

APPENDIX I

Natural Resources & Energy Supply

Bonneville Power Strategic Plan



2024–2028 Strategic Plan

Reliable, responsive
and resilient

Building on a solid foundation

The Bonneville Power Administration is an engine of the Northwest's economic prosperity.

As the Pacific Northwest's largest supplier of reliable, affordable energy and high-voltage transmission, BPA has the opportunity to help our customers and the region meet growing demands for these vital public services.

Since its inception, the Federal Columbia River Power System has been a beacon of progress. With the buildout of the expansive high-voltage transmission grid — a masterpiece in its own right — the power of the Columbia traveled great distances, carrying light to rural communities far and wide. It electrified shipyards and airplane factories to support the allied victory of World War II; anchored the region through multiple economic and energy crises; and has long supported the region's prosperity by providing power for what it cost to produce.

Today, the FCRPS and its stewards continue to reflect the region's innovative spirit. This crucial period will be marked by the largescale buildout of new energy resources and meeting the associated demand for generation interconnections and transmission service.

BPA's 2024–2028 Strategic Plan builds on the framework of our previous strategy, leveraging the foundational work we've done in the last five years to position the agency as a leader in this time of growth for the Northwest.

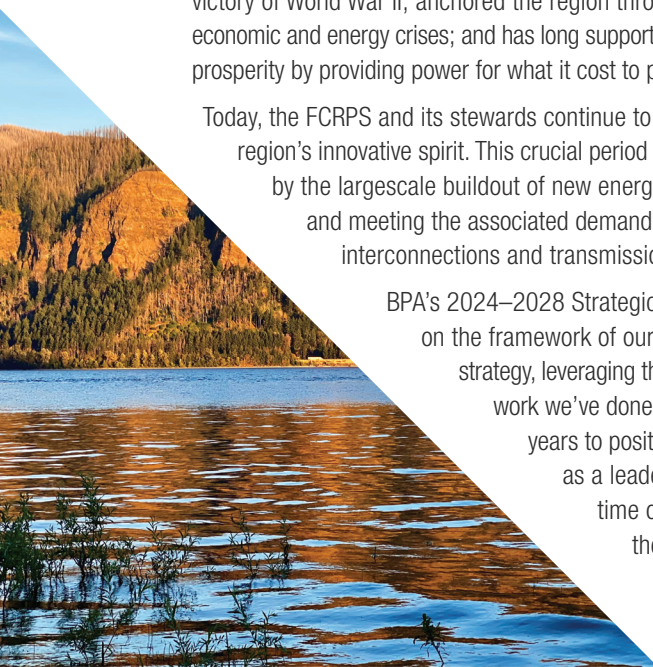
We are coming from a place of financial strength, with competitive rates, ample liquidity and access to capital, and the tools to sustain this financial foundation on which we can achieve our other goals.

Our strategic plan begins with a recognition that investing in people — that is, investing in a safe, resilient workforce — must come first for us to achieve our public responsibilities and meet the changing needs of our customers and the region.

Success will include the collaborative development of widely supported power products, policies and rate structures, resulting in new long-term power sales agreements that take effect in 2028. We will transform transmission processes and advance infrastructure investments while engaging in the development of organized markets and greater regional integration.

In this time of transformation, we are also preparing for growing risks related to dry-year water conditions and heat-related load demand on the system. Security risks, both physical and cyber, are also mounting concerns. BPA is prioritizing actions to preserve safe, reliable and resilient power and transmission operations in the face of these threats.

This strategic plan charts our path forward as we continue to deliver on our enduring mission while adapting and innovating to meet the changing needs of our customers and the region.





