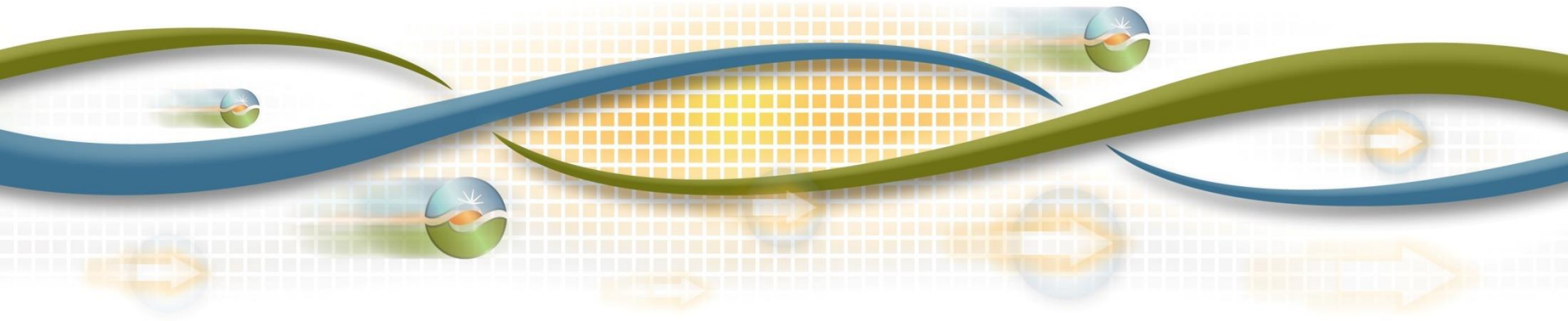




California ISO

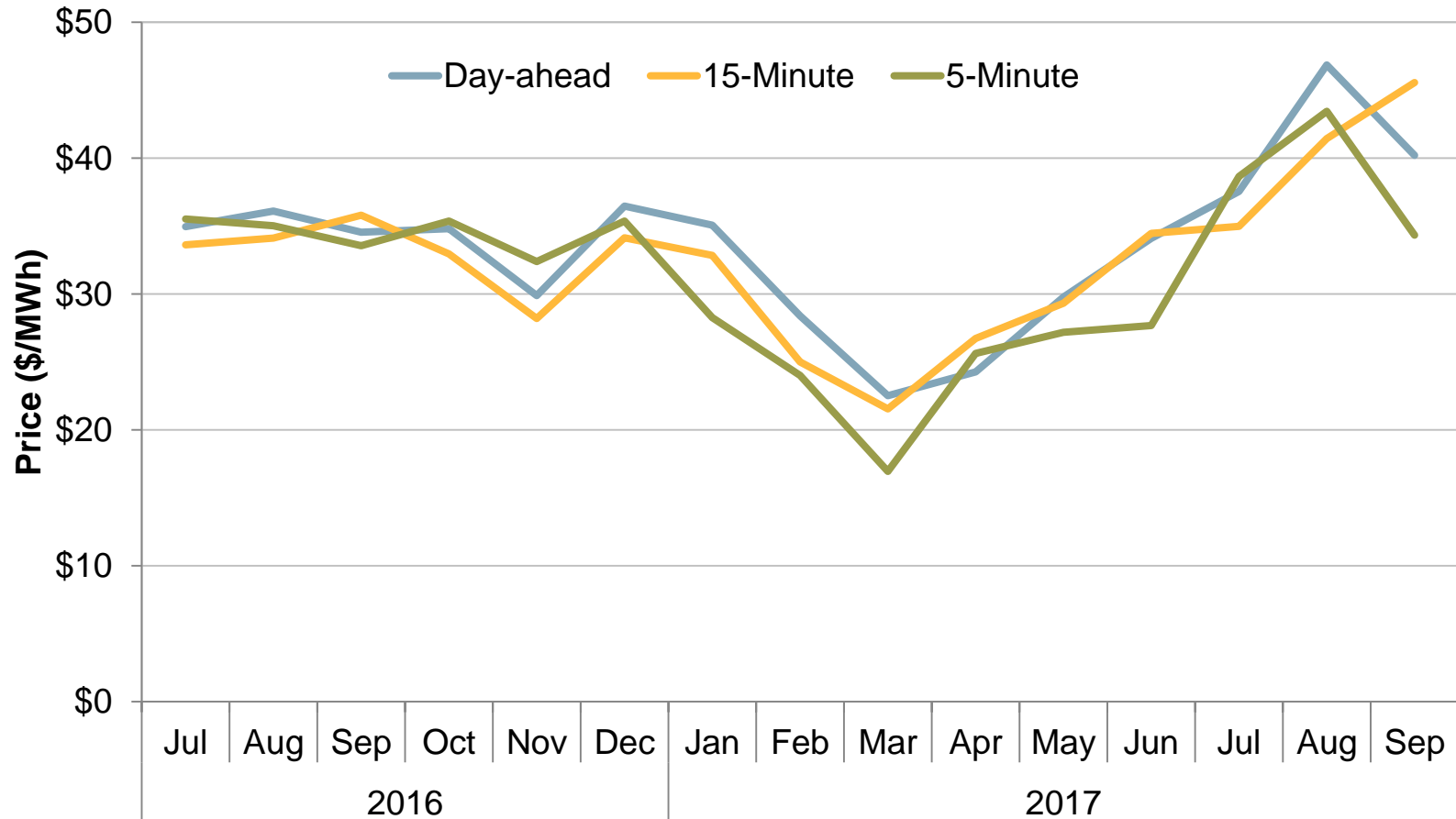
# Q3 2017 Report on Market Issues and Performance

