

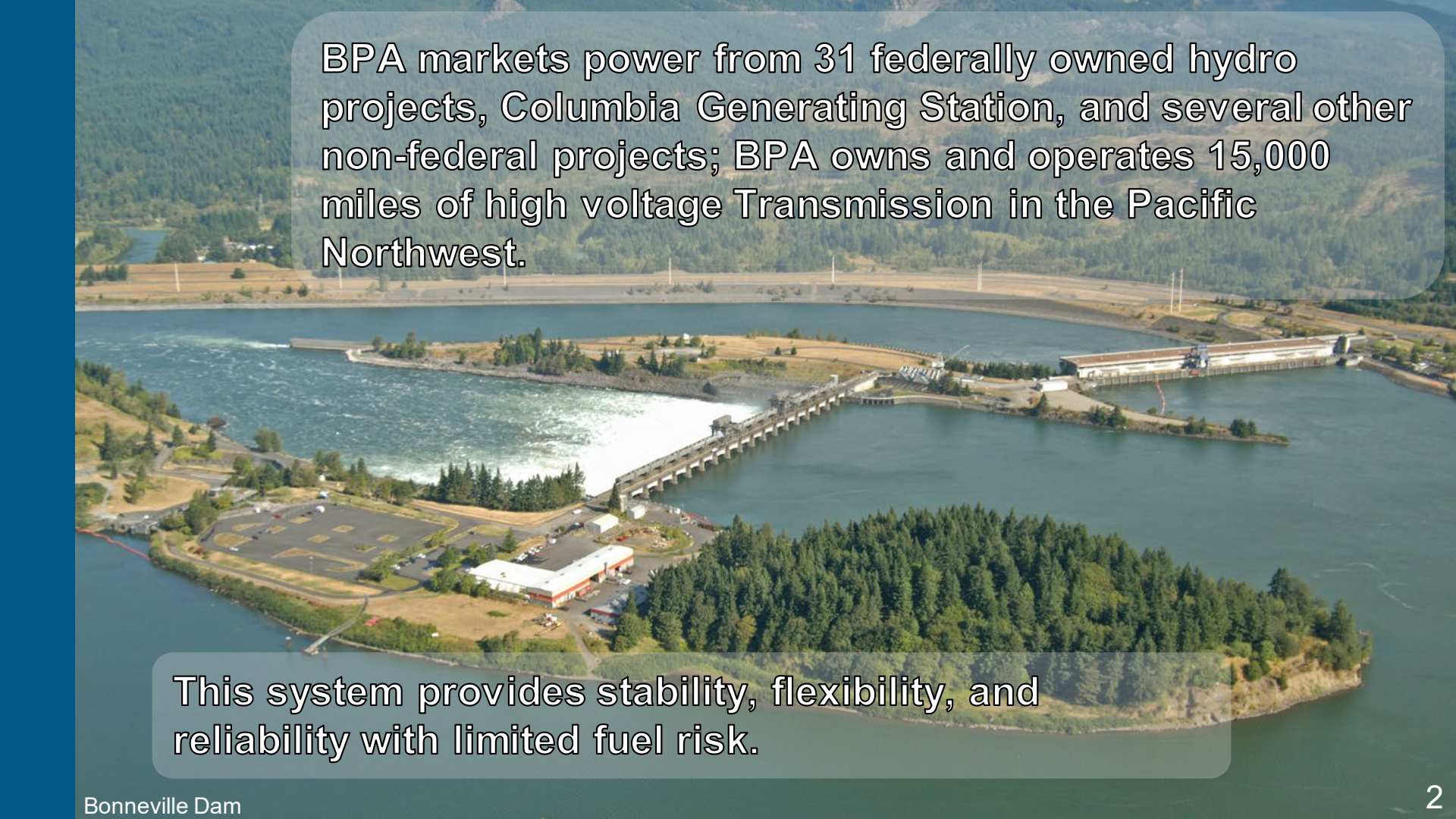
Bonneville
POWER ADMINISTRATION



Bonneville Power Administration

Marcus Harris
Acting Executive VP &
Chief Financial Officer

As of March, 2022

An aerial photograph of the Bonneville Dam, a large concrete structure spanning the Columbia River. The river flows from the top left towards the bottom right, with white water rapids visible just downstream of the dam. To the left of the dam, there is a large parking lot and several buildings, including a prominent white one with a red roof. The surrounding landscape is lush with green trees and vegetation. In the background, more land and some distant structures are visible under a clear sky.

BPA markets power from 31 federally owned hydro projects, Columbia Generating Station, and several other non-federal projects; BPA owns and operates 15,000 miles of high voltage Transmission in the Pacific Northwest.

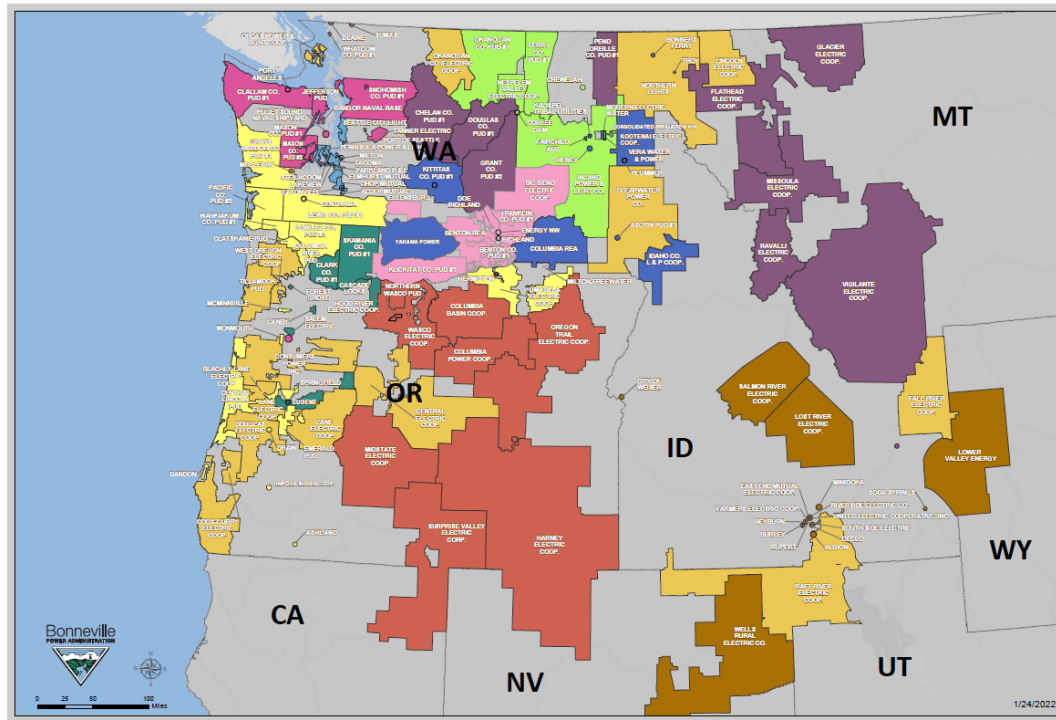
This system provides stability, flexibility, and reliability with limited fuel risk.

