

# WESTERN ENERGY IMBALANCE MARKET

## Briefing on western energy imbalance market and benefits

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EIM Governing Body Meeting

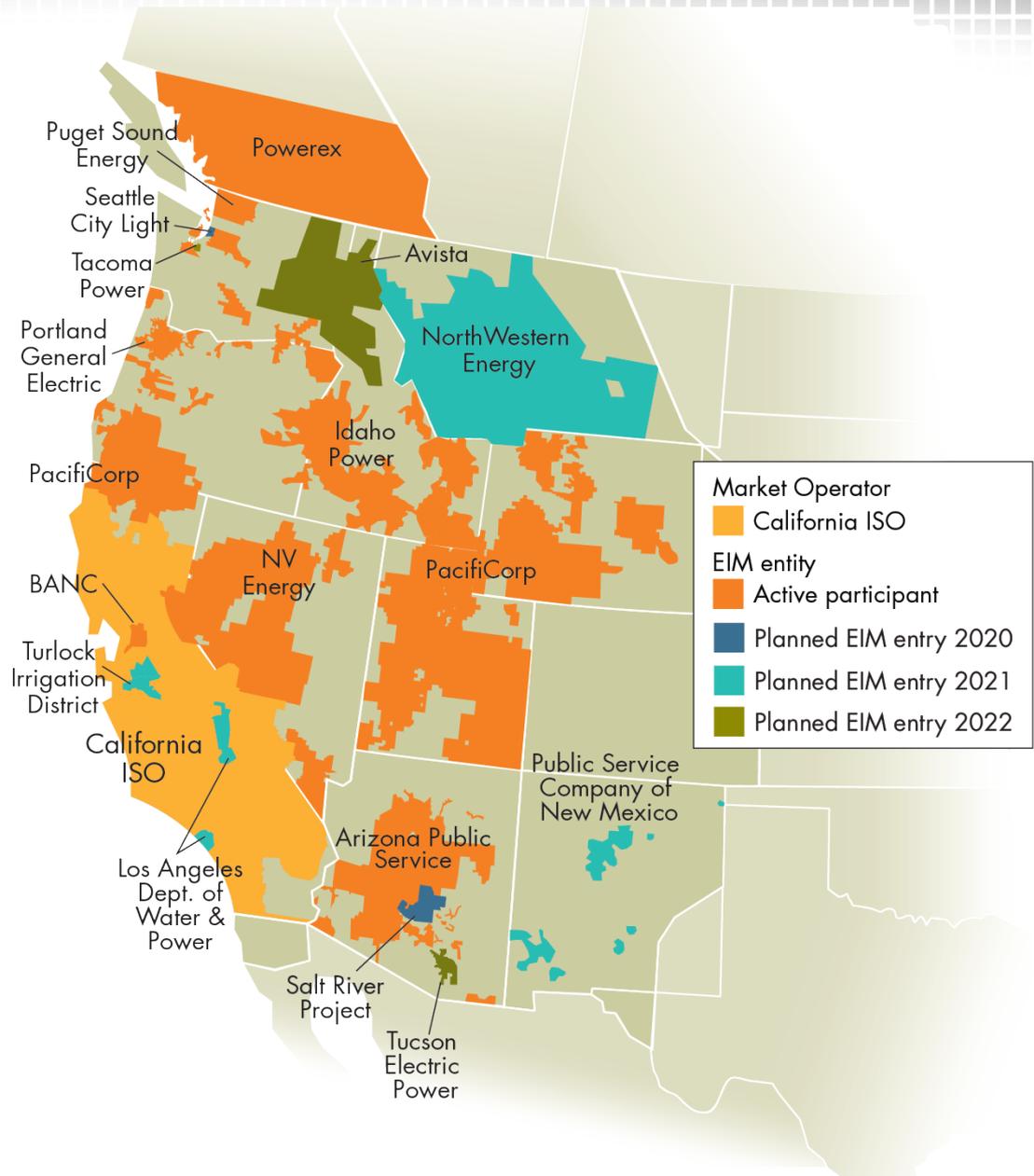
General Session

August 28, 2019



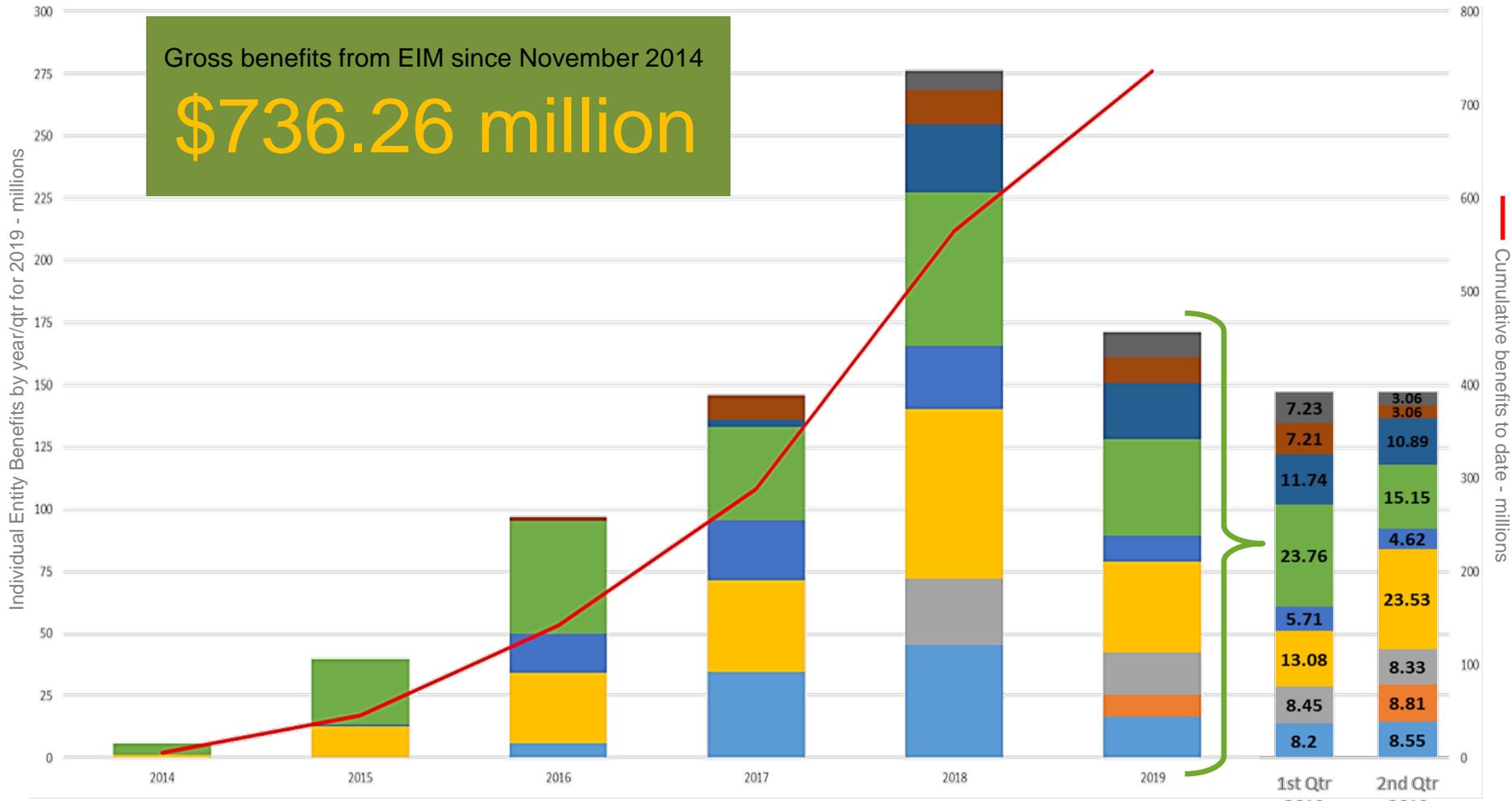
# EIM Update

- Entities with signed implementation agreements:
  - 2020 – Salt River Project & Seattle City Light
