

Quarterly Energy Resources Review

for the quarter ended September 30, 2024



November 4, 2024

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What We Will Cover Today

- Net wholesale revenue (NWR) and other energy-related revenue update
- Western power markets update
- Operations and planning

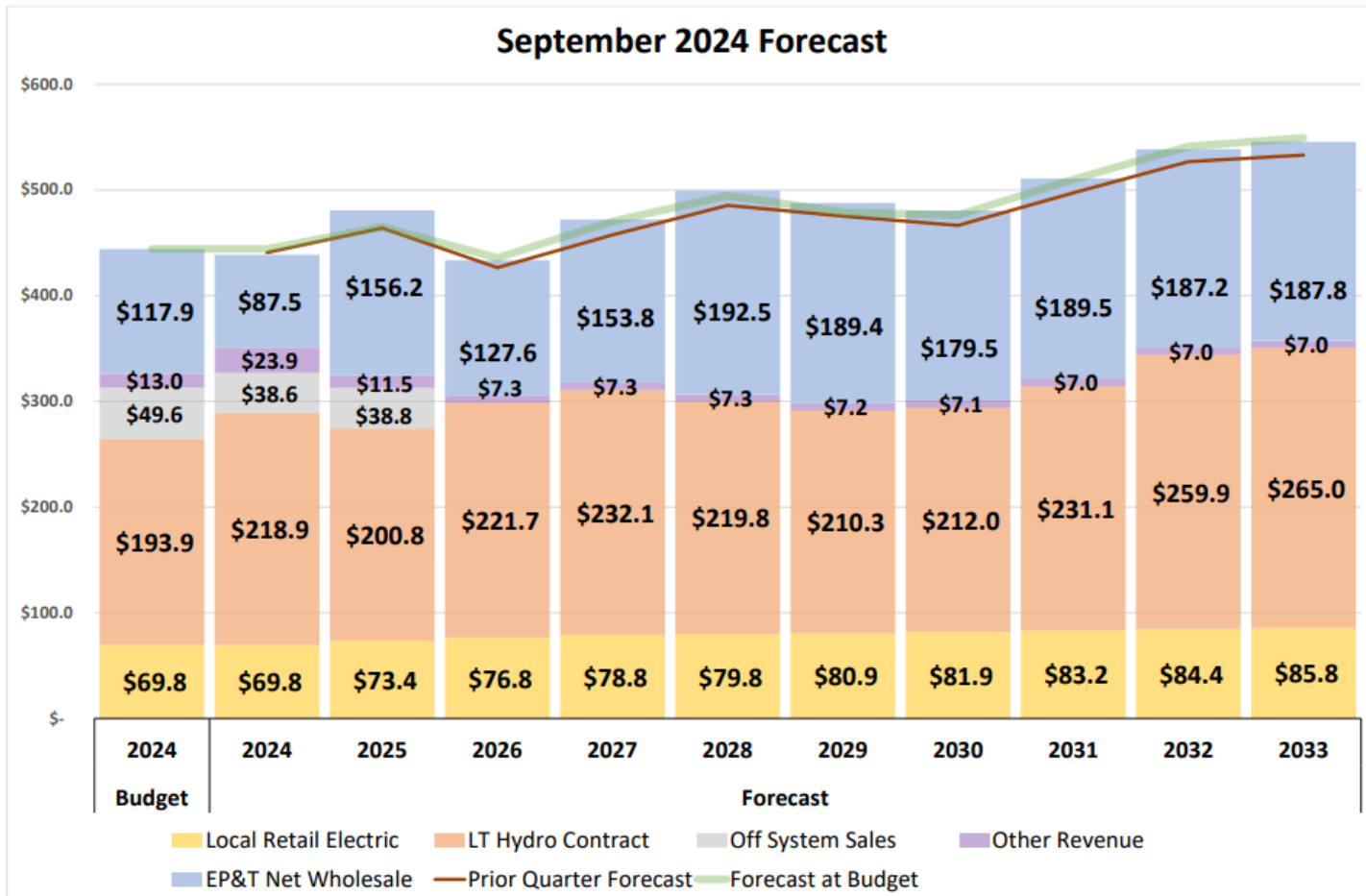
Update only, no action required

Appendix: Additional detailed information not covered today

Q3 2024 Key Highlights

- Revenue forecast above budget, water forecast below average
 - NWR and other energy-related revenue is forecasted to be \$189M (~\$8M above budget)
 - Columbia River water supply forecast is 76% of normal for Jan – Jul
- Climate Commitment Act (CCA)
 - WA allowance prices rebounded starting in mid Sep
- Day-Ahead Market Initiatives
 - SPP Markets+
 - Planning to fund Phase 2 if Board approves
 - Expect tariff response from FERC in November
 - CAISO Extended Day Ahead Market (EDAM)
 - Pathways Initiative

Electric Revenues Forecast - \$ Millions



Other Revenue includes Real Time, LT Contract admin fees, frequency response and load shedding, renewables, carbon allowance auction proceeds, and scheduling.

