



Briefing on day-ahead load forecasting

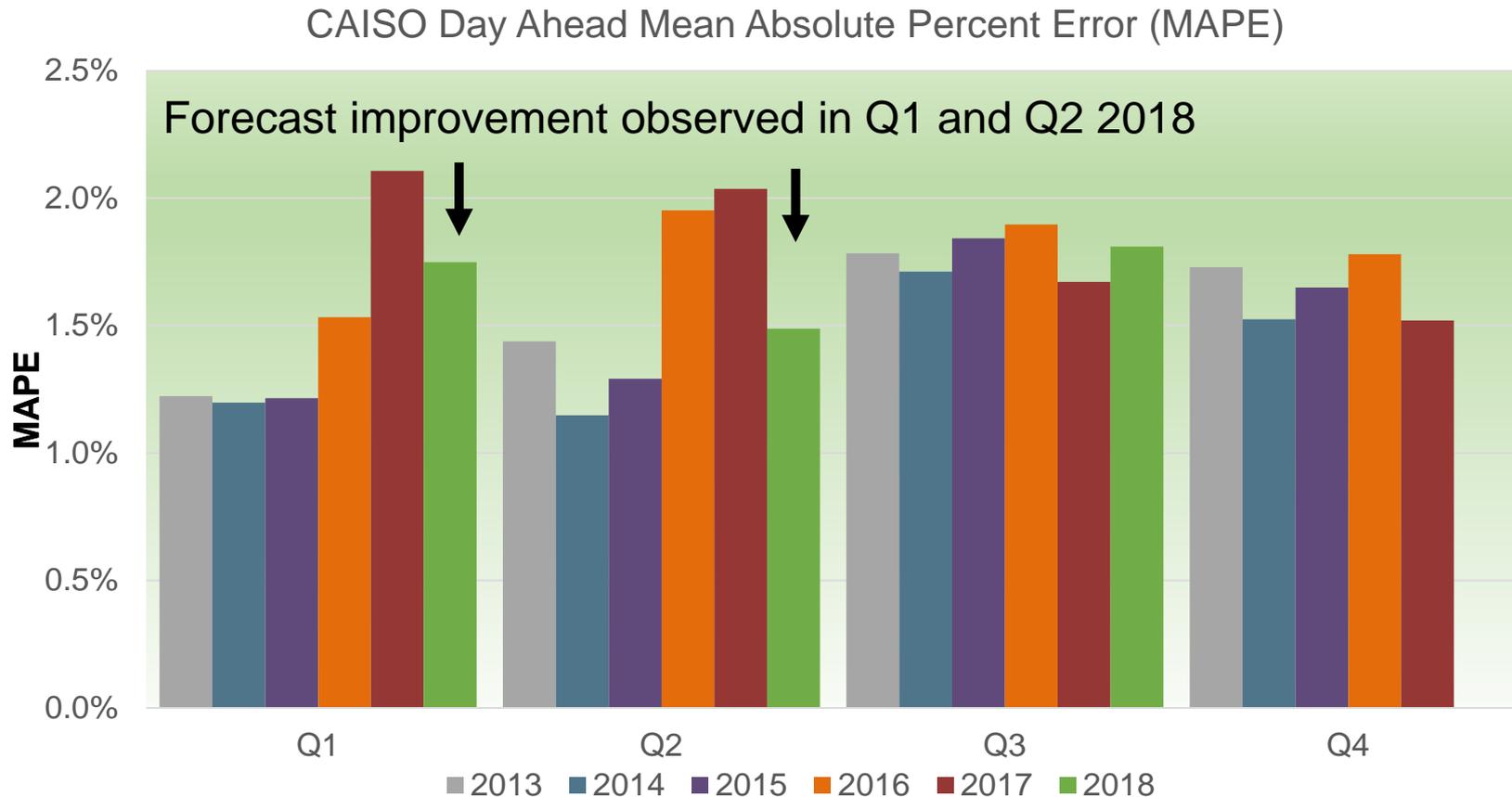
Amber Motley, Manager – Short Term Forecasting