  - 2021 – LADWP, NorthWestern Energy, Public Service Company of New Mexico & Turlock Irrigation District
  - 2022 – Avista, Tacoma Power & Tucson Electric Power



# Gross economic benefits – 2019 2<sup>nd</sup> Quarter

Gross benefits from EIM since November 2014  
**\$736.26 million**

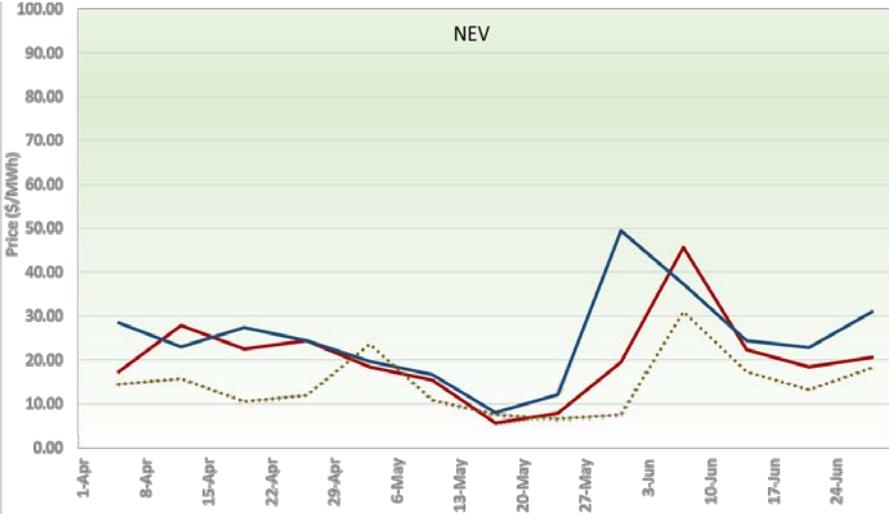
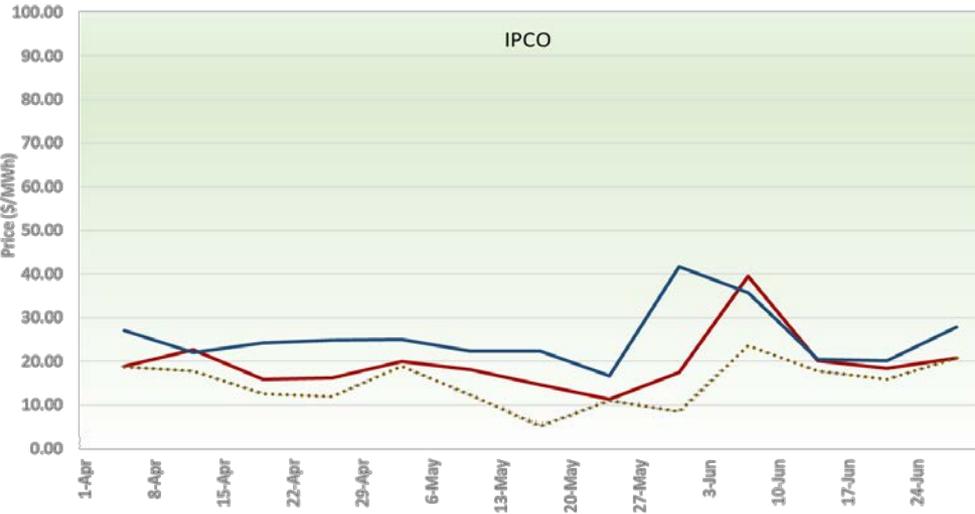
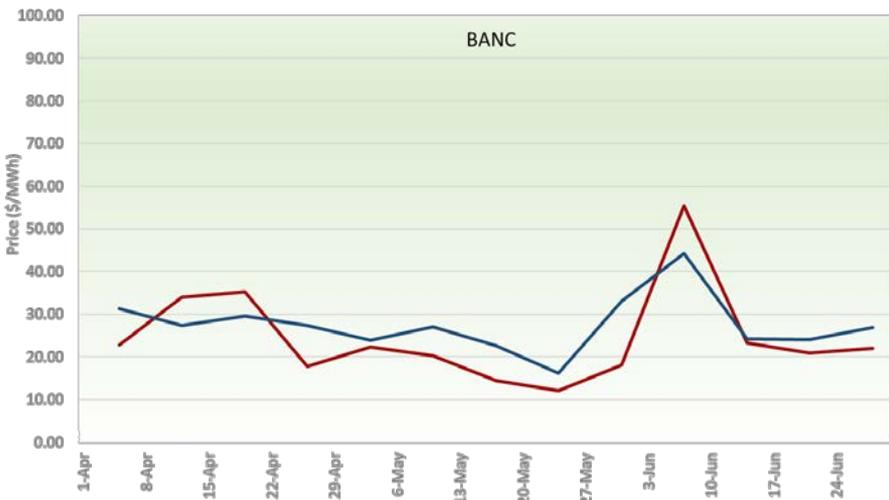
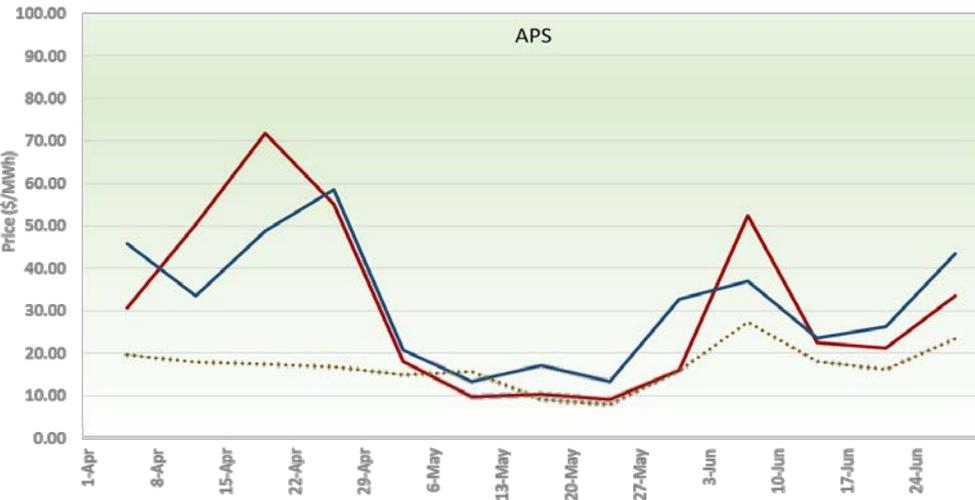