2024 NWR and Other Energy-Related Revenue

(\$ Millions)

	Budget	Forecast [1]	Variance
EP&T Net Wholesale Revenue (NWR)			
Energy Sales/Purchases	\$ 91.8	\$ 59.4	\$ (32.5)
Specified Source Premium	\$ 25.4	\$ 27.5	\$ 2.1
Renewables - Bundled	\$ 0.6	\$ 0.6	\$ -
NWR Sub-total [2]	\$ 117.9	\$ 87.5	\$ (30.4)
Off System Sales			
Off System end use sales	\$ 49.5	\$ 38.6	\$ (10.9)
Other Energy-Related Revenue			
LT Power Contract- Retained Surplus	\$ -	\$ 38.4	\$ 38.4
LT Power Contract- Admin Fees	\$ 4.1	\$ 3.5	\$ (0.6)
Frequency Response & Load Shedding	\$ 1.2	\$ 1.2	\$ -
Other [3]	\$ 0.6	\$ 8.0	\$ 7.5
Renewables - Unbundled	\$ 0.1	\$ 1.3	\$ 1.2
Real-Time Revenue	\$ 7.0	\$ 10.0	\$ 3.0
Other Energy-Related Sub-total	\$ 13.0	\$ 62.4	\$ 49.4
NWR and Other Energy-Related Revenue	\$ 180.3	\$ 188.5	\$ 8.1

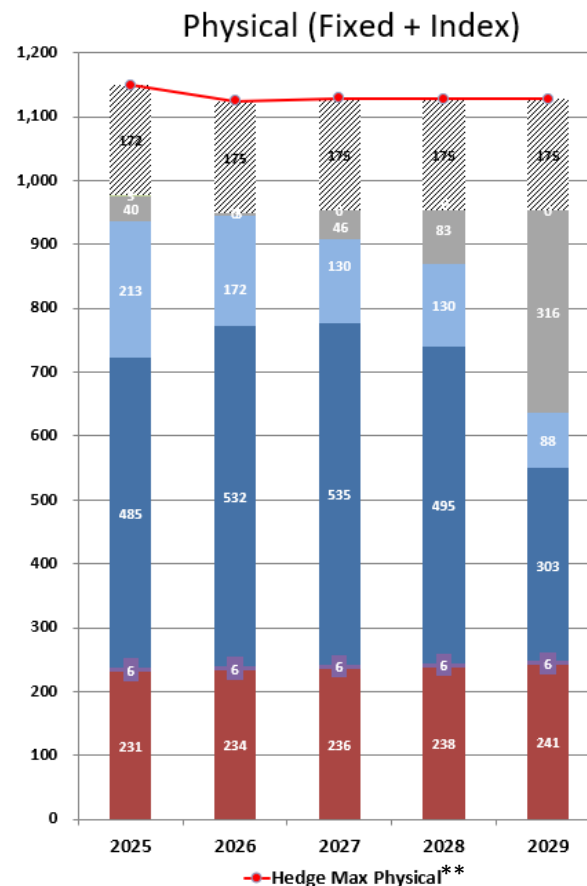
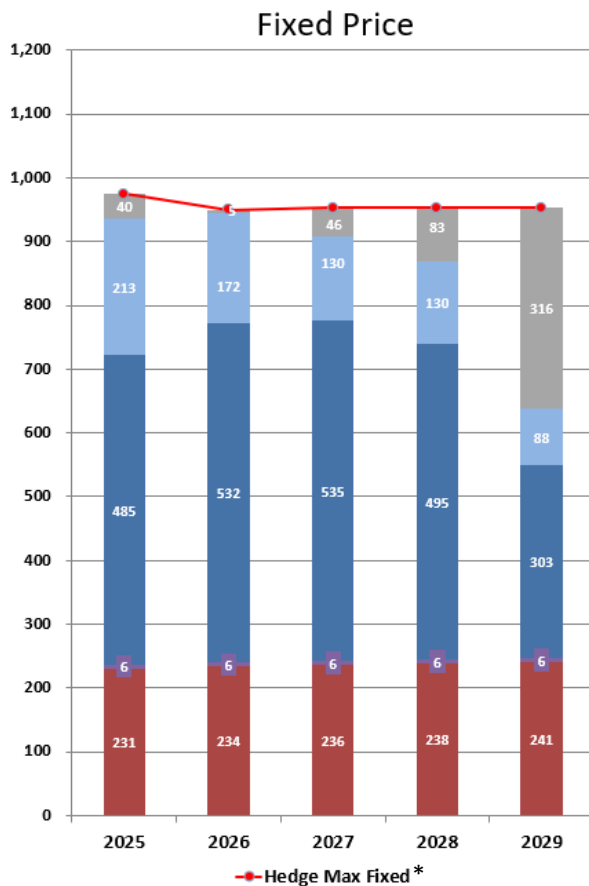
[1] 2024 forecast based Jan - Sep actuals Oct-Dec estimates (10/4/24 NWR forecast)