**Modernize
business systems
and processes**



Invest in people

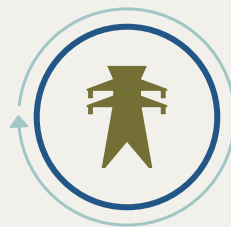


**Enhance the
value of products
and services**

Strategic Goals



**Preserve safe,
reliable system
operations**



**Mature asset
management**



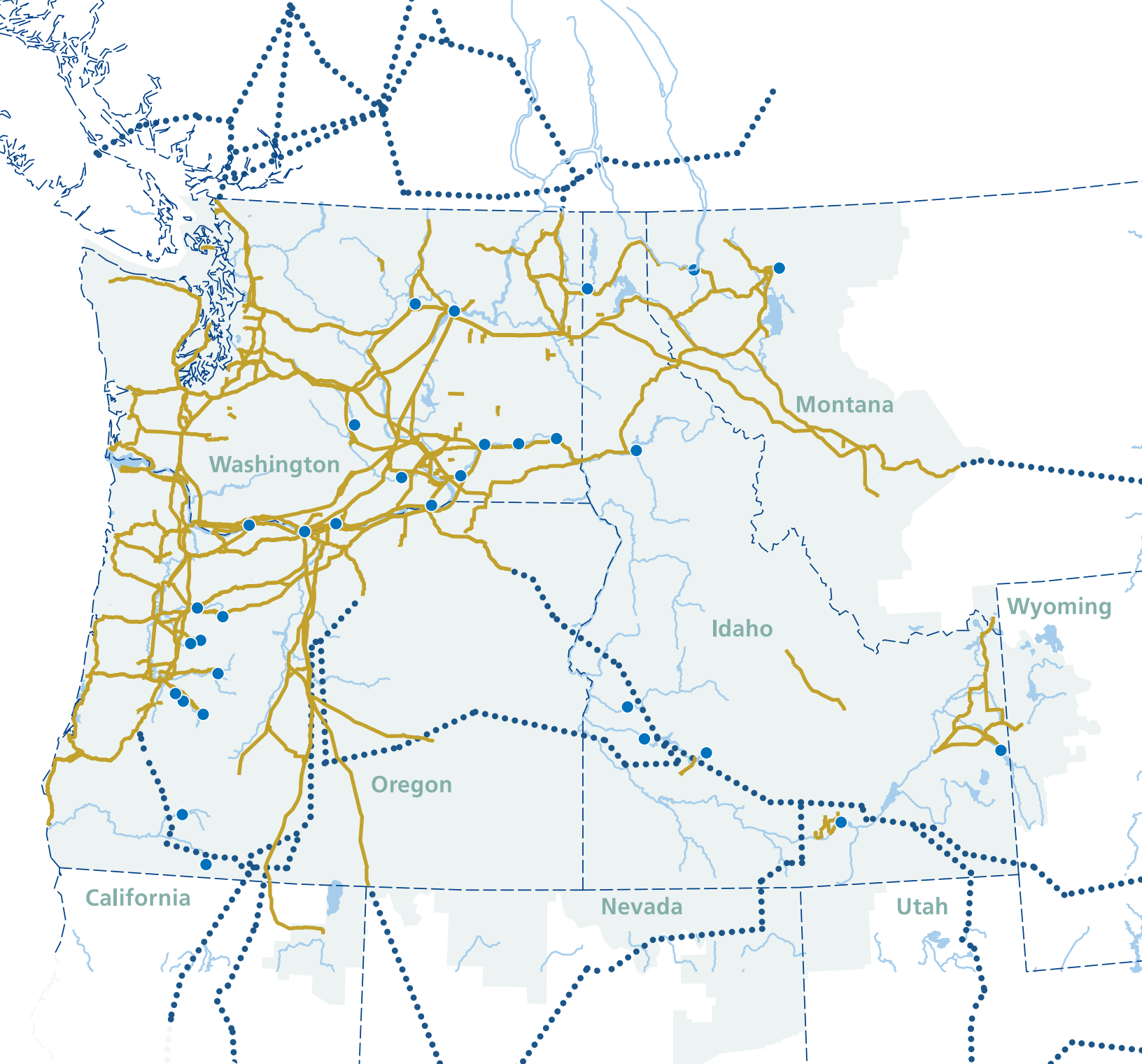
**Sustain financial
strength**

Turning vision into reality, together





We recognize the tremendous responsibility entrusted in us on behalf of our customers and the communities we serve.


The work we do touches the lives of millions who call this place home, and we take great pride in BPA's multi-faceted, public service mission that enables the region's quality of life. Achieving our essential mission requires a careful balance among many beneficiaries and partners. It also requires tremendous collaboration and the support of a broad range of regional needs and interests.

We have many to thank — customers, tribes, federal and state agencies, public interest organizations and other partners — who support our mission and contribute to our shared success. BPA looks forward to continuing our partnerships as we implement this strategic plan. Working together, we will serve the public good, sustain BPA's vital role in the Pacific Northwest and shape an even brighter future powered by reliable, affordable energy.



LEGEND

-  Transmission line
-  Non-BPA line
-  Federal dam
-  BPA service area

 **15,000 MILES**
of transmission lines
The U.S. spans less than 3,000 miles, coast to coast.



Invest in people

Foster a positive work environment that supports a resilient, engaged workforce capable of delivering on our public-service mission and responsibilities.

Investments in a safe, healthy and resilient workforce contribute to high job satisfaction and productivity, producing significant benefits for everyone we serve.

Our work environment is founded on equal employment opportunity and merit system principles that help us maintain a workplace free from harassment and discrimination.

OBJECTIVE 1 Become the safest utility in North America by continuously improving the safety of the BPA workforce.

BPA strives to provide a workplace free from safety and health hazards. We cultivate collaborative partnerships across the workforce and embrace a learning mindset to drive continuous improvement in all aspects of safety. We empower and expect individuals to speak up when they have concerns or see a potential hazard.

OBJECTIVE 2 Attract, retain and develop a resilient workforce capable of achieving BPA's mission and strategy.

