

Energy Resources Quarterly Board Update 2021 Q1

May 17, 2021

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Why We're Here

- Portfolio Overview
- Operations and Planning
 - » Pricing update
 - » Net Wholesale Revenue Forecast update
- Market Update

Key points

- The District's 2021 Net Wholesale Revenue is forecast to be \$68 million which is \$600,000 higher than budget for the year
- Other energy-related revenues are forecast to be \$14 million which is \$3.8 million higher than budget
- Together, the forecasted revenues are \$82 million and \$4.4 million above budget for 2021

Major changes in the western power market

Resource Adequacy

- Northwest Power Pool design teams have been meeting regularly and should have completed the detailed program design in 2021.
- The Interim Resource Adequacy solution is being decided upon for summer 2021. it was not called upon Winter 2020-2021.

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

- Participation in CAISO's Energy Imbalance Market (EIM) continues to grow: footprint expected to include ~77% of Western Interconnection load by 2022. We are closely watching governance proposals.

Major changes in the western power market (cont.)

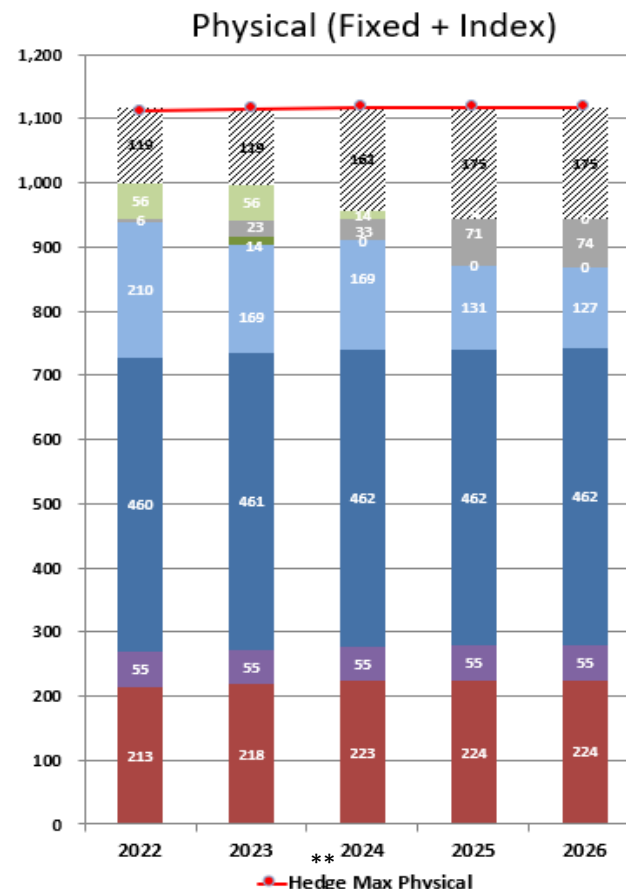
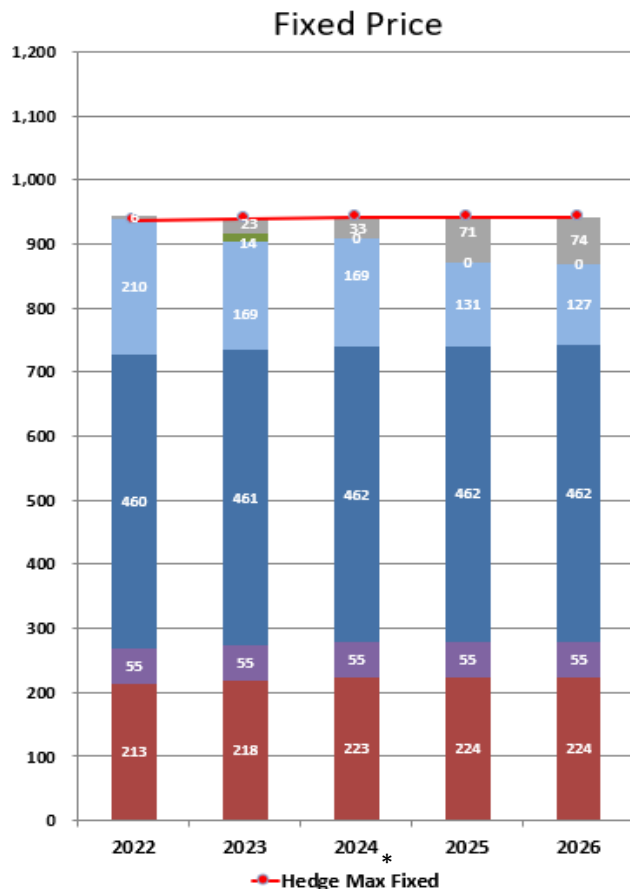
State carbon policies

- Clean Energy Transformation Act (CETA) rulemaking efforts are ongoing—Clean Energy Implementation Plan (CEIP) work and submittal in 2021.
- Climate Commitment Act (WA State Cap-and-Invest program) passed the house and senate to achieve state's goal of net-zero emissions by 2050. Governor needs to sign.

New products and services

- Southwest Power Pool began offering Western Energy Imbalance service (WEIS) on Feb 1, 2021

District's energy commitments (average MW)