[2] NWR includes PWX specified source sale/full requirements purchase and transmission pass through costs

[3] Other includes scheduling, carbon allowance proceeds & admin fees and the sale of reserves

PUD's Energy Commitments

(Average MW)

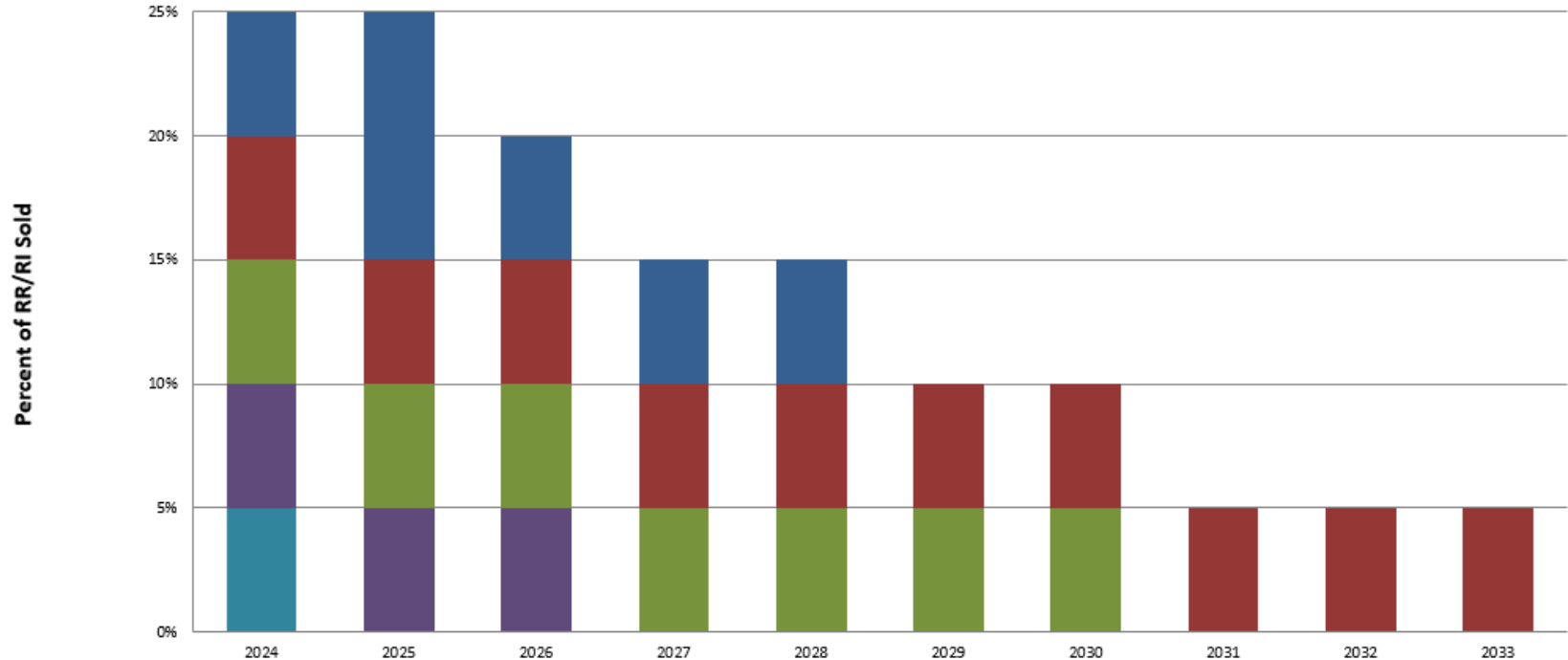


Note: The graphs represent the limits contained in resolution 20-14439 approved by the Board on March 23, 2020.

