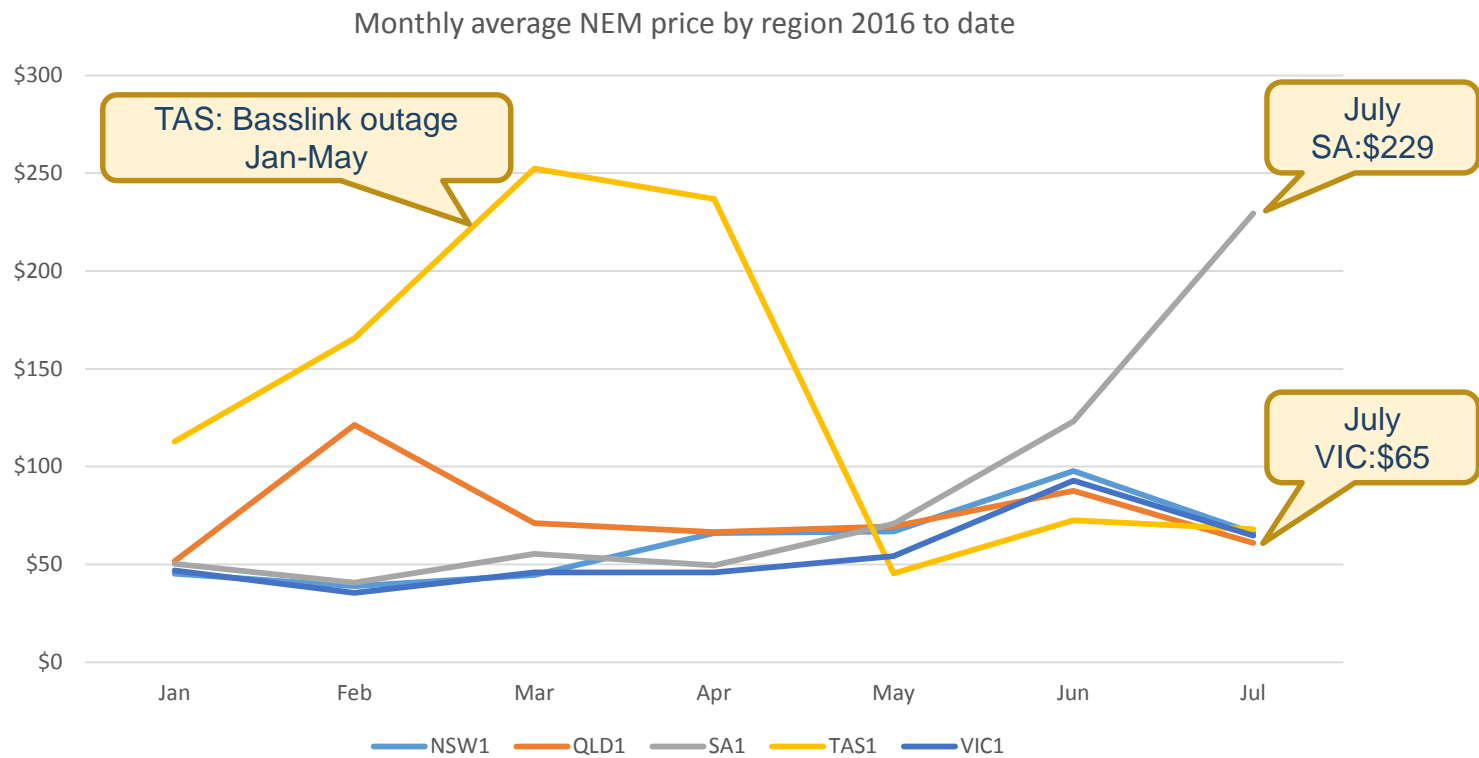


SOUTH AUSTRALIA

Wholesale electricity market July 2016



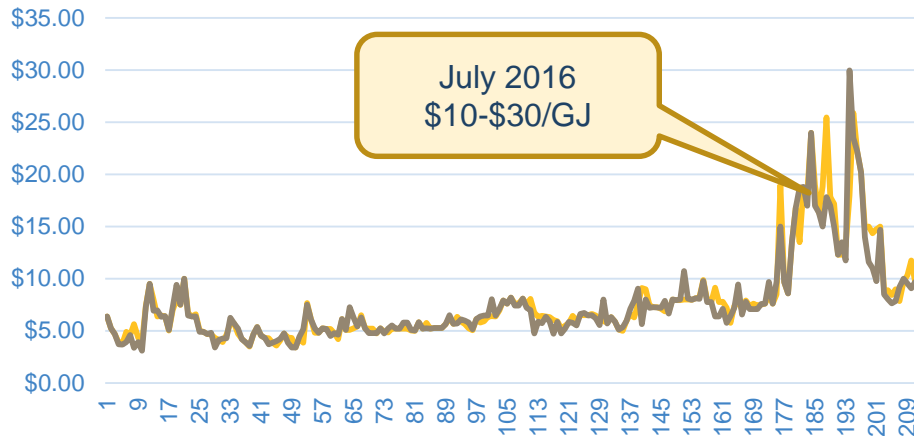
SA wholesale electricity price in July was higher than in other NEM regions