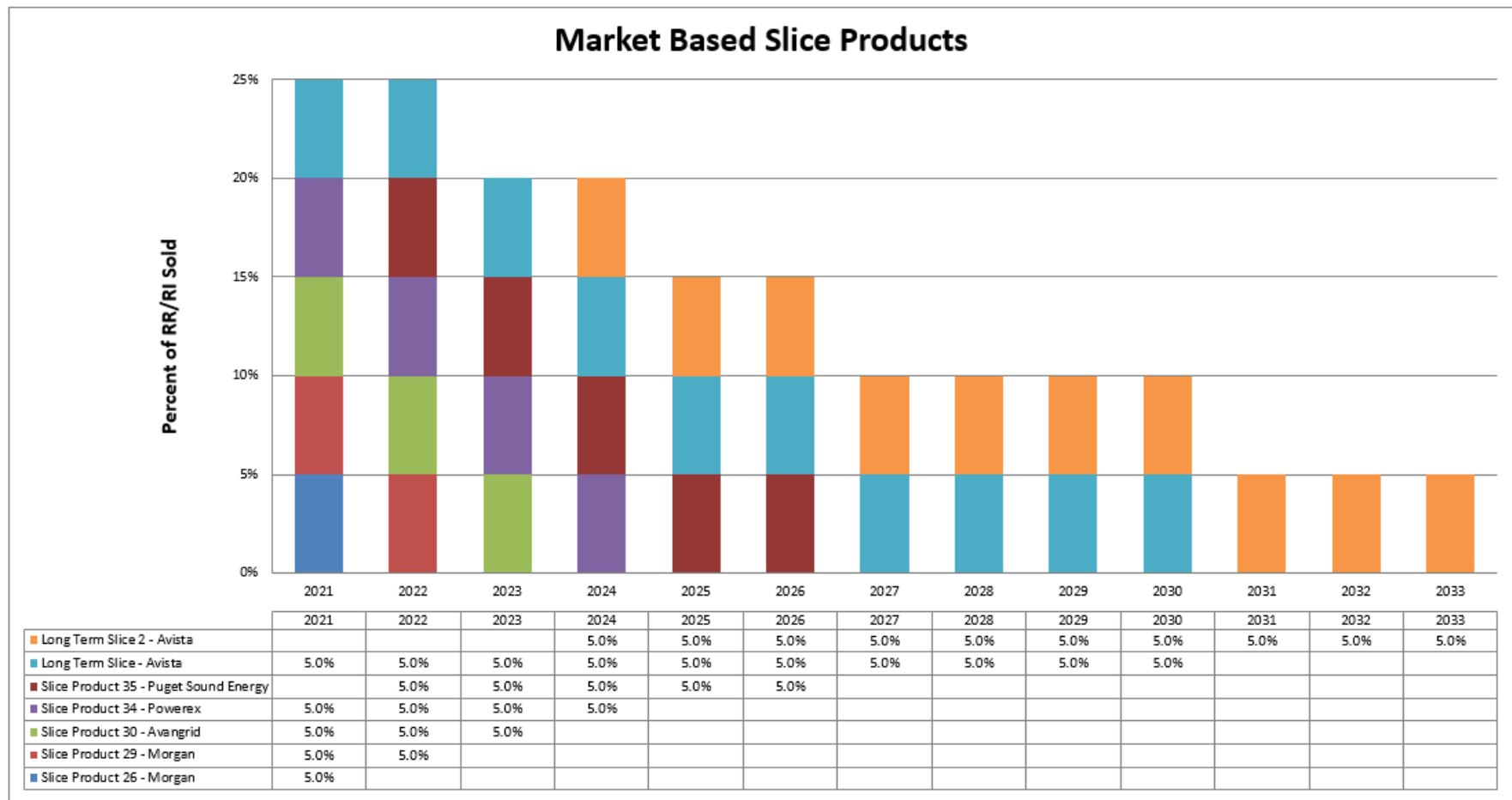


Note: The graphs represent the limits contained in resolution 20-14439 approved by the Board on March 23, 2020.

