across multiple days. When all coal resources retire, our existing 388 MW of frame turbines plus the 70 MW of hydropower from the Western Area Power Administration (which may diminish over time from drought) will not sum even to our current peak load of 707 MW. And, as noted above, we think our peak load will increase by 2030. To protect the health and safety of our citizens, we must have sufficient dispatchable resources to meet **all** system load when neither wind nor solar resources are producing.

Another dimension of the problem is accredited capacity and planning reserve margins necessary to meet resource adequacy standards. Load-serving entities must plan (and build or acquire) the resources necessary to serve projected peak load plus a required "buffer," also known as planning reserve margin. Platte River will be held accountable (and already is under current Colorado law – HB2023-1039) to demonstrate that it has sufficient generating resources and accredited capacity to meet projected load plus planning reserve margin. As wind and solar resources connected to the regional power system increase, the percentage of their maximum generating capability that counts for resource adequacy purposes decreases – because their likelihood to help carry load through summer and winter peak energy consumption decreases. So, unfortunately, solutions that solve only for the slower response time for existing frame turbines are not enough.

The gas plant doesn't qualify for any energy transition subsidies or grants and has insecure fuel costs. Most alternatives to the gas plant qualify for very large subsidies or grants and have no fuel costs. Wouldn't any non-fossil alternative be cheaper?

The new dispatchable thermal generation will provide backup capacity whenever renewable generation is insufficient from lack of sun or wind. Our main sources of energy will be wind and solar generation, which do benefit from the Inflation Reduction Act (IRA) subsidies. Platte River is also evaluating the development of short-duration and long-

duration battery storage solutions that benefit from the IRA subsidies. Platte River acquires renewable resources through long-term power purchase agreements that have lower prices due to the IRA subsidies and this benefits our customers.

Previously, PRPA staff has stated that their "dark calm" periods include extreme cold and that in those events, residential heating will have gas priority and the gas plant may be unable to buy fuel. Is PRPA planning enough compressed natural gas storage for 100 hours of 200 MW operation? What would be the size and cost of the gas storage and compression facility?

Platte River is exploring options to firm up gas supply including buying firm capacity and buying commodity in advance to ensure gas availability. Platte River will evaluate these and other possible options over the next few years and adopt the best ones by 2030.

What would the costs be of making any necessary modifications to the 200 MW plant and running it on 100% renewable natural gas? What would the associated electric rate increase be over the depreciation period of the plant?

The vendors of new dispatchable thermal generation equipment have told Platte River that machines for 2028 commercial operation will be capable of blending up to 30% hydrogen with natural gas at no additional cost. We expect each will also pursue capabilities to run on 100% hydrogen by 2030 with retrofits. At this time, we do not know the cost of running 100% hydrogen or renewable natural gas; it will largely depend on how investment in hydrogen production, storage, and infrastructure develops in the coming decade.

What would the costs be of installing hydrogen generating capacity and storage capable of operating the proposed 200 MW plant at a 30% or 100% hydrogen mix? What would the associated electric rate increase be over the depreciation period of the plant?

We have not done a study to estimate the cost of installing hydrogen generation and storage capacity. We note, however, that the federal government is currently devoting considerable resources to supporting hydrogen hub development.

PRPA staff have stated that the proposed 200 MW gas-fired power plant could be retrofitted to run on 100% hydrogen after 2030. What is the ballpark estimate for the costs of doing this?

Vendors have not shared the cost of retrofitting the dispatchable thermal generation capacity to run on 100% hydrogen.

How much hydrogen can you run on a gas turbine? Does hydrogen damage metal?

Based on our initial investigation, the new dispatchable thermal, aeroderivative combustion turbines can blend up 30% hydrogen with natural gas in the near future. Vendors claim that by the middle of next decade, aeroderivative combustion turbines will

be able to run on 100% hydrogen. Vendors also claim that Platte River's existing combustion turbines (models 7F and 7E) could partially run on green hydrogen after some major modifications are made to the fuel supply system. Based on our investigation, running gas turbines on green hydrogen is less of a problem than producing, transporting and storing large amounts of green hydrogen.

