



Quarterly Board Update
1st Quarter 2018 • April 30, 2018

ENERGY PLANNING & TRADING

2018 Q1

Portfolio Overview

Operations and Planning

- » Snowpack, Streamflow and Pricing update
- » Net Wholesale Revenue Forecast update

Market Update

Energy Efficiency Update

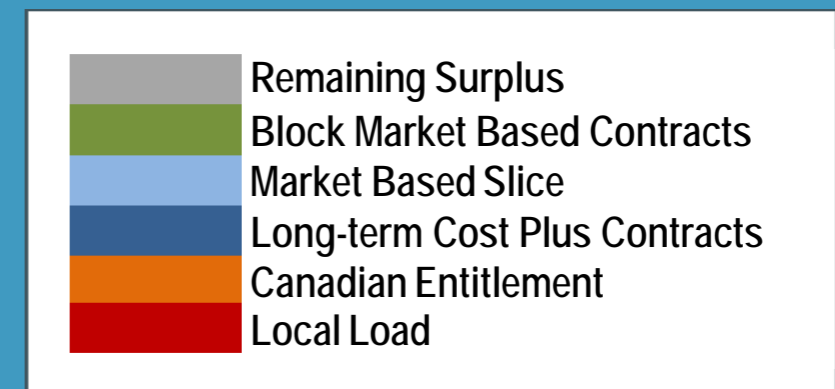
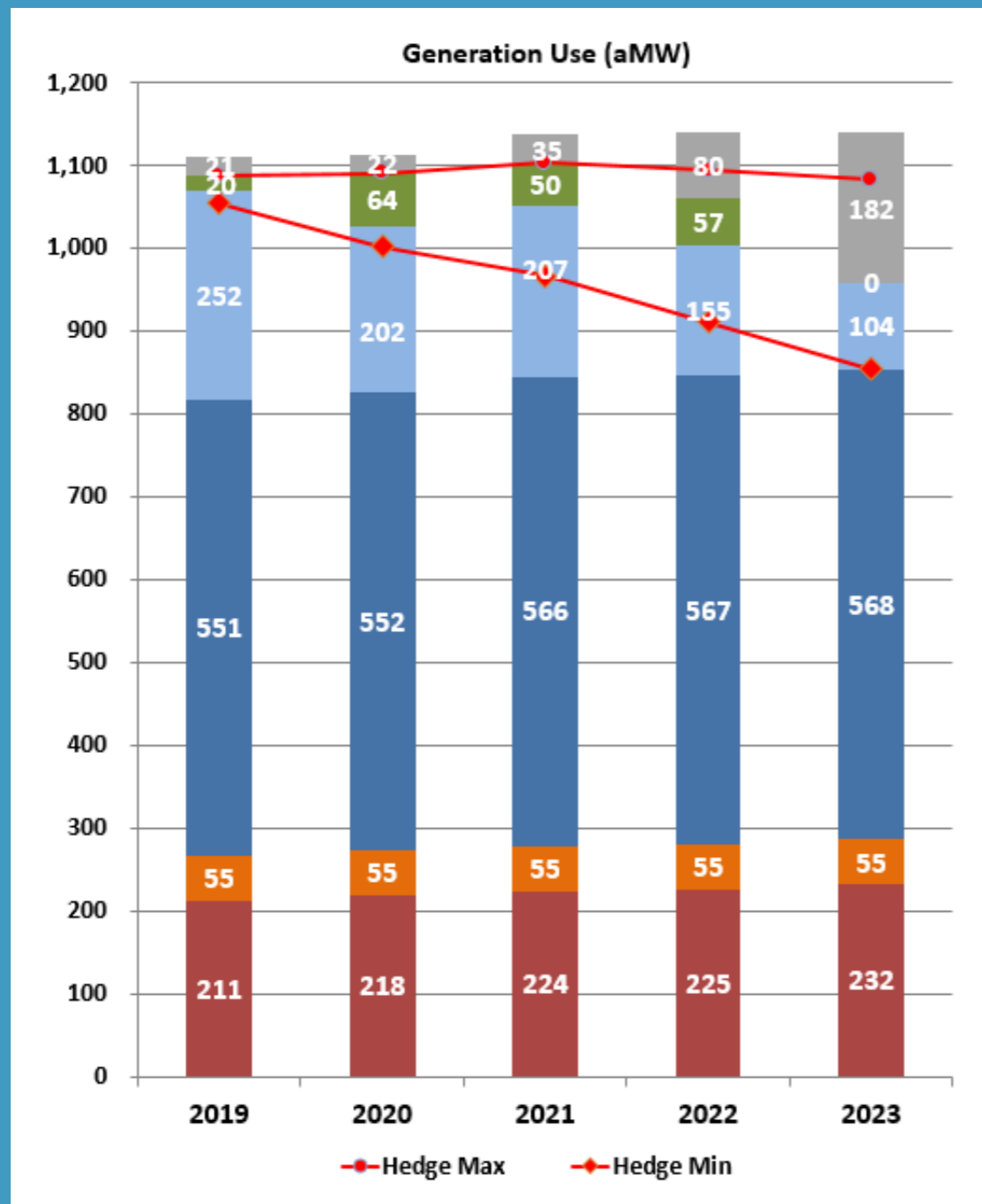
KEY MESSAGE POINTS

The District's 2018 Net Wholesale Revenue and other energy-related revenues are forecasted to be \$116.9 Million which is \$0.6 Million higher than budget.