*Hedge Max Fixed = stress water generation

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

Market-based slice contracts



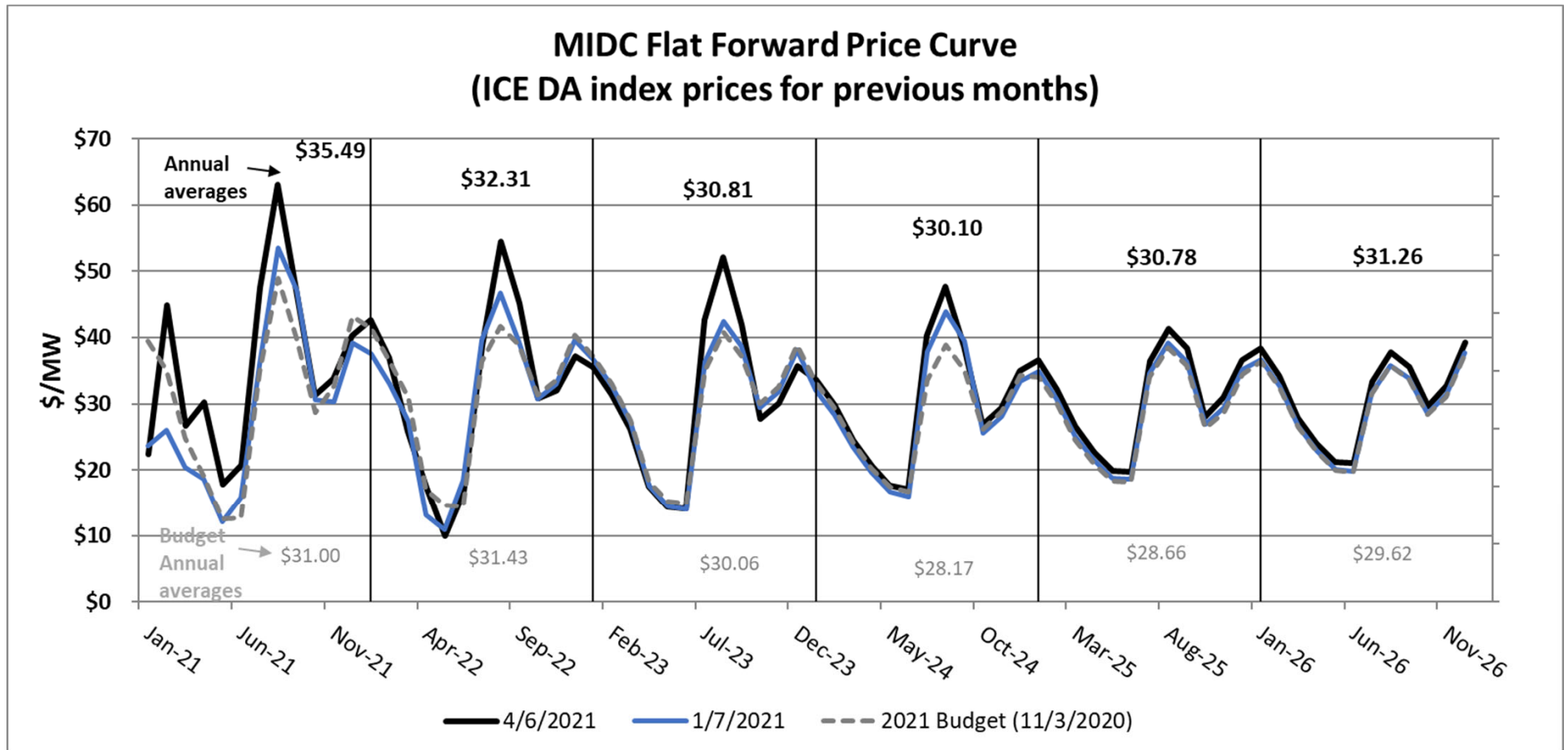
June 2021 Henry Hub natural gas



Mar 2020 Henry Hub natural gas contract (price history since 2002)

