

WESTERN ENERGY IMBALANCE MARKET

Briefing on western energy imbalance market benefits

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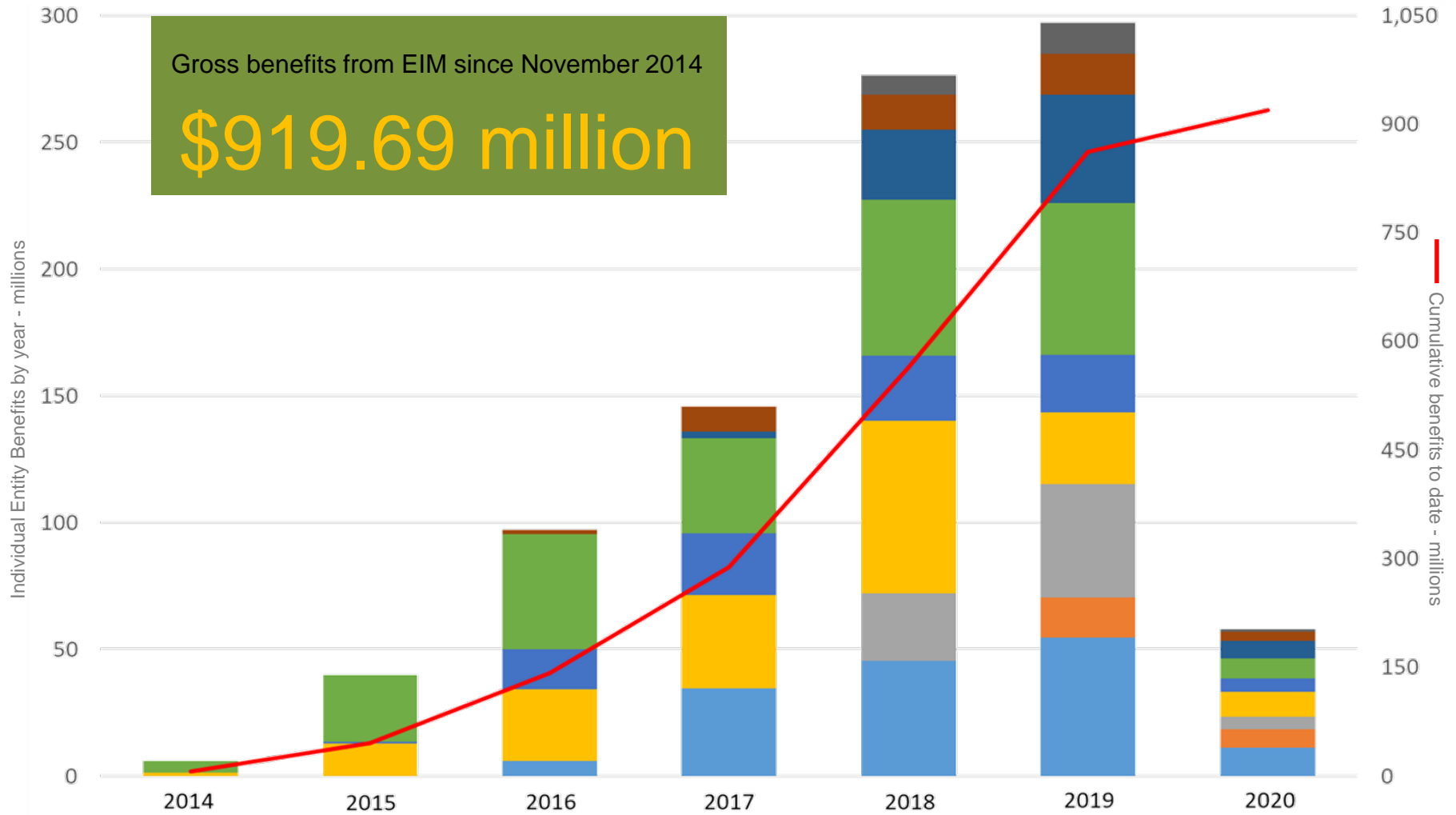
EIM Governing Body Meeting

General Session

May 6, 2020



\$57.90 million gross economic benefits – 2020 1st Qtr.



