



***Maintaining Grid Reliability
and Affordability in a
Clean Energy Era***

Strategic Plan 2020-2021

Resolution 2526

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Message from the Commission

Over the last several years, Benton PUD has devoted considerable time to planning at all levels of the organization. We believe that planning is an indispensable component responsible for much of our past and current successes. For example, our multi-year capital planning efforts helped launch several major projects that we completed or will complete in the current biennium including construction of the Leslie substation, rebuild of the Benton City substation, addition of Orchard View Substation Bay 2, and upgrades to Badger Canyon and Vista Field feeders, as well as the design of several transmission system improvement projects. These capital projects ensure Benton PUD is positioned to provide electric service reliability into the future, as well as support customer growth. Additionally, our technology and customer engagement plans resulted in the installation of two customer payment kiosks, launch of a new prepay program, as well as cybersecurity and data resiliency improvements.

Looking forward to the next biennium, we see a new set of challenges and opportunities:

- **Resource Adequacy:** As a result of carbon policies within several western states, the use of fossil fuels for energy production will be highly constrained increasing the loss of load probability (blackouts) to unacceptable levels during certain months of the year. We must work with our Northwest utility partners in developing standards that ensure there is adequate capacity throughout the region during extreme weather events.
- **Value of Hydro:** Support efforts to enhance the value of hydro through energy markets and regulatory policy, as well as provide leadership in support of the lower Snake River dams.
- **Power Contracts & Markets:** Support Bonneville Power Administration (BPA) in lowering their wholesale rate trajectory through cost reductions and revenue enhancements. Ensure that BPA receives adequate compensation for the total value of its hydropower assets prior to joining California Energy Imbalance Market.
- **Electric System Investments:** Through strategic upgrades to our transmission and distribution system, create a 21st century power grid that is reliable, redundant, automated, and accommodates current and future customer growth.
- **Broadband System Investments:** Continue to invest in our broadband infrastructure to expand access to our world class high-speed telecommunications network. In conjunction with community partners, facilitate the deployment of small cell technology.
- **Stewardship:** Continue to provide safe reliable service while maintaining rates below the median of comparable Northwest utilities and preserve long-term financial stability.

Benton PUD is well-positioned to take on these challenges: our retail rates are in the lowest-third of benchmark utilities in the Northwest, we have less long-term debt compared to the majority of consumer-owned distribution utilities our size, our power portfolio is over 95% carbon-free, and we are ahead of many comparable utilities in the implementation of customer-focused technology.

As you read through this strategic plan, please feel free to reach out to any one of us or Benton PUD staff with your questions.

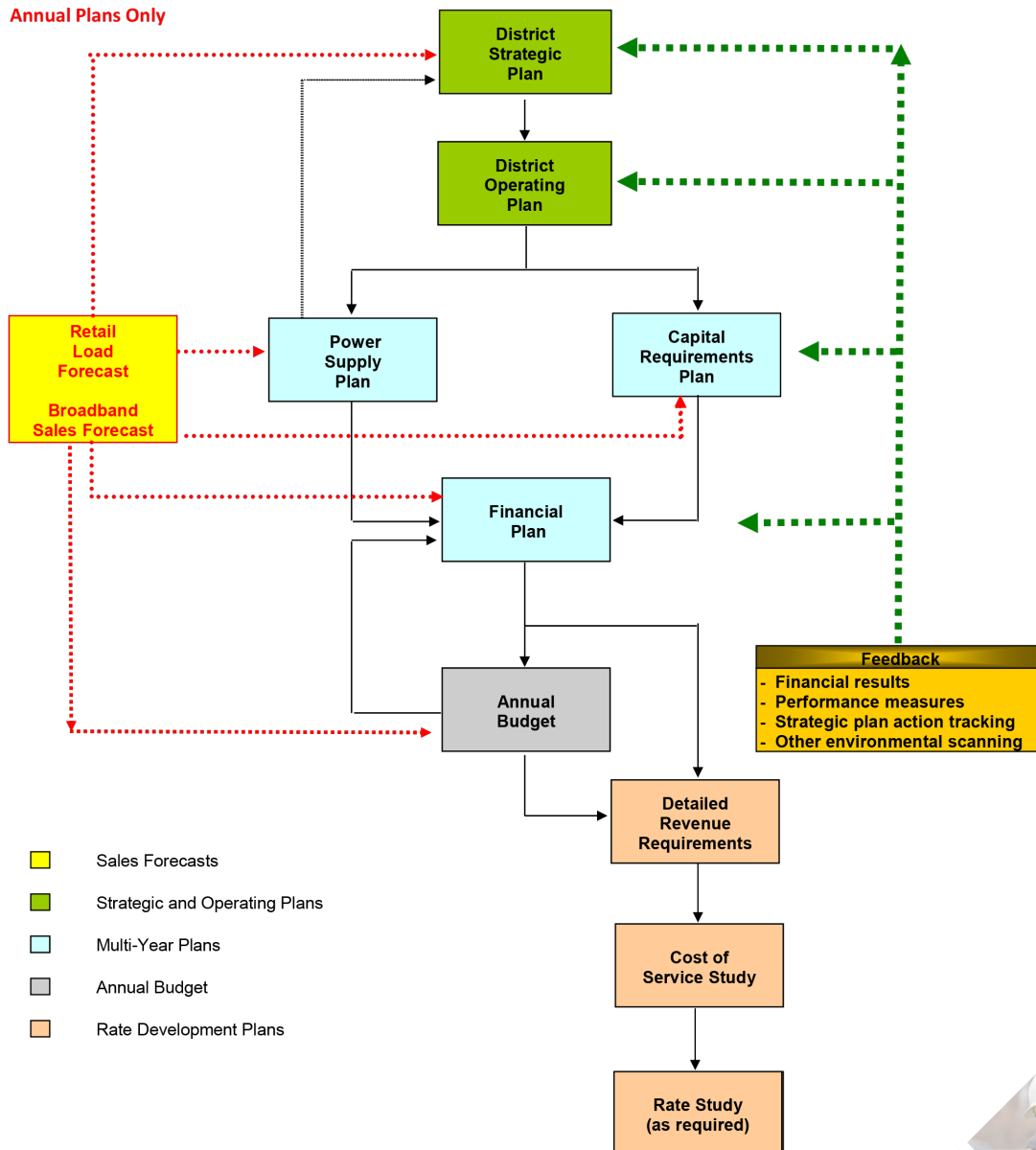


Barry Bush Jeff Hall Lori Sanders

Planning Process

Benton PUD's planning cycle diagram shows how we convert our plans to action. It begins with the strategic plan which describes our foundational purpose and principles (mission, vision values, code of ethics), and also those initiatives that will maintain our focus on our core business and prepare us for changes in our industry. We cascade these initiatives down into the organization through operating plans and individual performance plans to help ensure proper execution. Ultimately, we measure our progress through strategic plan updates, financial reports, and performance measures.

Attachment 1
District Planning Cycle
Annual Plans Only



Mission, Purpose, Values and Strategic Anchors

Mission

We contribute high value to our community and customers by providing energy and related services using reliable and efficient delivery systems.

Purpose

To improve the quality of life in our community through leadership, cooperation and stewardship.

Values

Safety - We place high value on public and employee safety and each individual is committed to the prevention, education and awareness of hazardous conditions that could lead to accidents or injuries.

Integrity - We are honest, trustworthy, ethical and demonstrate this by taking responsibility for our actions.

Excellence - We take pride in doing quality work and meeting our commitments.

Forward Focus - We anticipate the future, seeking better and more innovative ways to serve our customers.

Mutual Respect - We value each individual for who they are, understanding and appreciating their opinion and input.

Teamwork - We work together as an interdependent group of multi-talented people committed to common goals for individual and organizational success.

Strategic Anchors

Benton PUD categorizes its strategic actions into five areas, called Strategic Anchors. These Strategic Anchors are cornerstones that represent fundamental, guiding principles important to public power. Strategic Anchors are used to evaluate every option when making decisions, large and small. Strategic Anchor Action Items may support one or more Strategic Anchor, but are categorized under a primary Strategic Anchor.

Benton PUD Strategic Anchors include:

Safety
Customer Value
Reliability and Resiliency
Stewardship
Skilled Workforce

Code of Ethics

As stewards of the public's assets we, the Commission and Employees of Benton PUD, have the high duty and responsibility to ensure that our actions and deeds are consistent with the trust placed in us. To further these objectives, we agree to adhere to legal, moral and professional standards of conduct in the fulfillment of our responsibilities. This ethical code is designed to uphold our values and enhance the performance of all persons engaged in the business of the District.

Personal and Professional Integrity

- We abide by approved professional practices and standards and act in accordance with the law.
- We demonstrate our values of mutual respect, forward focus, integrity, teamwork, excellence, and safety.
- We respect the rights, responsibilities and integrity of our customers, colleagues, and public officials with whom we work and associate.

Responsibilities to our Customers and Community

- We fully dedicate our skills and energy to provide value to our customers.
- We abide by the laws, regulations, and governmental standards to protect the public and the environment.
- We promote public safety through education, training, awareness and compliance.

