2016-2026 Strategic Plan

Our Vision:

As a respected leader and responsible energy partner, improve the quality of life for the citizens served by our owner communities.

Our Mission:

Provide safe, reliable, environmentally responsible, and competitively-priced energy and services.

Platte River Power Authority

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Values

Safety

What is non-negotiable?
Working safely to protect the public, our employees, and the assets we manage.

Integrity

What is at the core of what we do?
Being ethical and holding ourselves accountable to conduct business in a fair, honest, open, compliant, and environmentally responsible manner.

Customer Service

What creates added value and improves customer satisfaction?
Providing quality service at a competitive price while being responsive to our owners' needs.

Respect

What leads us to optimal solutions for even the most difficult challenges?
Encouraging constructive dialogue that promotes a culture of inclusiveness, recognizes our differences, and accepts varying viewpoints.

Operational Excellence

How do we provide reliable service while managing costs and creating a rewarding work environment?
By engaging employees to strive for excellence and continuous improvement.

Sustainability

How do we ensure long-term viability of the organization and the communities we serve?
By maintaining financial integrity, minimizing our environmental impact, and supporting responsible economic development in our owner communities.

Innovation

How do we mitigate risk and create opportunities?
By becoming an early adopter of technologies proven to improve electric efficiency, protect the environment, and create a diversified energy supply portfolio.

A Message From the General Manager

Platte River Power Authority's 2016-2026 Strategic Plan illustrates the progress we continue to make in refining our processes and planning. In the following pages, you will get a clear picture of how we've organized our strategy and established the groundwork for each strategic initiative. You will see that our approach leverages new technologies, price trends, and advancements over time. You will find our values, including safety, sustainability, innovation, integrity, and operational excellence, are the lens through which we focus our decision making.

These are clearly interesting times for our industry. The pace and amount of change are the greatest I've seen in my 27-plus-year career. Data and artificial intelligence increase the accuracy of wind and solar generation forecasts. The Internet of Things promises to connect devices like never before. The rapid evolution of 3-D printing could mean that utilities will someday produce their own spare parts. Change is occurring so rapidly it is predicted the amount of technological advancement that occurred in the year 2000 will occur every 30 seconds in 2020. The combination of speed and scale creates potentially disruptive technologies for our industry but also provides opportunities. To ensure that we continue to deliver value in this environment, our strategy must be adaptive.

We would not have realized progress in our strategic planning process without our dedicated board of directors. They consistently provide policy-level guidance and engage in an active and collaborative fashion. This bi-directional connection increases clarity for staff in selecting the areas of focus that will best support our long-term success. I want to personally thank each director for their continued support and engagement.

Of course, any strategy is only as good as its execution. **Platte River succeeds because our employees transform plans into reality.** Their unwavering dedication to Platte River and to our owner communities results in exceptional value being delivered day-in and day-out. I appreciate all of our employees for their commitment to service.

Our strategic process is just that – a process. It does not end. Changes in the industry, both known and unknown, require an organization to be flexible and to adjust over time. Continued refinements, investments in modeling, and a thoughtful approach give us confidence that we will continue to deliver safe, reliable, environmentally responsible, and competitively-priced energy and services to our owner communities of Estes Park, Fort Collins, Longmont, and Loveland, Colorado.

Sincerely,

Jackie A. Sargent

Jackie A. Sargent
General Manager/Chief Executive Officer

Board of Directors

Platte River Power Authority is a joint action agency and political subdivision of the State of Colorado. It is governed by an independent eight-member board of directors that provides local decision making and control.

Senior Management Team

Platte River Power Authority operates under the direction of a general manager who serves at the pleasure of the board of directors. Platte River's senior management has extensive experience, with an average of over 25 years of service in the utility industry.

Pete Hoelscher
Communications & Marketing Director

Jason Frisbie
Chief Operating Officer

Joseph Wilson
General Counsel

John Bleem
Strategic Planning & Customer Service Director

Deborah Schaneman
Chief Compliance Officer

Jackie Sargent
General Manager / Chief Executive Officer

Karin Hollohan
Corporate Services Director

David Smalley
Chief Financial & Risk Officer

Strategic Initiatives

Safety
Promote a culture where no job is so important and no service so critical that employees must compromise their own safety to perform their job.

Compliance
Promote a culture of compliance where all employees conduct business with the highest standards of ethics and integrity. Meet or exceed all policy and regulatory requirements.

Financial Stability
Generate adequate cash flows, maintain access to low-cost capital, provide stable and competitive wholesale rates, and effectively manage financial risks, all with a focus on continually improving our financial processes.

Operational Excellence
Design, construct, operate, and maintain safe, reliable, and environmentally-responsible generation and transmission assets in a cost-effective manner.

Exceptional Customer Service
Provide exceptional service for internal and external customers with a focus on continuous improvement through relationships, knowledge of customer needs and preferences, key performance metrics, and future program development.

Employee Engagement
Create a work environment that encourages employee engagement at all levels through a framework of effective communication. Make investments to leverage diversity, grow internal talent, develop innovative skills, and maintain high standards.

Resource Management
Employ an adaptive strategy to cost-effectively maintain reliability, manage risks, and ensure regulatory compliance.

Collaboration And Communication
Continuously improve collaboration and communication internally and externally to enable successful projects and services, build stakeholder relationships, and articulate value.

Technological Innovation and Sustainability
Actively monitor and adopt new, proven technologies that cost-effectively enhance performance and promote the long-term viability of Platte River, the municipalities, and their customers.

Strengths, Weaknesses, Opportunities, and Threats

To help ensure the long-term success of Platte River and its municipalities, a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis is reviewed and updated each year. To expand employee engagement in planning efforts, employees were invited to participate in a SWOT work session during 2015. This exercise will continue as part of the ongoing strategic planning process. As a result, the list may change over time as Platte River's business evolves to meet new challenges and requirements.

S — STRENGTHS
Internal Focus

- Financial position
- Environmental compliance
- Technical and operational expertise
- Station generation and transmission infrastructure
- Competitive wholesale rates
- Industry reputation
- Dedication to operational excellence
- Commitment to safety

W — WEAKNESSES
Internal Focus

- Diversity in electricity resources
- Succession planning and knowledge transfer
- Leadership development
- Operational experience in potential structured energy markets
- Alignment between culture and strategic direction
- Internal communications

O — OPPORTUNITIES
External Focus

- Community involvement
- Optimization of physical assets and market operations
- Communication and educational outreach
- Collaboration with municipal owners and other regional entities
- Deployment of innovative technologies

T — THREATS
External Focus

- Regulatory and legislative uncertainties
- Unpredictability of long-term water supply
- Potential loss of tax exempt financing
- Litigation
- Operational and market uncertainties
- Physical and cybersecurity risks

Key Operational Goals and Activities

Renewable Energy Supply Integration

Optimize integration of the 60 MW Spring Canyon wind resource and 30 MW Rawhide Flats Solar project into Platte River's operations.

New Water Policy

Manage water resources through a policy that facilitates utilization and optimization.

Talent Management

Develop programs focused on succession planning, employee development, knowledge transfer, and attracting and retaining top talent.

EPA Clean Power Plan

Actively engage in Colorado's stakeholder process to help shape the State Compliance Plan so it aligns with Platte River's strategic direction.

Climate Change and Resilience

Assess risk and uncertainty due to climate change, and then develop plans to improve electric system infrastructure resiliency.

Resource Planning

Develop and implement a strategy to exit ownership of Craig Unit 1, expand system-wide energy efficiency programs, implement a system-wide demand response technology pilot, and develop a distributed resource strategy.

Cybersecurity

Continue to enhance a robust cybersecurity program.

Employee Engagement

Ensure availability of appropriate tools, technology, training, and resources for optimal work effectiveness.

Artist Rendering

Key Operational Goals and Activities

Headquarters Campus Design and Engineering

Select a cost effective, energy-efficient, and viable headquarters campus space alternative that will meet projected space needs for staff, technology, and equipment for the next 30 years and initiate permitting, design, engineering, and construction.

Rate Planning and Coordination

Continue collaborating with the owner municipalities, including exploring long-term rate development and potential changes to rate structure.

Regional Wholesale Market Initiatives

Proactively engage in the design and development of organized markets in the Rocky Mountain region to help ensure that the market structure is workable for all participants.

Project Management

Focus on maturing project management processes, with special emphasis on tools and training.

Debt Financing

Remain focused on analyzing debt financing options for capital improvements at the Rawhide Energy Station, for the Windy Gap Firming Project, and for electric facilities.

Funding Opportunities

Develop a process to identify, analyze, and pursue external funding that supports strategic initiatives.

Legislative Policy Engagement

Establish core messaging and an engagement plan at both the state and federal levels to encourage a favorable political climate for our continued operations.

Resource Planning

Resource planning and management is a cross-functional activity involving many departments throughout the organization. This effort is continuous and ever-changing as market, regulatory, and other planning variables evolve.

This section provides a high-level overview of resource management. Details on resource planning activities and insights appear in Appendix A. Resource Planning Update.

During its August 2015 work session, the board of directors reached consensus on replacing historical resource planning guidelines with the following new statement of direction:

Platte River Power Authority employs an adaptive strategy to cost-effectively maintain reliability, manage risks, and ensure regulatory compliance.

Greater Flexibility

The new statement of direction gives staff more flexibility to recommend resource actions going forward – relative to the detailed set of resource planning guidelines included in prior strategic plans. It also directs Platte River to position itself for compliance with the Clean Power Plan (CPP), with the potential to go beyond CPP requirements if cost-effective.

Going forward, "Resource Management" has replaced "Diversified Energy Supply Portfolio" as the strategic initiative statement associated with resource planning and management. This change reflects a broader focus on all aspects of generation resource management, including portfolio diversity.

Future Resource Management

Platte River faces future resource management decisions from a position of strength. Generation and transmission facilities owned and operated by Platte River have performed well. Platte River has significant surplus capacity based on updated load forecasts and continues to expand energy efficiency and other demand-side programs to manage growth and provide services to customers in our owner communities.

Renewable energy supply to the municipalities already exceeds the Colorado Renewable Energy Standard and 30 MW of new renewable supply will come from the Rawhide Flats Solar facility during 2016. Finally, given its location and collaboration with owner municipalities, Platte River can select from several renewable resource options going forward.

The board of directors has supported multiple activities related to resource management, including:

- Continued expansion of energy efficiency programs
- Integration of significant wind and solar resource additions (increased from 18 MW in 2013 to 108 MW by 2016)
- Development of a strategy for exiting ownership of Craig Unit 1
- Development of a demand response pilot program
- Several collaborative efforts related to distributed resources

Resource Planning

These activities will be a focus during 2016 and over the short-term planning horizon, through 2020. Fortunately, Platte River does not need to make short-term decisions regarding new resources to meet peak capacity needs. We can plan capacity additions as part of a broader long-term resource strategy that integrates positioning for CPP compliance.

Resource Modeling Tools

Beginning in 2014, with board support, Platte River acquired software and put into practice new resource modeling tools that help evaluate

AURORAxmp

potential future resource scenarios. We completed a screening process to identify all potential resources, prioritize them, and develop an initial range of options for the mid-term time frame.

The resource analysis was recently updated to include evaluation of costs for integration of intermittent renewable resources (wind and solar). Based on overall analysis to date, it appears Platte River has a solid range of practical options for meeting the CPP and future energy/capacity requirements.

However, wholesale rate increases could be significant, with a range of potential impacts depending on the final implementation rules for CPP in Colorado as outlined in the Financial Management section and in Appendix A.

Platte River will develop a more detailed resource analysis and communicate the results when the mechanisms for CPP implementation in Colorado become clearer. This will help us evaluate how various CPP scenarios may change the relative wholesale rate differences between Platte River and other Colorado wholesale suppliers. The analysis will also support retail/wholesale rate coordination and communications.

Formal Integrated Resource Plan

Platte River is due to file its next formal Integrated Resource Plan (IRP) with Western Area Power Administration in June 2017.

Management contemplated developing a resource plan earlier than this date in our 2015 Strategic Plan. However, in early 2015, the board agreed with staff's recommendation that following the normal schedule for the next IRP was more appropriate. Reasons for this included: (1) the delay in need for new capacity resources associated with an updated load forecast and expanded energy efficiency (EE)/demand side management (DSM),

Efficiency Works™

(2) uncertainties related to working with four other joint owners to develop decisions for the Craig Station coal units, and (3) release of the CPP rule.

Communications have been ongoing with stakeholders regarding the IRP schedule and other key resource planning considerations including the CPP and evolution of new technology options over time.

Risk Management

The Risk Oversight Committee (ROC) consists of the general manager, senior management, and key staff members. It is charged with managing Platte River's risks and the *Risk Management Plan*. The *Risk Management Plan* (see Appendix B) is a summary of Platte River's proactive efforts to identify, evaluate, rank, and mitigate risks significant to Platte River. These are risks that could negatively impact electric supply, finances, reputation, and safety.

Using a bottom-up approach, Platte River's risk management process provides the framework to identify and assess specific risks by soliciting input directly from subject matter experts (SMEs) throughout the organization and developing mitigation strategies. This approach has increased employee engagement, resulting in more accurate risk assessment and mitigation development.

For example, perspectives from SMEs resulted in expanding cybersecurity assessments. This expansion included identifying risks specific to separate facilities and areas of operation, and subsequent mitigations related to each respective area. SMEs also refined the risk assessment process for unplanned capital requirements, emphasizing project planning as well as cost projections.

Platte River's risk management approach has increased employee engagement, resulting in more accurate risk assessment and mitigation development.

Proactive efforts to improve Platte River's risk management are continuous. The *2015 Annual Budget* includes funds for a third-party review of the *Risk Management Plan* and risk mitigation activities, which is scheduled to begin in the fourth quarter of 2015. The third-party review will include a thorough examination of Platte River's risk ranking methodology and metrics, risk assessment development and review processes, and best practices for managing business risk. The third party will provide a detailed report summarizing the assessment, Platte River strengths and weaknesses, and recommendations. Findings from the review will be incorporated into the 2017-2027 Risk Management Plan.