Individual Entity Benefits for 1st Quarter, 2020 - millions

\$20.36
APS

\$7.07
BANC

\$9.57
CISO

\$5.15
IPCO

\$5.36
NVE

\$7.80
PAC

\$6.93
PGE

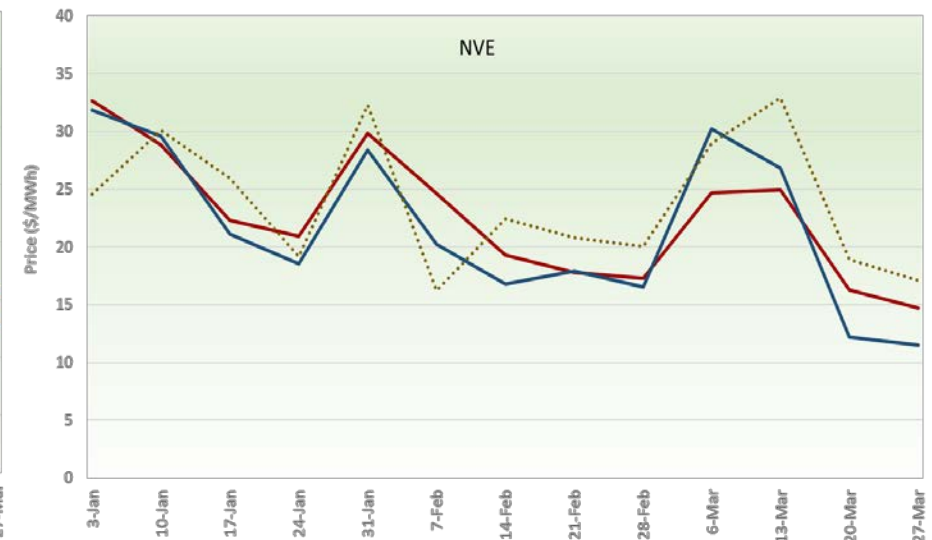
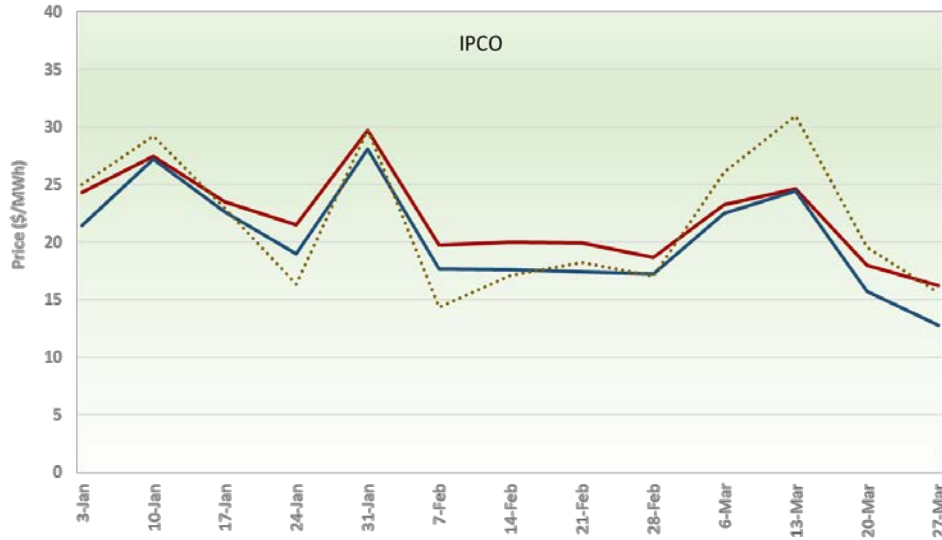
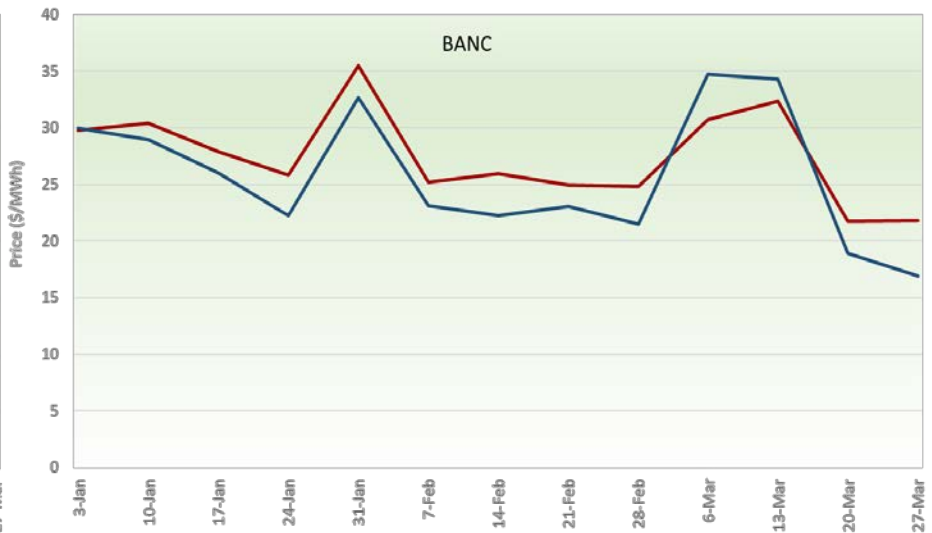
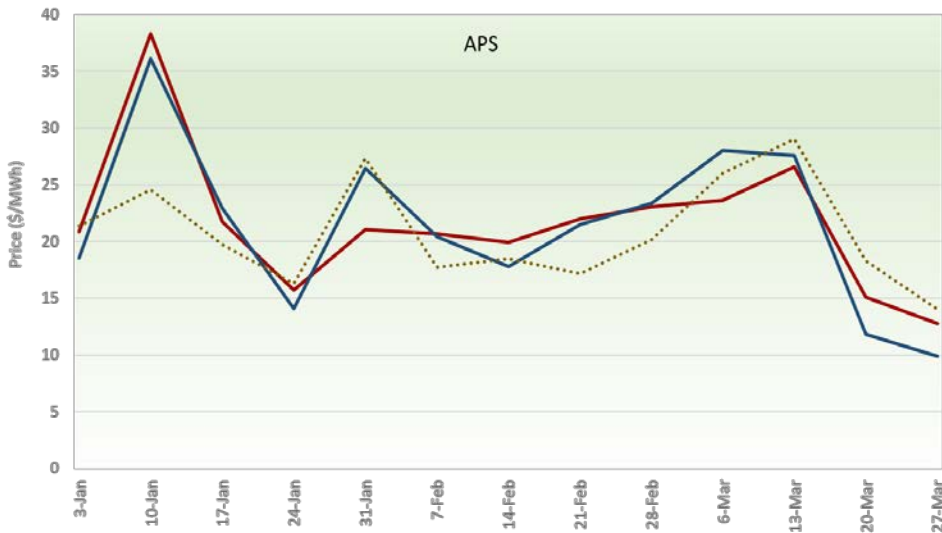
\$3.67
PSE