*Hedge Max Fixed = stress water generation

**Hedge Max Physical = stress water generation + 175 aMW

Fixed Price Slice Contracts



	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
■ Slice Product 38 - Puget Sound Energy	5.0%	10.0%	5.0%	5.0%	5.0%					
■ Long Term Slice 2 - Avista	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
■ Long Term Slice - Avista	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%			
■ Slice Product 35 - Puget Sound Energy	5.0%	5.0%	5.0%							
■ Slice Product 34 - Powerex	5.0%									

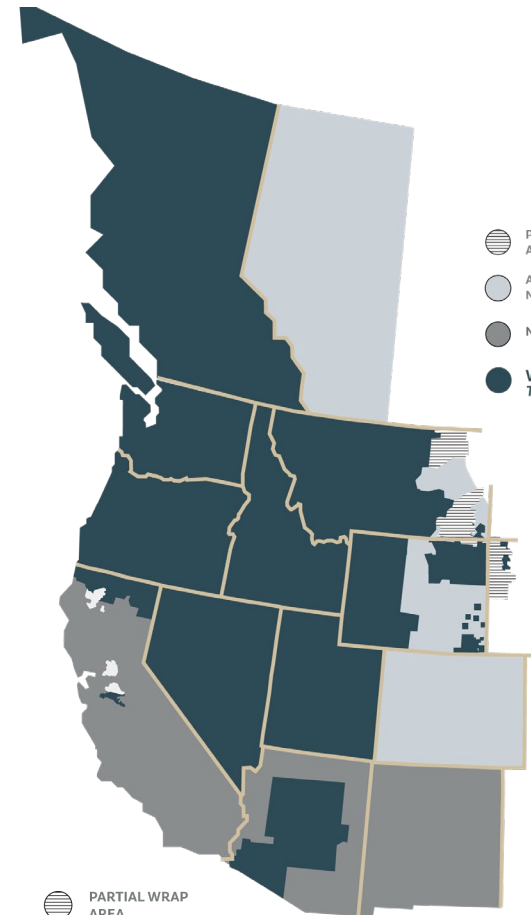
Changes in the Western Power Market

Western Resource Adequacy Program (WRAP)

- WPP Board approved WRAP Transition Plan Changes – 1 year delay
 - Earliest binding season is Summer 2027
 - Transition plan allows for reduced deficiency charges if participants do not meet requirements but showed “commercially reasonable efforts” to do so
- Business Practice Manuals being drafted/approved

Climate Commitment Act (CCA)

- Next regularly scheduled quarterly auction on 12/04/2024
- Allowances currently trading \$45/metric ton of CO₂e in secondary market (up about \$10 since Q2 Board update)

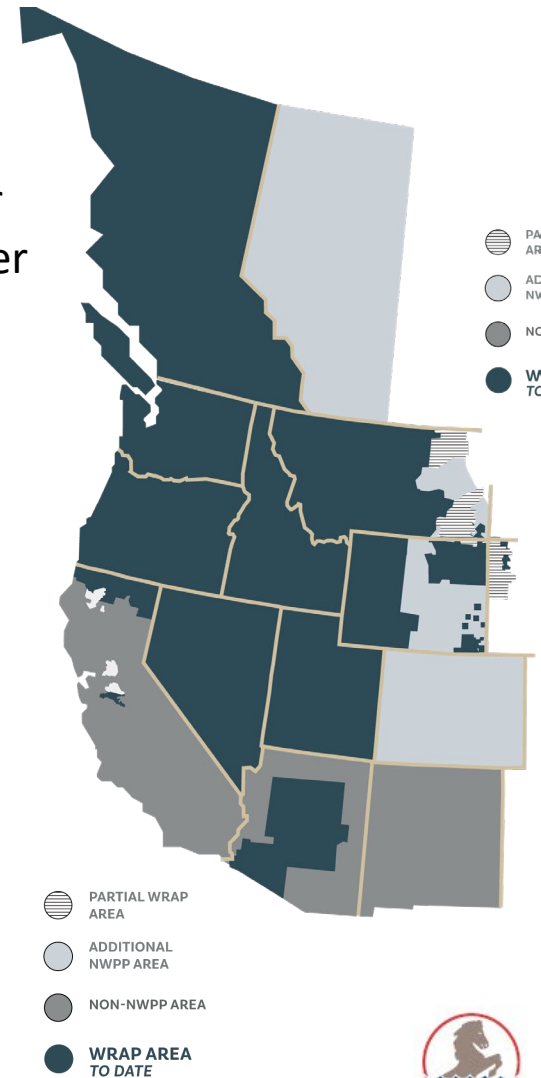


Changes in the Western Power Market

(Continued)