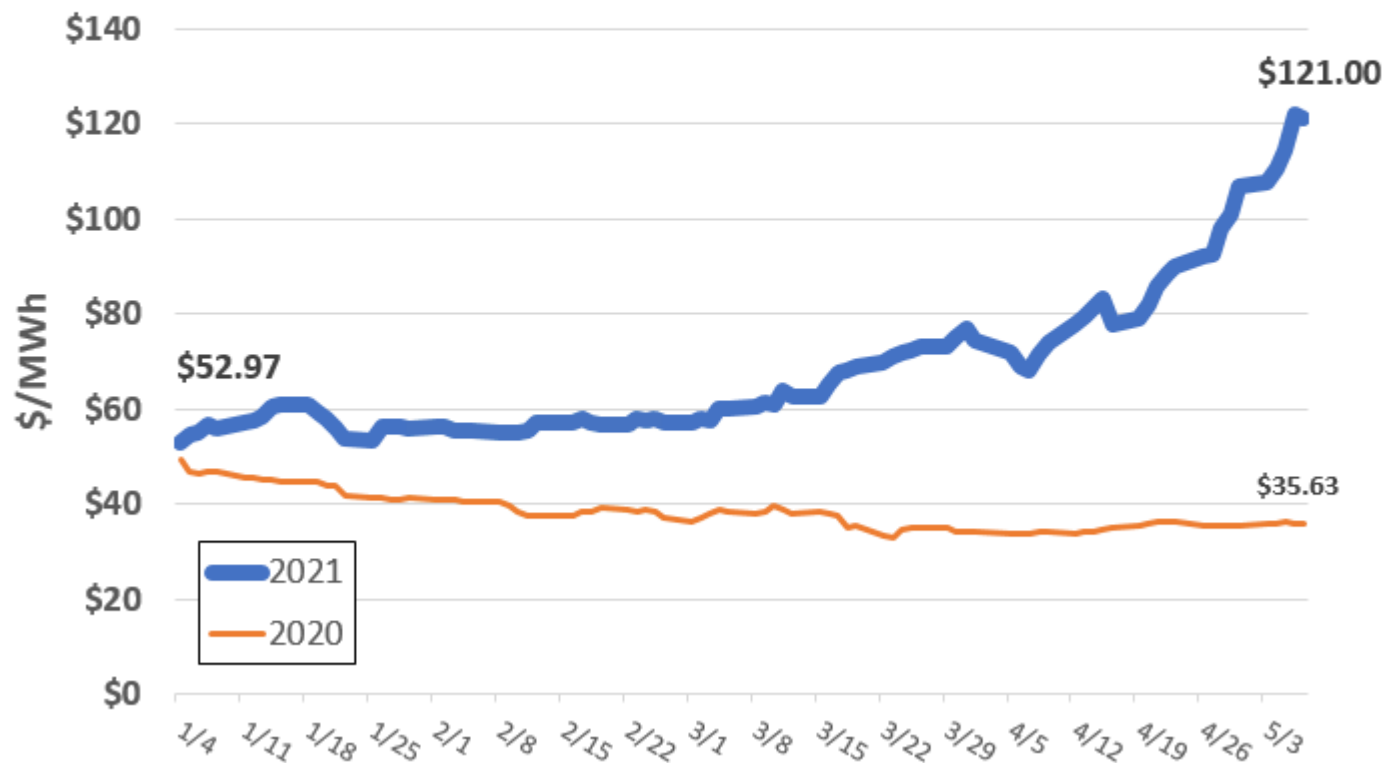


MIDC forward price curve



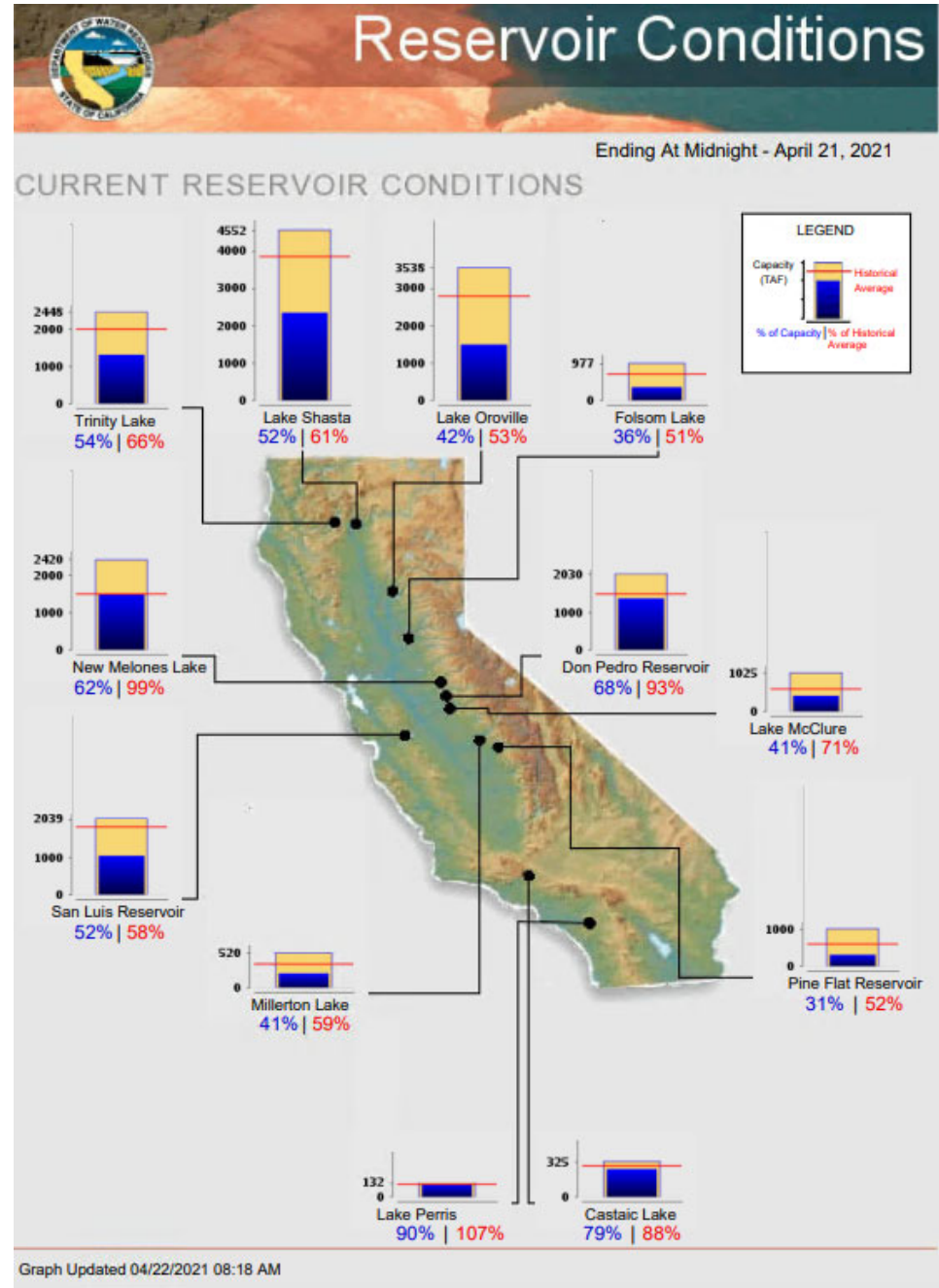
Summer Squeeze

Summer Peak MIDC Energy Price Q3



CA reservoir conditions

Most CA reservoirs well below normal



2021 NWR and Other Energy-Related Revenue

(amounts in millions)

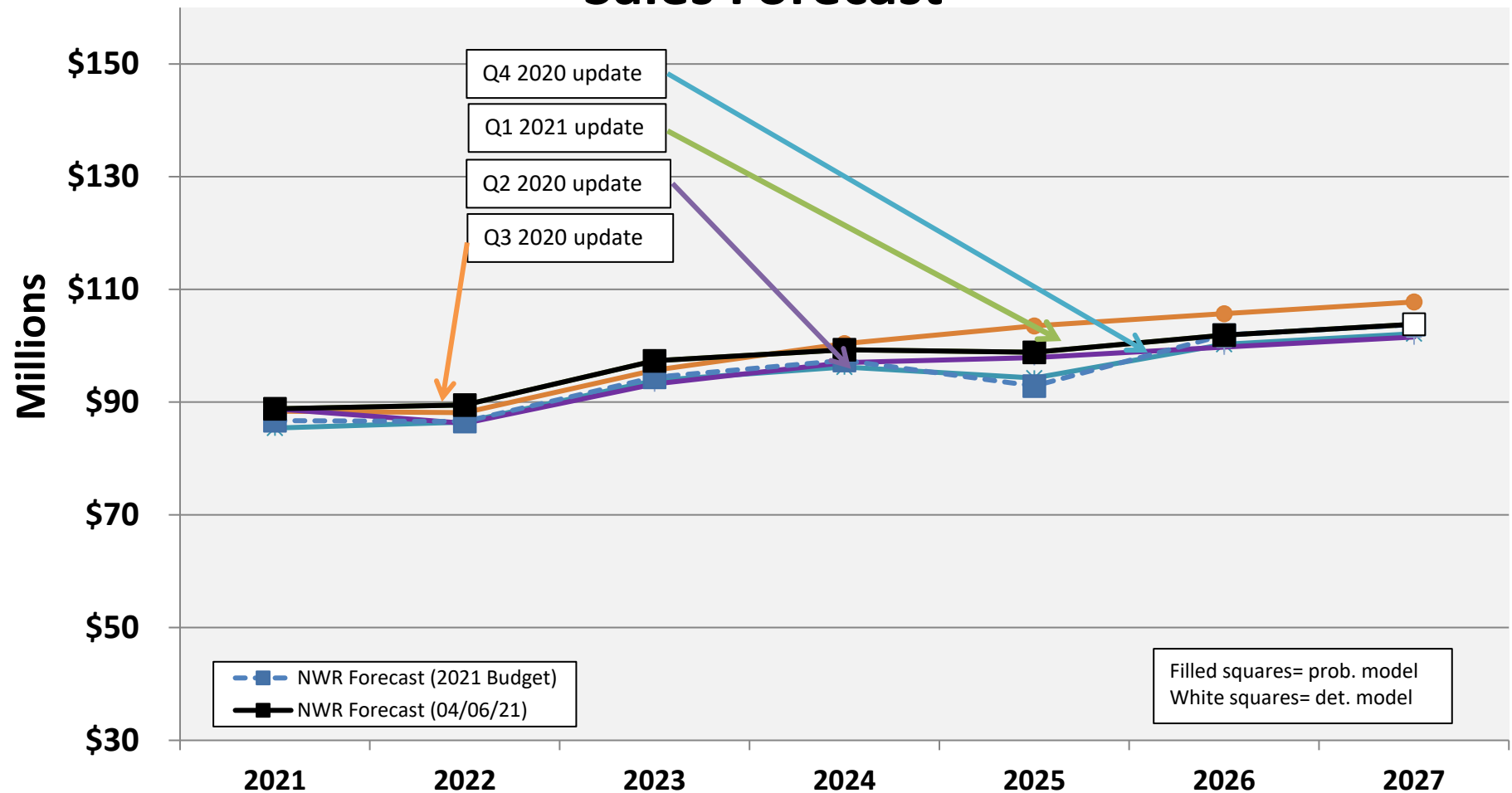
	Budget	Forecast [1]	Variance
Net Wholesale Revenue (NWR)			
Energy Sales/Purchases	\$ 59.9	\$ 60.6	\$ 0.6
Specified Source Premium	\$ 7.2	\$ 7.2	\$ -
Renewables- Bundled	\$ 0.2	\$ 0.2	\$ 0.0
NWR Sub-total [2]	\$ 67.3	\$ 68.0	\$ 0.6
Other Energy-Related Revenue			
LT Power Contract- Retained Surplus	\$ -	\$ 3.1	\$ 3.1
LT Power Contract- Admin Fees	\$ 2.4	\$ 2.4	\$ -
Frequency Response & Load Shedding	\$ 0.5	\$ 0.8	\$ 0.2
Other [3]	\$ 0.2	\$ 0.2	\$ -
Renewables- Unbundled	\$ 0.1	\$ 0.2	\$ 0.1
Real-Time Revenue	\$ 7.0	\$ 7.3	\$ 0.3
Other Energy-Related Sub-total	\$ 10.2	\$ 13.9	\$ 3.7
NWR and Other Energy-Related Revenue	\$ 77.5	\$ 81.9	\$ 4.4