\$1.09
PWX

Flexible ramping procurement diversity savings for 1st Quarter, 2020

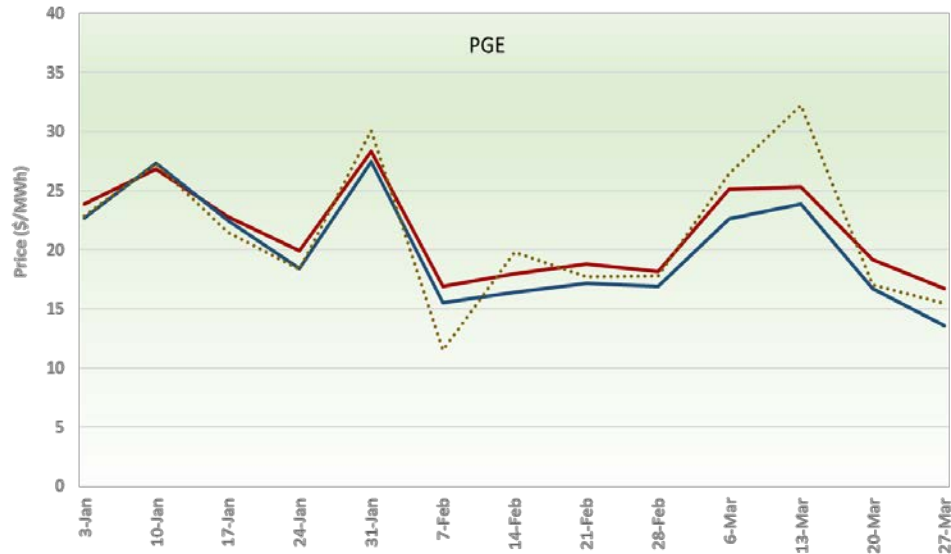
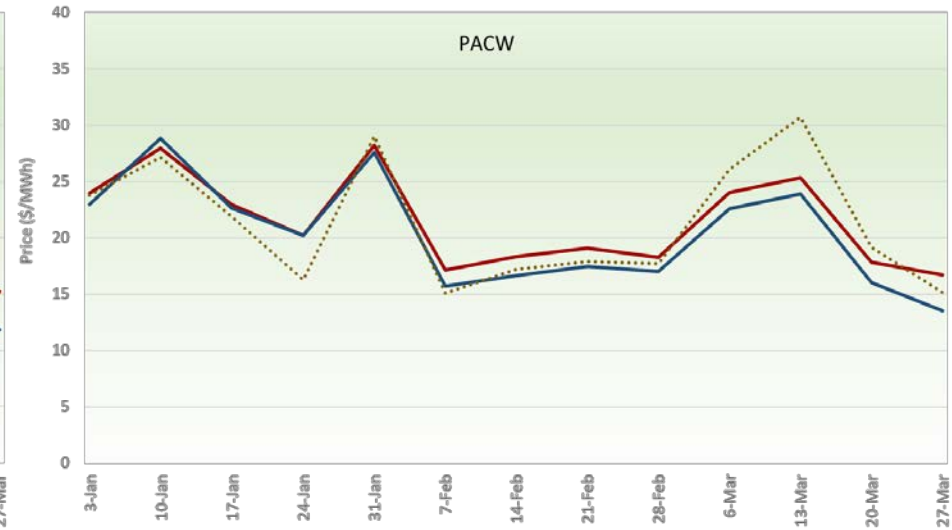
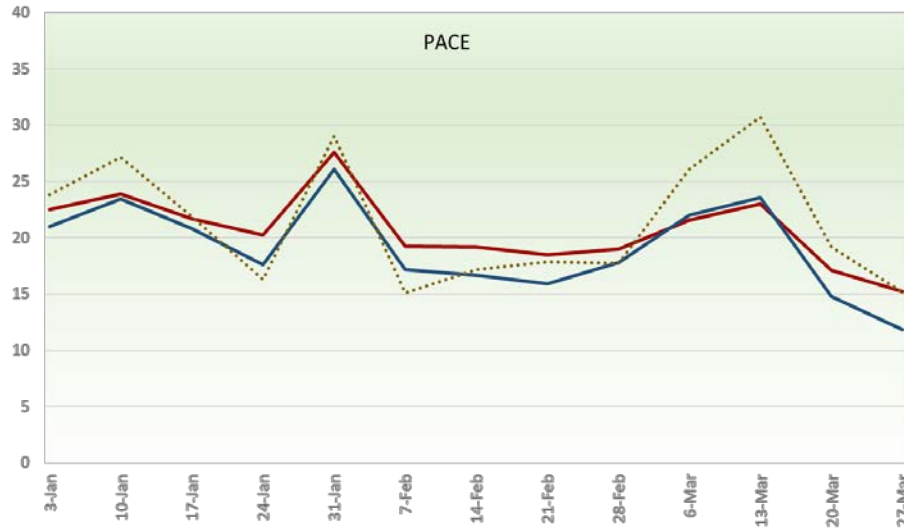
	January		February		March	
Direction	Up	Down	Up	Down	Up	Down
Average MW saving	715	769	806	821	830	814
Sum of BAA requirements	1,606	1,731	1,699	1,781	1,807	1,770
Diversity Benefit	44%	44%	47%	46%	46%	46%
Estimated Savings	\$28,848	\$168	\$11,082	\$38,469	\$72,234	\$7,105

