

# Energy Resources Quarterly Board Update 2020 Q2

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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 Mid-C flat market price for 2020 has dropped \$7.47/MWh from \$28.30/MWh at budget to the current forecast of \$20.83/MWh. Our hedging program has price locked in for most of our portfolio so there is not much impact to 2020 NWR.
- The Mid-C flat market prices for 2022-2025 have dropped between \$4.00 - \$5.00/MWh.
- Numerous NW Utilities looking to purchase renewables and capacity products.
- The District's 2020 Net Wholesale Revenue forecast and other energy-related revenues is \$84.0 million, which is \$0.7 million below budget.

# Energy Resource Team is monitoring major changes in the western power market

- **Resource Adequacy**

Northwest Power Pool resource adequacy program is moving into final design (scheduled completion early 2021)

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

Many utilities have joined CAISO Energy Imbalance Market (EIM) for within hour products (about 4% of trades)

CAISO is proposing to expand EIM to the day-ahead market (Extended Day-ahead Market or EDAM). We are closely watching governance proposals.

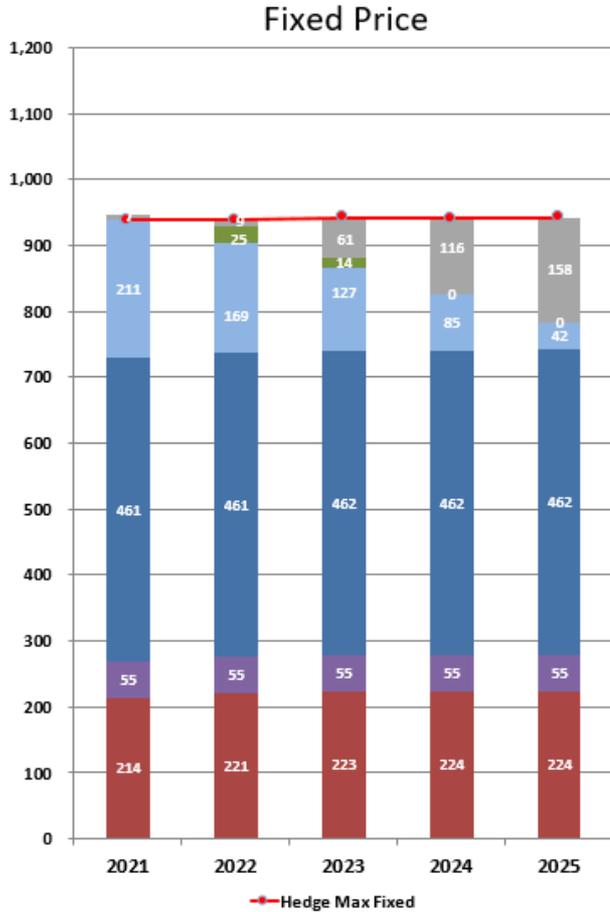
- **State carbon policies**

Rule-making on WA Clean Energy Transformation Act (CETA) continues

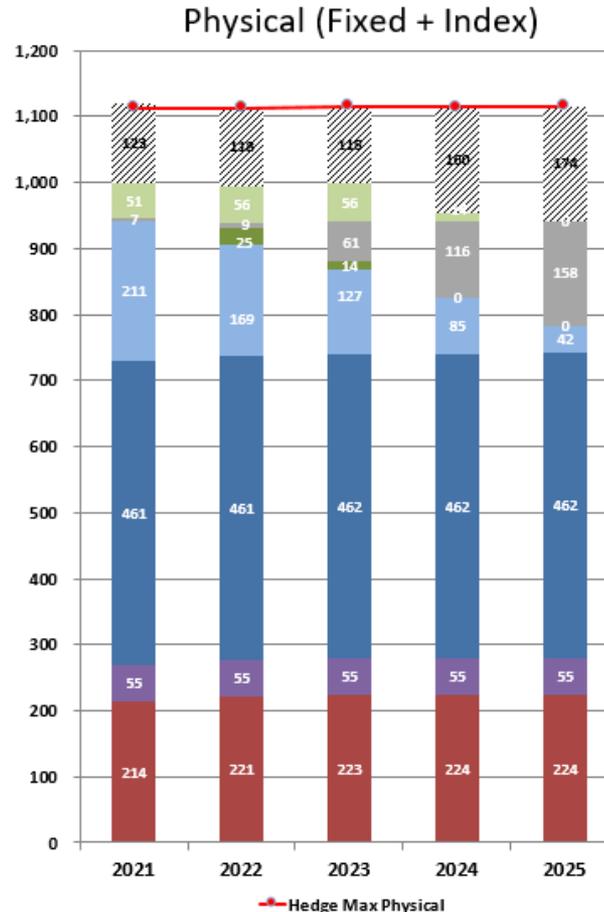
- **New products and services** <sub>4</sub>



