

Energy Resources Quarterly Board Update 2022 Q1

May 16, 2022

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Resources

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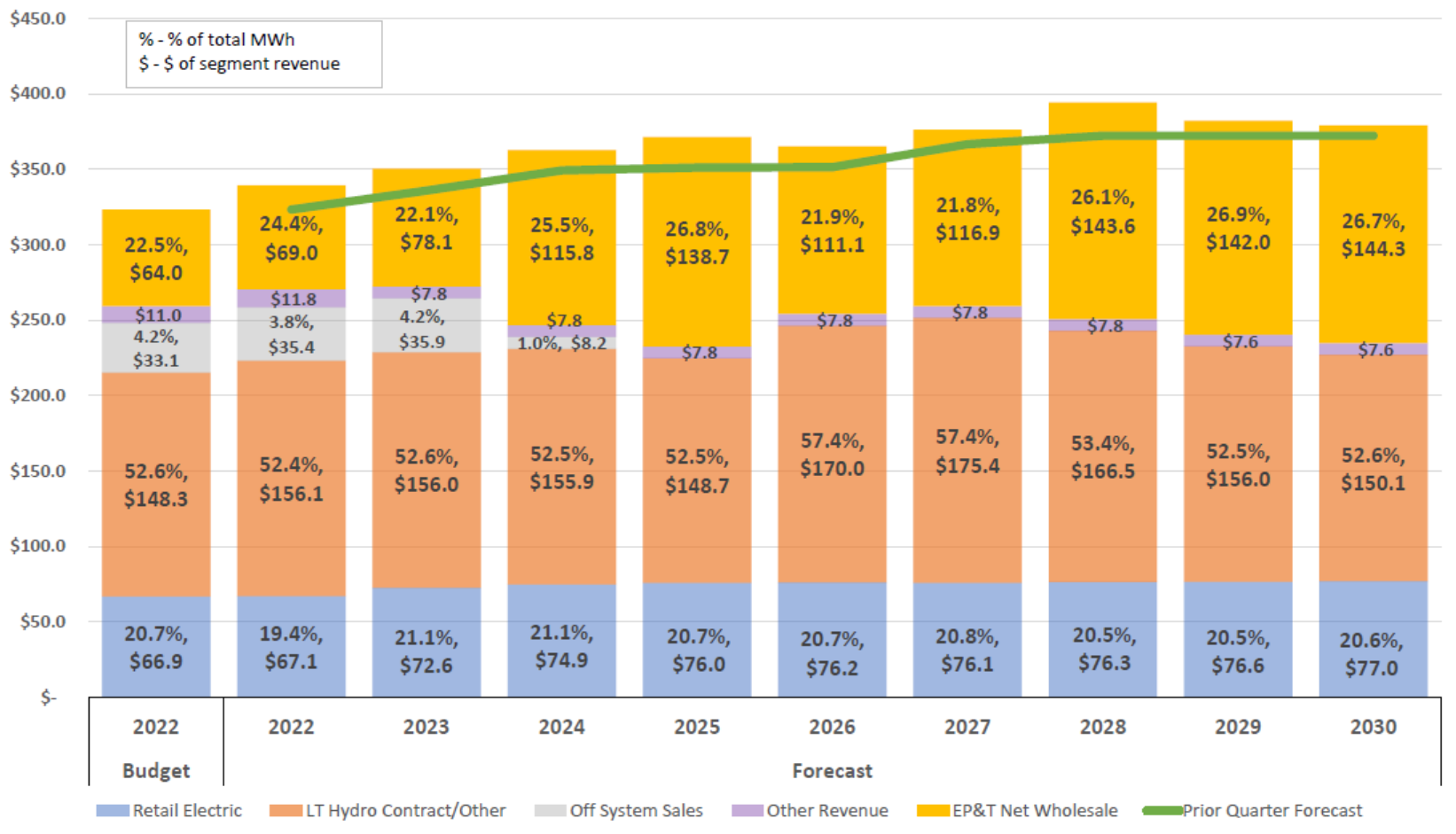
Why We're Here

- 2022 net wholesale revenue forecast update
- Western Power Markets update
- Operations and planning
 - Portfolio overview
 - Pricing update

