

Balancing Price Forecast Accuracy 5 November 2020

Presented to WA Electricity Consultative Forum
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Overview



The Forecast BMO is prepared by AEMO using inputs from Market Generators and from AEMO's systems.



AEMO establishes an ex-post Balancing Price for each interval using actual end of interval levels for each Non-Scheduled Facility.



There are several factors that can cause variation in final Balancing Price from forecast.



Today's discussion is a case study on 5 November 2020 when there was a large variation between forecast and final price.

Forecast Balancing Price - Overview

Forecast Price is a function of two inputs

Accuracy of forecast price is impacted by the inputs and constraints not accounted for in Price-Quantity Pairs:

AEMO
Load Forecast

Participant
Price-Quantity Pairs

Forecast
Price

Updated every
Trading Interval

Load Forecast
Inaccuracy

Non-Scheduled
Generator
Inaccuracy

GIA Constraints

Forced Outages

Provisional
Price

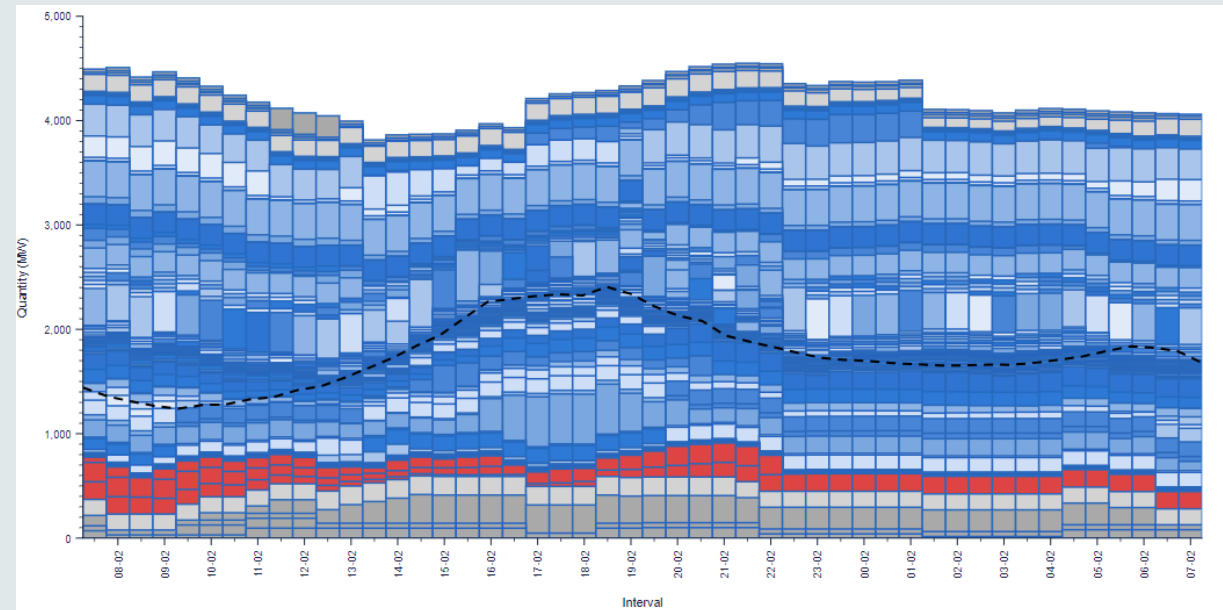
Published at 11 AM
on TD+1

Final Price

Published at 11 AM
on TD+2BD

Trade Date 05/11/2020

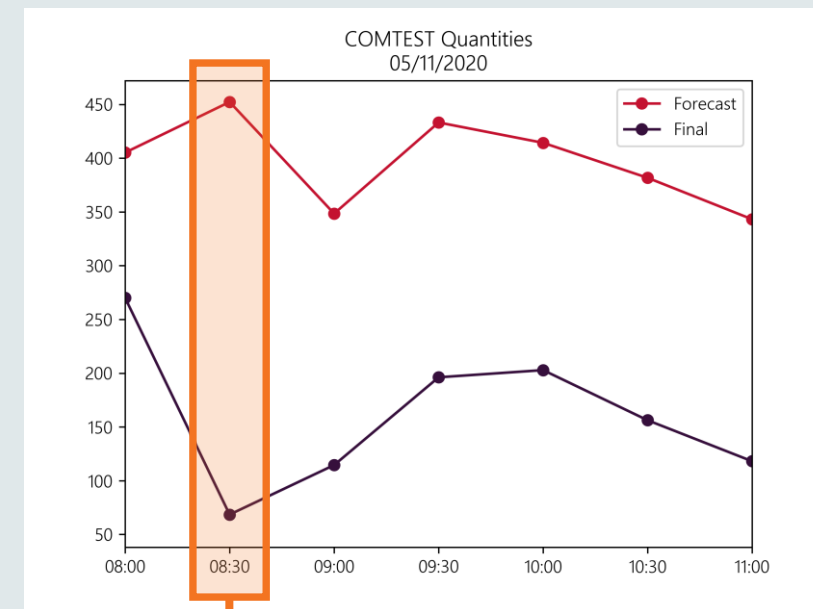
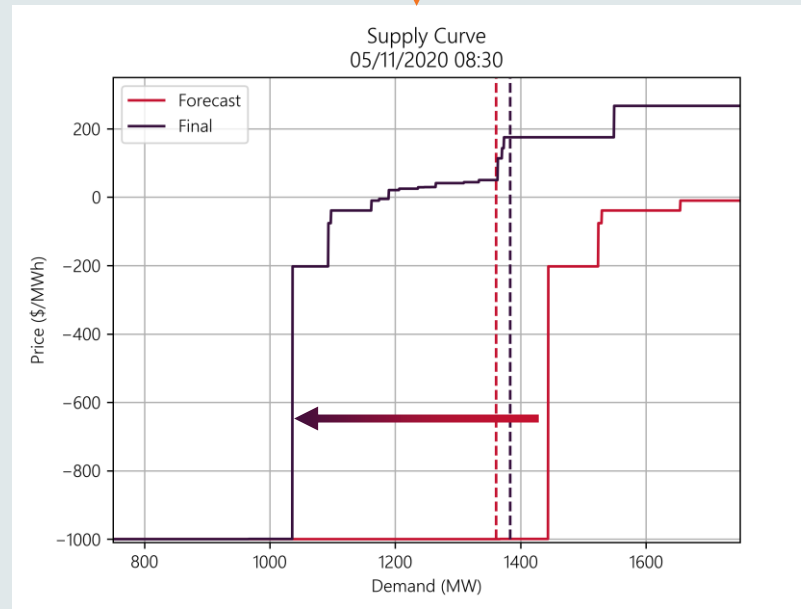
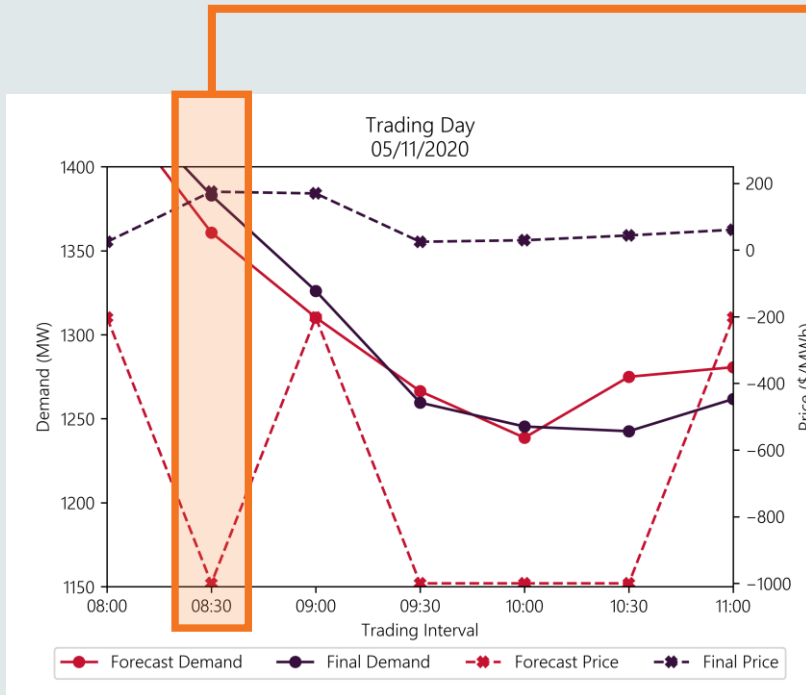
- Four intervals forecast at -\$1000/MWh
 - Five additional forecast at -\$202.41/MWh
- Final Balancing Price \$24.83/MWh to \$175.12/MWh
- Forecast minimum load of ~1240 MW
- Mean Absolute Load Error of 18.7 MW during intervals of interest
- Concurrent commission from three Intermittent Non-Scheduled Generator Facilities:
 - MERSOLAR_PV1
 - WARRADARGE_WF1
 - YANDIN_WF1



Forecast BMO

Trade Day 05/11/2020

Forecast Price Inaccuracy



- 4 intervals forecast at the floor price
- All intervals' final price significantly higher than forecast

- Supply curve shifted to the left due to reduction in quantity of energy offered at -\$1000/MWh
- Resulting intersection of demand and supply curve at a very steep gradient

- All COMTEST bids are priced at -\$1000/MWh
- High inaccuracy of forecast quantities from facilities carrying out commissioning

Conclusions & Next Steps

- Similar variation was seen on 06/11/2020 with similar causes.
- Accuracy of forecast price will continue to be a challenge due to:
 - Almost 1.2 GW of installed Non-Scheduled Generation
 - Uncertainty associated with increasing behind the meter PV generation
- In order to ensure an accurate forecast price Market Participants operating Non-Scheduled Generator are reminded they:
 - can regularly update Balancing Submissions for intervals outside Balancing Gate Closure (120-minutes moving to 90-minutes on 1 December) using the most up to date information reasonably available [MR 7A.2.8]; and,
 - may update Balancing Submissions within Balancing Gate Closure [MR 7A.2.10(d)]
- AEMO will undertake a holistic analysis of forecast accuracy in the Balancing Market in Q1 2021 once new Facilities are fully operational.
 - Market Participants can provide input on the focus of this analysis (e.g. forecasting horizon assessed)

Questions and Feedback

Market Operations

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