While we are not experts in metallurgy, we have learned that because hydrogen is the lightest element, molecules could leak through the pipes and apparatus designed for natural gas and cause embrittlement in certain steel types. We read that special steel alloys will need to be deployed to avert any damage and leakage of hydrogen.

Storage

Is storage being considered?

Storage is an important part of our portfolio. We considered storage in the 2020 IRP and will consider it for the 2024 IRP.

Isn't it true that storage technology is commercially available, it's just too expensive?

4-hour storage technology is commercially available with 100s of MWs already installed across the country. Long duration energy storage (LDES) is not commercially available as of now. According to our consultants, it will likely become commercial in the next decade. LDES is the key enabler for 100% noncarbon supply. A few pilot projects using LDES technology have been announced. We expect the technology will be refined and cost will come down over the next few years.

Why isn't Platte River incorporating more new technologies like two-hour batteries into the IRP?

Our general strategy regarding new technologies is to educate, explore, pilot (if required) and then deploy when commercially viable. We are following this strategy for long duration energy storage. In our recommended portfolio, we plan to pilot a 10 MW project by 2030.

As for 2-hour storage, it doesn't fit well with our power supply portfolio. We prefer 4-hour storage as it is a better complementary match with wind and solar resources in our portfolio.

Has Platte River considered installing long-duration batteries such as those being installed by Xcel to bridge any gaps in generation capacity?

Yes, in our recommended portfolio, we are considering 10 MW of LDES pilot project by 2030.

How much do the batteries that Platte River is considering cost? What is their lifetime?

Platte River has not yet finalized the plans and have not decided exactly what specific model of batteries to procure. In our recommended portfolio, we are expecting to procure about 140 MW of 4-hour batteries which typically cost $1.5 million/MW. These are planning numbers, the exact cost will be determined by the market conditions when we competitively procure these batteries.

What is the current cost per day for Platte River to run on battery stored energy? $3 billion per day?

It is hard to put a cost on a per day basis for battery stored energy. Battery storage has a life of about 15 years. Platte River can outright purchase it and keep it as long as it lasts or buy through a long-term lease or contract. The $3 billion mentioned during the June 1 listening session was referring to the capital cost of building sufficient storage and keeping it for its useful life.

What kind of nonchemical batteries can we tap here? Such as pressurized subterranean air batteries? Or gravity batteries?

Storage technology is a key component of a reliable noncarbon resource mix. There are many technologies in research and development, like gravity batteries, iron air and flow batteries. Subterrain pressurized air uses existing compression and decompression technologies but requires a suitable geological formation to store a large amount of air under pressure. Platte River will consider commercially proven technologies to deliver reliable supplies.

Are you testing / piloting non-lithium-ion batteries?

Platte River is not yet testing or piloting non-lithium-ion batteries. However, we have visited manufacturing facilities that are developing commercially viable, long-duration storage batteries using iron ore technology and are currently in discussions with these manufacturers about timing, cost and potential deployment on our system.

What is the risk of fire with batteries? How much water do you need to put the fires out?

There have been some incidents of fire in Lithium-Ion batteries, but the industry is responding to it. When we start procuring these batteries, Platte River staff and the engineering design contractors will use state-of-the-art technology and engineering practices to prevent, contain and put out fires. As for how much water is needed to put battery fires out, that depends on the size and layout of the battery yard.

As for the life of these batteries, generally they last about 15 years.

Hydropower

Why are we not increasing hydropower?

Platte River does not have the option to increase its hydropower allocation from the Western Area Power Administration. The Western Area Power Administration's hydropower allocations are fixed and, in general, decreasing due to persistent drought conditions. It is not feasible for Platte River to independently develop new hydropower facilities.

Why the decrease in hydro allocation over the past five years?

Hydropower allocations are correlated to rainfall and snowpack. The western United States has seen a long-term drought over the past many years resulting in reduced hydropower allocations. However, due to the above average rains in river basins over the past few months, in 2023 we have seen a slight increase in hydro energy available from WAPA.

If climate change is a part of your IRP and climate change is largely a water crisis, how does your IRP recognize and prioritize the nexus between water and energy industries?