Key points

- The 2022 net wholesale revenue forecast is \$69M and is \$5M above budget. After adding in other energy related revenue, the revenue forecast is \$124.2 million and \$16 million higher than budget
- Western Resource Adequacy Program (WRAP) continues to advance on schedule
- Western Market momentum continues in West
 - California Independent System Operator (CAISO) Extended Day Ahead Market (EDAM)
 - Southwestern Power Pool (SPP) Markets+

Electric Revenues Forecast - \$ Millions



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

2022 NWR and Other Energy-Related Revenue

(amounts in millions)

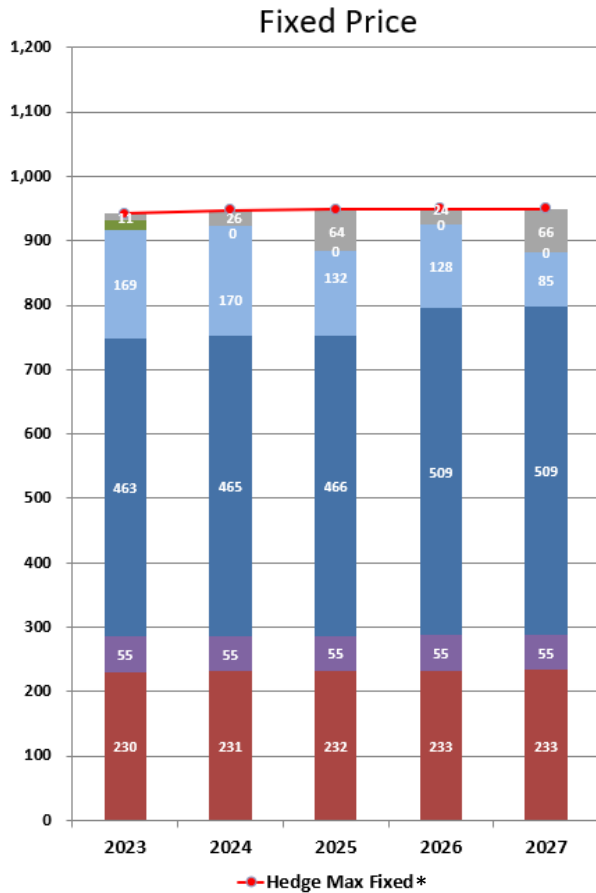
	Budget	Forecast [1]	Variance
EP&T Net Wholesale Revenue (NWR)			
Energy Sales/Purchases	\$ 54.4	\$ 59.4	\$ 4.9
Specified Source Premium	\$ 9.6	\$ 9.6	\$ -
Renewables- Bundled	\$ -	\$ 0.0	\$ 0.0
NWR Sub-total [2]	\$ 64.0	\$ 69.0	\$ 5.0
Off System Sales			
Off System end use sales	\$ 33.1	\$ 35.4	\$ 2.3
Other Energy-Related Revenue			
LT Power Contract- Retained Surplus	\$ -	\$ 7.9	\$ 7.9
LT Power Contract- Admin Fees	\$ 2.8	\$ 2.8	\$ -
Frequency Response & Load Shedding	\$ 1.0	\$ 1.0	\$ -
Other [3]	\$ 0.2	\$ 0.2	\$ -
Renewables- Unbundled	\$ 0.1	\$ 0.5	\$ 0.4
Real-Time Revenue	\$ 7.0	\$ 7.4	\$ 0.4
Other Energy-Related Sub-total	\$ 11.1	\$ 19.8	\$ 8.7
NWR and Other Energy-Related Revenue	\$ 108.1	\$ 124.2	\$ 16.1

[1] 2022 forecast based Jan - Mar actuals and Apr-Dec estimates (4/7/22 NWR forecast)