Responsibilities as Employees

- We promote equal employment opportunities and oppose any discrimination, harassment, and other unlawful practices.
- We value the contributions of every employee and treat each individual with respect.
- We maintain a work environment free from pressures that would encourage departure from ethical behavior or acceptable standards of conduct.
- We encourage good faith questioning of our practices and provide a structure within which we report unethical behavior or unacceptable standards of conduct free from retaliation.
- We maintain a work environment that enhances the safety of our employees and customers.
- We maintain confidentiality when required and limit the disclosure to lawful or generally accepted practices.
- We promote a safety culture that involves all employees in identifying safety issues and empowers them to take action to prevent and correct safety deficiencies.

Business Responsibilities

- We openly provide information to our constituents, allowing them to measure the effectiveness of our performance.
- We ensure financial reports and records are an accurate reflection of the transactions of the District in accordance with generally accepted standards.
- We exercise prudence and integrity in the management of funds in our custody.
- We adhere to all laws applicable to public agencies and exercise good stewardship of public assets.
- We are responsive to public records requests, and our commission meetings are open to the public with opportunities for input.

Conflict of Interest

- We refrain from engaging in any outside matters of financial or personal interest incompatible with the impartial, objective, and effective performance of our duties.
- We do not seek or accept favors or items resulting in personal gain, which would influence or appear to influence the conduct of our official duties.
- We do not use District property or resources for personal or political gain.



Safety Goals



We are committed to cultivating an enriched **Safety** culture which actively involves all employees in identifying issues that could impact workplace and public safety, and empowers them to take actions to prevent and correct safety deficiencies.

Promote ownership and accountability for safety within each individual.

Benton PUD's culture promotes an uncompromising commitment to safety for the public and our employees, and it is considered a shared responsibility that each of us will take personal responsibility for and live every day.

Engage safety committees to continuously improve our safety culture.

We engage our safety committees in the development of programs and initiatives to increase employee safety awareness, prevent accidents/incidents, reduce losses, and understand compliance with applicable safety regulations.

Support employee and public safety through education, training, awareness, and compliance.

Benton PUD supports an environment in which the public can be safely served. Safety education, training, awareness, and compliance play a vital role in furthering this effort.

Encourage employee participation in workplace safety and recognize safety contributions.

Benton PUD encourages employee communication and participation in safety activities/programs such as serving on a safety committee, helping identify and resolve safety issues and concerns, implementing new programs, and participating in safety training. Benton PUD will continue to recognize employee contributions toward the maintenance and development of safe work practices and responses to safety issues.

Commit to pursuing an injury and pain-free workplace.

Benton PUD is committed to strengthening and broadening our safety program in pursuit of an injury and pain-free workplace.

Be recognized as a safety leader in the utility industry.

Benton PUD will continue to set the benchmark for safety excellence throughout our region.

Safety

How We Measure Success



Reportable Injuries: Benton PUD tracks the number of reportable injuries as directed by Occupational Safety and Health Administration (OSHA) to identify trends and opportunities to correct issues through training, retraining, work procedure changes, engineering controls or other reasonable actions.

Safety Training: Benton PUD monitors attendance at safety and wellness training courses, including the number of classes attended and how many sessions are offered.

Safety Performance Benchmarks: Benton PUD measures its OSHA recordable incidents against the Bureau of Labor Statistics incident rate as measured against other Washington State electrical utilities. Benton PUD also measures employee safety training and meeting attendance.

RP3: The application process for APPA's RP3 Award includes a safety component worth 25% of the overall score. RP3 measures Benton PUD's safety performance in three areas 1) Safety Manual, 2) Safe Work Practices, and 3) Benchmarking. Benton PUD will use this information to assess its practices against best practices in the industry.

Safety Incentive: Benton PUD's voluntary Safety Incentive Program facilitates active participation and recognizes individual employee contributions to enhance a positive safety culture. It also rewards participation as a group reinforcing that we are more successful when everyone does their part to contribute to a safe workplace.

Safety Action Items



Employee Safety

1. Continue to engage safety committee members in the review of accident/incident trends to identify areas of risk and deliver targeted training programs to address those risks.
2. Continue to leverage data analytics to assist safety committees in developing performance evaluation and metric analysis.
3. Evaluate the third-party physical security assessment recommendations as outlined in the study conducted in 2019 in the ongoing effort to ensure employee and public safety.

Public Safety

4. Correct safety code compliance and construction standard deficiencies related to the joint-use of Benton PUD poles.
5. Provide targeted customer communications related to public safety.

Customer Value Goals



We create and maximize **Customer Value** by providing cost-effective, efficient, and quality service.

Become the trusted energy partner.

Electric utility customers continue to have high expectations for enhanced energy services, real-time account information, and always-on communication channels to interact with their utility. Our customer facing technologies provide greater value, more options and allow us to meet these expectations while retaining high customer satisfaction and loyalty. To be the trusted energy partner for our customers, we will educate, advise and support our customers on the use of emerging technologies and energy services options.

Preserve long-term fiscal sustainability.

Benton PUD is dedicated to maintaining a strong financial condition with competitive and affordable retail rates at or below the median of benchmark utilities. Through our financial planning, Benton PUD's monthly bills have been at or below the median of comparable benchmark utilities since 2005.

Preserve federal power system benefits.

As a consumer-owned utility in the Northwest, Benton PUD has preferential access to power produced within the Federal Columbia River Power System. We will work with other public utilities in preserving our priority access to affordable, reliable and clean hydropower.

Maintain a world-class broadband system.

Through our relationships with retail service providers, Benton PUD will provide high speed world-class telecommunications to our customers and communities. We will develop business strategies and leverage our partnership with NoaNet to enable efficient and cost-effective management of our broadband system and target maintaining positive cash flows over the long-term. In addition to providing this beneficial and essential service to our communities, our broadband system will serve as the communication backbone for our electric system.

Advocate for our low income customers.

Benton PUD recognizes the challenges facing low income customers and will consider programs that will make electric service more affordable.

Customer Value

How We Measure Success



We identified the following measures of **Customer Value**.¹

Progress against performance measures can be found at: BentonPUD.org.

Customer Satisfaction: One of our most important measures is overall customer satisfaction. This is measured through customer satisfaction surveys and focus groups.

Average Bill Comparisons: Benton PUD compares its average monthly bill for each customer rate class to other utilities in the Northwest.

Telephone Service Level: Benton PUD continuously seeks to provide excellent customer service. In doing so, Benton PUD monitors the timeliness of answering calls routed to the customer service queue, and the effectiveness of staff in managing and monitoring the call queue.

Service Order Process: In order to monitor the timeliness of establishing new services for customers, Benton PUD measures the time it takes to energize a new service and setup the customer account in our customer information system.

Self-Service Payment Options: Multi-channel self-service payments offer choice, efficiency and convenience for customers to pay their bill. Benton PUD measures the number of payments made via self-service means.

¹ These measures are a subset of those we use to evaluate our success. They are a compilation of internal and external measures, as well as key ratios from our annual financial statements and those monitored by rating agencies.

Customer Value Action Items



Trusted Energy Partner

1. Drive customers to utilize SmartHub® key features including payment options, usage information, email and text alerts, and outage notifications.
2. Utilize data analytics and other technologies to provide enhanced usage information to customers in comparison to others and educate them on how consumption patterns drive Benton PUD's power costs.
3. Implement an informational plan on electric vehicle charging station investments, installations, and incentives (in accordance with the Commission adopted plan).
4. Consistent with Benton PUD's Community Engagement Policy, establish connections with our communities and schools by finding ways to engage in community-support activities and educational opportunities.

Preserve Federal Power System Benefits

5. Maintain Benton PUD's leadership profile in public power organizations to monitor and influence issues that have a significant impact on Benton PUD customers including, but not limited to:
 - a. BPA budgets and rates
 - b. Western energy imbalance market (EIM) expansion
 - c. California Independent System Operator (CAISO) day-ahead market enhancement (DAME) efforts and possible development of a future extended day-ahead market (EDAM)
 - d. Value of hydropower
 - e. Carbon emission reductions
 - f. Columbia River Treaty

Advocate for Low Income Customers

6. Identify ways to share information about Benton PUD's low income programs and create outreach opportunities for eligible customers:
 - a. Host a low income program workshop for community and social services partners.
 - b. Coordinate with local entities to provide on-site application processing at social service agencies in the community, such as VFW, Kennewick Senior Center, etc.
 - c. Collaborate with affordable housing organizations to interact, educate and learn. Develop an understanding of how utility bills are viewed in the affordable housing process and evaluate potential new low income programs or changes to existing programs to better serve this group of low income customers. Share information about Benton PUD's existing low income programs to promote enrollment.
7. Evaluate other utility low-income programs to determine the effectiveness and adequacy of our low-income programs and adopt a strategy on how Benton PUD programs are structured for the future.
8. By Q1 of 2020, establish an annual donation goal for Round Up (previously known as Helping Hands) that will: allow more customers to receive assistance, motivate and encourage staff to generate donations, and guide promotion and marketing of the Round Up program.