Financial Management

Platte River's *Strategic Financial Plan* (SFP, see Appendix C) provides direction for creating long-term financial stability. The plan's priorities include generating adequate cash flows, maintaining access to low cost capital, providing stable and competitive wholesale rates, and effectively managing financial risk. The board of directors reviews the SFP policies, goals, and financial projections at least annually.

Many of the SFP goals establish targets used in setting municipal wholesale rates. The SFP is designed to maintain Platte River's current AA senior lien debt credit rating by all three rating agencies: Fitch Ratings (AA), Moody's Rating Service (Aa2), and Standard & Poor's Rating Service (AA).

The SFP policies and goals are interrelated. Achieving the targets for debt service, net income, and days of unrestricted cash on hand should result in adequate cash flows to meet liquidity targets, exceeding the debt-to-capitalization goal, and maintaining access to low-cost capital.

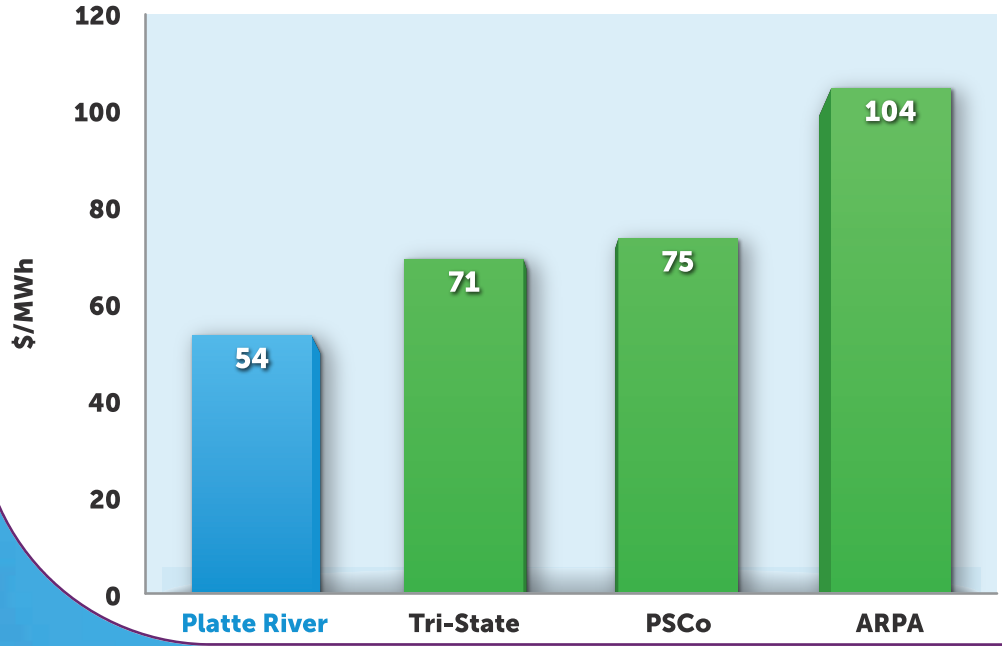
Maintaining the minimum unrestricted days cash-on-hand ensures a strong cash position, significantly enhancing future operating and financing flexibility. The Rate Stabilization Fund is available if an unforeseen event were to occur, such as an extended unplanned Rawhide outage. The remaining financial goals focus on providing competitive wholesale rates to the municipalities, prudently investing capital, and establishing appropriate and cost effective programs to manage Platte River's risk against catastrophic losses.

10-Year Rate Projections

To continue meeting SFP goals, Platte River's board of directors increases rates when necessary. Currently, wholesale rates are projected to increase between 22 percent and 70 percent from 2015 to 2025, depending on the CPP implementation and other factors. To minimize single-year rate impacts, Platte River will continue rate-smoothing strategies; currently, 4.5 percent rate increases are projected in 2016 and 2017.

Beyond 2017, rate projections indicate a range of 1.4 percent to 5.7 percent annual increases from 2018 to 2025. The range is due to the significant uncertainty regarding implementation of the CPP provisions – from no CPP (1.4 percent/yr) to a 50 percent reduction of carbon dioxide (CO_2) emissions via carbon tax on all emissions (5.7 percent/yr). Platte River will review and revise future rate projections and smoothing strategies, at least annually, based on the financial forecasts and the latest information including the impacts and timing of the CPP.

Figure 1. 2014 Average Wholesale Rates Comparison



Environmental Management

Platte River has a longstanding commitment to being a good steward of the environment, as demonstrated by the organization's record of consistently meeting or exceeding regulatory requirements.

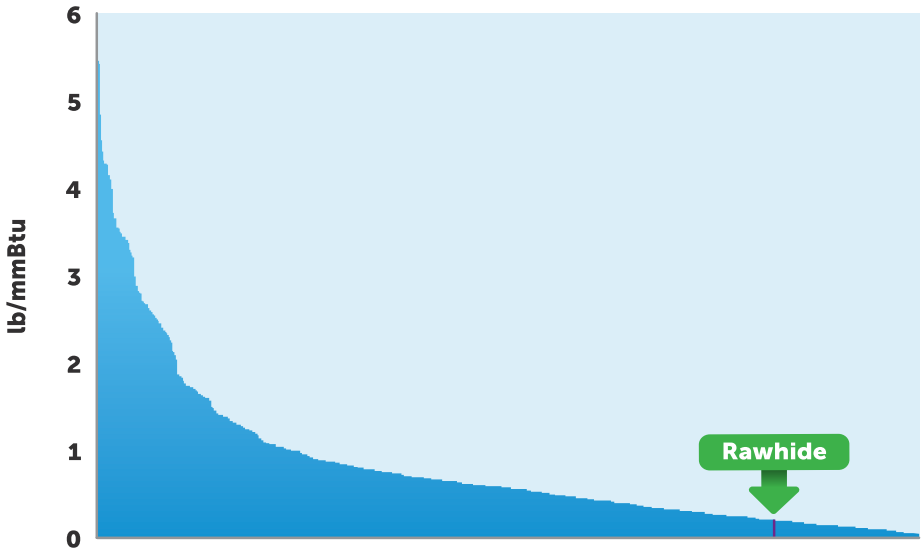
By continuing to look for ways to improve plant performance and making investments in technology, Platte River is able to operate its generation and transmission systems at high levels of reliability and environmental compliance.

Figures 2 and 3 show a comparison of emissions performance for Platte River's Rawhide Energy Station relative to other US coal plants. Rawhide is a top performer among coal plants.

When new legislation and regulations are proposed, Platte River takes an active role in discussions. This helps shape the final outcome so that reliability, risk, and costs are fully considered. This is consistent with the organization's strategic direction and essential to meeting its mission.

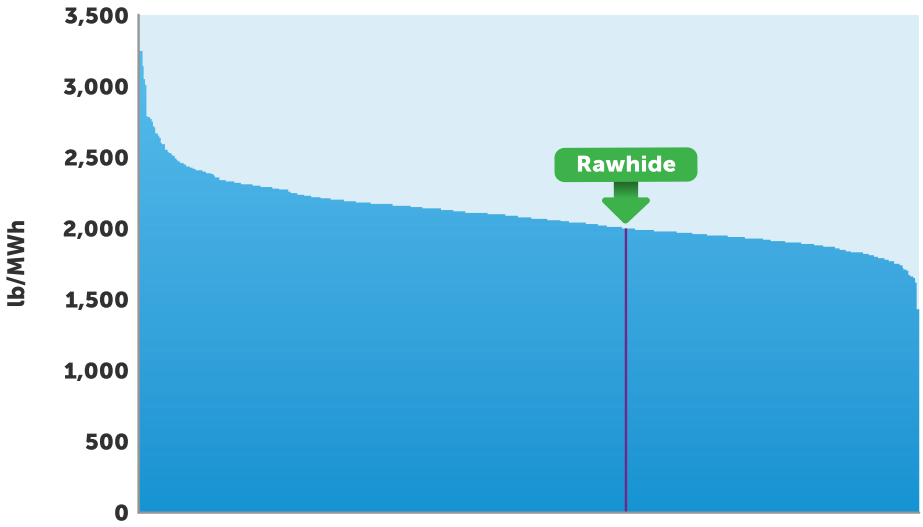
Appendix D highlights the environmental-based principles that are central to the organization's planning guidelines. It also gives context to major areas of environmental focus and consideration, including recently released CPP and ozone regulations.

Figure 2. 2014 Average Emission Rates of SO_2 + NO_x (Coal-Fired Plants in the US)



Source: EPA

Figure 3. 2014 Average Emission Rates of CO_2 (Coal-Fired Plants in the US)



Source: EPA

Legislative and Regulatory Planning

Platte River's legislative and regulatory efforts at the state and federal levels support our mission to provide safe, reliable, and competitively priced energy and services, while simultaneously recognizing and mitigating the environmental impacts of power generation.

Platte River maintains positive relationships with members of Colorado's congressional delegation, the governor's office, the Colorado General Assembly, as well as with state and federal regulators. In addition to direct issue-related communication with governmental decision makers, Platte River is an active participant in trade associations, such as the American Public Power Association (APPA), the Large Public Power Council (LPPC), and the Colorado Association of Municipal Utilities (CAMU).

These associations offer a cost-effective means to participate in legislative and regulatory proceedings. Platte River management and staff actively participate with these organizations to ensure our positions are appropriately reflected by these organizations.

Appendix E provides a summary of pending issues and positions such as the CPP and ozone regulations. The appendix also includes specific environmental policies and principles that provide guidance to Platte River management and staff.

Municipal Planning

A summary of current planning activities within the municipalities is provided on the following pages based on input provided by representatives from each of the municipalities.

Town of Estes Park

Cost Senstivity

The Town of Estes Park is cost sensitive because of its larger service territory with fewer customers, which make its rates higher (relative to large municipalities). Rates are still lower than regional investor-owned or rural electric utilities. Cost consciousness will impact future planning.

Environmental Advocacy

Significant environmental advocacy exists within the town and there is interest in providing information about the cost impacts of renewable energy or other environmental initiatives.

Capital Investment

The current focus is toward capital investment. Other areas of focus include cost management, identifying risks/opportunities, and prioritization.

Key Initiatives

The following are some key initiatives currently underway or being considered: economic development, land use, and water/energy planning – part of an overall planning process.

Renewables

The town is cost—conscious and supports renewables. Its municipal operations participate in the voluntary renewable program to achieve 100 percent power from renewable energy.

Municipal Planning

City of Fort Collins

Plan Fort Collins

The name Plan Fort Collins refers to the integrated process to prepare major updates to two key documents: *City Plan* and the *Transportation Master Plan* (TMP). *City Plan* is the comprehensive plan for the City of Fort Collins, and illustrates how the community envisions Fort Collins over the next 25 years and beyond. The TMP serves to document a bold vision for the long-term multimodal transportation system that will support the Fort Collins community well into the future. The TMP provides policy direction for decisions regarding the implementation of the transportation system to achieve the community's vision. The process for updating two distinct plans, *City Plan* and the *Transportation Master Plan*, was unified around the tenets of innovation, sustainability, and connections. This meant the long range visions and policies for *City Plan* and the *Transportation Master Plan* would become mutually supportive and comprehensive.

City Strategic Plan

The City of Fort Collins aspires to provide world-class services to the community while cultivating a world-class organizational culture for its employees. In order to achieve this vision, both internal and external services are data-driven and implemented according to organizational values. Residents can not only expect to receive exceptional service, but also to have the opportunity to engage with decision makers, provide input regarding the way city resources are allocated, and have access to government information in a timely and transparent manner. The City of Fort Collins works to continuously improve seven key outcome areas: community and neighborhood livability, culture and recreation, economic health, environmental Health, safety, transportation, and high performing government. The city budget is divided among these seven areas, and revenue is allocated to support policies and initiatives that drive improvement in outcomes. While each outcome area has unique defining characteristics, city investment in a single objective regularly impacts more than one outcome area.

Municipal Planning

City of Fort Collins

Energy Policy

The *Energy Policy* was updated between 2014 and 2015 to address the broader scope of all energy use in the community and to align with the Climate Action Plan (CAP) Framework. The City of Fort Collins' *Energy Policy* reflects the community's values of reliability, safety, affordability, greenhouse gas (GHG) emissions reduction, pollution prevention, and energy independence with the vision of "Fort Collins is a leader in the transition to sustainable and resilient local energy systems to serve the community's 2050 carbon neutral future." The policy provides goals for the prioritization of decision making, programs and services related to the quantity of use and the sources of energy for electricity, thermal end-uses, and transportation. The *Energy Policy* uses a systems approach to energy production and consumption, as well as triple bottom line metrics (economy, society, and environment), to guide city government in the development of plans promoting policy outcomes for residents, businesses, and other organizations. The policy supports Fort Collins leadership in solutions at a community scale.

Strategic financial plan

Fort Collins will publish a *Strategic Financial Plan* (SFP) in 2016. The purpose of the SFP is to manage Fort Collins Utilities' financial resources to achieve business objectives and maximize customer value for each utility service. The SFP will encompass the full range of Fort Collins Utilities' finances, from setting out objectives and identifying resources, analyzing data, and making financial decisions that support the *City Strategic Plan*.

Climate Action Plan

During 2014-2015 Fort Collins developed a new CAP Framework document and adopted new carbon reduction goals to reduce community carbon emissions as follows: reduce by 20 percent below 2005 levels by 2020, by 80 percent below 2005 levels by 2030, and achieve carbon neutrality by 2050. The 2015 CAP Framework lays out a number of high-level strategies in the areas of building, mobility, energy supply, and waste reduction.

Next steps for 2015 and 2016 will involve developing implementation details to prioritize actions and associated near-term budget requests needed to meet the 2020 greenhouse gas goals and longer-term targets, and continue public engagement.

