Forecasting Accuracy Update

July 2019 Forecasting Reference Group

Purpose

- Inform the reference group on the release of the Summer 2019 Forecasting Accuracy Update
- Update the reference group on the timelines and considerations for the 2019 Forecasting Accuracy Report

https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Planning-and-forecasting/Forecasting-Accuracy-Reporting

AEMO is required under clause 3.13.3(u) of the National Electricity Rules to once a year produce a report about the accuracy of the consumption and demand forecast used in the previous year's Electricity Statement of Opportunities. These reports can be found below.

- 2019 Summer forecast accuracy report (1.2MB, pdf)
- 2018 Forecast accuracy report (2.0 MB, pdf)
- 2017 Forecast accuracy report (1.3 MB, pdf)
- 2016 Forecast accuracy report (1.2 MB, pdf)
- 2015 Forecast accuracy report (3.9 MB, pdf)

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Innovations

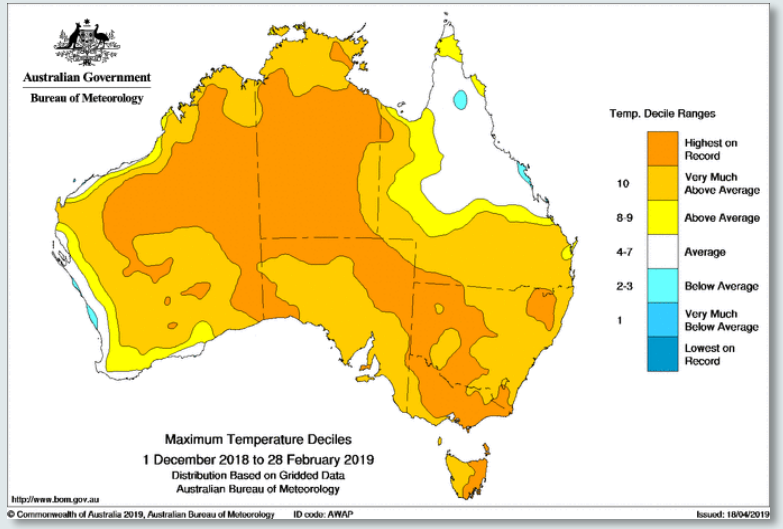
AEMO has produced a summer update in 2019 to expediate the release of summer accuracy information.

It considers the accuracy of :

1. Demand drivers
2. Demand forecasts
3. Supply forecasts

Includes discussion on:

- Season weather
- Modelling consumer behaviour
- Model improvements



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2019 Summer Findings

- Forecasts for customer connections and photovoltaic (PV) uptake were optimistic. While these two demand drivers are important, the net effect of both mostly cancelled each other out.
- Demand forecasts were appropriate, except for Queensland, for which an upward revision has been implemented in the upcoming ESOO.
- Supply forecasts were mostly appropriate, however some coal generators performed worse than expected and have also been adjusted in the upcoming ESOO.

Table 1 Forecast accuracy summary by region – summer 2018-19

Region	Summer Demand Accuracy		Summer Supply Accuracy		Summer Reliability Outcome	
NSW	🟢	Good	🟢	Good	🟢	No load shedding
QLD	🔴	Demand higher than forecast	🟢	Good	🟡	Surplus capacity avoided load shedding
SA	🟢	Good	🟢	Good	🟢	No load shedding
TAS	🟢	Good	🟢	Good	🟢	No load shedding
VIC	🟢	Good	🟡	Higher failure rates than forecast	🔴	Forecast risk of load shedding eventuated