Platte River is developing this IRP in line with the board's direction to proactively work toward a noncarbon energy future. Platte River receives its hydropower energy from the Western Area Power Administration. Our plans will consider different amounts of hydropower energy, including less energy than has been available in the past.

Reliability

How will you maintain reliability into 2030?

Our portfolio in 2030 and beyond will have a mix of resources to provide reliable energy in addition to substantial wind and solar generation, storage, hydropower and access to a wider energy market. We will also have distributed energy resources where we will rely on our customers to provide resources and flexible load. Finally, we will continue to maintain our existing combustion turbines and build additional dispatchable resources. Together, all these resources will supply reliable energy for our owner communities.

"Dark-calm" events – what is the past, present, and future of these by percentage? Are they increasing?

We are doing a study to analyze the past occurrences of these events, including the depth, breadth and frequency. We will develop plans that withstand the events that have occurred previously and plans that will potentially withstand even worse events as we review historical trends. While future events are unknowable, we will simulate historical events for the future and develop a portfolio of supplies that can withstand past events and potentially more impactful future events.

Is there a mix of wind/solar/other that addresses seasonal variation of load and generation capacity? Our rooftop solar can meet our needs April – October but runs short November – March.

Yes, diversity of resources is the key to the reliability and sustainability of supplies, around the clock and around the year. While solar generation is lower in the winter, there

is usually more wind, while electricity demand is typically lower. Additionally, we will have some storage and hydropower and might purchase energy from neighboring utilities, if available. Finally, we will have our dispatchable resources that can provide power when needed.

What's the plan for thermal plants to cover cold, windless nights or other shortfalls?

After Rawhide Unit 1 retires in 2029, we will have substantial renewables, battery storage, hydropower generation, access to the market and dispatchable resources to provide reliable power across all seasons.

It feels like there is a gap of energy needs. What is the most affordable, reliable strategy?

The integrated resource planning process identifies the most affordable and reliable strategy. In 2020, we developed four portfolios and recommended portfolio 2, a zero-coal portfolio, as the preferred plan. For the 2024 IRP, we will again develop multiple portfolios and paths and recommend the one that best supports our three pillars of reliability, financial sustainability and environmental responsibility.

I'm noticing talk around some kind of new energy source needed. I would guess it takes many years to plan and build a new energy generation plant. What is the strategy to have something in place when the coal plant shuts down in 2030?

We plan to have a dispatchable resource online in 2028. This will give us time to test and develop operating protocols in 2029 so that we have a reliable and ready resource available after Rawhide Unit 1 retires by the end of 2029.

It occurs to me that many non-technical members of the public may not understand the need for demand generation to be in balance at all times. Not just financially but operationally.

Yes, electricity demand and supply need to be balanced in real time, unless there is available battery storage connected to the system. Whenever customers turn on their lights or air conditioning, additional electricity must be produced somewhere or extracted from battery storage. Conversely, whenever customers turn off appliances, production must be reduced accordingly (or there must be available storage capacity to absorb the unneeded electricity).

Financial sustainability

What are the future cost projections for electricity and how will those cost impact low-income populations?

In May 2023, Platte River reported to its Board of Directors the 10-year average wholesale rate forecast to achieve the resource transition plan. The rate projections were based on assumptions at that time and include the resource transition from coal to wind, solar, storage and dispatchable thermal capacity. Platte River forecasted increasing average wholesale rates, based on those assumptions, 5.0% (2024 – 2030) and 2.5%

(2031 – 2033) per year. In the spring of 2024, rate projections will be updated to reflect IRP assumptions. Platte River's board reviews and updates rates annually based on the most current information and assumptions and are subject to change. The wholesale rate represents a portion of utility costs consumers pay, so their rate increases will vary depending on which owner community's distribution utility serves them.

What is the anticipated annual percent electric rate increase that would be needed to pay for the proposed 200 MW gas-fired power plant over the depreciation period?

Please see the answer to the previous question. We emphasize these forecasted rate increases reflect all new resources needed, not just the addition of the aeroderivative turbines.