December 20, 2017

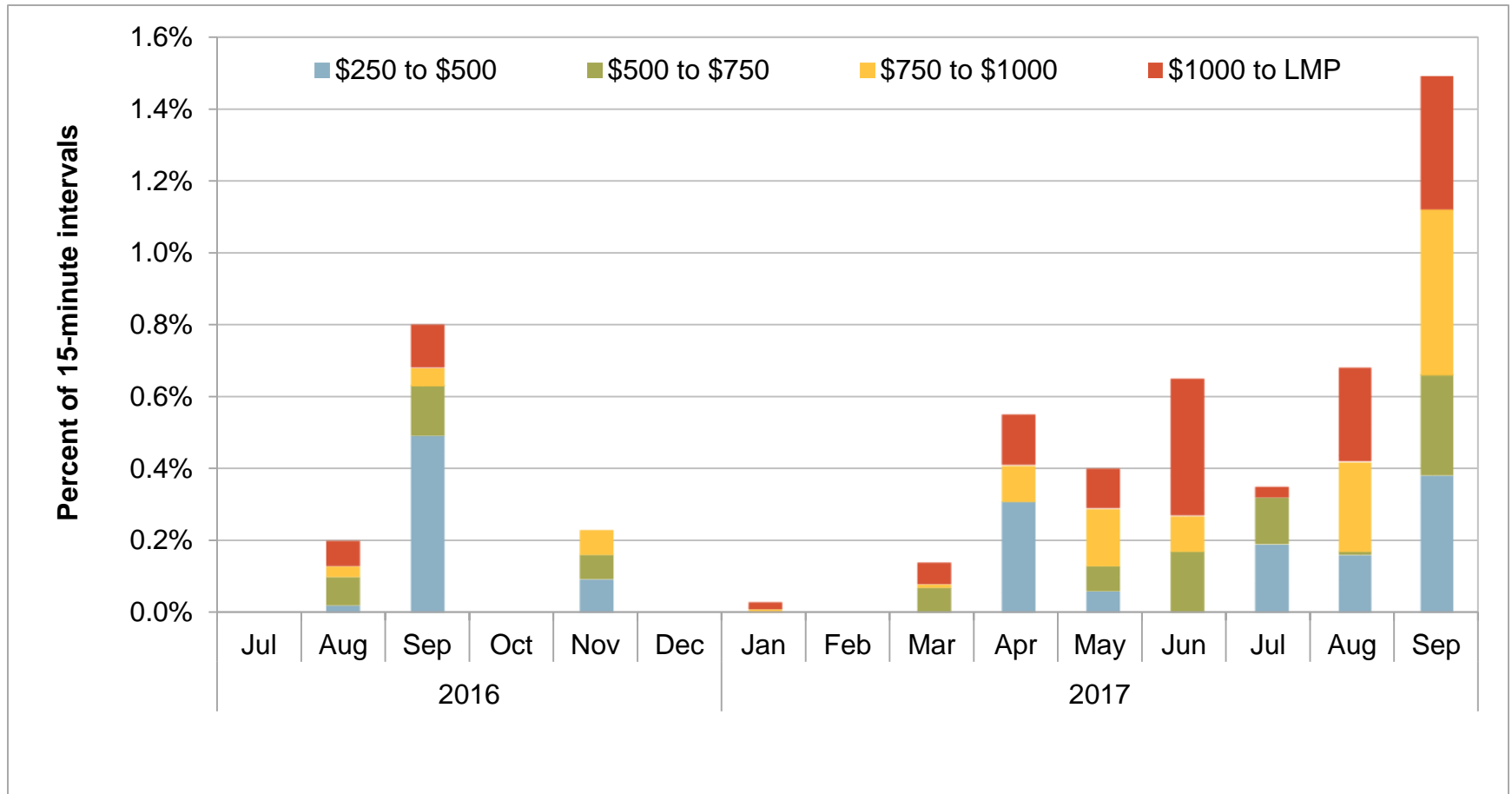


# Average energy prices increased in Q3

Average monthly prices (all hours) – system marginal energy price

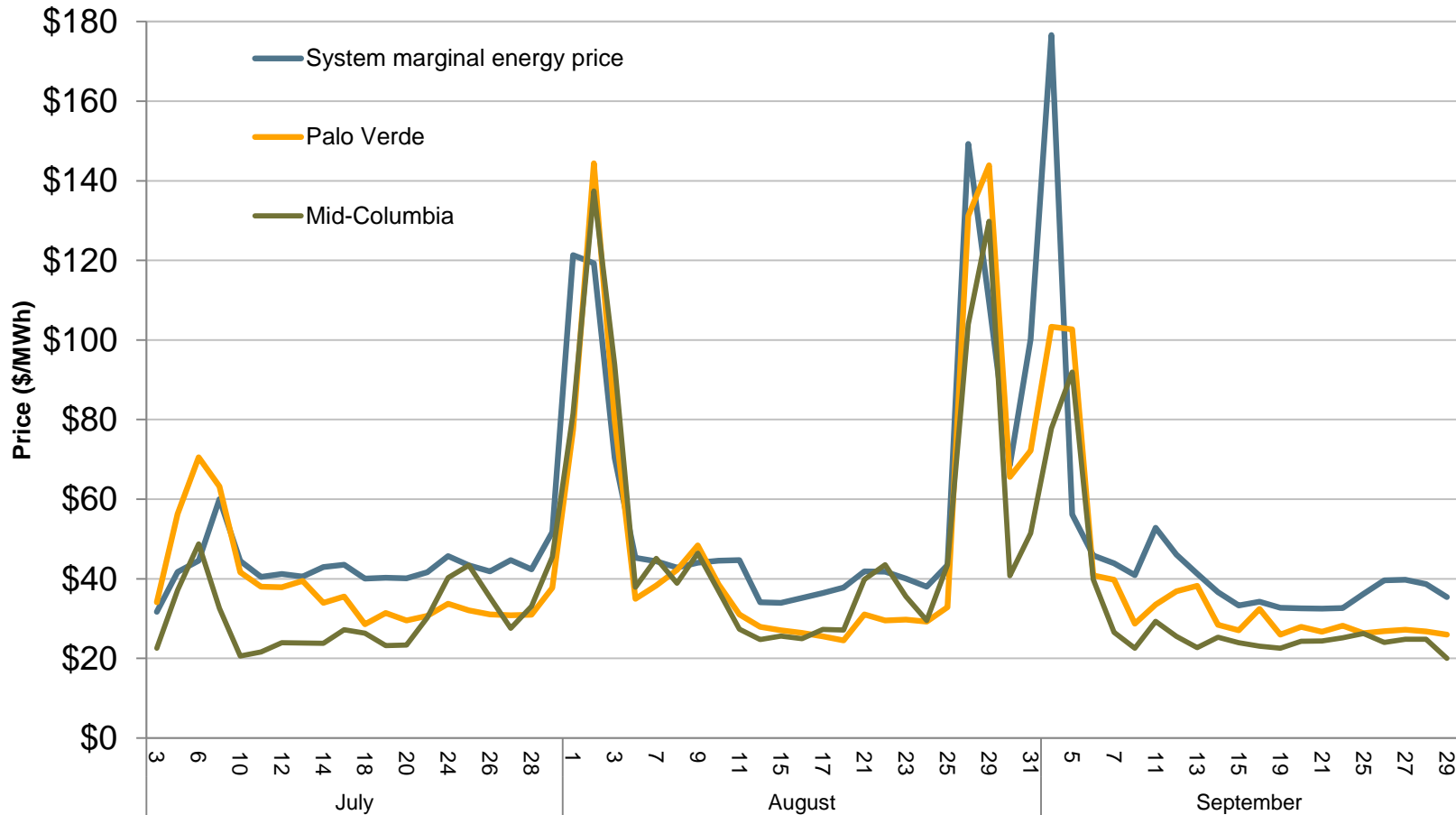


# Frequency of high 15-minute prices by month

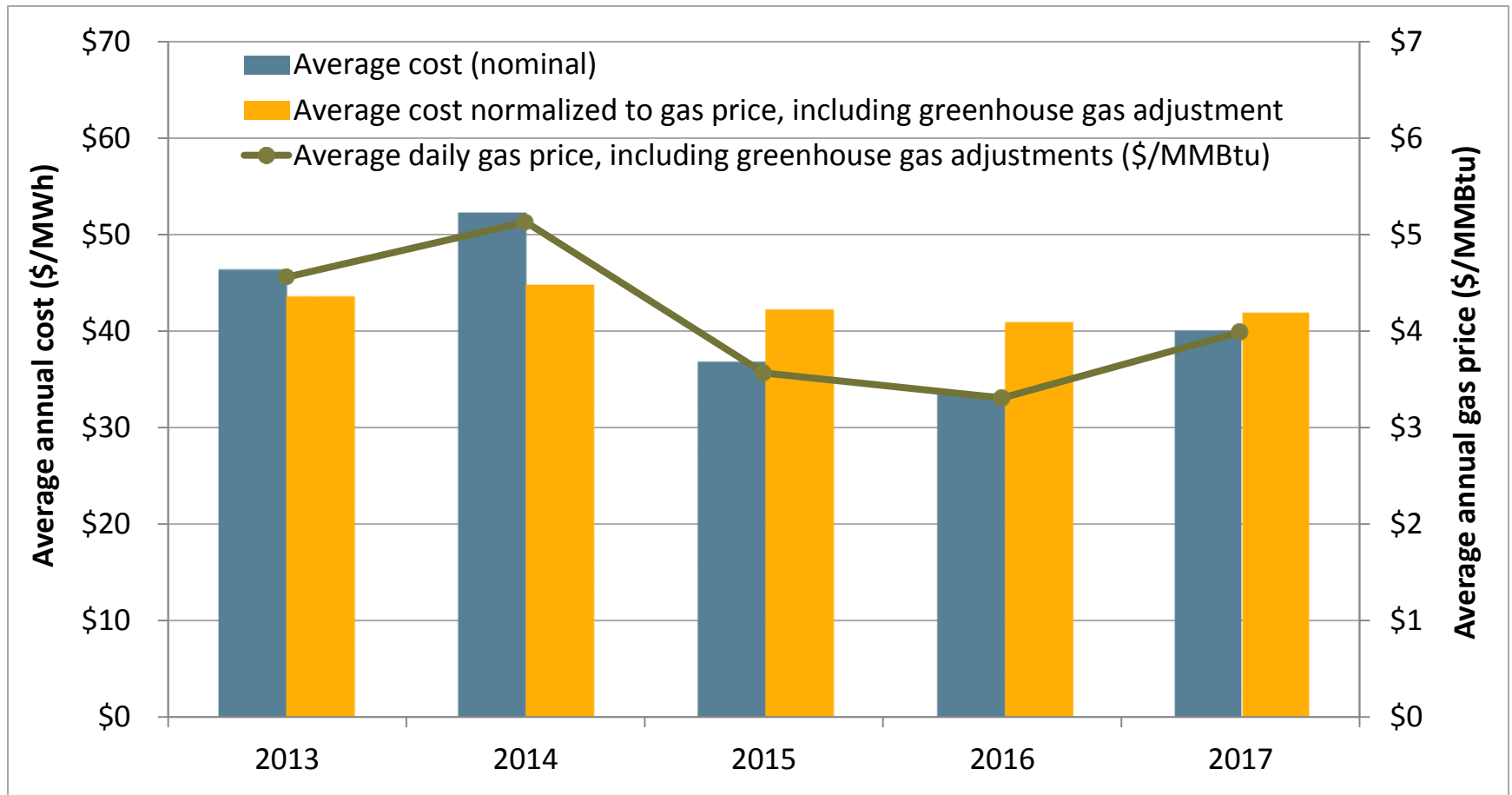