Weekly average prices in EIM areas



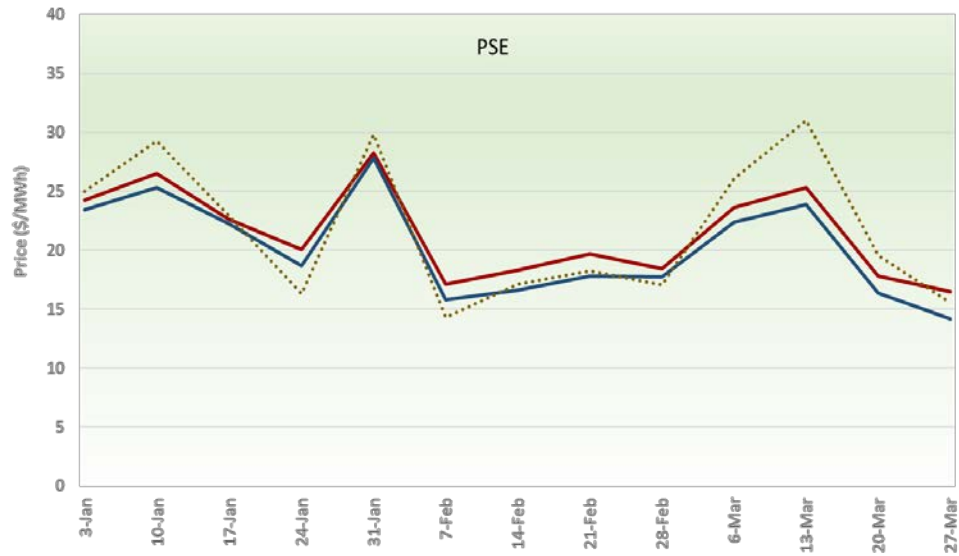
..... Estimated Proxy — RTD ELAP — FMM ELAP

Weekly average prices in EIM areas



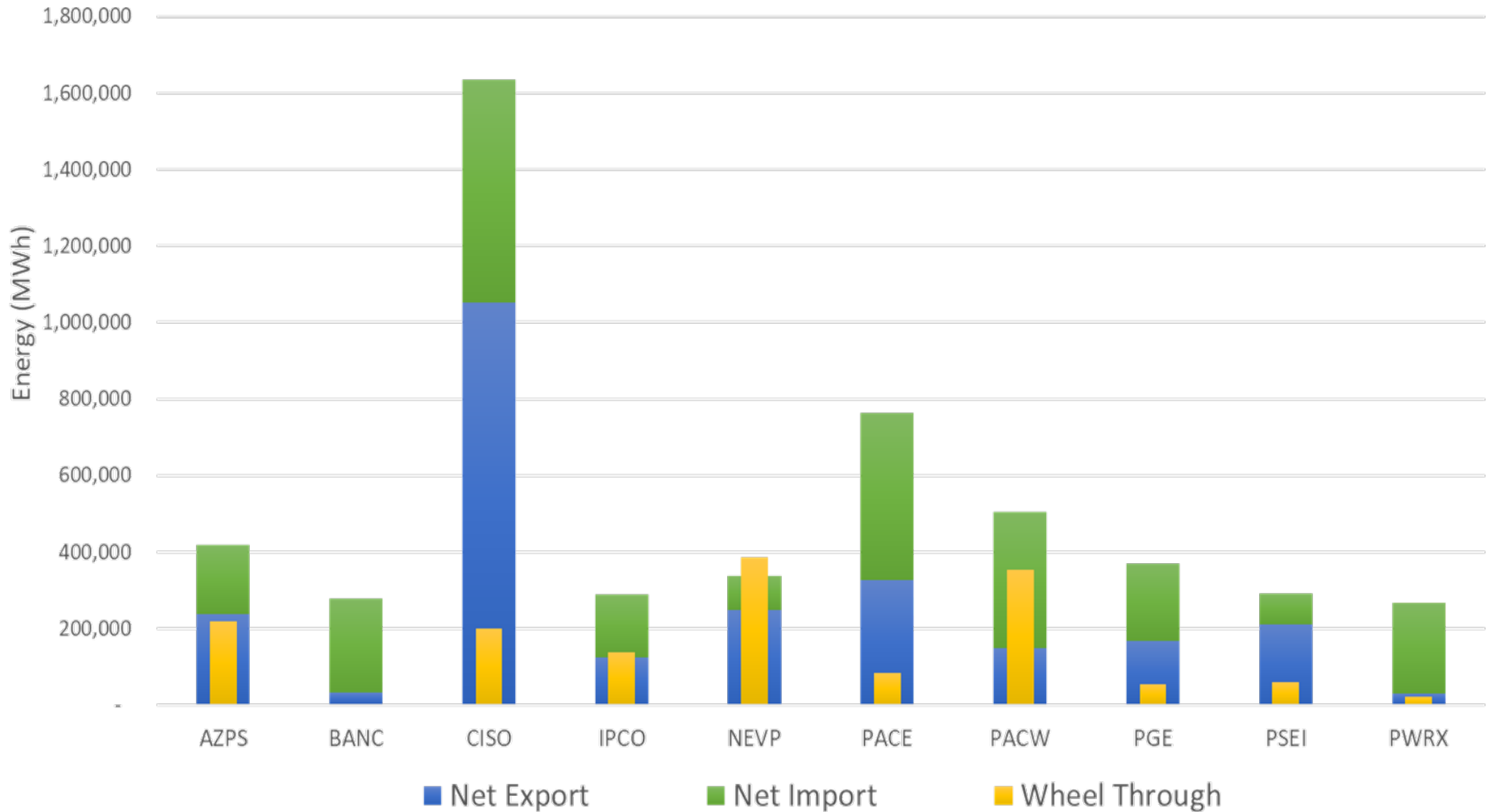
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Weekly average prices in EIM areas