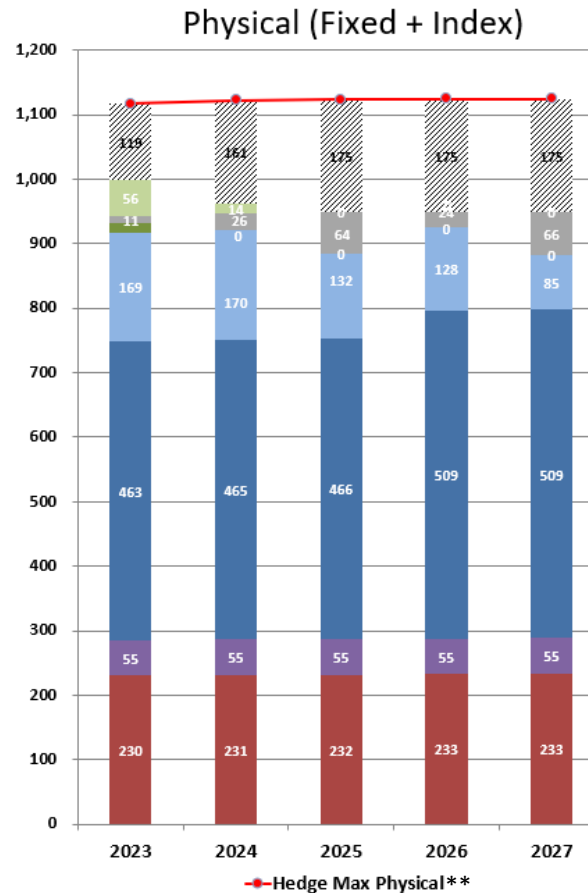
[2] NWR includes PWX specified source sale/full requirements purchase and transmission pass through costs

[3] Other includes scheduling & admin fees and the sale of reserves

District's energy commitments



- Available to Sell at Fixed Price
- Fixed Price Block Contracts
- Fixed Price Slice
- Long-term Cost Plus Slice
- Canadian Entitlement
- Local Load



- Available to Sell at Index Price
- Available to Sell at Fixed Price
- Index Price Block Contracts (Includes Off-System End-Use)
- Fixed Price Block Contracts
- Fixed Price Slice
- Long-term Cost Plus Slice
- Canadian Entitlement
- Local Load

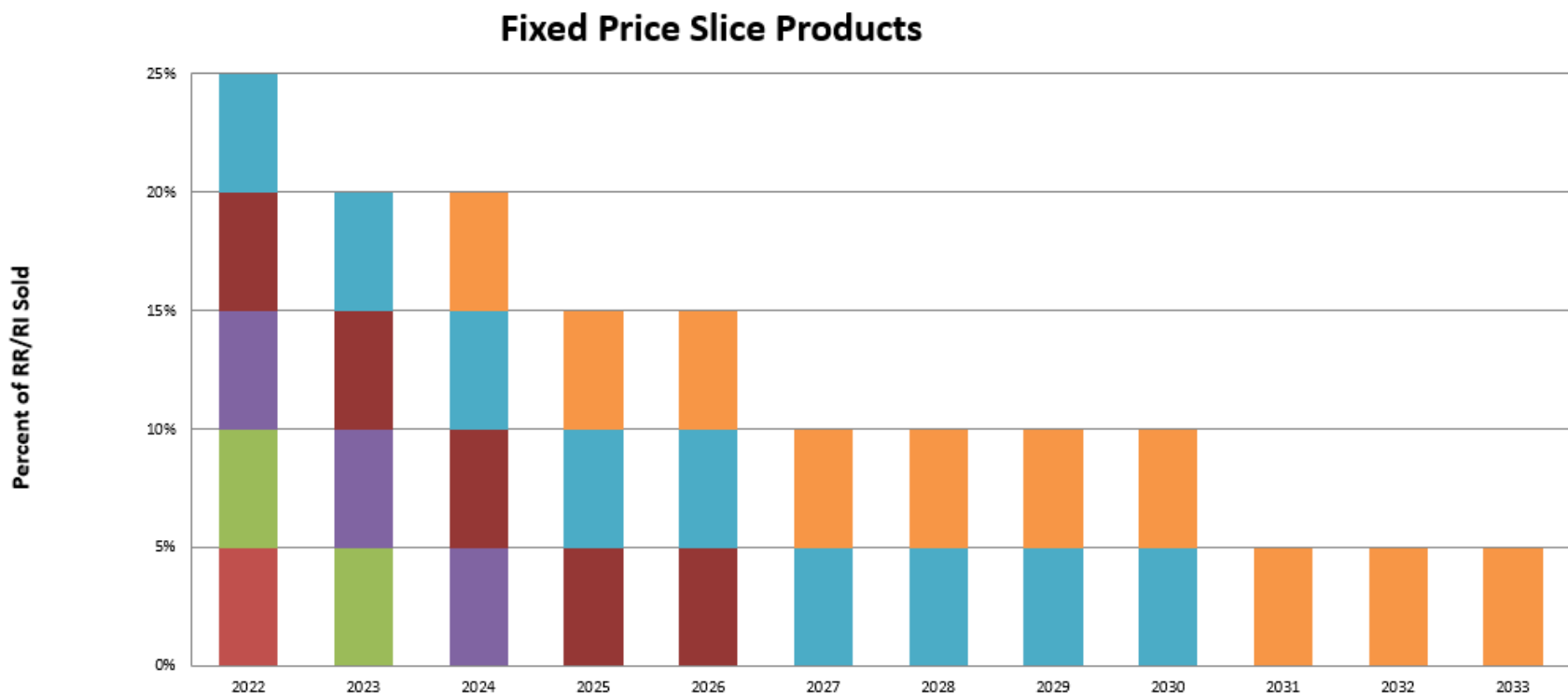
(Average MW)