High-Speed Broadband

As the demand for more advanced, reliable, and affordable broadband service rises, the city must define its ongoing role in ensuring access is provided. "Next generation" high-speed internet services are becoming important infrastructure for communities in the 21st century. This demand for service is challenging local communities to develop effective strategies for connecting citizens, businesses, and institutions. On November 3, 2015 Fort Collins voters overturned Senate Bill 152, SB-152, removing legal barriers to the city's involvement in providing residents telecommunication services. With the vote, the city will continue researching practices in other communities and the feasibility of a range of business models for telecommunications. Staff plans to work with the public throughout 2016 to gauge what role the city should play in broadband services, if any.

Municipal Planning

City of Longmont

Focus on Longmont

This *Focus on Longmont Plan* sets direction at a city level and is included in the city's annual budget process. Seven key categories/initiatives with general goals include: (1) healthy business climate, (2) education, (3) community identity, (4) enhance the natural environment, (5) revitalize downtown, (6) high-performing government, and (7) community safety. The city is also working on incorporating a budget prioritization model into the plan. Longmont Power & Communications (LPC) has ties to most of these categories.

Highlights include: low electric and broadband rates, unmatched broadband speeds, excellence in reliability and customer satisfaction for both electric and broadband, energy efficiency programs, and quality safety programs with results for employees and the community. LPC provides related reporting statistics – definitive goals are not included as a part of the plan.

Sustainability Plan

The city has incorporated sustainability policies and programs across various departments throughout its history. In the latter part of 2015, the city plans to begin updating a sustainability strategy. The Sustainability Plan will incorporate LPC's programs including: Efficiency Works™, LED replacement in street lighting, electric vehicles and charging stations, renewable energy options, and others.

Municipal Planning

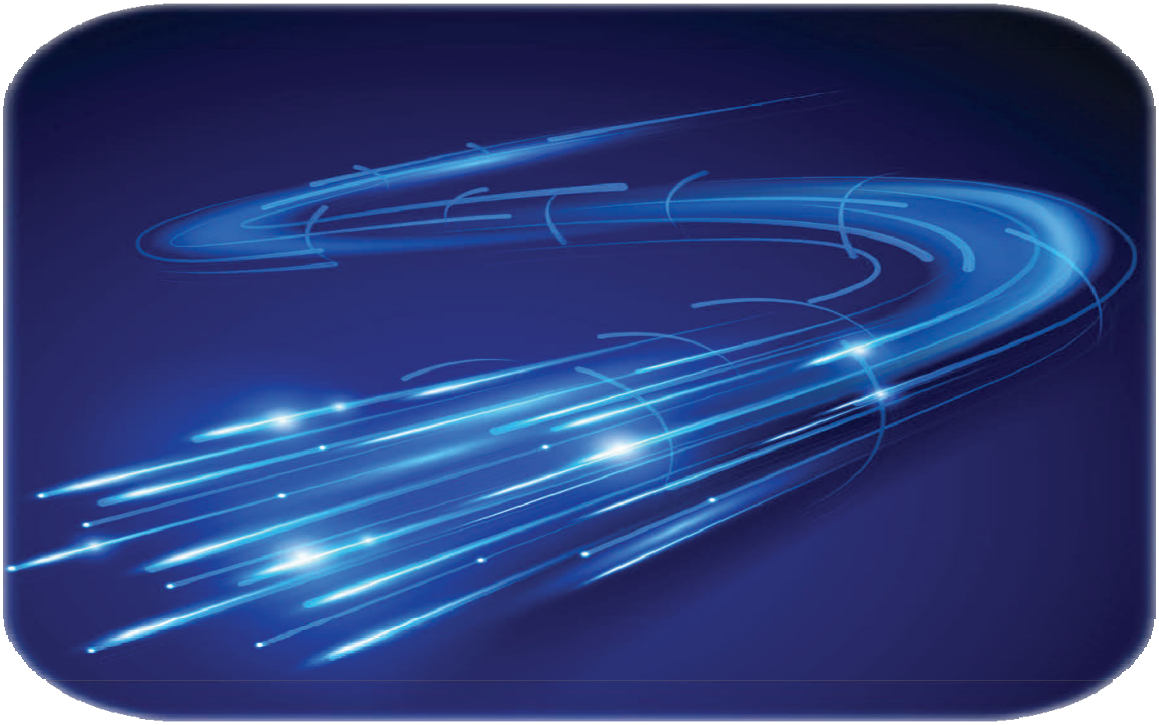
City of Longmont

Comprehensive Plan

Longmont uses the city's *Comprehensive Plan* to identify long range capacity requirements. The plan provides a model for staff to predict average loads based on specific densities and land development types. New for 2015, Envision Longmont is a community-wide planning effort by the city to update and integrate the *Longmont Area Comprehensive Plan* and the *Longmont Multi-Modal Transportation Plan*. The plans were last updated in 2003 and 2005, respectively. The updated *Comprehensive Plan* will serve as a policy guide for the city over the next 10 to 20 years. Envision Longmont will be a collaborative and inclusive process in which all citizens are encouraged to participate. LPC's planning strategy includes distribution and substation needs for the complete build out of the community. As the *Comprehensive Plan* is modified, LPC reviews and updates planning strategies accordingly.

NextLight™ Broadband Services

LPC began offering 100 percent fiber-to-the-premise services as a pilot during 2013. A full build-out of the community began in 2014, and network infrastructure installation is expected to be complete near the end of 2016. LPC currently provides a 10 gigabit-wide area network to the St. Vrain Valley School District, internet speeds up to a symmetrical Gig for residents, and both standard and custom speeds for commercial customers. Digital voice service is offered as well. Customer demand is high, significantly exceeding study projections. Network and customer installations are taking place in phases throughout the city.



Municipal Planning

City of Loveland

Management, Staff, and Funding

The Utility Commission provides direction to management/staff and is engaged in planning efforts. City Council conducts an annual retreat for planning purposes.

The city manager has set initiatives in the areas of improved communication/ coordination of city direction, and conducting meetings with the management team (expanding to mid-management).

In Process

Loveland is in the process of identifying all major initiatives, projects, and programs for the water, wastewater, and power utilities in 2016. Loveland currently has a general fund plan for setting financial priorities.

Key Planning

Key planning items for Loveland include cost control, demand-side management, demand response, renewable supply integration, new rate designs, economic development, energy efficiency programs, workforce planning, public outreach, operational excellence, progressive technologies, regional cooperation, customer service, broadband service, water capital program, long-range planning, and addressing aging infrastructure.

Comprehensive Plan

City Council is currently updating the *2005 Comprehensive Plan*, which serves as a guide for aspects of Loveland's planning. The goal is to have this completed by 2015. It provides mission/vision statements and is mostly focused on land-use planning. From a utility perspective, it includes water conservation through land use, efficient utility service through higher density planning, coordination of the utility needs to support downtown redevelopment, and undergrounding power lines.

Economic Development Strategic Plan

Loveland adopted an *Economic Development Strategic Plan and Incentive Policy* in February 2012. That plan is still in place.

Appendices

APPENDIX A. Resource Planning Update

Current Resources

Platte River owns and contracts for a mix of fossil-fueled and renewable generation. The existing portfolio of owned resources includes coal-fired generation located at the Rawhide and Craig stations, and natural gas-fired combustion turbines at the Rawhide site. Platte River also receives energy through federal contracts for hydropower. Deliveries from hydropower sources depend on local and regional hydrology conditions, which vary over time.

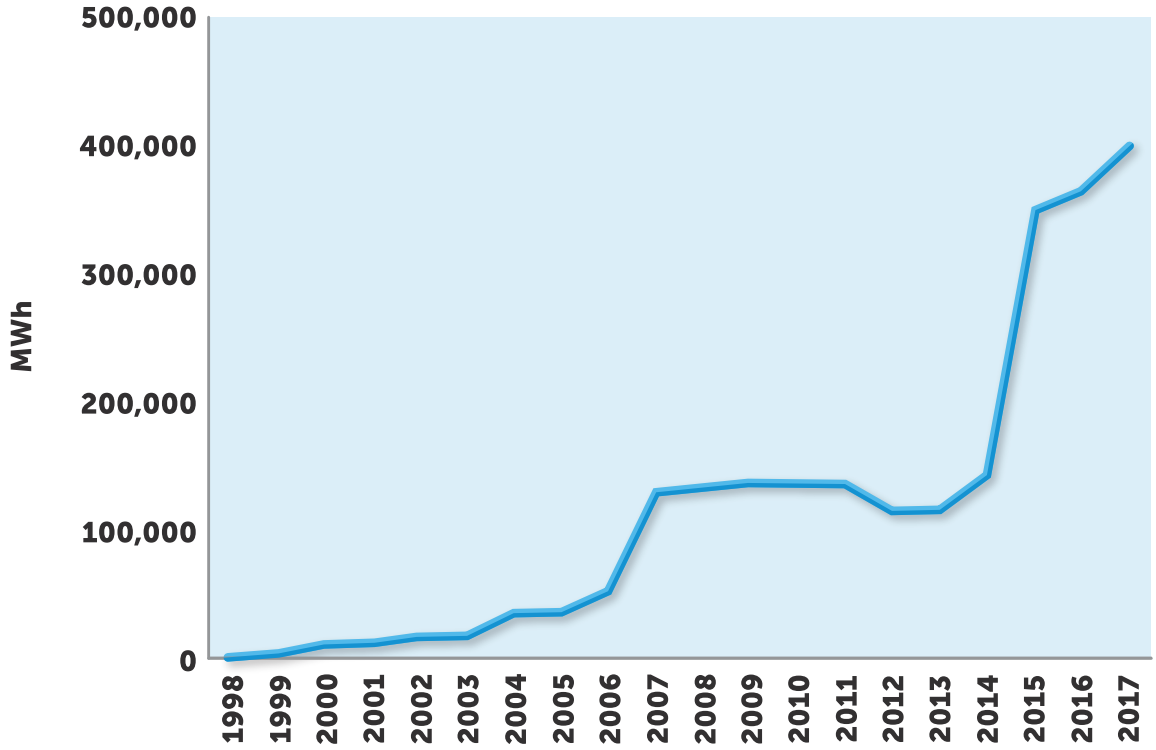
Wind energy is supplied to Platte River through contracts from the Medicine Bow and Silver Sage wind projects in southeast Wyoming, and the Spring Canyon site in northeast Colorado.

This mix of resources has performed well, particularly the generation units at the Rawhide Energy Station. During the last few years, performance of the Craig units has declined from longer-term historical levels.

Platte River has a diversified resource mix from a capacity (MW) perspective; however, about three-fourths of energy (MWh) delivered by Platte River to the municipalities is generated by coal plants. Platte River also has a gap in its current resource lineup—it lacks flexible, intermediate resources that can complement existing resources and help integrate more intermittent renewable sources over the long term.

Platte River's renewable resources have grown significantly over the past few years. Wind power accounts for 78 MW and about 9 percent of delivered energy (2015), while solar will account for 30 MW and roughly 1.5 percent of total delivered energy by 2017. To meet the CPP, the use of renewable generation will need to expand significantly, requiring expanded management of intermittent resources.

Figure 4. Renewable Energy from Existing Wind and Projected Solar Sources

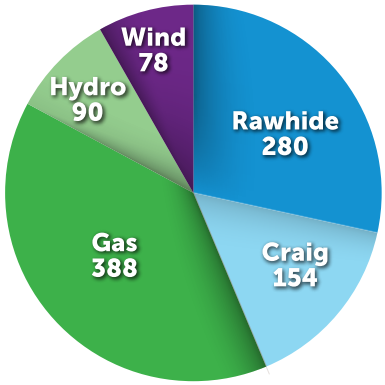


Note: *actual energy production shown through 2014: forecast through 2017*

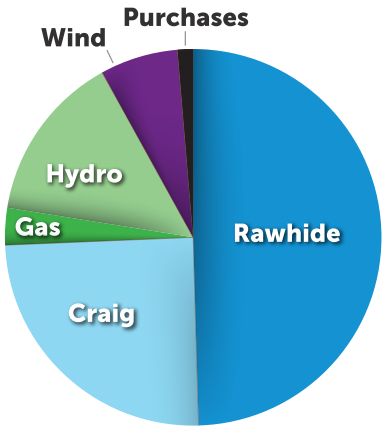
APPENDIX A. Resource Planning Update

FIGURE 5. 2014 ENERGY MIX

Capacity, MW



Energy, MWh



The current mix of resources has delivered roughly 3,300 GWh annually to the four municipalities that Platte River serves (last five years). Surplus energy produced by Platte River is sold to third parties, and typically averages about 750 GWh per year, primarily from Platte River's share of the Craig units.

ELECTRIC LOAD FORECAST

Platte River's system electric load forecast is one of the primary drivers in the resource planning process. Platte River's statistical model uses multiple variables to predict demand and energy growth in the owner municipalities. These variables include population, employment, and weather.

Peak load growth increased rapidly during the 1990s and into the 2000s, due primarily to expanded use of air conditioning and strong economic growth. Future peak load growth is expected to be lower than growth prior to the "Great Recession". Slower growth is due in part to the fact that most homes and businesses now have air conditioning. Additionally, lower economic growth and increased energy efficiency (EE) efforts over the last few years have reduced electric load growth in the municipalities.

Platte River's EE programs continue to evolve and are planned to expand in the future. The cumulative impact of EE is expected to reduce energy needs by approximately 739 GWh through 2035, relative to the total 2035 load projection of 3,856 GWh.