# ISO prices generally following prices in the West

## Daily system and bilateral market prices (July - September)

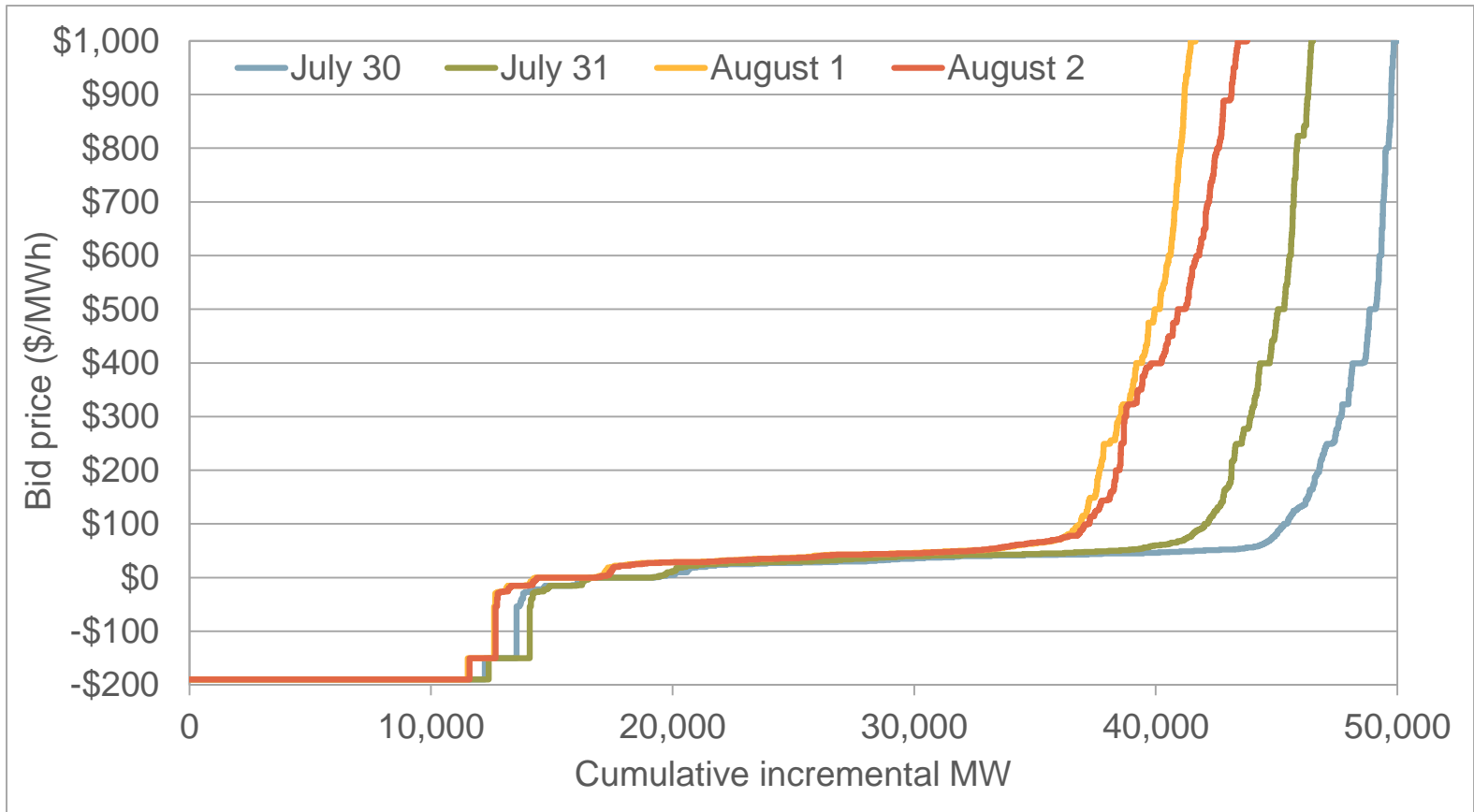


# Total annual wholesale costs per MWh of load (2013-2017YTD)



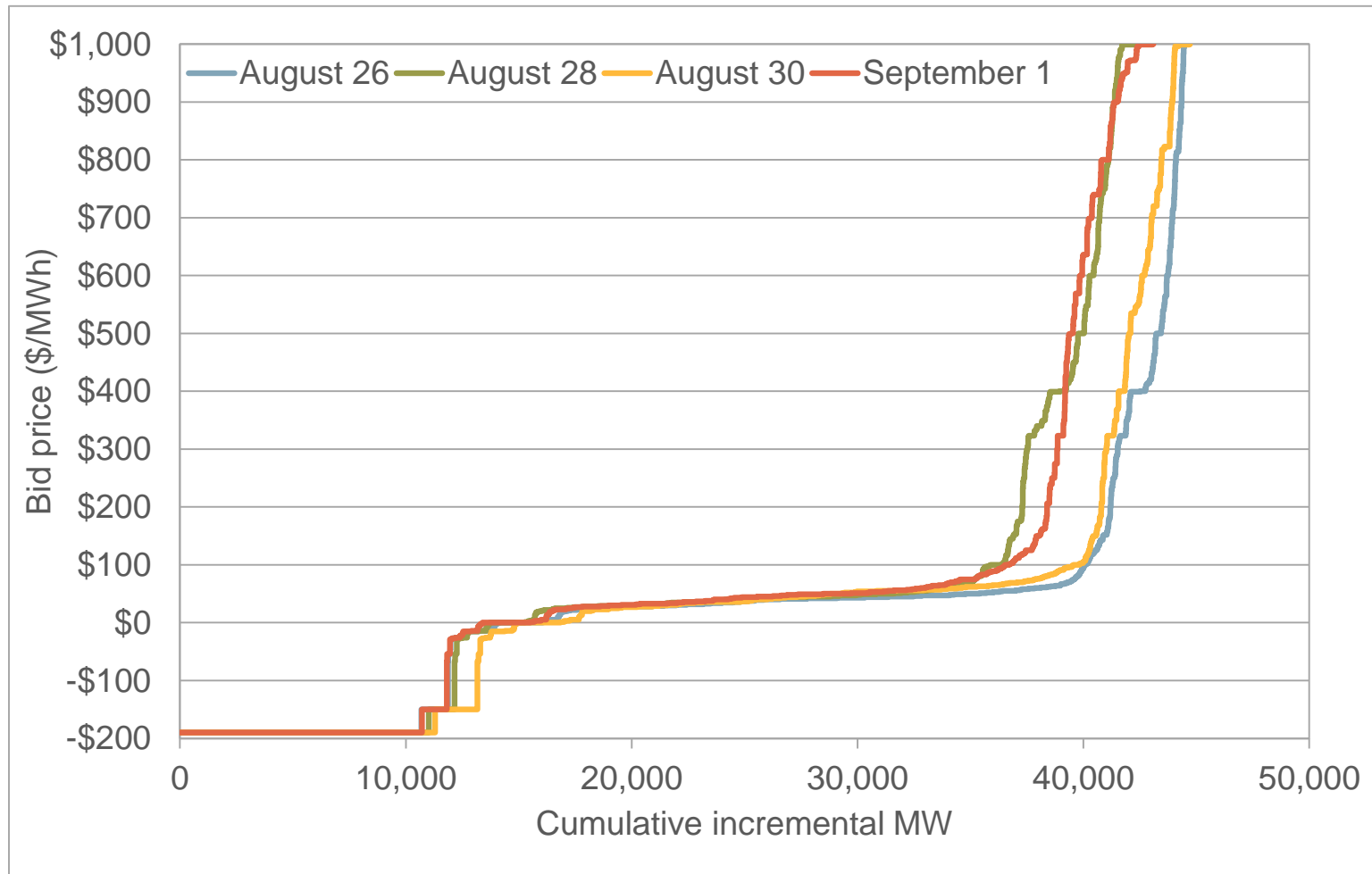
# Decrease in bid in energy on August 1 and 2, 2017

Day-ahead incremental supply bids July 30 – August 2, 2017: (Hour 19)