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



	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
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%	5.0%	5.0%			
Slice Product 35 - Puget Sound Energy	5.0%	5.0%	5.0%	5.0%	5.0%							
Slice Product 34 - Powerex	5.0%	5.0%	5.0%									
Slice Product 30 - Avangrid	5.0%	5.0%										
Slice Product 29 - Morgan	5.0%											

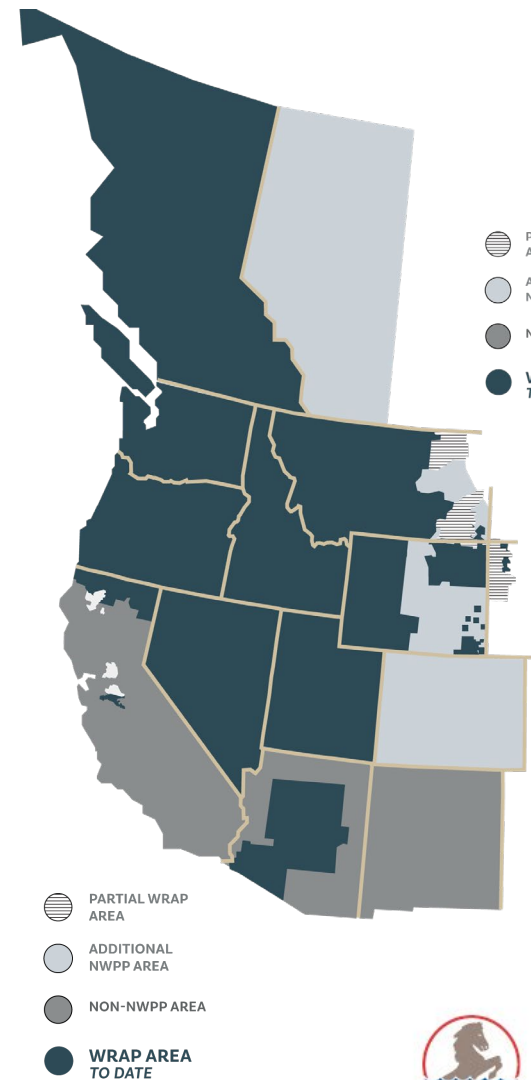
Major changes in the western power market

Western Resource Adequacy Program (WRAP)

- Western Power Pool (WPP) will have in person meeting starting today to finalize the WRAP tariff
- Plan to file tariff with FERC this summer
- Look for binding program to start in 2024

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

- CAISO EDAM
 - CAISO issued EDAM Straw Proposal on April 28th
 - Aiming for EDAM 2024 go-live
- SPP Markets+
 - Markets+ Draft Service Offering expected September 2022
 - Markets+ Commitment to Investigate Q1 2023



