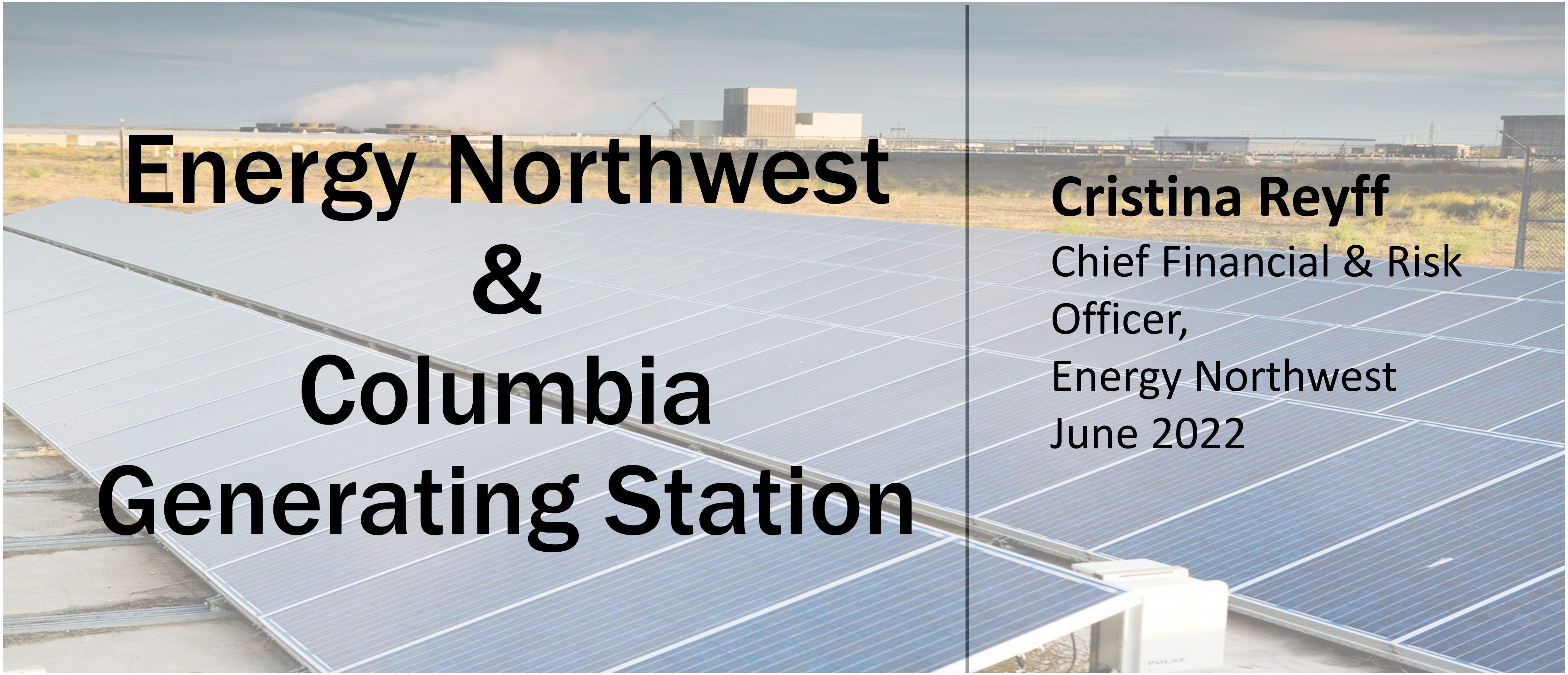
ENERGY NORTHWEST

Agenda

- Introductions
- Who We Are
  - Agency Performance
  - Columbia Generating Station Performance
- BP-24 Integrated Program Review (IPR)
- Looking Beyond - Columbia Long Range Plan (LRP)
- Resource Opportunity - Columbia Extended Power Uprate
- Closing Remarks



Energy Northwest & Columbia Generating Station

Cristina Reyff

Chief Financial & Risk Officer,

Energy Northwest

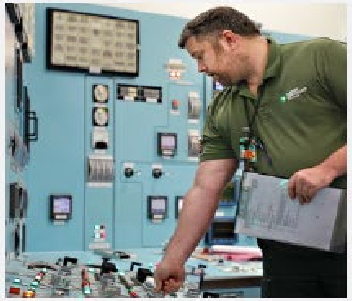
June 2022

Who We Are

- Energy Northwest is a Joint Operating Agency of the state of Washington
- Established by the state Legislature in 1957, authorized to operate generating facilities or provide energy services in any state, but our focus is on the Northwest
- Our members are all public utility districts and municipalities in Washington, but our projects have participants in six states

Leaders in Clean Energy Transformation

Be Safe - Always	Protect & Optimize Our Assets	Invest in Our People	Grow the Business	Foster Environmental Stewardship
Every worker goes home safe – Everyday.	We are counted on by the region for reliability, economic value and resilience.	We foster a positive and inclusive work environment where everyone feels valued, developed and respected for their contributions.	We are the leader in providing innovative new nuclear projects, diverse services and clean energy solutions to maximize our value to the region.	Our daily business practices improve and protect our natural resources for a sustainable future.



Columbia Generating Station

- Top performing plant within the industry
- 3rd Largest electricity generator in Washington
- Produces ~1200 megawatts
- Available 24/7, refuels every 2 years
- Tier 1 asset provided at-cost