FIGURE 6. PEAK ELECTRICITY DEMAND

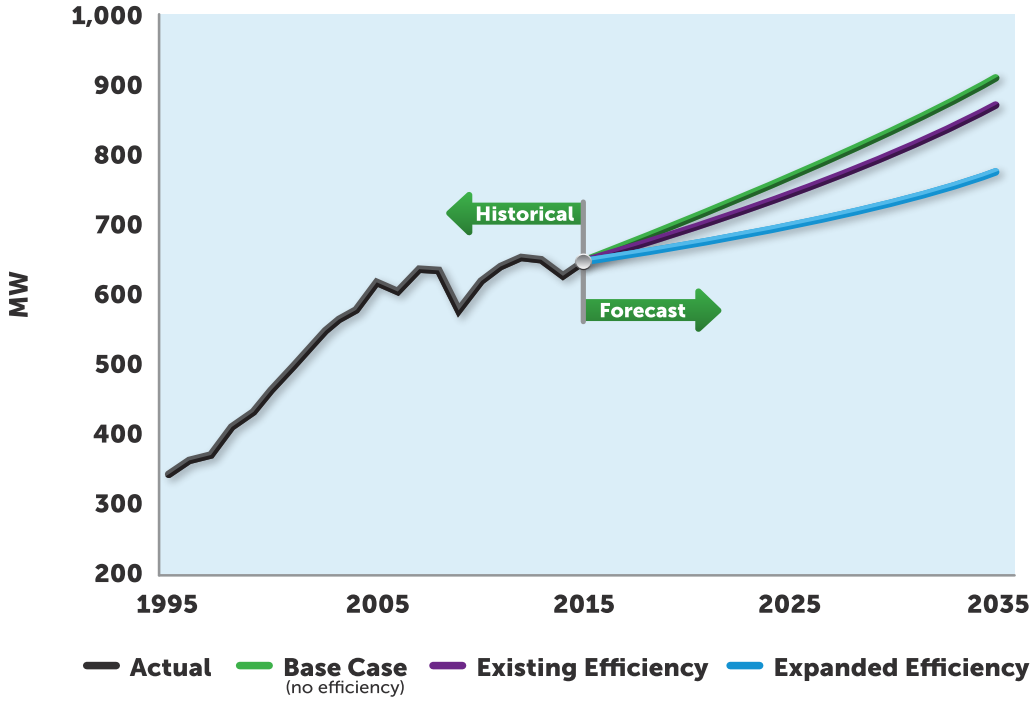


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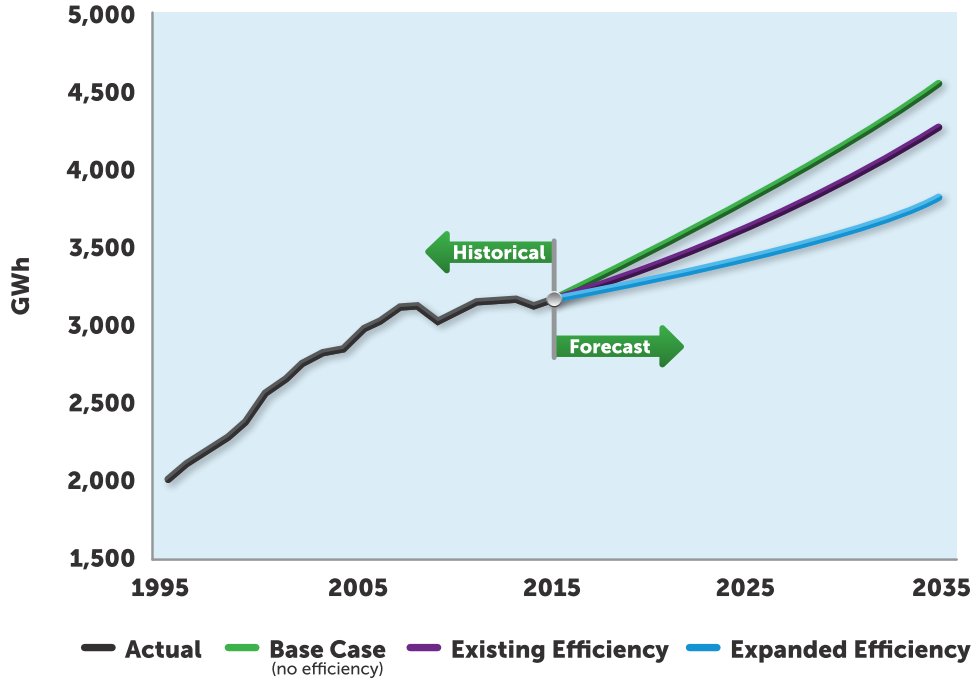
Figure 7. Annual Average Energy Consumption



Note: *The 2015 load forecast projects an annual average growth rate of 1.2 percent in energy consumption over the course of the ten-year forecasting horizon. Peak demand is forecast to grow at an average rate of 1.3 percent during the same period.*

Capacity Planning

Platte River currently has excess capacity. Projections indicate new firm capacity is not required until about 2030, assuming expanded energy efficiency and exit from Craig Unit 1. Decisions regarding options to reduce CO_2 emissions will likely be more significant than those related to needs for new firm capacity.

The decision to add a new capacity resource is based on ensuring an adequate balance between loads and resources at all times.

Platte River uses a combination of industry-standard and business-specific techniques to evaluate capacity needs:

- Maintain a minimum planning reserve margin of 15 percent.
- Use recognized North American Electric Reliability Corporation (NERC) conventions in capacity planning methods, including loss-of-load probability analysis.
- Carry operational reserves or have access to firm capacity that is sufficient to meet load obligations whenever the Rawhide coal unit is out of service.

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Figure 8. Platte River Loads and Resources

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Loads																
Foundation Forecast	648	659	670	681	693	705	717	729	741	754	767	780	794	807	821	835
DSM	-4	-8	-13	-19	-25	-32	-39	-46	-53	-60	-68	-75	-82	-89	-97	-104
Municipal Loads (Base)	644	651	657	662	667	672	677	683	689	694	699	705	711	718	724	731
Losses	13	13	14	14	14	14	14	14	14	14	14	15	15	15	15	15
Total Loads	658	664	671	676	681	686	691	697	703	708	714	722	729	737	744	752
Planning Reserves (15%)	99	100	101	101	102	103	104	105	105	106	107	108	109	111	112	113
Load + Planning Reserves	756	764	771	777	783	789	795	801	808	814	821	830	838	847	855	865
Resources																
Rawhide	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280
Craig	154	154	154	154	154	154	154	154	154	154	154	154	154	154	154	154
CRSP	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
LAP	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind ELCC	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	8
Solar ELCC	0	0	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Peaking	388	388	388	388	388	388	388	388	388	388	388	388	388	388	388	388
Total Resources	922	922	931	931	931	931	931	931	931	931	931	931	931	931	930	929
Surplus (Above Planning Reserve Requirements)	165	158	159	153	147	142	136	130	123	117	109	101	93	83	74	64
Reserve Margin	40%	39%	39%	38%	37%	36%	35%	34%	32%	31%	30%	29%	28%	26%	25%	23%

Platte River also evaluates renewable energy needs to support municipality compliance with state mandates. According to the Colorado Renewable Energy Standard, approximately 10 percent of energy deliveries to municipalities with over 40,000 customers must be supplied by qualified renewable resources. Deliveries from Platte River currently exceed the state requirements and we expect to deliver approximately 12 percent of total municipal energy requirements via qualified renewable sources by 2017.

Portfolio Analysis

Platte River uses the AURORAxmp Electric Market Model ("Aurora"), developed by EPIS Inc., to perform modeling related to system dispatch and production cost analysis. Aurora simulates the hourly operation of Platte River's generation system and its management within regional energy markets. The model also captures fixed costs and capital costs which are necessary for evaluating the full cost of potential new generation alternatives. Inputs for the model are collected from a variety of resources including internal and external experts. Internal experts review data supplied by consultants to ensure it is reasonable.

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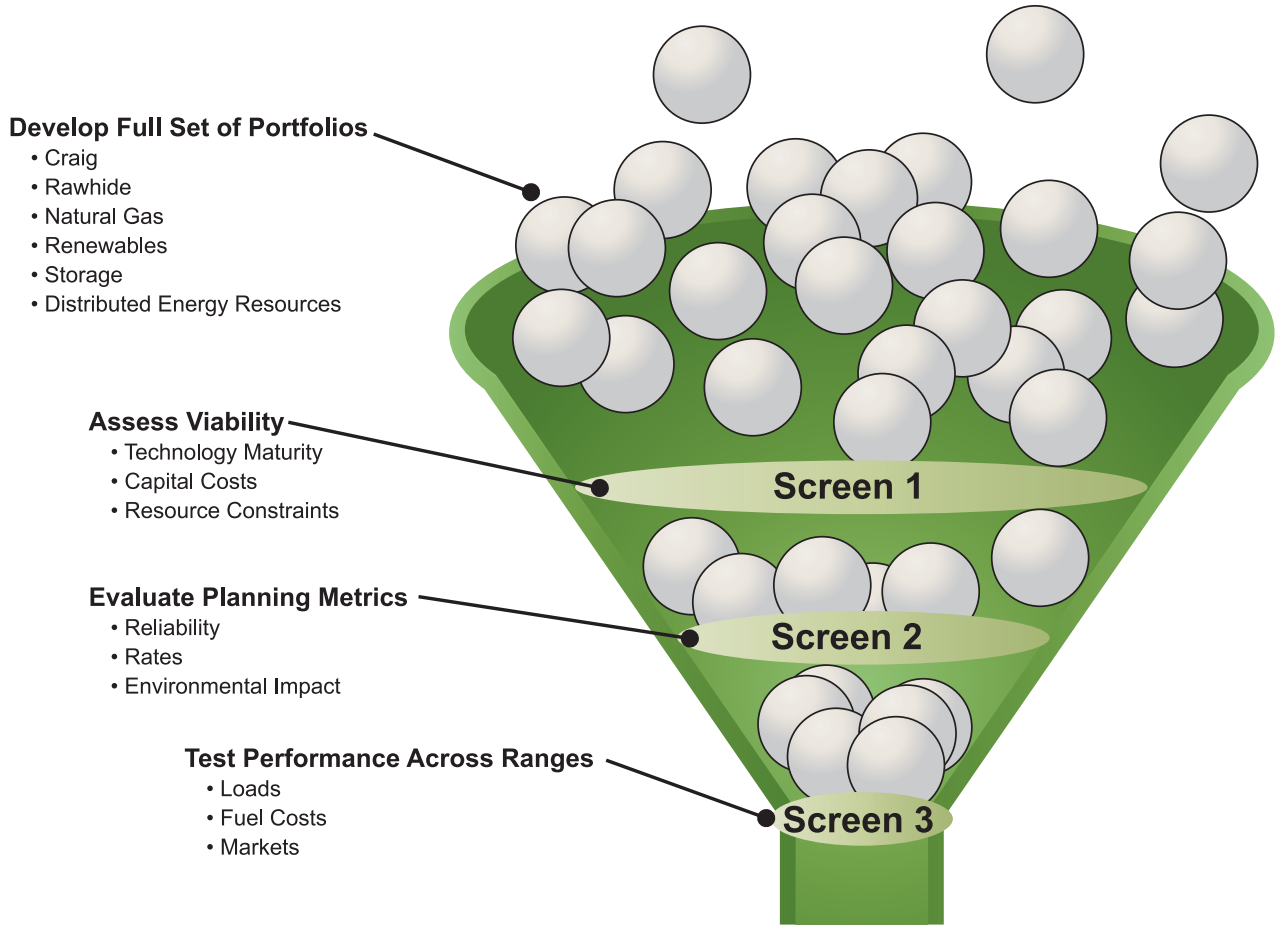
Since the model cannot evaluate every potential combination of portfolios, the pool of candidates is narrowed to a reasonable number of the most promising technologies. The screening process is illustrated in Figure 9.

FIGURE 9. ILLUSTRATION OF PORTFOLIO EVALUATION PROCESS



CLEAN POWER PLAN

On August 3, 2015, the Environmental Protection Agency (EPA) finalized its rule to reduce CO_2 emissions from electric generating units through the Clean Power Plan (CPP). The CPP establishes state-by-state targets for CO_2 emissions reductions, and delegates implementation of the rule to the states. The EPA specifies reductions based on rate or mass, with the approach determined by individual states.

The final version of the rule requires the State of Colorado to reduce CO_2 emissions on a rate basis to 1,174 lb/MWh in 2030, a 40 percent reduction relative to 2012 levels. On a mass basis, Colorado would be required to reduce emissions from 41.8 million tons in 2012 to 29.9 million tons in 2030 (roughly 28 percent).

For Platte River, the 2030 CO_2 rate standard would amount to a 45 percent decrease in CO_2 relative to 2012 levels; whereas, a proportionate mass decrease would require Platte River to reduce emissions from approximately 3.4 million tons in 2012 to about 2.4 million tons in 2030 (nearly 30 percent).

APPENDIX A. Resource Planning Update

The CPP is a complex set of regulations that will involve detailed analysis. As a result of the EPA rule, Platte River is considering compliance strategies that position it for future CO_2 reduction requirements, including assessment of rate- or mass-based strategies using tax imposition, trading of allowances, or command/control implementation methods. Early planning around CO_2 reduction is a critical component of Platte River's resource planning efforts.

Key uncertainties remain regarding the new rule: levels/timing of CO_2 reduction required specifically for Platte River, and the implementation method that will be used in Colorado for compliance. Refer to Appendix D for more information on the CPP.

Craig Unit 1 Exit Strategy

Platte River is a partial owner of Craig Units 1 and 2 (also referred to as the Yampa Project). Units 1 and 2 typically generate approximately one-fourth of all Platte River energy sales and about one-third of CO_2 emissions. In 2015, Platte River studied three primary strategies, including:

1. Exiting Craig Unit 1 by 2020 and both Craig units by 2030, or
2. Exiting both units by 2020, or
3. Operating the two units at minimum contractual capacities during most of the year.

Platte River's board of directors approved staff's recommendation to develop a strategy to exit Craig Unit 1. Rationale for the recommendation includes lower costs, potential for significant emission reductions, and need for more flexible resources to replace base load coal.