BPA at a Glance

Funding Sources	<ul style="list-style-type: none">■ Access to capital through Federal and Non-Federal sources■ Revolving authority to borrow up to \$13.7 billion in bonds from the U.S. Treasury, increasing to \$17.7 billion before FY28, \$8.1 billion currently available		
Cost Recovery	<ul style="list-style-type: none">■ BPA is required by law to establish rates to recover all costs■ FERC reviews and approves rates to ensure that BPA rates recover all costs		
Non-Federal Payment Priority and Financial Reserves	<ul style="list-style-type: none">■ Cash payments for Non-Federal debt (e.g. Net-Billed Energy Northwest Debt) are met <u>before</u> payments by BPA to the U.S. Treasury■ BPA maintains substantial cash and short-term investment balances in addition to having access to a \$750 million U.S. Treasury line of credit		
Ratings	Moody's: Aa2, Stable	Fitch: AA, Stable	S&P: AA-, Stable

Requesting new ratings in Spring, 2022

Our Service Territory – Geographic and Economic Diversity



- Our service territory is approximately 300,000 square miles across 8 northwestern states serving 14 million people
- We market power to over 125 publically-owned and cooperatively-owned utilities providing approximately 28 percent of power consumption in the PNW
- Our transmission system makes up approximately 75 percent of the bulk transmission capacity in the PNW
- Our customers span from major city municipalities and IOUs to small rural electrics
- The service territory covers coastal, valley, mountain, and desert terrain

KEY TAKEAWAY – BPA's service territory is geographically and economically diverse, minimizing the risk of full system weather related incidents and over-reliance on isolated economies or industries.

An aerial photograph of the Bonneville Dam, a large concrete structure spanning a wide river. The river flows from the background towards the foreground, where the dam is located. The surrounding landscape is lush with green forests and rolling hills. In the distance, more mountains are visible under a blue sky with scattered white clouds. The water in the foreground is turbulent, creating white rapids as it flows over the dam's spillways.

Power Business Unit

Markets about 28% of the electricity consumed in the region

Over 125 preference customers with long-term contracts

\$2.9 billion in revenue in FY21

Generation Fleet



Grand Coulee
36 Generating Units
7,049 MW*



Chief Joseph
27 Units
2,614 MW*



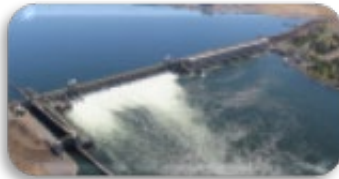
John Day
16 Units
2,480 MW*



The Dalles
22 Units
2,080 MW*



Bonneville
18 Units
1,221 MW*



McNary
14 Units
1,120 MW*



Lower Monumental
6 Units
930 MW*



Little Goose
6 Units
930 MW*



Lower Granite
6 Units
930 MW*



Ice Harbor
6 Units
705 MW*

* Maximum MW capacity

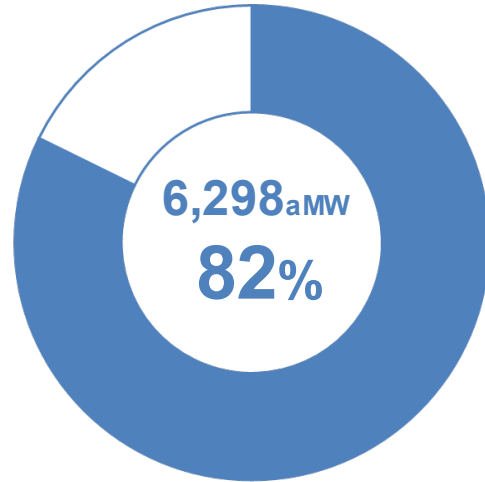
- 21 additional projects (not pictured), 51 Units, 2,371 MW*
- 1 nuclear power plant, 1,207 MW (rated capacity)
- 31 total hydro projects & 1 nuclear plant, 209 Units, 23,649 MW

- Virtually Carbon Emission Free
- Fully loaded average cost of \$20.51/MWh

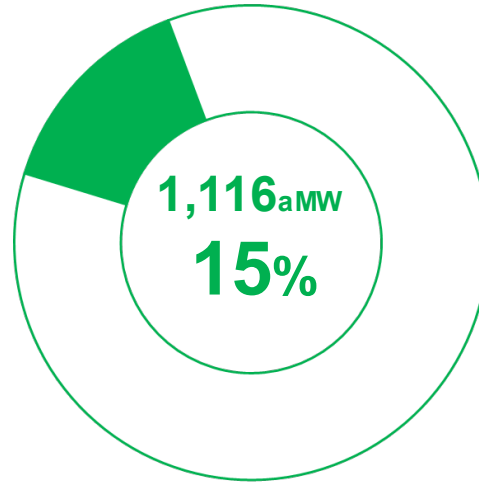
KEY TAKEAWAY – BPA's generation fleet is virtually carbon free and serves 14 million people of the PNW at very low cost.