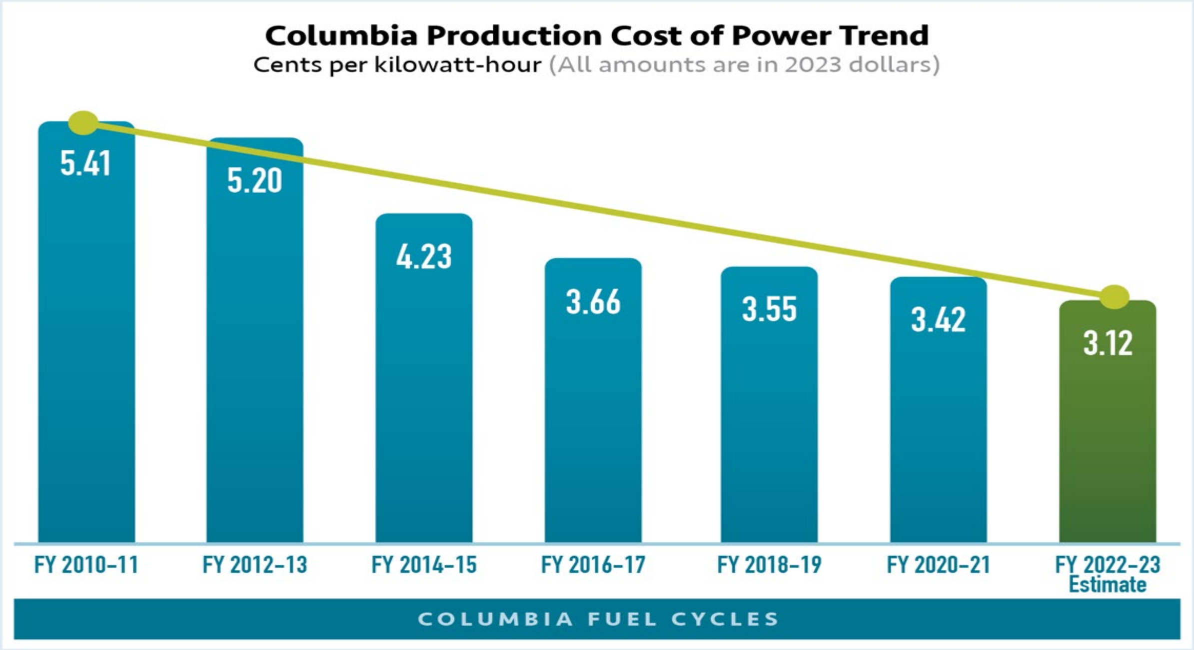
Columbia's operations support over

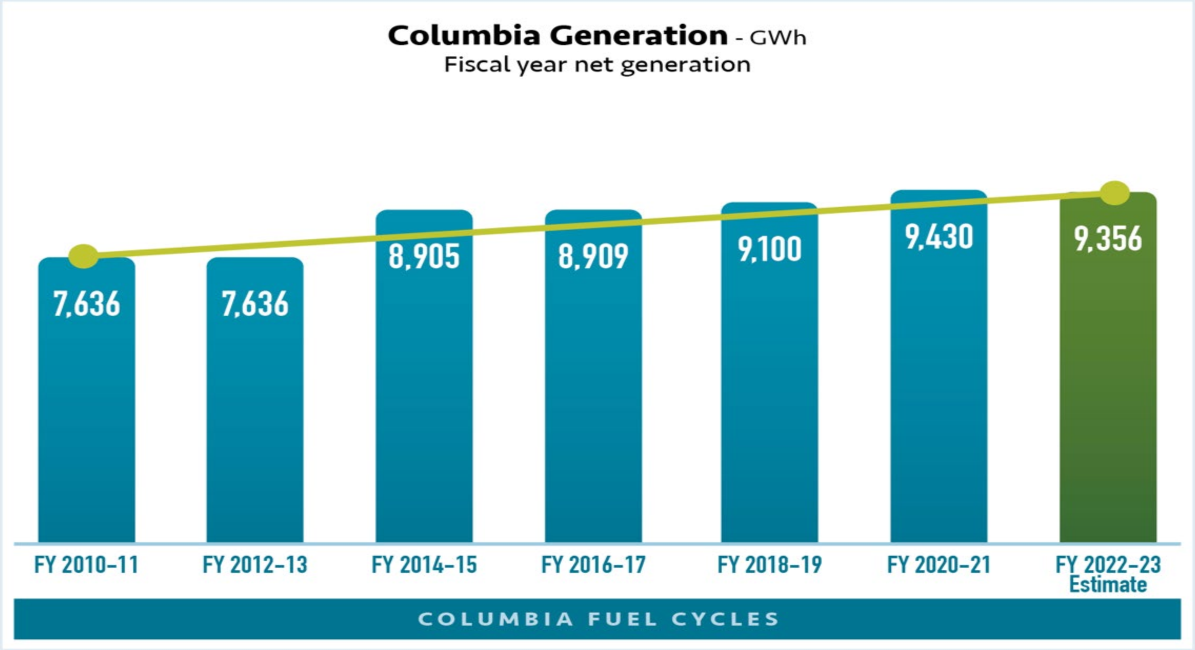
**One hard hat = 1,000 jobs. NEI independent analysis conducted using the REMI PI+ model.*
Sources include: Electric Cost Utility Group, U.S. EIA, ABB Velocity Suite and Energy Northwest

Columbia's operations will result in

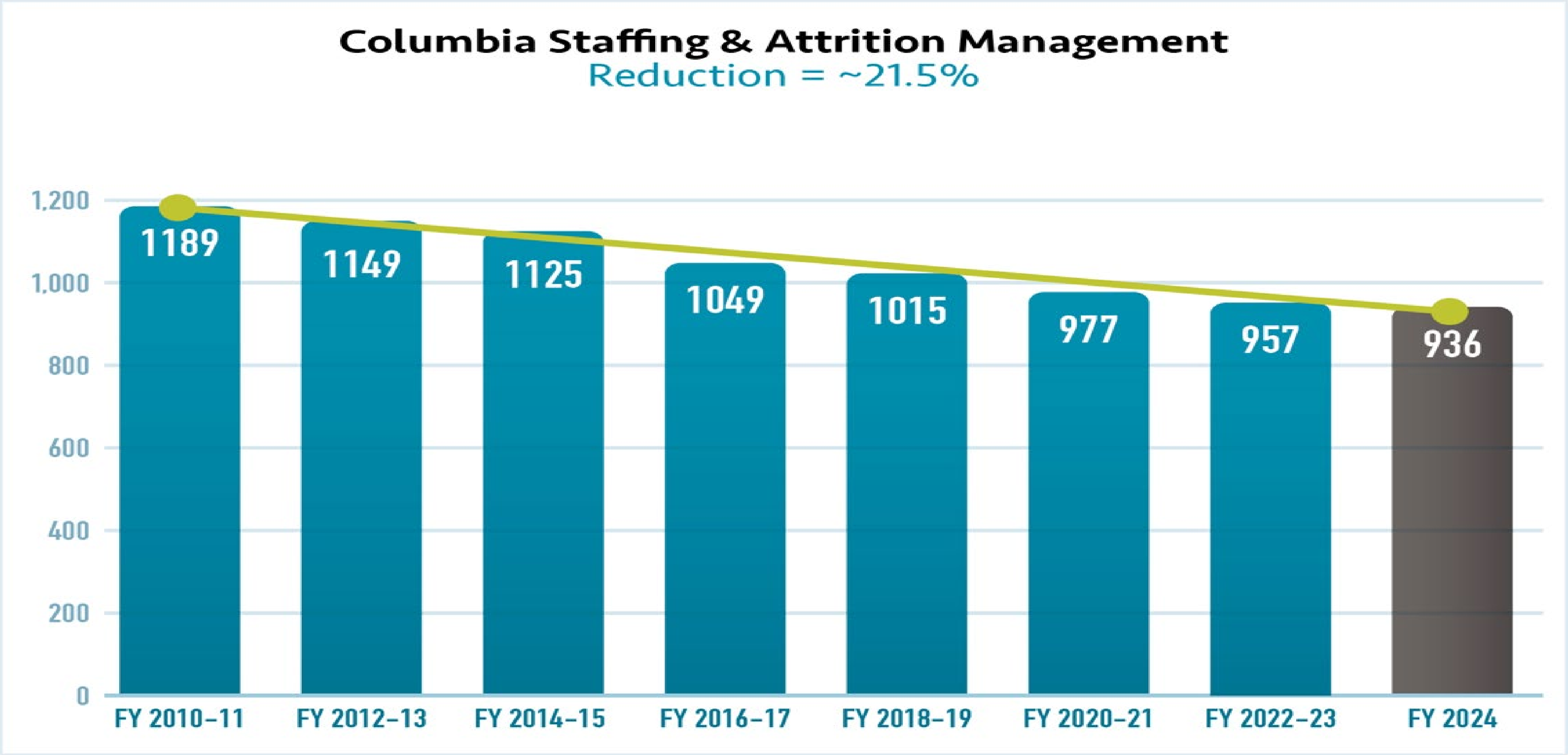
NEI independent analysis conducted using the REMI PI+ and in 2016 dollars.
Sources include: Electric Cost Utility Group, U.S. EIA, ABB Velocity Suite and Energy Northwest