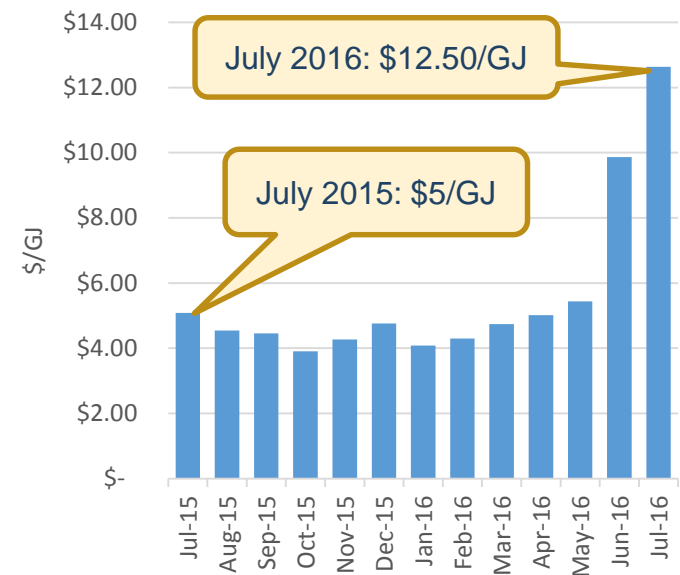
SOUTH AUSTRALIA JULY 2016

Gas fired generators generally set the average SA electricity price.
VIC and SA gas prices were high with cold weather driving demand.