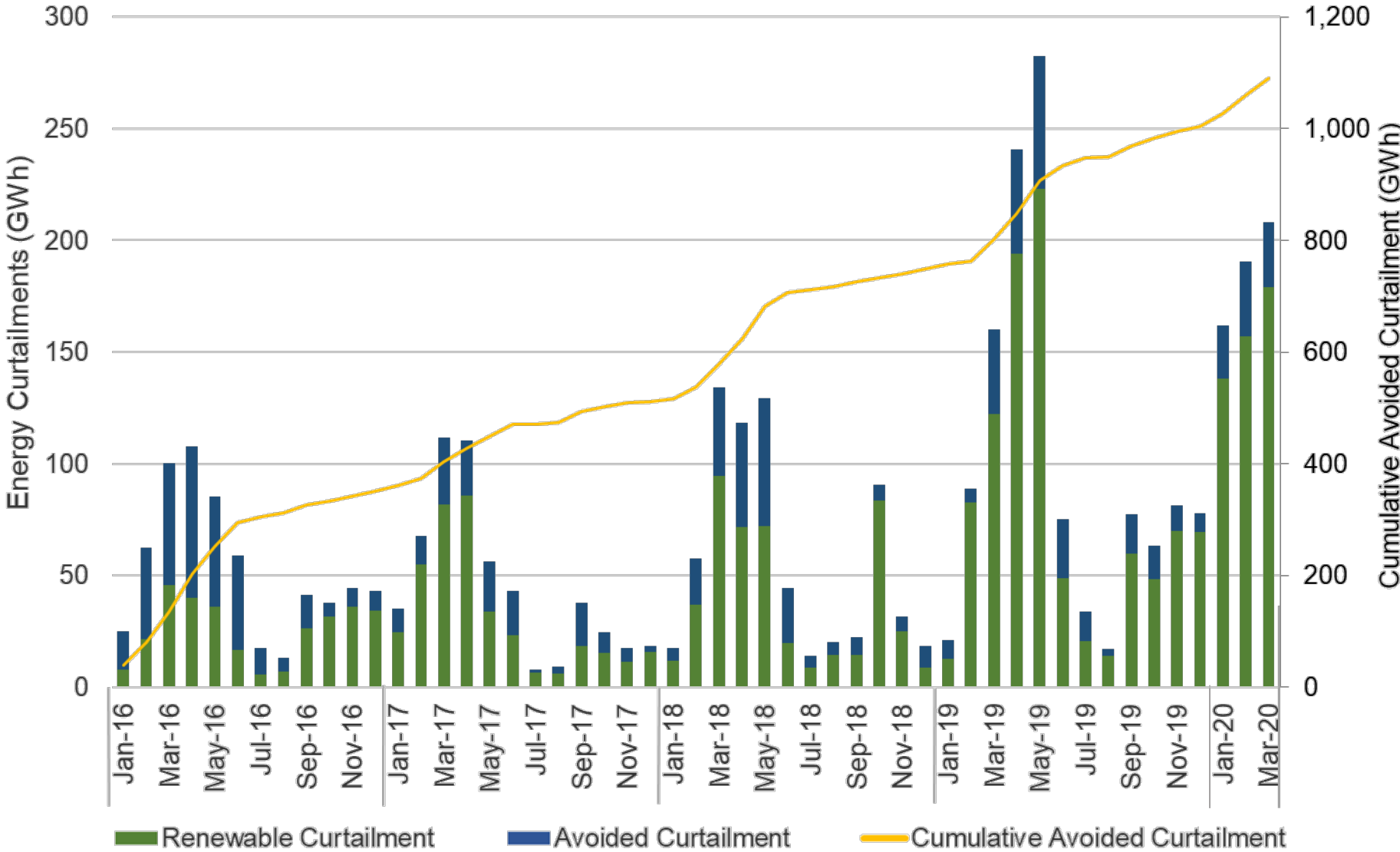


..... Estimated Proxy — RTD ELAP — FMM ELAP

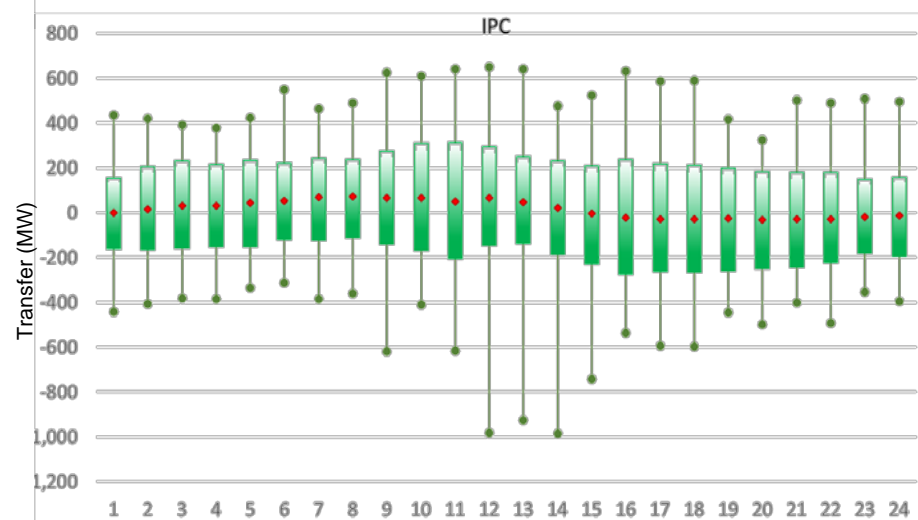
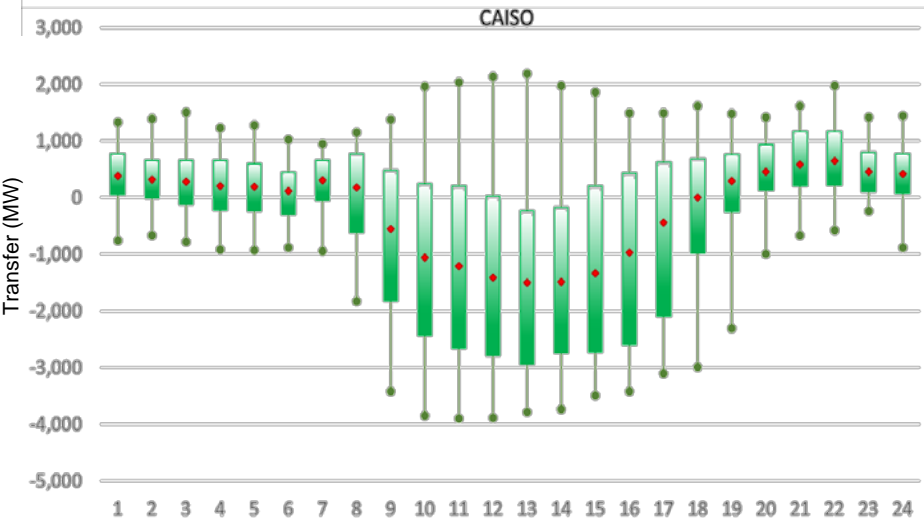