Why are rates going up if Platte River's revenues exceeded expenses in 2023?

Rates are established by Platte River's board of directors to achieve long-term objectives, strategies and financial metrics. The rates are based on projected cost of service with adequate margin. Rate smoothing is a strategy through accounting policies and multi-year analysis to develop a long-term rate path with greater predictability. The board prefers to use a multi-year rate smoothing strategy, as deemed appropriate, to avoid greater single-year rate impacts or to accomplish specified objectives. Platte River uses this mechanism to stabilize rates and increase financial flexibility.

With this new effort – retiring power plants early and adding more expensive resources and anticipating using new technologies – how will we remain competitive in cost for electricity?

Financial sustainability is one of Platte River's foundational pillars for operations and resource planning. We are developing a suite of plans and will present multiple options for our board of directors to evaluate. The board's decision will consider the wider interests of the owner communities and their customers.

How do you pay for the capacity a consumer DER creates if it reduces Platte River investment in central resources?

Capacity resource costs are recovered through the wholesale charges. As a result, consumers may recognize capacity value from their DERs to the extent that they reduce their energy consumption. Platte River will analyze how to incorporate distributed energy resources into our resource portfolio, how they can help us achieve our resource diversification policy goals and how to appropriately reflect the system value distributed energy resources provide.

California's average electrical rate is approximately 65% more expensive than the rest of the country. Will Platte River be charging me 65% more for my electricity in 2028?

Platte River's wholesale energy costs are a portion of the retail rates set by the owner communities. Wholesale cost projections are updated several times annually. Current estimates project increases primarily driven by the Resource Diversification Policy and transitioning to a reduced carbon portfolio. At this time, wholesale rates are not

anticipated to increase 65% by 2028. Platte River's Board of Directors has sole authority to establish wholesale rates and will use multi-year rate smoothing strategies, as deemed appropriate, to avoid greater single-year impacts as wholesale rates increase.

Platte River's owner communities do not seem to be particularly supportive of rooftop solar with new metering rates. How can Platte River help this adoption?

From a rates perspective, the goal with distributed generation resources, such as rooftop solar, is to create rates that are equitable among all rate payers for the product and services received.

Platte River is working to achieve our Resource Diversification Policy goal of a 100% noncarbon portfolio by 2030. While solar generation is an important component of this goal, distributed solar resources are not the most effective or economic path to achieve this because they cannot match the generation efficiencies, predictability, dispatchability and economies of scale achieved at a wholesale level. Platte River will evaluate distributed energy resources supporting those that are operationally and economically efficient.

Platte River provides support to the owner communities developing solar rates that better reflect the value solar provides to the system and recognize the need for solar to be paired with storage to ensure reliability. Support will continue to expand by working with the owner communities to develop a virtual power plant and distributed energy resource management systems that more effectively integrate solar and improve visibility, predictability, and responsiveness to the system.

What are the financial risks of transitioning to green energy?

In support of Platte River's foundational pillars of providing reliable, environmentally responsible and financially sustainable energy and services, and Platte River's mission, vision and values and strategic initiatives, Platte River's board adopted Strategic Financial Plan provides direction to preserve long-term financial sustainability and manage financial risk. To meet Strategic Financial Plan objectives and requirements, staff established financial metrics and rate stability strategies including fiscal responsibility and rate smoothing.

The Strategic Financial Plan helps Platte River manage the financial risk associated with the volatility of costs such as purchased power agreements, commodity prices, capital investments and debt costs as Platte River, working with the owner communities, transition to a noncarbon future.

Why does PRPA's compensation policy reward its staff for goals related to affordability and reliability, but ignores its third pillar, sustainability? The four cities voted for, and PRPA agreed to pursue, a path to 100% renewables. When will PRPA align its budget to its promises on sustainability?

The RDP itself, as well as Platte River's strategic plan, contain clear instructions to Platte River leadership about their obligations to proactively work toward the RDP goals. Our

budgets do in fact allocate substantial funding to procuring new renewable resources and laying the foundation for virtual power plant capabilities, in addition to investments that support reliability and financial sustainability.