World-class Broadband System

9. In partnership with NoaNet, develop a proactive plan and strategy to respond to requests by telecommunication companies relative to the deployment of advanced wireless technology.
10. Evaluate existing Washington State PUD programs for enabling broadband products and services for residential customers.

Reliability & Resiliency Goals



We maintain high standards of **Reliability** and **Resiliency** in providing products and services that are essential to the quality of life.

Maintain electric and broadband reliability & resiliency.

As a public power utility committed to maintaining a reliable distribution system, we apply best practices to maintain and extend the life of our systems. Systematic upgrades and replacement of aging infrastructure is needed to ensure reliable service to our customers. We work diligently to protect our systems from cybersecurity threats. We plan and train for major disaster or outage events to ensure our service is resilient.

Manage risks and opportunities related to power supply.

As a Slice/Block customer of the Bonneville Power Administration (BPA), Benton PUD must employ sound risk management practices and strategies over its power resource portfolio. BPA's hydroelectric output can vary as much as 200%, creating a much larger degree of variability than utilities whose primary source of energy is thermal generation. Power risk strategies are intended to ensure an adequate power supply to meet customer loads, manage power costs within budget, and mitigate large swings in power supply costs.

Optimize distribution assets.

With the deployment of our advanced metering infrastructure, geographical information system and outage management system along with extending the reach and capabilities of our Supervisory Control and Data Acquisition (SCADA) system, Benton PUD has made significant progress towards meeting smart grid objectives. We are better able to provide efficient and timely customer service, optimize our distribution system operations, manage loads and resources and minimize system losses. Benton PUD is well-positioned to implement new initiatives related to distribution system automation that will enable us to continue to optimize the operation and efficiency of our transmission and distribution systems.

Promote the convergence of broadband, information systems and electrical system.

Electric distribution operations are changing rapidly as the application of operations technology (OT) — particularly two-way communications, intelligent devices, and SCADA — are changing the way distribution systems are monitored and controlled. At the same time, evolving information technology (IT) continues to affect distribution operations, with advances in mobile technologies, analytics, systems integration, and computing platforms. Integration of IT and OT, along with optimization of broadband and the electric system are keys to maximizing the efficiency of our systems.

Reliability & Resiliency How We Measure Success



We identified the following as measures of **Reliability and Resiliency**.

Progress against performance measures can be found at: BentonPUD.org

Electric System Reliability Indices: Benton PUD monitors reliability of the electric system using three industry standard indices, System Average Interruption Frequency Index (SAIFI), System Average Interruption Duration Index (SAIDI), and Customer Average Interruption Duration Index (CAIDI).

Broadband Network Reliability: Benton PUD monitors broadband network reliability by monitoring four areas: Regional Network, Fiber Backbone, Customer Fiber, and Wireless.

Energy Loss Percentage: Benton PUD monitors the reasonableness of line loss by the ratio of energy losses within our electric system to total load as report by the BPA.

AMI Operations: Benton PUD monitors the overall performance of the AMI system which correlates to improved billings and labor efficiencies.

Information System Reliability: Benton PUD measures the availability of critical information systems during both business and non-business hours.

RP3: The application process for APPA's RP3 Award includes a reliability component worth 25% of the overall score and a system improvement component worth 25% of the overall score. RP3 measures Benton PUD's reliability performance in six areas: 1) Reliability Indices Collection, 2) Reliability Indices Use, 3) Mutual Aid, 4) Disaster Planning, 5) Physical Security, and 6) Cyber Security. RP3 measures Benton PUD's system improvement performance in three areas: 1) Research and Development, 2) System Maintenance and Betterment, and 3) Financial Health. Benton PUD uses this information to assess its practices against best practices in the industry.

Reliability & Resiliency Action Items



Advanced Metering Infrastructure

1. Maximize the value of Benton PUD's advanced metering infrastructure (AMI) system to include:
 - a. Completing an assessment of the vendor and technology viability
 - i. Evaluate the proactive replacement of aging meter population
 - ii. Upgrade and replace the radio transceiver base stations serving the AMI meters.
 - iii. Implement a near real-time data analytics solution that presents advanced alerting and visualization of hot socket, tamper, high voltage, low voltage, and outage meter data.

Substations

2. Complete design and construction of the Southridge substation in 2020.
3. Purchase property necessary for future Ridgeline substation.

Transmission

4. Begin permitting and design of the Spaw to Phillips transmission line in 2020 and complete construction in 2021.
5. Work with BPA to complete studies and agreements necessary to facilitate construction of a new McNary substation 115 kV point-of-delivery in 2020.

Distribution System

6. Implement remote communications options and control upgrades to integrate feeder line devices into the District's Supervisory Control and Data Acquisition (SCADA) system.
7. Apply for the American Public Power Association's Reliable Public Power Provider (RP3) in 2020 for the 2021-2024 award period.
8. Continue technology surveillance related to the costs and benefits of customer deployed energy storage.

Regional Power Supply Adequacy

9. Monitor the activities of the Northwest Power Pool regarding the possible development and enforcement of regional resource adequacy requirements and incorporate into Benton PUD's Integrated Resource Plan (IRP) as applicable.
10. Undertake an effort to heighten the awareness of customers and policy makers as to resource adequacy concerns, and environmental and land use impacts associated with high wind and solar project development scenarios.

Resiliency

11. Participate in disaster response planning with Benton County Emergency Services relative to a Cascadia earthquake in order to evaluate the direct and indirect impacts on the District's electric system operations.
12. Develop a written plan to ensure adequate critical inventory and supplies for a credible major outage event.
13. Electricity Intensive Loads - Monitor industry activities related to crypto currency mining and block chain operations, developing recommendations as needed to modify policies.
14. Develop and implement a plan to establish "Data Center Independence" through computer network segmentation (Benton PUD facility locations).
15. Develop emergency power redundancy plan for each facility location.

Stewardship Goals



We preserve the public's trust through our **Stewardship** of assets, our care for our environment, and our compliance with laws and regulations.

Advocate for our customers on legislative issues.

As legislation and regulatory rules are established, the impact to electric rates and the reliability of the electric system must be considered. Benton PUD provides information to legislators and regulatory agencies in an effort to prevent unintended consequences that can impact energy costs, threaten the state's solid foundation of renewable hydroelectric power, or deter broadband service.

Comply with legislative and regulatory requirements.

The number and complexity of regulatory requirements has grown significantly over the last several years. We promote a culture of compliance to ensure that Benton PUD meets its obligations.

Ensure long-term financial sustainability.

Through sound financial planning and internal control systems and policies, Benton PUD will assure the long-term fiscal strength and demonstrate fiscal stewardship. Having sound financial policies is considered a utility best-practice and is important to the rating agencies that assign credit ratings. Over the long run, sound financial policies help rates remain low.

Manage enterprise-wide risks.

Enterprise Risk Management (ERM) is a comprehensive, ongoing disciplined approach to assessing, managing and monitoring the uncertainties faced by our organization. Benton PUD's ERM program identifies risks to enable Benton PUD to be proactive in mitigating our risks.

Build partnerships.

Benton PUD will continue to collaborate and work closely with local and regional entities to maximize customer benefit.

Promote honesty, integrity, and trust.

Benton PUD will continue to honor our commitments and conduct business in an ethical manner that promotes integrity, fairness, respect, honesty and trust. We strive to lead by example, act at all times in the best interest of our ratepayers, comply with laws and regulations, and advocate equitable treatment in our behaviors, policies and practices.

Maintain a sustainable low-carbon power supply portfolio.

Benton PUD supports the use of low-carbon resources. We are advocates for the zero-carbon assets within our power portfolio including the federal hydropower system on the Columbia and Snake rivers, nuclear power provided by the Columbia Generation Station, as well as our wind and solar assets. We recognize the importance of hydropower's flexibility to follow loads, peak capacity value, and transmission support value. We also value the baseload and winter peak value of Columbia Generating Station. We acknowledge the importance of energy efficiency as one of the least-expensive, environmentally-friendly resources.

Stewardship

How We Measure Success



We identified the following as measures of **Stewardship**.²

Progress against performance measures can be found at: BentonPUD.org.

Days Cash On Hand: Days Cash on Hand measures the number of days we can cover our operating expenses using unrestricted cash and investments and assumes no additional revenue is collected. This is an important measure of liquidity used by the rating agencies.

Debt Service Coverage: Debt service coverage is a ratio of net revenues to annual debt service and is an indication of Benton PUD's ability to meet its annual debt service obligations. Coverage requirements are set forth within the District's bond resolutions and financial policies.

Fixed Charge Coverage: Fixed charge coverage measures the margin of funds available to meet current debt service requirements and fixed or "debt-like" obligations related to purchased power. This ratio treats a portion of Benton PUD's purchases from BPA as "fixed" or a recovery of debt service. Some rating agencies use this ratio to compare distribution-only utilities to distribution utilities with generation.

Debt to Capitalization Ratio: This is a measure of the level of debt as compared to Benton PUD's asset base. Targets are established within financial policies and are an important measure used by the rating agencies.

O&M Costs Per Customer: Benton PUD compares Operating & Maintenance costs per customer to similar utilities.