Major changes in the western power market

New products and services

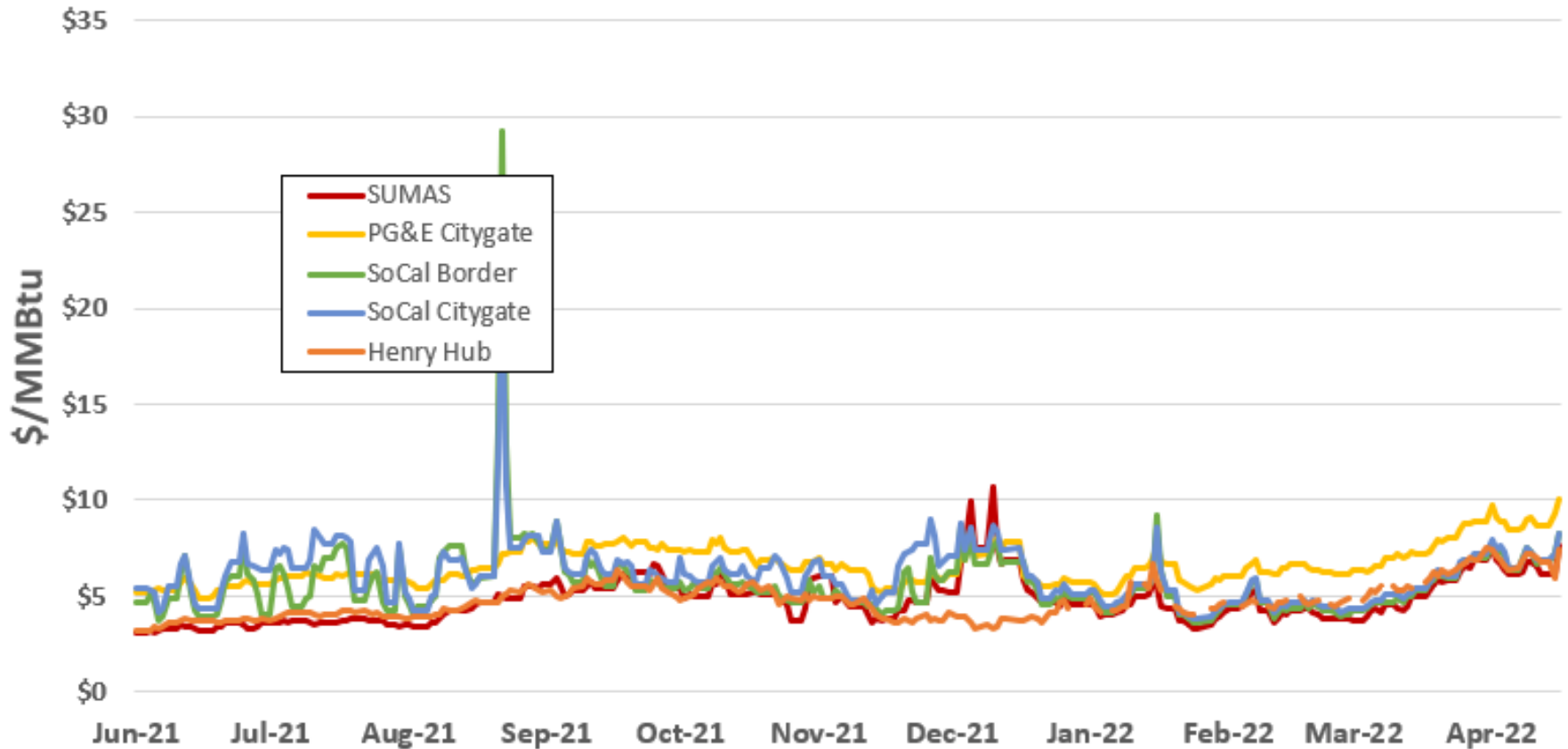
- Fifteen western utilities (Including the District) issued Letter of Intent to review both EDAM and Markets+ before path forward is chosen
- Public Power Council issued a similar letter

State carbon policies

- Clean Energy Transformation Act (CETA) rulemaking efforts are expected to wrap up this summer
- Cap and Invest
 - Department of Ecology rulemaking ongoing, program starts 2023