Is the market cost assigned to energy from our coal-fired plants being increased to cover the reclamation cost of Trapper Mine or is that being shifted to a capital expense to keep coal cheap and allow income from renewables to cover some of the costs of coal? How about the monofill site at Rawhide, used for waste coal ash. Are those costs clearly assigned to coal generation, or spread out as capital costs?

Costs associated with reclamation and the monofill are assigned to their respective assets and are not spread out as capital costs. Platte River follows Southwest Power Pool Western Energy Imbalance Services Market Protocols to determine the energy offer curve for our generation assets offered in the market. Platte River follows the Federal Energy Regulatory Commission's uniform system of accounts and governmental accounting guidance for reclamation and monofill costs. Reclamation costs are considered an asset retirement obligation, where costs are associated with retiring an asset and charged as amortization expense. Per market protocols, these are not included in the energy offer curve. The monofill costs are considered production maintenance expense and are included in the coal energy offer curve.

Markets

What has been the biggest change with joining the Southwest Power Pool (SPP) Western Energy Imbalance Service (WEIS)?

Having another entity dispatch Platte River resources directly has been a big change. SPP and Platte River have data connection points where SPP sends a setpoint signal to our resources. These resources are dispatched in a way to co-optimize the entire SPP WEIS footprint. Platte River is looking to join the SPP RTO-West, which will dispatch resources in a more efficient manner.

Is "purchased power" carbon or noncarbon?

Many market transactions do not include information on the source of its emissions, so we consider "other purchases" as carbon. Low prices in the market may reflect a regional oversupply of renewables but we cannot know that for certain.

Does Platte River have any plans to participate in a carbon credit market?

The Southwest Power Pool, which operates the organized energy market Platte River intends to join, does not currently have a carbon credit market.

How does joining a market affect resource planning?

We are developing our current integrated resource plan based on the best utility practices with advice and data provided by advisors/consultants who work across many markets. After we join the market, we will follow the specific rules of the market. For example, we are currently developing our resource plan based on our consultant's advice of deploying 20% planning reserve margin (PRM). When we join the market, we will develop plans according to the specific PRM requirement prescribed by the market operator.

How does joining an organized power market help renewable integration?

Because renewable resources operate intermittently and unpredictably, utilities need additional capacity for times when there is little or no renewable energy available. When renewables are producing well, energy can exceed load. An organized market helps to sell excess renewable energy to others who may need it instead of curtailing the renewables. A larger market "footprint" provides more access to lower-cost resources, which can help keep the system reliable while allowing more renewable generation to come online.

Historically Platte River has generated the majority of the electricity we need 'within the service area.' But, as we join a market, what percentage of generation that our four communities need will likely come from outside the service area? Basically, how much do we need to build?

We cannot calculate how much generation will come from outside the service area, especially as many utilities are building additional resources. Organized markets are designed to dispatch generation in a reliable and economic manner to serve market participants' collective loads, which may or may not be served from their own generation. The question of how much we need to build is a separate issue because all market participants must have sufficient resources on their systems to serve their loads, plus a capacity (or planning reserve) margin required by the market operator or other regulations. When all market participants have sufficient resources, they address reliability and the market can step in and dispatch their generation as economically as possible.

Will there be any limits or controls on the use of PRPA thermal, carbon resources for external sale (outside the owner communities)?

Platte River will have to operate within the parameters of our permits, SPP tariff and market protocols, and any mandated state regulations. We anticipate, based on the increasing investment in renewable energy resources in the region, that we will see a decrease in the capacity factor of our thermal resources. As for external sales, our current operations are only limited by what excess resources are available to sell. As we transition into the RTO, external sales will start to diminish as our generation will be offered into the market.

DERs

How can a distributed power system save rate payers money?

A distributed power system can save ratepayers money when distributed energy resources (DERs) are effectively integrated into the electric system. Effective integration requires DERs to interconnected and operated in a coordinated manner that supports reliable and cost-effective energy supply and delivery. It is critical for electric rates or incentives to accurately reflect the system costs and benefits that DERs can provide. Platte River and its owner communities are working together to build a "virtual power plant" that relies on a DER management system to provide near real-time optimization of DER operation through improved DER visibility, predictability and the ability of flexible DERs to respond to time-varying electric rates or incentives.