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Demand Side Management

Demand side management (DSM) refers to programs offered by utilities that influence end-use demand for electricity. DSM goals for the near-term include expanding energy efficiency programs, implementing a system-wide demand response (DR) pilot program, and developing a distributed resource strategy.

Expanded Energy Efficiency Programs

Based on studies conducted by Platte River and its consultants, we anticipate that about 739 GWh of cumulative energy efficiency savings can be achieved through 2035.

Demand Response Pilot Program

DR has the potential to provide net capacity for use in a variety of ways, including the ability to avoid or delay new generation capacity, to shift energy use from peak times to off-peak times, or to provide reserves (where permitted by the balancing authority or regional market). An emerging use of DR is to help integrate intermittent renewable generation, such as wind and solar.

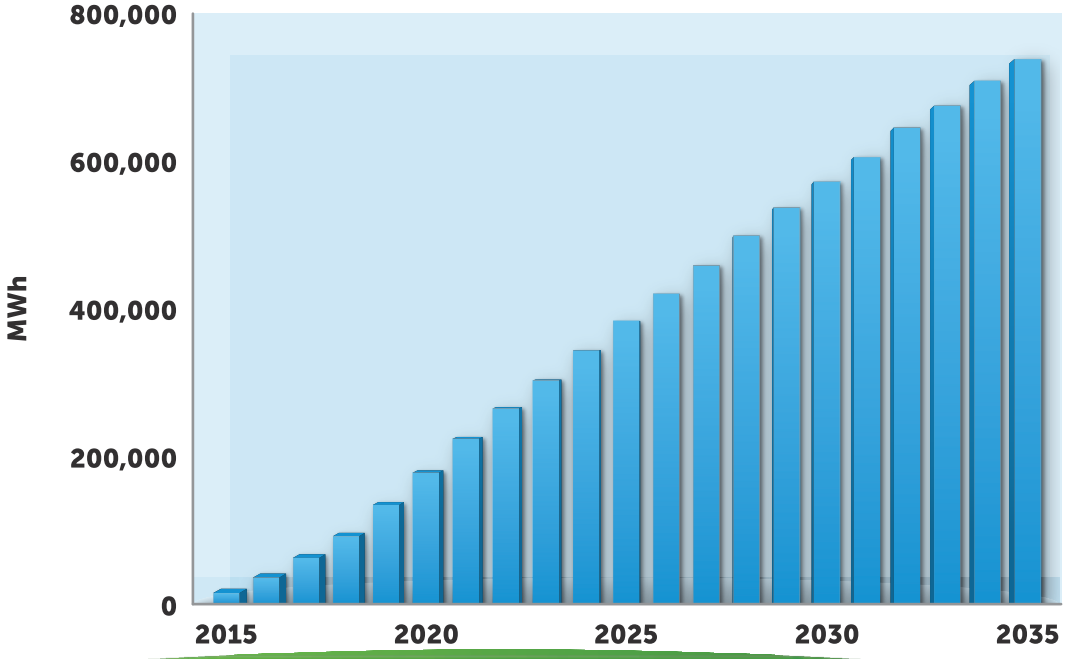
Platte River and its consultants estimate that 19 to 49 MW of DR can be achieved in the municipalities at a present value cost of $13 to $26 million. The present value of the benefits is estimated at $8 to $19 million. More information on potential benefits and costs for DR will be gathered as part of the pilot program.

Distributed Resource Strategy

For 2016 forward, Platte River and the municipalities will work together to develop a more formal strategy for implementing and integrating distributed resources. Aspects of this strategy may include:

- Maintain an up-to-date distributed generation database that includes proposed projects.
- Integrate lessons learned from the system DR pilot program into overall strategy.
- Work with other entities experienced in distributed resource implementation.
- Enhance modeling capabilities to analyze distributed resources from wholesale, distribution, and customer perspectives.
- Consider a range of distributed resources including generation (such as combined heat and power (CHP)), load management (including DR), and energy storage.
- Evaluate benefits in an integrated fashion, including the generation and transmission system, distribution system, and end-use customers.

Figure 10. Cumulative Energy Savings from Expanded Energy Efficiency Programs



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Solar photovoltaic (PV) and CHP are the two types of distributed generation most likely to be used in the near future.

- **PVs** can be installed at an end-user's facility or provided by larger-scale installations at the distribution or wholesale utility level. Platte River retained Nexant (a consultant) to evaluate the potential for roof-mounted PV in the region, based on roof orientation, capacity factors and economics. Nexant suggested that PV installations could grow to an estimated output of over 50 MW in the next 20 years (by 2035) – if utility incentives are provided to cover the majority of the cost.
- Considering all PV systems already installed on homes and businesses (about 480 systems), the Loveland solar project (funded via FEMA), solar programs in Fort Collins, and a potential system-wide community solar program – total distributed PV installations could exceed 12 MW by 2017.
- **CHP** refers to a generation system that uses a fuel—typically natural gas or biofuel—to generate electricity and incorporates a heat recovery system that captures waste thermal energy for beneficial use, making steam or hot water. Nexant evaluated the potential for several CHP technology applications and concluded that cost effective potential for CHP was fairly low – less than 5 MW of system wide capacity. This preliminary assessment did not include detailed evaluation of specific larger projects at individual customer facilities such as Colorado State University, breweries, and regional hospitals. These larger, case-by-case projects will be evaluated in more detail going forward.

Renewables Integration

In the coming years, Platte River will continue to focus on integrating renewable energy resources within its resource mix. Key areas of emphasis include expanding operating expertise with wind resources (78 MW total), gaining experience with managing and integrating 30 MW of new solar, and modeling operational aspects of renewable resource integration. Platte River will also continue to monitor regional renewable resource opportunities at the wholesale level and include distributed renewable sources in system planning activities.

Intermittency

Preparing to manage the intermittency of renewable generation will be an important effort for Platte River in the coming years. The currently approved 108 MW of wind/solar in Platte River's portfolio is anticipated to grow substantially to meet 2030 EPA CPP compliance requirements.

Currently, Platte River lacks sufficient flexible generation resources to manage the intermittency of wind and solar generation. Platte River contracts for balancing services through Public Service Company of Colorado (PSCo), otherwise known as Xcel Energy, as the regional balancing authority. Future balancing authority costs are uncertain, and total reliance on these services may create uncontrollable financial risks for large amounts of renewable resources.

Integration Study

To evaluate the system cost and performance impacts from higher levels of intermittent generation, Platte River engaged HDR to conduct a renewable integration study at a sub-hourly level (Platte River's Aurora model analyzes generation at an hourly level).

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The study was designed to determine the expected incremental cost of balancing Platte River's system at various levels of solar and wind penetration (ranging from 7.5 percent to 30 percent of Platte River's total energy deliveries).

The study concluded that at lower levels of renewable penetration, Platte River could expect additional integration costs of about $5 - $7/MWh. As the penetration of renewables increases to 30 percent of total energy supply, the expected cost could rise to over $30/MWh.

These preliminary cost estimates were included in Platte River's modeling efforts to date. Further analysis is required to more accurately determine potential costs for renewable source integration.

Platte River plans to continue to work closely with Xcel Energy to better collaborate regarding large scale integration of renewable sources. Efforts will also expand with the National Renewable Energy Laboratory and other subject matter experts in this area.

Platte River expects to bring expertise related to sub-hourly modeling in-house over time, similar to the approach for hourly production cost modeling using Aurora.

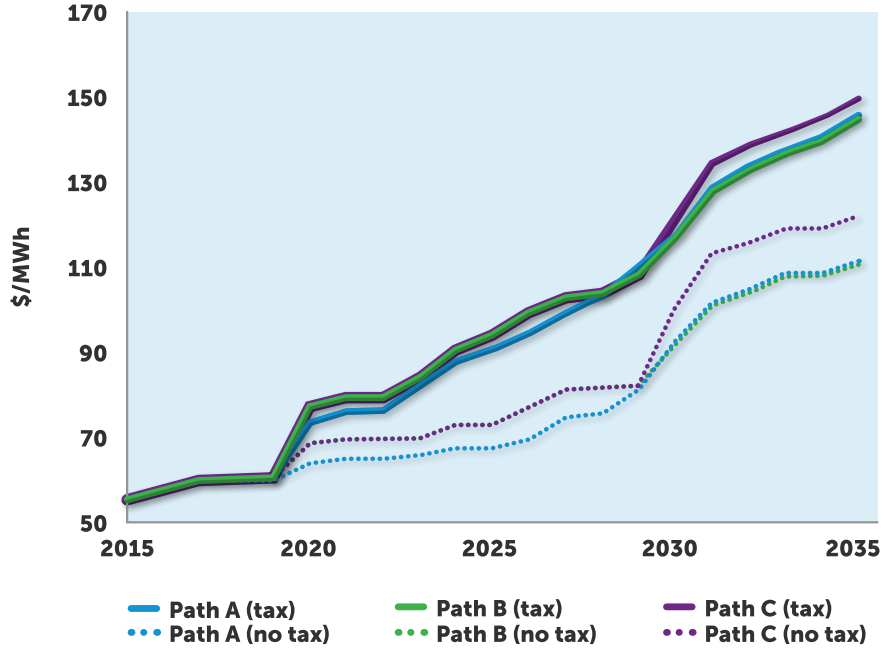
- **Path A** results in the lowest rate impacts of the CO_2 reduction scenarios; however, Path A's CO_2 compliance prior to 2030 is unclear due to the uncertain implementation of the EPA's CPP rule.
- **Path B**, where Platte River exits ownership in both Craig units by 2020, results in earlier wholesale rate increases because of the need to install lower-emissions replacement capacity by 2021. Emission reduction by 2030 is 35 percent in this scenario.
- **Path C**, which assumes a 50 percent CO_2 reduction requirement, yields the highest long-term rate increases. This option requires additional renewable resource expenditures to maintain CO_2 compliance at this higher reduction level.

Currently, wholesale rates are projected to increase between 22 percent and 70 percent from 2015 to 2025, depending on the CPP implementation and other factors. To minimize single-year rate impacts, Platte River will continue rate-smoothing strategies; currently 4.5 percent rate increases are projected in 2016 and 2017.

Modeling Results—Wholesale Rate Projections

Figure 11 shows preliminary wholesale rate estimates for portfolio options considered to meet various CO_2 reduction needs. Each of the three portfolio options was evaluated with and without a CO_2 tax assumption.

Figure 11. Preliminary Wholesale Rate Estimates



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Transmission Plan

Platte River's 10-Year Transmission Plan is updated annually to ensure that an adequate transmission system is planned for the reliable delivery of electricity to the municipalities and other Platte River transmission customers. The planning studies and reliability assessments for the near-term and long-term planning horizons demonstrate the transmission system meets performance requirements of the Western Electricity Coordinating Council (WECC) and NERC. A summary of planned transmission projects is provided in the table below.

In-Service	Project Name	Description	Purpose
January 2016	Crossroads 115kV Substation Expansion	Add 115/12.47kV transformer T2 and a Ring Breaker.	New delivery point to serve growing load.
May 2016	Laporte 230kV Substation Expansion	Add a 230 kV breaker-and-a-half yard, convert the Laporte-Laporte Tap 115kV line section to 230 kV, connect four 230 kV lines (two to Rawhide, one to College Lake, and one to Timberline), and add a 230/115kV transformer T2 for a second source to the Laporte 115 kV.	Improve system reliability in the Fort Collins area.
May 2017	Boyd 230/115kV Substation Expansion	Add 230/115kV transformer T2 and reconfigure 230kV and 115kV yards to breaker-and-a-half arrangement.	Improve system reliability in the Loveland area.
	Avery 230kV Substation	Sectionalize Carey-Timberline 230kV Line with new substation.	New PSCo delivery point to serve growing load.
December 2017	Harmony 230kV Substation Terminals Upgrade	Modify CT tap and transformer relaying.	Remove conditional line ratings on the Portner and Timberline lines.
March 2018	Re-Configure Harvard Substation	Connect Harvard 115/12.47 kV transformers T1 & T2 to different bays at LongmontNW Substation.	Improve reliability to each transformer. Meet PRPA design criteria.
May 2018	Loveland Foothills 115/12.47kV Substation	Site is near water tank on 29th St and existing Loveland West-Horseshoe 115kV line to locate additional 115/12.47kV transformer(s).	New delivery point to serve growing load.
July 2019	Timberline 230/115kV T3 Replacement	Replace 230/115kV transformer T3 with new transformer.	Improve system reliability in the Fort Collins area. Existing transformer was installed 1976.
November 2019	Fordham 115kV Substation Expansion	Add 115/12.47kV transformer T3.	New delivery point to serve growing load.
May 2021	Rawhide Unit 1 GSU Replacement	Cycle through replacing Rawhide Unit 1 GSUs(3 + 1 spare) in coordination with major Rawhide plant outage.	Satisfy maintenance requirements.
November 2021	Valley 115kV Substation Expansion	Add 115/12.47kV transformer T3.	New delivery point to serve growing load.
December 2021	Fort Collins Northeast 115/13.8kV Substation	Considering sites near Timnath or Cobb Lake 115kV Substations to locate additional 115/13.8kV transformer(s).	New delivery point to serve growing load.
May 2022	Loveland Southeast Substation	Considering sites near intersection of I-25 and Hwy 402 to locate additional 12.47kV transformer(s). Could be a 230kV or 115kV transmission interconnection depending on desired project route.	New delivery point to serve growing load.

APPENDIX B. Risk Management Plan

The *Risk Management Plan* summarizes Platte River's proactive efforts to identify, evaluate, rank, and mitigate risks that could negatively impact electric supply, finances, reputation, and safety requirements. Platte River's risk management process provides a framework to identify and assess specific risks by soliciting staff input and following an assessment and documentation process.

Identified risks are evaluated through a risk assessment process coordinated by the chief financial and risk officer, financial planning staff, and a Risk Oversight Committee (ROC) consisting of the general manager, senior management, and key staff members.