Cost of Power & Net Generation





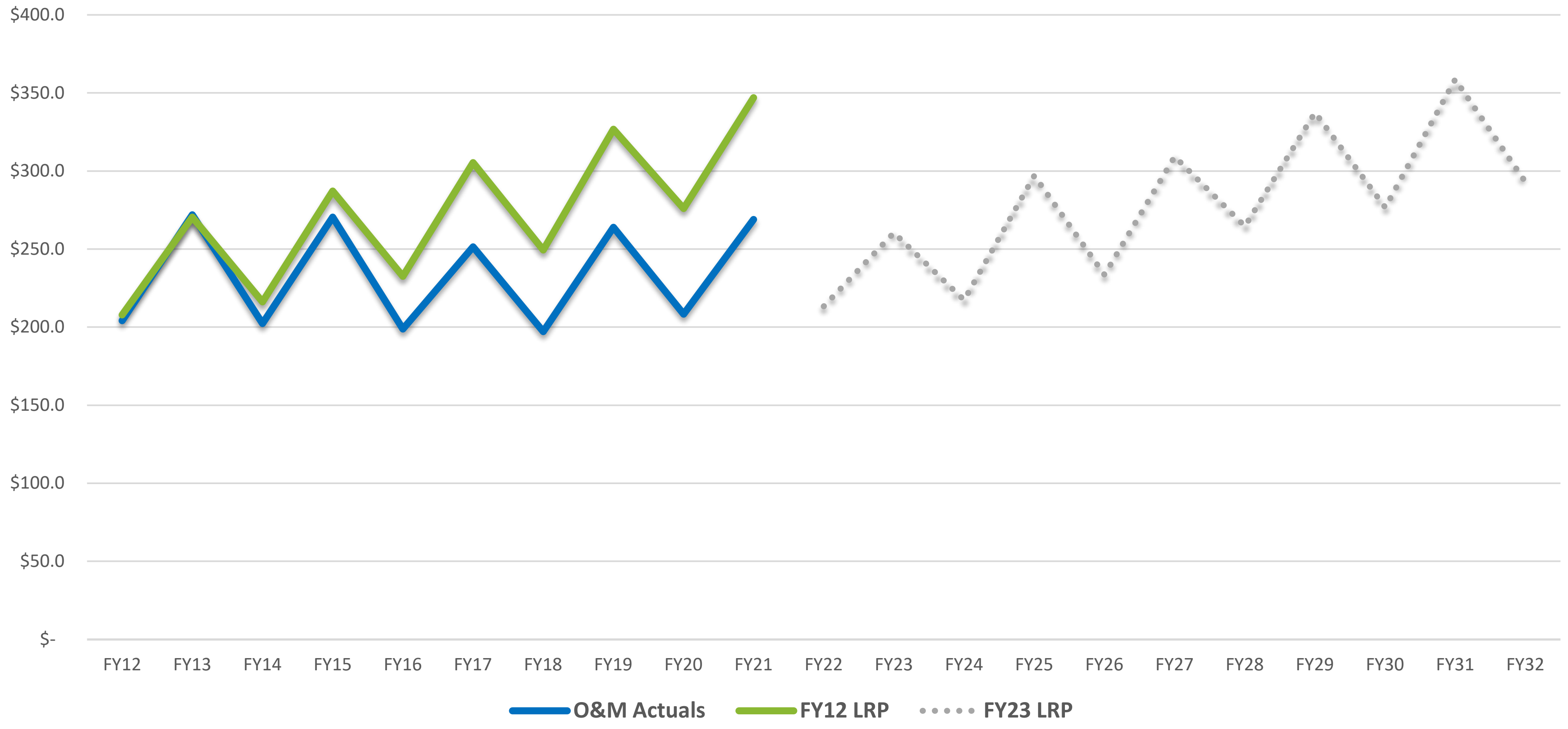
Columbia Staffing & Attrition Management



Fuel Cost Savings

- Columbia holds one of the lowest cost inventories when compared to industry peers.
- Strategic fuel procurements have helped maintain low costs while avoiding commodity risk.
  - Transaction in 2012 with Tennessee Valley Authority helped ensure fuel supply through the late 2020’s and lower costs by more than $250 million.
  - Strategic procurements in 2020 further reduced risk and established inventory levels into the mid-2030’s. Estimated value reduced cost by $100 million and has improved as inflation has impacted the commodity market.

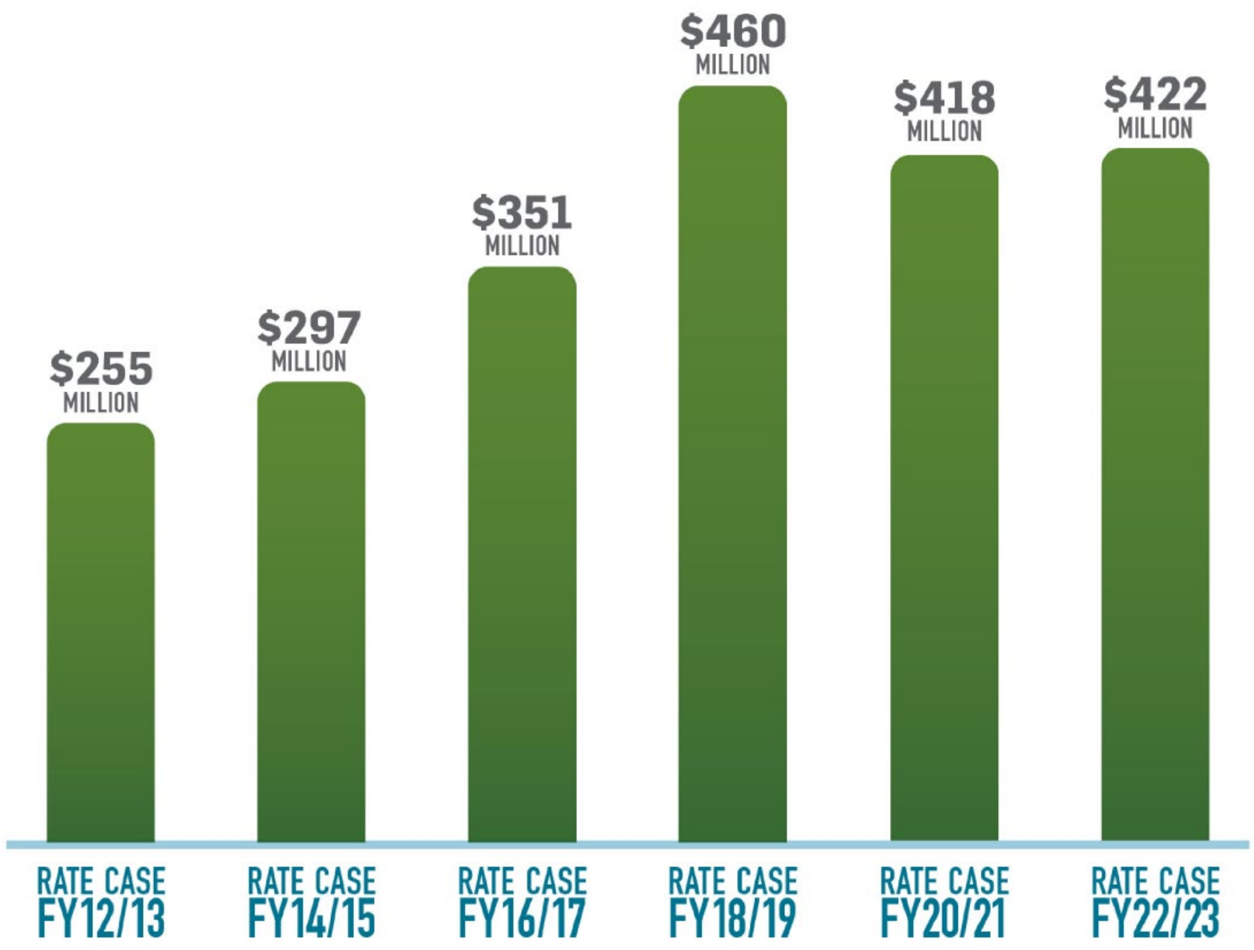
20-Year Look at O&M ($ in millions)