It seems that as Platte River moves away from a generation model to a market and DER model the supply chain becomes more complex. Does Platte River have any measurements in place to determine increased fragility and thus less reliability?

The integrated resource planning process is focused on evaluating resource options from the perspective of environmental responsibility, financial sustainability and reliability. To address reliability, the market requires participants to provide resources capable of meeting their anticipated peak load plus a reserve margin. When we assess adequacy, non-firm resources like wind, solar and distributed energy resources (DERs) are evaluated with a measure called effective load carrying capability (ELCC). Platte River hired an independent consultant to assess ELCC of DERs like electric vehicle charging and distributed solar.

We've heard about challenges with setting up a DER strategy. But what is the ultimate strategy? If it's still in process, where does it stand?

The distributed energy resources (DER) strategy was completed in July 2021. The strategy described Platte River's and the owner communities' shared vision and guiding principles for DER integration and provided an approach for implementing the strategy that focuses on the importance of collaboration and coordination among Platte River and the owner communities. Implementation is now underway. Our current focus is on developing a DER technology gap assessment and roadmap that will identify the information technologies and operation technologies needed to support effective DER integration. As the roadmap is completed, our attention will shift toward implementing it and developing programs that will support DER adoption and integration.

How do virtual power plants (VPP) fit into your plan?

A VPP is an aggregation of distributed energy resources (DERs) that can be dispatched to support electric system reliability, market value and benefits for customers. Platte River includes in its resource plans DERs that can be operated as part of a VPP and is working to develop a significant VPP resource. We are also working closely with the owner communities' utilities to ensure that the VPP can be operated in a manner that supports the reliability and other benefits for their distribution systems.

How much will VPPs reduce the need for Platte River to generate power? Hence, less capital investment needed?

Virtual power plants can have a significant impact on the need for Platte River to generate power. Some distributed energy resources (DERs), like efficiency and distributed solar, will reduce the amount of energy supplied by Platte River. Other DERs, like storage and demand response, will provide flexible capacity that Platte River could call on to support reliability when needed and available. Other DERs, like electric vehicles and heat pumps used for space and water heating, increase the load Platte River serves and may provide some flexible capacity as well. A DER forecast and potential study is underway that will provide estimates of the rate of DER adoption, how electric load within Platte River's owner communities will be affected and how this influences the need for Platte River generation.

In the long-term, the IRP projection for rooftop solar is very limited – this is opposed to many expectations for this to increase greatly from the past. Why?

The current distributed solar forecast was based on information available for the 2020 IRP. An updated distributed energy resource (DER) forecast and potential study is underway. This study will provide a new DER forecast, including distributed solar. Early indications suggest greater distributed solar potential compared to the last IRP. Platte River will consider this as it completes its next IRP and develops plans for a virtual power plant.

From the perspective of a top-down centralized business model, are you looking at a distributed energy model?

Platte River will need diverse resources to meet its Resource Diversification Policy goals. This is likely to include centralized and distributed energy resources (DERs), most importantly flexible DERs that can be managed as part of a virtual power plant.

Are you promoting/encouraging DER designs for a more decentralized grid and VPPs?

Platte River is planning technologies needed to support effective integration of distributed energy resources (DERs). Implementing these technologies will take a few years. As the timeline for implementation of these technologies becomes clearer, we will shift our attention toward the development of DER programs that will support adoption of DERs and integrating them into a virtual power plant that can provide benefits to customers and the electric system.

What is the relationship between Platte River and the distribution utilities when it comes to distributed energy resources (DERs)? If I'm interested in knowing more about flexible DERs and virtual power plants (VPPs), should I address my questions to Platte River or the distribution utility?

Please start with the distribution utility for more information about flexible DERs and VPPs. Platte River can provide general information from the wholesale generation and transmission perspective, whereas the owner communities can provide more specific answers relative to their unique retail and distribution systems.

How will Platte River manage residential and commercial customers who want to put energy back into the grid? Will they need to store it?