Daily Natural Gas Prices

Jun 2021 – May 2022
Select Western Natural Gas Hubs
Spot Prices



Jun 2022 Henry Hub natural gas

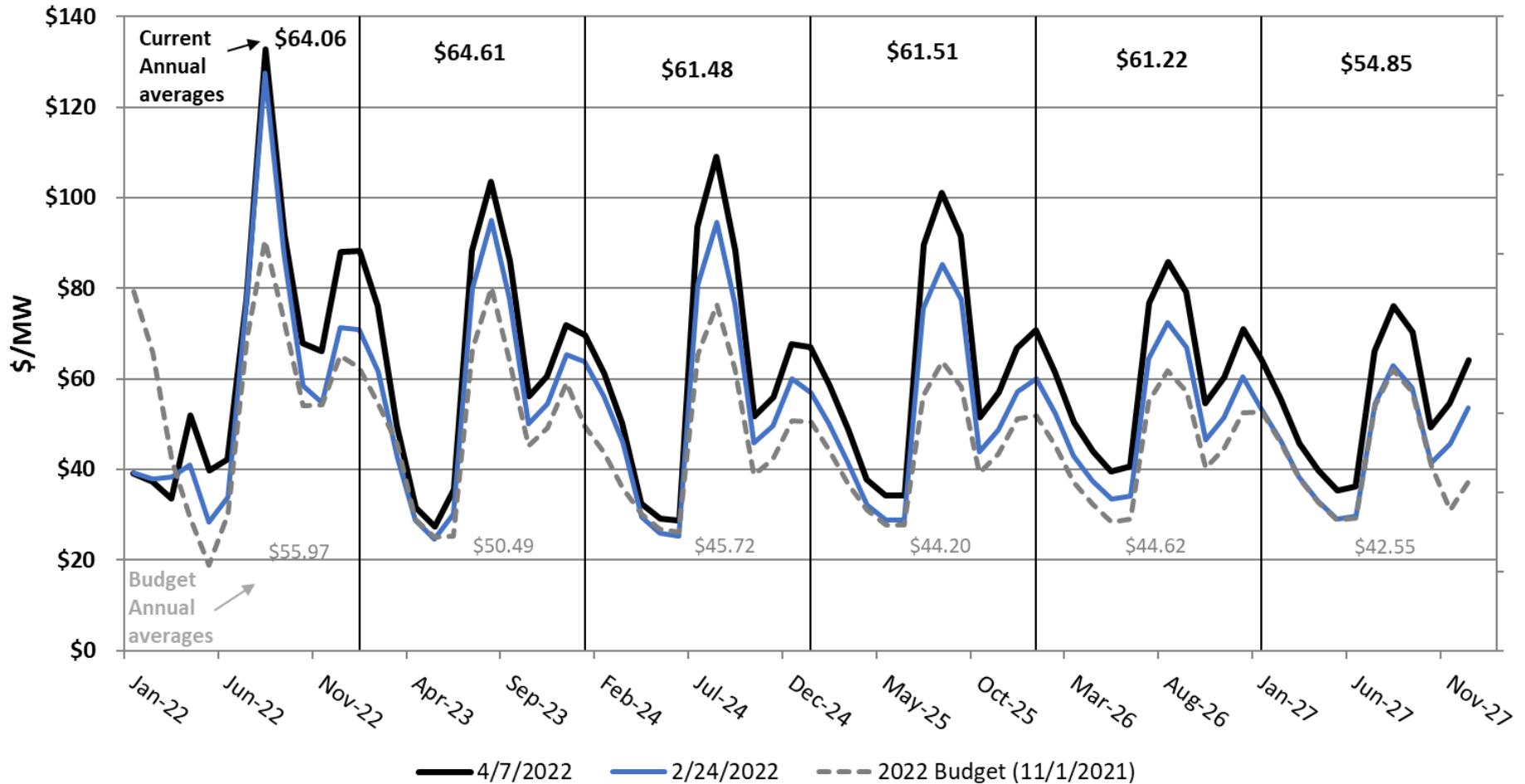


Jun 2022 Henry Hub natural gas (price history since 2002)