Short term markets (within hour → real-time → day ahead)

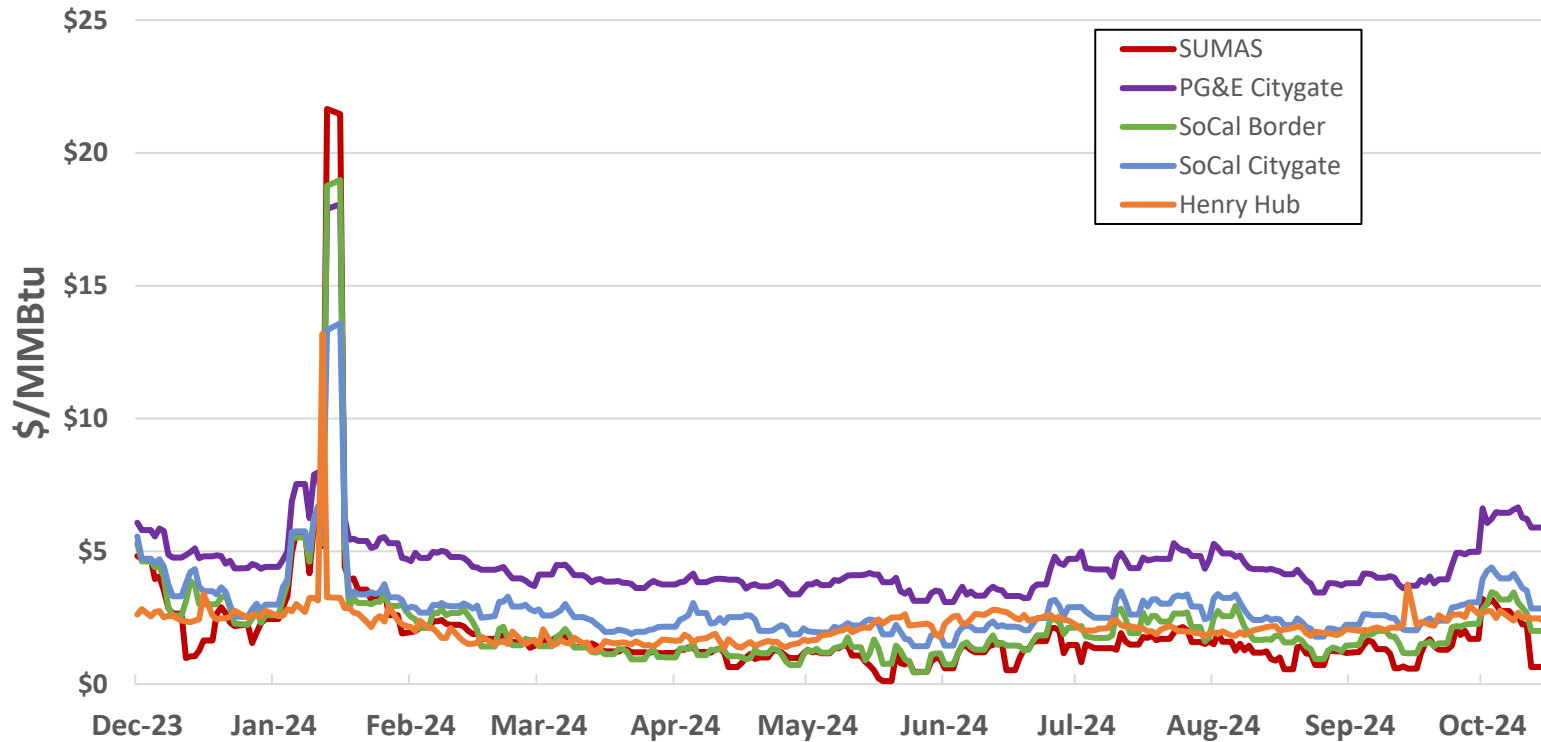
- SPP filed response to the FERC deficiency letter on September 20th asking for FERC approval of the SPP M+ tariff by November 20th.
 - Chelan plans to fund Phase 2 pending BOC approval
 - Chelan staff working on M+ protocol development
- CAISO EDAM tariff approved by FERC
- Westwide Governance Pathways Initiative (WWGPI or Pathways) Effort continues work to scope out new regional organization that would govern market operated by CAISO