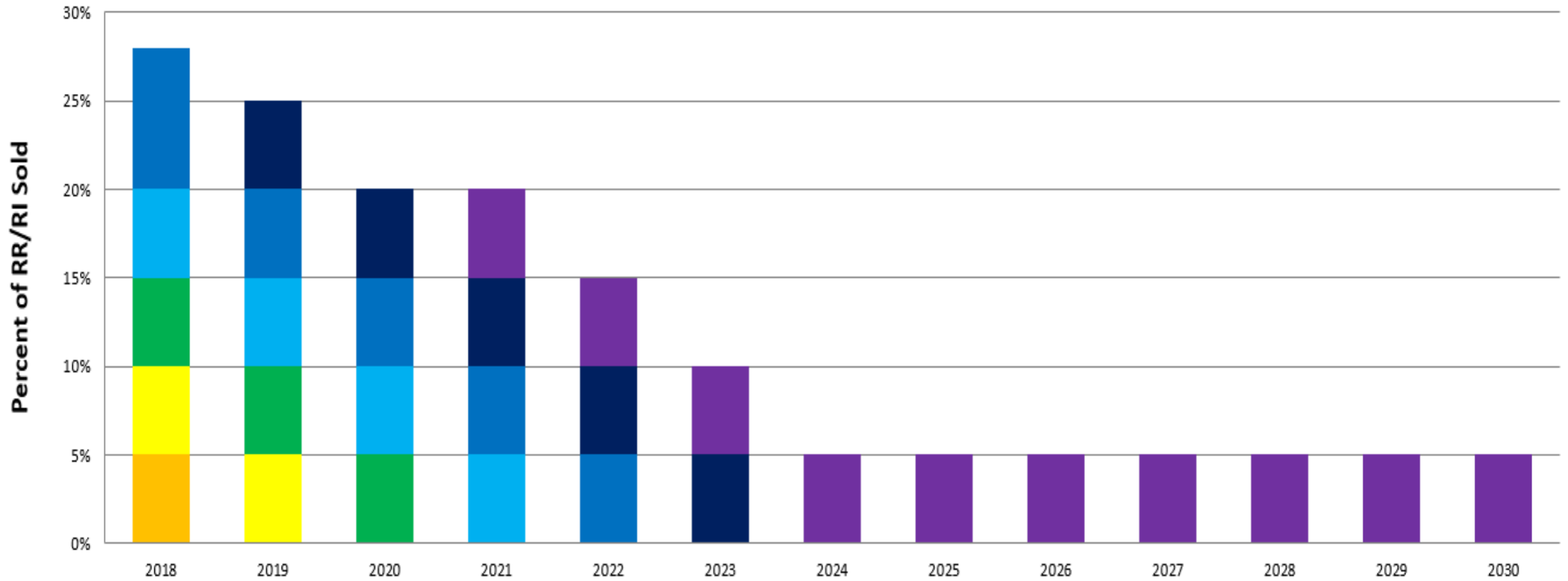
Specified Source energy sales are expected to contribute \$4.3 Million to the Net Wholesale Revenue which is \$0.6 Million higher than budget.

Energy Efficiency programs are working towards meeting both the compliance and stretch goals.

DISTRICT'S LOAD/RESOURCE BALANCE (average MW)



Current Market Position - Market Based Slice Products



	2018	2019	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 30 - Avangrid		5.0%	5.0%	5.0%	5.0%	5.0%							
Slice Product 29 - Morgan	8.0%	5.0%	5.0%	5.0%	5.0%								
Slice Product 26 - Morgan	5.0%	5.0%	5.0%	5.0%									
Slice Product 22 - Avista	5.0%	5.0%	5.0%										
Slice Product 18 - Exelon	5.0%	5.0%											
Slice Product 15 - Morgan	5.0%												

COLUMBIA RIVER FLOW

UPDATE FOR 2018

2018	Rocky Reach Flow (kcfs)	Budget Rocky Reach Flow (kcfs)	% of Budget
Jan	122	115	106%
Feb	150	110	137%
Mar	112	102	110%
Apr	123	114	107%
May		147	
Jun		167	
Jul		131	
Aug		106	
Sep		76	
Oct		78	
Nov		92	
Dec		108	
YTD Average	127	112	113%

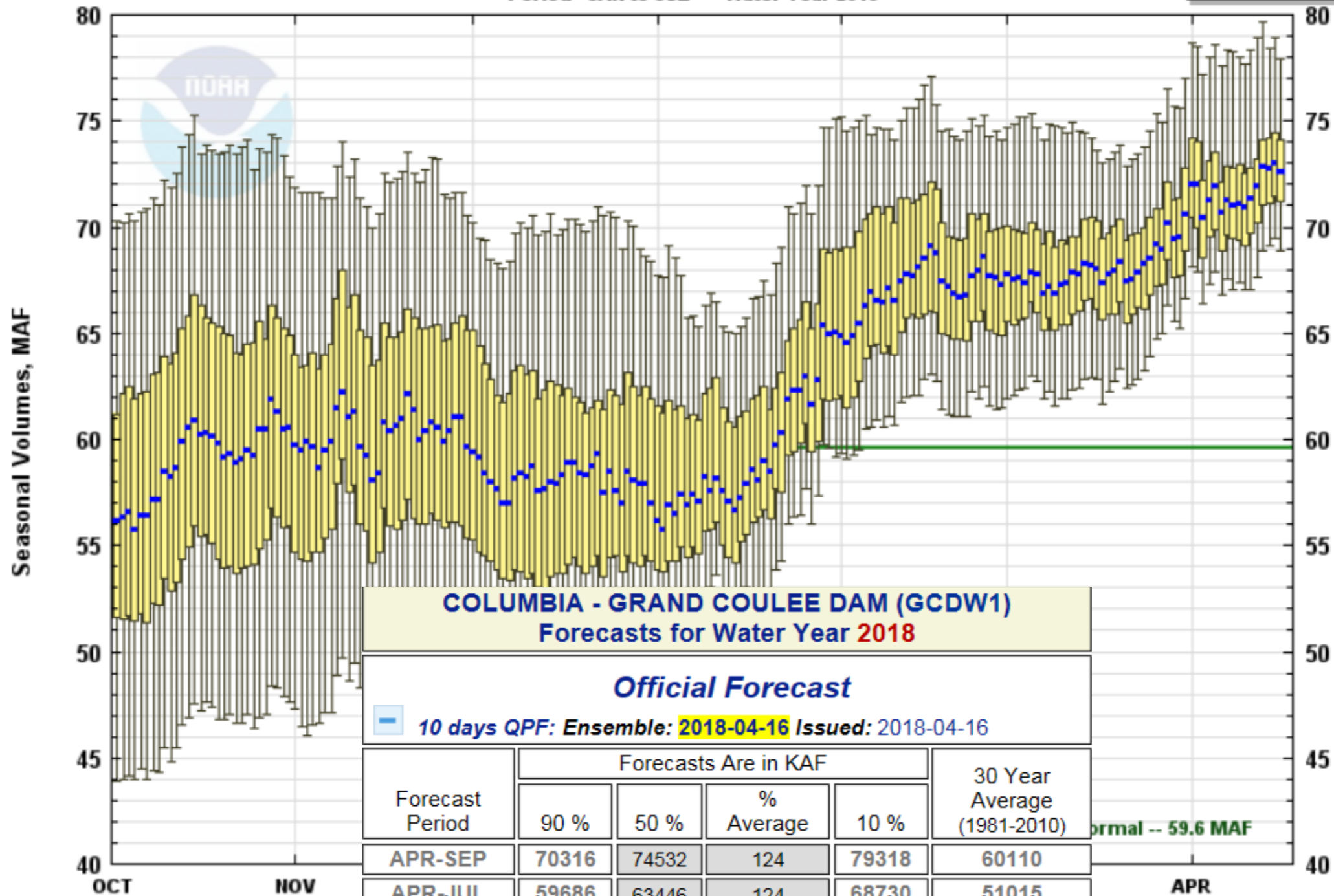
* Budgeted Rocky Reach flow is the median year from the 1929-2011 data set