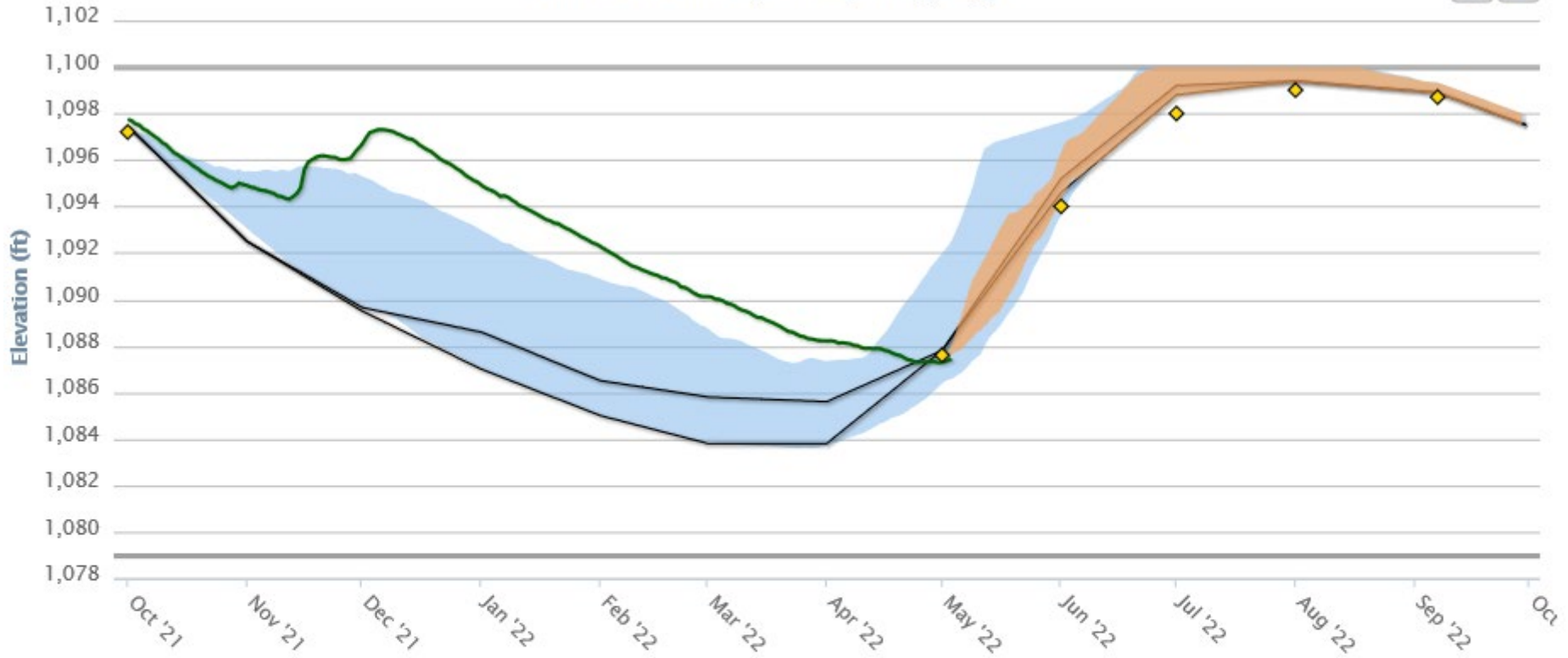
MIDC forward price curve

MIDC Flat Forward Price Curve
(ICE DA index prices for previous months)



Lake Chelan level webpage

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

Water Supply Forecasts

COLUMBIA - GRAND COULEE DAM (GCDW1) Forecasts for Water Year 2022

Official Water Supply
ESP with 10 Days QPF Ensemble: 2022-05-03 Issued: 2022-05-03

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	58914	61938	101	68381	61483
APR-JUL	48369	51126	97	56840	52774
APR-AUG	54464	57654	99	64383	58186
JAN-SEP	68415	71439	101	77882	70457
JAN-JUL	57870	60626	98	66341	61749
OCT-SEP	79258	82283	104	88726	78842

CHELAN - LAKE CHELAN DAM (CHDW1) Forecasts for Water Year 2022

Official Water Supply
ESP with 10 Days QPF Ensemble: 2022-05-03 Issued: 2022-05-03

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	999	1084	95	1193	1139
APR-JUL	877	976	95	1058	1029
JAN-SEP	1220	1305	98	1414	1326
JAN-JUL	1099	1198	98	1280	1217
OCT-SEP	1610	1695	112	1804	1518

Market info

PPA prices rise 28.5% as supply and regulatory challenges pile up: report

Dive Brief:

- A shortage of new renewable projects available to interested buyers has caused prices for power purchase agreements to rise 9.7% since the beginning of 2022, and 28.5% since the beginning of 2021, according to [an analysis](#) by PPA marketplace LevelTen Energy.
- Rising materials costs, interconnection backlogs, and regulatory risks have all contributed to an upward price trend, according to Rob Collier, vice president of energy marketplace at LevelTen Energy.
- In some cases, developers have chosen to pause offering PPAs in response to high price and regulatory uncertainty, Collier said. However, he said demand for renewable energy remains strong in spite of the industry headwinds.

Summary

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Questions?