Total O&M Reductions compared to FY12 LRP = $380.9 million

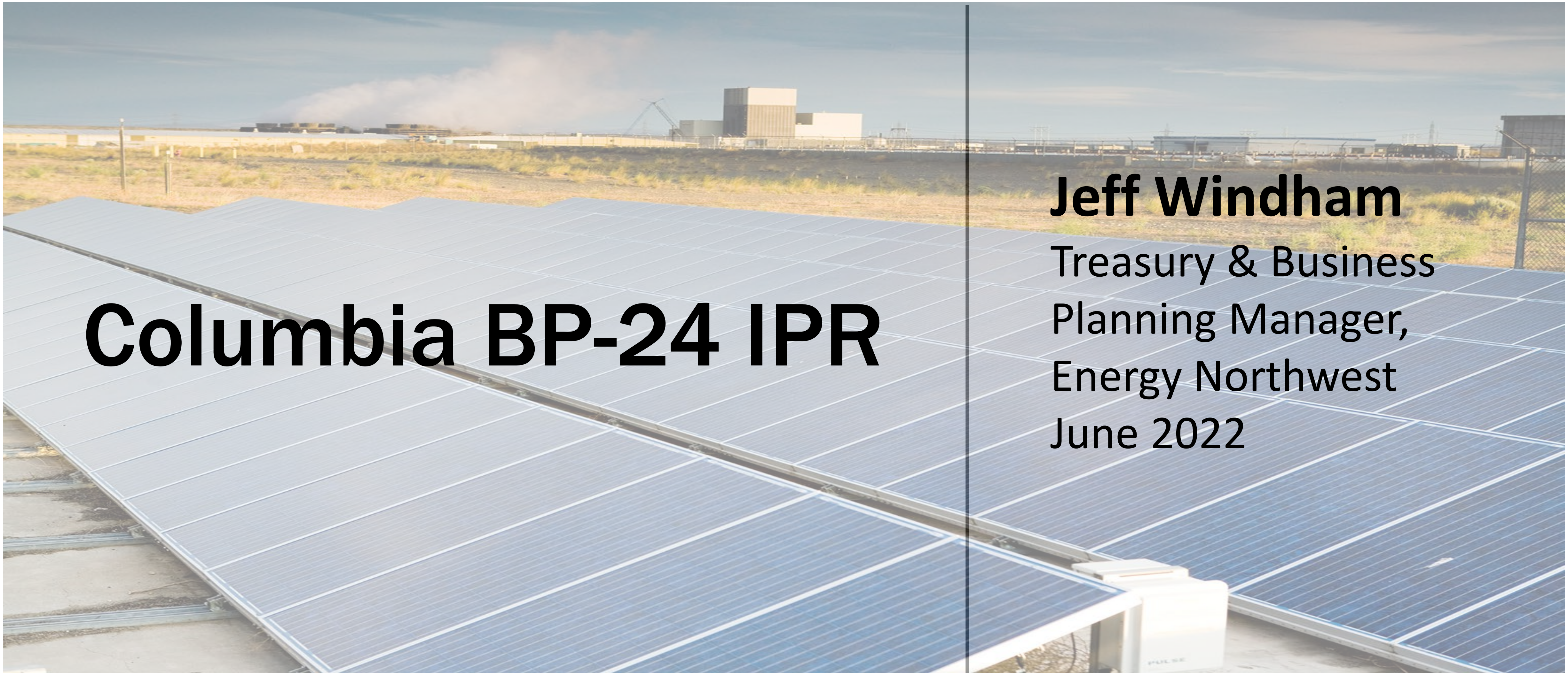
Regional Savings / Cost Avoidance

More than $2.2 billion in regional savings and avoided costs over 12 years (2012-2023)



CFO Perspective

Managing the Future



Columbia BP-24 IPR

Jeff Windham
Treasury & Business Planning Manager, Energy Northwest
June 2022

Columbia IPR Cost Elements

- Operations & Maintenance (O&M) Costs
- Fuel Procurement
- Other Cash Related Costs
    - Spares / Inventory Adjustments
    - Generation Taxes
    - ISFSI Settlement Claim Submittal Costs
    - Treasury Services Costs (Excludes Debt Service Costs)

Columbia IPR – What is new in BP-24?

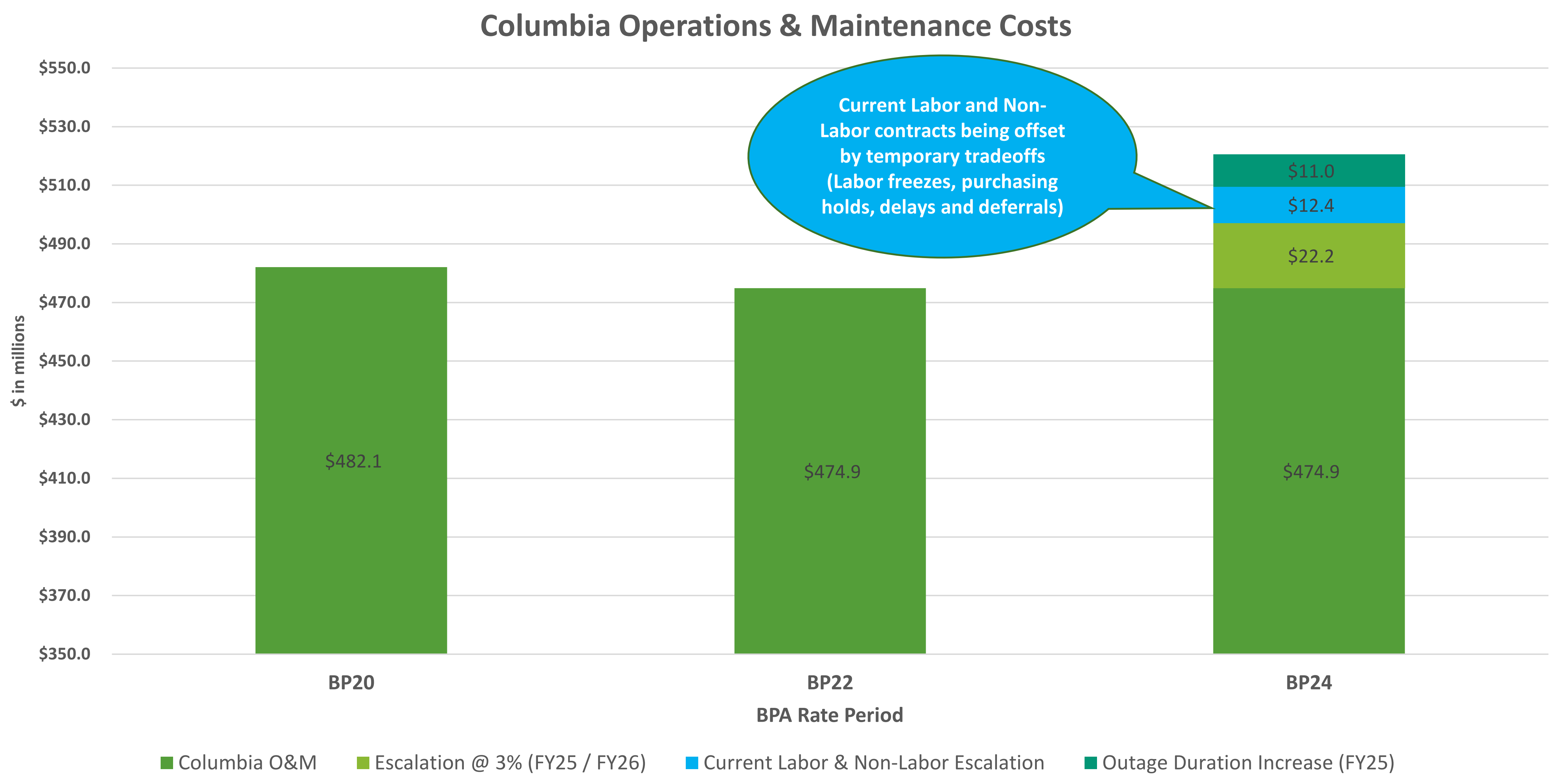
- Inflation challenges
- Fuel related Impacts
  - Columbia holds robust inventory minimizing the current market exposure
  - Fabrication and enrichment services tied to indexes with significant increases driven by current market conditions
- Longer outage duration assumption (FY25)
  - Moisture Separator Reheater Project Implementation driving ~60-day outage
- Maintaining headcount following >20% reduction since FY10
  - Adjusting for labor related increases in BP-24

