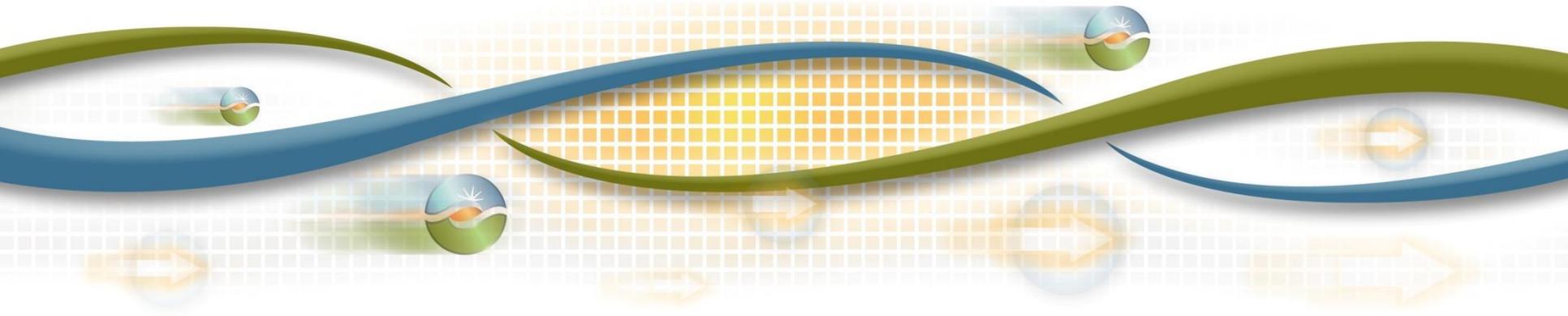




# 2016 First Quarter Report on Market Issues and Performance

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Web Conference  
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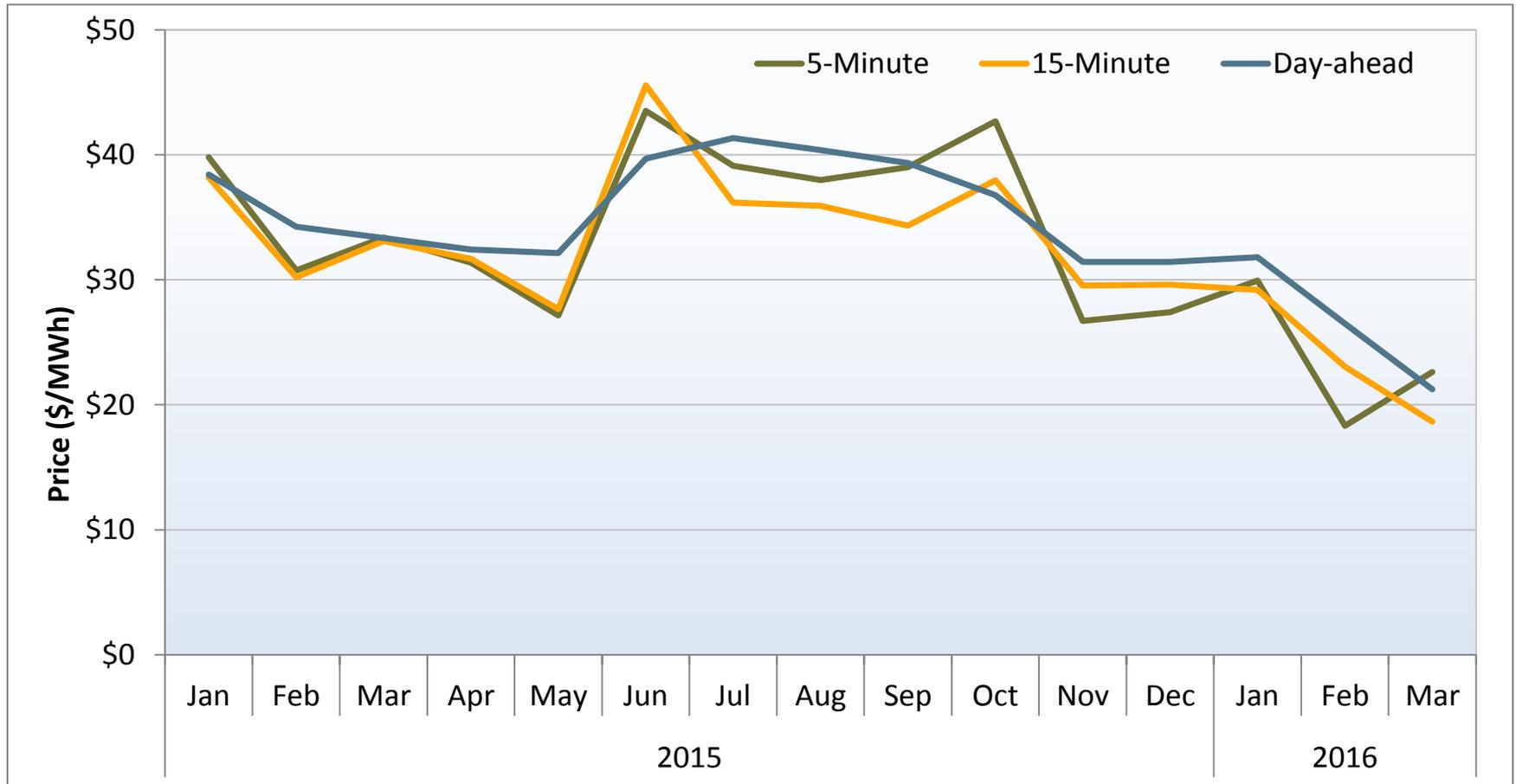