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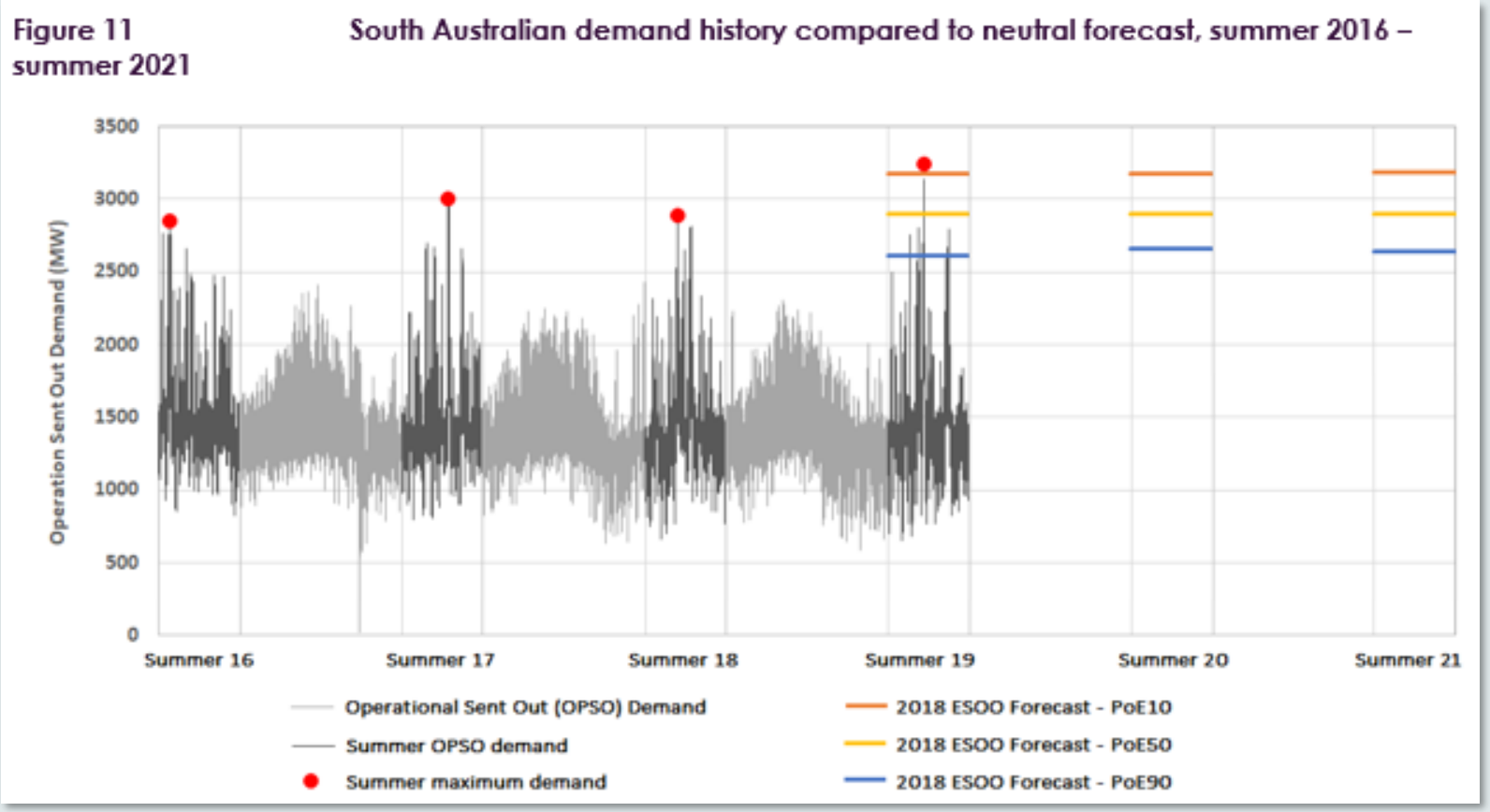
SA maximum demand



- 2019 actual exceeded the 10% POE once, within expectations.
- All parameters (PV, Temp, Heatwaves) fell within expected ranges.
- The forecast appears to have captured the summer maximum trends well.