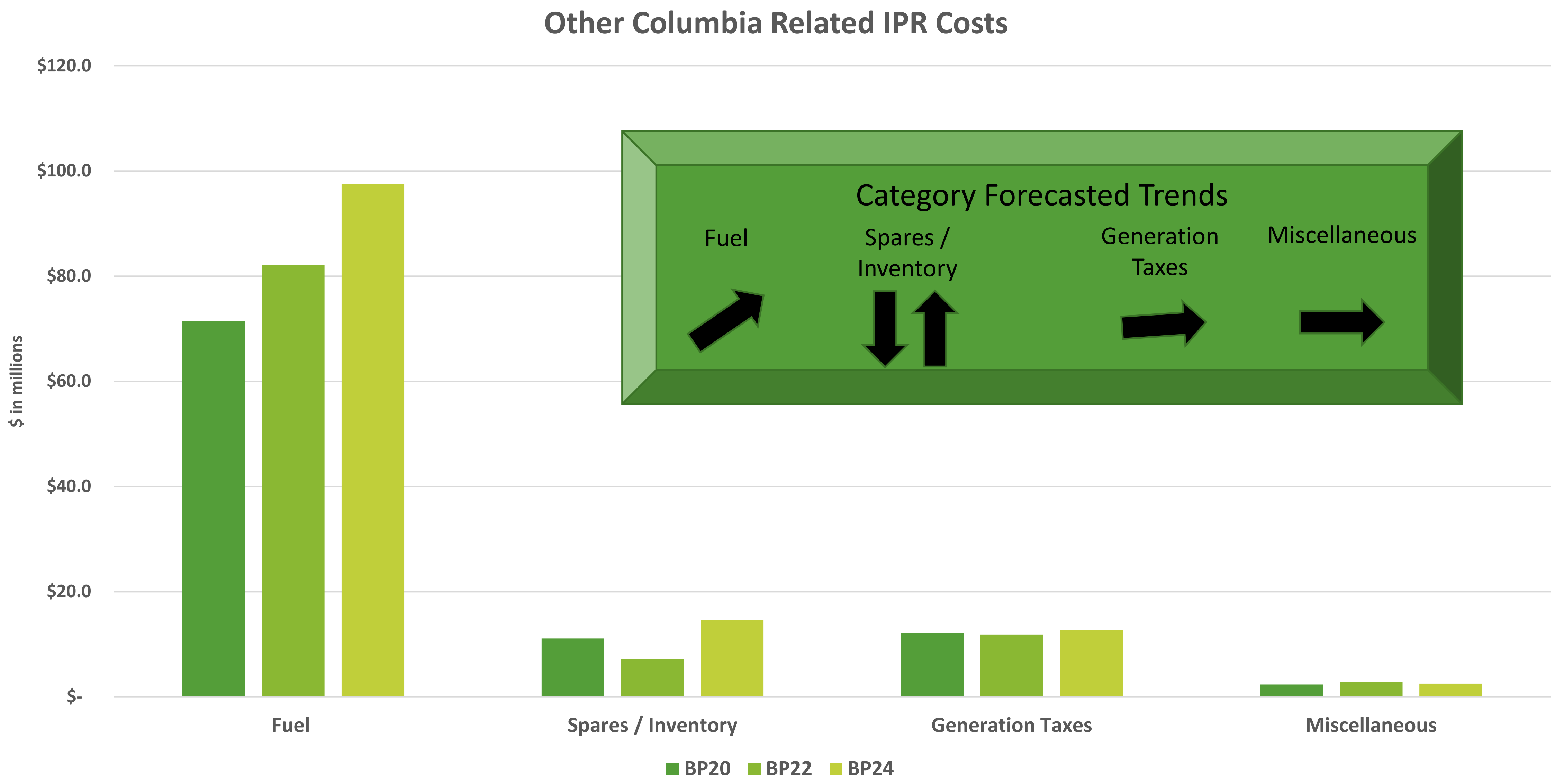
Columbia BP-24 IPR Summary

- Projections based on FY23 Long Range Plan
- O&M Assumes 3% future annualized inflation
- Projected level at 2.41% annualized over BP20 levels
- Looking Ahead

Cost Category	BP20*	BP22	Projected BP24	Driver / Risk Analysis
Columbia O&M	$ 482,105	474,888	520,539	a) Inflation - Labor & Supplemental Labor increases; Headcount reductions have allowed labor to remain flat historically but is increasingly challenging to manage expected scope. b) FY25 Outage Duration
Fuel Cash	71,372	82,131	97,451	a) Inflation - Existing fuel fabrication and enrichment contracts tied to current and future escalation
Other	25,513	21,971	29,780	a) Generation Taxes required by the State of Washington b) Spares and inventory growth to eliminate single point vulnerabilities and maintain reliability c) Treasury Services Costs
Total	$ 578,990	$ 578,990	$ 647,770	

* BP20 assumes Treasury Services costs also included at same rate as BP22 for comparison purposes


Columbia Operations & Maintenance Costs
$550.0
$530.0
$510.0
$490.0
$470.0
$450.0
$430.0
$410.0
$390.0
$370.0
$350.0
$ in millions
Current Labor and Non-Labor contracts being offset by temporary tradeoffs (Labor freezes, purchasing holds, delays and deferrals)
$482.1
$474.9
$474.9
$22.2
$12.4
$11.0
BP20
BP22
BP24
BPA Rate Period
Columbia O&M
Escalation @ 3% (FY25 / FY26)
Current Labor & Non-Labor Escalation
Outage Duration Increase (FY25)



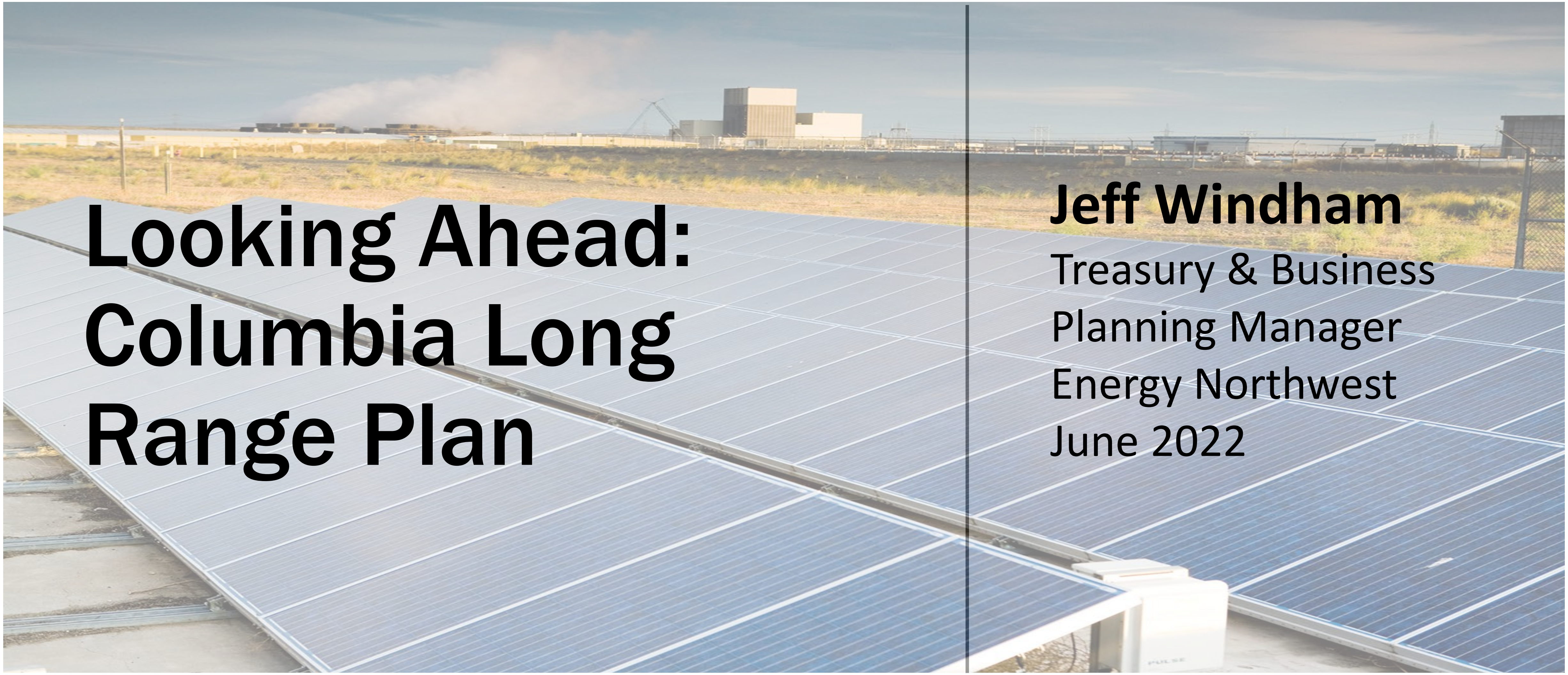
Other Columbia Related IPR Costs
$120.0
$100.0
$80.0
$60.0
$40.0
$20.0
$-
$ in millions
Category Forecasted Trends
Fuel
Spares / Inventory
Generation Taxes
Miscellaneous
Fuel
Spares / Inventory
Generation Taxes
Miscellaneous
BP20
BP22
BP24