# Presentation outline

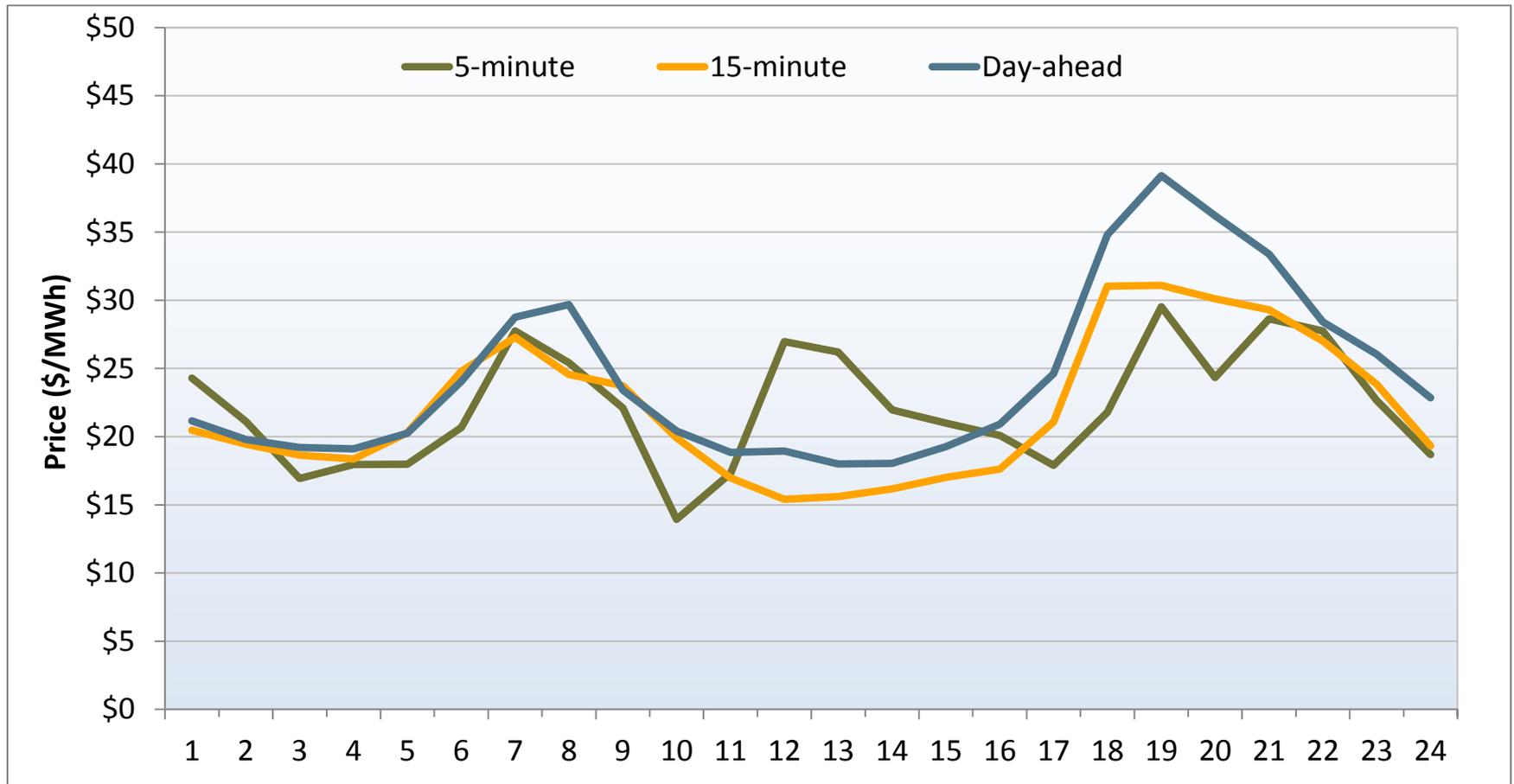
- Quarterly report highlights
  - Wholesale market performance
  - Ancillary service requirements and prices
  - Addition of transfer capacity from NV Energy

# Wholesale market performance

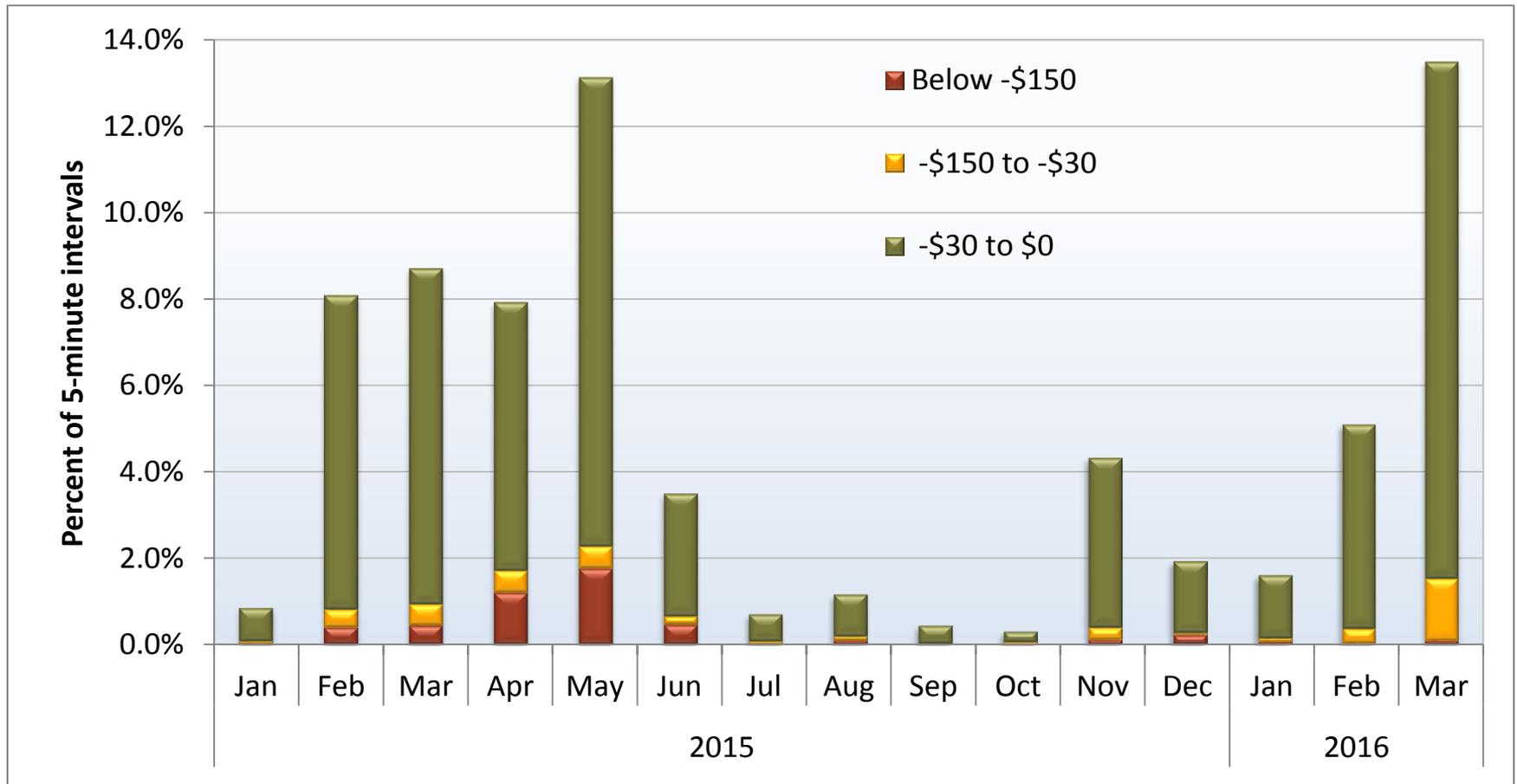
Prices continued to decline during the first quarter because of lower natural gas prices and increased renewable generation.