Adelaide short-term trading market gas price:
January to July 2016



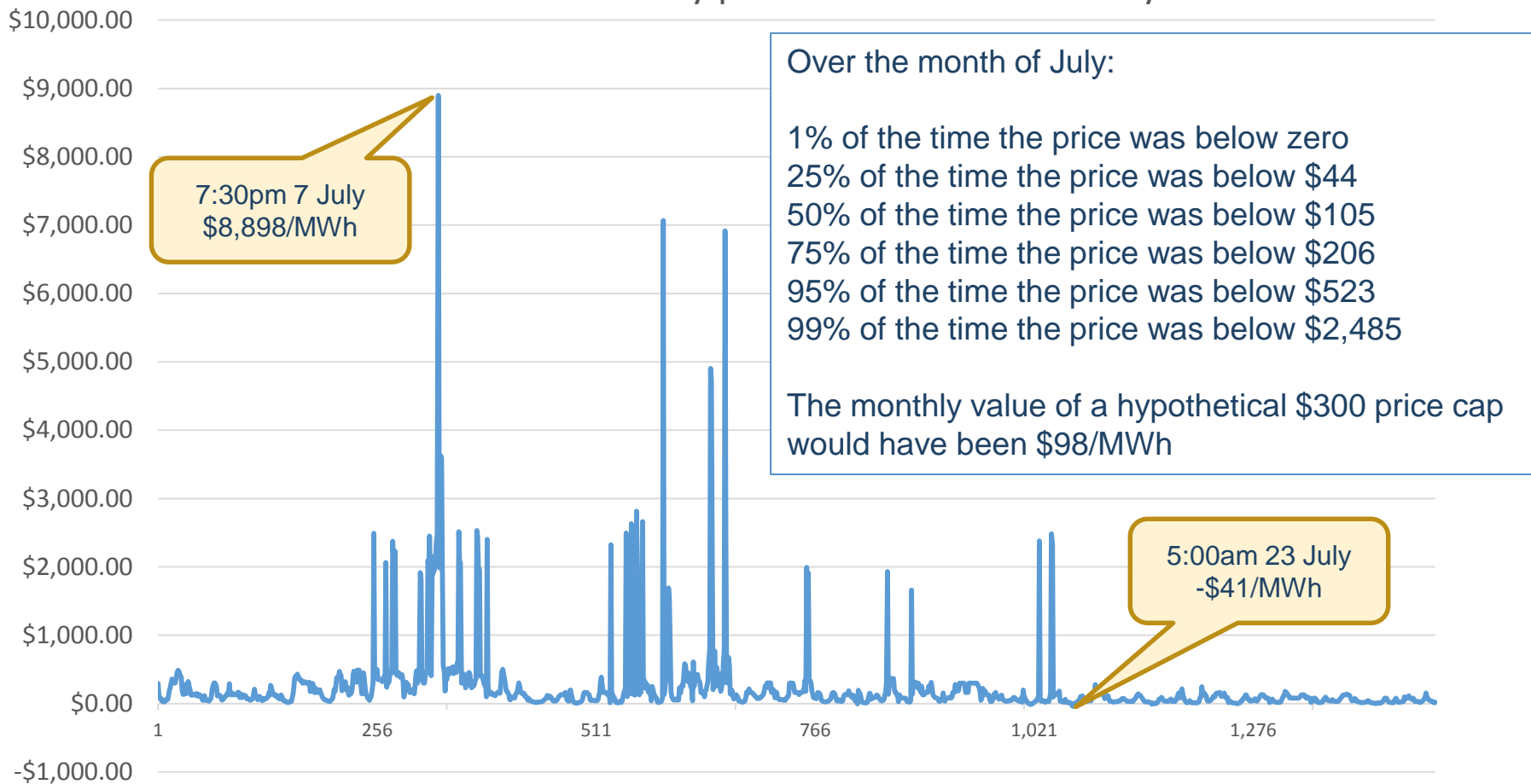
VIC DWGM (average monthly price, July 15 to date)



Average electricity prices in VIC and NSW NEM regions tend to be set more often by black coal power stations than by gas.

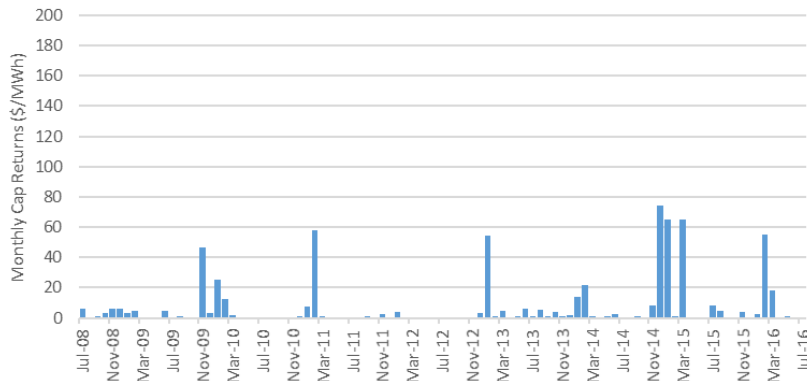
SA wholesale electricity price was volatile in July