Columbia IPR – Compared to BP20/BP22

Cost Category	BP20*	BP22	Projected BP24	Difference from BP22	Average Annual % Increase Over BP22**	Average Annual % Increase Over BP20**
Columbia O&M	$ 482,105	474,888	520,539	45,651	3.58% *(4.70% With Incremental Outage Costs)*	1.39% *(1.94% With Incremental Outage Costs)*
Fuel Cash	71,372	82,131	97,451	15,320	8.93%	8.10%
Other	25,513	21,971	29,780	7,809	16.42%	3.94%
Total	$ 578,990	$ 578,990	$ 647,770	68,780	4.87% *(5.77% With Incremental Outage Costs)*	2.41% *(2.85% With Incremental Outage Costs)*

* BP20 assumes Treasury Services costs also included at same rate as BP22 for comparison purposes

** Average Annual % Increase excludes $11.0 million associated with increased incremental refueling outage duration in FY25



Looking Ahead: Columbia Long Range Plan

Jeff Windham
Treasury & Business Planning Manager
Energy Northwest
June 2022

LRP Methodology

Rolling 10-year financial forecast for Columbia (Capital and Operations & Maintenance (O&M)) supporting safe, reliable, predicable and cost-effective operation

- Operating budgets
- Projects (Plant, Facilities, and Information Technology)
- Fuel Amortization

- Comprehensive, systematic, multi-phased and risk-based
  - Addresses known vulnerabilities and regulation
  - Incorporates necessary risk reserve and escalation
  - Annual update and challenge – monitor change
  - Avoid changes within current rate case

Key Changes to FY23 LRP

O&M Baseline & Outage

- No overall change to BP22 committed levels – Commitments are expected to be achieved!
- FY25 – FY33 increase to re-baseline resource needs in support of maintaining plant operations through equipment reliability and retention of skilled workforce in a volatile labor market.

  Key drivers:
  - Union contracts exceed planned inflation rate; Material cost increases; Outage duration in FY25 greater than 35 days

Projects (O&M/Capital)

- Moisture Separator Reheater broken out into a 2-phased implementation schedule to avoid 80-day outage
  - Phase 1: Bio-Shield wall on turbine deck FY23 (R26)
  - Phase 2: Tube replacement FY25 (R27)
- High Pressure Turbine replacement project moved to FY27 (R28), internal evaluation of equipment health and replacement specifications scheduled in FY23 (R26)

Escalation + Risks Reserve

- Increased escalation rate to 3% due to current economic and global conditions
- Increased risk reserve to address estimate uncertainty due to project complexity and external market threats

Columbia – Major Projects

FY23/R26	FY25/R27	FY27/R28	FY29/R30	FY31/R31	FY33/R32
Workday Enterprise Application Plant License Renewal Moisture Separator Reheater Replacement (MSR) Plant Process Computer Replacement Large Transformers (Normal/Start-up/Back-up)	Reactor Recirculation Pump/Motor Replace	High Pressure Turbine Replacement Adjustable Speed Drive Replacement	Condensate Heat Exchangers #5 Digital Electric Hydraulic Control System	Main Generator + Auxiliary	Condensate Heat Exchangers #4

FY23 Budget and Long-Range Plan:

Resource Opportunity: Columbia Extended Power Uprate (EPU)

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Vice President, CNO
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June 2022

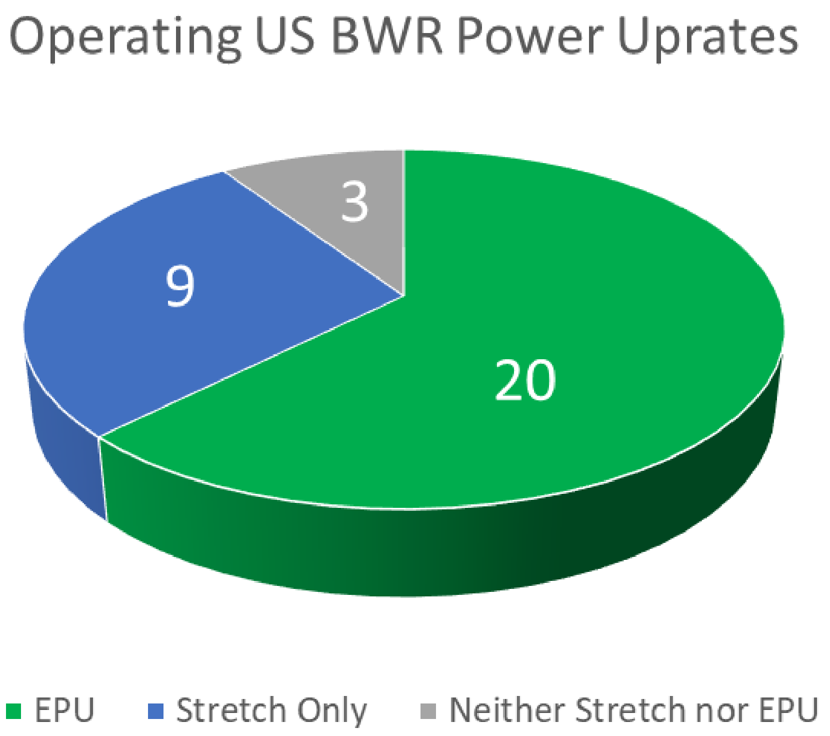
Optimizing Columbia Generating Station: Extended Power Uprate

What is an EPU?

- Increased Columbia power output with higher steam flow through the core creates additional generator output
- CGS expected to achieve an increase of ~170 MWe

Why pursue an EPU?

- Increases clean, firm, non-carbon emitting energy for the region
- Anticipate 13% lower production cost of power
- Enables increase in Tier 1 power resources
- Has been widely implemented across US nuclear industry, reducing unknown risks

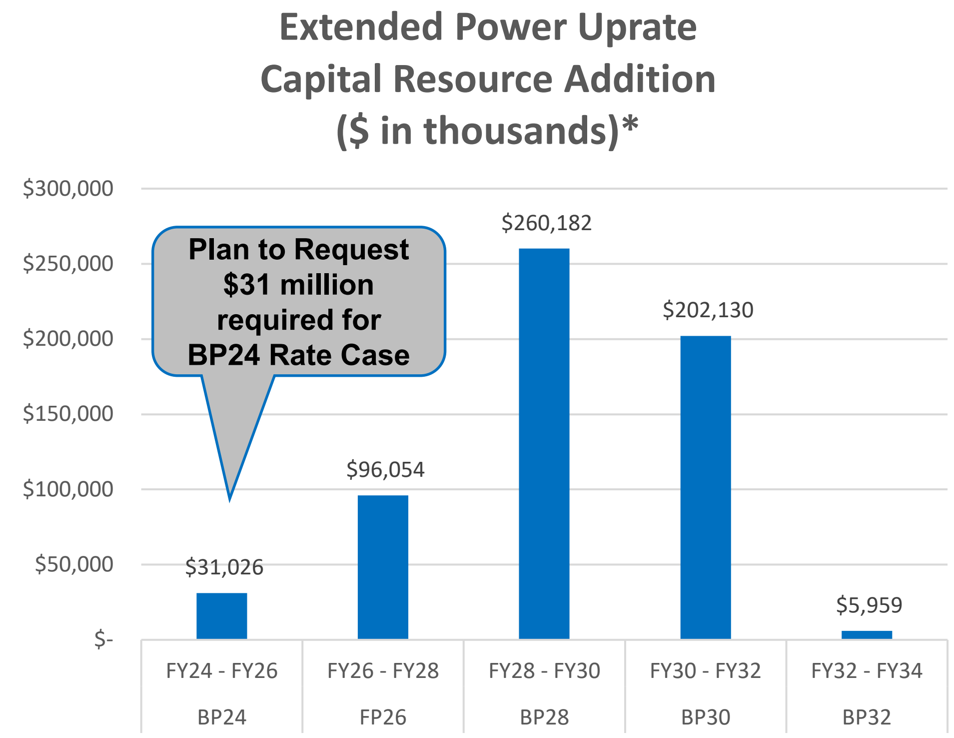


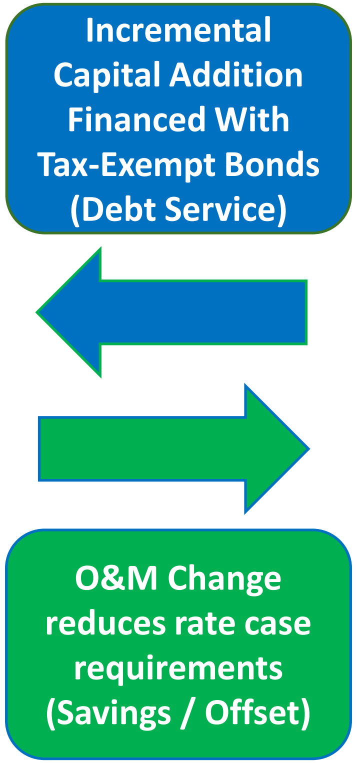
*Stretch Power Uprates are power increases within the existing design capacity of the plant (i.e., do not typically involve significant plant modifications). CGS previously implemented a stretch uprate of 4.9% in 1994.