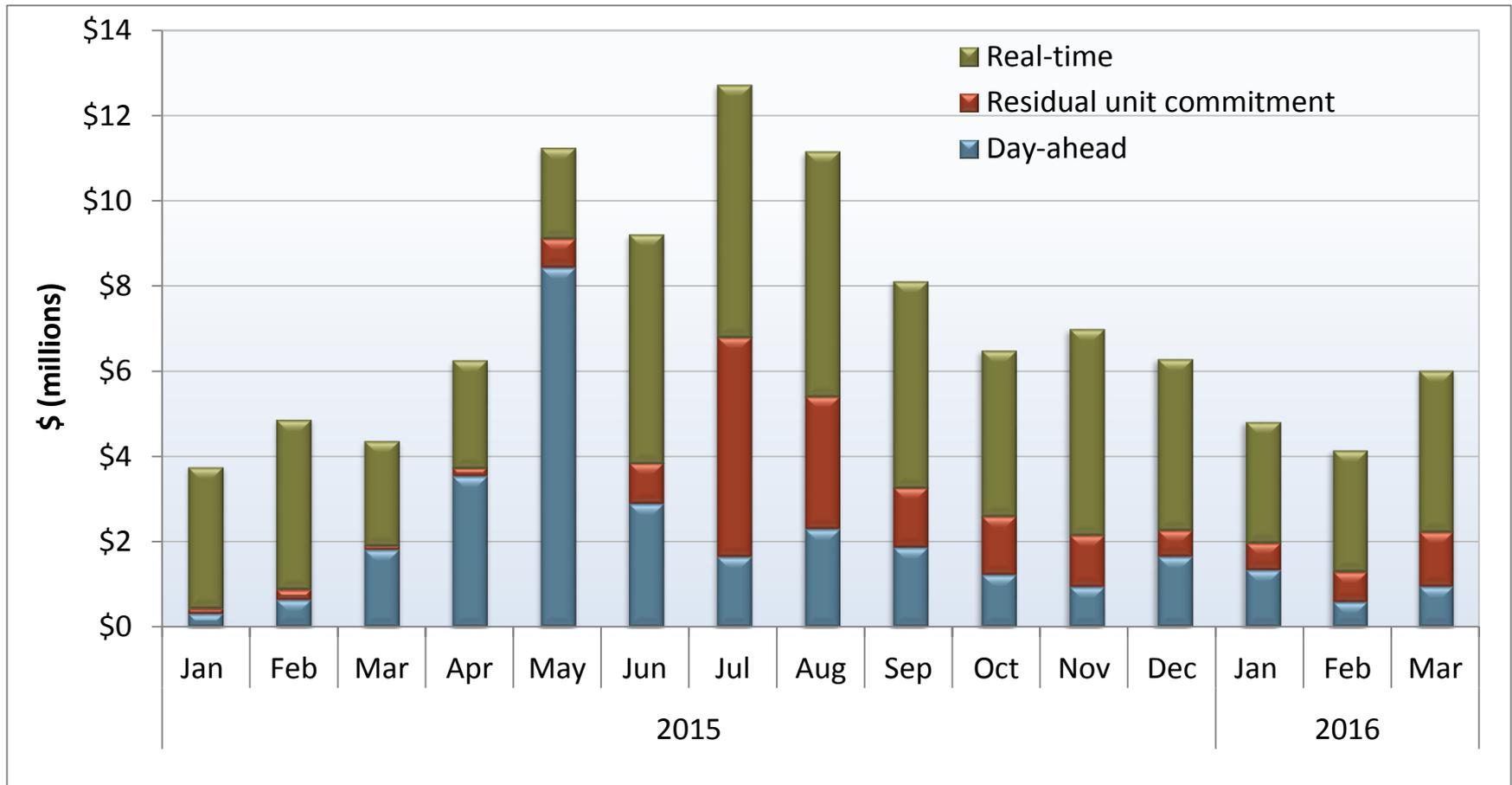
Increased solar generation during the middle of the day decreased prices, and resulted in hourly prices resembling the net load curve.



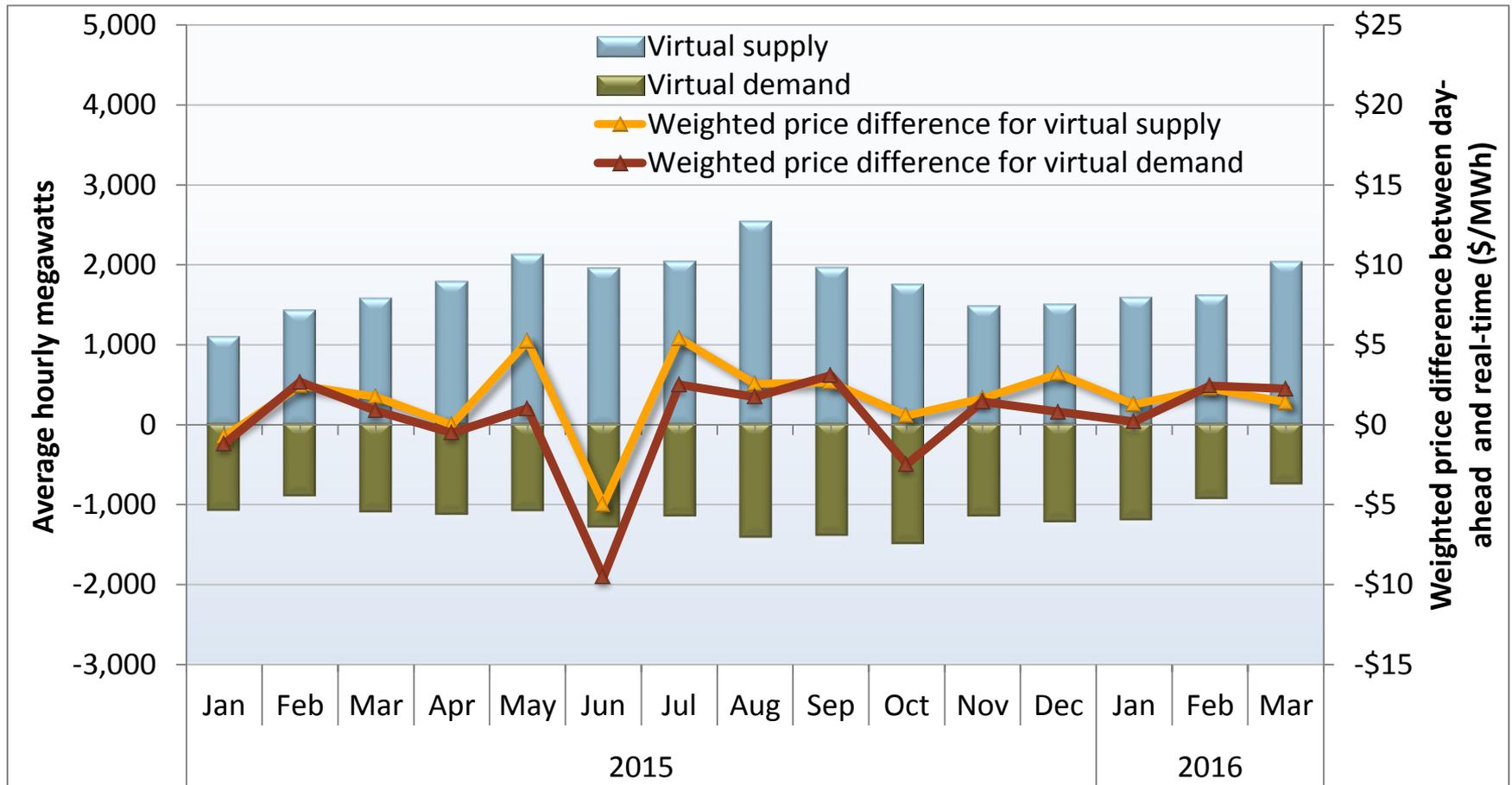
Prices were set at negative prices more frequently in the first quarter than during the past year largely because of higher renewable generation.