BPA must continue to innovate, learn and adapt to an ever-changing environment. We will adopt policies and practices that improve our ability to attract, retain and develop our workforce. This includes examining and adopting workplace flexibilities that support retention, satisfaction and engagement while ensuring we meet our responsibilities as a federal power marketing administration. We will also heighten our focus on critical skills, growing new leaders and advancing the agency's overall leadership capability.

1.2+ MILLION JOBS
depend on BPA power



Enhance the value of products and services

Maximize the value of the federal system and the products and services we offer to meet our customers' evolving needs.

As the needs of our customers evolve, so must the products and services we offer. The flexible, reliable and affordable power of the FCRPS, coupled with the expansive federal high-voltage transmission grid, is the bedrock on which we will build to meet our customers' needs.

Actions will include reforming transmission planning and other processes to meet future load growth and the unprecedented demand for new resources. We will also provide leadership in the development of new markets and more inter-connected system operations that may enhance reliability, resilience and affordability.

OBJECTIVE 1 Remain public power's provider of choice by fully subscribing the federal base system in long-term contracts.

For decades, BPA has served communities throughout the Northwest through long-term power sales to regional utilities. BPA is the sole or major power supplier for most of these customers. With today's contracts slated to end in 2028, BPA is working to preserve these important and mutually beneficial relationships through its Provider of Choice initiative. The backdrop of this undertaking is more complex than ever before.

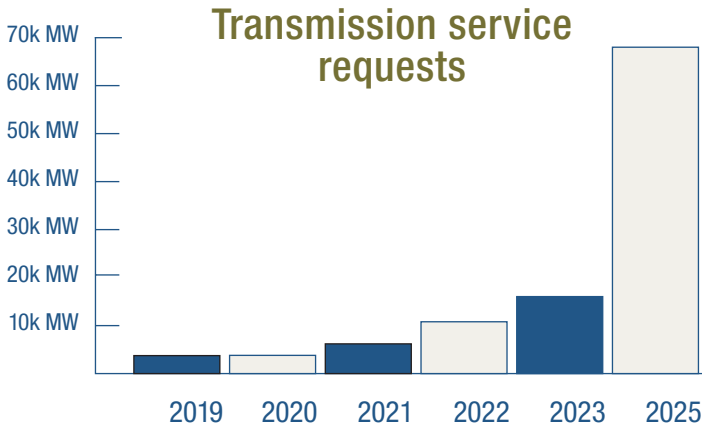
In developing the next generation of power sales policy and contracts, we are committed to being responsive to our customers' evolving needs while working within the framework established by BPA's statutes. We are committed to offering products and services that are equitable, administratively straightforward, and offered at the lowest possible rates consistent with sound business principles.

Beyond delivering power through the federal base system, we seek to offer customers options that enable their investment in and integration of nonfederal resources as well as options for BPA to serve growing load needs. This collaborative policy and contract work will position BPA to support our customers and their communities for decades to come.

OBJECTIVE 2 Foster market evolution across the West to enhance the delivery of cost-effective and reliable service.

New markets present opportunities to enhance the delivery of reliable, affordable power to our customers by providing access to a larger and more varied portfolio of resources. Leveraging our experience in the Western Energy Imbalance Market, we will move forward on our policy direction toward joining the Southwest Power Pool's Markets+ day-ahead market to meet our customers' future long-term needs.

BPA is taking an incremental approach toward more integrated system operations that promise to enhance reliability and resilience. BPA will position itself to consider moving beyond a day-ahead market through the evaluation of services and benefits that could be provided by a regional transmission operator.



The volume of transmission requests queued for the next study totals over 65 gigawatts. This rapid and substantial growth in transmission service requests spurred BPA to pause its existing planning processes to focus on developing and implementing comprehensive grid access reforms.

SERVICE AREA **300,000** SQUARE MILES

OBJECTIVE 3 Advance transmission investments and innovative solutions to integrate loads and resources.