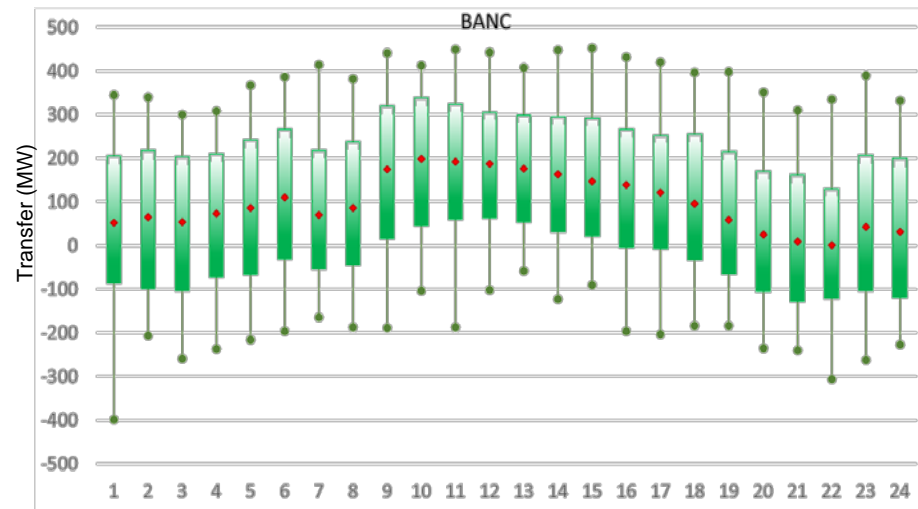
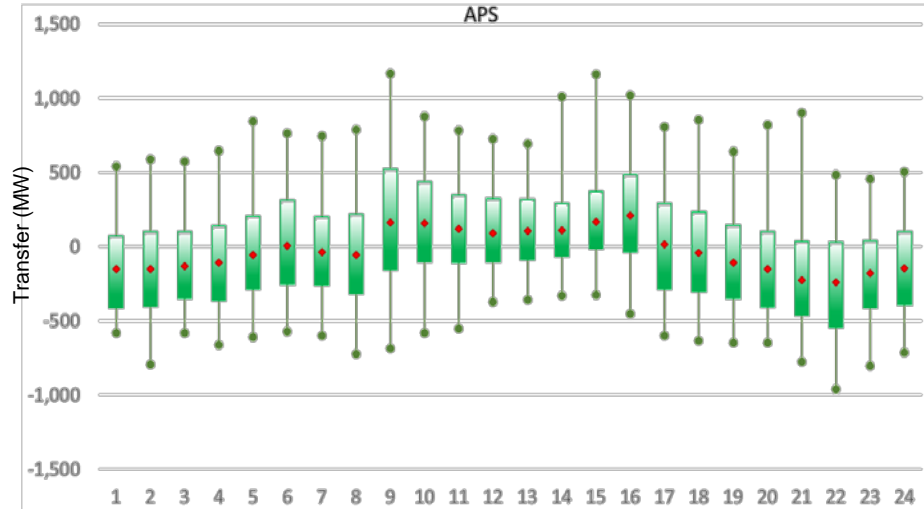
Estimated wheel through transfers in Q1, 2020