Management of DERs that can provide energy back to the grid, such as distributed solar, energy storage and vehicle-to-grid (V2G) technology, starts with the owner communities' distribution utilities. DERs interconnect with the distribution system and must be connected according to each distribution utility's interconnection requirements.

From Platte River's perspective, energy storage and flexible energy use will be particularly as customers adopt solar and as Platte River retires coal generation and adds wind and solar to its supply. As reliance on wind and solar increases, so too will reliance on energy storage and flexible energy use. Energy storage shifts renewable energy to align with times customers use energy and flexible energy use shifts when customers use energy to times when renewable energy is available.

Platte River is working with the owner communities' distribution utilities to develop technology and coordinated approaches to manage DERs in a way that balances benefits to the customer with the needs of a reliable, financially sustainable and increasingly noncarbon electric system.

Does Platte River have a target amount of DERs?

Platte River is developing targets for flexible DERs, which include flexible energy use, such as flexible electric vehicle charging and distributed storage. The current estimate is that by 2030 a VPP with 73 MW of enrolled flexible DERs could be built, which could be dispatched to provide 33 MW on a near daily basis (which equate to 10% and 4.6% of peak load, respectively).

This estimate will continue to be evaluated and it is subject to some potential limitations. First, most of this capacity does not exist yet; it is based on forecasted adoption by customers of electric vehicles and distributed battery storage. Second, it relies on Platte River's and the owner communities' development of a distributed energy resource management system (DERMS) and supporting systems to enable effective flexible DER managements. Third, it assumes program models can be developed that encourage large numbers of customers to participate and that are cost effective compared to other noncarbon resource options.

Can your grid handle more rooftop solar?

Customers interested in installing solar (as well as storage or vehicle-to-grid technology) should first start by contacting their community utility to understand the interconnection requirements and process. This will ensure that the distribution system can safely and reliably accommodate the additional supply.

Platte River's transmission and generation systems can accommodate significantly more distributed/rooftop solar. Platte River anticipates that by 2030, there will be 155 MW of distributed solar within the communities, compared to about 30 MW today, a five-fold

increase in seven years. This is equivalent to approximately 21,000 average-sized residential solar systems. Note that even with this rapid expansion in distributed solar, Platte River also anticipates adding 350 MW to our existing 52 MW of utility-scale solar, bringing the total solar resource—distributed and utility-scale—to 562 MW.

To accommodate this growth in distributed solar, two things are needed to ensure that electric system supply and energy use can be balanced from moment to moment. First, Platte River will need improved visibility into how distributed solar is performing on a near real-time basis. Second, a significant expansion in energy storage is needed.

What can homeowners do to contribute?

There are a variety of things home and business owners can do now and in the future.

If you want to reduce greenhouse gas emissions as quickly and cost effectively as possible, consider upgrading the energy efficiency of your home or business. Consider electrifying your building—space heat, water heat and appliances—with new efficient technologies. Consider an electric vehicle for your next vehicle purchase. Efficiency Works offers information and support for each of these opportunities.

If you want to help Platte River and the owner communities decarbonize their electric systems, please stay tuned as we develop our VPP. While the concept of a VPP is simple – customers' flexible DERs responding to the electric system's needs to maintain reliable, cost-effective service – implementation is complex and requires new technology systems to be planned and implemented. To provide value to the electric system, the VPP must give electric system operators near real-time visibility and operational control over participating flexible DERs. This requires the ability to establish and maintain customer enrollment and reliable communications to flexible DERs. In addition, Platte River and the owner communities need to expand their capabilities to coordinate dispatch of the VPP with respect to the requirements of the distribution system, transmission system and the RTO. Planning for this work is nearing completion and the vendor selection process will begin in 2024. Once we select a vendor Platte River and the owner communities will begin implementing the systems and developing programs for customers to provide their flexible DERs. This will help us better align our increasing renewable supply with energy use as we approach our 2030 goal.

How many EVs is Platte River planning for? Are you considering how many EVs will be vehicle-to-grid (V2G) capable?

Platte River is planning for 48,000 EVs by 2030 and 188,000 EVs by 2040, compared to about 6,000 EVs today. EVs add to energy and peak load growth. At the same time, EVs are flexible loads that can participate in a future VPP.