Virtually Emission-Free Assured Fuel Supply

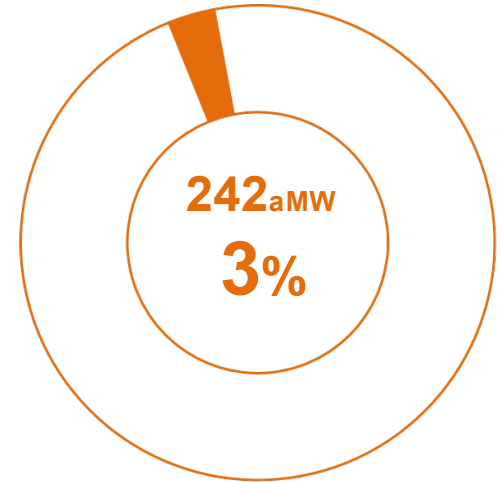
Carbon Emission-Free
Federal Hydroelectric



Carbon Emission-Free Nuclear
Columbia Generating Station



Contract Purchases and
Other Resources



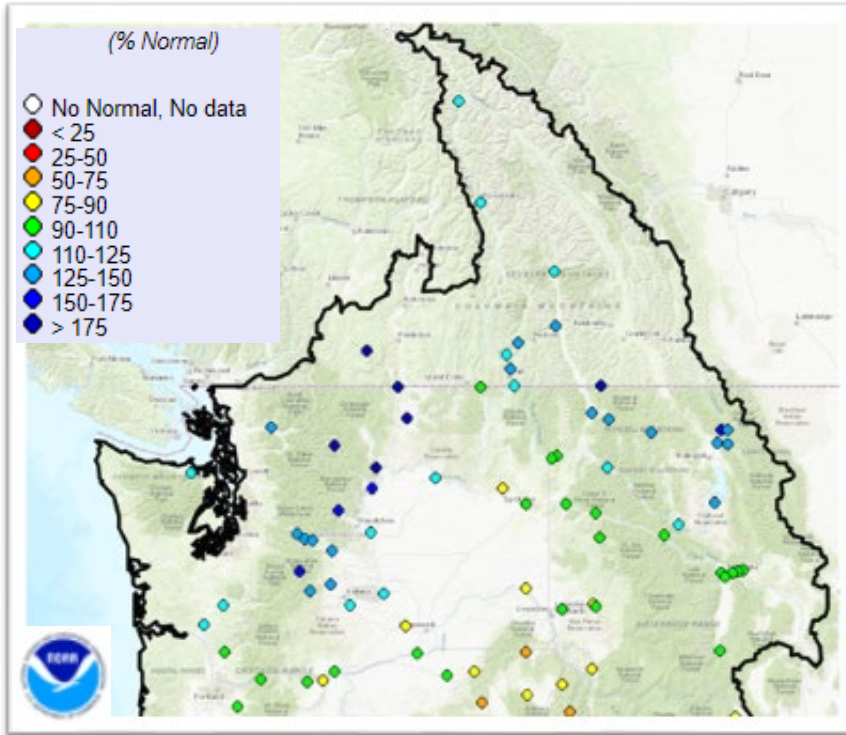
Based on firm energy capability which is the estimated amount of hydro energy to be produced using Low Water Flows/Critical Water for energy.

Operating Year 2022 statistics from the 2019 Pacific Northwest Loads and Resources Study, October 2020, aMW = average energy over the year

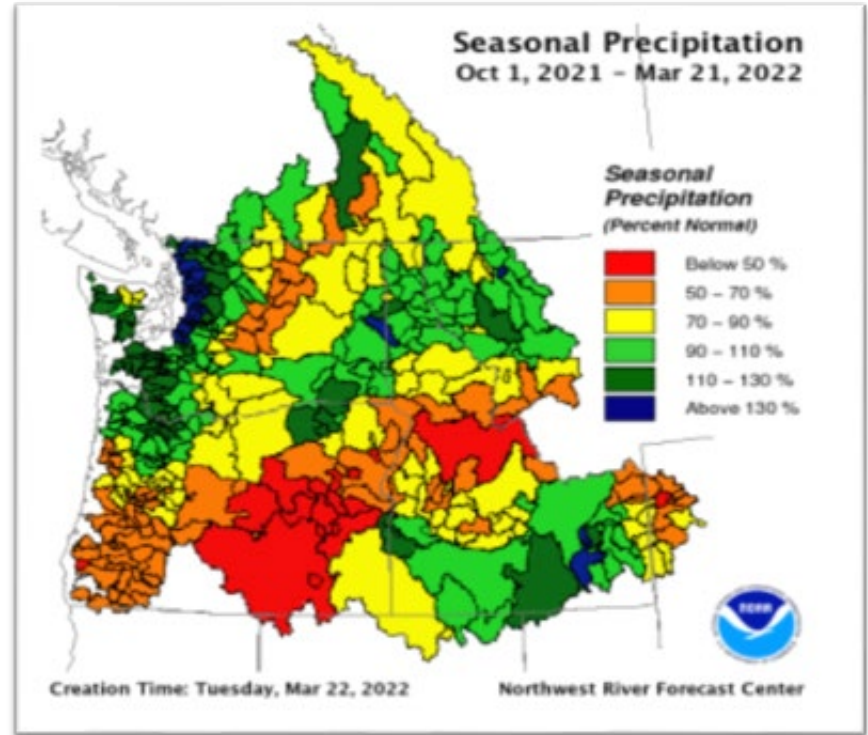
KEY TAKEAWAY – 97% of BPA's firm power is carbon emission-free.