30-minute wholesale electricity prices South Australia July 2016

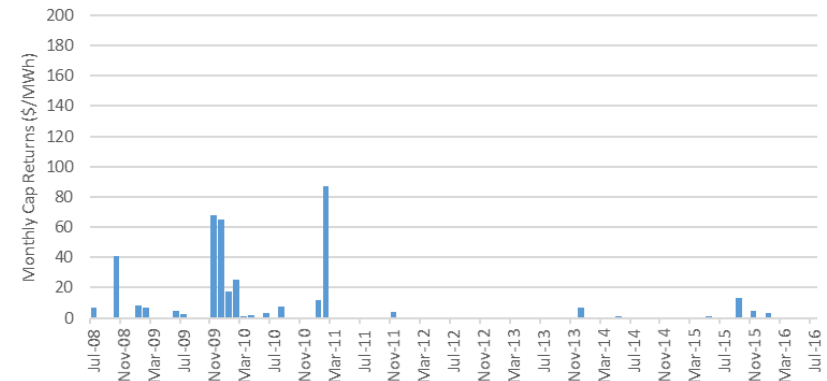


Wholesale electricity price volatility happens in all NEM regions

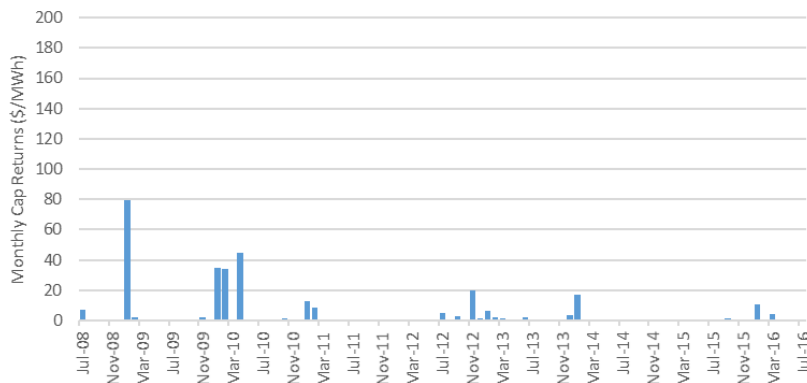
QLD price volatility 2008 to date



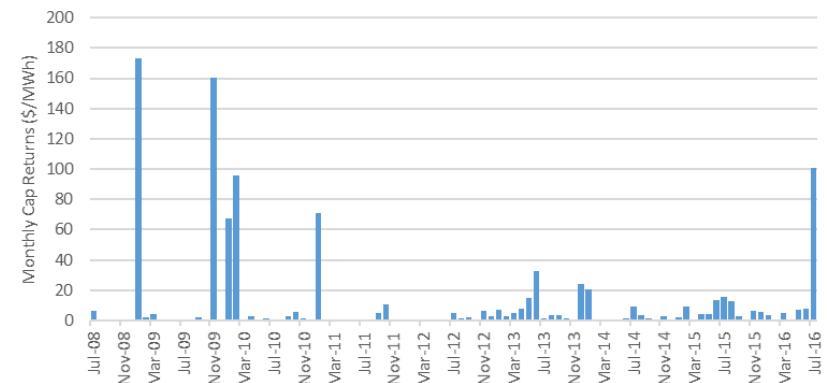
NSW price volatility 2008 to date



VIC price volatility 2008 to date



SA price volatility 2008 to date