WATER SUPPLY FORECAST



Water Supply Forecasts
COLUMBIA - GRAND COULEE DAM
 Period JAN to JUL -- Water Year 2018

— 30yr Normal
 ■ ESP10



COLUMBIA - GRAND COULEE DAM (GCDW1)
 Forecasts for Water Year 2018

Official Forecast
 — 10 days QPF: Ensemble: 2018-04-16 Issued: 2018-04-16

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	70316	74532	124	79318	60110
APR-JUL	59686	63446	124	68730	51015
APR-AUG	66726	70523	124	74787	56763
JAN-SEP	79489	83705	122	88491	68694
JAN-JUL	68859	72619	122	77902	59599
OCT-SEP	86908	91124	119	95909	76824

Normal -- 59.6 MAF

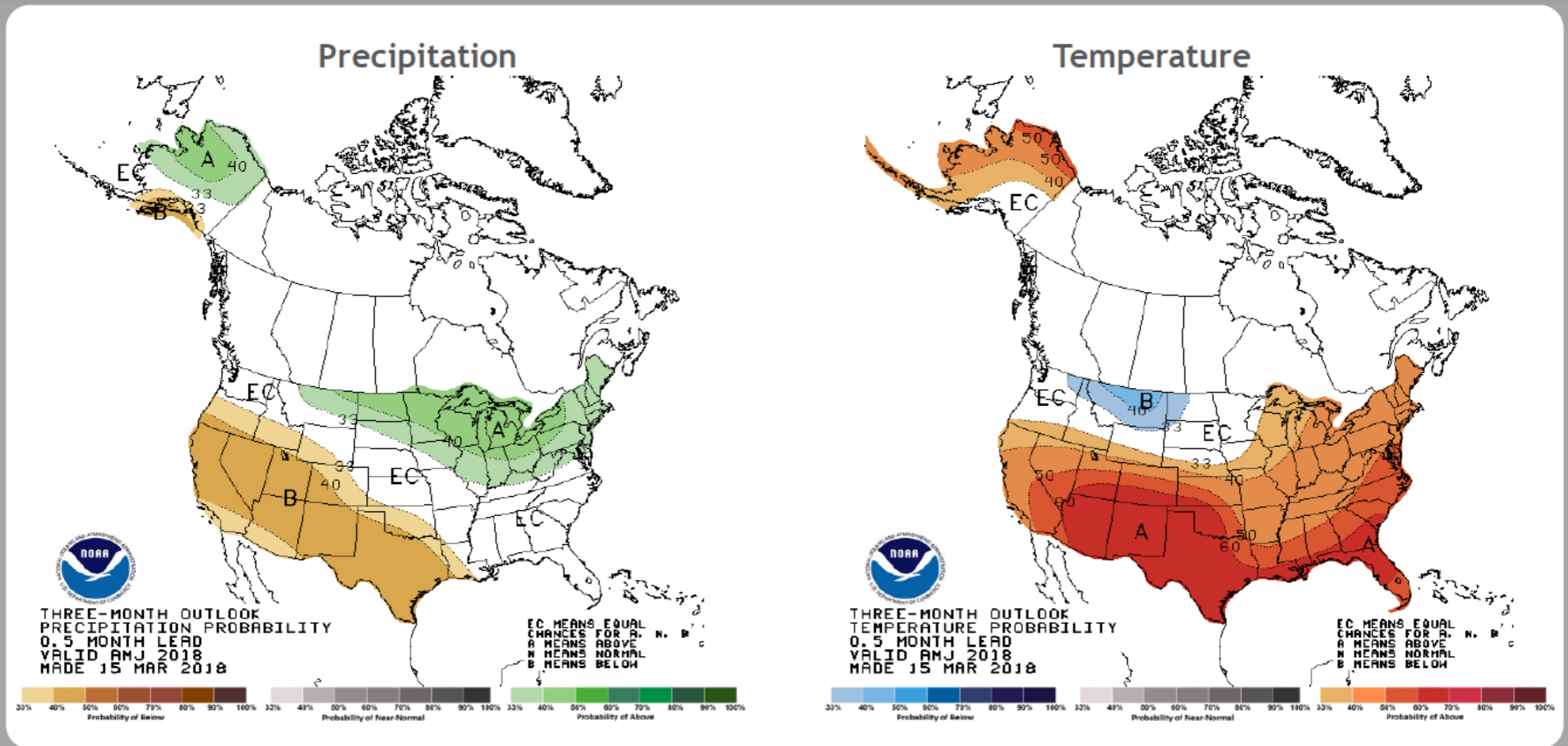
Most Recent Forecast for ESP10: Issued 2018-04-16