[1] 2021 forecast based on Jan-Mar unaudited actuals and Apr-Dec estimates (4/6/21 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.

Net Wholesale Revenue + Off System End-Use Sales Forecast



Market info

Powerex released Clean Energy Standard - A robust framework to verify clean sales from a source jurisdiction are not the result of backfilling with unspecified energy.

OVERVIEW

- Voluntary
- Ensures no resource shuffling
- Ensures clean sales are from surplus generation after meeting native load over a multi-year period
- Increases customer confidence they are receiving clean energy
- Others could adopt same framework

Summary

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Questions?

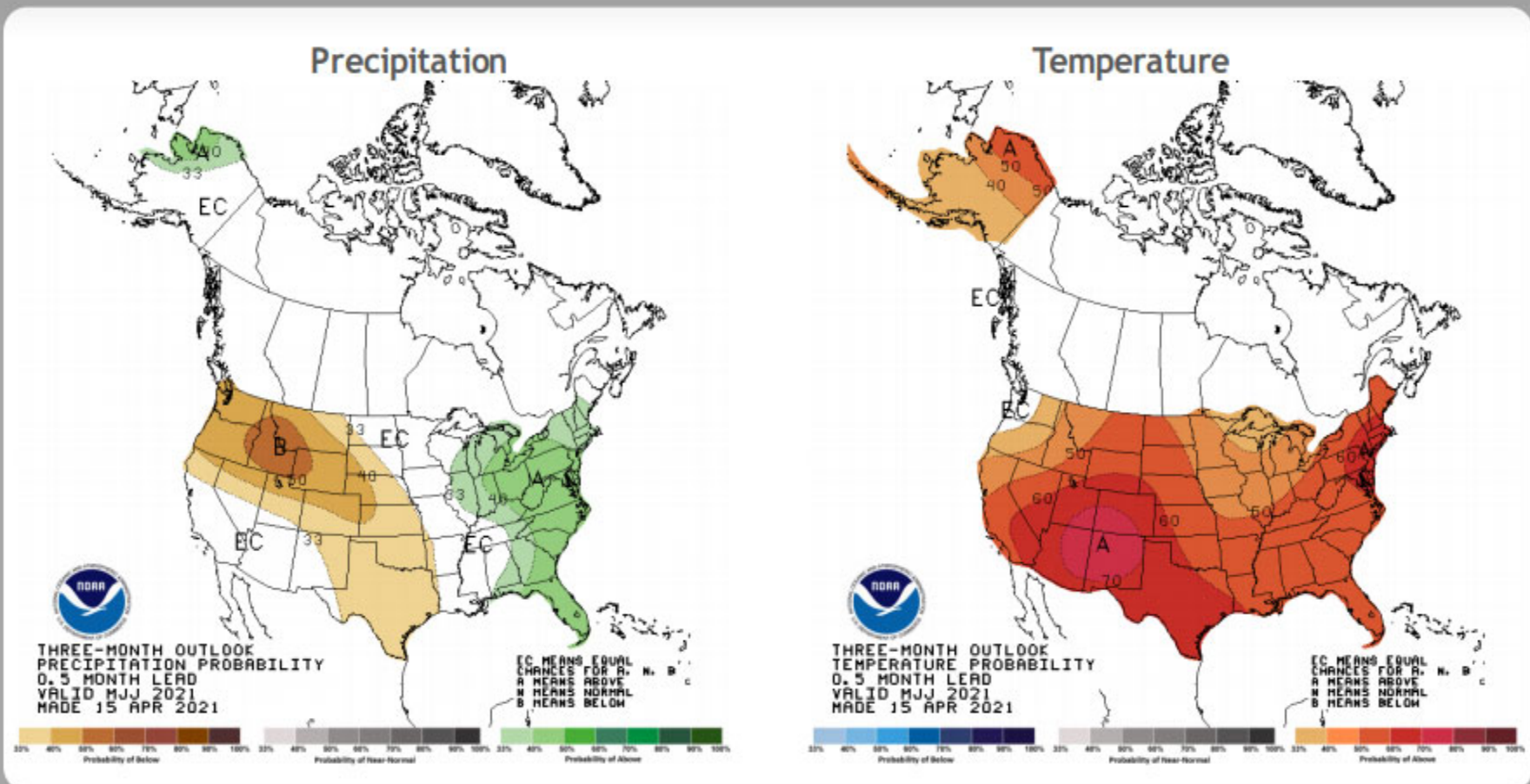
Appendix

Supplemental Information not part of public presentation

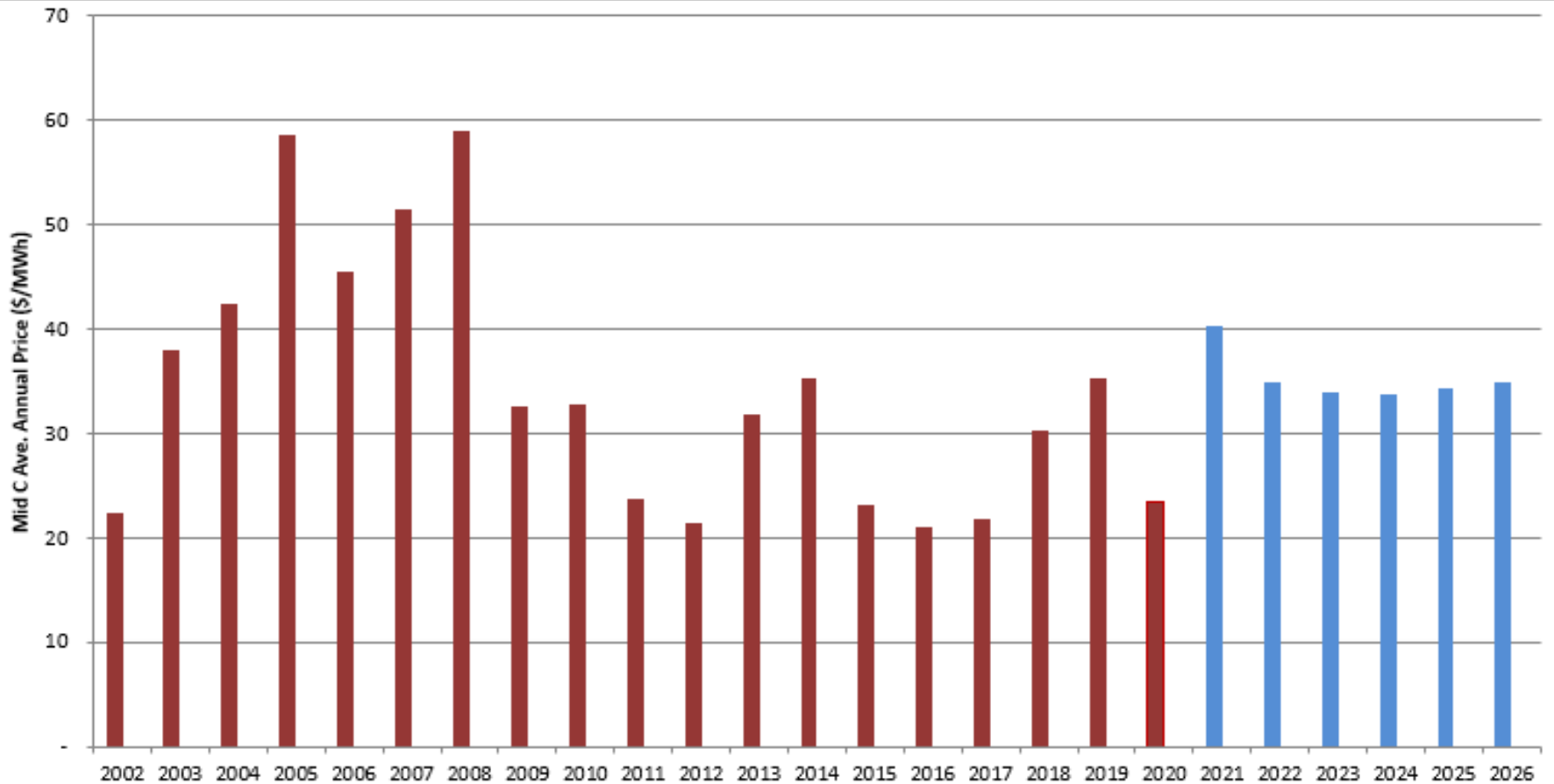
U. S. Seasonal Outlooks

May - July 2021

The seasonal outlooks combine the effects of long-term trends, soil moisture, and, when appropriate, ENSO.



MIDC flat annual Wholesale Electricity prices



Red = Historical prices
Blue = Forward price curve

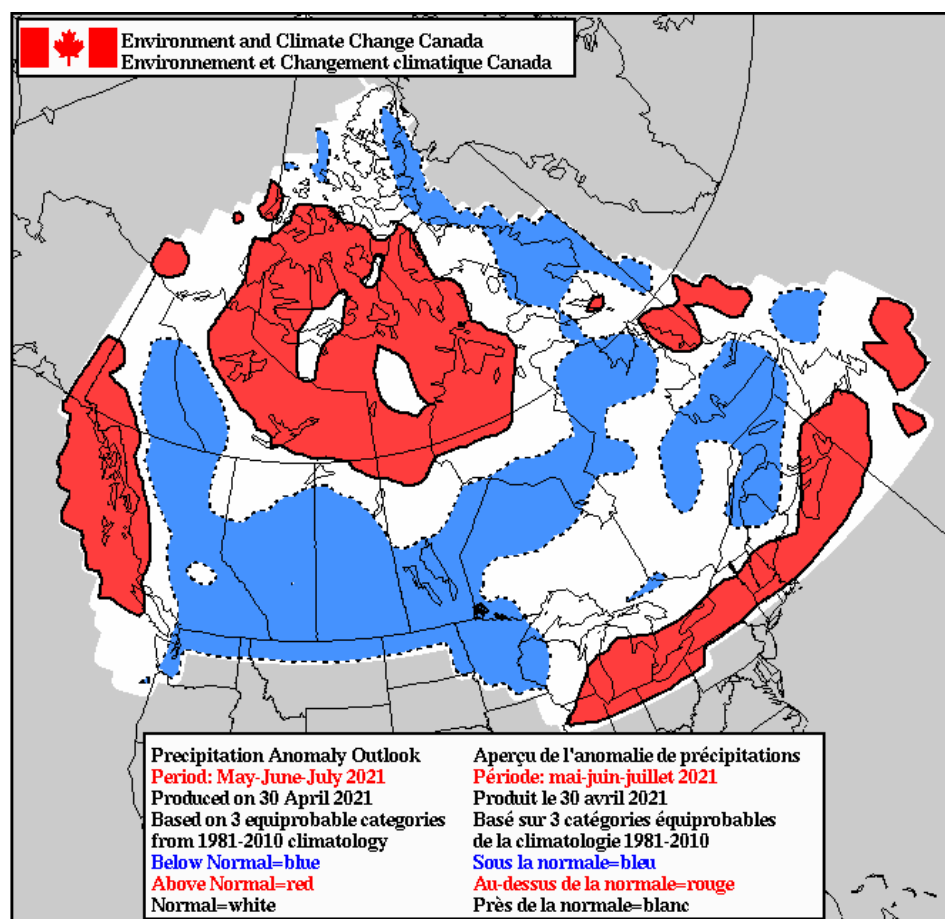
Canadian May-June forecasts

Temperature & precipitation deterministic forecasts

Precipitation

Red = Above (wetter)