Energy imbalance market helps avoid curtailment

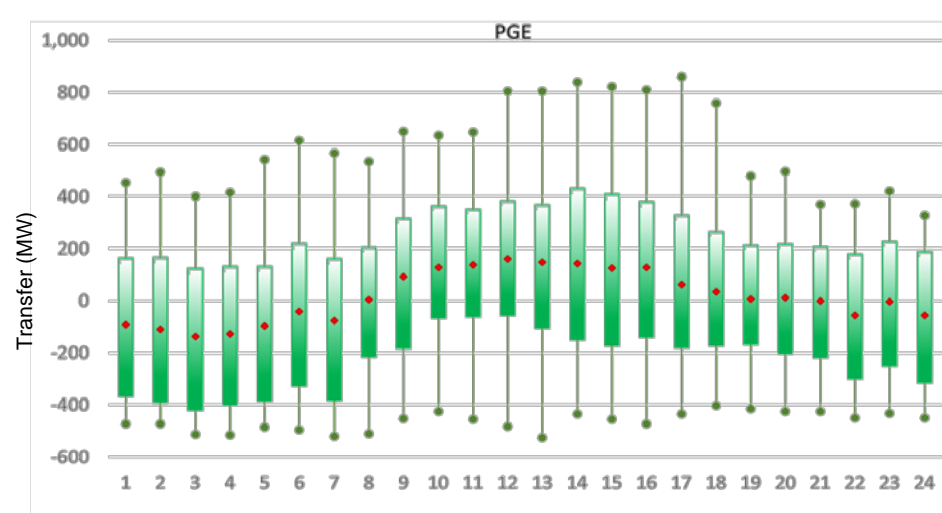
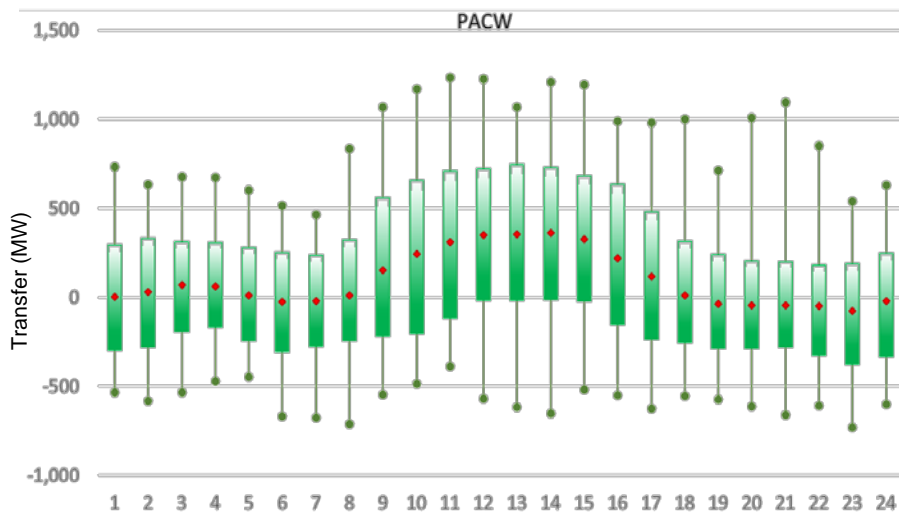
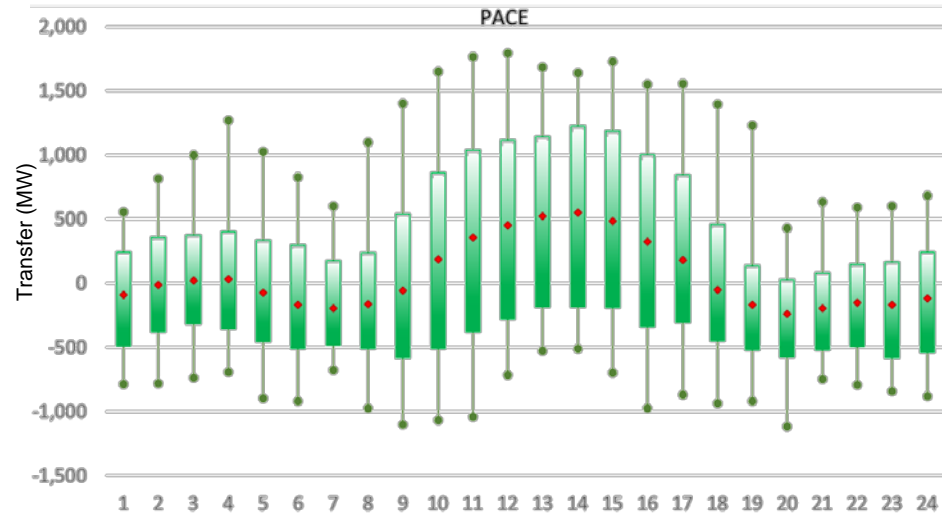
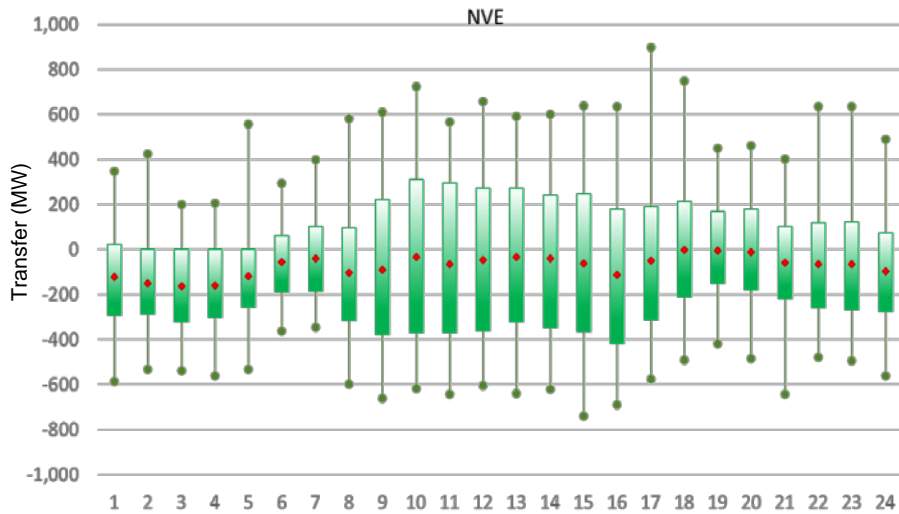


Robust energy transfers in 1st quarter, 2020





Transfer Axis: (+) Import (-) Export 10th to 90th percentile Tails are max and min ◆ Simple averages