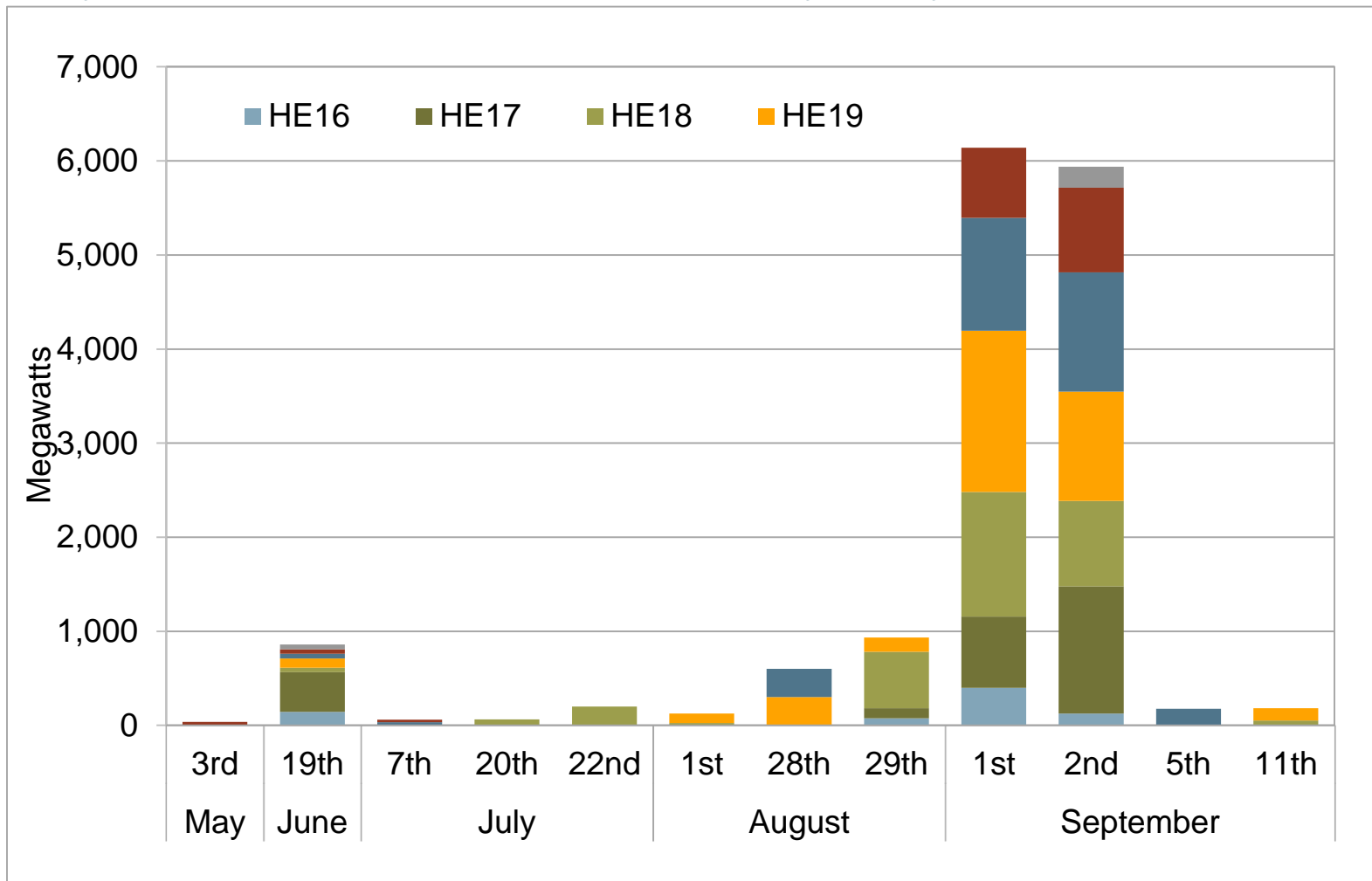
# Decrease in bid in energy on September 1, 2017

Day-ahead incremental supply bids August 26 - September 1, 2017: (Hour 19)



# Increase in manual dispatches of imports on interties

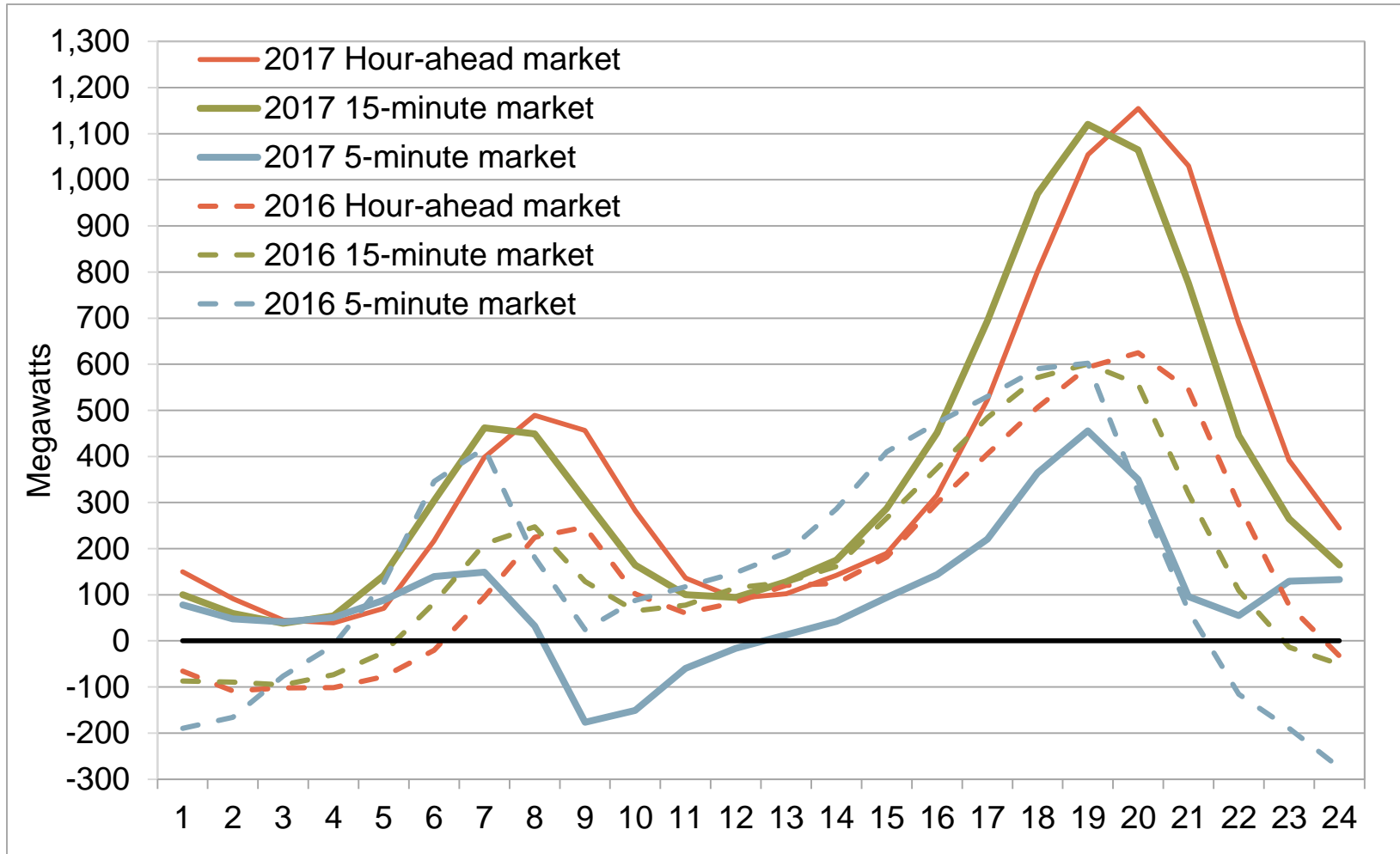
Hourly manual dispatch volume on select days (May – September)