Daily Natural Gas Prices

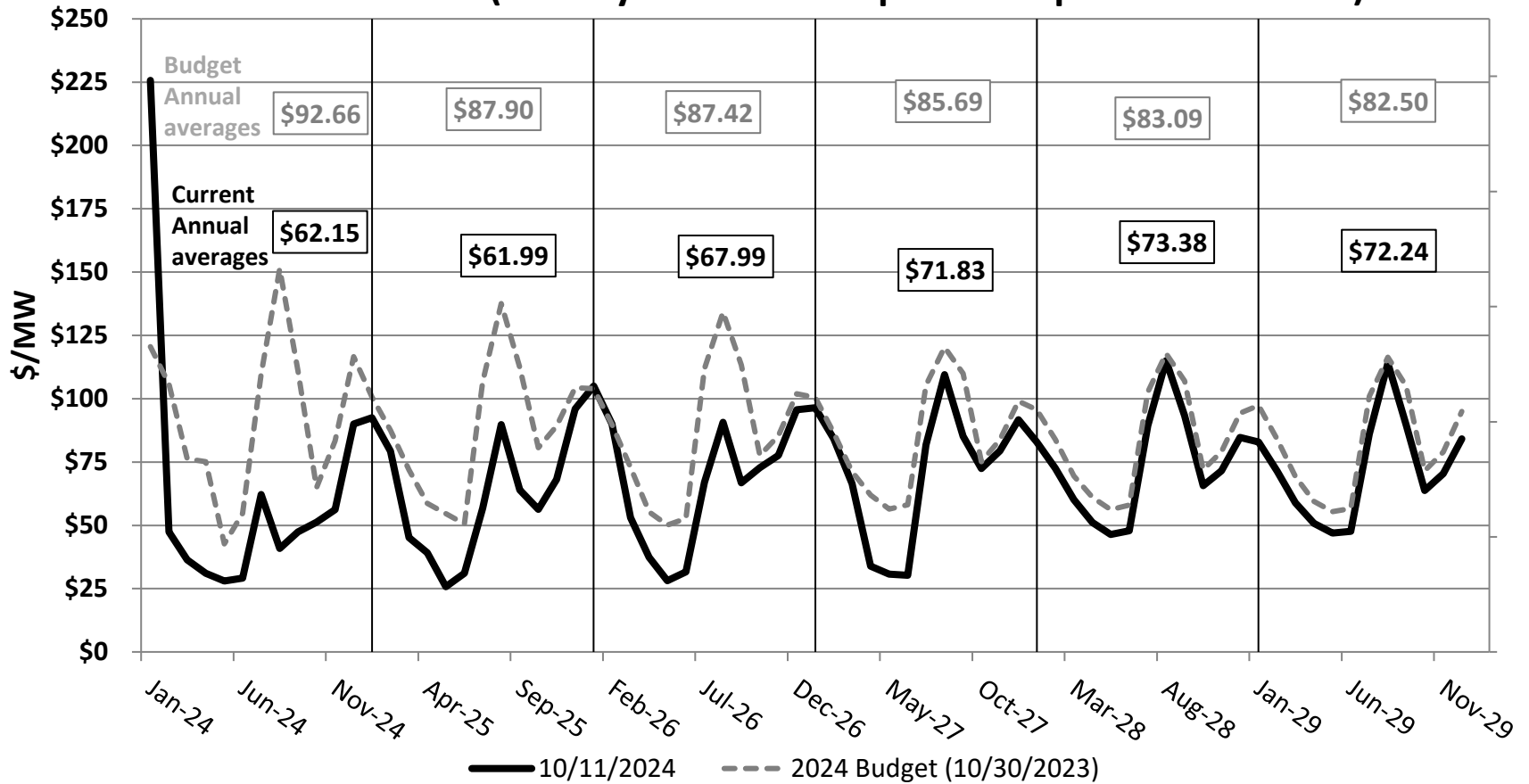
Dec 2023 – Oct 2024

Select Western Natural Gas Hubs
Spot Prices



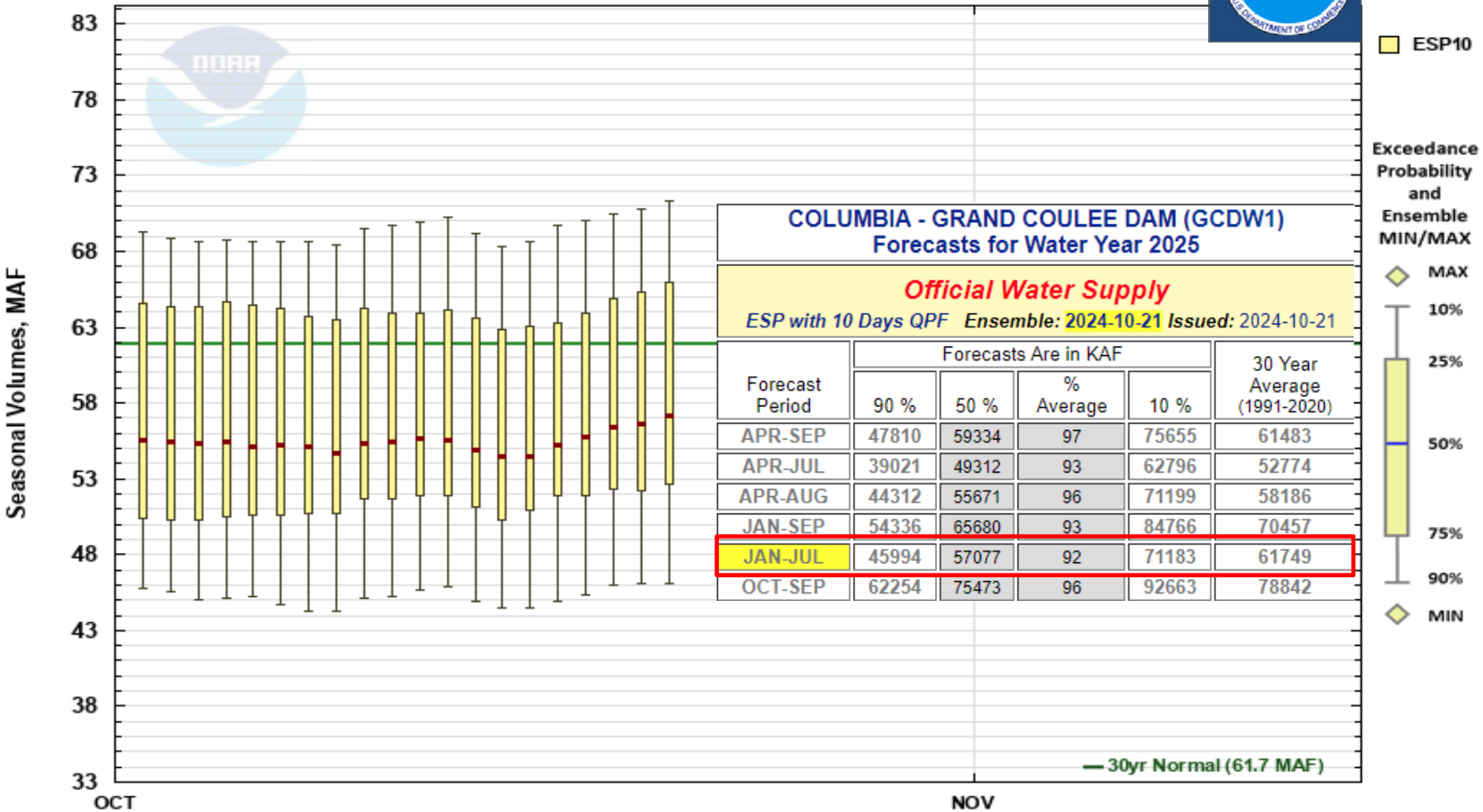
Mid-C forward price curve

MIDC Flat Forward Price Curve
(ICE Day-Ahead index prices for previous months)



Water Year 2025: Water Supply forecast

Water Supply Forecasts COLUMBIA - GRAND COULEE DAM Period JAN to JUL - Water Year 2025