Water Supply

Observed River Run-off (Oct 21 – Mar 22)



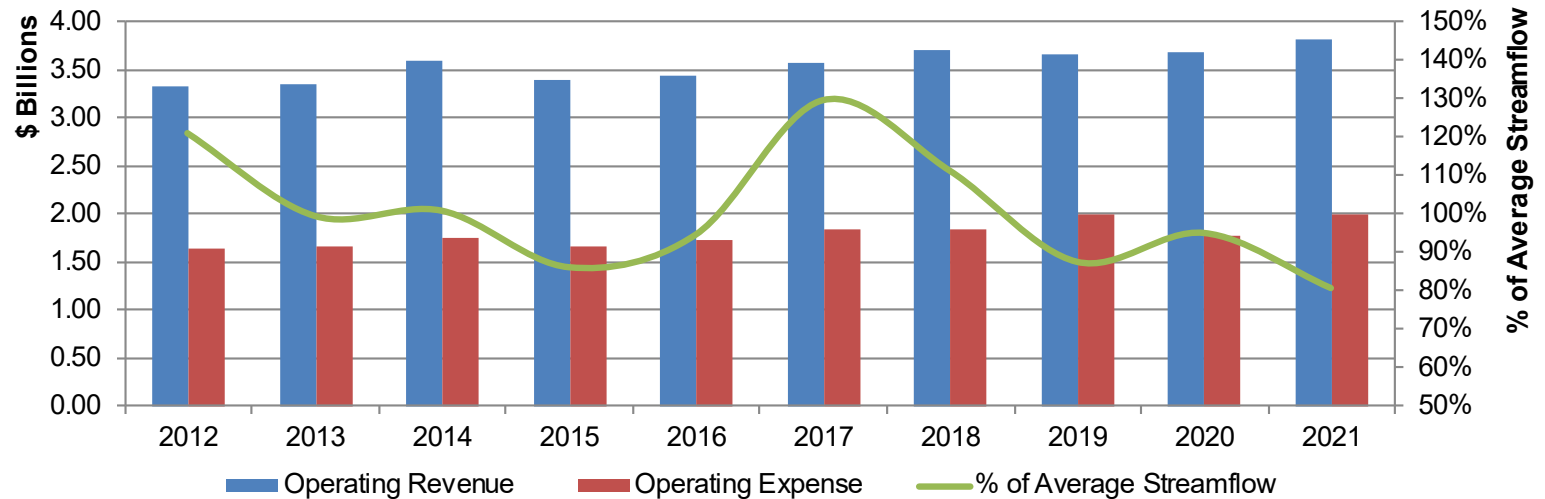
Precipitation (Oct 21 – Mar 22)



KEY TAKEAWAY – The majority of the water supply comes from snow pack runoff from the Western US and the Canadian Rockies.

Revenues & Expenses More Stable than Streamflow

- The relationship of operating revenues to operating expenses has been stable when compared to wide variances in stream-flows and hydro-generation
- Sales of firm energy and transmission services contribute to the operating revenue stability

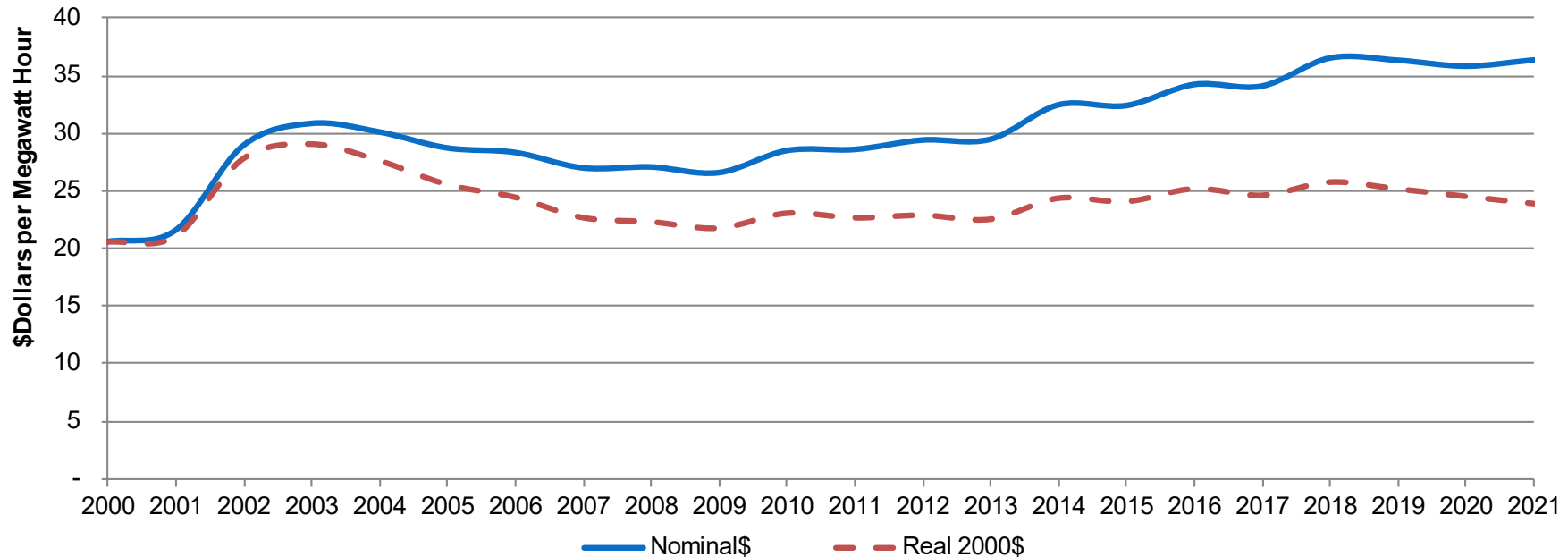


Streamflow data are based on the Operating Year (Aug 1 – July 31) and the financial information is based on the Fiscal Year (Oct 1 – Sept 30)

KEY TAKEAWAY – Hydro conditions can vary dramatically from year to year, however, BPA's operating revenues and expenses tend to be more stable.