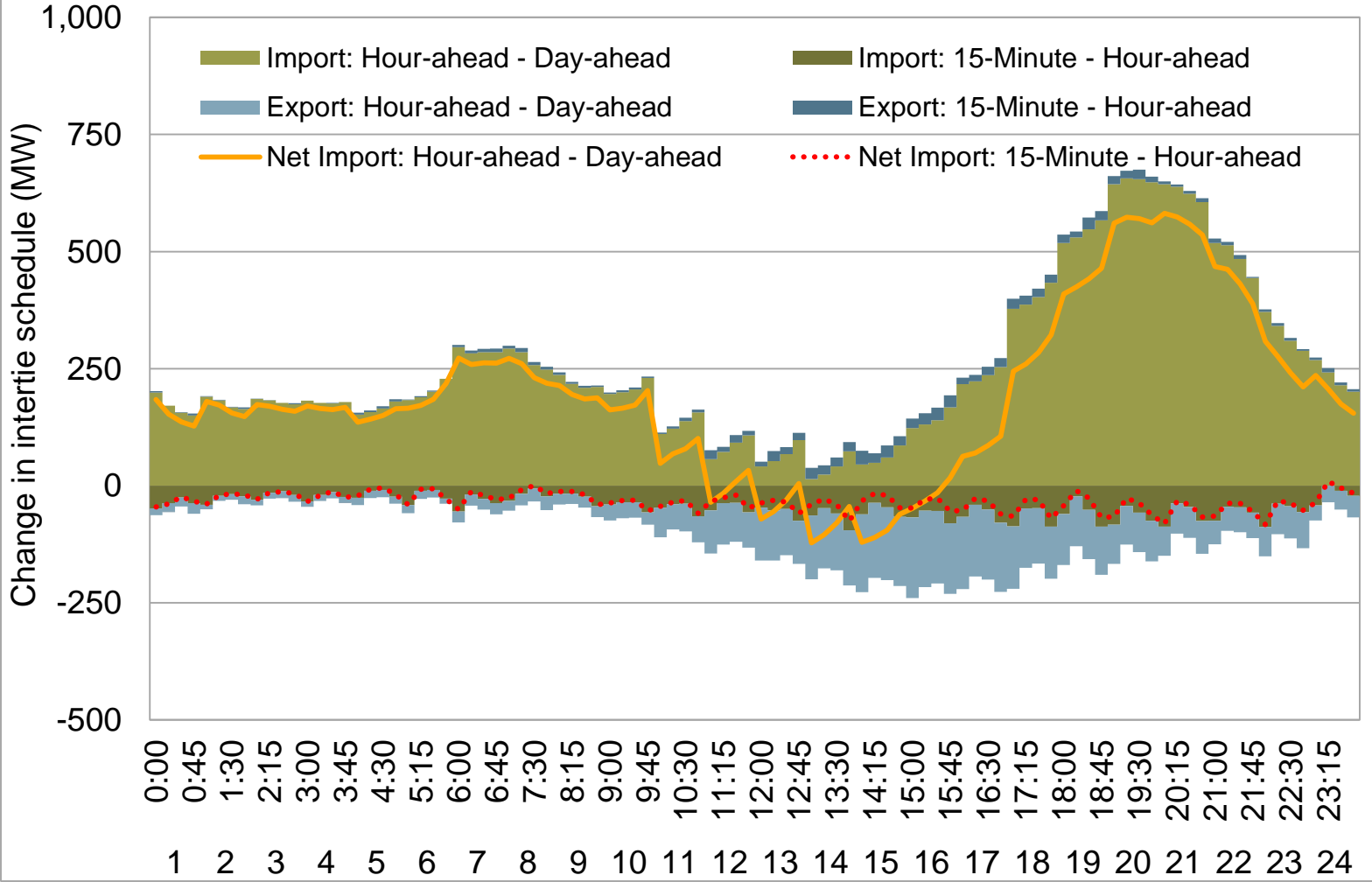


# Upward shift in load adjustments in hour-ahead and 15 min

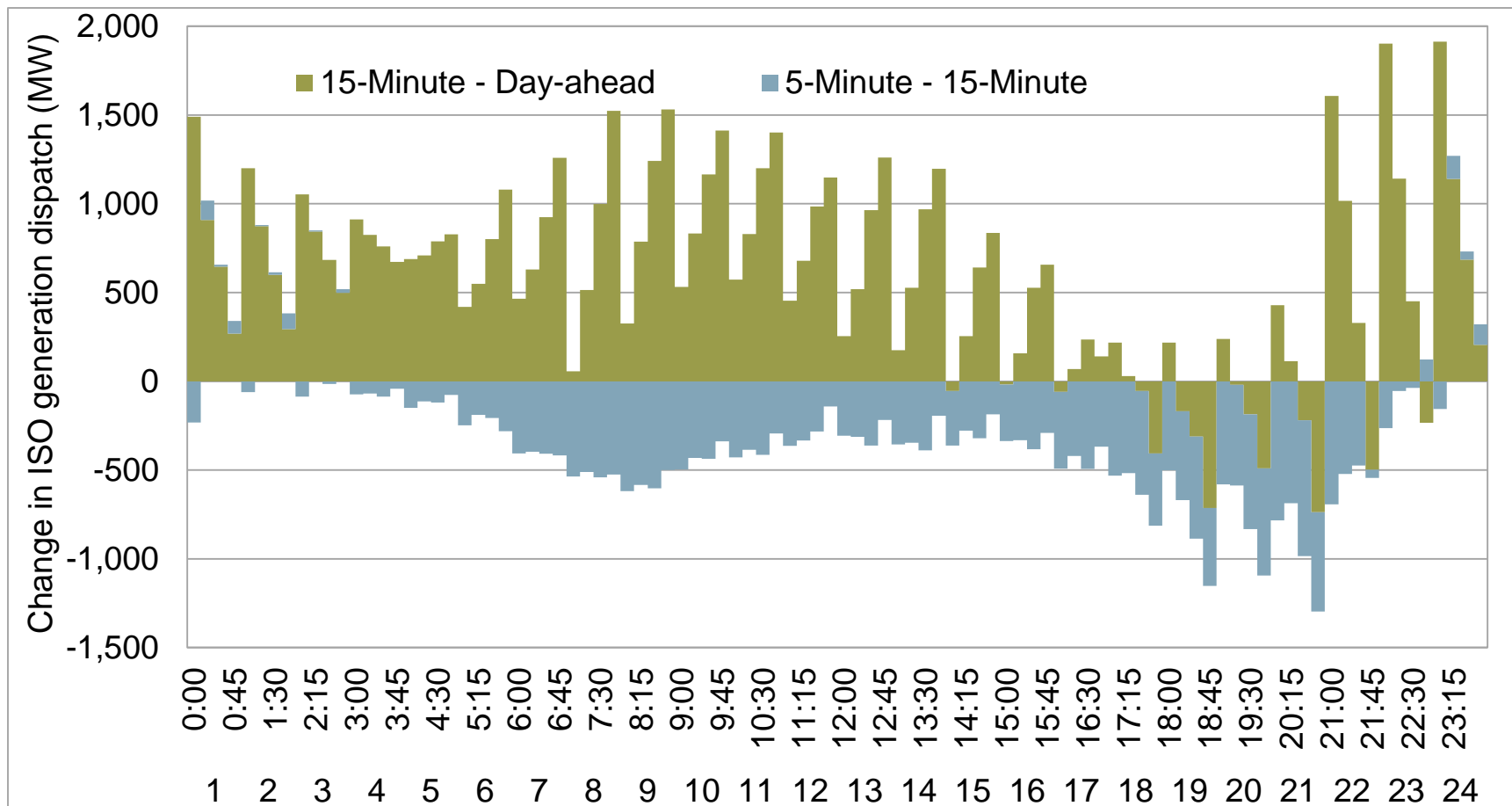
Average 3<sup>rd</sup> quarter hourly load adjustment (2016 – 2017)