Created 04/17/2018 11:32 PDT

U. S. Seasonal Outlooks

April - June 2018

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

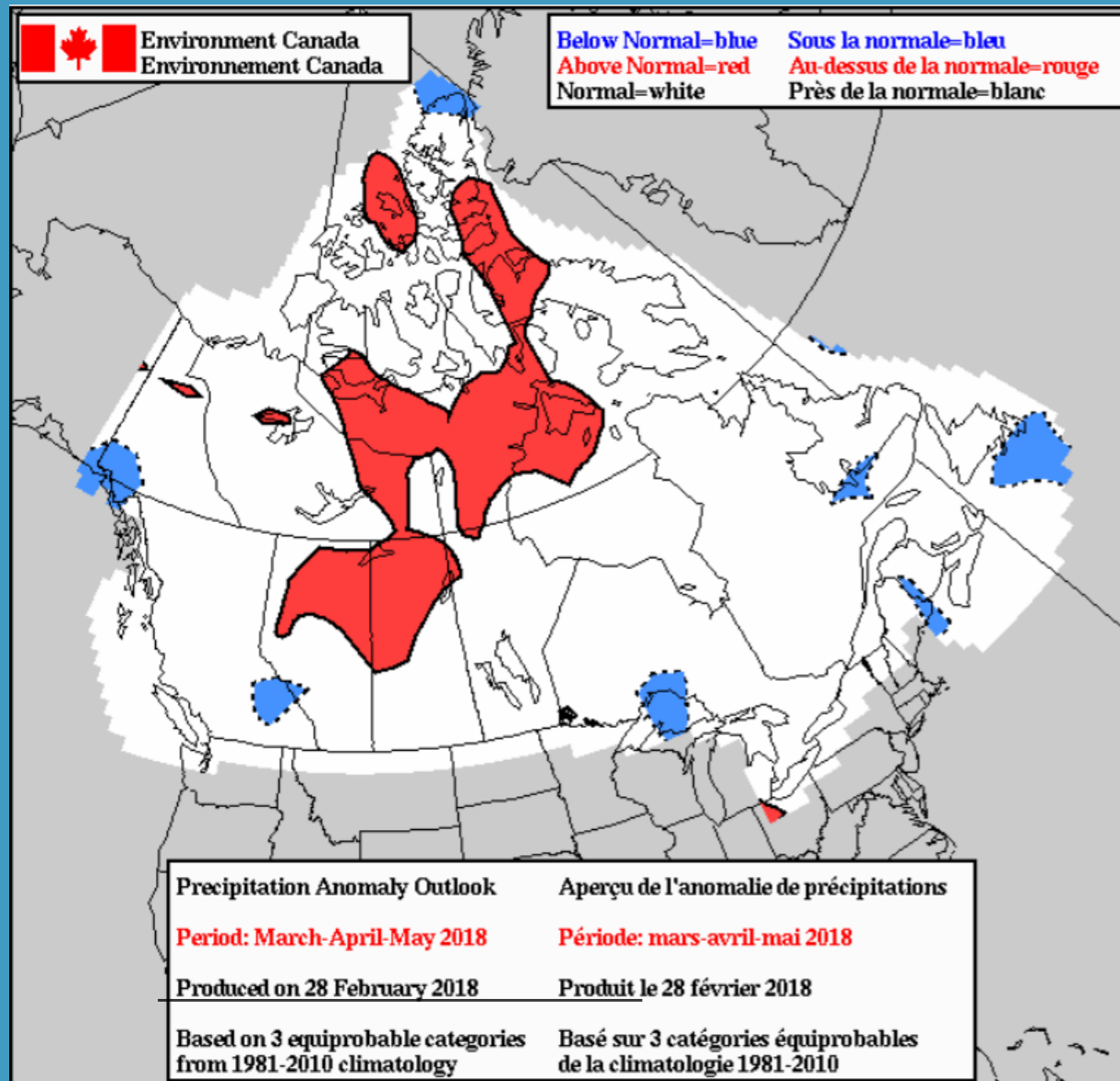


CANADIAN MAR – MAY FORECASTS

Temperature and Precipitation Deterministic Forecasts

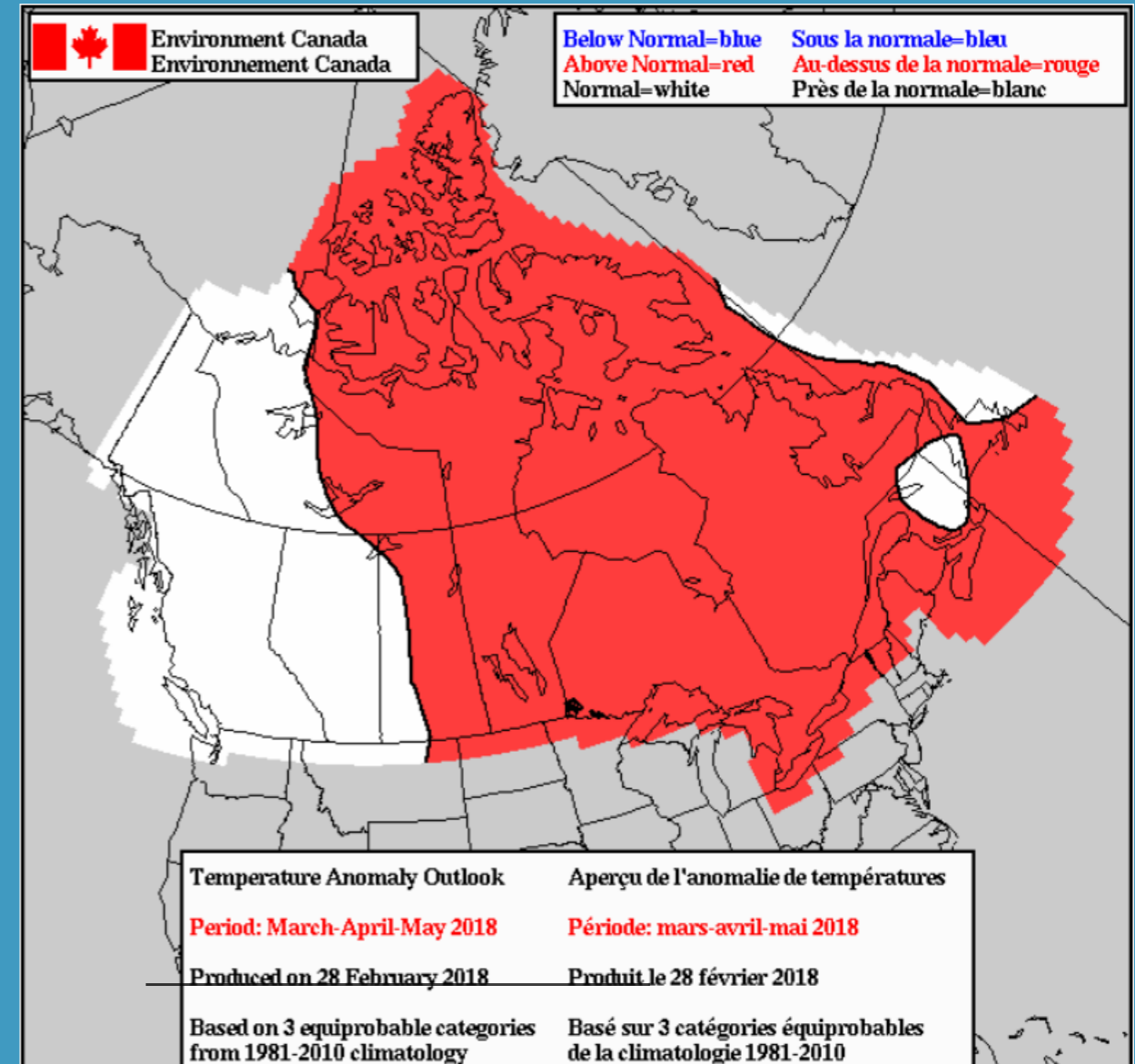
Precipitation

Red = Above (wetter)
Blue = Below (drier)