The ROC identifies subject matter experts throughout Platte River to provide expertise and information regarding each identified risk and to alert the ROC of additional risks. As risks are identified, a detailed risk review process assesses risk magnitude and probability based on Platte River data, industry data, staff and management experience, and evaluation.

The ROC assigns magnitude and probability ranks based on specific criteria (see Risk Definitions: Figure 12 and Figure 13). Higher-rated risks are prioritized for the development and implementation of mitigation strategies when possible. Mitigation strategies include but are not limited to insurance coverage, financial and physical contracts, operational business practices, and monitoring processes. The ROC re-assesses all identified risks and the effectiveness of mitigation strategies. The financial planning staff maintains all assessment documentation and supporting analysis, and the ROC reviews those materials.

All identified risks are listed in a Risk Inventory (see Figure 14). The chief financial and risk officer approves all risks included in the Risk Inventory, along with assessments, and supporting documentation.

Since the first iteration of the *Risk Management Plan* in 2004, Platte River has assessed risks on a five-year planning horizon. Beginning in 2016, the *Risk Management Plan* will transition to a ten-year planning horizon. The longer planning horizon will better capture risks associated with resource planning, the impacts of proposed CO_2 legislation, and will be consistent with Platte River's strategic planning horizon.

Additionally, the *2015 Annual Budget* includes funds for a third-party review of the *Risk Management Plan* and risk mitigation activities. The review will include a thorough examination of Platte River's risk-ranking methodology and metrics, risk assessment development and review processes, and best practices for business risk. A third party will provide a detailed report summarizing the assessment, Platte River's strengths and weaknesses, and recommendations.

APPENDIX B. Risk Management Plan

Risk Definitions

Platte River's identified risks are analyzed and assigned a magnitude and probability classification as defined in Figure 12 and Figure 13, respectively.

Figure 12. Risk Magnitude

Risk Magnitude	Electric Supply	Safety	Financial	Reputation and Interests
HIGH	Loss of supply to an entire city	Loss of life or serious bodily injury	Significant impact >$10 million	Significant long-term damage
MEDIUM	Loss of supply to part of a city	Bodily injury	Limited impact $5 - $10 million	Short-term damage
LOW	Momentary loss to a city substation	No injury	Modest impact <$5 million	No appreciable damage

Figure 13. Risk Probability

Probability Rank	Probability Rank Definition
HIGH	The indentified risk is likely to occur within five years.
MEDIUM	The identified risk could occur within five years and should be anticipated.
LOW	The identified risk is unlikely to occur within five years.

Identified Risk

Risks identified as significant to Platte River that could negatively impact electric supply, finances, reputation, and safety requirements.

Magnitude

The impact of an identified risk occurring. Ranking classifications are detailed in Figure 12.

Probability

The likelihood of an identified risk occurring within a specified time period. Ranking classifications are detailed in Figure 13.

Risk Oversight Committee

A committee consisting of the general manager, senior management, and key staff members, charged with managing Platte River's risks and developing the *Risk Management Plan*.

Risk Management Plan

A document included as an integral part of Platte River's *Strategic Plan* summarizing Platte River's identified risks and risk mitigation strategies.

Risk Inventory

A table within the *Risk Management Plan* summarizing the magnitudes and probabilities of identified risks.

APPENDIX B. Risk Management Plan

Risks & Mitigation Strategies

Figure 14. Risk Inventory

The number assigned to each risk does not indicate a priority or level of severity. It is designed to make it easier to find the related detail of that risk on the following pages.

#	Identified Risk	Magnitude	Probability
1	New Mandated Emission Reductions	High	High
2	Business Cybersecurity System Intrusions	Medium	Medium
3	Commodity Market Volatility	Medium	Medium
4	Corporate Conduct	Medium	Medium
5	Damage by Outside Contractor Employees	Medium	Medium
6	Defined Benefit Plan Investment Under-Performance	Medium	Medium
7	Employee Errors Resulting in Loss of Electric Service	Medium	Medium
8	Interest Rate Changes	Medium	Medium
9	Mandated Renewable Energy Standard	Medium	Medium
10	Physical Threats Affecting Reliability or Human Life	Medium	Medium
11	EPA Coal Combustion Residuals Rule Implementation	Medium	Medium
12	Cybersecurity: Generation Combustion Turbines	High	Low
13	Cybersecurity: Rawhide Unit 1 and Gas Yard Balance of Plant	High	Low
14	Cybersecurity: System Operations	High	Low
15	Environmental Violations	High	Low
16	Extended Baseload Forced Outage: Rawhide	High	Low
17	Interruption of Coal Supply (Fuel and Rail, Trapper Mine)	High	Low
18	Interruption of Water Supply for Rawhide Generation	High	Low
19	Unplanned Capital Requirements	High	Low
20	Increased Turnover of Employees (Knowledge Loss)	Low	High
21	Credit Risk	Medium	Low
22	Financial Internal Controls	Medium	Low
23	Interruption of Natural Gas Supply (Fuel and Pipe)	Medium	Low
24	Electric Facility Siting Constraints	Low	Medium
25	Extended Baseload Forced Outage: Craig	Low	Medium
26	FERC/NERC Regulatory Compliance Violation	Low	Medium
27	General Liability	Low	Medium
28	Increased Federal Oversight	Low	Medium
29	Changes to Tax Exempt Status of Newly Issued Power Revenue Bonds	Low	Low
30	Increased State Regulatory Oversight	Low	Low
31	Loss of Communication Systems	Low	Low
32	Misalignment of Capacity Resources and System Loads	Low	Low
33	Physical Property Loss	Low	Low
34	Transmission Interruption	Low	Low
35	Wholesale Electric Market Manipulation	Low	Low

APPENDIX B. Risk Management Plan

A brief summary of each risk and its mitigation strategies follows. Each mitigation strategy requires the ROC's attention and follow-up to evaluate alternative courses of action.

1. New Mandated Emission Reductions

Platte River generation facilities consistently operate below existing emission permit limits, and the criteria pollutant emission levels from Rawhide are among the lowest for coal units in the United States.

The recently released EPA ozone rule may require further reductions in NO_x emission levels and the CPP will require reductions in CO_2. Staff will continue monitoring regulatory developments and analyze various mitigation strategies. Emission reductions are also being evaluated as part of a larger resource planning process currently underway. Potential implications of the CPP and ozone rules are addressed in several sections of this plan.

2. Business Cybersecurity System Intrusions

Platte River cyber systems experience a number of intrusion attempts on a daily basis, but measures to harden and segment infrastructure along with new software tools have prevented any attempts to penetrate Platte River cyber systems to date.

Platte River will continue to conduct vulnerability assessments to identify potential weaknesses and minimize exposure, while also developing standardized procedures for implementation and upgrading of business system infrastructure.

3. Commodity Market Volatility

Combined coal expenses at Rawhide and Craig currently represent 26.5 percent of total expenses budgeted, with projections increasing to 28.9 percent by 2019. The recent pricing trend among coal companies reflects greater reliance upon market pricing, rather than traditional long-term pricing fixed by contract, thus reducing the accuracy of expense forecasts.

Platte River will continue to monitor coal markets for future opportunities to remove price volatility and fix forward pricing.

4. Corporate Conduct

Ethics violations typically receive highly negative publicity, which could damage Platte River's reputation and result in legal action. As a result, Platte River has incorporated a "Code of Conduct" within the *Employee Handbook*, providing guidance and ethical principles applicable to all employee behavior.

Platte River will provide workforce training on ethics guidelines and review the *Employee Handbook* annually. Staff will implement a compliance hotline for reporting potential violations.

5. Damage by Outside Contractor Employees

The responsibility for screening contractors' employees rests with the contractors themselves. However, Platte River personnel responsible for administering contracts must account for the risk posed by contractors.

The contractor screening, selection, and bidding process helps mitigate the risk. Contract terms and conditions further mitigate risks and reinforce administrative personnel's responsibility and authority. These terms and conditions include, but are not limited to, contract termination, safety assessments, indemnification, or surety bond requirements.

6. Defined Benefit Plan Investment Under-Performance

Investment earnings on the Defined Benefit Plan are subject to volatility. Platte River closed the Defined Benefit Plan to employees hired on or after September 1, 2010, which reduced future Defined Benefit Plan funding requirements. The reinstated lump-sum distribution, combined with modified plan assumptions scheduled for 2016, further reduces the risk of investment under-performance.

The Retirement Committee, in conjunction with investment advisors, meets quarterly to monitor investment diversity and performance, and evaluate and update investment strategies.

APPENDIX B. Risk Management Plan

7. Employee Errors Resulting in Loss of Electric Service

Reliance upon human behavior introduces the unavoidable element of human error.

To reduce errors and minimize their impacts, Platte River implements job training focused on acquiring and maintaining skills. The training includes updating apprenticeship step progression requirements, regular refresher training on specialized processes or activities, and documenting processes. Time is scheduled to review job hazards before starting work, which minimizes the potential for errors and standardizes safety procedures and practices.

8. Interest Rate Changes

Interest income and financing costs are divergently impacted by interest rate volatility.

A laddered maturity strategy based on cash flow projections mitigates the impact of interest rate volatility on investments. Staff analyzes various debt options to help mitigate potential rising rates during times of potential debt issuance.

9. Mandated Renewable Energy Standard

The Colorado Renewable Energy Standard (RES) currently does not apply to Platte River, but requires municipal utilities with more than 40,000 customers to provide 10 percent of their energy from qualified renewable resources by 2020; currently one owner municipality qualifies. Future mandates, from both federal and state governments, may require additional renewable resources in Platte River's portfolio.

Platte River will continue to proactively diversify its resource portfolio, while monitoring the regulatory landscape and analyzing potential scenarios for future compliance.

10. Physical Threats Affecting Reliability or Human Life

Generation and transmission facilities include high-value assets in multiple locations serving the owner municipalities. This exposes Platte River to increasing physical security threats.

Platte River implements the NERC Critical Infrastructure Protection (CIP) reliability standards as required, and uses them as a roadmap for physical security practices in other areas. Platte River also established a committee to develop a comprehensive security policy.

11. EPA Coal Combustion Residuals Rule Implementation

In April 2015, the EPA finalized new rules resulting in increased regulation of coal combustion residuals (CCR). The new rules include standards for new and existing facilities, applicable to operations at Rawhide. Proactively, Platte River established groundwater monitoring wells at Rawhide to detect problems early, establish baseline conditions, and track natural variations.
Additional monitoring and assessment is planned to determine what changes may be necessary, if any, to current operations in order to show initial and ongoing compliance with the new standards.

Platte River will monitor initial implementation of the rule across the country, including industry best practices and enforcement actions. Participation will also continue in stakeholder meetings and public processes coordinated by Colorado Department of Public Health and Environment concerning possible changes to state regulations to incorporate the new federal standards.

12. Cybersecurity: Generation Combustion Turbines

CIP reliability standards from NERC, Federal Energy Regulatory Commission (FERC), and WECC require significant cyber oversight, resulting in the installation of system hardware and software to protect generation combustion turbines. The most recent audit found no potential violations, and cited no areas of concerns or recommendations.

APPENDIX B. Risk Management Plan

The controls network administrator maintains reliability and security of the controls network and all cyber assets connected to it, including the combustion turbines. Multiple layers of cybersecurity protection exist, along with built-in redundant and independent protections. The presence of five smaller, independent generation units better mitigates risk relative to having all peaking capacity on a single unit.

13. Cybersecurity: Rawhide Unit 1 and Gas Yard Balance of Plant

In the event of a severe cyber breach, a loss of generation infrastructure could cause a system outage, as well as potential personnel and equipment damage until manual restoration occurred.

CIP reliability standards from NERC, FERC, and WECC do not currently apply to Rawhide Unit 1 and Gas Yard Balance of Plant. An initial cybersecurity assessment demonstrated areas needing improvement.

Staff identified and implemented strategies to address concerns, and will continue assessing future security needs.

14. Cybersecurity: System Operations

System Operations uses a Supervisory Control and Data Acquisition (SCADA) system to monitor and control the Platte River Bulk Electric System (BES) assets. The technology used by the SCADA system and personnel with access may introduce vulnerabilities. A breach of the SCADA system cybersecurity could cause a loss of control or situational awareness, resulting in the loss of load to one or more of the owner municipalities.

Platte River will address threats and regulatory requirements specific to SCADA systems through internal controls improvement, capital investment, employee training, and proper staffing to adapt to evolving technology.

15. Environmental Violations

Operation of a BES requires compliance with numerous environmental regulations with increasing complexity. Non-compliance during the operation of generation and transmission facilities may result in financial penalties and/or mandated system upgrades.

Platte River remains proactive in environmental compliance, and continually trains staff to ensure environmental compliance. Training programs are enhanced as regulations and other requirements evolve.

16. Extended Baseload Forced Outage: Rawhide

Historical performance of Rawhide Unit 1, along with staff analysis defines an extended baseload outage as a two-week or longer outage. An outage of this duration would not jeopardize Platte River's ability to serve load because excess capacity has been constructed to meet peak summer demands and ensure electric supply during outages.

The primary exposure is the cost to replace baseload generation. Replacement resources available include natural gas combustion turbines, wholesale market purchases, and a forced outage assistance agreement. Excellent maintenance practices and operating standards will continue to sustain the units reliability.

APPENDIX B. Risk Management Plan

17. Interruption of Coal Supply (Fuel and Rail, Trapper Mine)

The absence of coal for baseload generation would result in replacement power purchased, or peaking generation, both potentially higher cost alternatives to Platte River's baseload units. The proximity of mines, coal mine diversity, and adequate stockpile inventories reduce the chances of interruption.

To avoid an interruption, Platte River will continue to seek long-term coal supply and rail contracts, while maintaining strong relationships with coal and rail providers. Platte River targets a minimum of 75 days of stockpile inventory at Craig and Rawhide to mitigate supply disruptions.