# Bid cost recovery payments were relatively low during the first quarter.

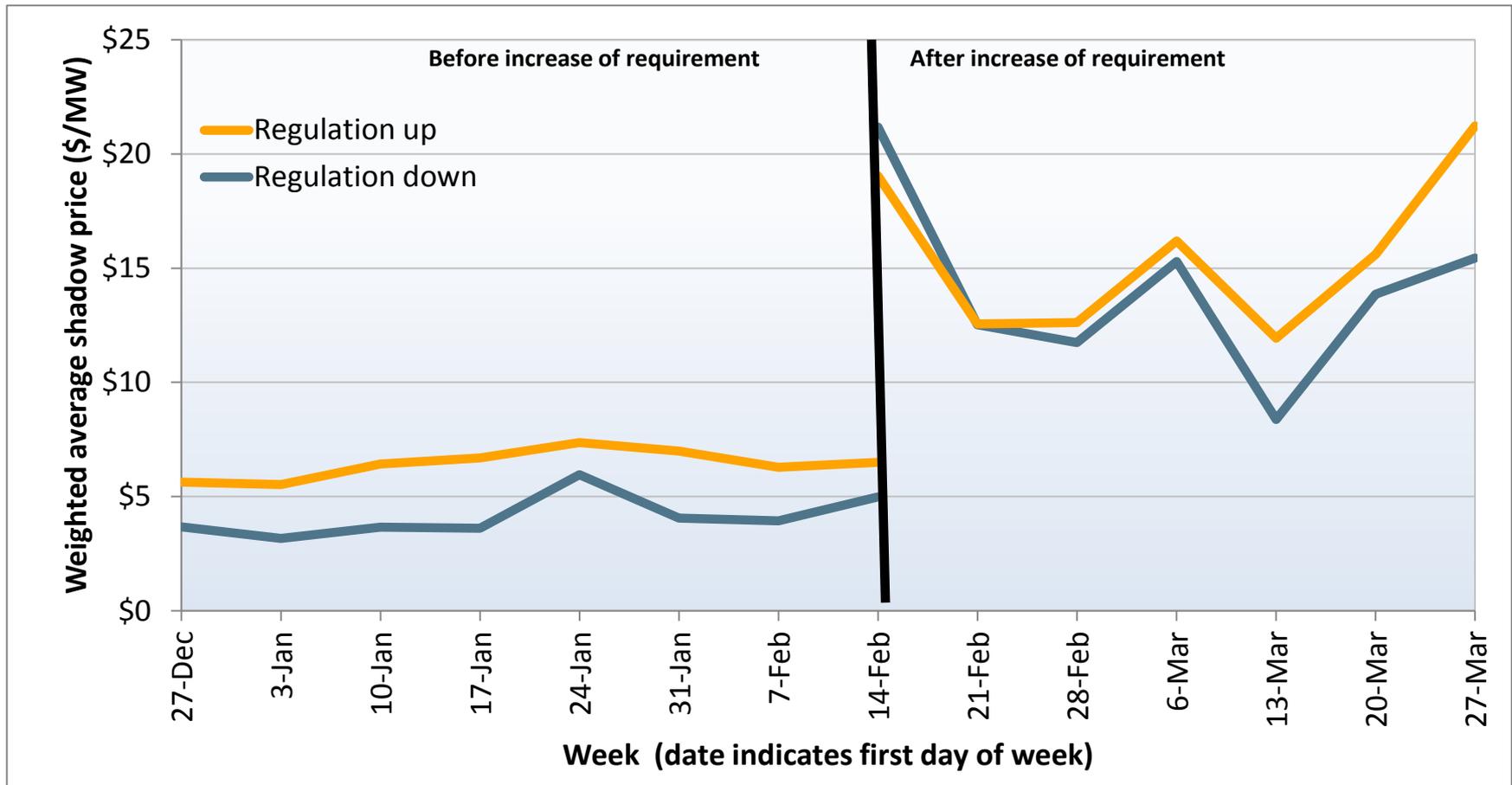


# Net virtual supply continued to increase, as virtual supply continued to be profitable.

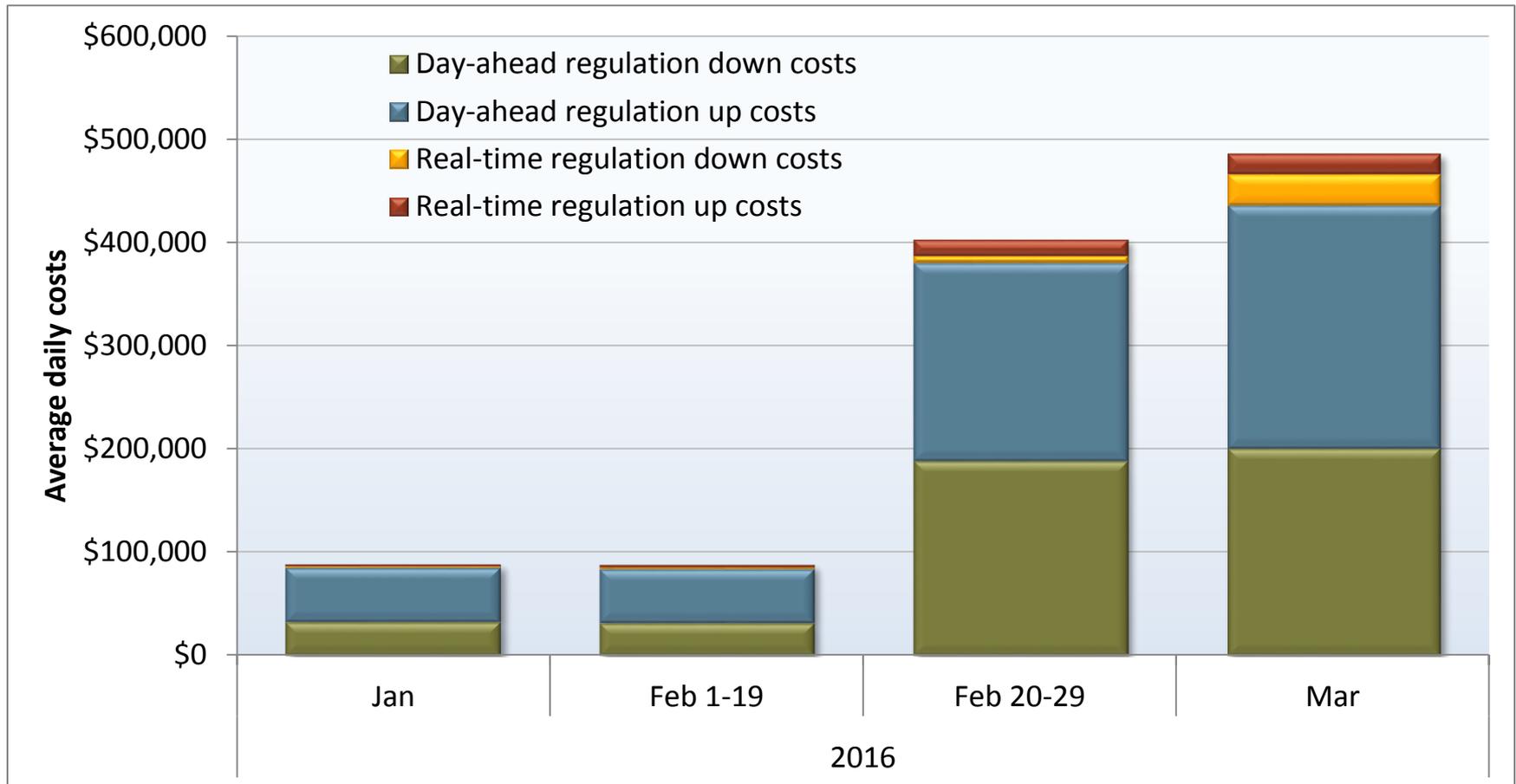


# Ancillary service requirements and prices