- APS
- BANC
- IPCO
- ISO
- NVE
- PAC
- PGE
- PSE
- PWX

# Flexible ramping procurement diversity savings for 2<sup>nd</sup> Quarter, 2019

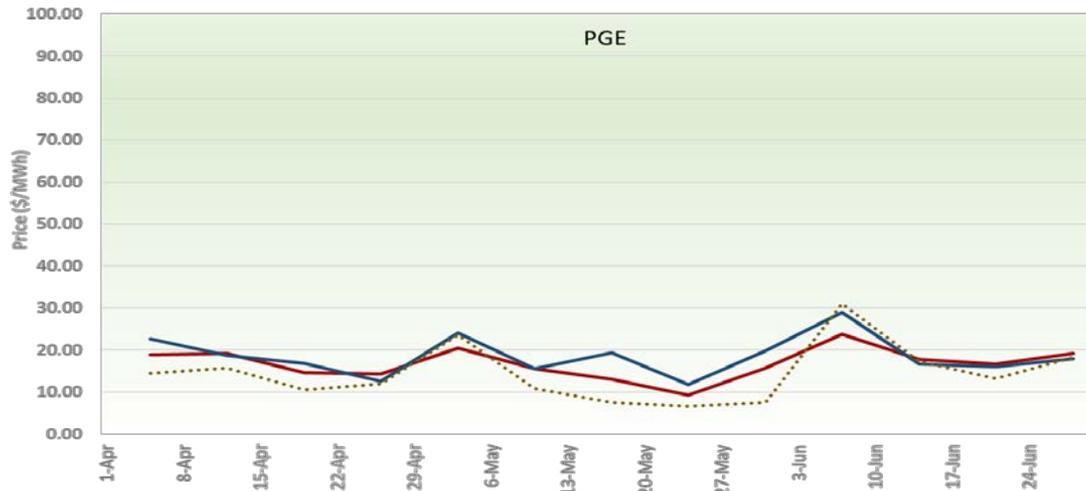
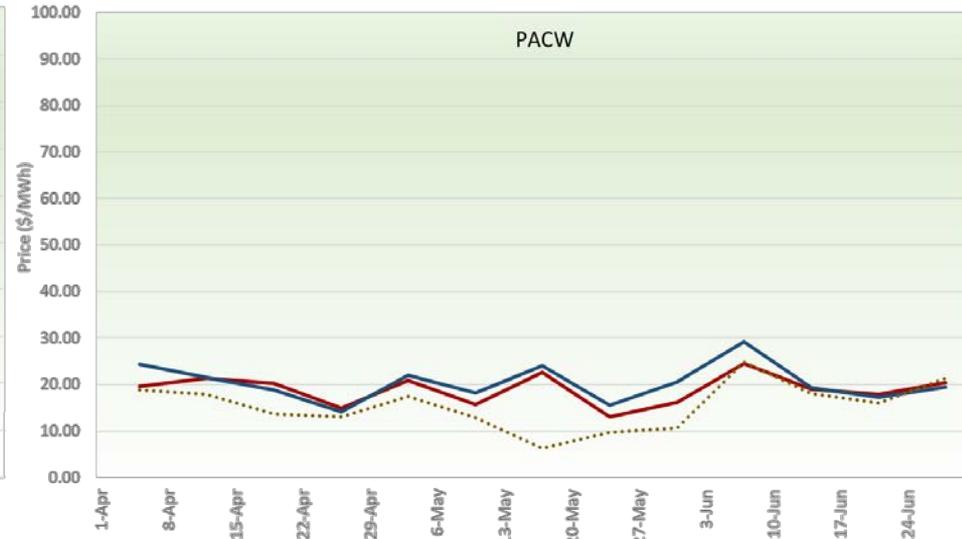
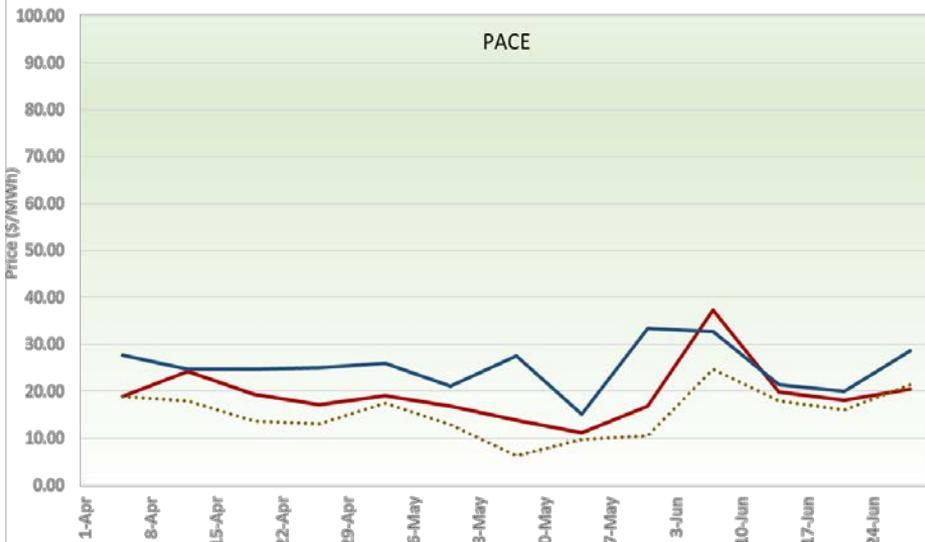
	April		May		June	
Direction	Up	Down	Up	Down	Up	Down
Average MW saving	827	881	844	880	853	880
Sum of BAA requirements	1,861	1,959	1,867	1,934	1,953	1,879
Diversity Benefit	44%	45%	45%	45%	44%	47%
Estimated Savings	\$924,398	\$93,021	\$352,966	\$145,267	\$330,719	\$13,316