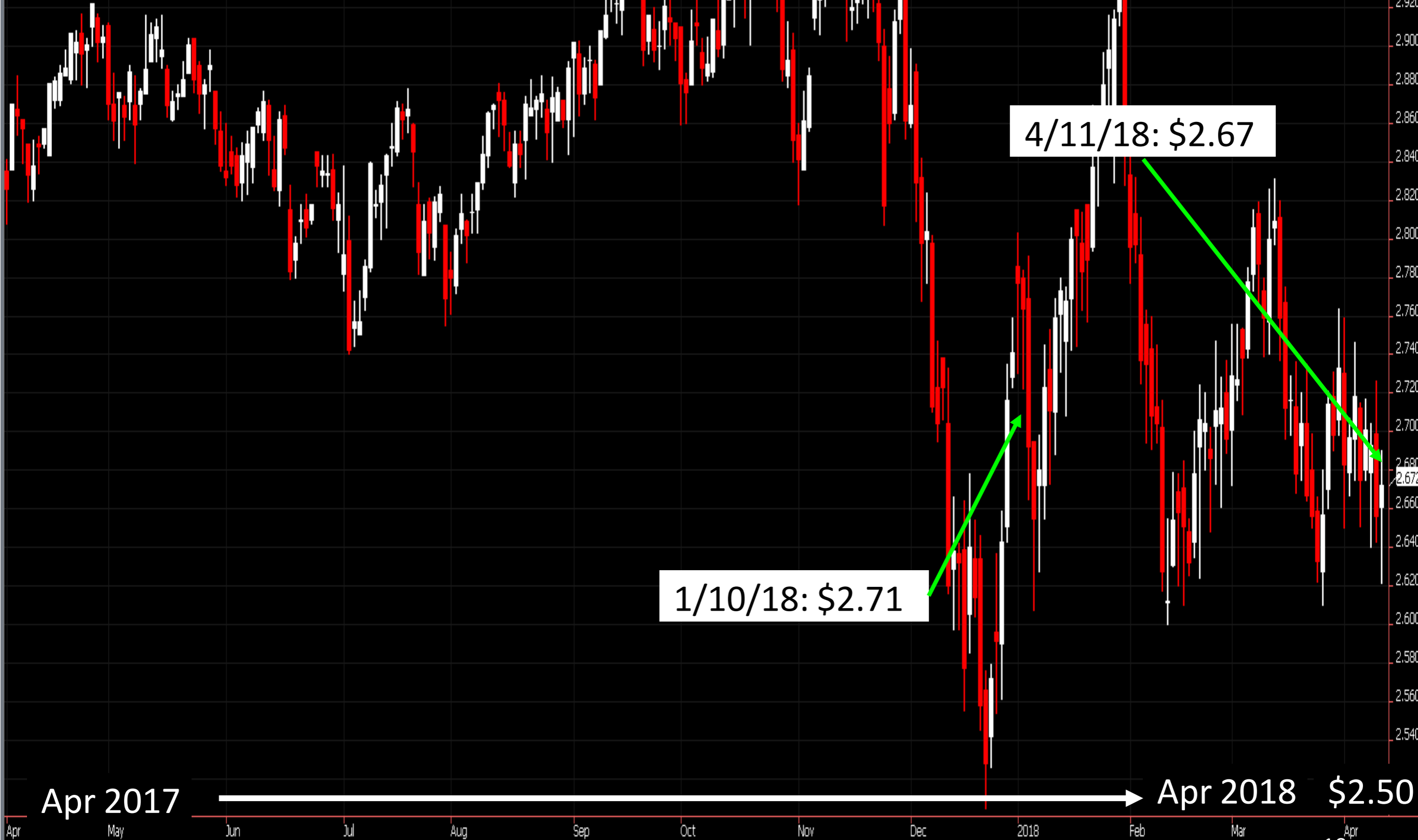
Temperature

Red = Above (warmer)
Blue = Below (colder)