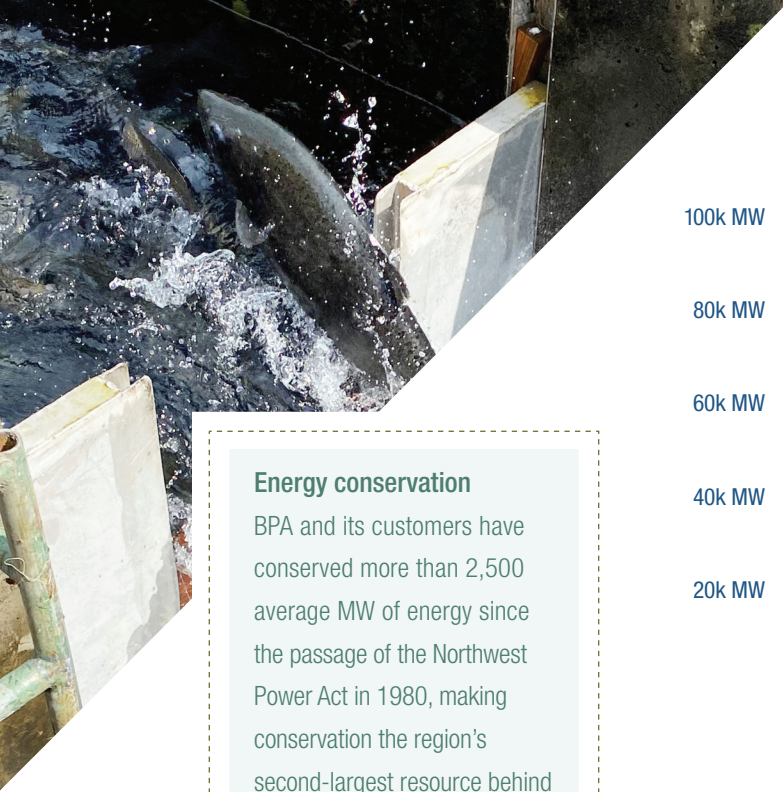
Growing demand for electricity is driving the need for largescale transmission expansion. Novel approaches will be needed to address the sharp rise in generation interconnection requests and transmission service while maintaining reliability and managing costs.

BPA is aggressively identifying and developing transmission expansion projects to support the energy goals of our customers in the region. We will also continue to seek transmission planning reforms to modernize processes that were not designed to handle the scale of service requests we are now seeing. These reforms will allow us to more quickly and efficiently meet the needs of our customers.

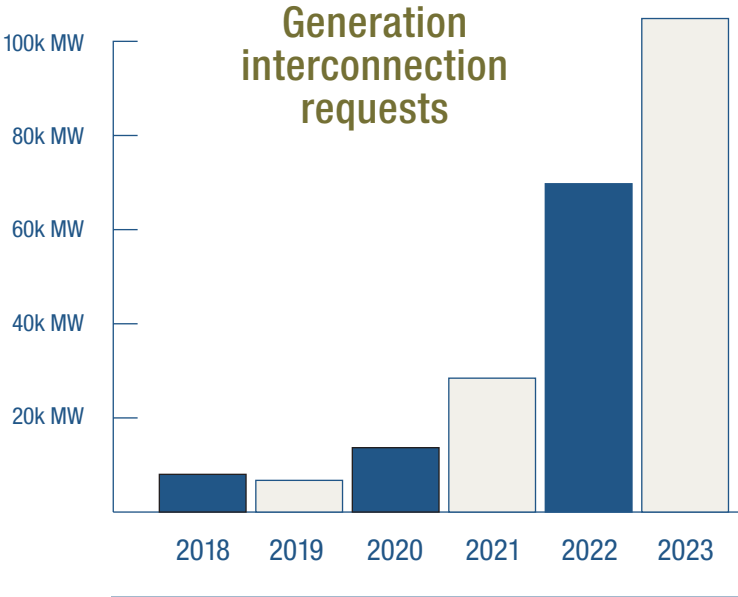
BPA also intends to explore forward-thinking ancillary services to support the integration of new loads and emerging technology, as well as enable the ability to expand the transmission available for customers, aiding the integration and delivery of new resources.



To maximize the value of the federal power and transmission systems, we launched and implemented an ambitious grid modernization initiative that enabled BPA to join the Western Energy Imbalance Market and laid the foundation for future market developments. We achieved an additional 231 average MW of energy conservation and focused our conservation programs on the areas that provide the greatest value to the power system, further extending the value of the FCRPS. With growing customer demand for transmission service, we improved our ability to calculate and market available transfer capability, enabling more efficient use of the existing system. In the last five years, BPA offered over 11,000 MW of transmission service through its transmission study and expansion process, and customers have started over 5,200 MW of new service.



Energy conservation
 BPA and its customers have conserved more than 2,500 average MW of energy since the passage of the Northwest Power Act in 1980, making conservation the region's second-largest resource behind hydropower.



BPA's generation interconnection queue totaled more than 100 GW in 2023. In 2024, BPA adopted queue reforms to more efficiently connect new large generators onto the federal grid. More than 160 requests totaling 61 GW are participating in the agency's first GI cluster study under the new process.

OBJECTIVE 4 Prioritize efficient, effective environmental compliance and fish and wildlife actions in support of grid expansion and the delivery of more abundant, affordable and reliable power.

The Northwest Power Act of 1980 established requirements for BPA to protect, mitigate and enhance fish and wildlife affected by the development and operation of the FCRPS. BPA fulfills its obligations by implementing fish and wildlife projects that are funded by BPA's power customers through their power rates. To help maintain competitive rates, sustain BPA's financial health and support the agency's obligations to provide power and transmission, BPA's Fish and Wildlife Program ensures mitigation actions secure biological results in a scientifically-sound, cost-effective and efficient manner.

5 MILLION+ LIVES POWERED

OBJECTIVE 5 Promote energy conservation investments to meet BPA's and its customers' long-term power needs while fulfilling the agency's obligations under the Northwest Power Act.