Investment Yield: Benton PUD seeks to maximize investment yield while preserving principal and investing only in those instruments allowed by state law.

External and Internal Audit Results: Demonstrate compliance with laws, regulations, policies, and procedures.

Regulatory Compliance: Benton PUD measures its performance against targets established by state law related to the purchase of renewable energy and cost-effective conservation.

Energy Efficiency (EE): Benton PUD measures EE savings each biennium as measured against goals established by the Conservation Potential Assessment.

² These measures are a subset of those we use to evaluate our success. They are a compilation of internal and external measures, as well as key ratios from our annual financial statements and those monitored by rating agencies.

Stewardship Action Items



Ensure long-term financial stability

1. Explore emerging healthcare strategies to help contain costs for Benton PUD and its employees while preserving the integrity of our benefit plans.

Sustainable low-carbon power supply

2. Implement an initial feeder voltage optimization project as a qualifying conservation measure at Kennewick substation.
3. Advocate for the preservation of the Federal Columbia River Power System and Columbia Generating Station through active public engagement and education.

Manage Enterprise-Wide Risks

4. Evaluate and implement the third-party security assessment recommendations conducted in 2018 as part of the overall cybersecurity strategy and update Benton PUD's security score for the Department of Energy's Cybersecurity Capability Maturity Model (C2M2).
5. Conduct third-party cybersecurity assessment in 2020 and evaluate Benton PUD's security posture against the Department of Energy's Cybersecurity Capability Maturity Model.
6. Develop a three to five year technology plan that identifies strategic business processes and initiatives with a goal of optimizing and leveraging investments in Information Technology Systems across the organization.

Rate Design

7. Ensure adequate fixed-cost recovery through appropriate increases to the customer daily system charge; increases should benchmark to the median base charge of comparable northwest utilities.
8. Complete an analysis and study of the costs and benefits of implementing demand charges for all metered rate classes including residential and small-general service and begin customer education processes.
9. Monitor corporate sustainability goals and evaluate alternatives to help corporations to meet these goals.
10. Evaluate and consider rate structure changes to General Service. Reach out to customers affected by proposed or adopted General Service rate structure change (communications plan, meetings, etc).

Manage Power Costs to help ensure Competitive and Affordable Rates

11. Continue to mitigate power supply cost risks and uncertainty through completion of the District's 2020 Integrated Resource Plan and continuous improvement of Risk Management Committee (RMC) analysis and processes.

Advocate for Our Customers on Legislative & Regulatory Issues

12. Educate, inform and influence the state and federal representatives on issues that impact Benton PUD's customers including:
 - a. Carbon emission reduction initiatives
 - b. Distributed generation
 - c. Telecommunications
 - d. Value of hydropower
 - e. Resource adequacy
13. Support science-based salmon recovery efforts as defined by the Federal Columbia Snake River Operations Environmental Impact Statement.

Citizen Engagement

14. Increase citizen engagement in Kennewick, Prosser, and Benton City through a multi-channel approach that includes school education programs, "Plug into Your Future" strategic education meetings, website videos, social media, speaker's bureau, community engagement, and "special topic" stakeholder panels.

Skilled Workforce Goals



We recruit, develop, motivate, and retain a highly skilled, resilient, and diverse workforce and foster a healthy, safe, well-equipped and productive work environment for our employees, their families, and the public.

Attract and retain talent.

In order to position ourselves as a progressive employer which promotes employee engagement, we must provide innovative, responsive, fair and consistent recruitment, selection, compensation, benefits and work-life programs to attract and retain a high-performing workforce. The new employment environment, with social media, competing employment choices and shifting skill set demands, will require new approaches to recruitment through innovative marketing and communication strategies.

Ensure leadership is developed to meet existing and future challenges.

Benton PUD is committed to maximizing the potential of every employee and supporting Benton PUD as a learning organization. We will continue to focus on creating leadership pipelines to ensure knowledge transfer, continuity and success of Benton PUD's operations and service delivery to our customers. The design and development of succession planning initiatives for engaging and retaining leadership will be vital.

Promote employee engagement.

Benton PUD will continue to support its commitment to creating a culture of employee engagement by fostering communication and transparency of information, resources and service to our employees which promotes collaboration, cross functional teams, connection and commitment to their work and the goals of Benton PUD. We will expand opportunities to drive engagement in the workforce.

Optimize knowledge management.

Optimization is established through clear performance expectations linked to a shared vision of our strategic plan. Reinforcing performance also involves key opportunities for recognition, rewarding strong performance and accountability. Benton PUD's performance management system encourages effective communication, supports employee personal and professional growth, and demonstrates alignment between the individual and Benton PUD's goals which drives meaning and purpose.

Enhance individual and organizational effectiveness.

Benton PUD continues to experience changes relating to services, technology, staffing, and citizen expectations. The fast-paced environment requires Benton PUD to be nimble, providing structures that are flexible and adaptive. As our workforce becomes increasingly tech-savvy, we will offer flexible, user-friendly, integrated technology which supports employee self-service for transactional business processes.

Champion employee wellness and work-life programs.

Benton PUD will continue to champion employee wellness and work-life balance by offering programs, activities and services that focus on healthy lifestyles and balancing the responsibilities of work and personal life. This focus increases employee engagement, optimizes health and productivity, promotes creativity, helps to attract and retain employees, reduces absenteeism, lowers healthcare costs, and reduces turnover.

Skilled Workforce How We Measure Success

Hiring Efficiency: Benton PUD measures the time-to-fill an open position in calendar days from approval of a job requisition up to acceptance of the job offer (internal) or the date a candidate's background screening is cleared (external). The goal is to ensure staffing requirements are achieved by administering internal and external recruiting and staffing processes resulting in timely and quality hires.

Training and Development: Benton PUD measures training and development attendance. The training plan includes those Leadership and Workforce courses approved by the Leadership Team. The goal is to ensure the majority of scheduled participants attend the training.

RP3: The application process for APPA's RP3 Award includes a Workforce Development component worth 25% of the overall score. RP3 measures Benton PUD's workforce development performance in three areas: 1) Succession Planning and Recruitment, 2) Employee Development and Recognition, and 3) Education, Participation, and Service. Benton PUD will use this information to assess its practices against best practices in the industry.

Customer Feedback: Our employees are the key to our success. Success of Benton PUD operations and service delivery to the community is reflective of our workforce. This is measured through customer satisfaction surveys.

Periodic Employee Surveys: Knowing that employees are our greatest asset, Benton PUD conducts periodic employee surveys to help measure the engagement level of our employees.

Skilled Workforce Action Items



Leadership & Development

1. Develop a training matrix outlining an annual leadership development plan.
2. Continue to offer employee training through various technology options (online, webinars, etc.)
3. Deliver short, periodic employee updates created by supervisors and/or subject experts related to strategic and other emerging issues cultivating an “informed workforce.”

Recruitment & Retention

4. Deploy new approaches to Talent Sourcing – shifting strategy from recruitment to marketing.
5. Improve the recruitment, hiring, and onboarding software solution by modernizing our online system.
6. Evaluate the framework for a potential Performance-Based Employee Incentive Program.

Employee Engagement

7. Promote employee participation in community engagement activities.
8. Create opportunities for employees to participate in cross functional teams or committees which promotes collaboration.
9. Continue to foster a positive relationship with the IBEW.
10. Conduct periodic employee engagement surveys.

Health & Well-Being

11. Engage the wellness committee members to promote a culture of health and well-being by reviewing healthcare trends to identify areas of risk and deliver targeted wellness programs to address those risks.
12. Develop strategies to ensure employees are educated consumers of their healthcare.

Appendix - Strategic Environment

- **Electric Industry and Regional Power Markets**
- **Power Supply**
- **Political and Regulatory**
- **Customer and Community**
- **Technology**
- **Benton PUD Internal Environment**
- **Safety**



Strategic Environment

Electric Industry and Regional Power Markets

State Clean Energy Legislation: The Energy Independence Act (EIA) requires utilities with customers greater than 25,000 to comply with renewable energy requirements. Achieving compliance with the 2020 target of 15% through purchases of renewable energy credits has resulted in a projected incremental net cost of just over \$3 million annually. This increase in spending levels would not be required except for the EIA. Since the initiative was passed in 2006, many of the assumptions pertaining to the calculation of the targets have changed. For example, the EIA assumed a 1.4% average annual growth rate in utility loads. Due to investments in energy efficiency and other factors, load growth estimates have been revised downward to fractional percentages.

The recently enacted Clean Energy Transformation Act (CETA) requires that utilities eliminate coal from their resource portfolio by 2025 and that all retail sales of electricity be greenhouse gas neutral by 2030 and 100% from non-emitting or renewable resources by 2045. Based on Benton PUD's 2018 energy mix, we have a greater than 95% carbon-free energy portfolio which places us in a strong position to achieve the 2030 and 2045 milestones.