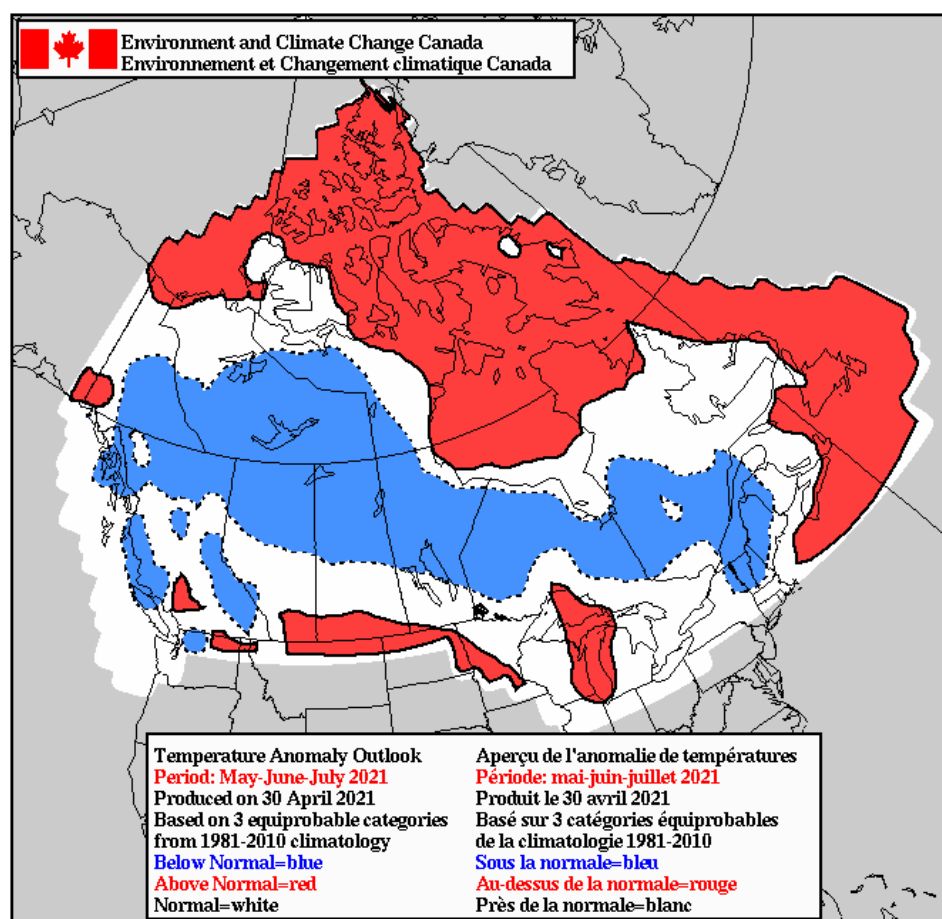
Blue = Below (drier)