# Weekly average prices in EIM areas



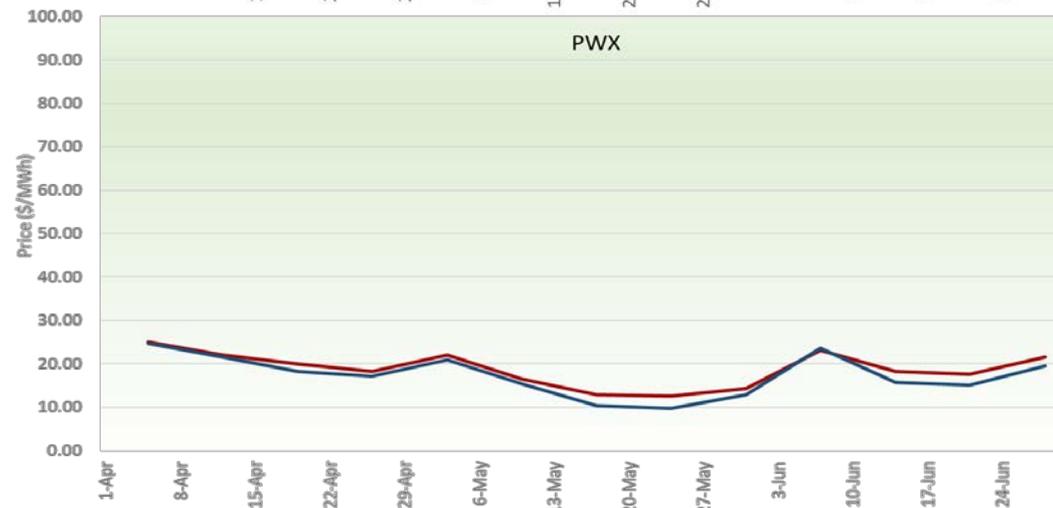
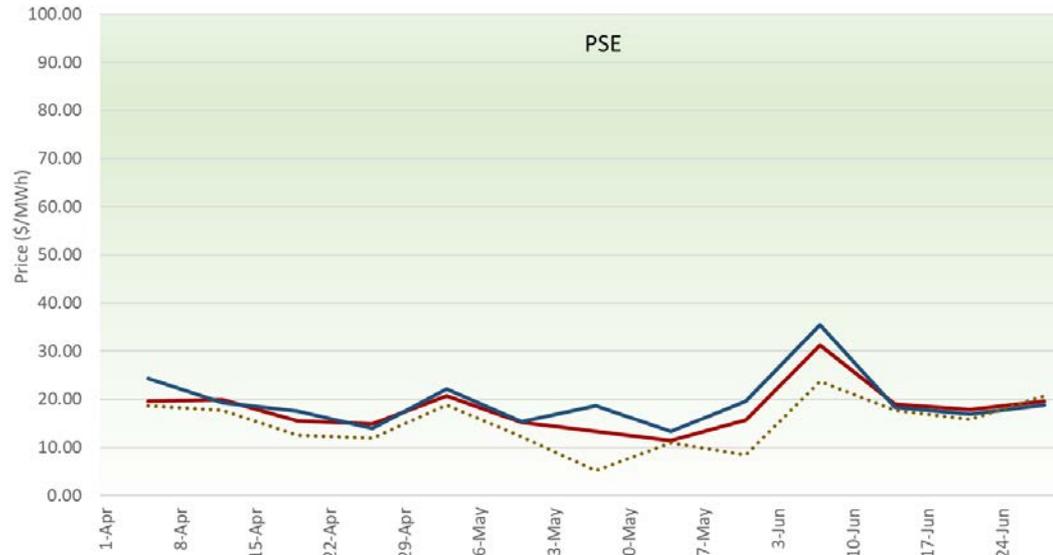
..... Estimated Proxy    — RTD ELAP    — FMM ELAP