Historical Average PF Preference Rates

Nominal (Actual) and Real (Inflation-Adjusted) Average PF Preference Rate Levels



KEY TAKEAWAY – Power rates have remained relatively stable, especially on an inflation-adjusted basis. Focus on cost control has allowed rates to stay flat, while deleveraging and building cash reserves since 2018.

PF = Priority Firm Power

Real dollars derived using the BEA Implicit Price Deflator for GDP

An aerial photograph of a tall, silver metal transmission tower. Several workers wearing hard hats and safety gear are positioned on the tower and the power lines. The background is a dense, green forest of evergreen trees. The sky is not visible.

Transmission Business Unit

Approximately 75% of the bulk transmission capacity in the region

15k circuit miles of high voltage lines

262 substations

\$1.0 billion revenue in FY21

BPA Transmission System

300,000+ Square Miles
Service Territory

500+ Customers

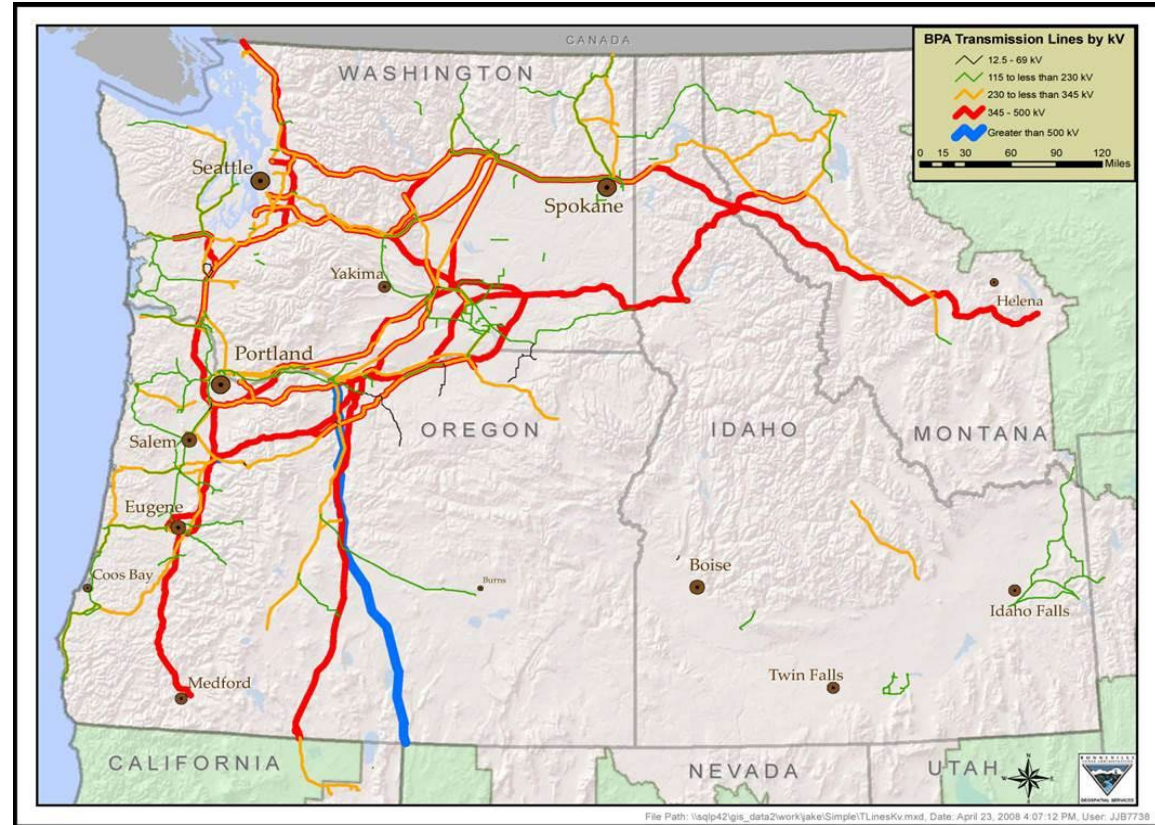
15k circuit miles
of high voltage
lines

3.5k miles of fiber

~400 Communications
Sites

196,500 Acres
of Right of Way

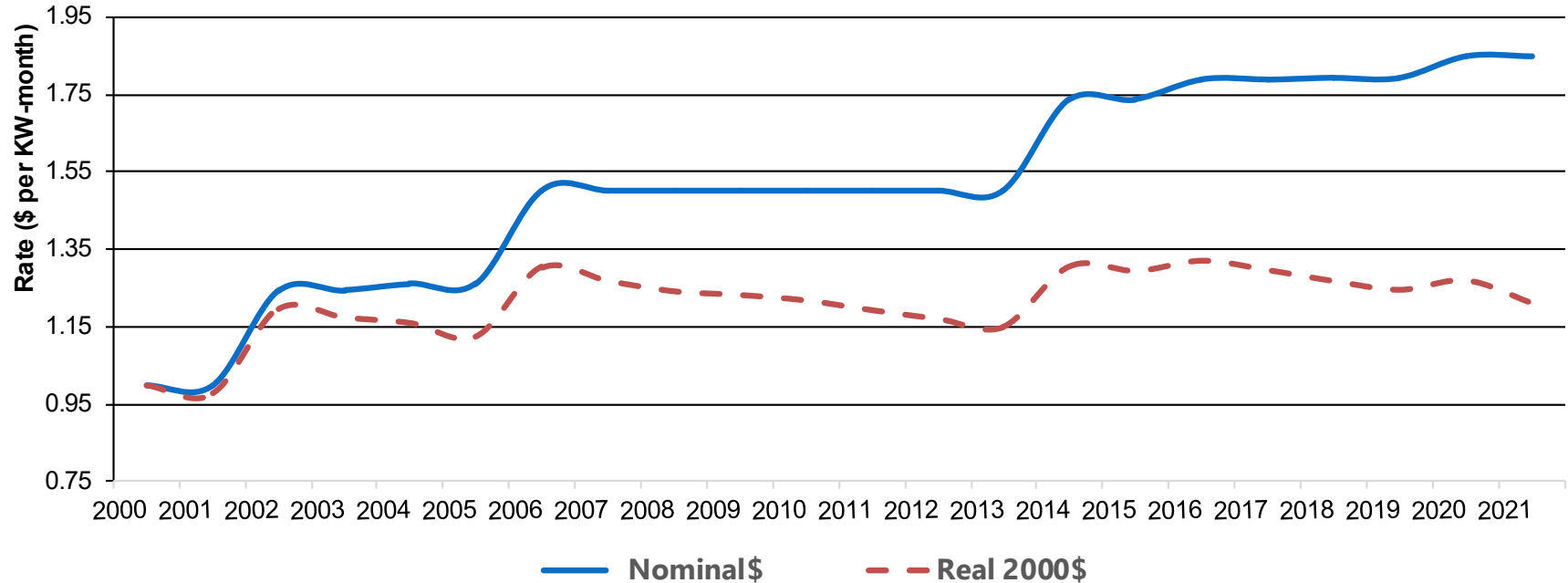
\$1.0 billion
FY21 revenue



KEY TAKEAWAY – BPA's transmission system is the backbone of the PNW transmission grid.

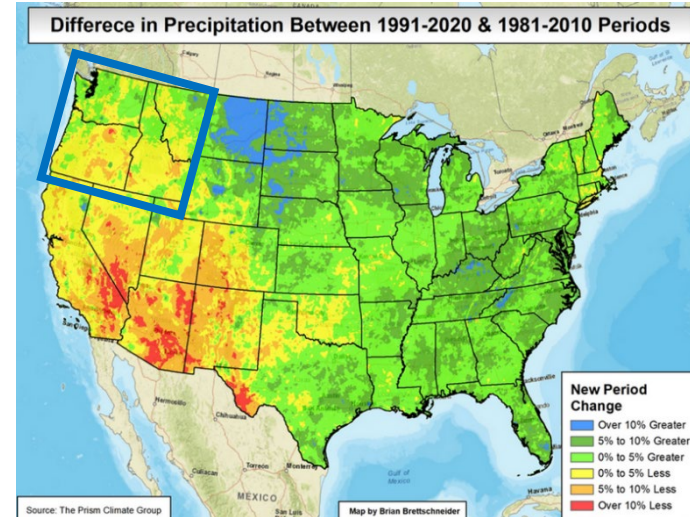
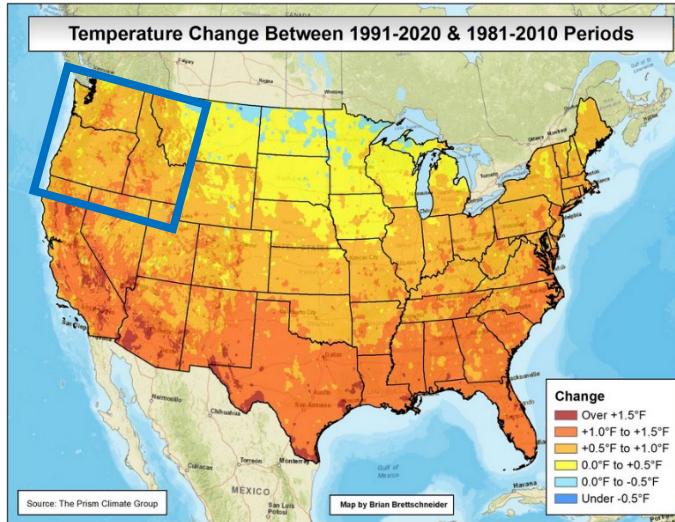
Historical Average Transmission Rates

Nominal (Actual) and Real (Inflation-Adjusted) Historical Firm P2P Rate



KEY TAKEAWAY – Transmission rates have remained relatively stable, especially on an inflation-adjusted basis. Focus on cost control has allowed rates to stay flat, while deleveraging and building cash reserves since 2018.