# District's energy commitments (average MW)



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

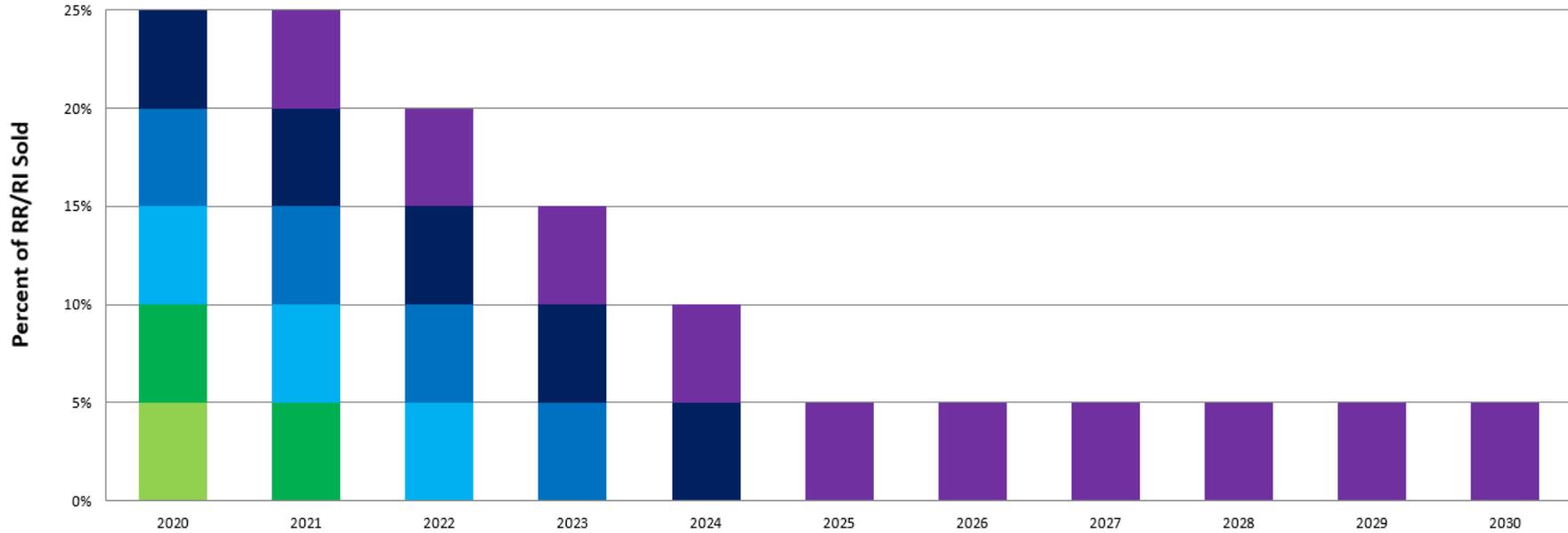
Note: The graphs represent the new limits contained in resolution 20-14439 approved by the Board on March 23, 2020.