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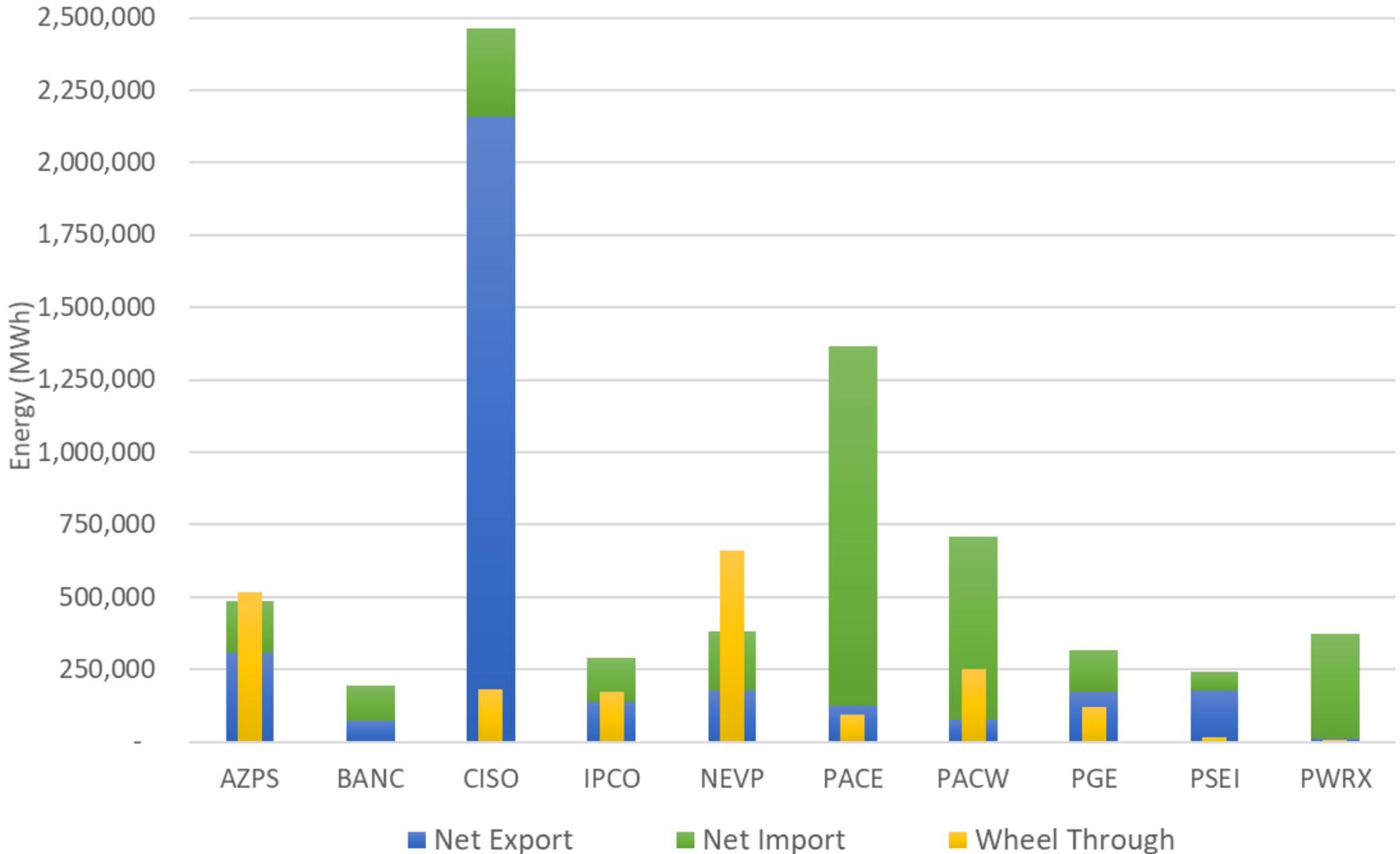
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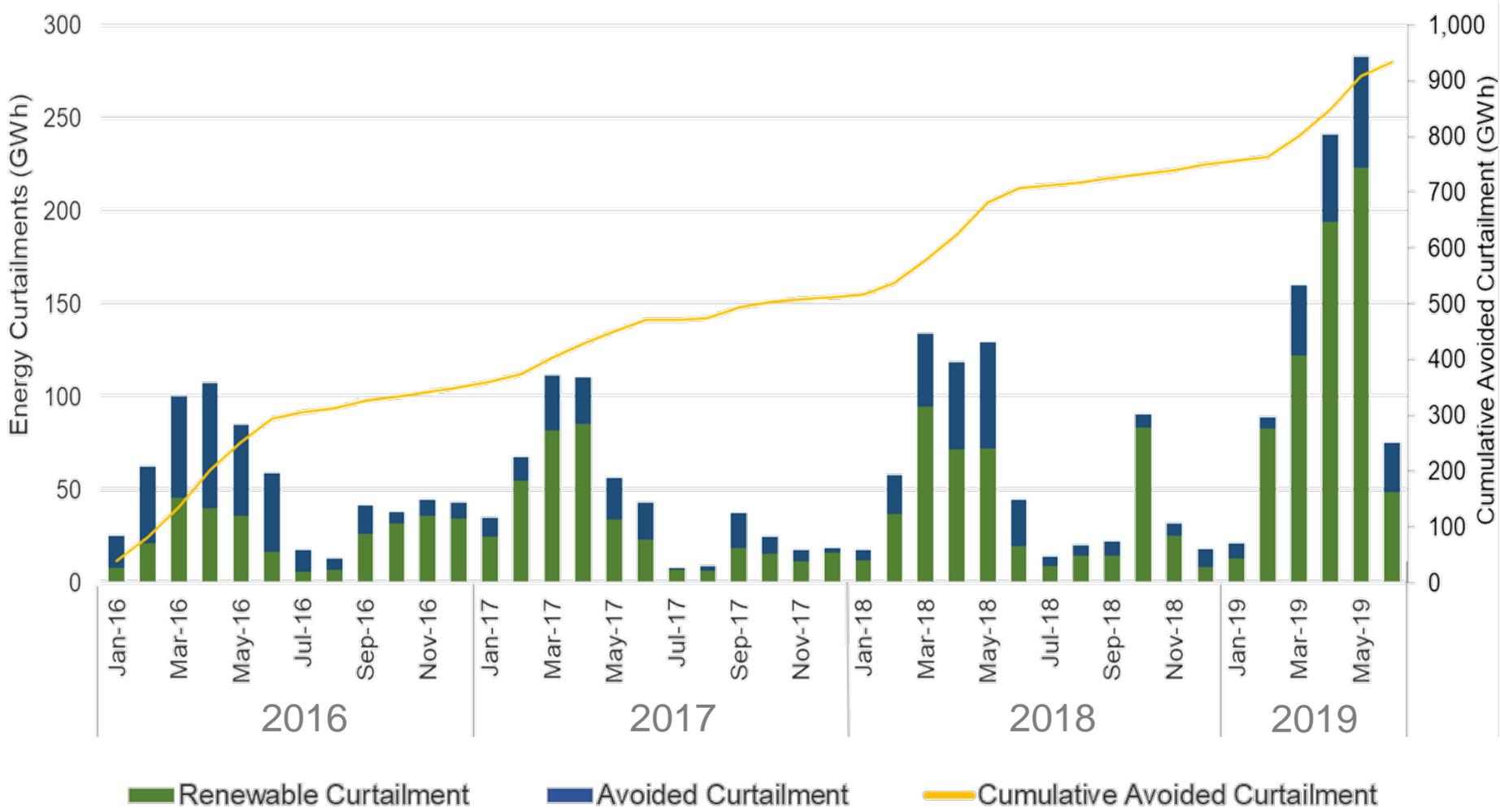