18. Interruption of Water Supply for Rawhide Generation

Without a reliable water supply, Platte River could experience sustained curtailments of generation from the Rawhide coal unit. The Windy Gap Project is the primary source of water for Rawhide generation, and historically produces adequate water for operational needs.

To mitigate the risk of water shortages, Platte River is participating in the Windy Gap Firming Project to improve reliability of the Windy Gap water supply. The permitting process is underway and current projections indicate the firming project will be completed and begin filling by 2021.

In the interim, Platte River will continue researching alternative water supplies for Rawhide coal unit operations.

19. Unplanned Capital Requirements

Capital expenditures are planned and prioritized annually to determine capital funding requirements over the next several years. Significant variances over planned project expenses can produce financial strain and rate pressure.

Platte River is implementing best practices for project management to improve cost projections.

20. Increased Turnover of Employees (Knowledge Loss)

The demographics and tenure of a portion of Platte River's workforce suggest employees in critical jobs may consider retirement in the near future, resulting in a loss of significant institutional and operational knowledge.

Platte River workforce development is currently focused on expanding the knowledge base within the organization. Departments with increased risk of retirements will receive additional evaluation through workplace analytics. Additional preparations include strengthening of the recruitment and selection process and expansion of workforce training.

APPENDIX B. Risk Management Plan

21. Credit Risk

Platte River invests in a number of Government Sponsored Enterprises ("agencies") that present credit risk. Default of any agency debt could result in substantial loss of investment principal.

Platte River diversifies its portfolio by purchasing different types of securities allowed under Colorado State Statute: agency debt, treasury notes, investment pools, bank deposits, and money market accounts. Within direct purchase agency debt, Platte River limits its exposure to each individual agency to less than 20 percent (subject to review by the chief financial and risk officer). Platte River will continue to maintain a diversified investment portfolio while monitoring the Federal Housing Finance Agency reports to ensure the counterparties remain stable.

22. Financial Internal Controls

A financial loss due to fraud or embezzlement is limited by strong financial internal controls and separation of financial duties. An internal auditor is on staff, and policies and procedures exist to support internal financial controls. The Internal Audit Committee prioritizes the internal audit program, reviews audit findings, and recommends action items.

Additionally, Platte River will implement a confidential hotline, operated by external auditors, for employees to report suspicious activity. Platte River also maintains insurance policies to mitigate financial loss.

23. Interruption of Natural Gas Supply (Fuel and Pipe)

Natural gas is currently used only on an intermittent basis. Regular inspections ensure reliability of the pipeline, and Platte River maintains a consistent and reliable interconnection with Xcel Energy. In the event a natural gas disruption occurred, Platte River could sustain a loss of load depending on the timing and duration of the event.

Regular inspection and maintenance of natural gas pipeline infrastructure, including the Colorado Interstate Gas interconnects, will continue to ensure reliability. Staff remains familiar with scheduling procedures on Colorado Interstate Gas' pipeline as an alternate source, while monitoring potential alternative supply sources, including natural gas storage.

24. Electric Facility Siting Constraints

Installation of new electric facilities (generation and transmission) requires extensive time for planning, design, permitting, and construction.

To mitigate delays associated with siting and permitting, Platte River performs analysis using strategic planning tools that forecast the timing of a new facility, combined with proper project planning.

25. Extended Baseload Forced Outage: Craig

In the event a forced outage exceeding two weeks occurred at either of the Craig units, Platte River's ability to serve load would not be curtailed. This is due to the presence of Platte River's natural gas peaking units, availability of other generation resources in the region, and the wholesale market.

The primary exposure is the cost to replace baseload generation with a combination of natural gas fueled combustion turbines and wholesale market purchases. To represent Platte River's interests, Platte River employees serve on the Yampa Engineering and Operating Committee and the Yampa Coordinating Committee.

26. FERC/NERC Regulatory Compliance Violation

Platte River is subject to the NERC Compliance Monitoring and Enforcement program for mandatory and enforceable Reliability Standards. This requires annual self-certifications and compliance audits every three years. FERC has the authority to issue civil penalties for violations.

Platte River's Reliability Compliance Program and well-documented internal compliance program operate independently of areas responsible for reliability standards compliance. Responsibilities are assigned to relevant staff, and numerous policies, processes, procedures, and internal controls have been implemented.

APPENDIX B. Risk Management Plan

27. General Liability

Due to risks associated with the hazardous nature of Platte River business activities, Platte River purchases various insurance products to mitigate financial risk. With the assistance of insurance brokers, appropriate insurance policies are maintained.

Platte River promotes a culture of high safety standards, starting with the general manager, with a focus on continuously improving business policies and procedures.

28. Increased Federal Oversight

As a political subdivision of Colorado, many federal legislative and regulatory reforms that apply to private businesses do not apply to Platte River. Platte River is subject to federal oversight in areas such as employment, finance, business transactions, employment benefits, land and water development, and wildlife protection.

Platte River remains active in monitoring changes to the legislative and regulatory landscape, and communicates its positions to legislators and regulators, when necessary. In addition, Platte River is an active member of coalitions that monitor and participate in the legislative and regulatory process.

29. Changes to Tax Exempt Status of Newly Issued Power Revenue Bonds

Platte River's ability to issue tax-exempt debt lowers financing costs, which benefits rate payers. Modifications to tax-exempt financing are being considered as part of federal tax reform.

Platte River will continue to support APPA and LPPC in their efforts to ensure the continuance of tax-exempt financing. Staff will continue analyzing various debt options that could be used if tax exempt financing is modified.

30. Increased State Regulatory Oversight

Historically, Platte River has not been subject to any significant degree of regulatory oversight by the Colorado Public Utilities Commission (CPUC) due to its status as a political subdivision and municipally-owned utility.

Platte River will continue to actively monitor changes to the legislative and regulatory landscape, and communicate Platte River's positions to legislators and regulators, when necessary.

31. Loss of Communication Systems

Communication losses have been quickly repaired with minimal impact. Communication reliability is maintained through system redundancies, emergency backup systems, and continued maintenance.

APPENDIX B. Risk Management Plan

32. Misalignment of Capacity Resources and System Loads

Platte River has two significant risks related to capacity resources and load: (1) resources are insufficient to serve loads (short capacity), or (2) Platte River costs increase due to underutilized generation resources (long capacity).

Platte River updates the load forecast annually to include recent load trends. Resource planning efforts are underway to analyze the timing of future capacity expansion.

33. Physical Property Loss

Platte River has experienced few instances of property damage or loss because of its maintenance procedures, training programs, and safety standards. Platte River's property insurance, which is reviewed annually, limits financial exposure to policy deductibles.

34. Transmission Interruption

Forced outages on overhead transmission lines are typically of short duration. Inventories of temporary transmission equipment exist to quickly recover from a forced outage.

Platte River's redundant transmission system is continually reviewed for opportunities to decrease system constraints in the event an outage.

35. Wholesale Electric Market Manipulation

The jurisdiction of the FERC was expanded to include oversight preventing market manipulation, subject to fines and penalties.

Platte River policy prohibits market manipulation. We have a compliance audit program and use internal controls to minimize the likelihood of market manipulation.

APPENDIX C. Strategic Financial Plan

Platte River's *Strategic Financial Plan* (SFP) provides direction to create long-term financial stability. The priorities of the SFP are to generate adequate cash flows, maintain access to low cost capital, provide stable and competitive wholesale rates, and effectively manage financial risk. The board of directors reviews the SFP policies, goals, and financial projections at least annually.

Rate Requirements

Under Colorado law, Platte River's board of directors has the exclusive authority to establish electric rates. The Power Supply Agreements (PSAs) with the municipalities require the board to review rates at least once each calendar year.

The PSAs with the municipalities and the General Power Bond Resolution contain specific provisions governing Platte River's rate setting. The PSAs require that rates be sufficient to cover all operating and maintenance expenses, purchase power costs, debt service expenses, and to provide reasonable reserves and adequate earnings margins so Platte River may obtain favorable debt financing. The General Power Bond Resolution requires that rates be sufficient to generate net revenues that cover debt service expense at a minimum 1.10 times.

Policies And Goals

The policies and goals listed below are described in detail on the next page.

- Generate minimum debt service coverage of 1.50 times
- Generate minimum net income equal to $6 million
- Target minimum 200 unrestricted days cash-on-hand
- Maintain $20 million in the Rate Stabilization Fund
- Target debt to capitalization ratio less than 50 percent
- Provide stable and competitive wholesale rates
- Maintain access to low cost capital and favorable credit ratings
- Maintain bond required reserves
- Prudently manage and invest reserves
- Variable rate debt managed in accordance with interest rate risk management policy
- Manage financial risk

The listed policies and goals are interrelated. By achieving the minimum target for debt service coverage of 1.50 times, the net income target of $6 million, and the minimum 200 days of unrestricted cash-on-hand, Platte River should generate adequate cash flows to meet liquidity targets, exceed its debt-to-capitalization goal, and maintain access to low-cost capital.

Generate Minimum Debt Service Coverage of 1.50 Times

While the legal requirement for debt service coverage is 1.10 times, coverage at this level does not generate adequate cash flows. It also increases future debt issuance and significantly impacts Platte River's credit rating, which increases the cost of future financings. Target debt service coverage of 1.50 times provides sufficient annual cash flows to partially fund future capital additions as well as maintain favorable credit ratings.

Generate Minimum Net Income of $6 Million

PSAs with the municipalities require Platte River to have an adequate earnings margin to obtain revenue bond financing on favorable terms. A target minimum of $6 million net income is a sufficient earnings margin to maintain cash balances, meet liquidity requirements, and provide financial flexibility.

Target Debt to Capitalization Less Than 50 Percent

A debt-to-capitalization ratio less than 50 percent provides Platte River with a strong balance sheet. It also reduces the risk of becoming over leveraged in the debt market.

APPENDIX C. Strategic Financial Plan

Target Minimum 200 Days of Unrestricted Cash-on-Hand

A minimum 200 days of unrestricted cash-on-hand target ensures that adequate cash is generated and maintained, thus ensuring Platte River's financial flexibility, strength, and liquidity. Included in the days of unrestricted cash-on-hand target is a Rate Stabilization Fund target of $20 million. The purpose of the Rate Stabilization Fund is to reduce or eliminate the rate impact due to an unforeseen event that affects Platte River's ability to meet the minimum legal debt service coverage requirement.

Maintain Access to Low Cost Capital and Favorable Credit Ratings

Interest rates between various credit ratings can fluctuate significantly depending on market conditions. Maintaining a strong credit rating provides access to low-cost capital and favorable financing terms, resulting in lower overall debt service expense.

Provide Stable and Competitive Wholesale Rates

The board develops and reviews rate projections at least annually. To provide more stable rates from year to year, Platte River may smooth the projected rate modifications over several years to meet SFP criteria.

Platte River uses rate comparisons with other utilities in the region to measure the competitiveness of wholesale rates charged to the municipalities.

Maintain Bond Required Reserves

The General Power Bond Resolution requires Platte River to maintain a Reserve and Contingency Fund at a minimum of 2 percent of net plant. Bond service and bond reserve funds are maintained as required.

Prudently Manage and Invest Reserves

Platte River's investments will be managed according to Platte River's Investment Policy. The primary objectives of the investment activities are safety, liquidity, and yield, while achieving market returns comparable to benchmark performance.

Variable Rate Debt Managed In Accordance With Interest Rate Risk Management Policy

The board-approved Interest Rate Risk Management Policy has established guidelines that govern variable rate debt.

Manage Financial Risk

Platte River's financial risks are managed according to, but not limited to, the following board-approved documents: Energy Risk Management Policy, General Power Bond Resolution, Interest Rate Risk Management Policy, and PSAs. The Energy Risk Management Committee and the ROC are charged with managing Platte River's business risks.

APPENDIX D. Environmental Regulation Issues and Positions

Platte River uses state-of-the-art air quality control systems at its power generation stations and meets or exceeds all applicable environmental laws and regulations. As new legislation and regulations are proposed, Platte River participates in public processes and supports additional control requirements where costs are commensurate with measurable environmental benefits. In addition, as technology improves and opportunities arise, Platte River will be proactive in evaluating and implementing improvements in its power operations that balance environmental and other socio-economic concerns.

Principles

The following principles are used to guide Platte River's decision making and operations:

- Consider environmental factors in planning, design, construction, and operations decisions
- Ensure compliance with applicable laws, rules, regulations, and permits
- Conserve natural resources
- Reduce environmental risks
- Communicate environmental values
- Encourage public participation
- Support cost-effective programs to conserve energy
- Coordinate generation and transmission planning with neighboring utilities
- Consider environmentally progressive technologies to meet future generation needs

Clean Power Plan

On August 3, 2015, the EPA issued a set of rules regulating the emission of CO_2 from new, modified and reconstructed, and existing fossil fuel-fired electric generating units (EGUs) under section 111 of the Clean Air Act (CAA). Nationwide, EPA projects that the set of rules will reduce emissions from the power sector by 32 percent (from 2005 levels) by the year 2030.

Set of Rules

1) A final rule under section 111(b) of the CAA setting emission standards for new EGUs, based on the "partial" application of carbon capture and sequestration for coal-fired EGUs
2) In the same rule, emission standards for modified and reconstructed EGUs, which are not based on carbon capture and sequestration for coal-fired EGUs
3) The final "Clean Power Plan (CPP)," a rule under section 111(d) of the CAA that establishes state-by-state CO_2 emission reduction "goals" starting in 2022. It directs each state to submit for EPA approval a plan demonstrating how the state's affected EGUs will meet its reduction goals.

In addition, EPA released a proposed federal plan that would establish unit-by-unit emission reduction obligations for affected EGUs in states that did not submit an approvable state plan. The proposed federal plan also includes presumably approvable model trading frameworks for states submitting their own plans.