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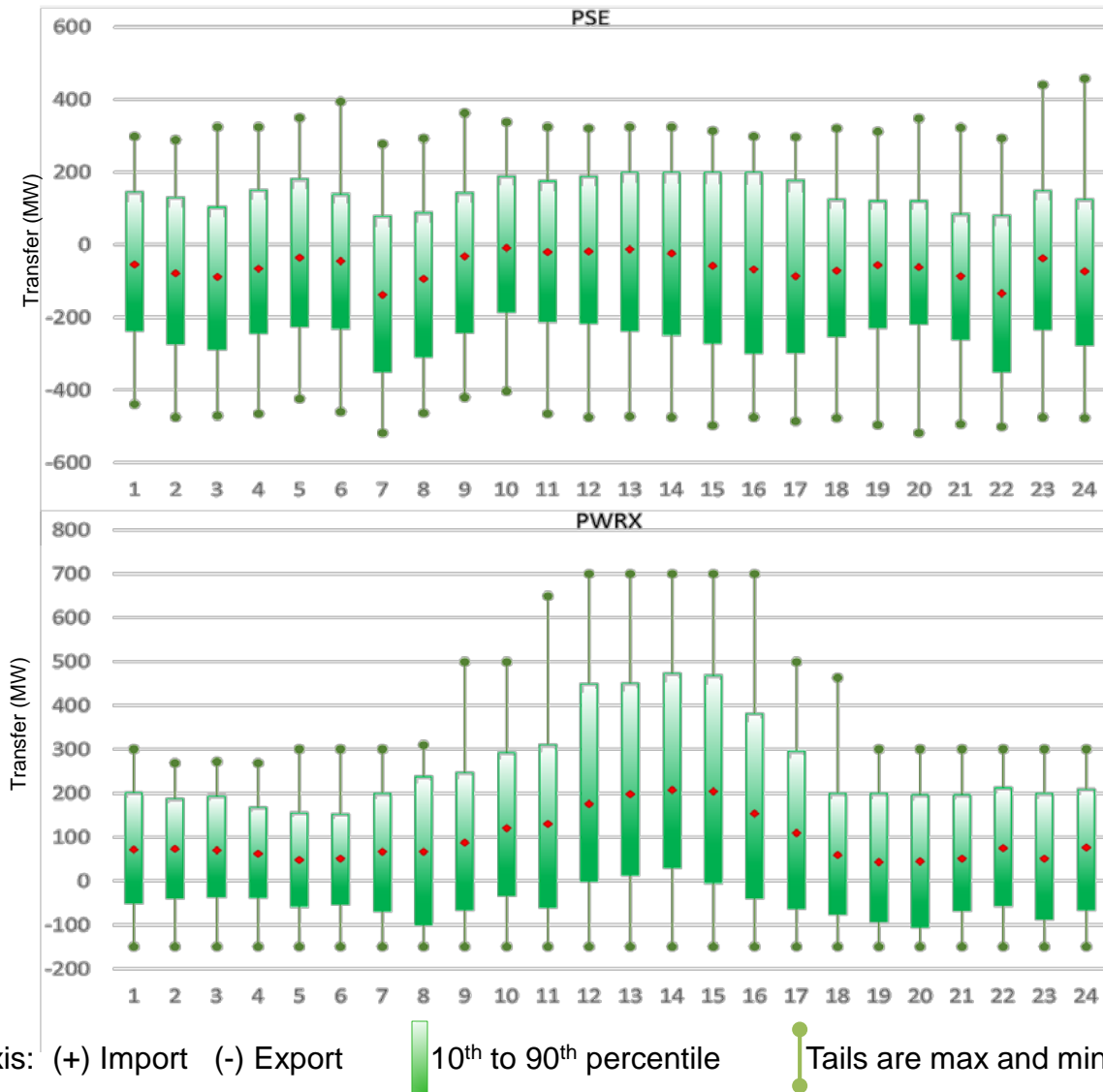
Transfer Axis: (+) Import (-) Export

 10th to 90th percentile

 Tails are max and min

 Simple averages

Robust energy transfers in 1st quarter, 2020

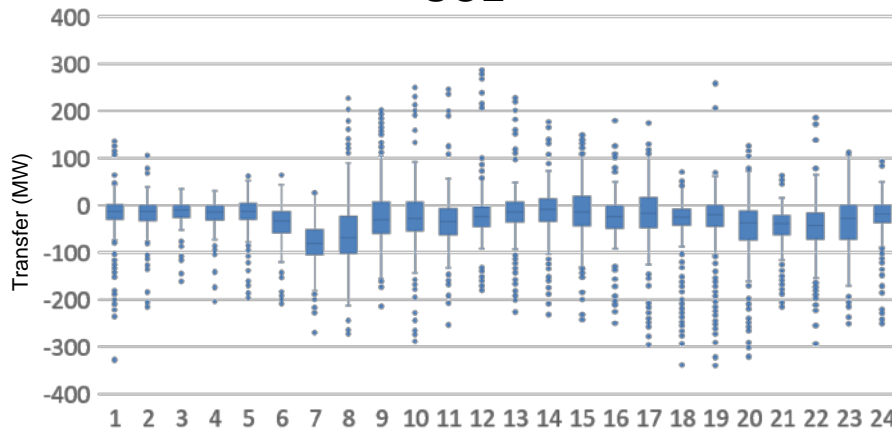


Seattle City Light and Salt River Project go-live went smoothly on April 1, 2020

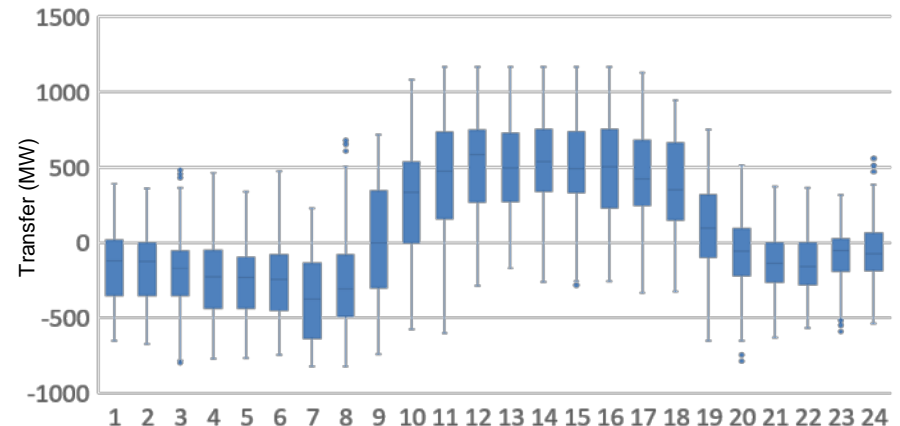
April Metrics	SCL (Seattle City Light)	SRP (Salt River Project)
Balancing Test Pass Rate	95.3%	99.3%
Flex Ramp Test Pass Rate	98.6%	99.7%
Average 15-minute Prices	\$19/Mwh	\$16.8/Mwh
Average 5-minute Prices	\$17.6/Mwh	\$16/Mwh

Transfers

SCL



SRP



Transfer Axis: (+) Import (-) Export