Estimated Proxy RTD ELAP FMM ELAP

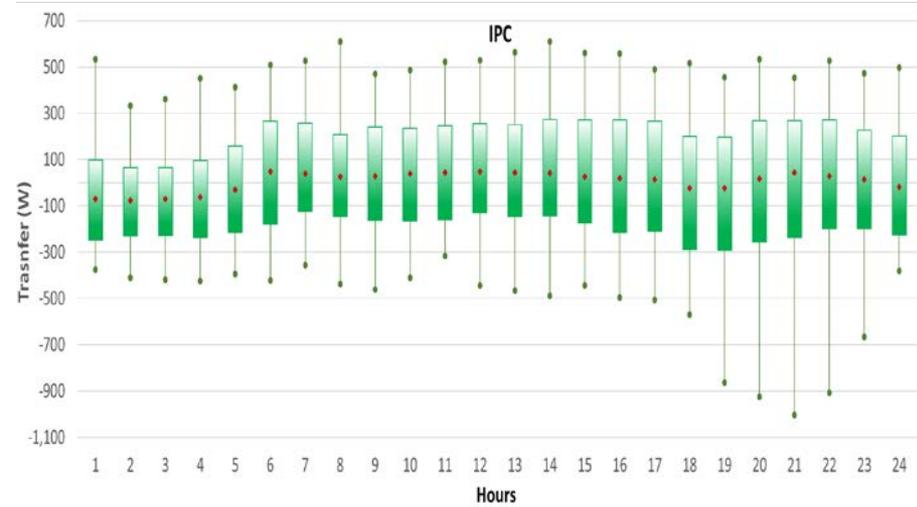
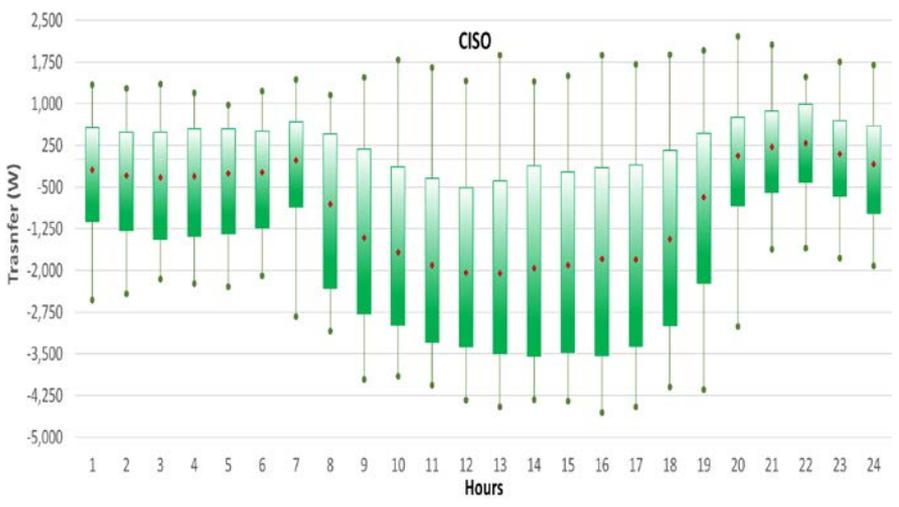
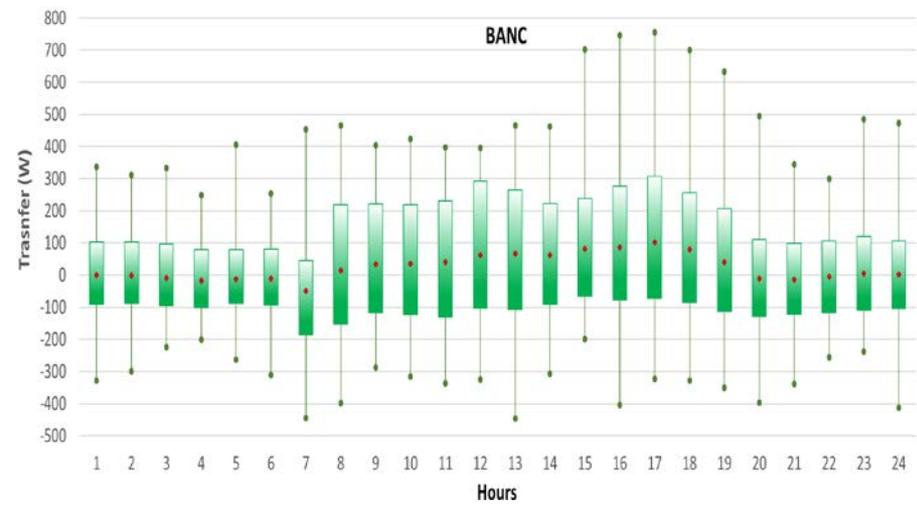
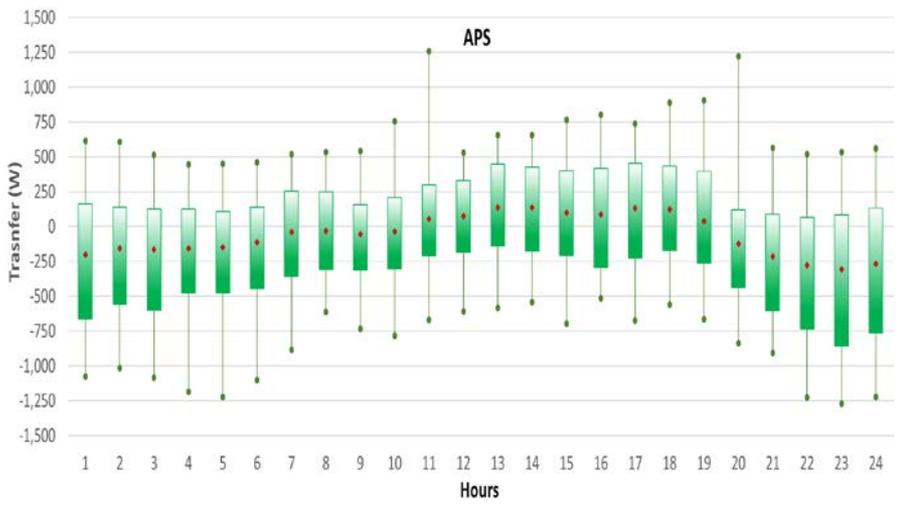
# Estimated wheel through transfers in Q2, 2019