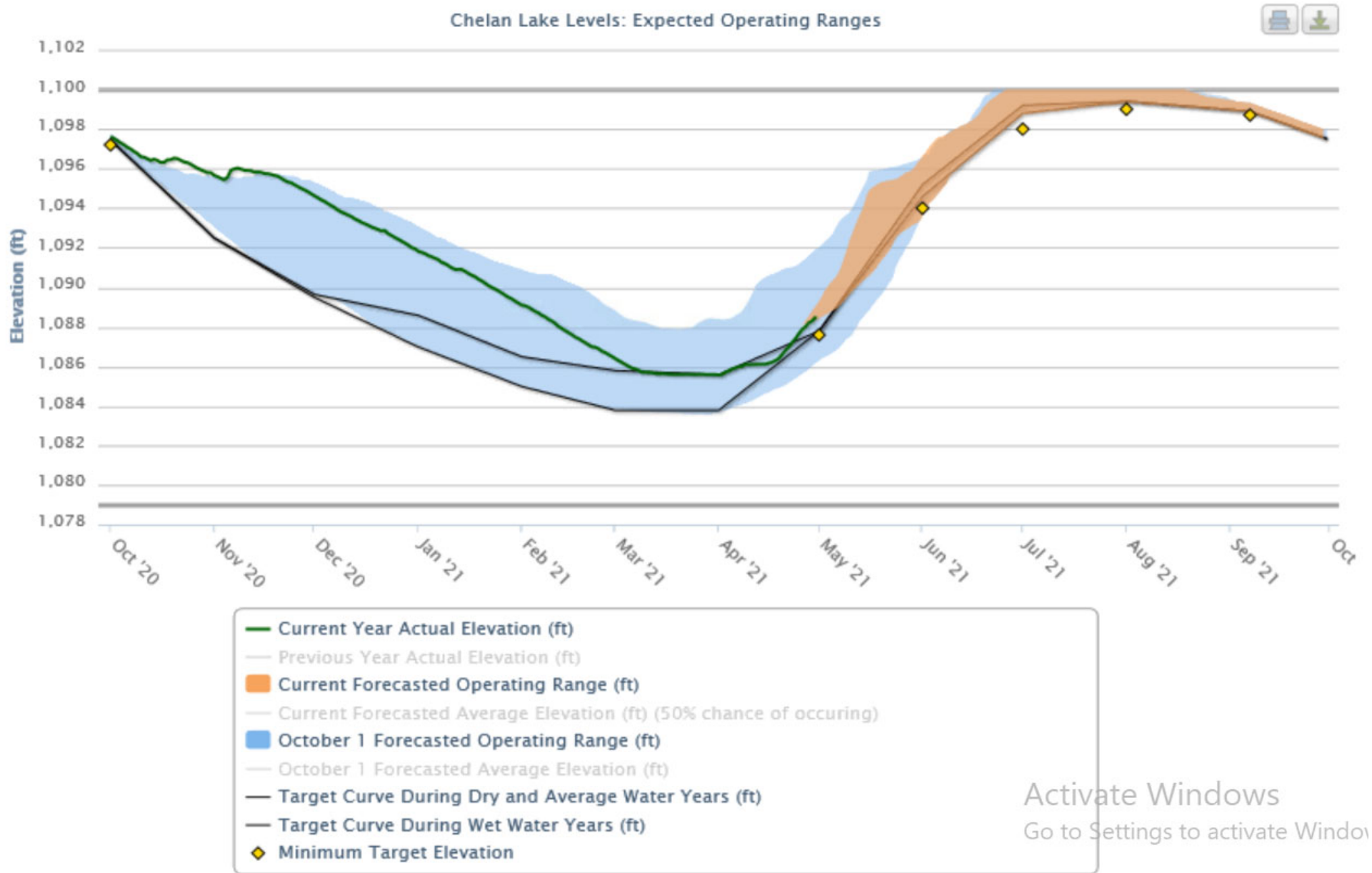
Temperature

Red = Above (wetter)

Blue = Below (drier)



Lake Chelan level webpage



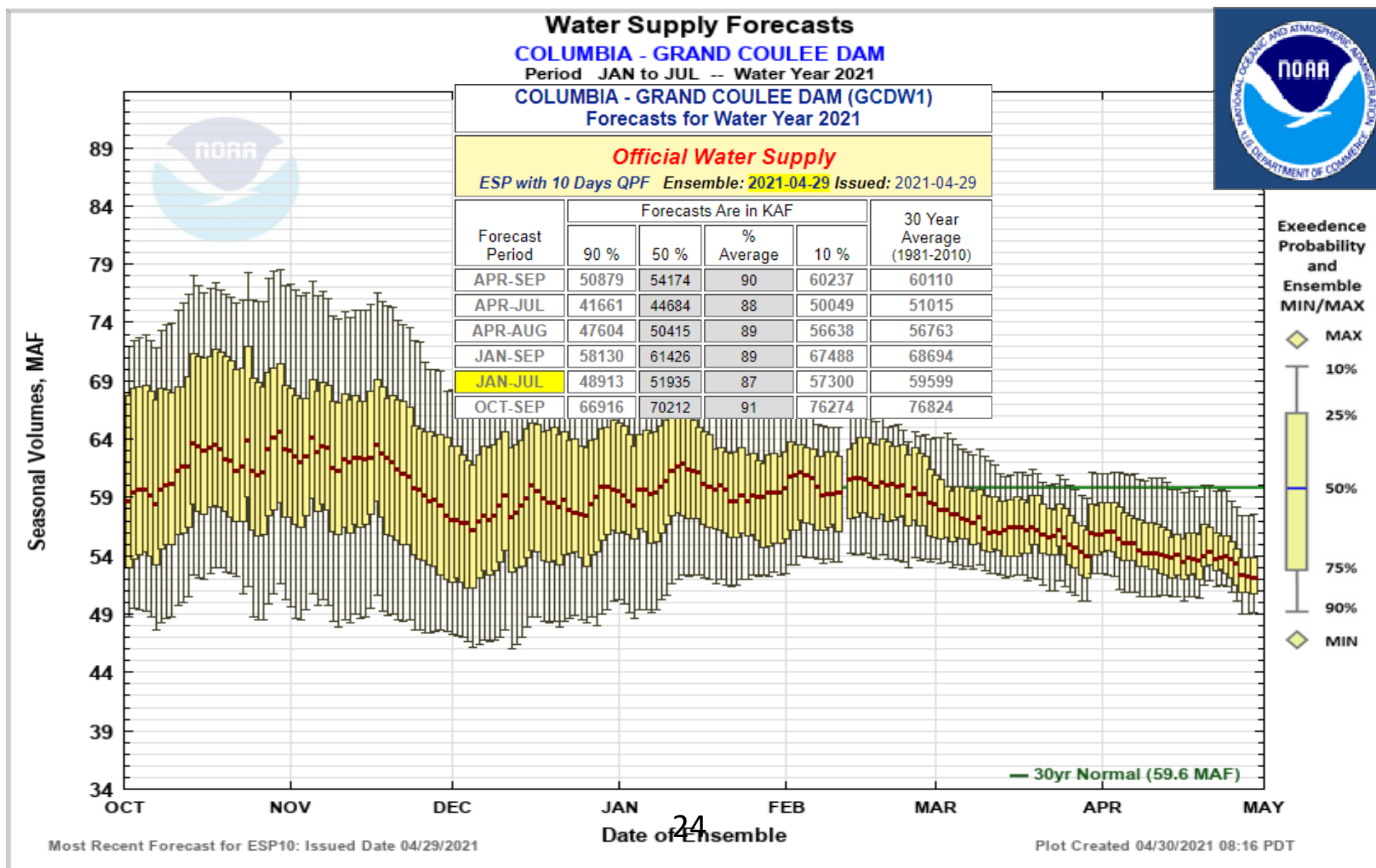
Activate Windows
Go to Settings to activate Windows

Columbia River flow update for 2021

2021	Rocky Reach Flow (kcfs)	Budget Rocky Reach Flow (kcfs)	Difference from budget (kcfs)	% of Budget
Jan	120	139	-19	87%
Feb	112	108	4	104%
Mar	66	89	-23	74%
Apr	77	113	-35	69%
May		140		
Jun		178		
Jul		144		
Aug		114		
Sep		59		
Oct		73		
Nov		96		
Dec		107		
YTD Average	94	112	-18	84%

* Budgeted Rocky Reach flow is 1929-2016 average

Water Year 2021: Water Supply forecast



Water Year 2021: Water Supply Forecast