# Net interchange dispatch volume

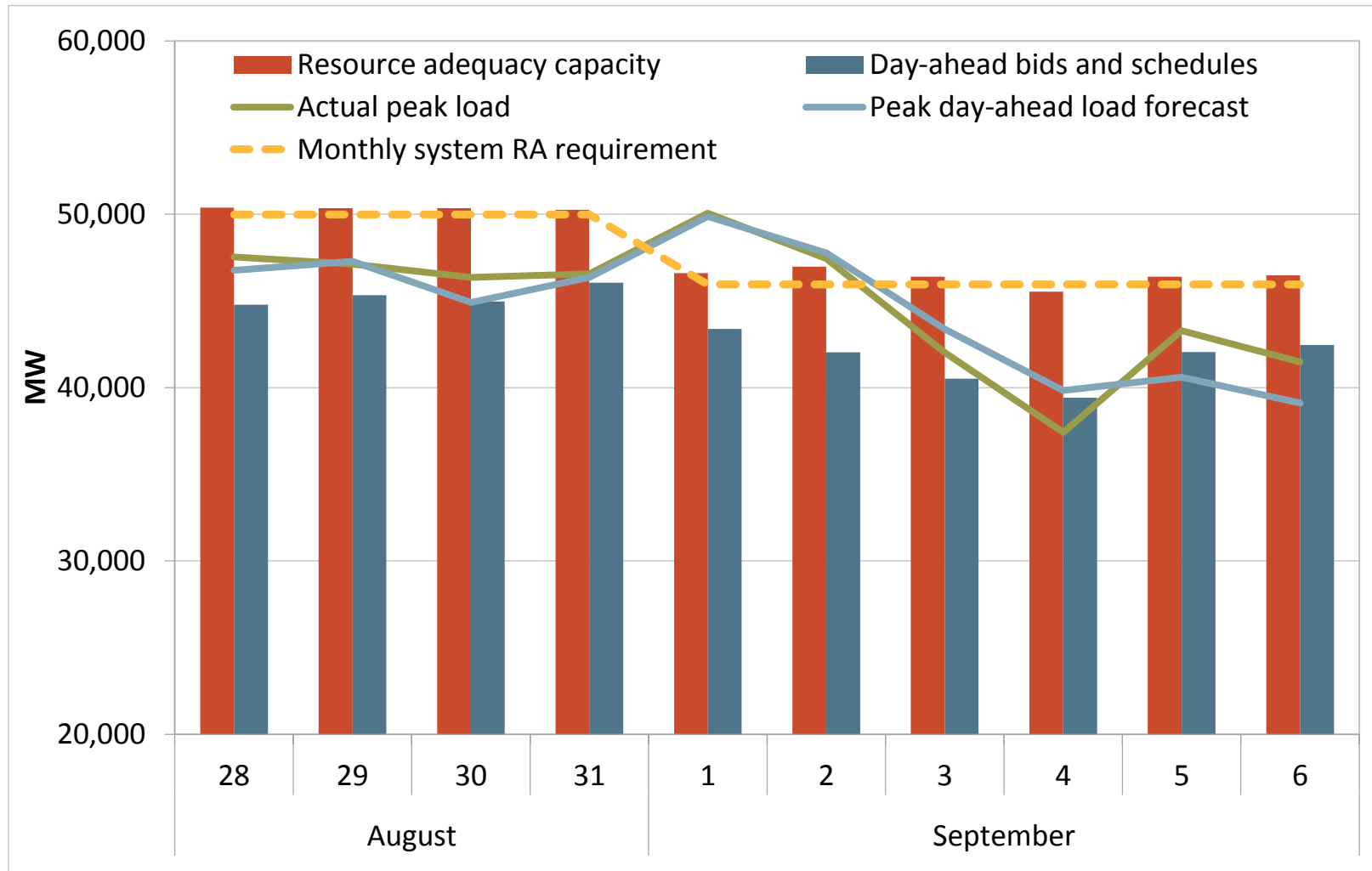


# Imbalance generation dispatch volume

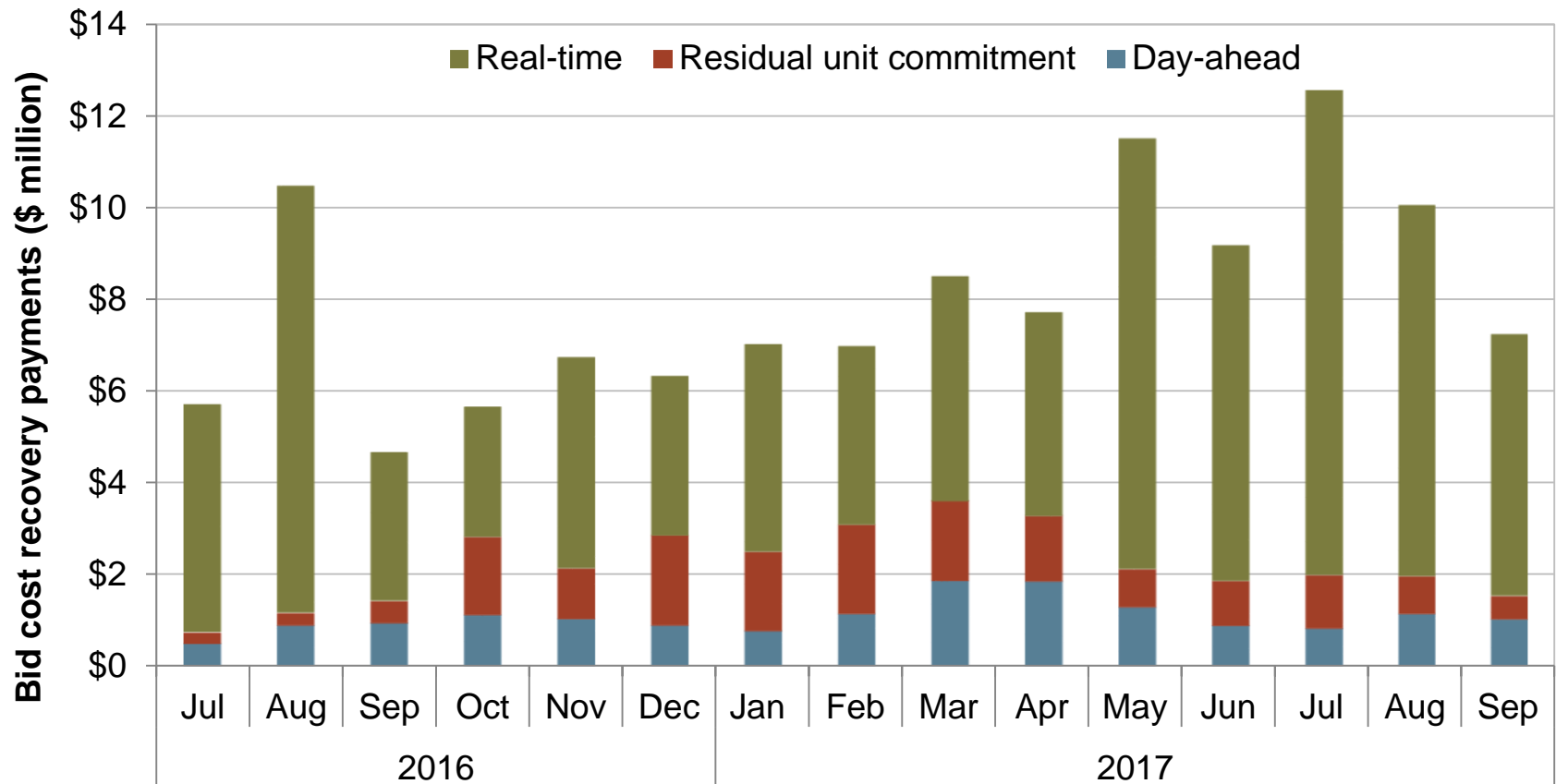


# Peak load greater than resource adequacy requirement

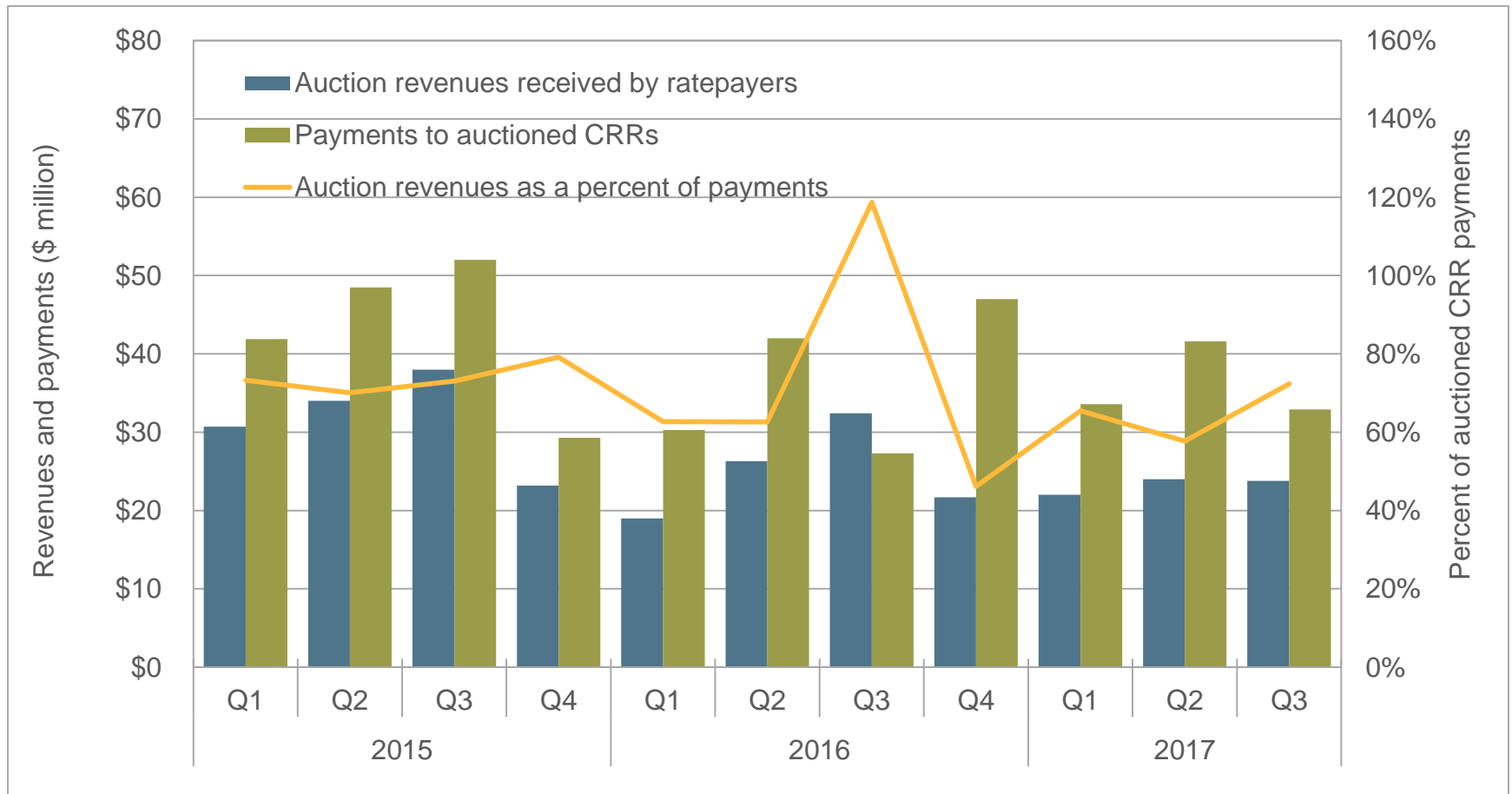
## Daily peak load, resource adequacy capacity, and planning forecast