The Northwest Power Act defines conservation as a resource and requires BPA to make cost-effective energy conservation its first resource choice for meeting its customers' growing power needs. Recognizing our customers have wide-ranging needs and priorities, BPA will offer a variety of energy conservation and demand response offerings to ensure program benefits are distributed equitably among our customers.

BPA seeks to acquire cost-effective energy conservation that provides low-cost resource benefits. Investments are guided by BPA's Resource Program, which identifies long-term, least-cost resource acquisition strategies to ensure BPA meets its long-term power supply obligations.



Sustain financial strength

Provide stable, competitive power and transmission rates over the long term.

Financial strength is an enduring priority for BPA. In the next five years, we will build on BPA's solid financial footing by focusing on the core objectives and metrics in our Financial Plan. These objectives demonstrate our commitment to deliver on BPA's public responsibilities and to maintain its position as the region's leading power and transmission provider.

OBJECTIVE 1 Maintain cost-management discipline and execute capital plans.

BPA aggressively manages the costs of operating the federal power and transmission systems, consistent with its mission objectives and statutory obligations. Cost-management discipline remains a key focus, as outlined in the Financial Plan, recognizing it will require balancing different priorities and obligations. We will rely on input from customers and others through our Integrated Program Review process, the public forum where we develop forecast program costs ahead of each rate case.

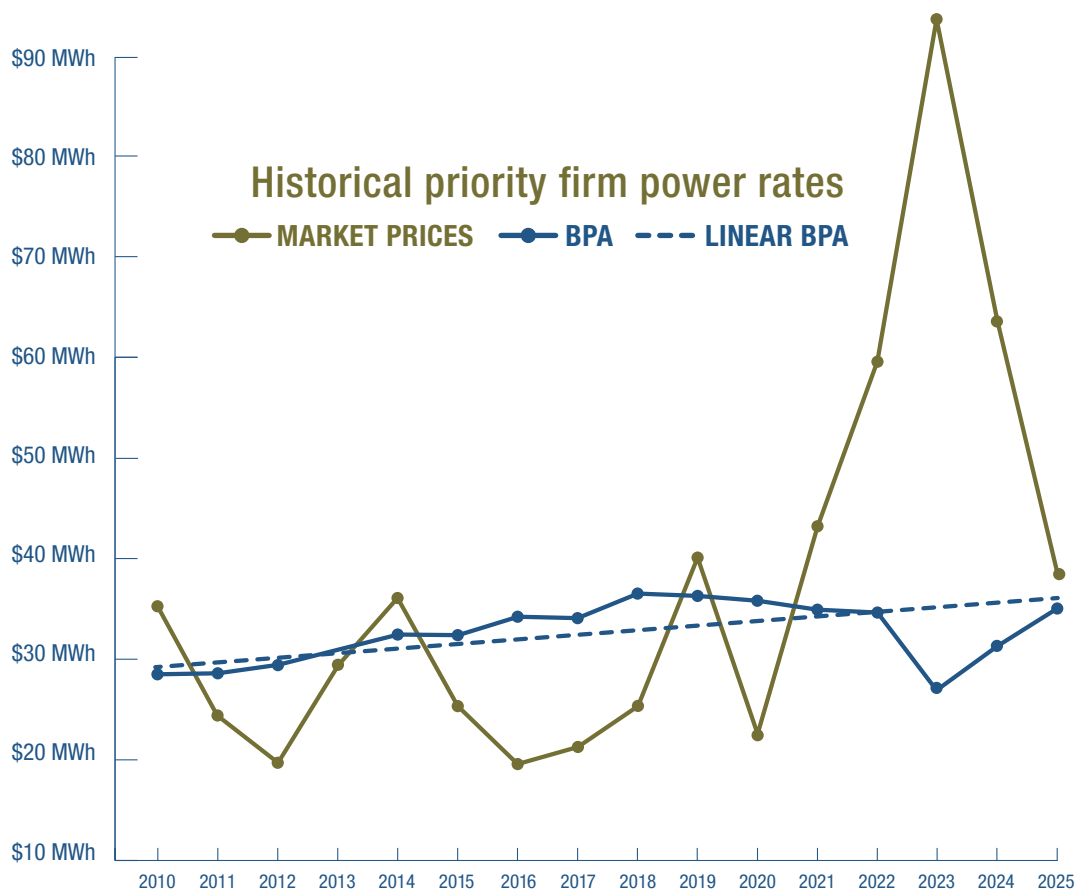
As we continue to control operating costs, it is equally important to execute on our capital plans to ensure we maintain and preserve the value of the FCRPS. While access to secure, low-cost capital will not be an issue for the near future thanks to BPA's recent substantial increase in U.S. Treasury borrowing authority, we remain committed to disciplined capital investments. BPA intends to develop and execute capital plans with the goal of making the right investments in the right assets at the right time, returning the highest possible value for our ratepayers and the region.