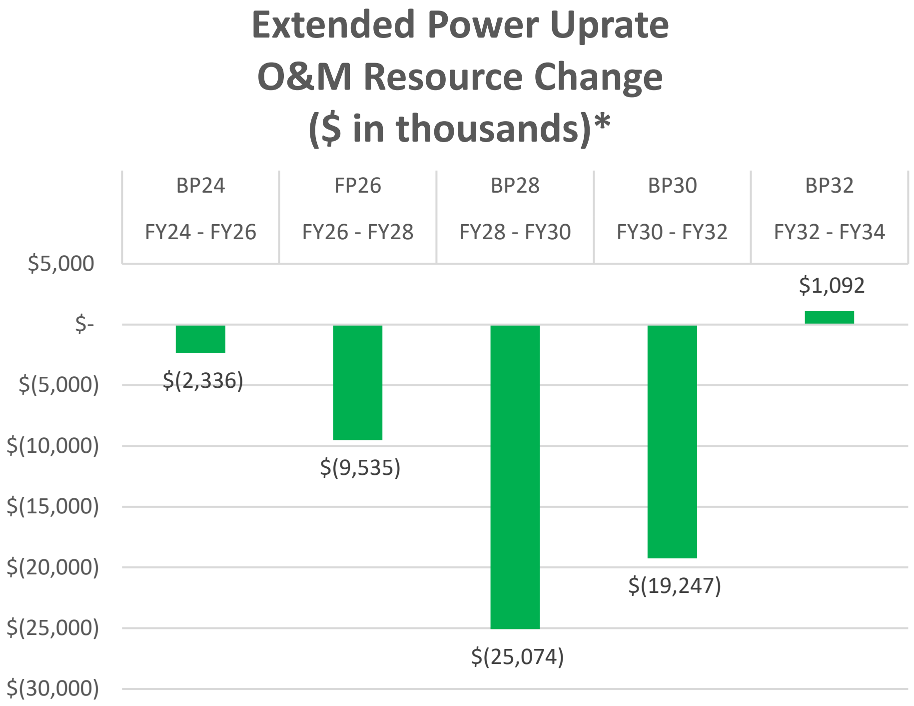
Incremental EPU Projections

Extended Power Uprate Scenario

Incremental EPU Projections (120% OLTP in 2031)

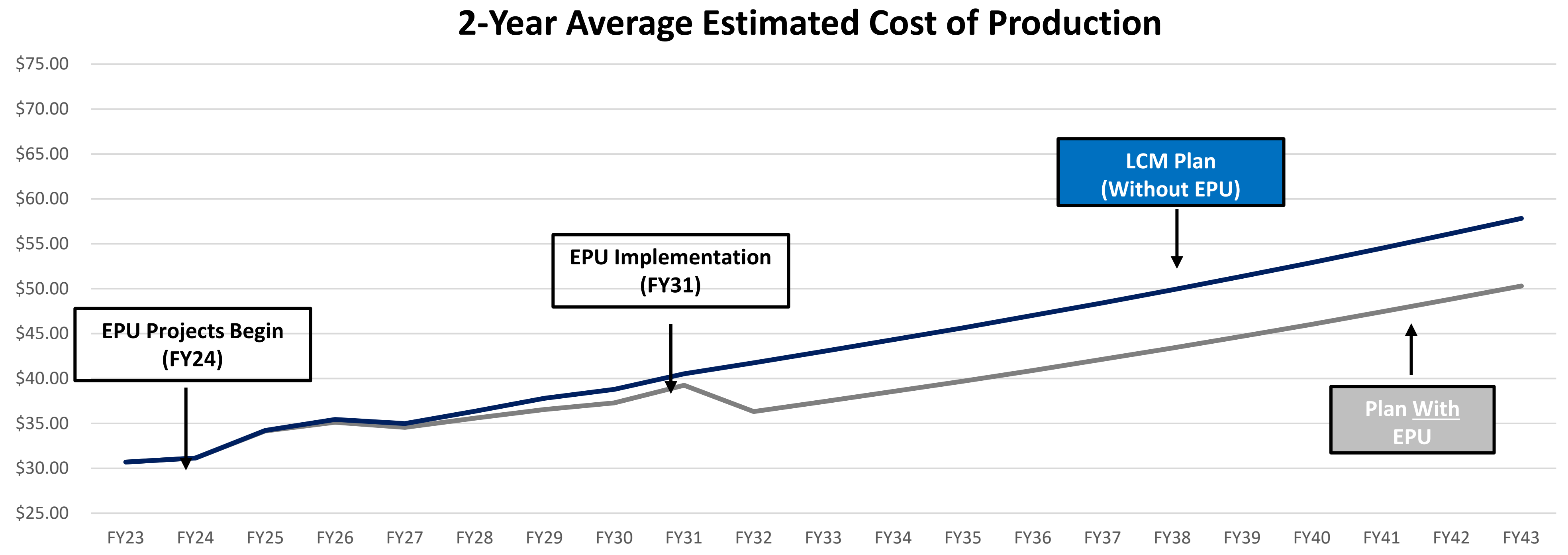






*Cost information is commensurate with feasibility study level of design and will be refined as the project progresses.
**Values shown include allocation projections and escalations.

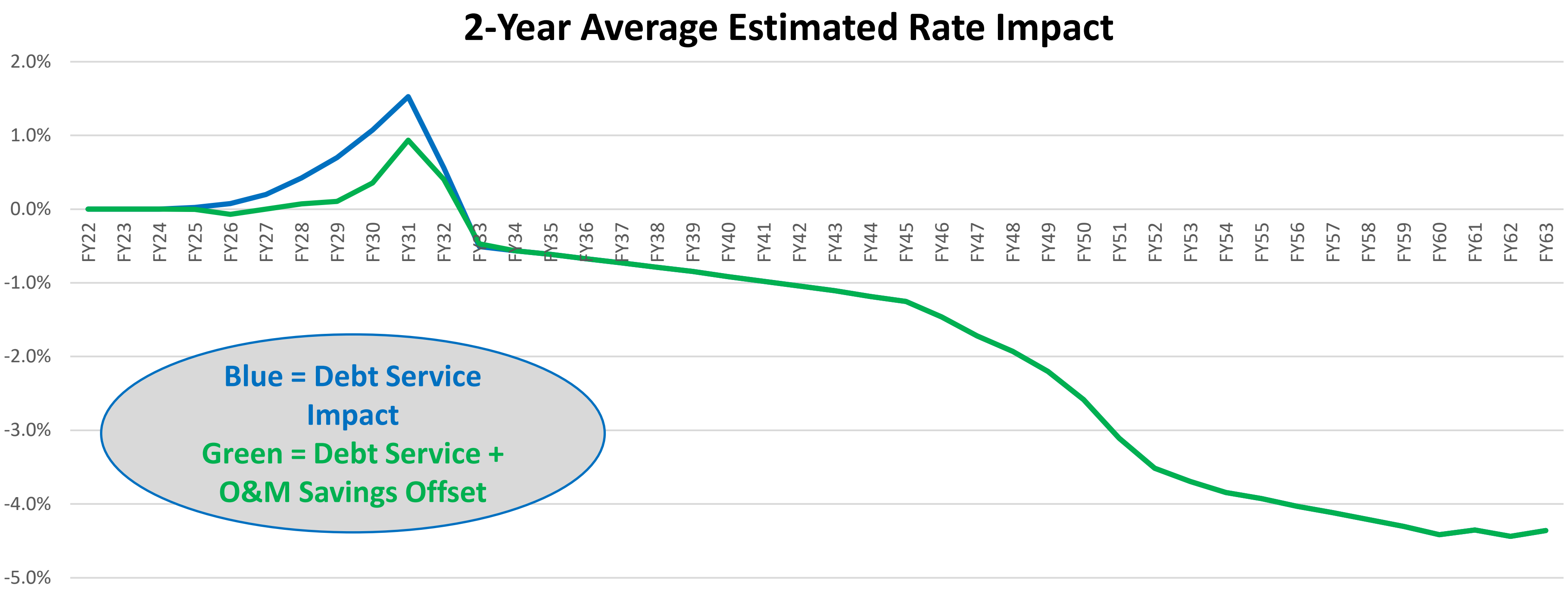
EPU Estimated Impact on Cost of Power (Production)