\*Hedge Max Fixed = stress water generation

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

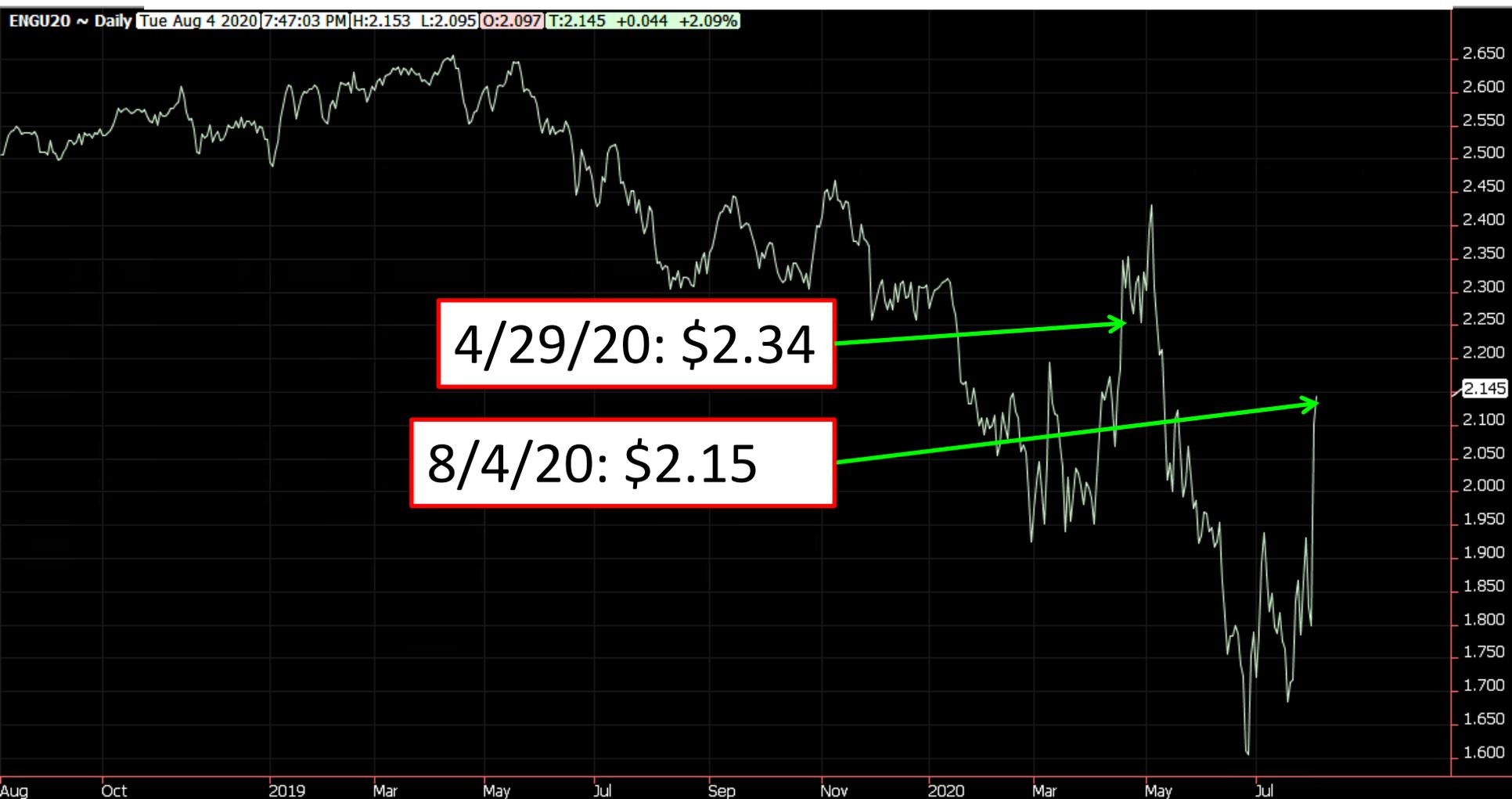
# Market-based slice contracts

Current Market Position - Market Based Slice Products



	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Long Term Slice - Avista		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Slice Product 34 - Powerex	5.0%	5.0%	5.0%	5.0%	5.0%						
Slice Product 30 - Avangrid	5.0%	5.0%	5.0%	5.0%							
Slice Product 29 - Morgan	5.0%	5.0%	5.0%								
Slice Product 26 - Morgan	5.0%	5.0%									
Slice Product 22 - Avista	5.0%										