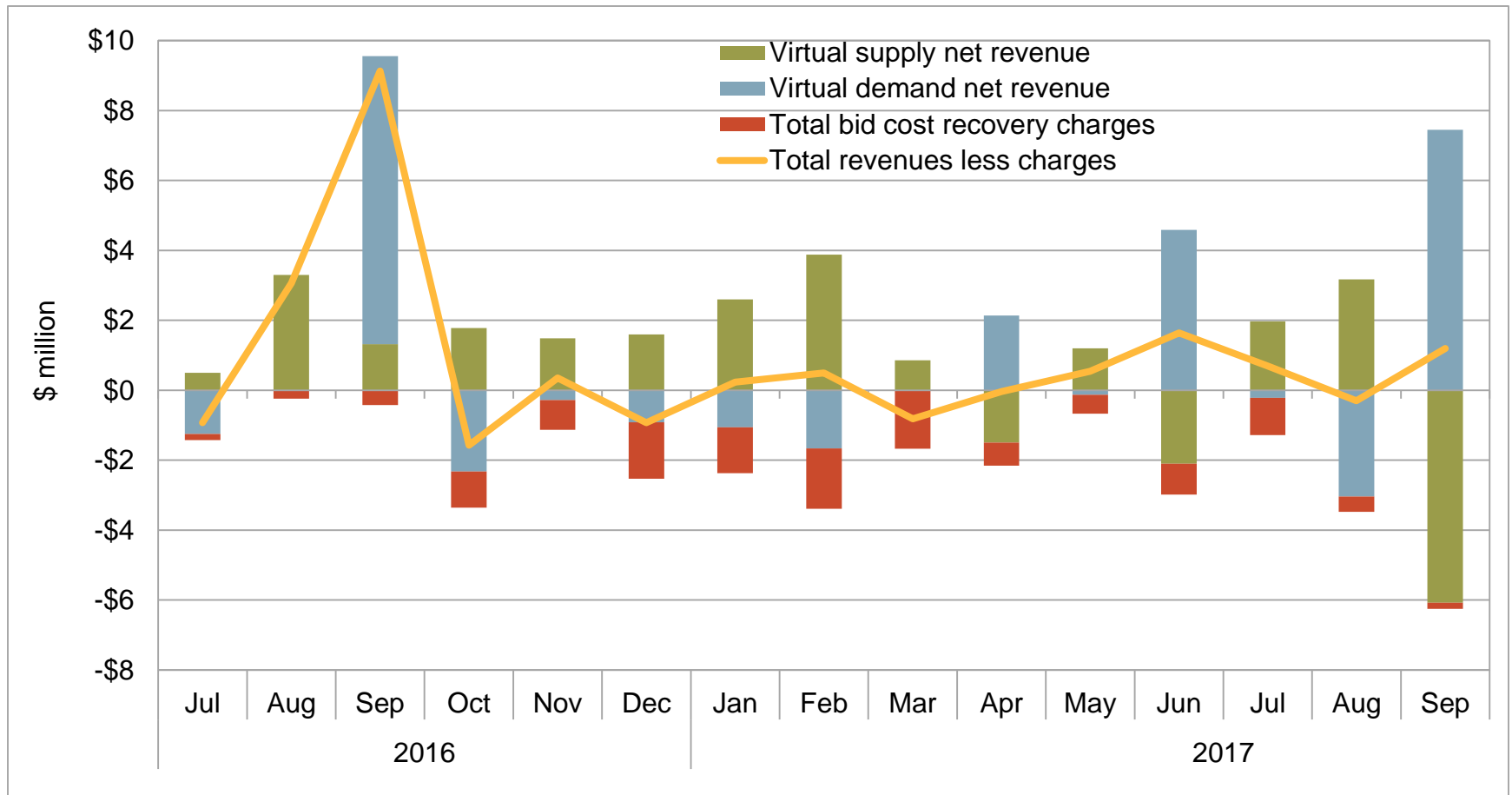
# Monthly bid cost recovery payments



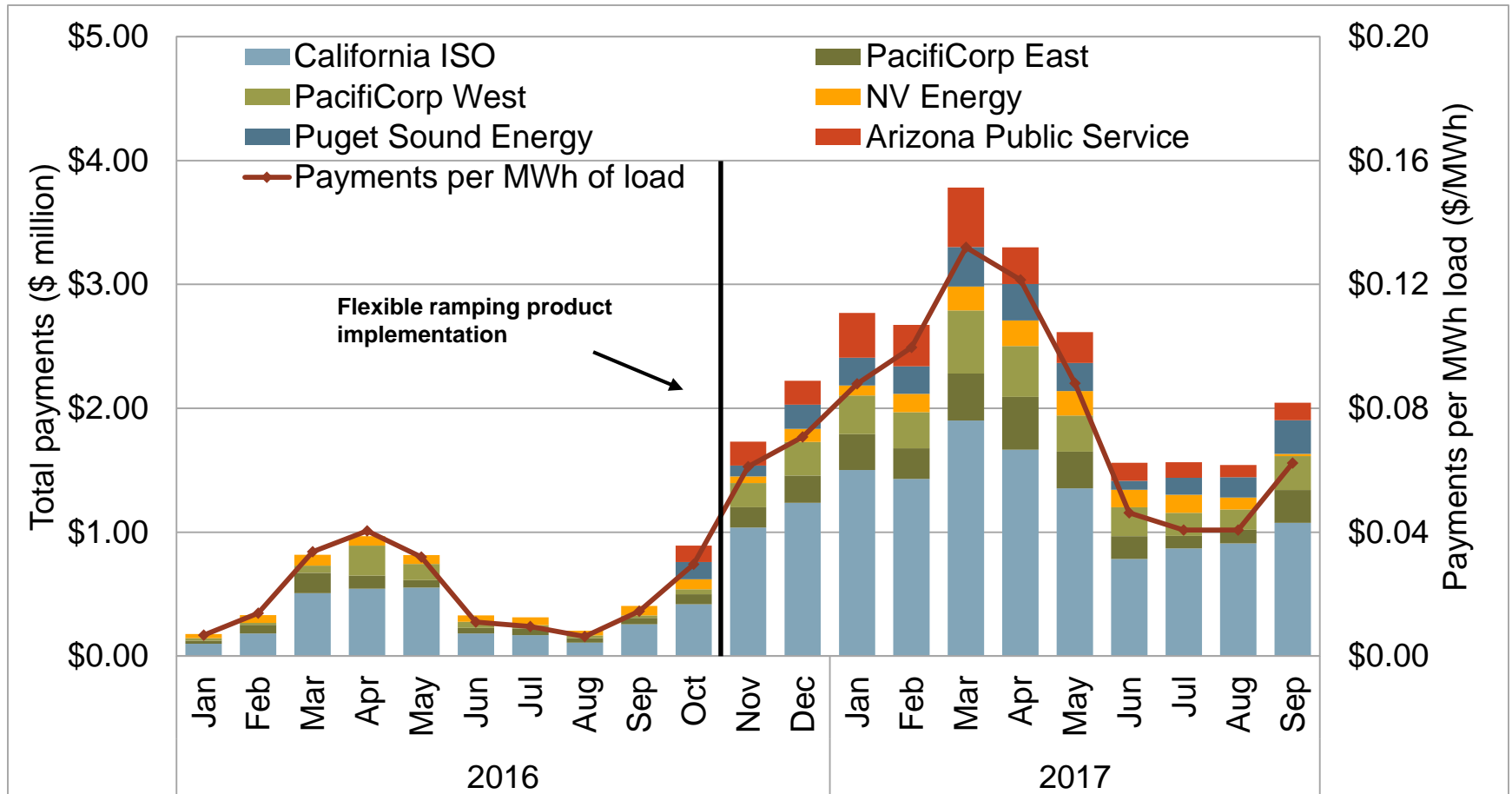
# Auction revenues and payments to non-load-serving entities