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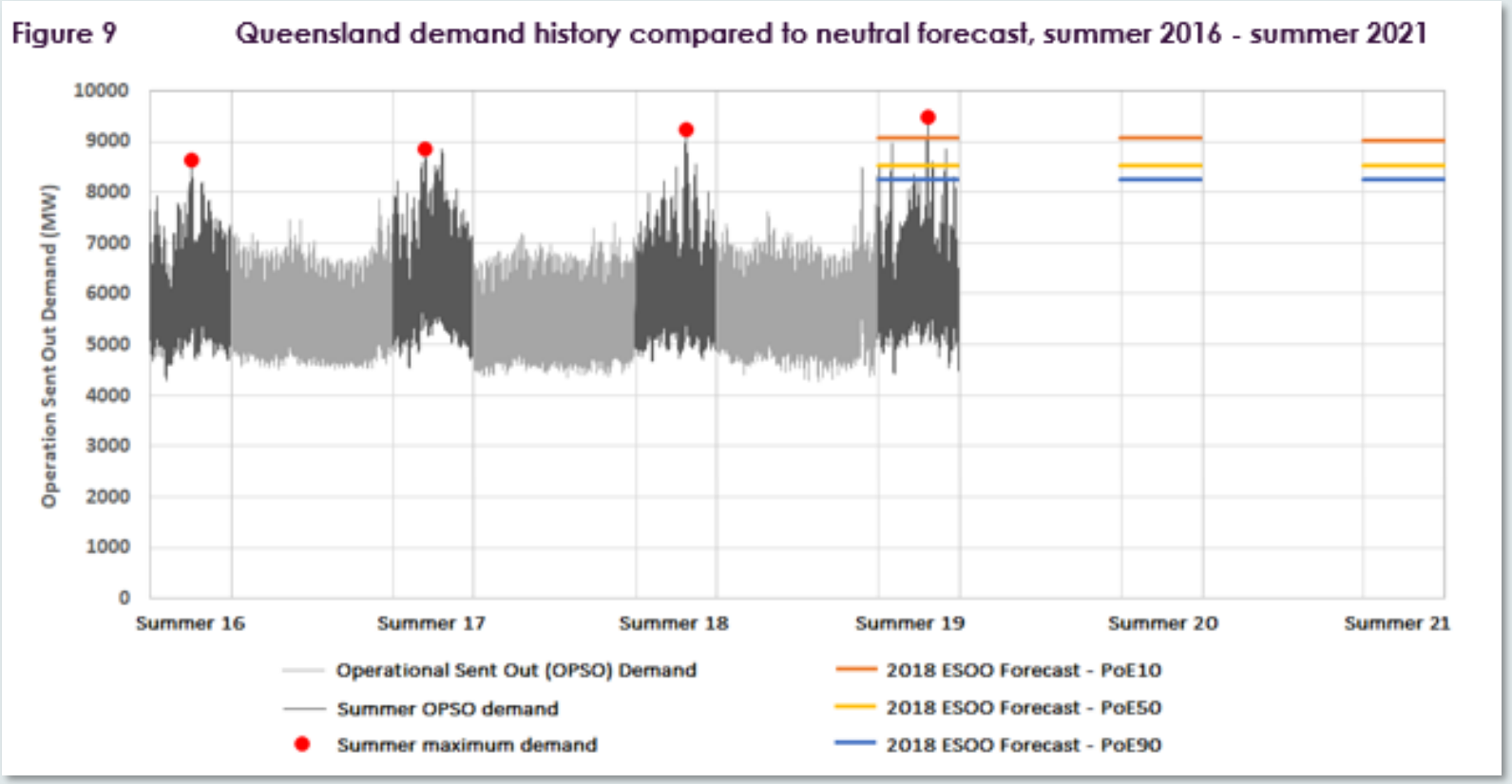
QLD maximum demand



- Model parameters (PV, Temp, Heatwaves) did not align with the outcome, due to an emerging customer trend.
- A new weekly Generalised Extreme Value (GEV) model is expected to better capture the emerging trend in coincident customer behaviour.
- There has been an upward revision in the 2019 ESOO

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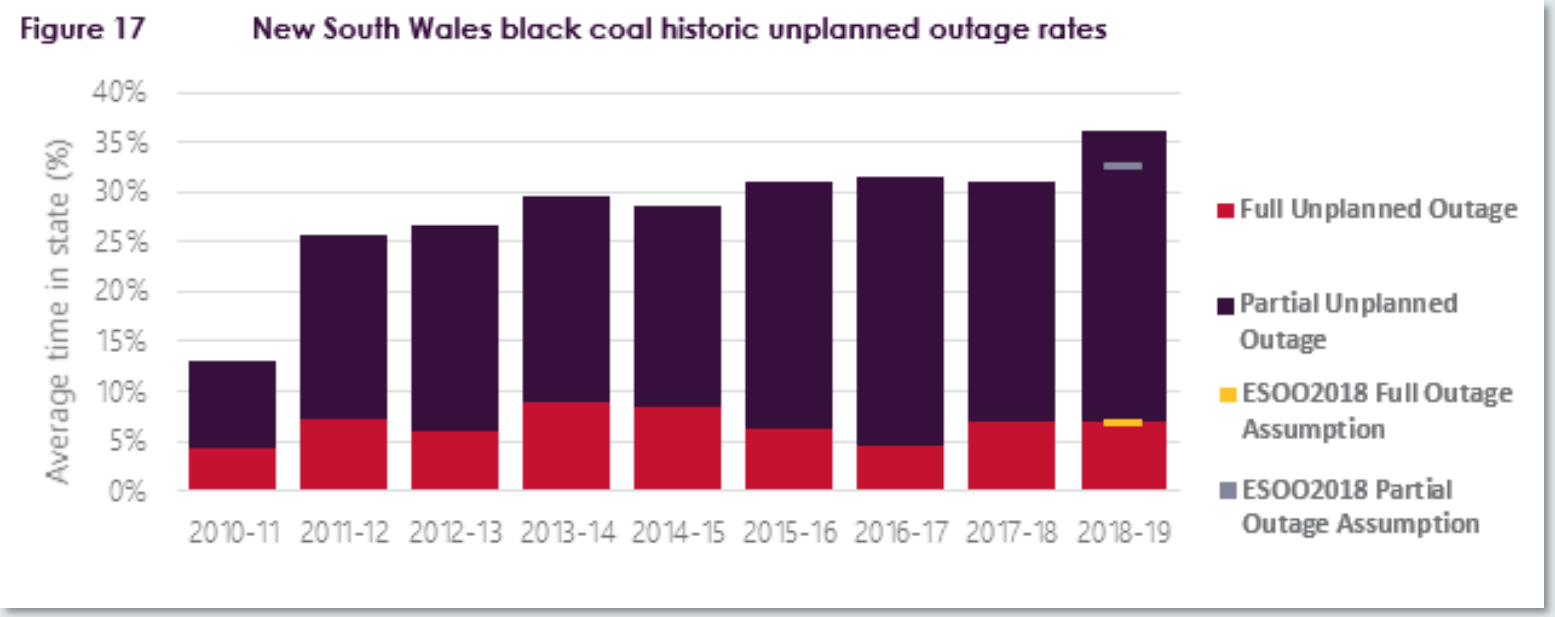
NSW Black Coal