At this time, V2G is not widely available in the United States from EV manufacturers or from companies that make EV chargers. This will change over time, but the pace is hard

to forecast. Platte River hopes to make V2G part of our VPP as it becomes more widely available.

It looks like from your perspective EVs are only a load? What is your strategy to integrate EVs?

Platte River sees EVs both as a load and as a flexible resource.

Have you considered that you have the ability to match surplus generation with incentivizing EV charging?

Yes. The challenge of a noncarbon electric system that is largely served by wind and solar is that generation rarely matches load exactly. There will be frequent swings from surplus to deficit noncarbon generation, which will lead to swings from low to high energy prices, respectively. EVs and other flexible loads operated within the VPP can both reduce use during times of noncarbon deficit energy (high prices) and increase use when there is noncarbon surplus energy (low prices).

Other

Can PRPA provide copies of all its consultants' reports regarding dispatchable resources?

Yes, the independent review of dispatchable capacity needs performed by Black & Veatch can be found on our IRP website here.

What is Platte River doing to influence consumer behavior?

Platte River has just launched a public education campaign that will first familiarize the end user with who Platte River is. This groundwork will be important when Platte River and its owner communities conduct public education campaigns in the future geared toward encouraging customers to adopt flexible distributed energy resources and smart energy use.

What is Platte River doing to help customers capture Inflation Reduction Act rebates and tax credits?

Platte River is a wholesale electric provider for Estes Park, Fort Collins, Longmont and Loveland. Although it is not a retail electric provider, Platte River staff does collaborate with staff from the owner communities to offer the Efficiency Works™ programming directly to their electric customers. As details are released from state and federal agencies on available rebates and tax credits offered from the Inflation Reduction Act and Colorado legislation for electric upgrades at residential and commercial properties,

program staff continue to identify options to provide customers the ability to capture and stack incentives when possible. You can find more rebates information on the Efficiency Works website.

Additionally, Platte River is procuring solar and wind generation under long term contracts. The suppliers of these renewable resources claim the PTC (Production Tax Credits) and ITC (Investment Tax Credits) provided through the IRA. With these credits, the renewable resource price offered to Platte River is lower relative to what it would be without the IRA benefits. Platte River, being a non-profit entity, passes these savings on to our customers.

Does Platte River do any lobbying? At the state and federal level?

Platte River contracts with a state lobbyist to advocate on behalf of the organization and the owner communities. Additionally, Platte River's external affairs team monitors local, state and federal legislation and engages with local and state representatives. The external affairs team also manages our relationship and participation in national-level organizations like the American Public Power Association and the Large Public Power Council, which advocate for public power utilities like Platte River.

PRPA owns 24% of Trapper Mine. What does that ownership mean after Craig Units 1 and 2 close? Will PRPA still derive income from sale of coal to Unit 3 or to other off-site users? What plans for the old mine?

Platte River currently owns 27.14% of Trapper Mine. Production operations at the mine will align to support the needs of Craig Units 1 and 2, which will shut down in 2025 and 2028. We anticipate that mining production will not extend beyond this point. We will continue to have an obligation for our portion of Trapper Mine final reclamation. Craig Unit 3 is owned by Tri-State Generation and Transmission Cooperative (Tri-State) – Platte River does not derive income from coal sales to Unit 3. Further, Tri-State announced plans in December 2023 to retire Craig Unit 3 before Craig Unit 2 retires. We have no plans to supply coal for any other offsite users in the future.

What happens to the water rights associated with coal production as the coal plants shut down? What is the market value of those water rights? Are costs of water charged to coal generation? Will water rights be sold?

Costs associated with water are assigned to their respective uses. Platte River follows the Federal Energy Regulatory Commission's uniform system of accounts and governmental accounting guidance for water costs. Per Platte River's Water Policy, which is included in the Water Resources Reference Document, we will continue to manage water as an asset and maintain adequate water supplies for all existing and projected future operations. Platte River and its owner communities will need water into the future, and we are always reviewing and evaluating those needs.