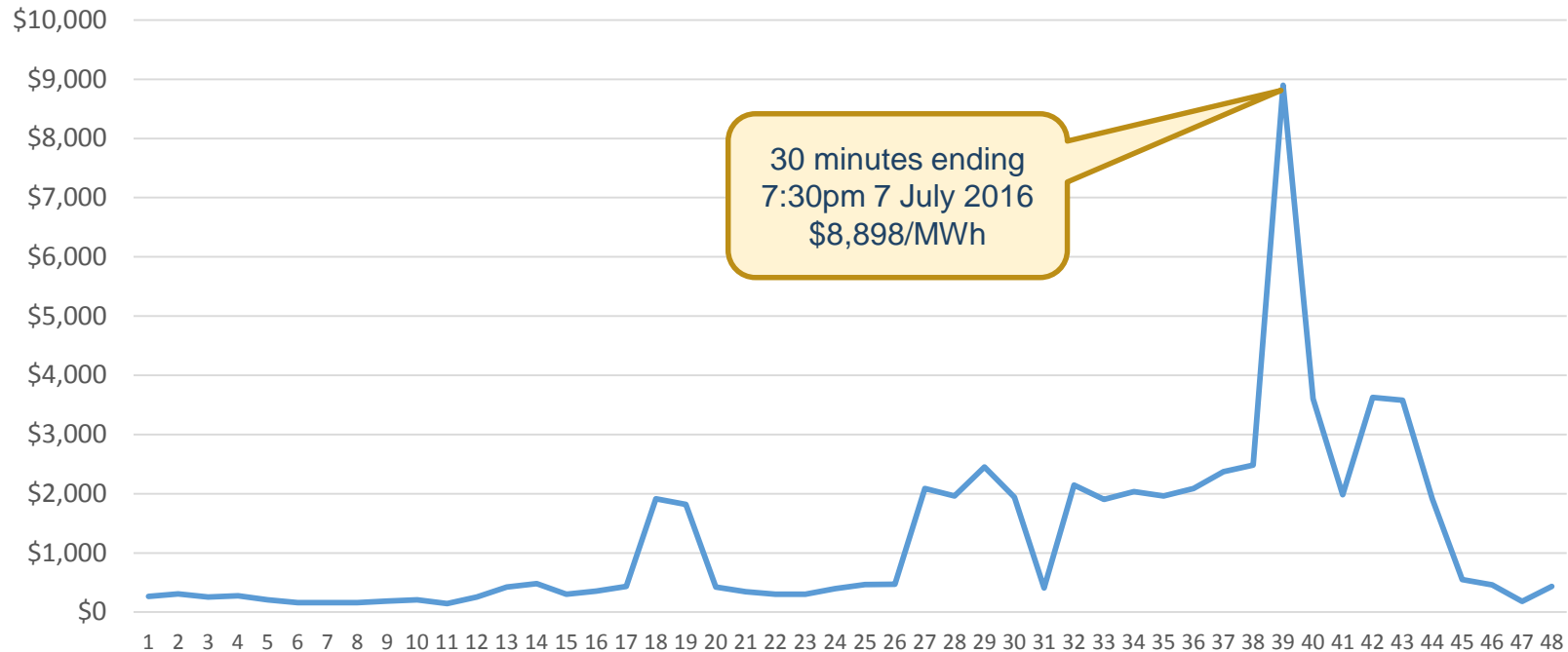


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Peak prices tend to coincide with low wind and solar production, in addition to a number of factors, including; planned transmission outage impacting interconnector flows between VIC and SA; higher than average gas and diesel prices as a result of cold weather which increases demand, and wind variability.