OBJECTIVE 2 Maintain financial resiliency through adequate reserves, leverage, and U.S. Treasury borrowing authority.

Financial resilience enables BPA to withstand disruptive events and conditions that impact revenues, expenses, or the delivery of power and transmission services and other regional benefits. BPA achieves financial resilience by having sufficient liquidity to ensure all bills are paid in full and on time; a prudent amount of leverage to help reduce and stabilize interest costs and maintain a more stable cost of service over time; and enough debt capacity to ensure essential and ongoing capital investments are funded with certainty and at low cost.

OBJECTIVE 3 Maintain high investment-grade credit ratings.

BPA seeks to maintain high investment-grade credit ratings on its nonfederal debt from all three major ratings agencies. Strong credit ratings are a reflection of BPA's financial strength and help ensure low costs on BPA-backed nonfederal debt.



Beginning in 2018, BPA stabilized rates through prudent cost controls and new revenue opportunities. The stability of BPA's Priority Firm rate, which is locked in for the duration of each rate period, protects public utility customers from the volatility of market prices.

**Cumulative IPR expenses and savings
FY 2018–2023**

ESTIMATED \$11.7 B

ACTUAL \$10.9 B

That's nearly

\$1,000,000,000

in cost-management driven savings



BPA identified financial strength as the cornerstone of its strategic vision in 2018. Since then, rates have stabilized through a combination of prudent cost controls and new revenue opportunities. We improved financial resiliency through policies that guide how the agency manages reserves and reduces debt, and Congress addressed the capital needs of the Federal Columbia River Power System by increasing BPA's U.S. Treasury borrowing authority by \$10 billion. All of these actions helped to preserve BPA's high investment-grade credit ratings and established a strong footing for BPA to achieve its longer-term strategic goals.



Mature asset management

Manage risk and maximize asset value by delivering the right projects at the right time.

The hydropower dams, transmission grid and other publicly owned assets associated with BPA's mission play a central role in the region's economy and way of life. As these assets age, as system operations become more complex and as the world in which we operate continues to change, a robust asset management program ensures we can preserve and enhance these assets so they can deliver the greatest value to the region.

BPA is committed to continually improving its asset management program. Working closely with our partners in the region, we will enhance risk-based decision-making to maximize asset value, and preserve the reliability and resilience of the assets on which the Northwest relies.

We also recognize that the needs of our customers and the region cannot be met with existing transmission infrastructure. New transmission will be built consistent with our asset management goal of investing in the right projects at the right time.

OBJECTIVE 1 Improve asset management data and system capabilities.

Quality and readily accessible data are critical to BPA's asset management maturity. BPA will optimize system applications to better understand asset information and the various asset life cycle components.

OBJECTIVE 2 Enhance risk-based decision-making and portfolio optimization.

The basis of asset management is an understanding of each asset's criticality, health and risk, or CHR. Criticality measures the asset's importance to BPA's business or the consequence of failure; health measures the asset's condition; and risk describes the impact of uncertainty for those assets. This understanding is necessary for risk-based decisions and is supported by the data and system capabilities BPA will achieve through objective 1. BPA will apply consistent governance, processes and decision criteria, leveraging CHR data, to sharpen project prioritization and better inform investment decisions. An integrated analytical method, which considers impacts such as environmental change, inflation and supply chain challenges, will further support risk-based decision-making and maximize asset value.

1,000

BPA-owned and operated facilities

2.8 million sq. ft.
of substations, control centers,
warehouses and office buildings

2,250 VEHICLES AND
HEAVY EQUIPMENT

Seven asset categories, many asset partners

BPA's asset management program is complex, with assets that vary in age, geography and function; asset categories in various states of maturity; and reliance on extensive regional partnerships. These assets enable the delivery of essential power and transmission services valued at billions of dollars each year, as well as regional benefits for fish and wildlife.

1. Federal hydropower: 31 federal dams
2. Transmission: 15,000 miles of transmission line, 260 substations and associated equipment
3. Facilities: substations, control centers, warehouses and office buildings
4. IT: equipment and systems
5. Fish and wildlife: hatcheries, land protected by conservation easements and fish screens
6. Fleet: vehicles and heavy equipment
7. Physical security: fencing, cameras and other protective measures

BPA does not manage these assets alone. For example, we work with federal dam operators — the U.S. Army Corps of Engineers and Bureau of Reclamation — to support risk-based decisions for the region's hydropower assets. We rely on extensive partnerships with tribes, states, federal and state agencies, nonprofit organizations and many others in the management of fish and wildlife assets. Input from our stakeholders during the Integrated Program Review, where we share Strategic Asset Management Plans and seek feedback on associated capital forecasts, is also important.