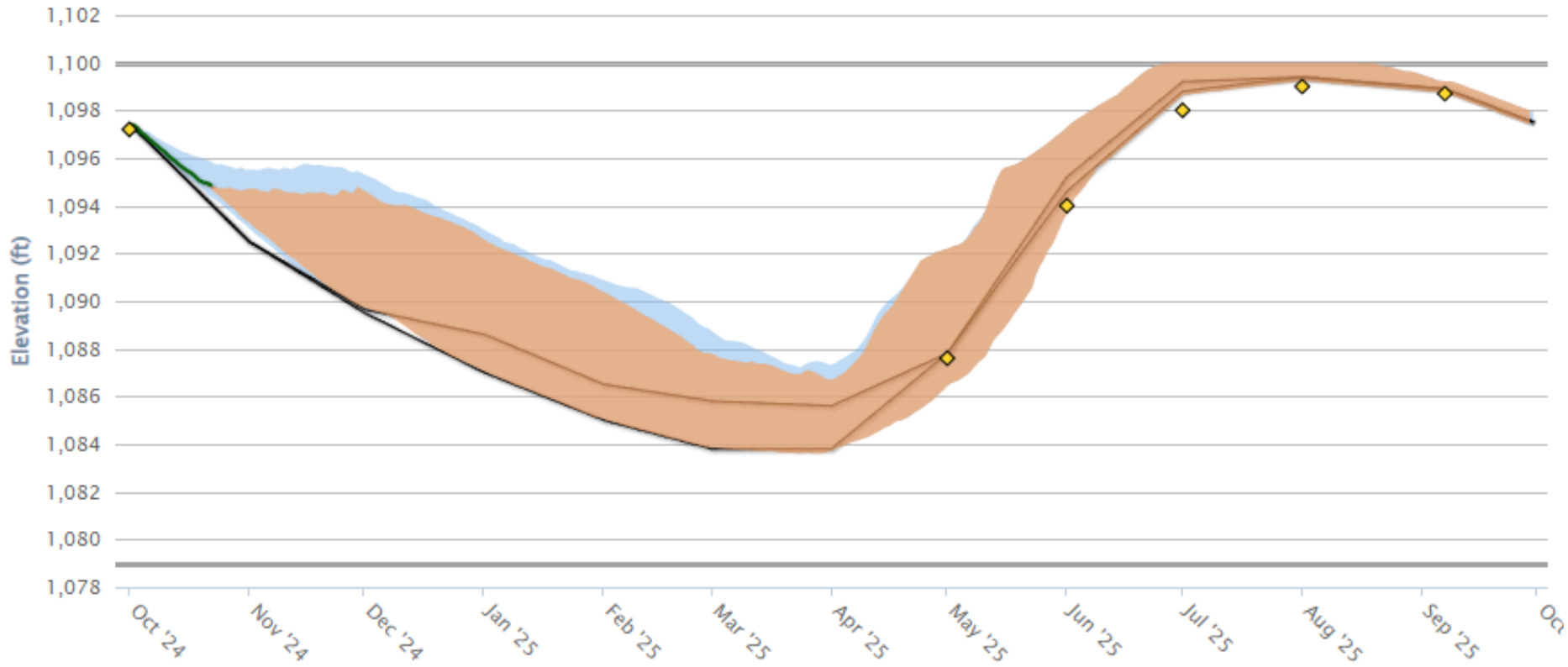
**COLUMBIA - GRAND COULEE DAM (GCDW1)
Forecasts for Water Year 2025**

Official Water Supply
ESP with 10 Days QPF Ensemble: 2024-10-21 Issued: 2024-10-21

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	47810	59334	97	75655	61483
APR-JUL	39021	49312	93	62796	52774
APR-AUG	44312	55671	96	71199	58186
JAN-SEP	54336	65680	93	84766	70457
JAN-JUL	45994	57077	92	71183	61749
OCT-SEP	62254	75473	96	92663	78842

Lake Chelan level forecast

Chelan Lake Levels: Expected Operating Ranges



- Current Year Actual Elevation (ft)
- Previous Year Actual Elevation (ft)
- Current Forecasted Operating Range (ft)
- Current Forecasted Average Elevation (ft) (50% chance of occurring)
- October 1 Forecasted Operating Range (ft)
- October 1 Forecasted Average Elevation (ft)
- Target Curve During Dry and Average Water Years (ft)
- Target Curve During Wet Water Years (ft)
- ◆ Minimum Target Elevation

Q3 2024 Key Messages

- NWR and other energy-related revenue slightly above budget mainly due to retained surplus proceeds from Long-Term Power Contracts
- Monitoring I-2117 for future of Climate Commitment Act
- Monitoring Day-Ahead organized market developments
 - Plan to fund Phase 2 of SPP Markets+ subject if Board approves

Questions?