# September 2020 Henry Hub natural gas

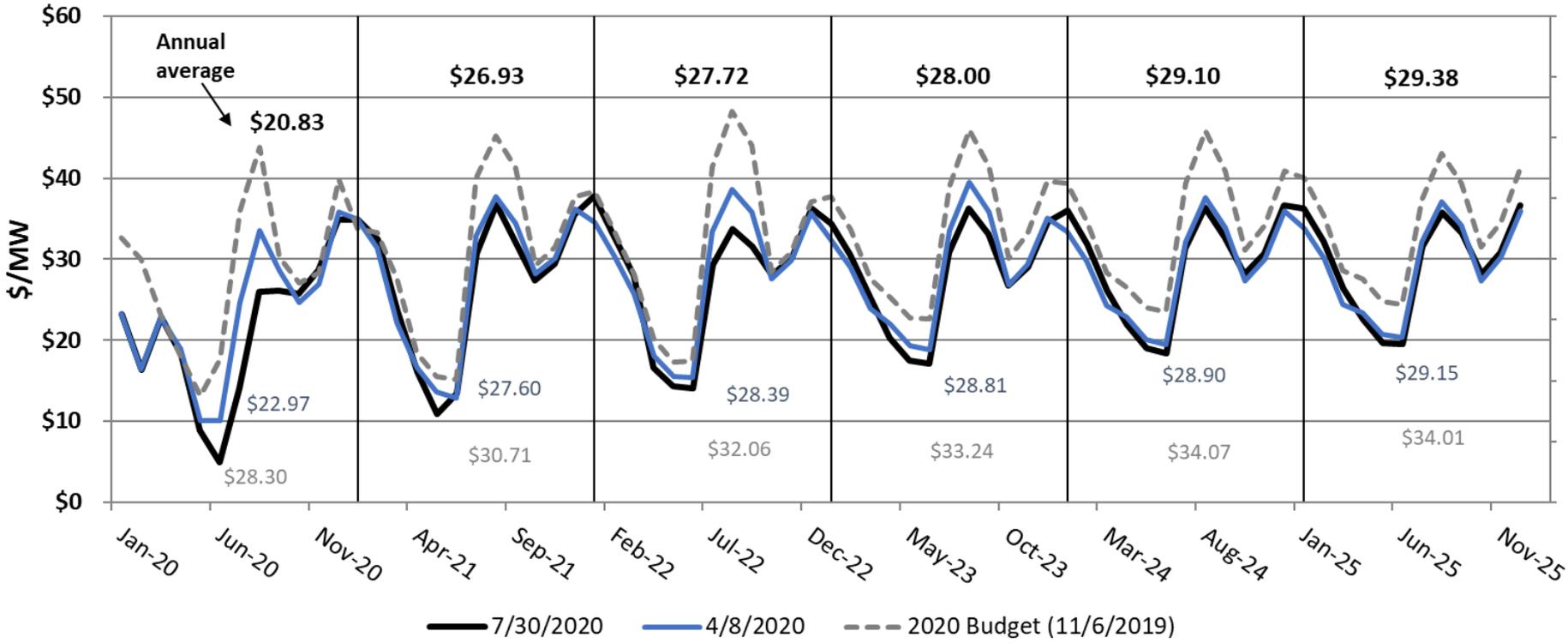


# September 2020 Henry Hub natural gas contract (price history since 2002)



# MIDC forward price curve

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



## 2020 NWR and Other Energy-Related Revenue

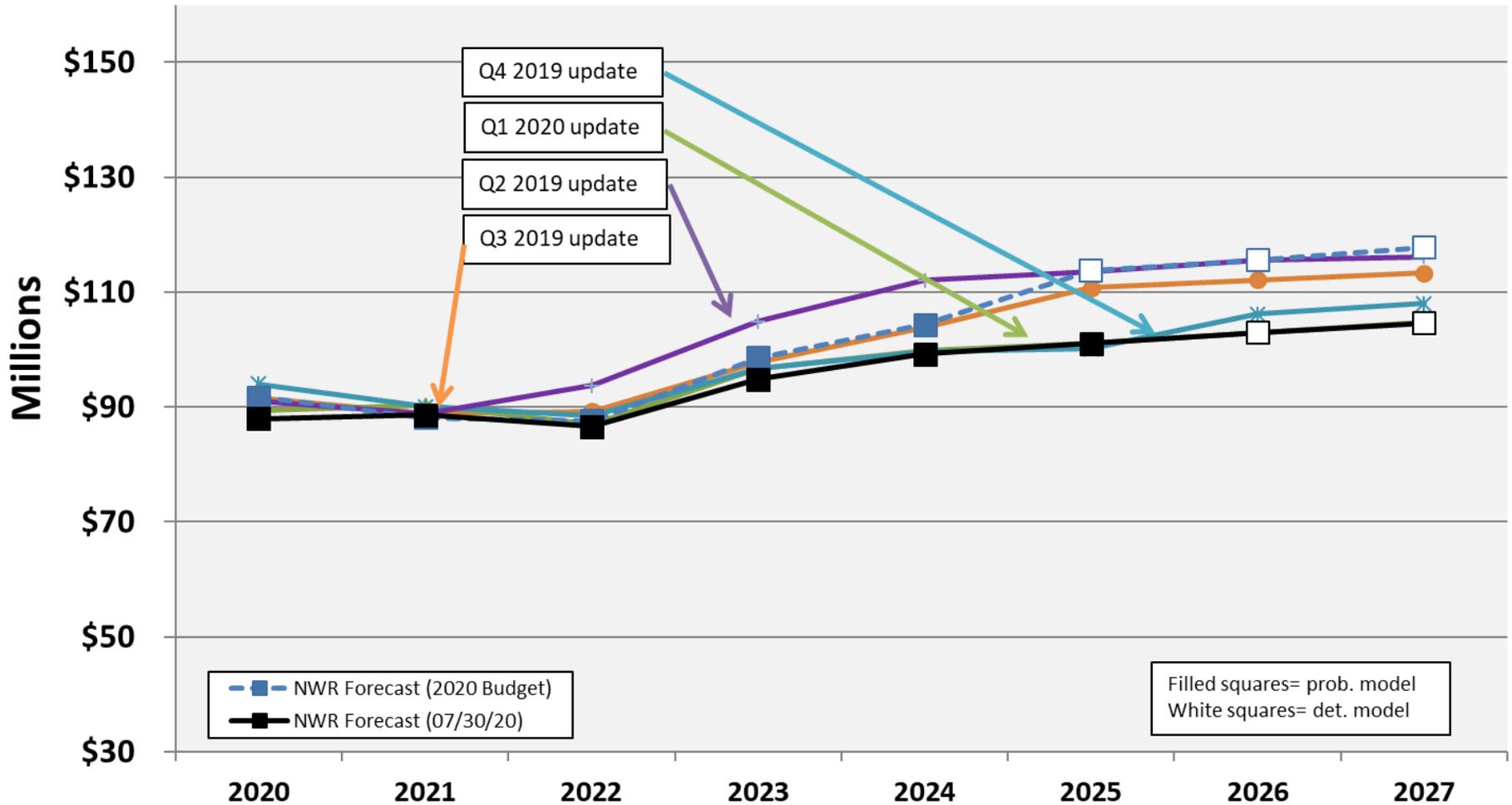
(amounts in millions)