\$3.00

Apr 2018 Henry Hub natural gas contract



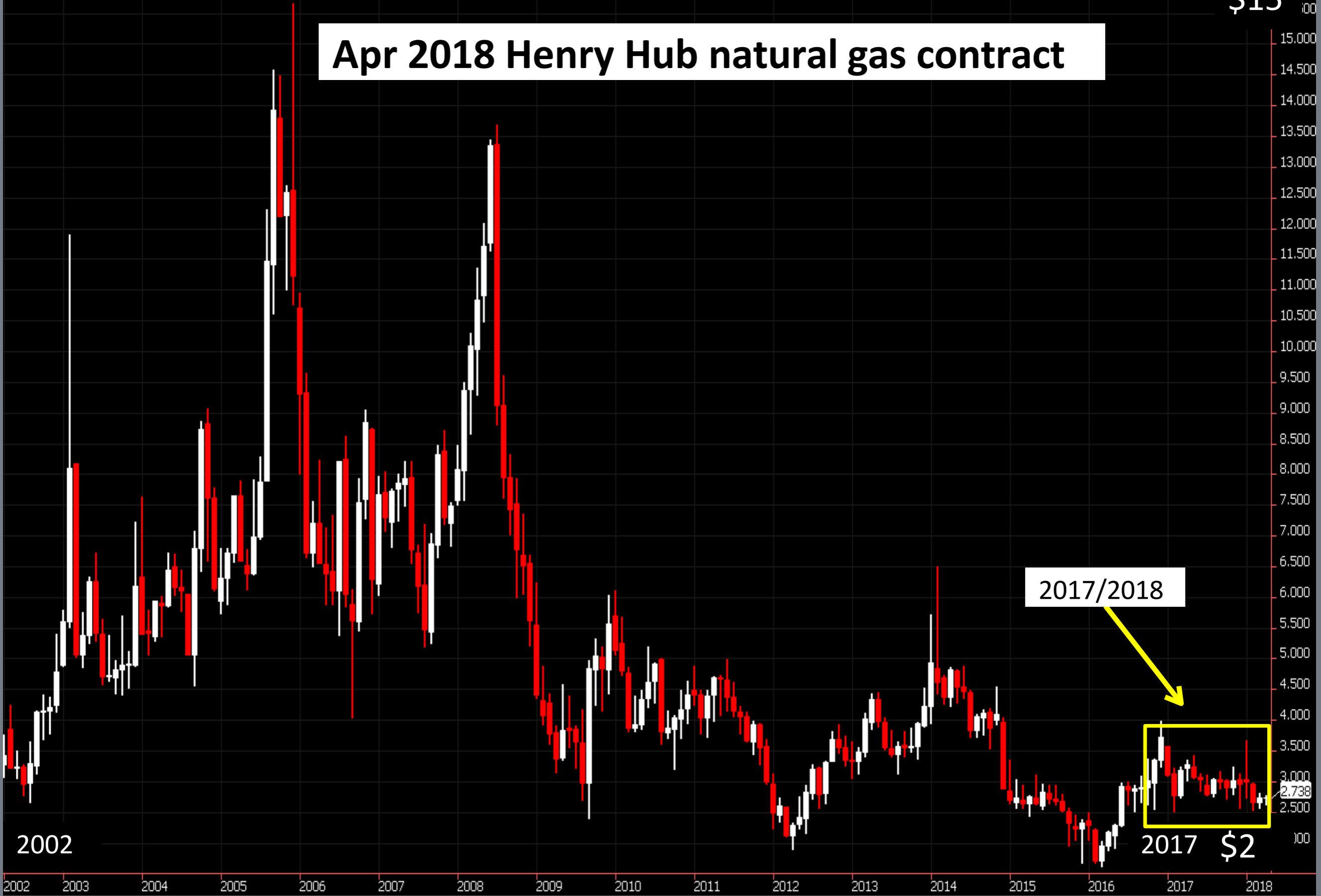
4/11/18: \$2.67

1/10/18: \$2.71

Apr 2017

Apr 2018 \$2.50

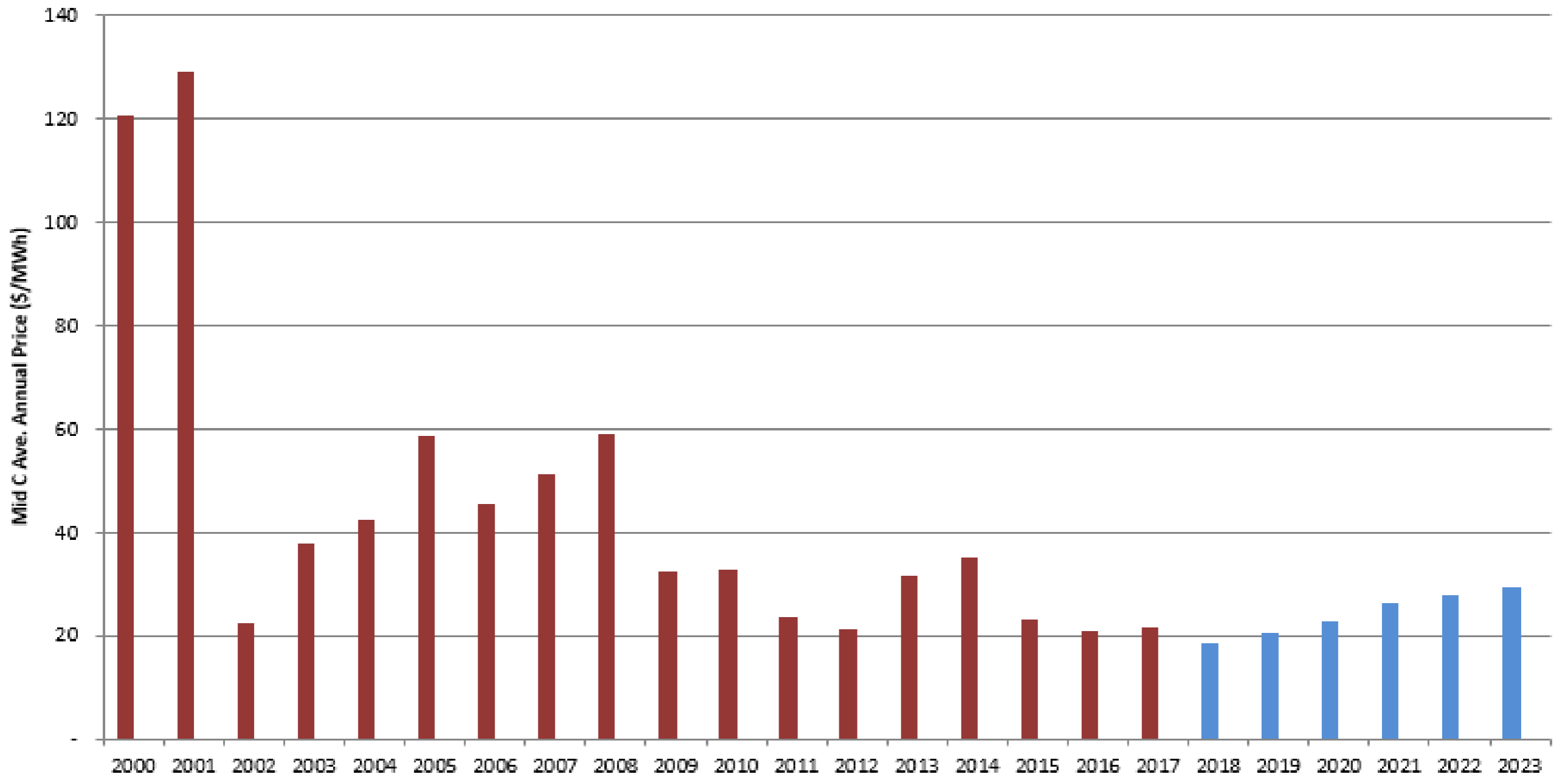
Apr 2018 Henry Hub natural gas contract



2002

2017 \$2

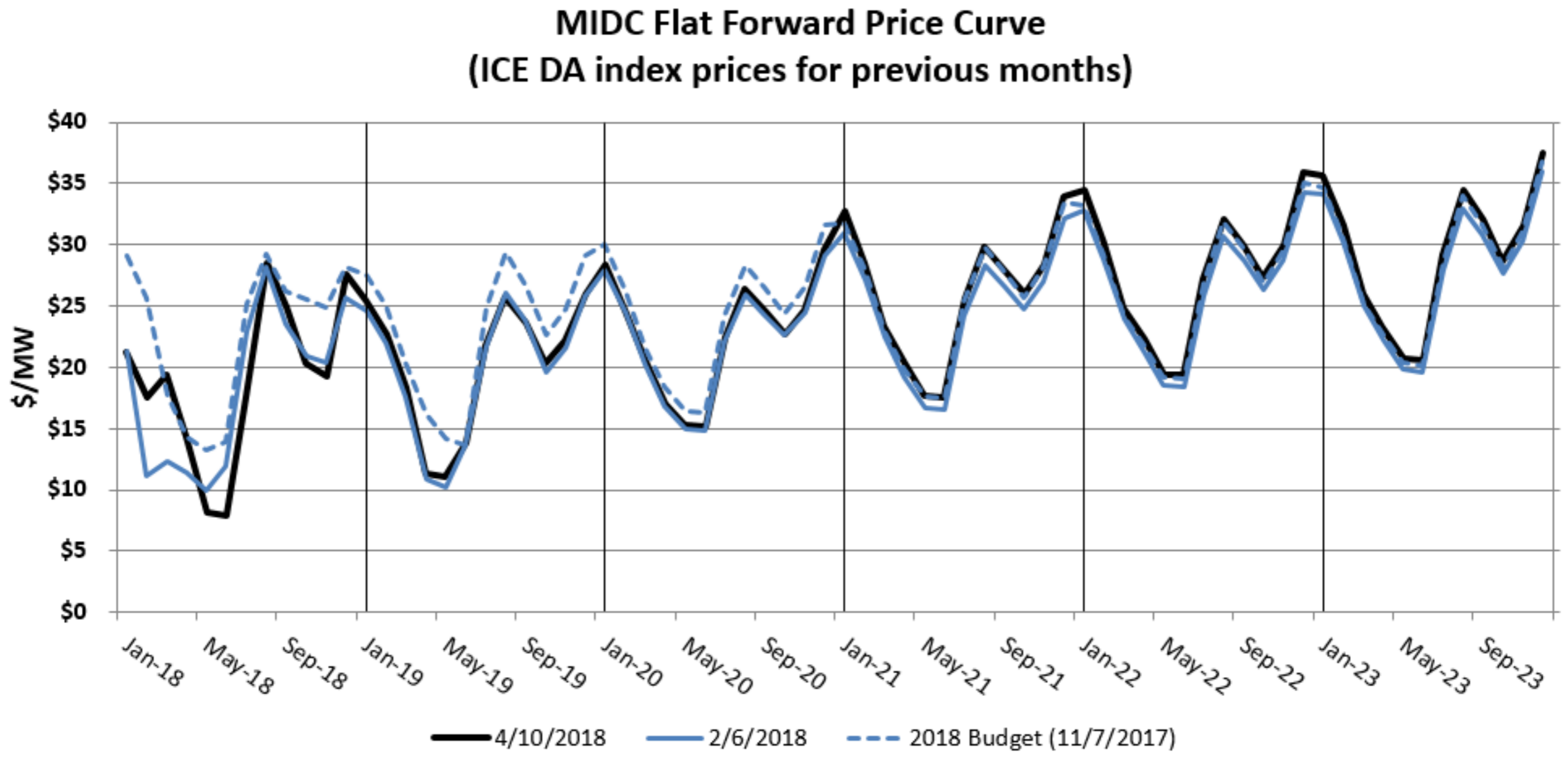
MID-C FLAT ANNUAL WHOLESALE ELECTRICITY PRICES



Red = Historical prices
Blue = Forward price curve

MIDC FLAT FORWARD PRICE CURVE

(ICE DA index prices for previous months)



2018 NWR and Other Energy-Related Revenue

	Budget	Forecast**	Variance
Net Wholesale Revenue*	\$ 108,000,661	\$ 108,312,319	\$ 311,658