# Convergence bidding revenues and bid cost recovery charges

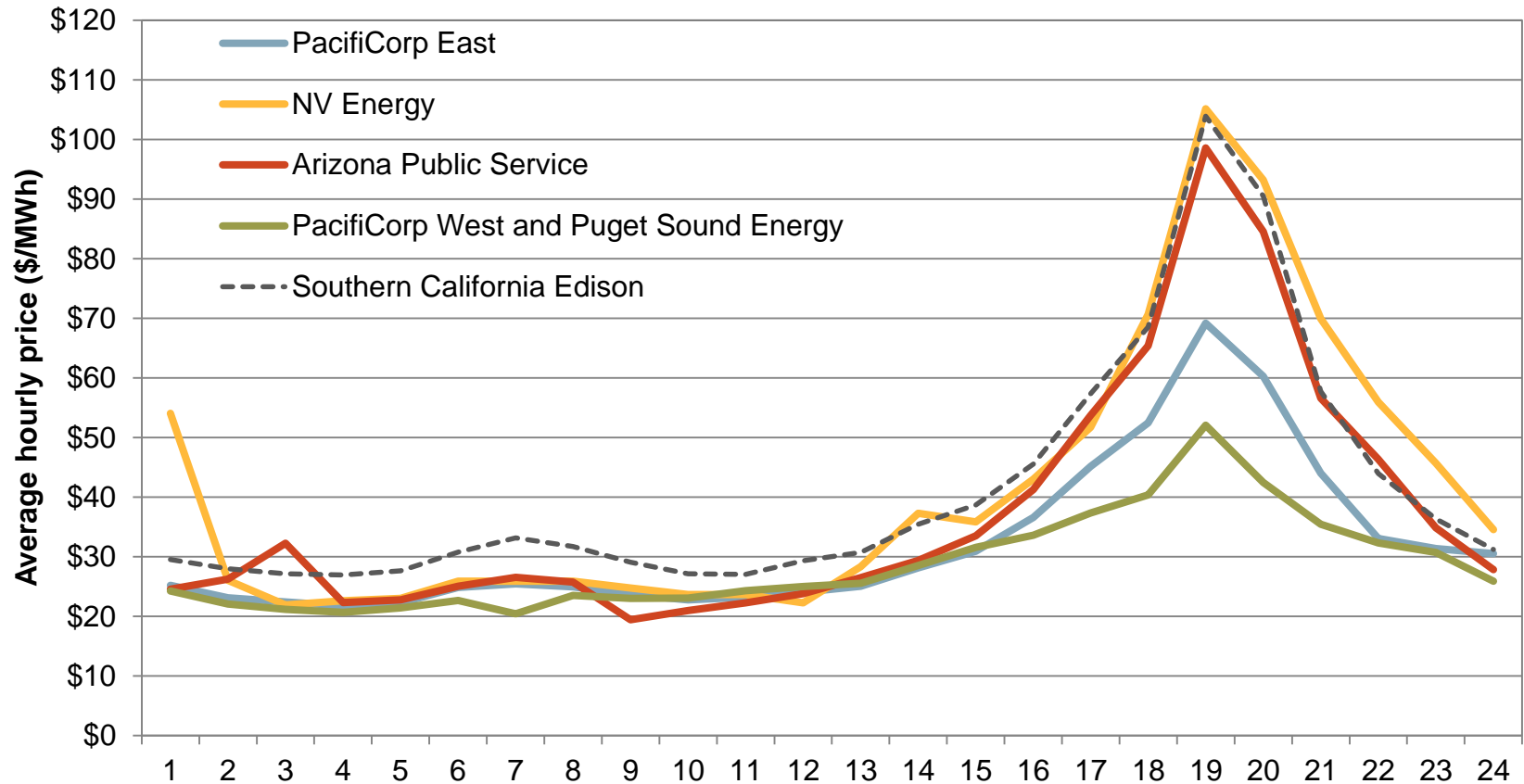


# Monthly flexible ramping payments by balancing area



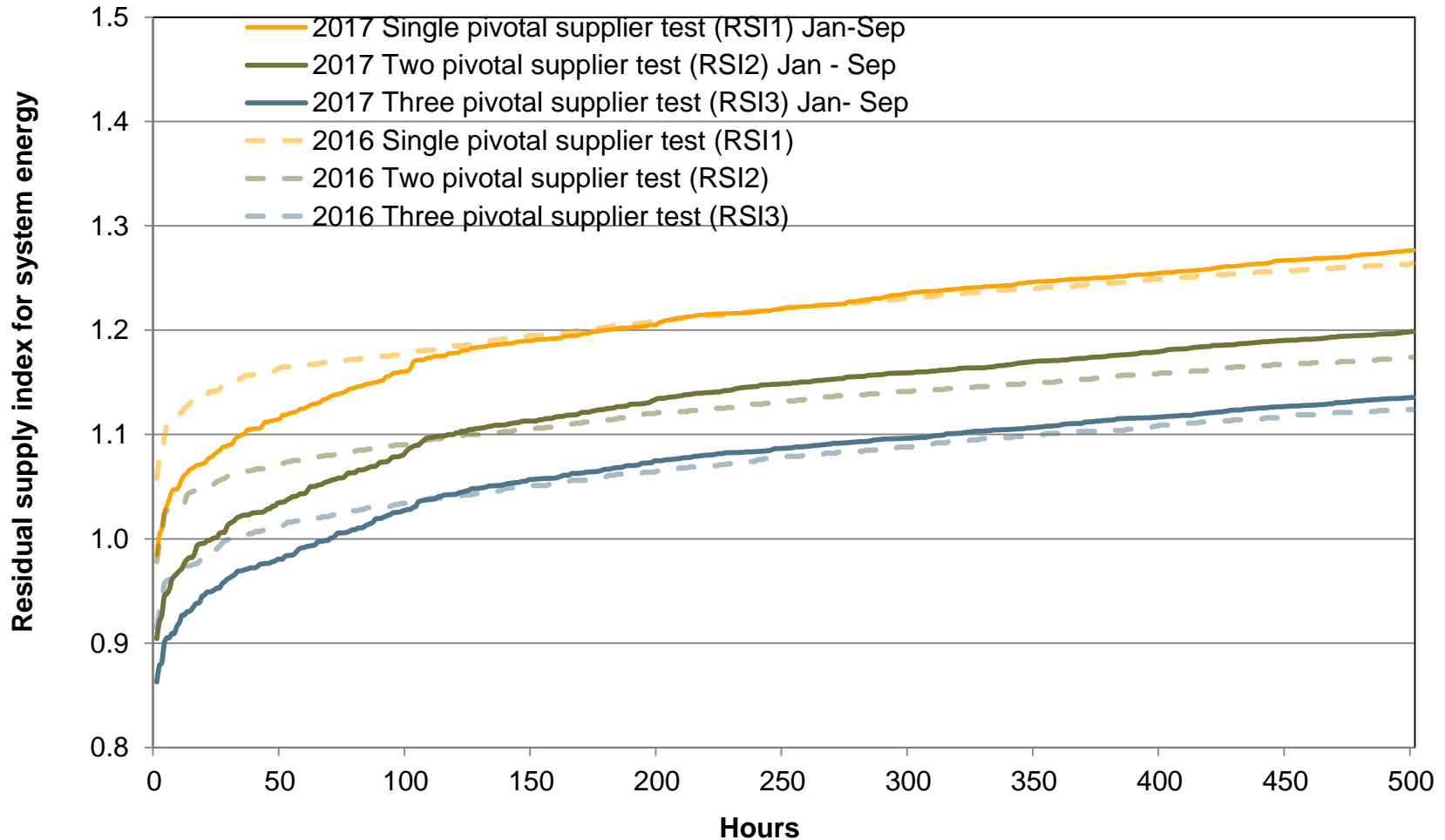


# Hourly 15-minute market prices (July – September)



# Competitive conditions exist in most hours

Residual supply index for day-ahead energy 2017 Jan – Sep & 2016 Jan - Dec



# SoCal Citygate next day index verses ICE same day price distribution