- There is no trend in full unplanned outages, while partial outages have been rising.
- The outage assumption captured the observed rate well.

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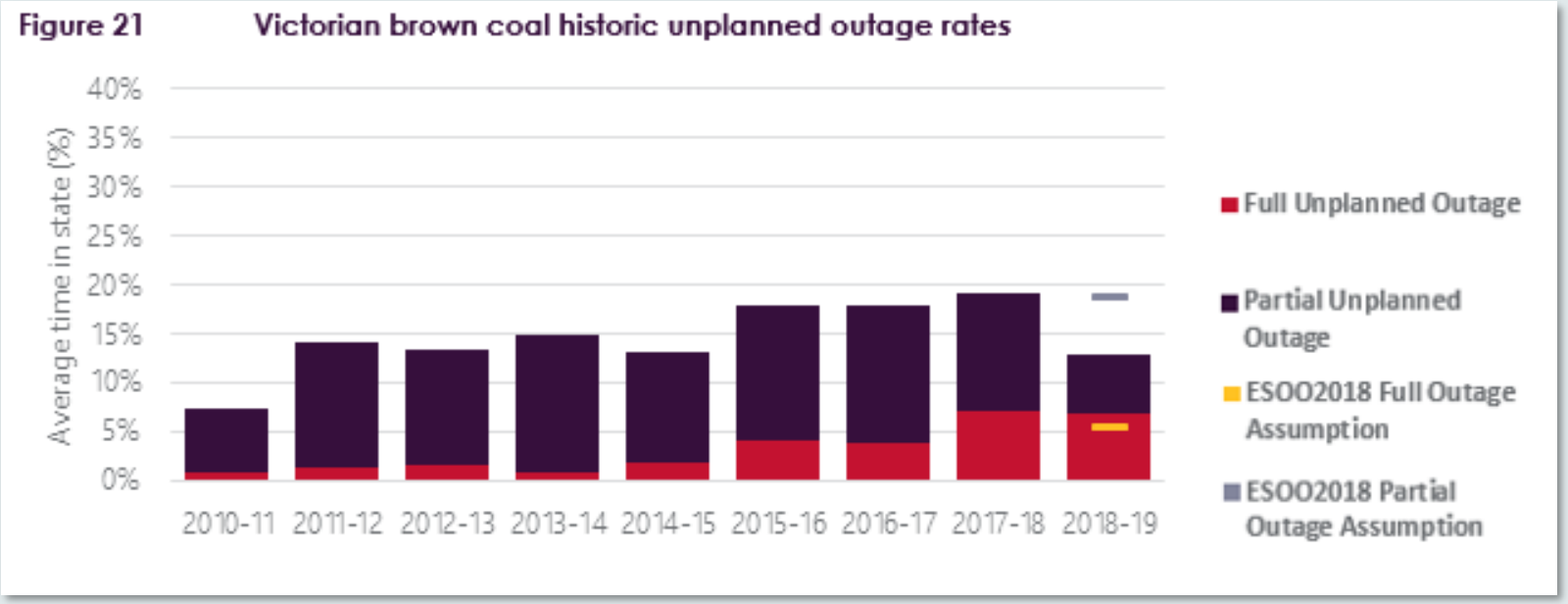
VIC Brown Coal