Recent Temperature and Precipitation Trends

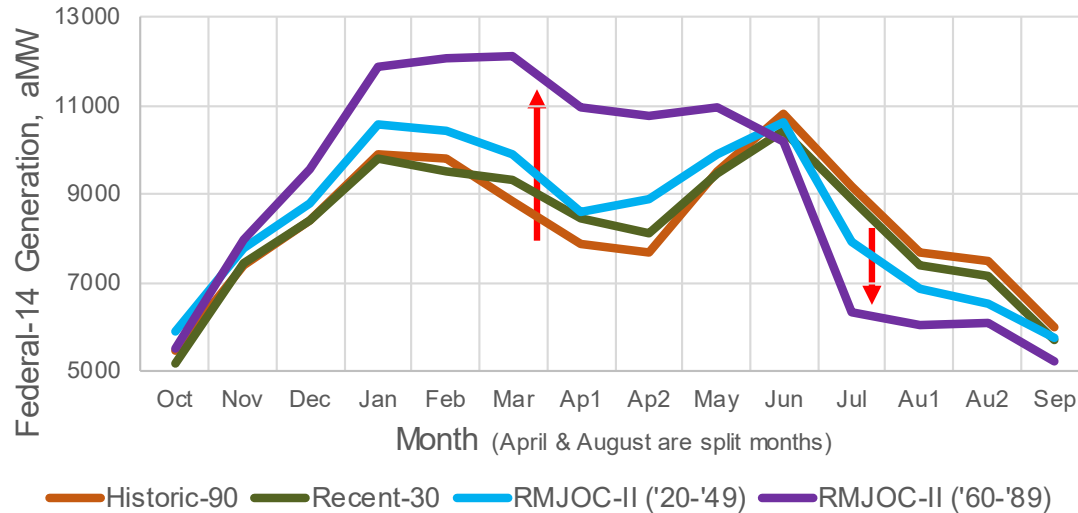


Source: PRISM Group, Oregon State University

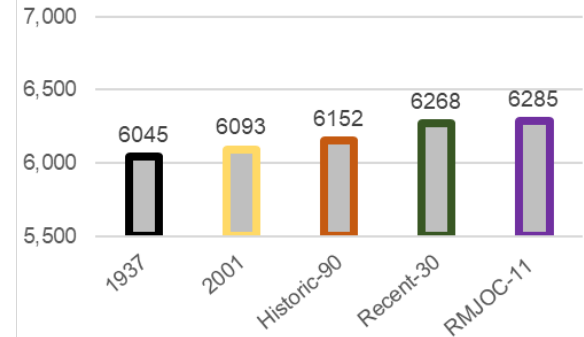
- Almost the entire US has warmed by 0.5-1.5°F in the last 10 years
- Key snowpack areas in the upper Columbia Basin trended slightly wetter in the last 10 years
- California, SW US, and parts of Oregon have trended both hotter and drier in the past 10 years
- These trends mirror expectations in BPA sponsored climate change studies

KEY TAKEAWAY – BPA's service territory has warmed over the past 10 years, Columbia Basin has trended slightly wetter.

Historical and Projected Average Generation at the 14 Major Federal Hydropower Projects



Annualized Monthly P10s, 1937, and 2001

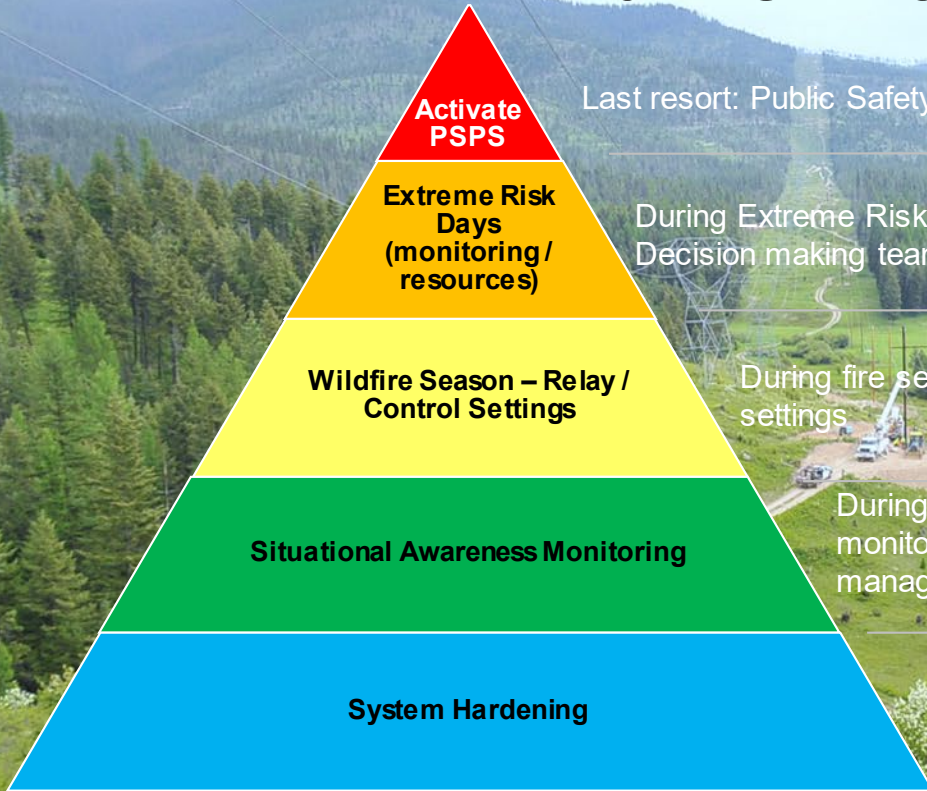


Climate change signals are beginning to emerge in our streamflow records, and are expected to continue:

- Higher fall, winter and early spring flows. Higher early spring flows already apparent
- Earlier spring runoff peaks, which is also beginning to emerge
- Lower June-July flows, and longer periods of low summer flows
- Higher annual volumes as regional precipitation increases

KEY TAKEAWAY- BPA has been tracking and planning for climate change for over a decade.

Vegetation Management and Wildfire Mitigation



Last resort: Public Safety Power Shutoff (PSPS)

During Extreme Risk Days, in identified areas, stand up PSPS Decision making team

During fire season, utilization of enhanced protection and control settings

During fire season, implementation of enhanced weather monitoring and weather forecasting by district. Asset management tools used to understand criticality, health & risk

Year-round system modifications and a robust vegetation management program to minimize risk and customer impact

KEY TAKEAWAY – BPA incorporates wildfire mitigation into each step of our process.

Cyber Security

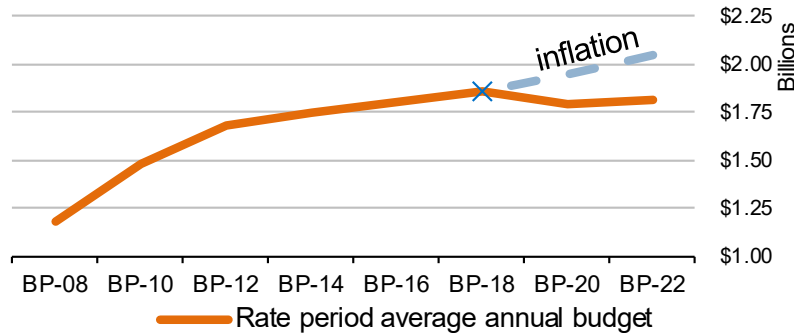
- Continued enhancements and expansion to operational security through the implementation and monitoring of real time cyber security controls in addition to on-going improvements to our capabilities and situational awareness
- Continued cultivation of alliances within the federal government to deploy intelligent devices to monitor external threats
- Subject to mandatory NERC reliability standards including Critical Infrastructure cybersecurity standards
- Robust cyber security assessment program, 24x7 Cyber Security Operations and Analysis Center to process threat intelligence and threat hunting