# Energy imbalance market helps avoid curtailment



# Robust energy transfers in 2<sup>nd</sup> quarter, 2019

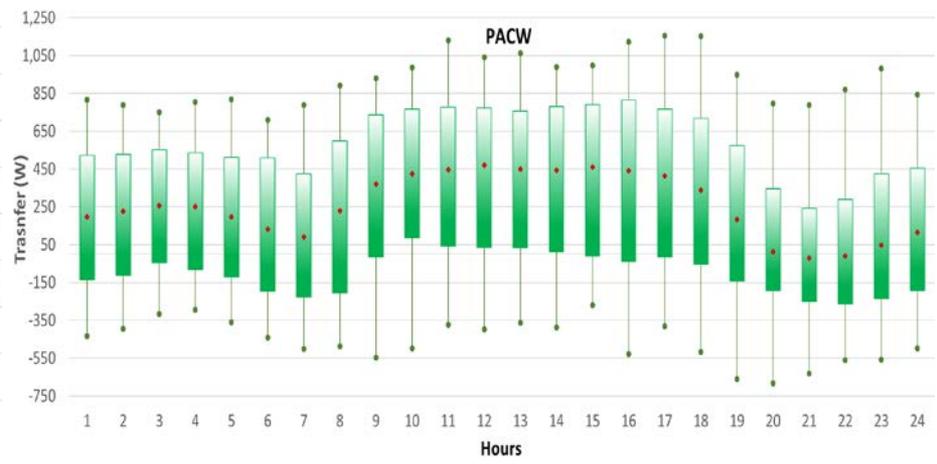
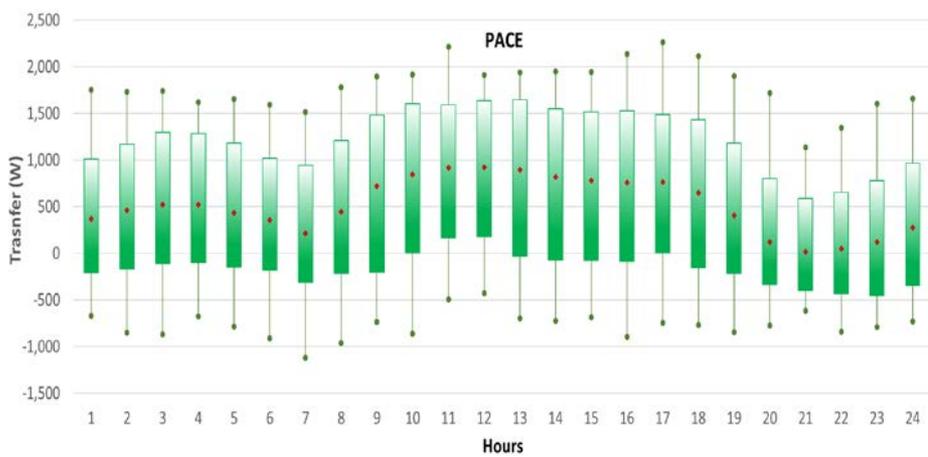
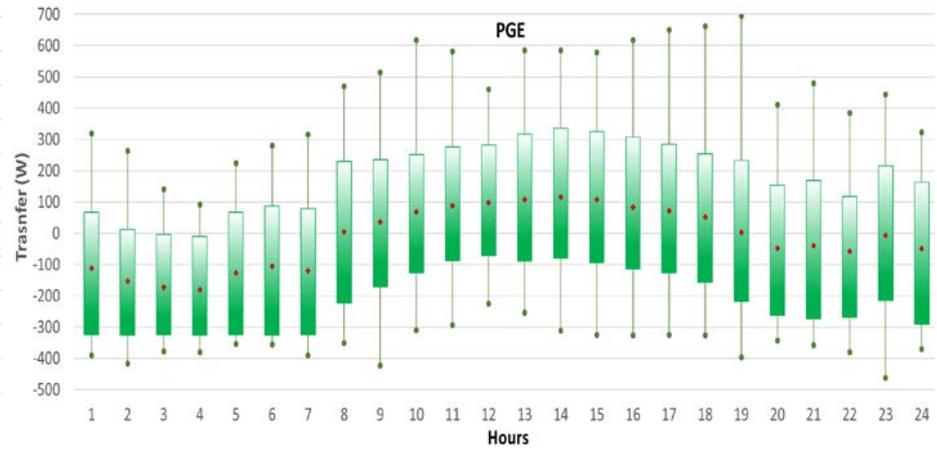
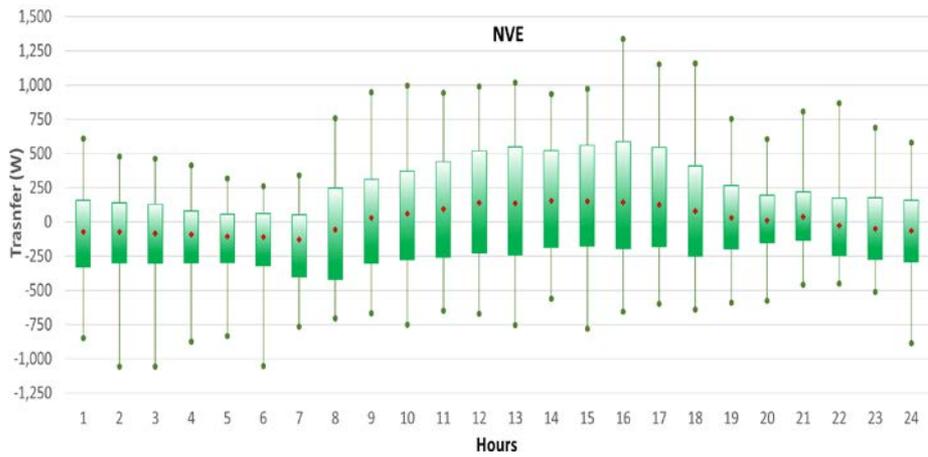