Regulation requirements increased from 300-400 MW to 600-800 MW on February 20. As a result the prices for regulation also increased.

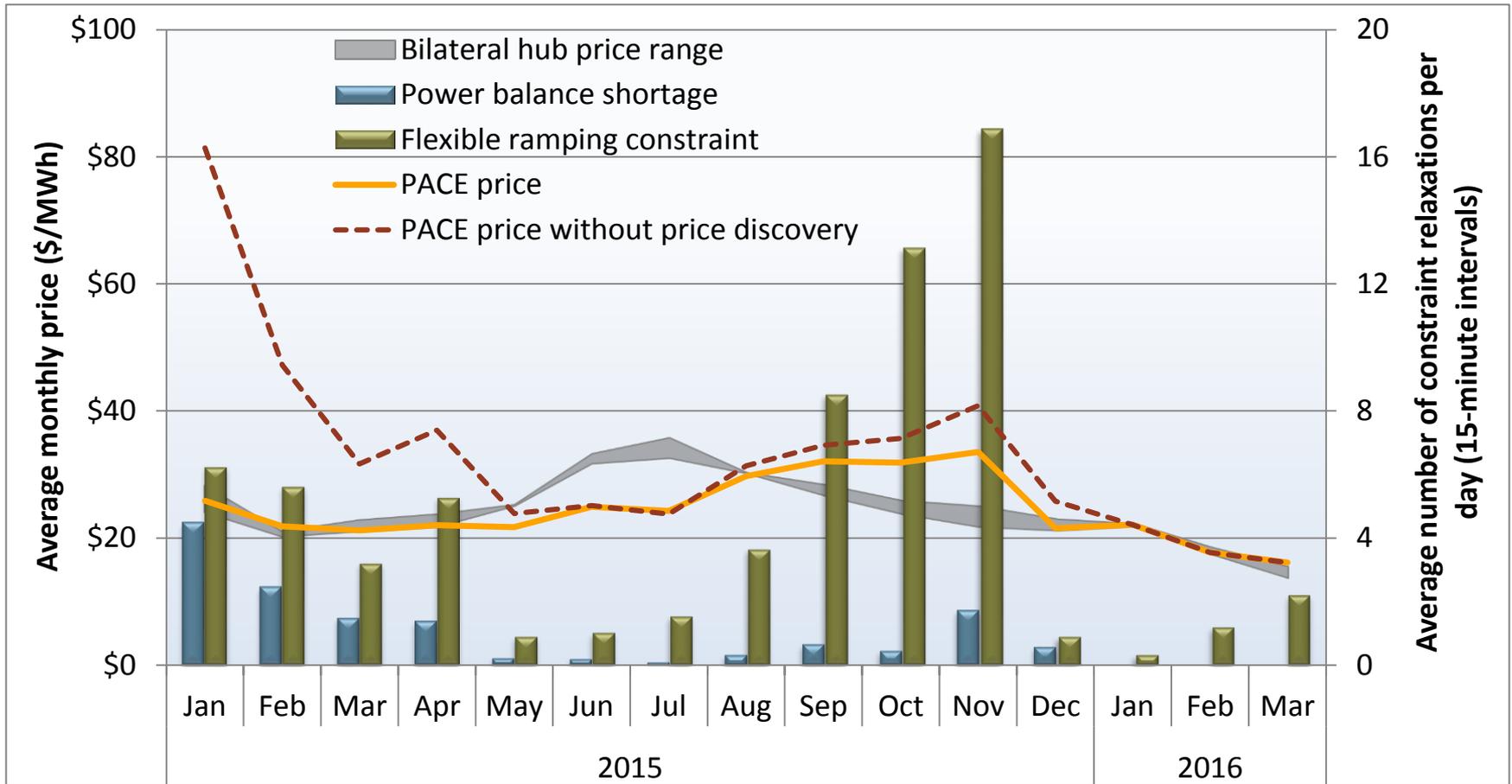


Costs for regulation procurement rose between four and five times after the increase of requirements and the increase in price.