<i>Specified Source</i>	\$ 3,736,377	\$ 4,338,928	\$ 602,551
<i>Other</i>	\$ 560,214	\$ 576,942	\$ 16,728
Alcoa PSC Revenue	\$ -	\$ 270,000	\$ 270,000
Frequency Response	\$ 638,314	\$ 638,314	\$ -
Renewables	\$ 675,764	\$ 675,764	\$ -
Real-Time Revenue	\$ 7,000,000	\$ 7,023,578	\$ 23,578
NWR and Other Energy-Related Revenue	\$ 116,314,739	\$ 116,919,975	\$ 605,236

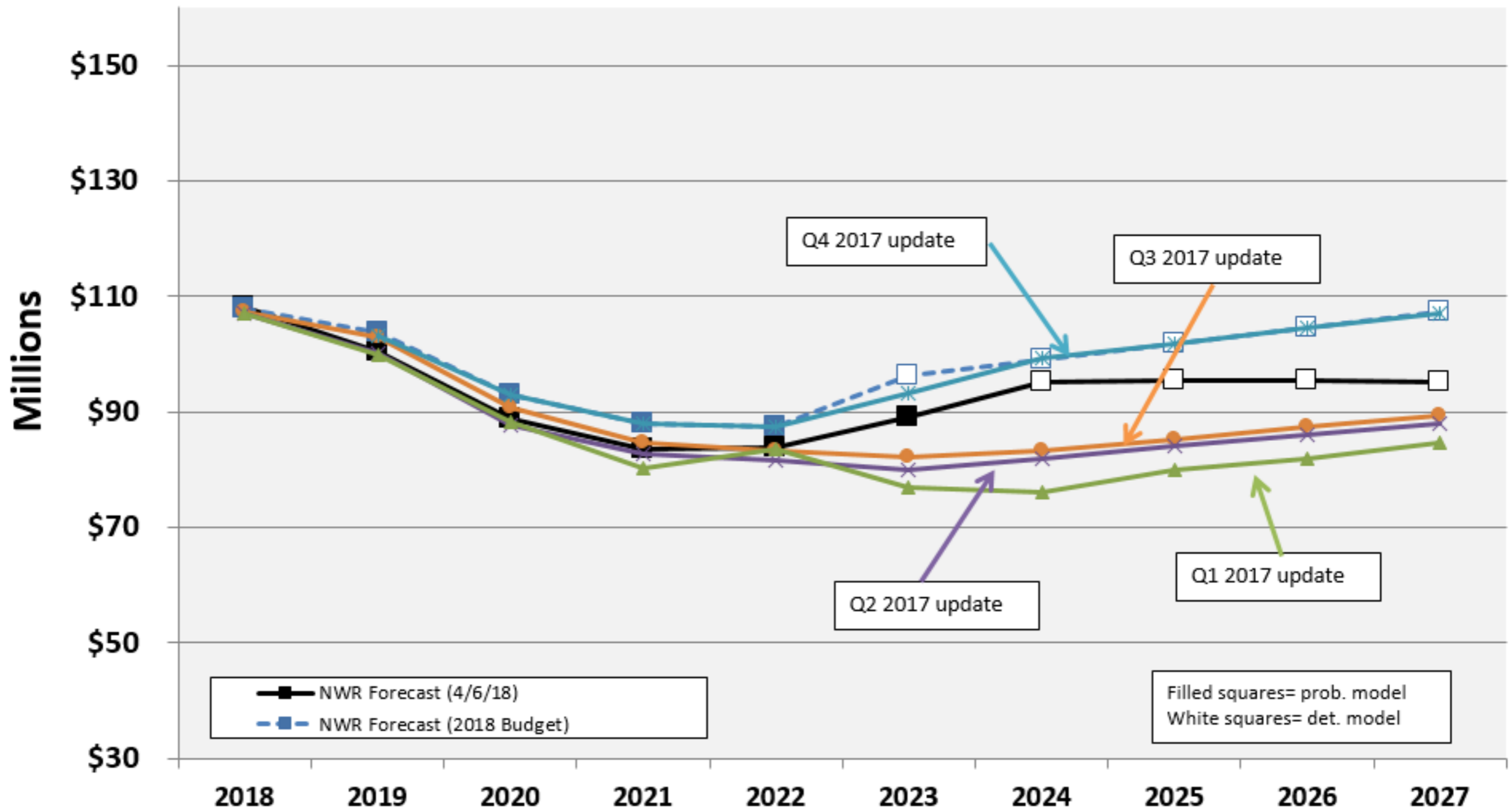
**Net Wholesale Revenue (NWR) includes all premiums from specified source and other premium products as well as slice sales and standard forward / pre-schedule energy trading activity.*