	Budget		Forecast [1]		Variance
<b>Net Wholesale Revenue (NWR)</b>					
Energy Sales/Purchases	\$	65.1	\$	64.8	\$ (0.3)
Specified Source Premium	\$	8.2	\$	7.9	\$ (0.3)
Renewables- Bundled	\$	0.9	\$	0.9	\$ (0.0)
<b>NWR Sub-total</b>	<b>\$</b>	<b>74.1</b>	<b>\$</b>	<b>73.5</b>	<b>\$ (0.6)</b>
<b>Other Energy-Related Revenue</b>					
LT Power Contract- Retained Surplus	\$	-	\$	-	\$ -
LT Power Contract- Admin Fees	\$	2.2	\$	2.2	\$ -
Frequency Response & Load Shedding	\$	0.9	\$	0.9	\$ -
Other [2]	\$	0.3	\$	0.3	\$ 0.0
Renewables- Unbundled	\$	0.1	\$	0.0	\$ (0.0)
Real-Time Revenue	\$	7.0	\$	6.9	\$ (0.1)
<b>Other Energy-Related Sub-total</b>	<b>\$</b>	<b>10.5</b>	<b>\$</b>	<b>10.4</b>	<b>\$ (0.1)</b>
<b>NWR and Other Energy-Related Revenue</b>	<b>\$</b>	<b>84.7</b>	<b>\$</b>	<b>84.0</b>	<b>\$ (0.7)</b>

[1] 2020 forecast based on preliminary Jan-Jun unaudited actuals and Jul-Dec estimates (7/08/20 NWR forecast).

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

# Net Wholesale Revenue + Off System End-Use Sales Forecast



# Market info

## Most powerful US battery system charges up in CA

- 62.5-MW (planned 250-MW) phase of Gateway came online Jun 9
- 1-hour storage to start, increasing to 3- hours in 2021 and to 4-hours later
- If all energy storage projects seeking 2020 interconnection remain on track, roughly 930 MW could be online by year end
- “...need close to 15,000 MW and maybe more, across all duration of storage,” Steve Berberich, CEO of the CAISO
- CCA’s exploring variety of tech to deliver at least 8 hours of discharge

## Forward Price Models for NW Energy

- Avista 2020 IRP 21-28 \$22.17/MWh
- Puget 2019 IRP 21-28 \$21.25/MWh

## Upcoming and Recent NW Utility RFPs

- Avista 120 aMW of Renewables starting in ~2024, 15 to 20 yr. term
- Puget 200 MW of Capacity in 2024. Up to 2000 MW of capacity in 2040 . Attributes consistent with CETA. >4yr. Term.
- Pacificorp 1800 MW of solar with 595MW of battery, 1900 MW of wind by 2023 consistent with IRP. 15-30 yr. term

## CCA power purchases up 37.8% on year in Q1 2020 as sellers flock to market

- 16.4 million MWh sold in Q1 2020
- 1 million -> 5.5 million -> 11.9 million -> 16.4 million (2017-2020)
- TEA is top supplier with 3.8 million MWh
- Clean Power Alliance and East Bay Community Energy are largest purchasers

# Summary

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Questions?