- Calculated by dividing the operating costs (O&M + Fuel) by the amount of energy generated (MWh)
- Decrease after implementation due to increased EPU generation off-setting increased production costs
- Both LCM and EPU plans include escalation

Note: Cost information is commensurate with feasibility study level of design and will be refined as the project progresses.

EN's Estimated EPU Impact on Regional Power Rates



Notes: Cost information is commensurate with feasibility study level of design and will be refined as the project progresses.

BPA has not reviewed or validated the information presented. Additionally, Columbia's existing operating license currently expires in December 2043.

- Scoping evaluation performed to assess potential EPU impact on regional power rates
- Rate Impact = Net annual change in incremental power sales minus incremental fuel costs and debt service
- Key Assumptions
  - Power sales assume current FY22 BPA Tier 1 rate escalated annually at 2.3% (consistent with expenditures)
  - Incorporates conservative revenue reduction factor of 20% per year
  - Percentage impact on rates assumes $20 million per year or $40 million per rate case equal to 1%
  - Debt Service is planned to be interest only during implementation period (through 2031). Debt is modeled using a 20-year life of each debt issuance

EPU $31 million BP-24 Request

FY24*	FY25*	FY26*
$7.388M	$12.057M	$11.582M
• Feedwater system study • Main steam piping study • Condensate filter demin study • Electrical impact study • Safety analysis and license package prep • Steam dryer study • BPA grid analysis • LCM project coordination • Project planning / Oversight	• Feedwater system study and planning • Main steam piping planning • Isophase bus duct cooling study • Electrical Conceptual design • Safety analysis and license package prep • Steam dryer measurements • LCM project coordination • Project planning / Oversight	• Feedwater system design • Feed pump turbine design • Main steam piping design • Electrical design • Condensate booster pumps and motor design • Safety analysis and license package prep • LCM project coordination • Project planning / Oversight

**BP-24 includes 75% of FY24, 100% of FY25, and 25% of FY26*

LCM = Life Cycle Management

Why EPU

- EPU can assist the region’s need for **additional firm, non-emitting capacity** sources while also **meeting CETA** requirements
- EPU is expected to **lower** the **overall cost of production** of Columbia while having a **minimal rate impact** for the region

When

- EPU target implementation is FY31
- EPU project studies slated for Rate Case BP 24 (FY24, FY25, and FY26) to meet this implementation target
  - Refine cost projections and update business case
  - Identify and mitigate implementation risks
- Funding of ~$31 million in BP-24 keeps the FY31 EPU implementation on-track – if delayed, FY31 implementation would be in jeopardy

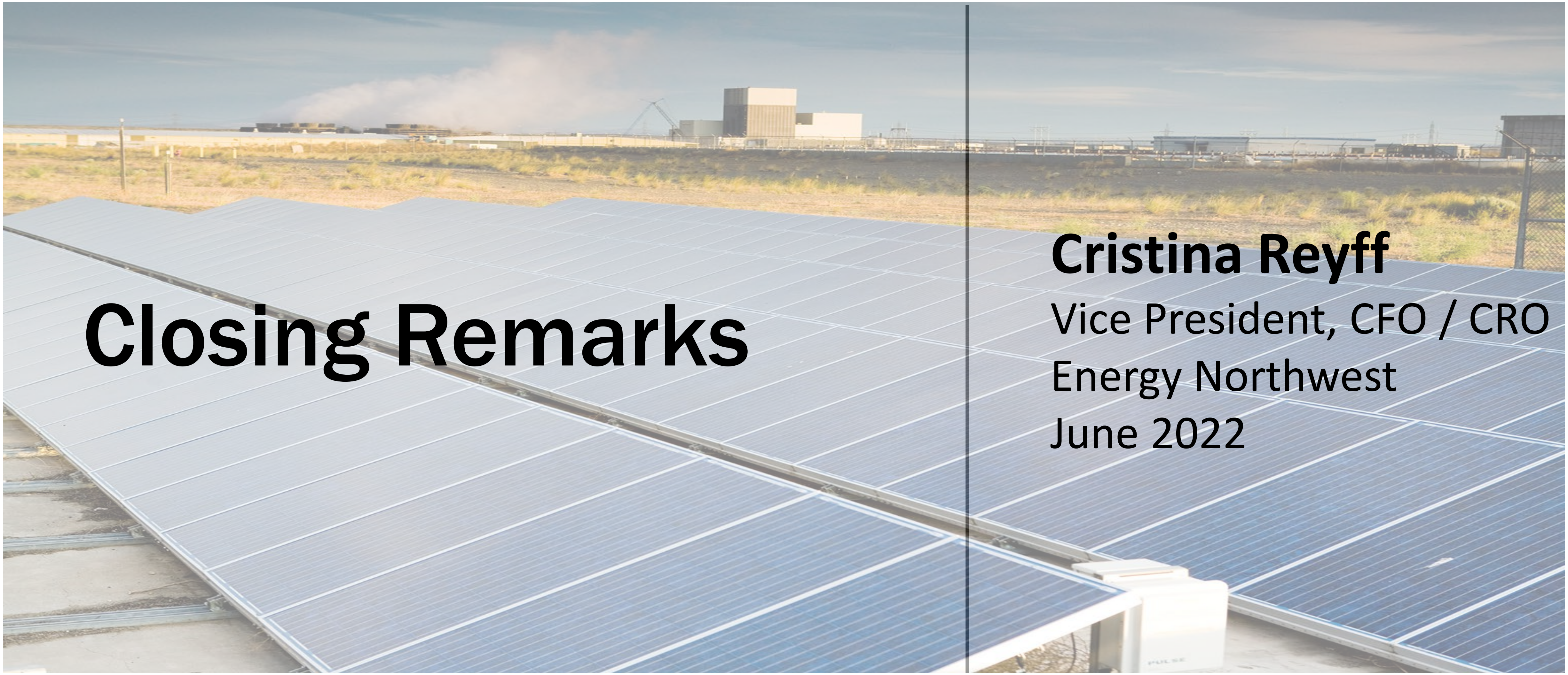
Clean Energy Generation

Why Nuclear?

Nearly
20%
of the nation's electricity is generated by 93 reactors in 28 states.

More than
50%
of our nation's carbon-free electricity is generated by nuclear reactors.

24/7
365
Nuclear energy produces 24/7, emission-free energy.



Closing Remarks

Cristina Reyff

Vice President, CFO / CRO

Energy Northwest

June 2022

Closing Message

- EN has consistently supported regional strategic initiatives
  - Debt Management Programs including Regional Cooperation Debt Initiative
  - Fuel Procurements leading to one of the lowest fuel costs in the industry
  - Columbia cost optimization – absorbing of inflation
- BP-24 Financial Resource Needs
  - Looking Ahead
    - Managing long-term impacts of inflation
    - Looking to expand innovations to further reduce long term operating costs
  - Extended Power Uprate
    - EN is seeking approximately $31 million to be financed during BP-24
    - Position EN & Region for future carbon free power needs
    - Focus on mitigating risk of implementation and stay on track for potential 2031 implementation

Questions?

- Questions
- Commitment Recap
- Presentation Feedback

Thank you!