BPA has taken a risk-based decision-making approach to managing the federal portfolio of assets. This effort began with the adoption of industry-leading principles and practices, consistent with the Institute of Asset Management framework that emphasizes data-driven investments based on criticality, health and risk methodologies. We developed 10-year Strategic Asset Management Plans for each asset category and tied the SAMPs to our Integrated Program Review process to better inform our capital spending forecasts. We also began issuing annual asset plans that outline how BPA will implement the SAMPs. Through these efforts and by continuing to strengthen collaboration with our asset partners, we have improved our foundation to strategically plan for and prioritize future investments.



Preserve safe and reliable system operations

Protect and enhance the delivery of power and transmission services in an evolving landscape.

BPA has more than eight decades of experience maintaining safe, reliable power and transmission operations, a feat that required continual adjustment as the Northwest's electric utility industry evolved over time. We are prepared to continue this legacy as new and emerging reliability and security risks challenge the grid. Key considerations are the impacts of extreme weather, wildfires, cyber and physical attacks, and the integration of more variable energy resources.

The operation of the interconnected power grid requires a greater level of collaboration and cooperation going forward to ensure we can operate a reliable, resilient and secure grid for the customers and communities we serve.

OBJECTIVE 1 Implement operational improvements that support grid reliability.

We will continue to maximize the capacity of the existing grid through a combination of operational studies, visualization tools, congestion management and other operational improvements. We recognize the challenge of building new transmission lines, including long lead times, significant costs and environmental impacts. While our strategy includes non-wires solutions when available, we are also planning substantial transmission expansion investments.

OBJECTIVE 2 Strengthen resilience in preparation for high-impact events and system change.

BPA will ensure it is better prepared to respond to and recover from high-impact events — from natural disasters to physical and cyber threats — as we connect more energy resources and expand the transmission grid. BPA's participation in the development of the Western Resource Adequacy Program will continue as a way to take advantage of a wider range of energy resources over a larger footprint to meet capacity needs.

We are hardening facilities and communications systems to enable continued operations through high-impact events and prioritizing proactive actions to improve our ability to respond to disruptions. This includes developing tools to improve situational awareness for wildfires, cyber threats and severe weather.

BPA markets power from 31 federal dams



OBJECTIVE 3 Advance a culture of compliance to meet changing requirements, improve reliability and manage risk.

As the world around us evolves, so does the regulatory environment in which we operate. Improvements in internal practices and capabilities will accommodate change and reduce risk associated with meeting changing compliance standards. Work will include increased engagement with regulators, as well as advancements in internal controls and causal analysis.



The grid modernization initiative BPA launched in 2018 included a portfolio of projects aimed to improve automation, accuracy and visibility. Many of these projects, now completed, targeted operational and reliability benefits that BPA is able to leverage today through our participation in the Western Energy Imbalance Market. In addition, BPA actively engaged in the funding and development of the Western Resource Adequacy Program, which is now operating under an independent board of directors and a tariff approved by the Federal Energy Regulatory Commission.

BPA invested in significant upgrades to its automatic generation control system, improving the flexibility of the federal hydropower system while preserving grid stability. We further advanced our goals for safe and reliable service through our Wildfire Mitigation Plan. Released in 2020, the plan aims to protect public safety and preserve the reliable delivery of electricity through proactive and responsive measures. BPA continues to enhance this plan, which includes a public safety power shutoff procedure and industry-leading vegetation management.



Modernize business systems and processes

Improve the efficiency, resilience and agility of business capabilities.

BPA recognizes that the increasing pace of industry change, along with rapid technological advancements, presents a unique opportunity to optimize investments that keep BPA products affordable and available to the region.

We will implement efficiencies in service delivery and leverage enterprise architecture to deliberately drive improvements to business processes and systems. BPA will continue to prioritize the foundational values of reliability and resilience, through continuous understanding of our cyber risk posture and proactive management of those risks.

OBJECTIVE 1 Optimize technology, architecture and service delivery.

Keeping pace with changing markets and customer needs will require optimization of business processes and underlying technology. BPA will realize increased business value, reliable system operations, and cost-effective delivery of power and transmission services by strengthening the integration of business and technology strategy, enterprise architecture, and technology service delivery.

OBJECTIVE 2 Strengthen the resilience and security of information and operational technology.

Industry evolution, fueled by technological progress, presents unique business opportunities but also contributes to an ever-changing threat landscape. BPA will advance understanding of cyber risk posture by incorporating enhanced continuous monitoring, risk assessment, and mitigation capabilities across Information and Operational Technology environments, with emphasis on critical infrastructure. The incorporation of deliberate technical architecture and emphasis on enhancements to system resilience, informed by business architecture and evolving industry requirements, will improve technology and enable more resilient and reliable grid operations.

A storied past, an even brighter future

BPA will celebrate its 90th anniversary before we conclude this strategic cycle. Through the decades, we have reimagined the power grid time and again — often in the face of uncertainty and always in collaboration with the region. The lessons we've learned along the way have prepared us for the journey we're embarking on today.