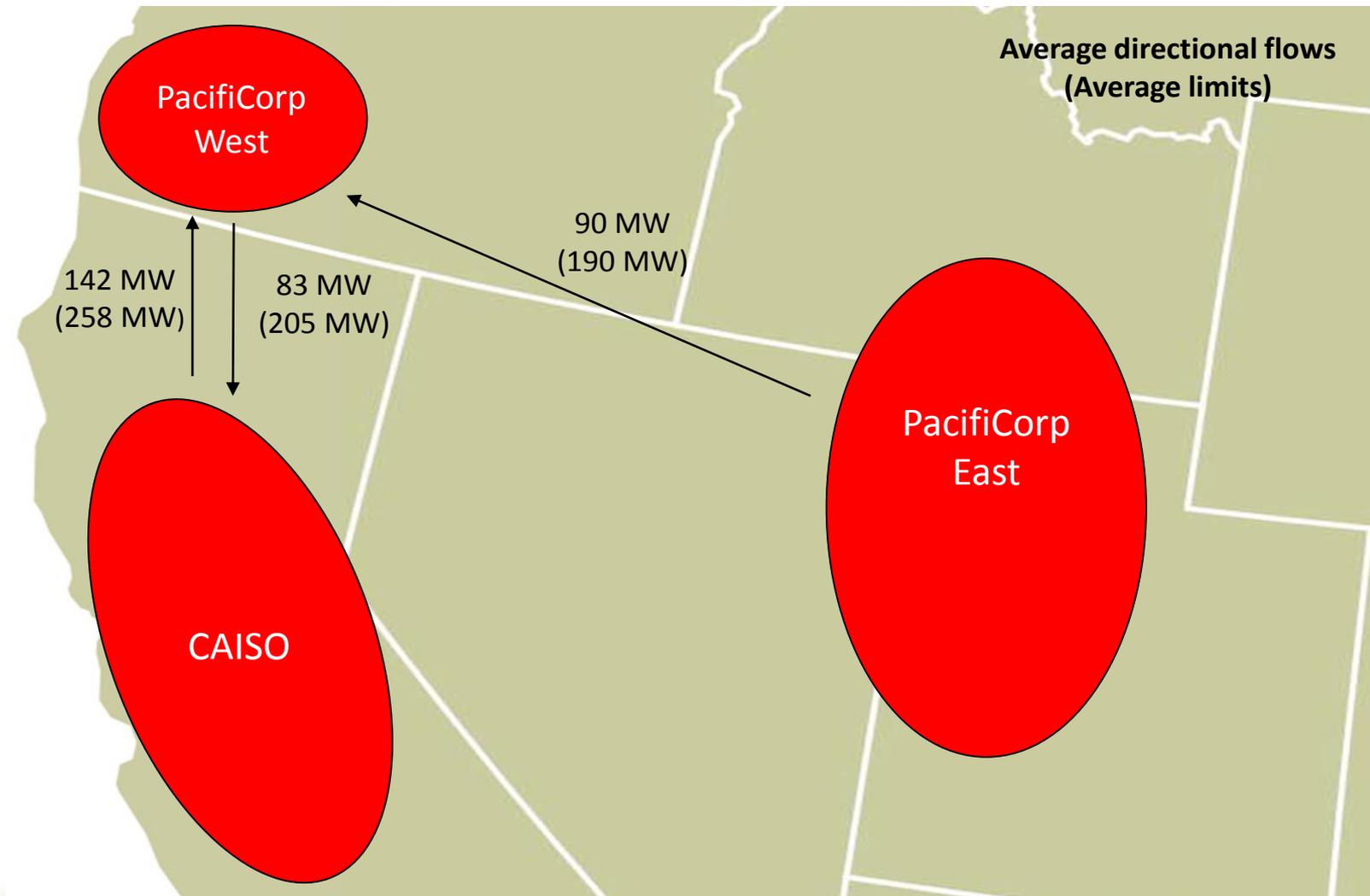


# Additional transfer capacity from NV Energy

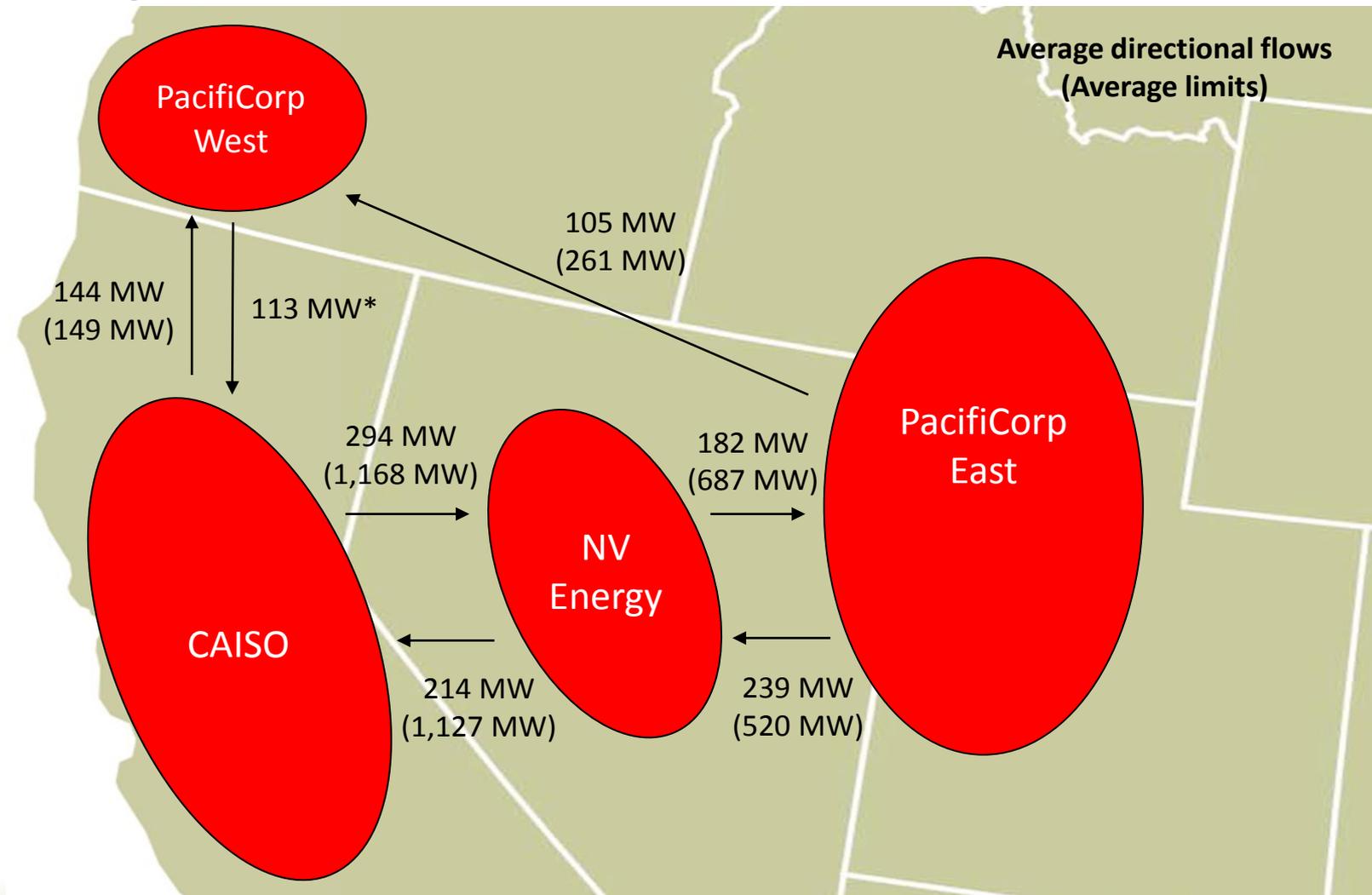
The power balance constraint and flexible ramping constraint relaxations were infrequent in PacifiCorp East and resulted in prices near bilateral hub prices.