Renewable Energy Integration: BPA has connected almost 5,100 megawatts of wind generation to their transmission system and expects to connect another 3,000 to 4,000 megawatts by 2025; 2,764 megawatts of the installed wind generation operates in the BPA Balancing Area. The increasing concentration of intermittent generation associated with wind and solar projects can produce large swings in generation, which in turn requires significant balancing reserves to preserve system stability and reliability. The intermittency of wind and solar generation creates operational complexities and cost risks for power balancing area authorities like BPA.

The installed utility-scale and customer solar generation capacity within the California Independent System Operator (CAISO) balancing area is large enough to create periods of significant surplus energy in California. The effect of this non-dispatchable energy is to create what is referred to as a "duck curve" when considering a daily electrical load profile that is net of solar generation ("net load"). Relatively rapid drops in "net load" in the mornings and increases in the evenings corresponding to the rising and setting of the sun requires conventional rotating generators to ramp down and back up each day. This creates operational complexities and reduces the opportunity for certain generation projects to recover costs due to reduced volumetric sales. In addition, opportunities to sale surplus BPA hydro energy into California have been diminished by the massive solar buildout thereby reducing BPA's secondary sales revenues and increasing the pressure to raise their rates to preference customers.

Overall, the continued build out of renewable energy projects to meet state mandated renewable portfolio standards and now clean energy requirements is depressing wholesale power market prices to unprecedented levels throughout the west and northwest. This has a negative impact on many utilities' net power costs and is resulting in the need to consider ways to increase customer energy and power product sales rather than sell into a depressed secondary market. BPA is beginning to explore how the flexibility and fast-ramping capabilities of their fleet of hydro generation projects may have value in meeting the challenges of the California "duck curve" thereby potentially offsetting the large reduction in secondary energy sales that is expected to continue.

Energy Storage: Energy storage in a variety of forms is being promoted as a way to firm intermittent renewable generation sources such as wind and solar and is also being considered as a means for relieving congestion on transmission and distribution systems which may allow utilities to defer costly upgrades. Energy storage systems are also being considered for ancillary services related to stable power grid operations. Battery based energy storage is emerging as the preferred technology for a wide variety of purposes. Battery storage is seen as a complement to the growth of distributed solar generation and has begun to enter the mainstream. Volume production of established battery technologies are helping to drop prices, while new, potentially less-expensive technologies are moving toward commercial deployment. Commercialization of energy storage technologies is also being spurred by federal and state legislatures, including in California where a bill was passed requiring 1,325 megawatts of energy storage by the year 2020. In addition, Tesla Motors is producing lithium-ion batteries at their "Gigafactory" in Nevada for use in their electric vehicles and Powerwall home energy storage units. Powerwall is advertised as ready to integrate with solar, enabling customers to self-power their homes and even go off-grid if desired.

Electric Vehicles: While a mass market for electric vehicles has been very slow to arrive, they are a key component to the carbon reduction objectives being promoted by federal and state legislators. In an era where electric utilities are seeing small or declining load-growth rates due to conservation and customer self-generation, electric vehicles may represent an opportunity for utilities to preserve or even grow revenues. In 2019, the state legislature passed the Electrification of Transportation Act which allows a utility to adopt a plan that establishes outreach of and investment in the electrification of transportation. The plan should not increase the net costs to our customers in excess of one-quarter of one percent. This plan is one way to help incentivizes customers to purchase electric vehicles and help offset lost revenue resulting from our conservation and net metering programs.

Interest in electric vehicles has grown in the Tri-Cities. The Electric Vehicle Infrastructure Transportation Alliance (EVI-TA) continues to advocate for sustainable electrification transportation and to promote public/private partnerships for the development of electric vehicle charging stations across the Tri-Cities region.

Natural Gas Supplies/Shale Gas: Changing technology in the area of natural gas exploration and recovery has significantly increased the supply of domestic natural gas and as a result the market prices have remained relatively low. Low gas prices tend to depress Northwest wholesale electricity market prices thereby reducing the revenue opportunities for Benton PUD and our “long” energy position. Most predict only modest price increases for natural gas in the foreseeable future. However, anti-fossil fuel sentiment is building within the general public and many elected officials are beginning to favor some form of carbon tax in Oregon and Washington. This creates uncertainty regarding investments in natural gas infrastructure both from a supply and demand perspective. Despite the increasing negative perception of natural gas, the continued reliance of the western power grid on natural gas for maintaining reliability for the foreseeable future has been clearly established by the Western Electricity Coordinating Council (WECC). This reliance will increase as base-load coal-fired generation plants are retired at an accelerating pace. While dependence on natural-gas-fired generation for dispatchable capacity is increasing, the plants are expected to run fewer and fewer hours as new wind and solar generation plants are connected to the grid. Natural gas price forecasts have been incorporated into the District’s long-range financial forecasts and plans but the future for natural gas is very uncertain at this point.

Energy Imbalance Market: Due to the increasing need to more efficiently and cost effectively balance generation and loads in the western interconnection, many balancing area authorities are participating or planning to participate in the Western Energy Imbalance Market (EIM) hosted by the California Independent System Operator (CAISO). BPA has enabled northwest utility participation in the EIM through the use of their transmission system and has begun the process of evaluating the costs and benefits of joining themselves. While BPA’s preference customers continue to express concerns that expansion of the EIM might lead to a loss of preference rights, increased costs to BPA, or to cost shifts, these same customers are encouraging BPA to explore ways to increase the market value of their hydro generation assets as a means for increasing secondary revenues and mitigating future BPA rate increases. Some utilities also expressed concerns that an EIM could lead to a Regional Transmission Organization (RTO) and FERC regulation of the Northwest power grid. In addition to continued EIM expansion, CAISO has undertaken an initiative to explore a new day-ahead product that will address ramping needs between intervals and uncertainty that can occur between the day-ahead and real-time markets (DAME). Another anticipated future CAISO effort is a possible Extended Day-Ahead Market (EDAM) which would allow EIM entities to participate in the day-ahead market. There is some concern that overall CAISO expansion efforts may reduce the number of northwest counterparties available for market transactions which could impact the District in the future if we continue to rely on market power purchases and sales to meet load and resource balance requirements. The Public Power Council and Public Generating Pool (PGP) are actively involved in the EIM, DAME and EDAM efforts and are pursuing outcomes that mitigate BPA costs and enhance its secondary revenues to the largest extent feasible and achieve fair and comparable treatment of BPA and other Northwest public utilities when they trade in those markets

Distributed Generation (DG): Customer interest in DG has grown significantly in California and other states. This growth has been fueled by two major factors: 1) economic benefits that arise from the avoidance of high electric rates charged by utilities, coupled with significant federal and state incentives that help offset purchase and installation costs, and 2) environmental benefits that arise from the substitution of “green” solar energy for carbon-emitting energy sources. A continued reduction in the cost of solar panels and new technology advances, along with federal tax credits, accelerated depreciation, state incentives, customer desires to exercise environmental beliefs and favorable net metering policies continue to generate interest in roof-top and other solar installations. In 2019, the state met its solar incentive cap however, we anticipate this to be revisited and additional dollars to be allocated to further incentive solar projects.

Community solar projects continue to be a popular option for utilities to partner with their customers to increase sustainability branding and to allow them to exercise personal environmental beliefs without the hassle of building roof-top or other on premise solar arrays.

The advance of DG as a complement to traditional electric service has potential benefits as well as operational challenges for electric utilities. Potential benefits include lower line losses and avoidance of new generating facilities in the long term. Operational challenges include grid reliability, potential hazards for line workers, and cross-subsidization of net-metered DG customers by other customers.

Third Party Entrants to the Utility Industry: Recently, non-utility businesses have communicated business plans to offer services normally provided by utilities. Tesla has announced a home storage solution. Solar leasing companies have had a significant impact on utility loads in California. Industry experts have indicated that solar may cause the next 10 years to change the electricity industry more than the past 100. Looking into the future, public power may find advantages in strategic partnering opportunities with third party service providers with expertise in specific business processes, such as energy efficiency, solar, demand response, and energy storage.

Public Power Business Model: The value offered by the public power business model remains relevant although some threats to the model have emerged, particularly related to corporations choosing to contract their energy supply directly from generation sources. Public ownership, local control, and cost-based rates are strengths of the public power model. According to the APPA, the public power business model must remain flexible to respond to customer needs. Flexibility is key due to the uncertainty surrounding the massive changes underway in the utility industry.

Northwest Power and Conservation Council Power Plan: The 7th Power Plan was approved in February 2016 and has an effective life of six years to coincide with BPA rate periods. The Council (NWPCC) is beginning the scoping phase of its 8th Power Plan, with the final plan due in April 2021. The Power Plan is an analysis and recommended resource portfolio for the region that is updated approximately every five years. The results of the NWPCC power planning process can influence BPA's energy efficiency program and resource acquisition decisions. The 7th Plan's resource portfolio largely consists of energy efficiency and natural gas fired generation to meet any increases in load with renewable generation development at a level equal to that representing achievement of state mandated renewable portfolio standards. The Plan encourages research in advanced technologies to improve the efficiency and reliability of the power system through emerging smart technologies such as integrating electric vehicles, geothermal, ocean waves, advanced small modular nuclear reactors and emerging energy efficiency technologies. Past power plans have emphasized energy efficiency as the most cost-effective resource for the region in the near-term. However, this conclusion partially depended on specific assumptions around electricity pricing and often ignored the economic situations for individual utilities. Given recent developments in carbon legislation and coal plant retirements, the 8th Power Plan has the potential to be a useful set of studies for BPA and the Northwest more broadly. In addition to the longer power plan effort, the NWPCC produces an annual Resource Adequacy Assessment which examines resource adequacy over a five-year future planning horizon. This effort seeks to highlight potential resource adequacy issues far enough in advance to allow utilities to take potential action as necessary. Resource Adequacy is a major concern for northwest utilities in light of coal-fired power plant retirements and the chilling effect Washington State's Clean Energy Transformation Act is expected to have on investments in natural-gas fired power plants which are proven to be dependable capacity resources.