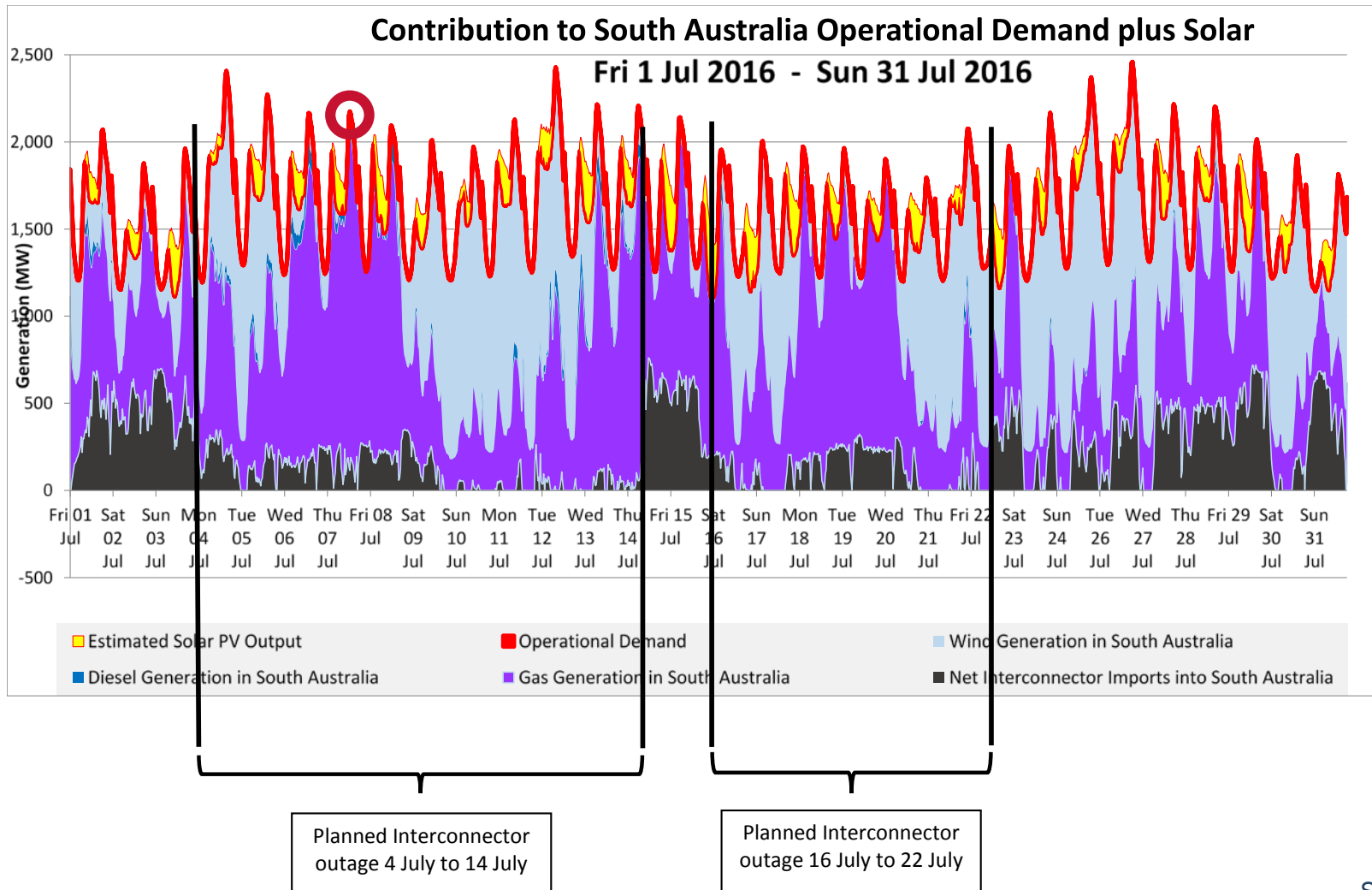
Price 7 July 2016



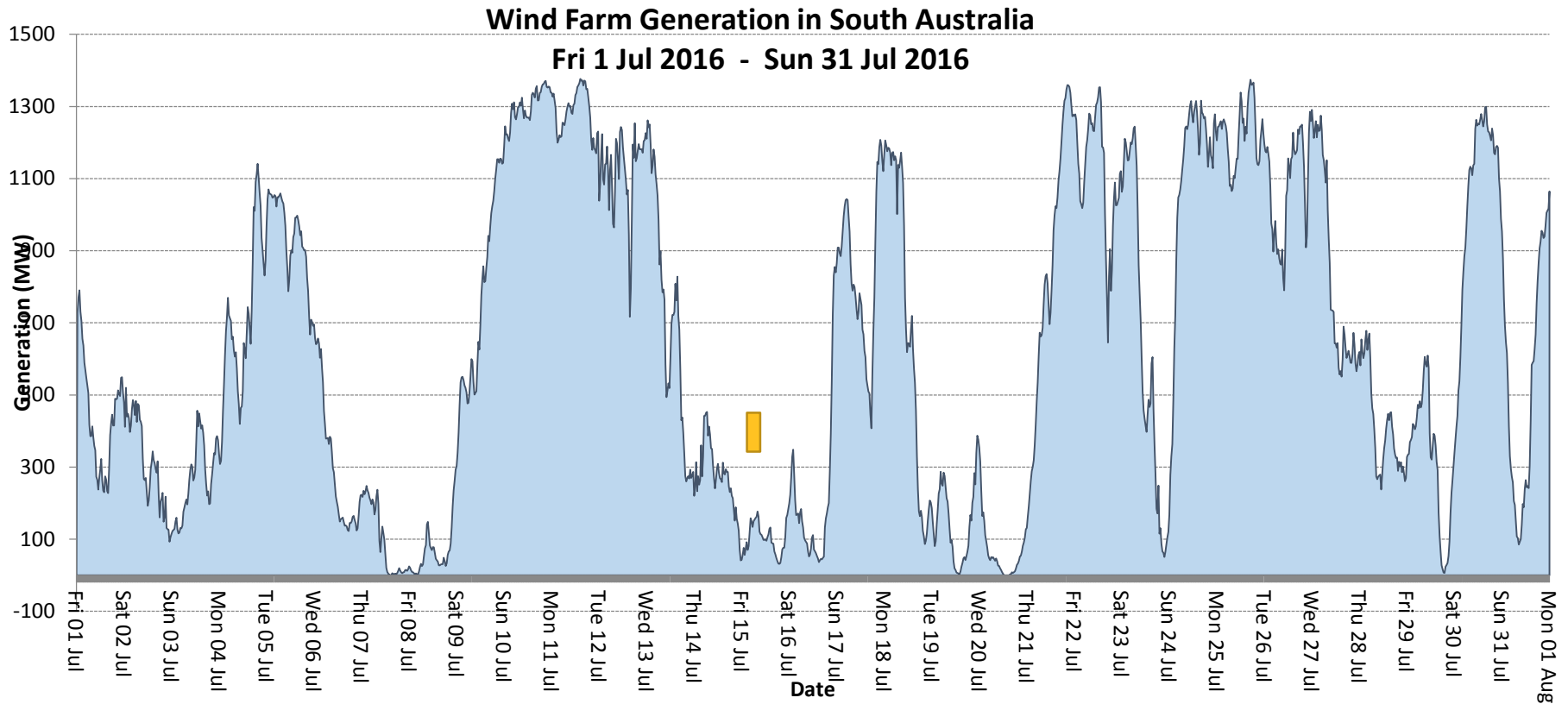
At 7:20pm on Thursday 7 July, demand was 2,139MW – near the 2,159MW daily peak. SA wind turbines (1,600MW installed capacity) were producing 14MW in total. It was dark so solar PV production was zero. The VIC interconnector was constrained to 50% of capacity. Local gas and distillate supply was scarce due to cold weather and gas prices were high. The SA spot electricity price reached \$8,898.

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VIC-SA interconnector capacity was reduced 50% for augmentation works



Wind generation is forecastable in the short term and partially controllable.



 Capacity of largest grid-scale battery known: Southern California Edison 2014 contract with AES Energy Storage, operation targeted for January 2021, cost not disclosed.