Board of Governors Meeting

General Session

November 14, 2018

Load forecast accuracy improved 10% in 2018

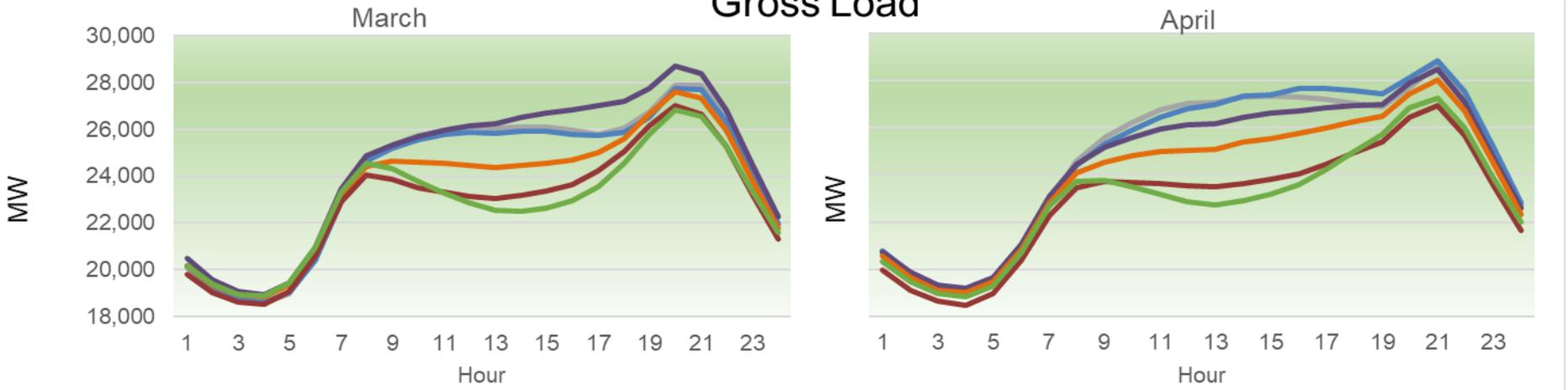


Analysis of load forecast error looked at the following:

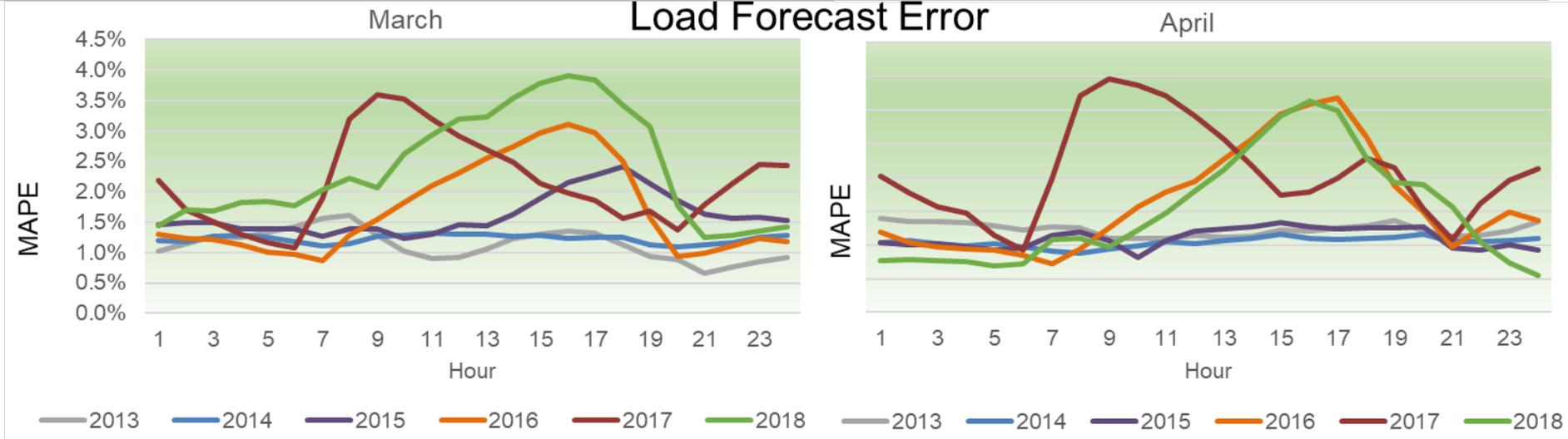
- Effect of behind the meter resource production
- Underlying temperature / weather forecast
- Regional forecast granularity / micro climate effects
- Machine learning model tuning parameter
- Manual adjustments

Hourly error increases in middle of day due to effects of increasing behind the meter production on mid-day load.