Power Supply

Power Supply Contracts: Benton PUD has assured itself of an allocation of low-cost Tier-1 power from BPA through 2028 up to a "critical water" contract high-water mark (CHWM). While the original CHWM was set at 204.642 average megawatts (aMW), Benton PUD's current allocation has been adjusted down to approximately 200 aMW (rate-period high-water mark) due to BPA's assessment of the current energy production capability of the Federal Columbia River Power System (FCRPS). Benton PUD's annual wholesale power purchases currently can exceed our BPA contract amount in a critical water year by as much as 8 aMW depending on weather. However, Benton PUD's Frederickson contract for 50 megawatts together with 6.3 average megawatts of other hydropower and wind generation along with water years that typically outperform the critical water baseline has created a "long" energy position for Benton PUD. While Benton PUD is "long" on energy, we are regularly short on capacity during summer months and can be short capacity in the winter during extreme cold weather events. Benton PUD continues to rely on market purchases to cover capacity deficits but remains concerned about the emerging regional capacity deficits caused by coal-fired power plant retirements and the reluctance to build new natural-gas plants in light of recently passed state clean energy requirements. In spite of Benton PUD's "long" position, the Energy Independence Act requires Benton PUD to procure additional energy or renewable energy credits to meet the 15% renewable energy mandate for 2020.

Rising BPA Wholesale Power Costs: BPA issued the final Record of Decision (ROD) in July 2019 on rates for their next rate period (FY 2020--2021). While there is no increase to the power base rate, the ROD contains a Financial Reserve Policy (FRP) Surcharge that equates to about a 1.5% increase in power rates. The FRP Surcharge is a mechanism that BPA will use to build power reserves to a target of 60 days cash on hand gradually over time. Currently, BPA is projecting to end FY 2019 with about 38 days cash on hand and forecasts show it is likely the FRP Surcharge will be needed for the next four years in order to achieve the 60 day target. In addition, the ROD includes a 3.6% increase to transmission rates. In total, as these rates are applied to Benton PUD's contract, BPA costs will increase by 1.2% or \$800,000 annually going forward. At the same time, generation on the federal hydropower system is projected to decrease going forward as a result of the latest water projections that incorporate earlier timing of water runoff and the new spill regime resulting from the court ordered spill. Since about half of Benton PUD's contract with BPA is a Slice product where Benton PUD receives 1.37% of the federal hydropower system output, the result will be less power received by Benton PUD under the BPA contract. This is estimated to add additional costs of \$0.5M - \$1.3M annually going forward. BPA will continue to see cost pressures in future rate cases resulting from increasing capital and O&M needs as well as continuing reductions in secondary market sales due to declines in available generation and market prices that continue to remain low on average.

Energy Efficiency Requirements: The Energy Independence Act (EIA) requires utilities with greater than 25,000 customers to implement all cost-effective conservation. Energy efficiency has many long-term benefits for Benton PUD in that it helps avoid the purchase of higher-cost resources. It also helps lower monthly bills for those customers who invest in conservation. In the short term, Benton PUD's investments in conservation have led to increased revenue requirements and higher retail rates. In the longer term, Benton PUD's customers should benefit from investments in conservation due to the avoidance of future power purchases. Distribution system efficiency improvement projects have now emerged as approved conservation measures that can be claimed toward EIA targets. Conservation voltage reduction (CVR) whereby distribution system voltages are optimized using automated control and monitoring equipment to reduce energy consumption is a measure that is emerging as a candidate for implementation by many utilities. CVR represents a continuing trend toward the use of technology based solutions as the means for meeting continually increasing efficiency goals.

Political & Regulatory

Snake River Dams: The Columbia River System Operations (CRSO) Environmental Impact Statement (EIS) is underway. The EIS is considering five alternatives relative to the future operations of the dams. One alternative is to breach one or more of the dams. A draft EIS is scheduled to be released in February 2020 for public review and comment. A final EIS is slated for issuance in July 2020 and a Record of Decision by September 2020.

Breaching of the dams would come at significant cost to both BPA and region. Out of the 31 dams in the federal system, the lower Snake River dams are some of the least expensive to operate and therefore provide some of the greatest value for BPA ratepayers. According to BPA, the cost of power from these dams, ranging from \$10 to \$14 per megawatt-hour, makes them some of the most affordable power resources in the federal power system.

Because of their location on the east side of the Cascades and the size of their generators, the lower Snake River dams are critical links in the carefully synchronized operation of the Northwest's hydropower system. The 500-kilovolt transmission lines that run from western Montana to eastern Washington were designed to integrate the lower Snake River dams to keep energy flowing and the electric grid stable.

According to BPA, Ice Harbor dam is critical for transmission operations because it provides support in both power and voltage to the Tri-Cities area especially during high-demand periods. If Ice Harbor dam were breached, either costly new generation or significant transmission reinforcements would be needed to meet Tri-Cities power loads, especially during the high-demand periods of the summer.

Under a scenario where a goal has been set to achieve an 80% reduction in carbon emissions from 1990 levels by 2050, recent studies have indicated that 5,600 MW of wind and solar would be required to produce the equivalent energy from the retiring resources, and an additional 1,900 MW of new natural gas turbines would be required to provide a comparable level of capacity. The cost of these replacement resources would be an additional \$1.6 billion per year in 2050.

Investment in Fish & Wildlife: Since 1978, BPA customers have invested nearly \$17.0 billion in Endangered Species Act and other statutory fish and wildlife obligations. The Public Power Council (PPC) estimates 25 - 30% of the power cost charged by BPA is attributable to fish and wildlife measures. According to PPC and BPA, fish populations are trending upward. There are more salmon and steelhead returning to the Columbia River Basin now than at any time since the first federal dams were constructed in 1938. In 2014, over 2.5 million salmon and steelhead passed Bonneville dam, setting a new record. Snake River fall Chinook have made a tremendous recovery. In 1990, only 78 adult fish returned to the Snake River; almost 76,000 returned in 2013. Dams are not the single detriment to the salmon runs.

Poor ocean conditions have adversely affected the return of many salmon and steelhead stocks and hatchery practices, habitat and harvest have to be considered. Snake River dams are getting blamed for the decline of Orcas in the Puget Sound area which has become a hot topic in the news. Countering the misinformation about the Snake River dams and the overall hydrosystem is an ongoing challenge.

Columbia River Treaty: 2014 was a milestone year in the treaty between the United States and Canada. Beginning in 2014, with notice of 10 years, the United States or Canada may terminate the Columbia River Treaty. BPA and the U.S. Army Corps of Engineers, who together form the U.S. Entity, have submitted a recommendation to the Department of State that calls for a modernization of the Treaty and rebalancing of the Canadian Entitlement. An Interagency Policy Committee has been formed by the White House to determine the next course of action. A successful renegotiation of the Canadian Entitlement could result in lower District retail rates between 1.7% and 2.4% beginning in 2026; however, significant uncertainty remains as to how this will be resolved. Led by the U.S. Department of State, the United States and Canada began negotiation to modernize the Treaty regime in May 2018.

Carbon Initiatives: We anticipate continued efforts by the state legislature to address economy-wide carbon reduction initiatives. These initiatives could take the form of a cap and trade system or a low-carbon fuel standard (LCFS). It is unknown how those initiatives would coordinate with CETA or to what extent, if any, utilities would be required to comply with new standards. A cap and trade system would most likely impact some of our large commercial customers.

Reliability Regulations: Increased regulatory standards have been placed on utilities to ensure the integrity of the bulk power system. Compliance requirements are increasing the complexity and frequency of interactions between BPA and District operations and engineering personnel.

Customer & Community

Reliability: The single most important factor in customer service remains system reliability. As more sophisticated electronics are used in customer processes, power quality and reliability continue to rise in importance. Systematic and timely replacement of aging infrastructure is key to maintaining Benton PUD's standard of reliability. Online outage management enhancements for customers that not only display known outage locations but also provide outage restoration times are becoming increasingly expected in the modern utility grid.

Customer Engagement: Emphasis continues to be placed on the need for utilities to anticipate evolving customer expectations, and to act on those changes. With the implementation of NISC, more opportunities now exist to offer targeted services to customers based on their interest in terms of how they want to interact with the District. Customer education on the use of these service offerings will continue, along with identifying other opportunities that may be available as a result of Benton PUD's partnership with NISC. Benton PUD will also pursue community engagement opportunities to raise awareness of the goal to be the trusted energy partner to our customers.