- There is a strong upward trend in full unplanned outages.
- The outage assumption was lower than the observed full rate.
- The unplanned outages coincided with a planned outage, one of the primary causes of load shedding on the 24th and 25th January 2019.
- Outage rates have been adjusted in the 2019 ESOO

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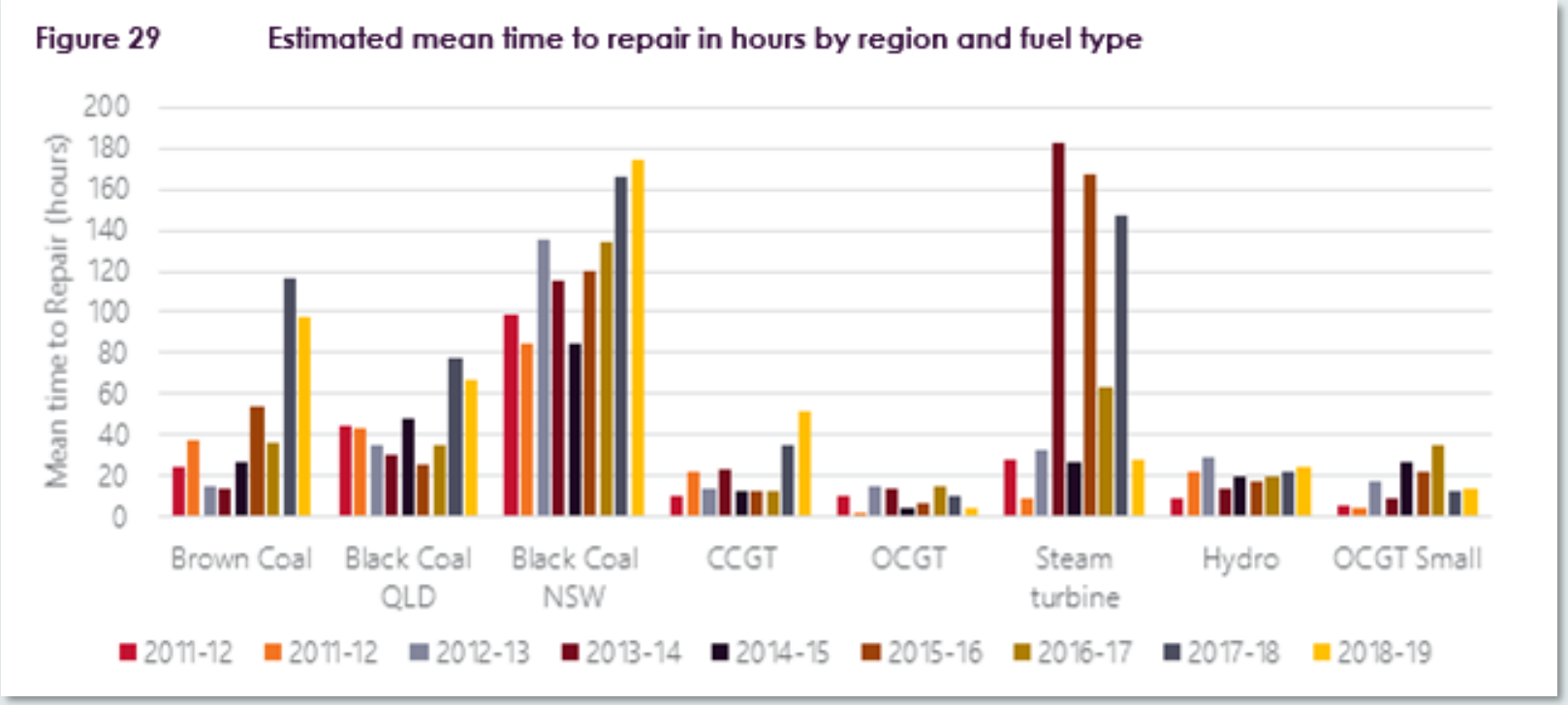
Mean time to repair



Outage rates are a combination of two factors:

- The count/frequency of unplanned outages,
- The mean time to repair (MTTR).

In most cases, the trends were driven entirely by the MTTR.

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Next Steps

The annual Forecasting Accuracy Report will be released later in the year.

Revisions will be made considering:

- Available data and processes.
- Outcomes from an academic review of appropriate forecasting metrics.
- Feedback from the open survey.
- Other stakeholder feedback.

Any specific feedback should be provided through the open survey or by emailing energy.forecasting@aemo.com.au by the end of August.

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