State Responsibilities

As with many other CAA regulatory programs, section 111(d) gives states the primary responsibility to meet their reduction obligation by adopting state plans that limit emissions at regulated facilities. The CPP sets state-specific CO_2 emission goals to reduce statewide emission from the power sector.

These goals consist of an Interim Goal, which must be met on average during the years of 2022-2029, and a Final Goal for 2030 and beyond.

However, the EPA proposes to allow states to determine when and how quickly individual EGUs in the state must reduce their emissions. The EPA allows states to demonstrate progress either through multi-year "step down" goals or through a state-determined "glide-path" approach.

APPENDIX D. Environmental Regulation Issues and Positions

Three Forms of Goals

EPA specifically set state goals in three forms, which it deems equivalent:

1) **A rate-based goal** measured in pounds of CO_2 per megawatt hour (lb CO_2 /MWh) of generation by the electric power sector.
2) **A mass-based goal** covering the mass emission of only existing affected EGUs within the state, measured in tons of CO_2.
3) **A mass-based with new source complement**, measured in tons of CO_2, which includes emissions from both existing and new affected EGUs.

States choose the goal they want to use when designing and submitting their plans. The CPP requires states to submit their initial plans by September 6, 2016. **Note:** The EPA may grant a state an extension for as many as two years, provided its initial submission meets certain specified criteria for progress and consultation.

States must submit their final plans by September 2018.

EPA Changes

Reacting to significant public comment, EPA has adopted a number of changes to address reliability concerns. These changes include:

- A requirement that each state plan demonstrate that is has considered reliability
- A way for a state to revise its plan in the face of unanticipated reliability challenges
- A temporary "safety-valve" for individual EGUs when CPP requirements conflict with reliability obligations
- An agreement between EPA, the Department of Energy, and the Federal Energy Regulatory Commission to coordinate and monitor implementation of the rule in order to ensure reliability.

Staff are preparing for these new requirements and coordinating with peer utilities, trade groups, and consultants to determine possible effects on Rawhide operations and determine best practices for compliance going forward.

Ozone Standards

On November 25, 2014 the EPA issued a proposed rule under the National Ambient Air Quality Standards program to tighten the primary and secondary standards for ground level ozone. NOx emissions from combustion sources and volatile organic compounds (VOCs) are the major contributors to ozone. Major NO_X sources include vehicles, commercial/industrial activities, and electric generation. The main contributors to VOC emissions are oil and gas operations.

On October 1, 2015, the EPA announced revisions for ground-level ozone. The standard has been changed from 75 parts per billion (ppb) to 70 ppb, which is at the top of the 60 ppb to 70 ppb range that was proposed. The change has no immediate effect on Platte River operations, but may have some future implications:

1. More difficult and complicated permitting requirements. With the current 75 ppb standard the North Front Range ozone non-attainment area does not quite reach Rawhide. However, this new standard increases the likelihood that the Rawhide site will be included in the future.
2. Further state-level rulemaking for additional reductions. If the state is unable to show that sufficient emissions reductions can be achieved to meet this standard through existing programs or other less expensive alternatives, we could see new reduction mandates for existing units through additional rulemaking. Depending on the magnitude, impacts at Rawhide could range from a simple air permit change to expensive new controls including installation of selective catalytic reduction (SCR).

APPENDIX D. Environmental Regulation Issues and Positions

Potential Nonattainment Boundaries

At present, the Rawhide Energy Station is in an area that attains the 75 ppb standard. Based on 2011-2013 monitoring data, EPA indicates that at 70 ppb, 358 counties nationwide would violate the standard. Extension of the nonattainment area depends on the 2014-2016 monitoring data and modeling results. At 70 ppb, if ozone monitoring data shows favorable results, the North Front Range nonattainment area may not be extended. The EPA will make attainment boundary recommendations in October 2016, and designation of nonattainment areas are expected in October 2017.

Permitting for new resources located in a nonattainment area is considerably more difficult and complicated. NOx emission offsets must be obtained from existing sources within the nonattainment area for any new emissions. New units must also be constructed with lowest achievable emission reduction controls and limits. Any additional NO_X produced from new generation units at the Rawhide site may involve committing to lower emissions from Rawhide Unit 1.

Depending on the designation of nonattainment areas and the ability of the state to show that sufficient reductions are possible with existing programs, the Rawhide coal unit may be required through future rulemaking processes to make additional emissions reductions. The cost of additional NOx controls, in the form of SCR or selective non-catalytic reduction (SNCR), would be significant.

Disposal of Combustion Residuals from Electric Utilities Rule (CCR Rule)

On April 17, 2015 the EPA posted to the Federal Register a final rule including new regulations affecting coal combustion residuals (CCR). The regulations became effective October 17, 2015.

The CCR Rule includes comprehensive requirements for design, monitoring, and reporting; with requirements for new and existing CCR disposal facilities.

Platte River operates two bottom ash transfer ponds and an ash monofill that are subject to the rule, all located at Rawhide. There is still considerable uncertainty as to exactly how the new standards will be enforced, what the state's role will be, and how some important details will be interpreted. In the face of such uncertainty, below is a list of actions Platte River expects to be required to take during the initial 42-month implementation period:

- Expand the existing groundwater monitoring plan.
- Demonstrate that all existing operations meet the new standards, and make contingency plans in case they do not.
- Comply with expanded inspection requirements (weekly, monthly, and annually).
- Comply with expanded recordkeeping requirements.
- Comply with a new requirement to post compliance information to a public website.

Staff are preparing for these new requirements and coordinating with peer utilities, trade groups, and consultants to determine possible effects to Rawhide operations, and to determine best practices for compliance going forward.

In response to the CCR Rule, the Colorado Department of Public Health and Environment is planning to update their solid waste regulations and incorporate the new EPA requirements. Staff is planning to participate in any related rulemaking stakeholder processes to communicate the need for achievable standards with clear expectations and include flexibility for operations.

Craig is not subject to the CCR rule as it is primarily managed as backfill material at Trapper Mine. This type of CCR management is specifically exempt from the current rule, however similar standards are expected in the future through the Office of Surface Mining.

APPENDIX D. Environmental Regulation Issues and Positions

Mercury (State and Federal Regulations)

On June 29, 2015 the US Supreme Court held that EPA violated the CAA when it determined that regulation of mercury and other hazardous air pollutants from certain power plants was “appropriate and necessary” without considering costs. The decision overturned a contrary decision from the D.C. Circuit and raises questions about the fate of the Federal Mercury and Air Toxics (MATS) Rule for power plants. However, the MATS Rule is still in effect, and will continue be in effect until the D.C. Circuit acts.

Although federal efforts to regulate mercury have been temporarily blocked, Colorado adopted rules to implement mercury reductions in early 2007. These regulations, also known as the Colorado Utilities Mercury Reduction Program, are still in effect as state-only requirements.

Platte River installed mercury monitoring equipment at Rawhide in 2008 and it was certified for operation to meet the state regulatory deadline of January 1, 2009. The equipment was placed in service in November 2010.

A mercury emission limit of 0.0174 lb/GWh was required under the state program at Rawhide by 2012. Platte River is in compliance with the 2012 requirements and will meet the 2018 emission reduction requirements.

Due to the type of coal burned, boiler chemistry, and other factors, mercury emissions from the Craig Station are low and no emission control equipment is currently required for that facility.

APPENDIX E. Legislative and Regulatory Issues and Positions

Clean Power Plan Regulations

The CPP regulations focus the electric industry's attention on the issue of carbon emissions in a new and dramatic fashion. The regulations pose a number of unique challenges, many of which will be addressed through the creation of a State Plan for Colorado. Platte River will work with industry participants, stakeholders, legislators, and regulators in a positive manner with the goal of crafting an implementation plan that meets compliance goals in the most reasonable, equitable and cost effective manner.

Ozone Regulation

The new ozone standards may expand the nonattainment areas within Colorado. In turn, this may create operational issues for existing sources of NOx emissions as well as for new sources, including resources that may be necessary meet regional load growth and compliance with the CPP. Revisions to the boundaries of the nonattainment areas may take a number of years identify. Platte River will actively monitor this process and participate as necessary.

Dodd-Frank Reform

The Dodd-Frank legislation and subsequent rulemakings affect a number of Platte River business practices. Platte River has complied with new Dodd-Frank protocols for natural gas hedging. Platte River supports on-going legislative and statutory efforts to limit the application of Dodd-Frank requirements to public power business transactions unrelated to the types of transactions that led to the 2008 financial crisis.

Tax-Free Status of Municipal Bonds

Federal budget concerns have put the tax-free status of municipal bonds at risk.

The unique tax-exempt status of public financings dates back to the inception of the income tax, and recognizes the public nature of the capital projects funded by municipal bonds. Platte River has issued $2.4 billion in debt during its history.

The issuance of this debt has been critical for developing the infrastructure necessary to meet the needs of the growing populations in our owner municipalities. The reduced interest costs associated with tax-exempt financings are passed directly to electric utility customers in these communities.

Platte River strongly opposes repealing or altering the current tax-exempt status of municipal bonds.

Transmission Access and Planning Reform

FERC requires jurisdictional utilities to operate their transmission systems as common carriers. Platte River is non-jurisdictional, but voluntarily adopted an open access transmission tariff. The Platte River open access tariff is modeled after the FERC pro forma tariff with rates consistent with the FERC rate setting formula.

FERC also requires jurisdictional utilities to engage in regional transmission planning. Platte River is a member of WestConnect, a regional transmission planning organization. Platte River is presently involved in efforts associated with regional joint dispatch and transmission tariff reform. Platte River is a member of the Colorado Coordinated Planning Group and the Foothills Planning Group, and has established a transmission planning process as part of its open access transmission tariff. Platte River supports regional transmission planning as a means to assist in the development and integration of renewable resources and enhance grid resilience.

Renewable Energy Standard and Incentives

Platte River believes locally owned and controlled utilities are best suited to determine the proper mix of renewable resources for power generation and delivery. Platte River supports the continuation of federal financial incentives to encourage the development of renewable energy.

APPENDIX E. Legislative and Regulatory Issues and Positions

Renewable energy incentives should continue, be expanded, and be made available on an equal basis to municipal power systems, rural electric cooperatives, and investor-owned utilities.

Fuel and Resource Diversity

Platte River supports policies that promote improved technology for all electricity generation sources including coal, natural gas, hydro, nuclear, wind, solar, geothermal, and biomass as vital components of the country's energy portfolio. Efforts at the federal level to encourage diversity should provide clean coal technology funding, increased research and development funds addressing the integration of renewable resources, and innovative distributed generation, particularly as these issues and technologies apply to smaller utilities.

Preventing Market Abuses

The Energy Policy Act of 2005 (EPAct 2005) grants FERC expanded jurisdiction to address market manipulation, including authority over public power systems. In 2006, Platte River adopted a policy prohibiting market manipulation and implemented training and audit programs in pursuit of this policy. Platte River conducts bi-annual market manipulation audits, and none of the audits have revealed any market manipulation by Platte River employees. Platte River encourages continued FERC oversight of market abuses, and recognizes that this will become an increasingly important issue as organized markets evolve in the West.

System Reliability

In 2007, FERC adopted electric reliability standards with the force and effect of law. Platte River is registered to perform ten functions under the reliability protocols adopted by FERC, and the municipalities are registered as distribution providers. Platte River has a well established Reliability Compliance Program and promotes a culture of compliance. Platte River continues to assist the municipalities with reliability compliance.

Physical and Cybersecurity

There is an increasing recognition of the importance of physical and cybersecurity for the interconnected bulk power system. Platte River is engaged in national discussions of these issues before the relevant legislative and regulatory bodies as this issue matures.

Federal Hydropower

Federal hydropower comprises a significant portion of the electricity delivered to the municipalities. Platte River supports continued federal ownership and management of hydropower resources through regional power marketing administrations (PMAs). Platte River supports the continued operation of the PMAs within the constraints set forth by Congress through authorizing legislation, including the rate-setting guidance contained therein. Platte River recognizes that hydropower dams create unique environmental challenges and supports a reasonable balance between species recovery and operational flexibility.

Municipal Annexation and Utility Service Territory

Colorado's Constitution and the existing state statutes regarding electric service provision in newly annexed areas are equitable to all parties. Any proposed changes will be closely scrutinized to ensure that equity is maintained.

Acronyms

TERM	DEFINITION
APPA	American Public Power Association
ARPA	Arkansas River Power Authority
CAA	Clean Air Act
CAMU	Colorado Association of Municipal Utilities
CAP	Climate Action Plan
CCR	Coal Combustion Residuals
CHP	Combined Heat and Power
CIP	Critical Infrastructure Protection
CO_2	Carbon Dioxide
CPP	Clean Power Plan
CPUC	Colorado Public Utilities Commission
DR	Demand Response
DSM	Demand Side Management
EE	Energy Efficiency
EGU	Electric Generating Unit
EPA	Environmental Protection Agency
EPAct 2005	The Energy Policy Act of 2005
FERC	Federal Energy Regulatory Commission
GHG	Greenhouse Gases
GWh	Gigawatt-hour
IRP	Integrated Resource Plan
LPC	Longmont Power & Communications
LPPC	Large Public Power Council
MATS	Mercury and Air Toxics Standard
MW	Megawatt
MWh	Megawatt-hour

Acronyms

TERM	DEFINITION
NERC	North American Electric Reliability Corporation
NO_x	Nitrogen Oxides
PMA	Power Marketing Administrations
ppb	Parts Per Billion
PSA	Power Service Agreement
PSCo	Public Service Company of Colorado
PV	Photovoltaic
RES	Renewable Energy Standard
ROC	Risk Oversight Committee
SCADA	Supervisory Control and Data Acquisition
SCR	Selective Catalytic Reduction
SFP	Strategic Financial Plan
SNCR	Selective Non-Catalytic Reduction
SO_2	Sulfur Dioxide
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TRI-STATE	Tri-State Generation and Transmission Association, Inc.
VOC	Volatile Organic Compound
WECC	Western Electricity Coordinating Council

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