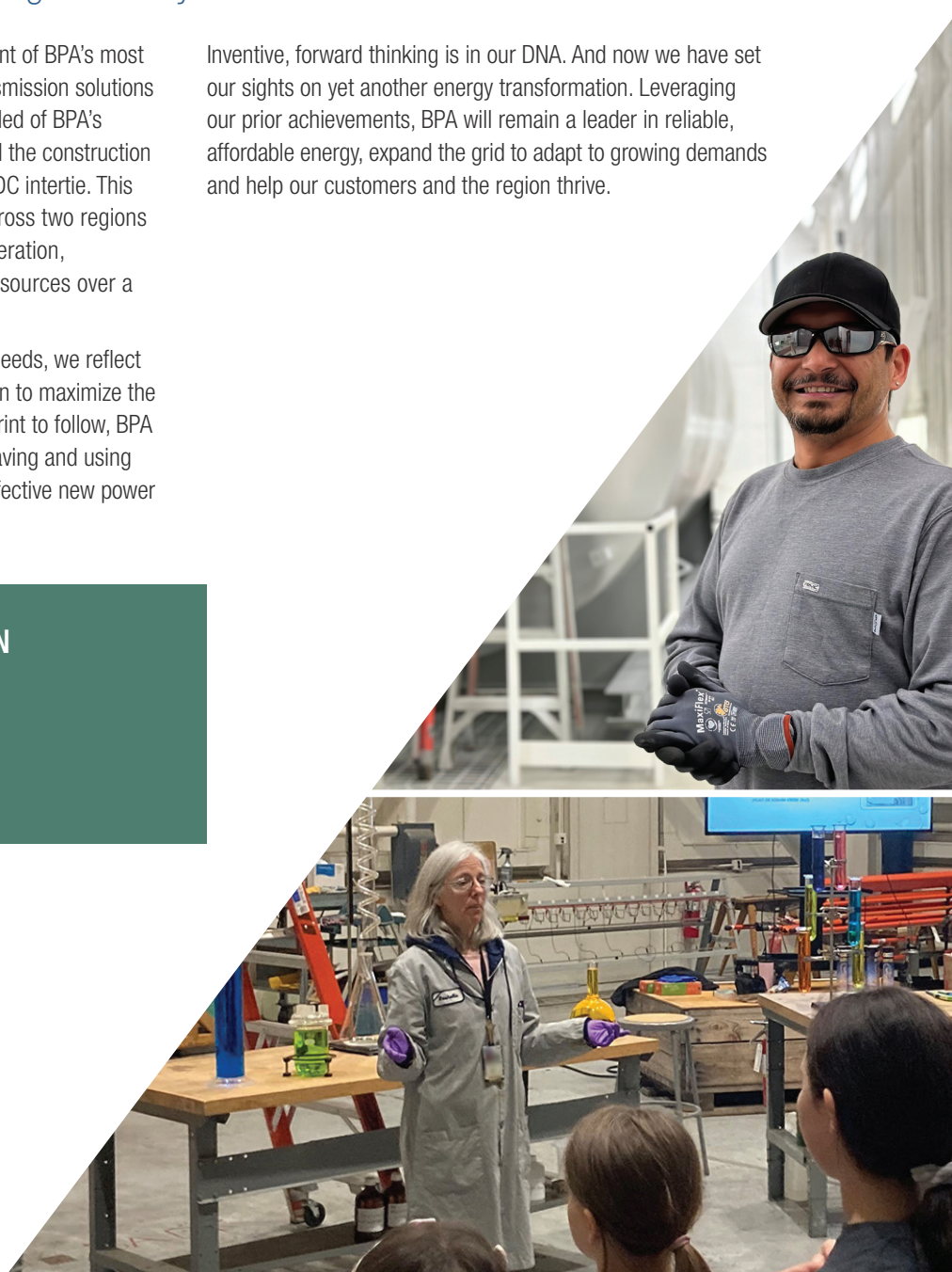
In many ways, this strategic plan is reminiscent of BPA's most historic triumphs. As we seek innovative transmission solutions to meet our customers' needs, we are reminded of BPA's breakthrough in direct current technology and the construction of the nation's first and longest high-voltage DC intertie. This advancement in the transfer of electricity across two regions serves as an early example of regional cooperation, demonstrating the value of sharing power resources over a larger footprint.

As we meet our customers' growing energy needs, we reflect on our trailblazing work in energy conservation to maximize the value of our generating assets. With no blueprint to follow, BPA and its utility customers proved that simply saving and using electricity more efficiently is the most cost-effective new power resource.

Inventive, forward thinking is in our DNA. And now we have set our sights on yet another energy transformation. Leveraging our prior achievements, BPA will remain a leader in reliable, affordable energy, expand the grid to adapt to growing demands and help our customers and the region thrive.

 339 TRANSMISSION CUSTOMERS

 142 POWER CUSTOMERS







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