Customer Demographics: The Smart Energy Consumer Collaborative and APPA urges member utilities to recognize the expanding diversity of their customer base in order to best serve the interests of each customer segment. It is also important to understand the environment created by the local employment market and how it has influenced the diversity of the regional work force and ultimately, Benton PUD's customer base. The region enjoys a broad spectrum of employers, including research and development, health services, governmental entities and agricultural producers. In turn, Benton PUD's customer base consists of a 1) broad spectrum of workers including both relatively high wage, highly technical and stationary workers; and 2) cash paying customers. This diverse customer base presents both opportunities and challenges in terms of successfully meeting expectations and creating value for all customer segments. Customer surveys and focus groups can help define Benton PUD customers and help Benton PUD target communications.

Citizen Engagement: In addition to trends in the utility industry relative to customer engagement, there is an emerging practice within local governments to proactively reach out to their citizens. This trend helps emphasize one of the key aspects of the Public Power Business Model: local control. Benton PUD has placed a priority on transparency and information sharing; however engagement involves more: "...convening groups of people, giving them the facts, talking over issues respectfully, and implementing the decisions you make together." Benton PUD has taken action to engage customers in dialogue about factors affecting the industry, and the effort to strengthen the public power model will continue. It is recognized that customer engagement also involves more staff time in planning, organizing and participating in constituent sessions.

Local Economy: In an article in the Tri-City Herald (4/18/19), Ajsa Suljic, regional labor economist for Benton and Franklin counties noted the Tri-Cities remained one of the state's most vigilant and forward-pulsating economic regions in 2018. The region's labor force recorded growth over the year of 3.2 percent in December 2018, outpacing the state's labor force growth of 2.4 percent. Agriculture employment has had upward growth of 1.9 percent per year since 2010. The construction industry broke a record with a year over increase of 4.5 percent in 2018. The average median age was 33.6 years, younger than the statewide average of 37.6 years.

A July 23, 2019, Tri-City Herald Article noted two major milestones had been achieved in the Tri-Cities. The labor force has now topped 150,000 workers and the Tri-Cities population now stands at around 300,000 people.

TRIDEC notes the Tri-Cities economy continues to out-perform its neighbors and is the brighter spot in Washington State and across the nation. Since 2000, no other community in Washington has grown faster than the Tri-Cities. Current population estimates are now 300,000, an increase of 17% since 2010.

While there are positive economic trends in the community, our customers are diverse. The US Census shows 12% of Benton County's population is below poverty level. There is a population of low income families who experience difficulty paying their electric bills. While many are eligible for discount programs and energy assistance funds, these customers still struggle. Many have had limited access to energy efficiency programs that might reduce their heating and cooling costs. Benton PUD recognizes the challenges facing these customers and will consider programs and services that will make electric service more affordable.

External Factors Affecting Rates: While Benton PUD has completed a comprehensive retail rate design; efforts to develop rate structures that address the dynamic environment facing today's utilities will continue. Benton PUD will continue to evaluate the rate impact of rising BPA costs, low wholesale market prices, conservation initiatives, technologies, changing customer perceptions, distributed generation and demand response.

Fixed Cost Recovery: Distributed generation continues to highlight challenges with fair and equitable recovery of fixed and variable costs for all customers and will potentially require additional retail rate design changes. Across the industry, it is common that half or more of the utilities costs are fixed, while retail rate design continues to overwhelmingly recover the majority of revenues through variable charges. Utilities across the country are continuing to increase base charges to address this issue. In the Northwest, the median monthly base charge amongst comparable utilities has risen nearly \$4 in the past three years to just over \$20. Utilities are also beginning study and understand demand charges for residential customers as another way to align revenue collection with costs.

New Large Load Rate Schedules: Companies looking to expand or build new large facilities seek utilities that not only offer competitive rates, but that are also able to provide up-front how rates would be structured. These companies also may seek to attain environmental sustainability goals by seeking green power options. As an example, a large Mid-West publicly owned utility has published a rate schedule for large loads that allows the customer to buy enough green energy (wind) to offset the total power consumed, but since wind is intermittent, the utility sells power to the customer around the clock at wholesale market prices along with a demand charge to firm the green energy.

Electricity Intensive Load (EIL) – Safety and Reliability: Cryptocurrency mining and block chain operations have created new challenges for utilities. While these technologies have started to mature, they are still somewhat speculative, raising questions about business viability in the long term. Additionally, volatility in cryptocurrency value continues to occur, making the industry even more unpredictable. Even so, cryptocurrency miners and block chain operators are locating throughout Washington state, attracted by low electric rates. They are bringing unique business operations that lack the load diversity of more typical residential and commercial customers. Utilities are being very cautious when serving these types of customers for several reasons: 1) Wanting to ensure distribution systems are sized properly to handle the load and not overheat, causing a safety issue; 2) Ensuring the added load does not cause reliability issues for customers served from common facilities; 3) Avoiding stranded investments in distribution system improvements to serve the additional load required by the customers; and 4) Mitigating risk of financial loss if there are unpaid power bills. Several utilities in Washington imposed moratoriums on cryptocurrency and block chain applications to allow staff time to monitor distribution system impacts, power supply impacts, and rate implications. One utility has even created a rate class to mitigate the growth of high load customers and their impact on system reliability and power supply.

Benton PUD recognizes these concerns and also recognizes the benefits of the additional retail load these customers bring. Benton PUD has an Electricity Intensive Load (EIL) policy to establish requirements for EIL customers. This policy mitigates the risks associated with EIL customers while allowing for a greater customer base to cover Benton PUD's fixed costs and providing reliable service to all. The policy requires the customer provide advance notification to staff before starting service so that a distribution system analysis can be performed. Customers who fail to provide this notification and cause equipment damage are liable for costs associated with the repair. Customers are also given two billing options with deposit requirements that protect Benton PUD financially. While a policy has been implemented, ongoing monitoring by staff will be required as the industry matures, as block chain technology becomes more mainstream, and as the number of EIL customers submitting service requests - and being served by Benton PUD - increases.

Technology

Advanced Meters – Perceptions and Expectations: The deployment of advanced meters by electric utilities in the United States grew to almost 80 million units in 2017, with 88% of those installed at residential locations. Still, advanced meters continue to raise some public concerns over privacy issues, possible health effects and electrical safety. According to the Federal Communications Commission (FCC) standards and guidelines for exposure to radio frequency (RF) electromagnetic fields, advanced meters do not pose a health risk. Benton PUD's AMI meters have been independently tested for RF energy exposure and the results verified the RF energy to be safely within allowable FCC limits. Other local utilities have indicated an interest in possible AMI implementations which may increase the awareness of advanced meters in our service territory.

While potential public unease over AMI implementations still exists, Benton PUD has experienced little customer concern as evidenced by the few customers who have opted out of their advanced meter (nine as of September 2019). Benton PUD's investment in this technology has proven successful in delivering measurable value to customers as well as enhancing operational efficiencies. The AMI system allows customers to use an online portal to monitor hourly electricity usage, enables additional payment options, and provides customers an option to receive enhanced outage notifications and alerts. Operational efficiencies have been achieved through a reduction in field visits, enhanced outage detection, and real-time electrical load analysis.

Smart Grid and Customer Data Privacy: With the implementation of advanced metering infrastructures (AMI), utilities now capture customer usage data at a granular level. Some customers may be uncomfortable with utilities or any other third parties possessing such granular usage information out of concern that it could be used inappropriately. This discomfort could lead to customer resistance of AMI systems and could potentially erode the trust customers have in their utilities. Further, customer awareness of the privacy of their data is heightened, especially in light of the number of data security breaches that continue to occur in other industries. Benton PUD will monitor data security best practices and will implement policy and technical changes as needed to strengthen data security and to proactively address potential customer concerns.

Smart Grid: The drive toward a smarter grid has become a goal for many utilities across the nation. Advanced Metering Infrastructure (AMI), Geographical Information System (GIS) and Outage Management System (OMS) deployments at Benton PUD represent a significant initial step toward a smarter grid. Benton PUD invested in a Supervisory Control and Data Acquisition (SCADA) system many years ago to provide substation automation functionality and grid level metering in near real time. Advancing the smart grid requires SCADA penetration on distribution system lines and equipment as well as the convergence and integration of SCADA with AMI, GIS, OMS and other systems. Customers expect high levels of power quality and that power be available continuously. If there is an outage, customers expect to be communicated with in a way that works for them and that the power is restored quickly. Further deployment of smart grid technology on our distribution system is expected to deliver benefits in the areas of customer service, asset optimization, load/resource management, and loss minimization.