Other premium products include hubbing, system delivery, scheduling services, Lake Chelan reserves and super peak products

***2018 forecast based on Jan-Mar unaudited actuals and Apr-Dec estimates.*

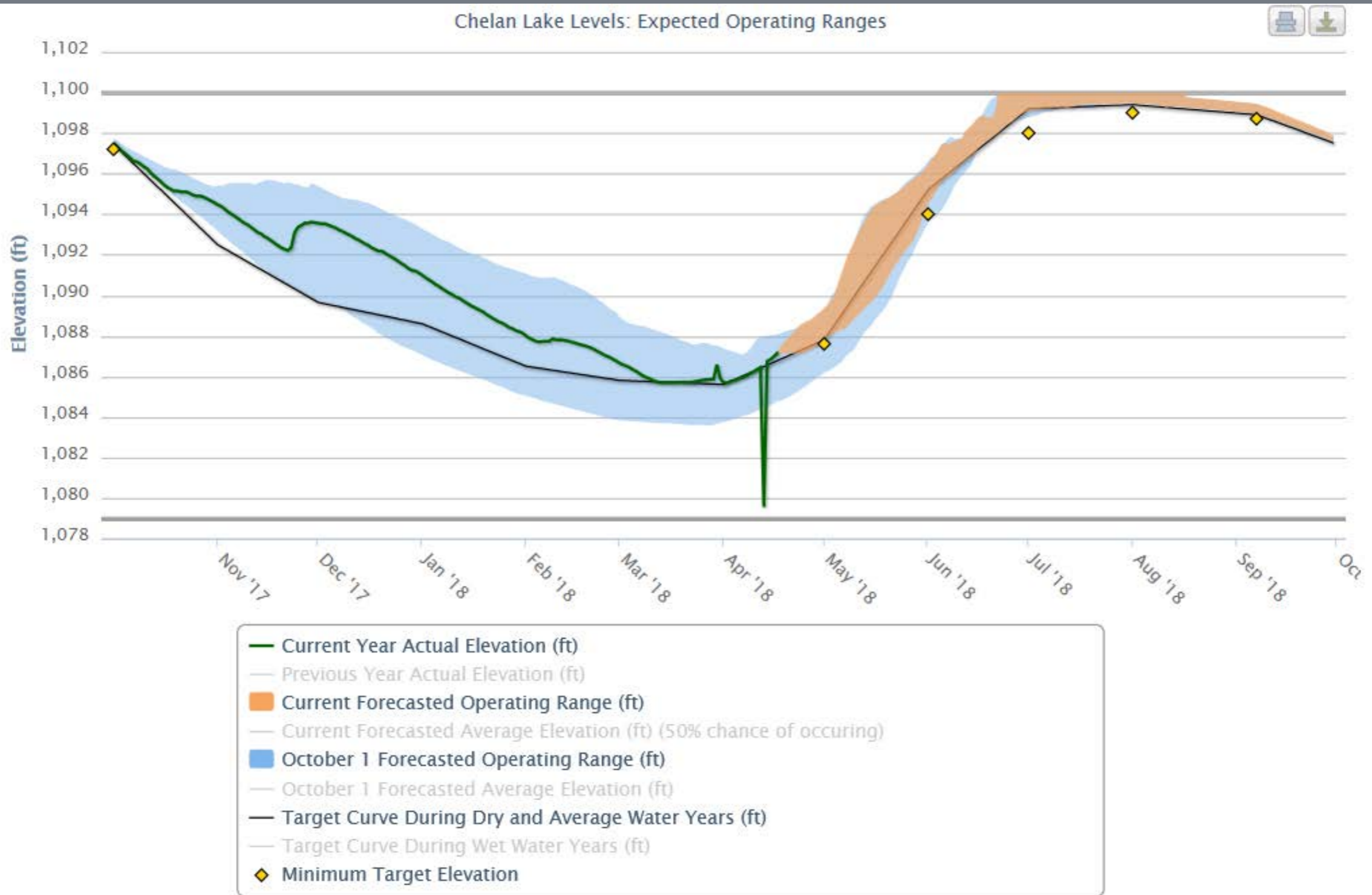
NET WHOLESALE REVENUE FORECAST

Net Wholesale Revenue Forecast



LAKE CHELAN LAKE LEVEL WEBPAGE

(04/17/18)



MARKET INFO

Idaho Power and Powerex begin participation in western EIM

- Idaho Power and Powerex begin participation in western EIM. Idaho Power and Powerex entered the western Energy Imbalance Market 4/4/2018, allowing the CAISO real-time market to serve imbalances occurring within about 55% of the electric load in the Western Interconnection
- Expected to join the EIM in next two years:
 - BANC (April 2019)
 - SRP, SCL and LADWP (by April 2020)

Cal-ISO Sets Three Records in Two Days

- Peak solar generation hit an all-time high of 10,411 MW at 10:18 am PST 3/5/2018, surpassing the previous record of 9,913 MW reached 6/17/2017
- Cal-ISO hit an all-time peak percentage of demand served by solar at 12:58 pm PST 3/4/2018, when solar served 49.9% of peak demand
- The ISO also set all-time peak ramps on 3/4/2018 with a three-hour ramp of 14,777 MW and a one hour ramp of 7,545 MW

Q1 ENERGY EFFICIENCY RESULTS

Two-Year Compliance Target is 2.42 aMW

Annual 2018 Stretch Target is 1.7 aMW

Energy Efficiency Savings (aMW) ¹	Incentive and Labor Cost	Levelized Cost (\$/MWh) ²	Estimated Value Over Life ²
0.4	\$ 683,000	\$ 21.00	\$1,120,000

1. Pending verification

2. Based on weighted avg. life of measure and discounted at 7%

SUMMARY

The District's 2018 Net Wholesale Revenue and other energy-related revenues are forecasted to be \$116.9 Million which is \$0.6 Million higher than budget.

Specified Source energy sales are expected to contribute \$4.3 Million to the Net Wholesale Revenue which is \$0.6 Million higher than budget.

With .4 aMW acquired in Q1, the energy efficiency team is on track to meet both compliance and stretch targets.

QUESTIONS?



CHELAN COUNTY