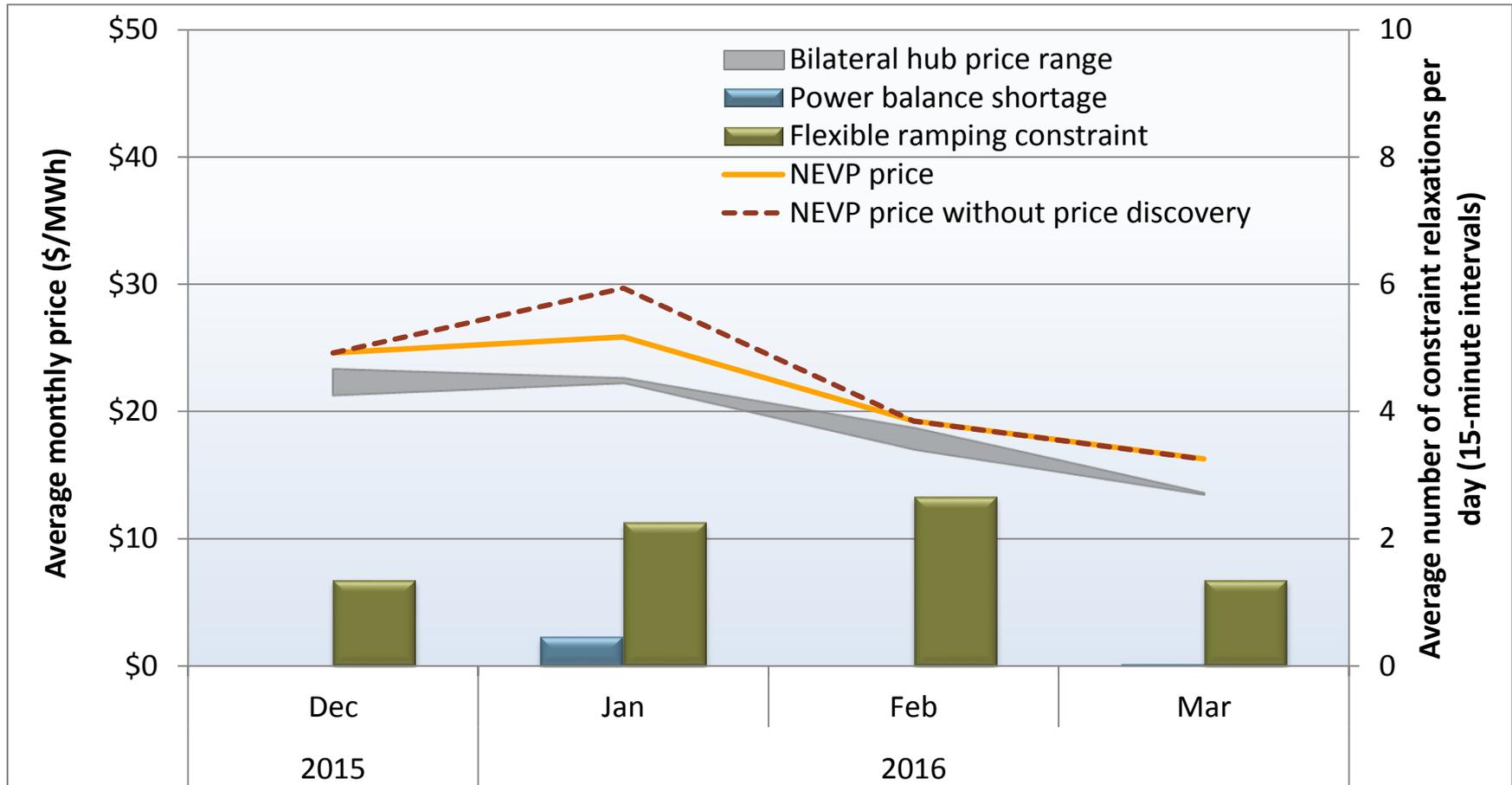
Transfer were somewhat limited for most of 2015, while PacifiCorp was the only EIM participant.