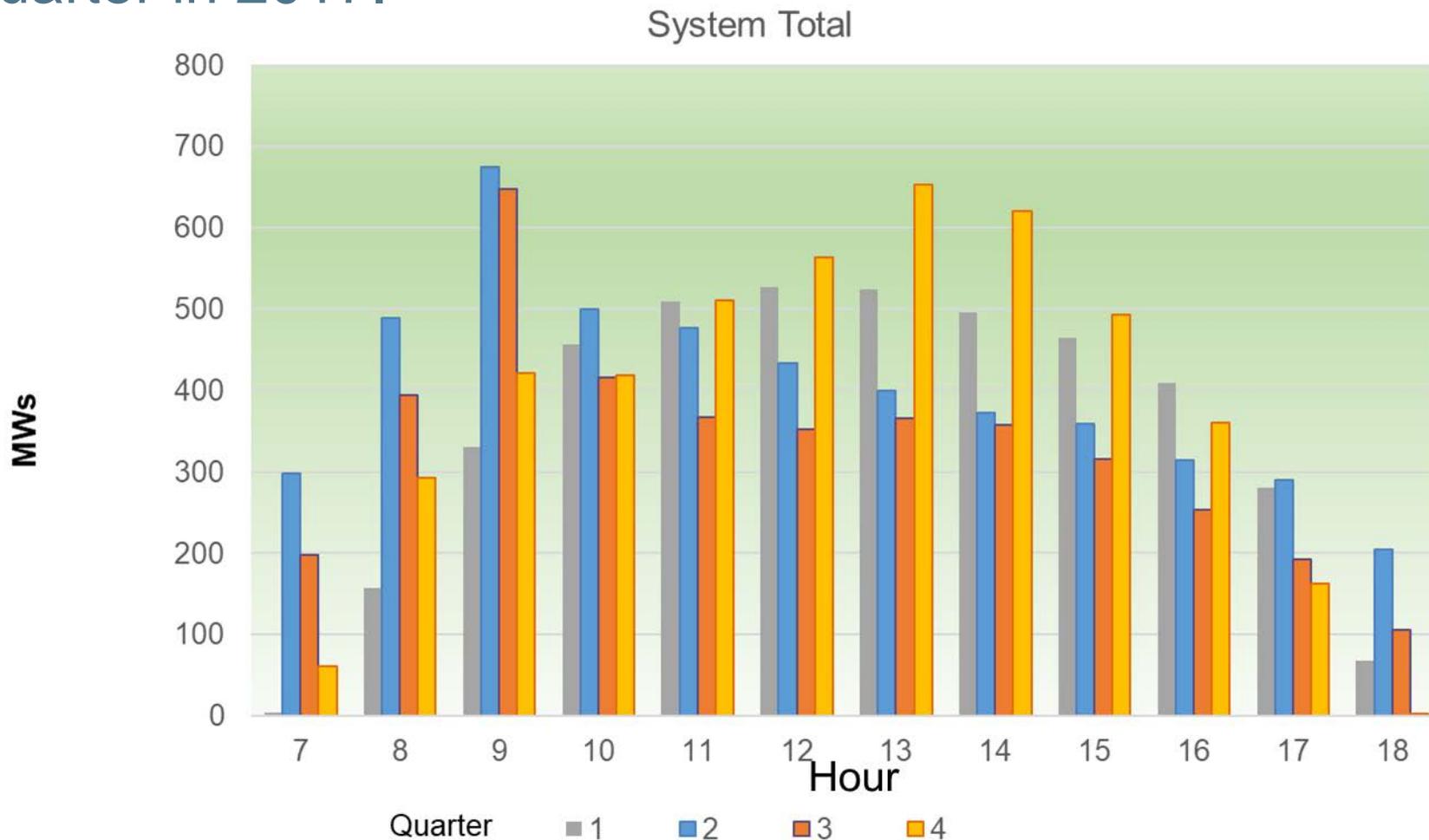
Gross Load



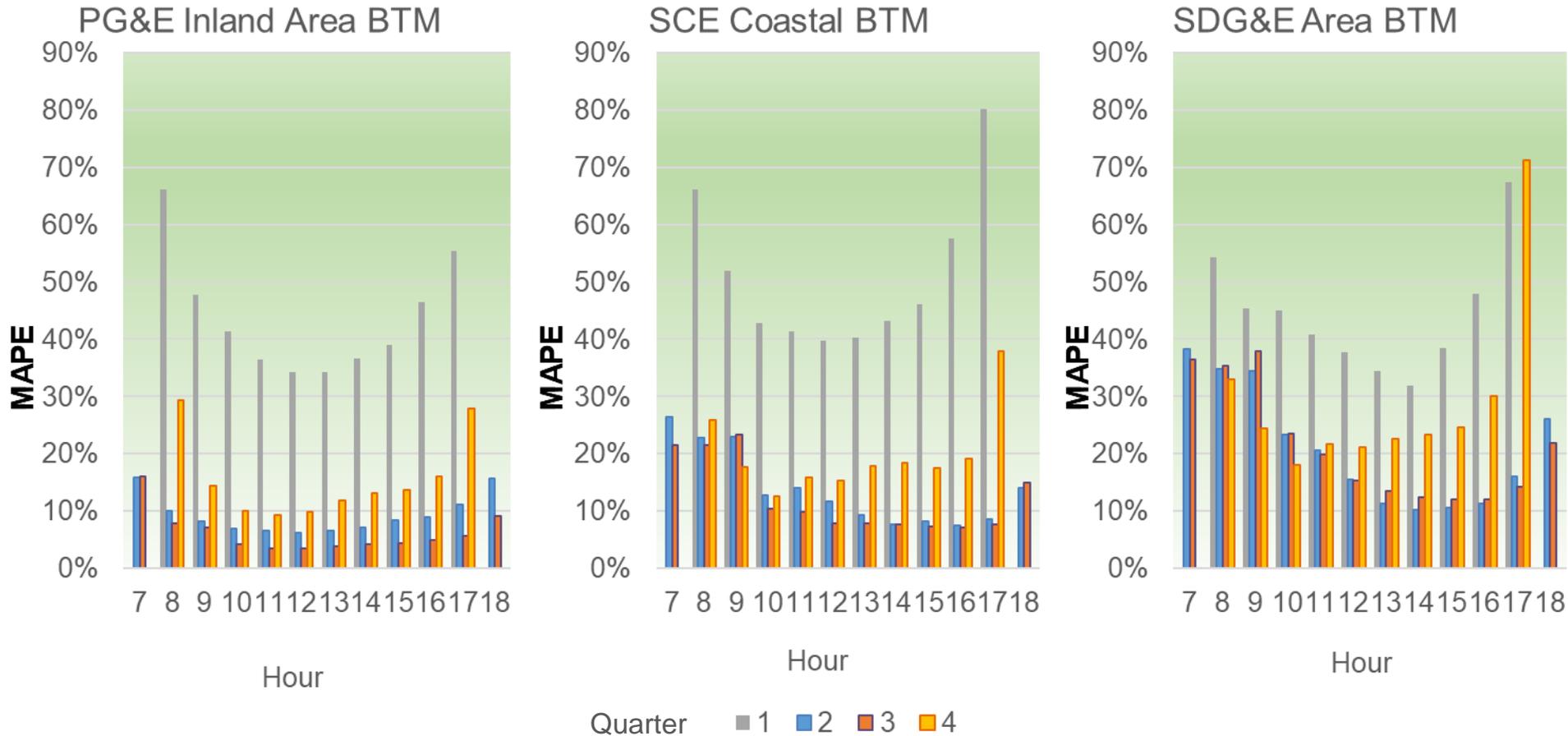
Load Forecast Error



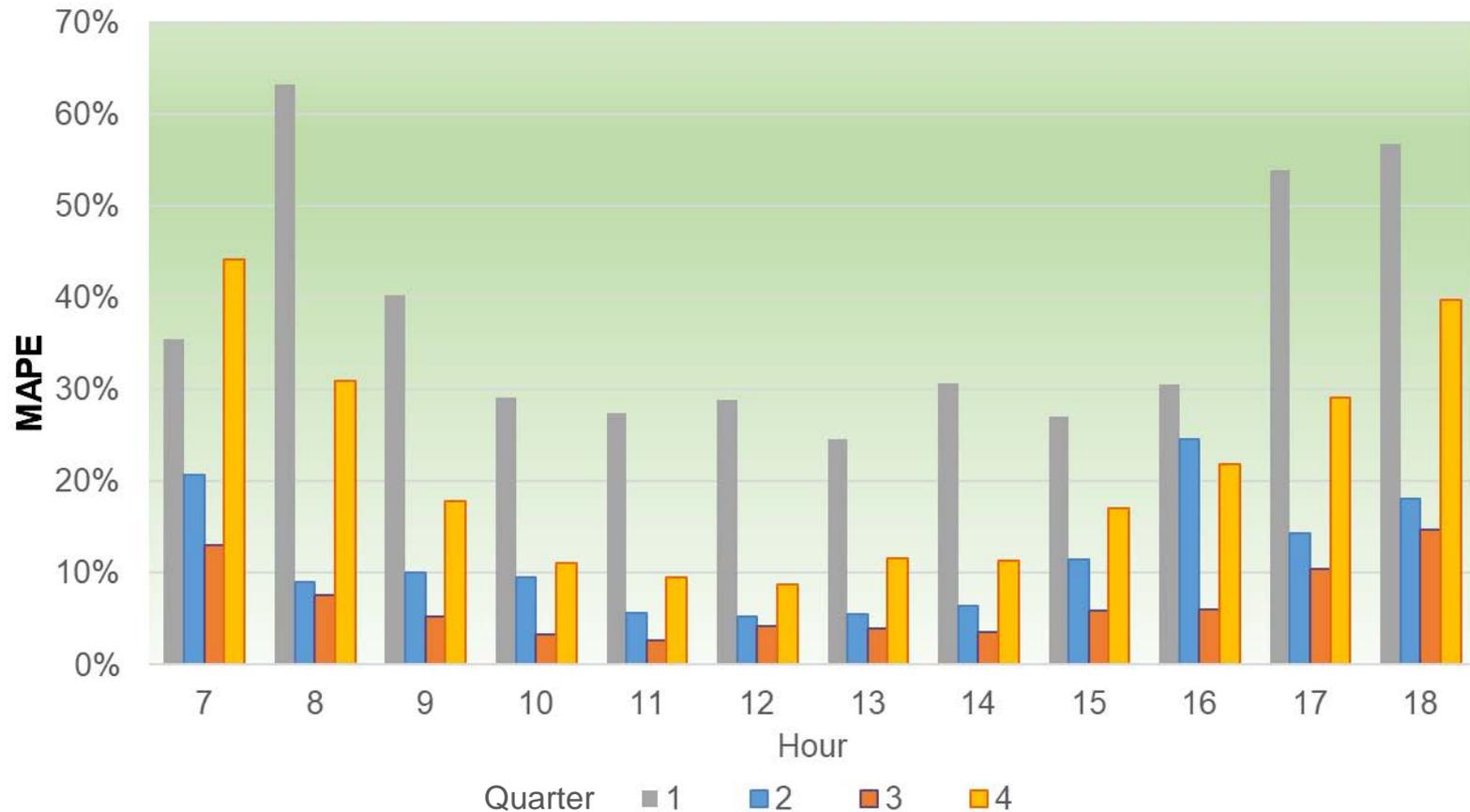
Average MW behind the meter error varies significantly by Quarter in 2017.



During Q1, Q2, and Q4 ISO forecasts are driven by cloud cover



There is a difference between ground measured irradiance and satellite interpolated actuals in 2017.



Conclusion of analysis

- Load forecast accuracy is most impacted by cloud cover variability effects on 7,000MW of behind-the-meter capacity during Q1, Q2, and Q4.
- New forecast techniques are needed to support the magnitude and changes to behind-the-meter resource capacity.
- Improved visibility into the actual aggregate behind-the-meter production is needed to improve calibration of forecast models

Work plan of next steps

Task	Estimated Schedule
Regional Breakout	End of 2018
Incorporate Behind the Meter Actuals	June 30, 2019
Re-assess BTM Forecast Provider	June 30, 2019
Modeling Environment	TBD; working with IT
Multiple Models	TBD; working with IT
Appropriate Blending Options	TBD; working with Vendor
Probabilistic Forecasting	TBD working with DOE Sponsored Research Project
Develop new forecasting approaches	Continuously researching best practices & new techniques