Broadband Services: High-speed broadband is now considered a necessity for businesses and institutions looking to expand and create jobs as well as communities looking for access to more health care and educational opportunities. The interconnection of Benton PUD's broadband network with NoaNet's regional network provides our community with access to the fastest and arguably one of the most reliable fiber-optic networks in the state. As demand for high-speed services increase, national carriers are beginning to implement the next generation of advanced wireless technologies that will provide even greater capabilities by interconnecting the ever-growing number of Internet of Things devices. The build-out of these new technologies will require investments in fiber-optic infrastructure to effectively transport the large data quantities to be consumed by these devices. Additionally, there are other potentially disrupting technologies on the horizon, such as low earth orbit satellites set to be launched by tech giants like Amazon, Google, and Facebook. The satellites are designed to provide low cost, high-speed internet connectivity which, if successful, could have the unintended effect of stranding some legacy fiber-optic infrastructure investments.

Cybersecurity: Cybersecurity is a fundamental reliability factor for utilities of all sizes. Recent cyber incidents show a trend toward more advanced, highly sophisticated and damaging cyber-attacks on critical infrastructure and are often being conducted by well-organized and even state-sponsored groups. This threat continues to grow, thereby creating a significant challenge for utilities. The District continues to partner with the Department of Homeland Security, the Department of Energy's Electricity Information Sharing and Analysis Center, and the North American Electric Reliability Corporation to stay apprised of active cyber aggressors, critical vulnerabilities and strategies to protect sensitive information assets.

Business Continuity - Disaster Recovery: Day-to-day reliance on technology requires sophisticated planning to ensure a prompt recovery from business interruption events. Benton PUD continually implements and tests robust capabilities to recover critical information systems in the event of a disaster or significant incident that affects business operations. A comprehensive Information Technology Disaster Recovery Plan has been developed that meets recovery objectives specified in the Business Continuity Plan. Many potentially business-impacting factors are tracked and prioritized with the District's Enterprise Risk Management program.

Benton PUD Internal Environment

Financial Condition: Benton PUD implemented a 2.9% retail rate increase October 1, 2019, the first increase since a 1.9% increase two years ago in October 2017. The primary driver of the increase is increasing net power costs resulting from: an increase in BPA costs, a decrease in generation provided under the BPA contract, and an increase in costs to meet the 2020 EIA renewable requirement of 15% (up from 9% in 2019). In addition, Benton PUD budgeted a large draw down of reserves in 2019 that is now projected to be over \$4M higher than planned. 2019 is proving to be a challenging year. Water conditions were below normal on average and were in the 10th percentile during periods of extreme cold when Benton PUD's load was higher than normal. During this time of extreme cold, market prices surged resulting in expensive market purchases. In one event in early March 2018, wholesale market prices surged to \$900/MWh over a weekend, costing Benton PUD over \$2 million. This event was the result of several factors, and the region is anticipating that more volatile price events could happen in the future. While Benton PUD is projecting to end 2019 and 2020 with days cash on hand at or below the lower end of policy targets, it is currently projected that days cash on hand will return to Benton PUD's long-term policy range of 108-132 days cash on hand in future years.

Retail rates continue to be highly competitive (even with an October 1, 2019 increase), with Benton PUD in the bottom third of average monthly bills when compared to benchmark utilities. Liquidity, coverage, and debt ratios exceed targeted performance providing stability for the near future. Benton PUD continues to review policies to determine appropriate targeted performance. Credit rating agencies continue to view Benton PUD positively. Fitch upgraded the District's rating to AA- and S&P affirmed the District's A+ rating in the summer of 2019 as part of their regular review cycle. Benton PUD's rating with Moody's remained at Aa3.

Public Records & Document Management: Benton PUD adheres to the requirements of open government and transparency in its decision-making and public records processes. All public records, hard copy and electronic are maintained and properly managed, and can be requested by members of the public under the rules found in the Washington Public Records Act. Benton PUD recognizes the public's expectations for open government while also balancing customer privacy requirements and the heightened awareness of electronic records and potential for identity theft. A number of issues have been identified relating to records transparency, particularly due to the rapid growth of electronic records:

- a) Organizing records that are essential to the day-to-day business and what records are essential in the face of a disaster and recovery processes.
- b) The need for efficient and accurate responses to public records requests and the need to provide for transparency to records that are of interest to the public through quick and easy access to Benton PUD's website.
- c) Providing quick and easy access to a customer's own information.
- d) Maintaining and protecting customer privacy.

The impacts of changes and requirements of public records and electronic records in particular require policy and practice changes by public agencies throughout the state. New legislation effective in July 2017 amended the Public Records Act in the areas of agency response requirements, electronic records production, training requirements and fee allowances. Benton PUD continues to be involved in organizations that train and collaborate on best practices and requirements of the Public Records Act, and policies are being modified and new ones written as they are identified.

Enterprise System Optimization: Benton PUD conducts technology planning in order to evaluate applications and technologies that support strategic operating objectives. This process has led to making significant investments in integrated enterprise systems that enhance service delivery in the areas of: customer engagement, workforce mobility, engineering workflows, distribution system automation, data analytics, and advanced metering. With the identified core systems implemented and integrated, Benton PUD must focus on optimizing these investments. This will be achieved by implementing additional services and features over time as they become available. Further optimization will occur by creating value through employee, business process, and customer service efficiencies. To ensure future challenges and opportunities are met; the District proactively leverages relationships with its strategic partners: NISC, Sensus, and Survalent.

Culture: Societal, technological, environmental, political, and economic changes are rapidly transforming the workplace. As a result, leadership must continue to find new ways to promote Benton PUD's culture and values for long-term sustainability. The key to long-term success is a culture which is aligned with Benton PUD's strategic plan and fosters adaptability to the changes facing the utility industry while maintaining exceptional customer service. In the face of the utility industry's transformation, Benton PUD must create a workplace culture that demonstrates trust and collaboration and supports employee engagement, recognition, social responsibility, well-being, and transparency of information.

Workforce Demographics, Development and Planning: With new generations entering the workforce and increased competition for talent due to a tight labor market, low unemployment and prosperous construction opportunities for journey line craft positions, Benton PUD has and will continue to implement new strategies to attract, engage, and retain the best talent. With the changing utility model, Benton PUD is in a favorable strategic position to be able to provide increased opportunities for meaningful and challenging work. In order to continue to be a leader in the utility industry, we will continue to leverage workforce data analytics to help ensure we have the right roles, skills, and number of employees to carry out our strategic initiatives. Benton PUD leadership must continue to be open to new ideas and creative thinking allowing for work to be done in new ways or using new technology. As tenured employees move toward retirement, Benton PUD must be committed to preparing the next generation of leaders who will succeed them. In order to achieve this, it is essential for Benton PUD to preserve the critical knowledge of more experienced or skilled employees and continue to increase the skill level of less experienced employees. Benton PUD must also look for ways to incentivize potential leaders into taking leadership roles. Thirty-four percent (34%) of our workforce will be eligible to retire within the next ten (10) years. As a result of these retirements and pending retirements, Benton PUD must continue to identify options for organizational restructuring, and develop change management strategies, and ensure leadership is developed to meet existing and future challenges.

Managing Complex Employment Laws: The state and federal legislative environment surrounding employment and benefits continues to change in an expedited rate. In response, Human Resources will identify and address legal trends to determine the impact to the organization. Human Resources will continue to be proactive in addressing the continued changes by offering regular training and consultation with employees, supervisors, and managers.

Healthcare Costs/Emerging Healthcare Strategies: Healthcare costs continue to rise year over year. In order to attract and retain a qualified and productive workforce, Benton PUD must continue to provide affordable, high-quality health and wellness benefit programs and services which provide value and improve the quality of life of our employees, while acting in good stewardship of public finances.

In order to accomplish this, Benton PUD will continue to evaluate and implement proven benefit strategies which achieve long term financial sustainability, empower employee health and well-being, and preserve the value of our health insurance plans. It is our belief that better financial and health outcomes that contain rising healthcare costs can be achieved through plan design changes, promoting employee wellness initiatives, virtual care offerings, exploration of cost effective healthcare delivery options such as a near site clinic, and by educating employees on deductible plans and healthcare consumerism. In addition, the District must explore emerging healthcare strategies as a method to lower costs for the employee and employer while improving healthcare benefits for our employees and their families.

SAFETY

Public and Employee Safety: Providing electrical power to consumers is by its nature hazardous work to the public and our employees if not done correctly. Given this fact, safety is a top priority for Benton PUD. Benton PUD's culture promotes an uncompromising commitment to safety for the public and our employees, and it is considered a shared responsibility that each of us must take personal responsibility for and live it every day. Some of the tools we use to reduce work hazards are timely and appropriate training, management and employee safety committees, an active on-site inspection program, proper mechanical guards, personal protective equipment, and an incentive program focused on leading indicators and proactive approaches to preventing injuries at work, at home, and in the community.

The electric utility industry is facing increased regulations for electric power transmission and distribution work. Regulations for lockout/tagout, electrical safety work practices, and personal protective equipment have been in place for many years. These rulings include provisions for training, job briefings, fall protection, insulation and working position of employees working on or near energized parts, minimum approach distances, protection from electric arcs, de-energizing transmission and distribution lines and equipment, protective grounding, operating mechanical equipment near overhead power lines, working in vaults, and electrical protective equipment. These factors are all considered in an environment where electricity is viewed by many as a guaranteed product and this view continues to grow.