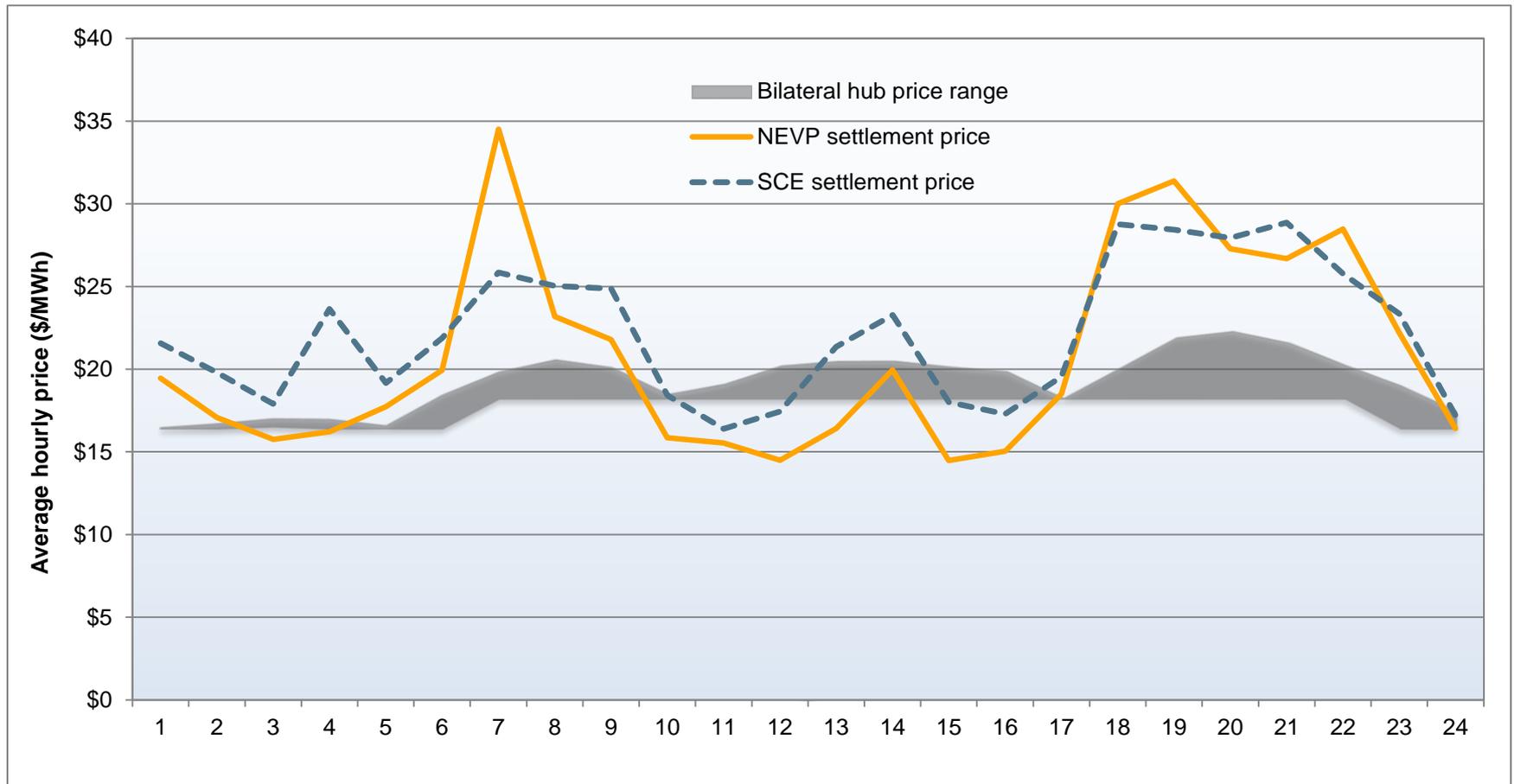
# Significant transfer capacity was added when NV Energy joined the EIM in December 2015.



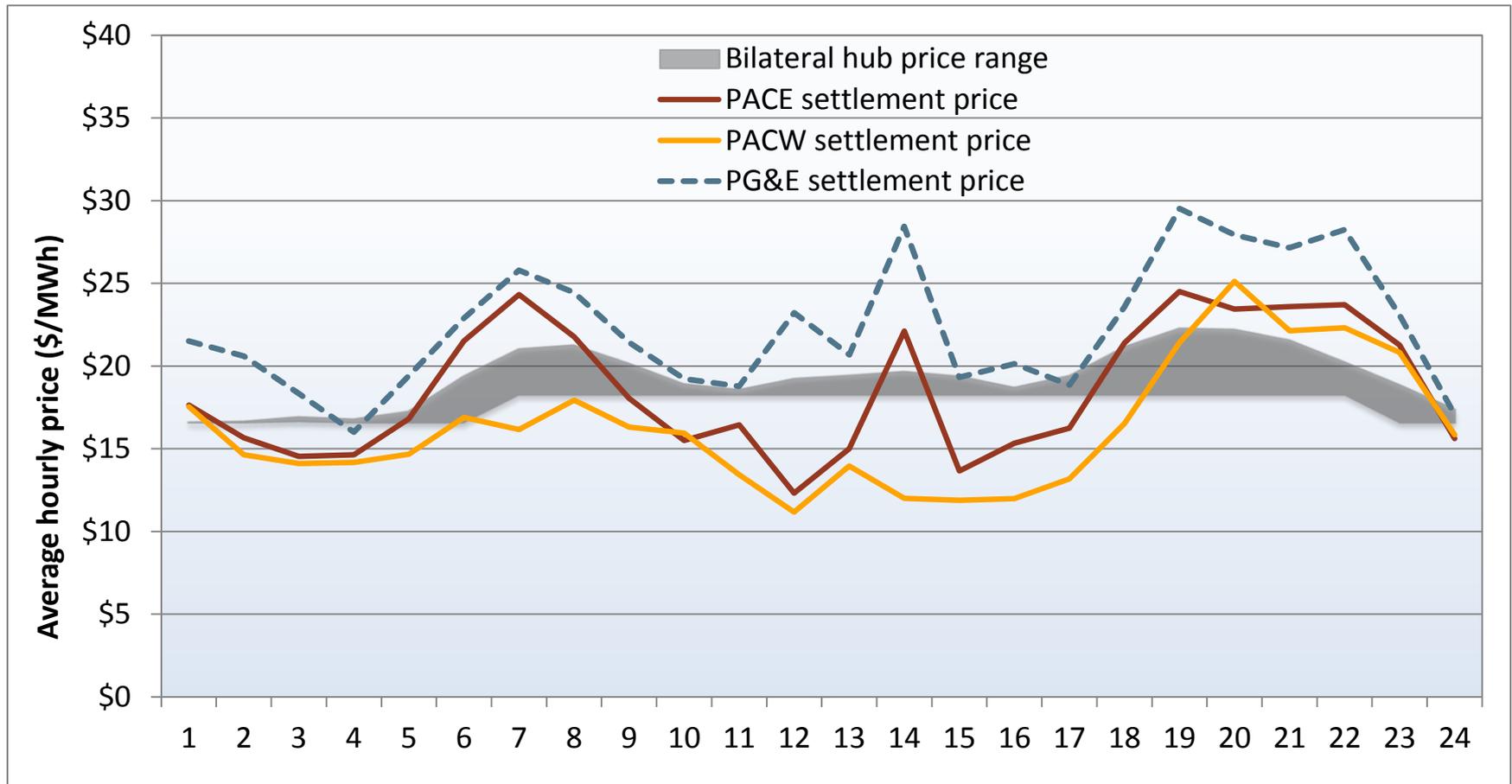
Power balance constraint and flexible ramping constraint relaxations were infrequent in NV Energy and resulted in prices near bilateral hub prices.



# High transfer capacity caused NV Energy prices to closely track ISO prices on an hourly basis.



High transfer capacity caused PacifiCorp East prices to closely track ISO prices on an hourly basis, while PacifiCorp West prices tend to have more separation.



Because there were few power balance relaxations the load bias limiter also had a small impact on prices.