 10<sup>th</sup> to 90<sup>th</sup> percentile

 Tails are max and min

 Simple averages

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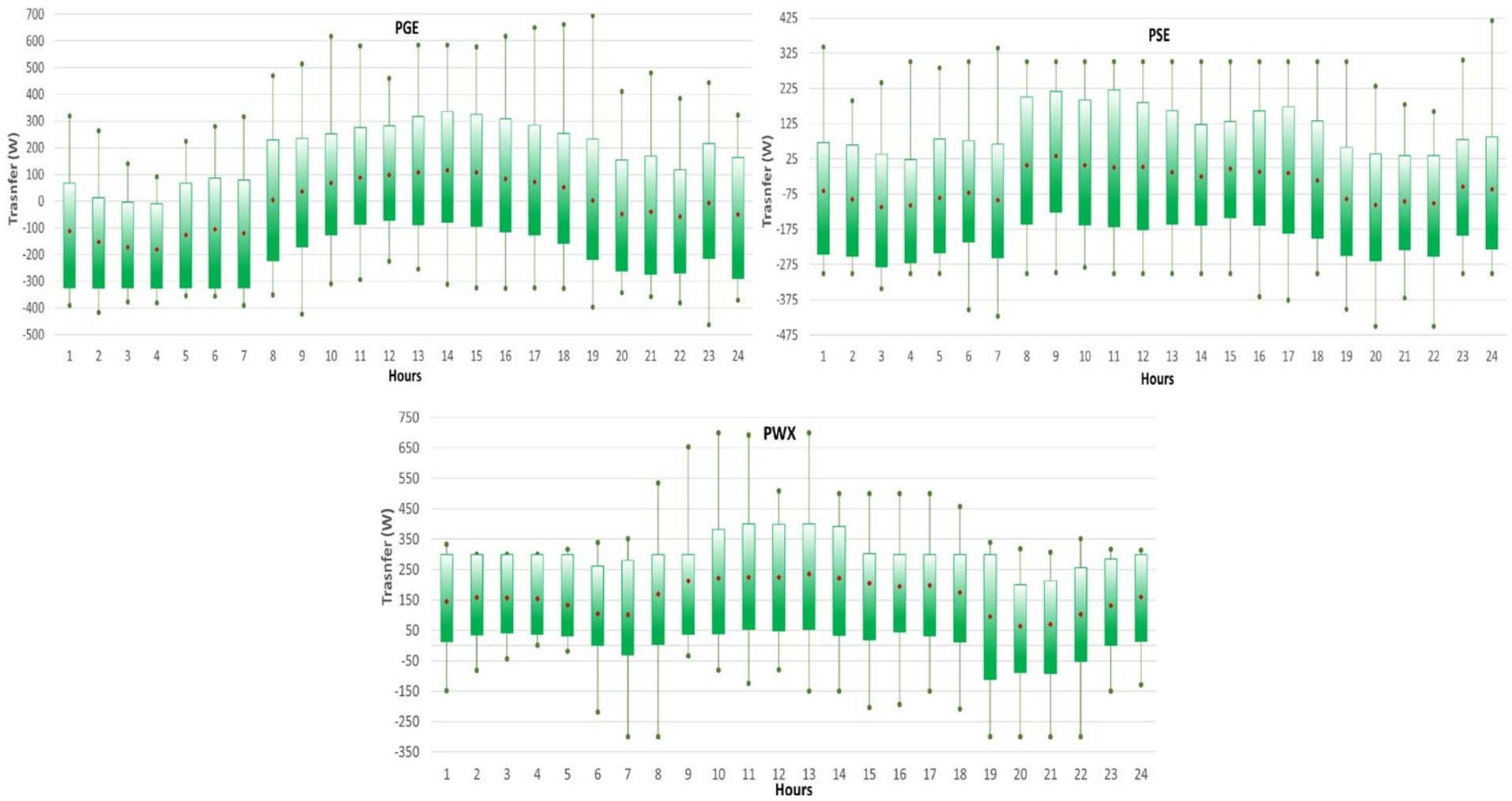


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