AEMO communication of high impact network outages to the market, e.g.:
Taillem Bend – South East #1 Outage 4-14 July 2016 (VIC-SA interconnector)

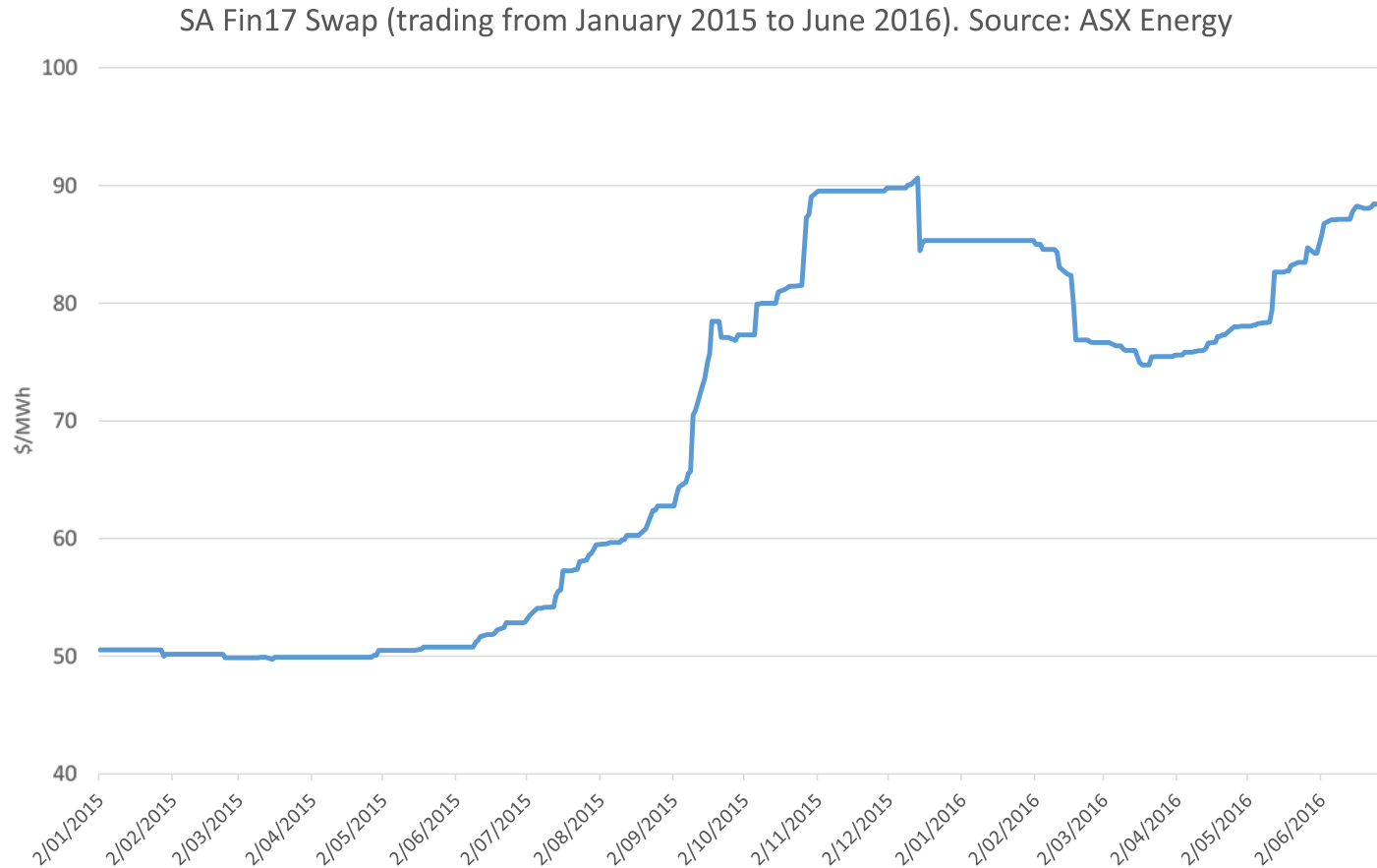


AEMO market communication media: 13 month outage plan; network outage scheduler; market notices.

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The price of forward contracts for SA electricity anticipated tight supply.



- There were no system security or supply reliability issues in South Australia during the month.
- AEMO review of events has revealed no departures from normal market rules and procedures.