KEY TAKEAWAY – *New technical cyber vulnerabilities are discovered every day and have become increasingly sophisticated.*

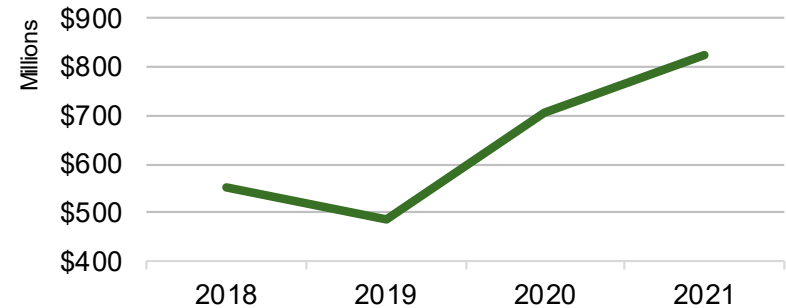
BPA has a full time staff that is responsible for, and focused on, improving and keeping our systems secure.

BPA Financial Condition

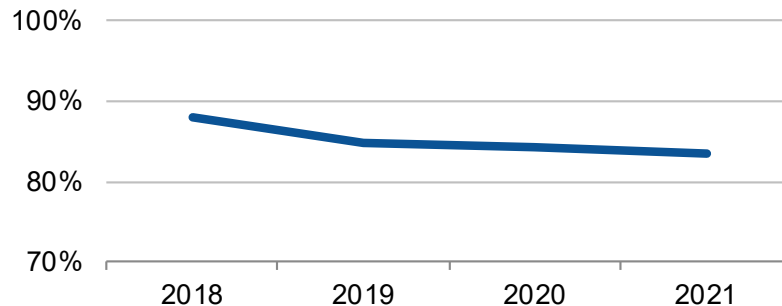
Controlling O&M Costs



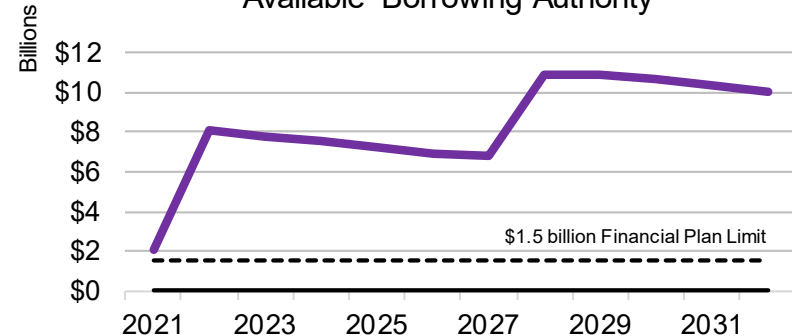
Financial Reserves Available for Risk



Agency Debt to Asset Ratio



Available Borrowing Authority



KEY TAKEAWAY – BPA is financially healthy and we continue to take steps toward improvement.

Summary

BPA's Purpose	<ul style="list-style-type: none"> ■ Market power from 31 hydro projects and 1 nuclear plant, virtually carbon-free ■ Own/lease 15,000 miles of high voltage transmission lines, 262 substations
Cost Recovery and Priority of Payments	<ul style="list-style-type: none"> ■ BPA is required by law to establish rates to recover all costs ■ Cash payments for Non-Federal debt are met <u>before</u> payments by BPA to the U.S. Treasury
Climate Change	<ul style="list-style-type: none"> ■ BPA's service territory has warmed over the past 10 years with the Columbia Basin trending slightly wetter
Wildfire Risk	<ul style="list-style-type: none"> ■ Year-round system modifications and robust vegetation management ■ BPA does not expect any material impact to net revenues or our ability to deliver power as a result of wildfires
Cyber Security	<ul style="list-style-type: none"> ■ BPA has a robust cyber security assessment program, 24x7 Cyber Security Operations and Analysis Center to process threat intelligence and threat hunting
BPA Financials	<ul style="list-style-type: none"> ■ Power and Transmission rates have remained flat in real terms, leverage has declined, cash reserves increased
Ratings	<div> Moody's: Aa2, Stable Fitch: AA, Stable S&P: AA-, Stable </div>

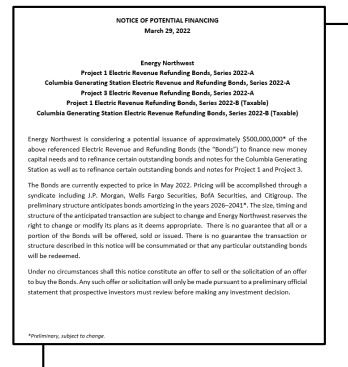
Requesting new ratings in Spring, 2022

Energy Northwest Series 2022-A/B

*Project 1 Electric Revenue Refunding Bonds, Series 2022-A
Columbia Generating Station Electric Revenue and Refunding Bonds, Series 2022-A
Project 3 Electric Revenue Refunding Bonds, Series 2022-A
Project 1 Electric Revenue Refunding Bonds, Series 2022-B (Taxable)
Columbia Generating Station Electric Revenue Refunding Bonds, Series 2022-B (Taxable)*

- Energy Northwest is considering a potential issuance of approximately \$500 million* of the above referenced Electric Revenue and Refunding Bonds
- The Bonds are currently expected to price in May 2022
- Syndicate includes J.P. Morgan, Wells Fargo Securities, BofA Securities, and Citigroup
- Preliminary structure anticipates bonds amortizing in the years 2026–2041*

*Please refer to Notice of Potential
Financing posted on EMMA*



**Preliminary, subject to change*

There is no guarantee that all or a portion of the Bonds will be offered, sold or issued; see the Notice of Potential Financing posted on EMMA for further disclaimers

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Questions