

Electricity Report

7 to 13 July 2013



AUSTRALIAN ENERGY
REGULATOR

Introduction

The AER is required to publish the reasons for significant variations between forecast and actual price and is responsible for monitoring activity and behaviour in the National Electricity Market. The Electricity Report forms an important part of this work. The report contains information on significant price variations, movements in the contract market, together with analysis of spot market outcomes and rebidding behaviour. By monitoring activity in these markets, the AER is able to keep up to date with market conditions and identify compliance issues.

Weekly spotlight

Today the AER has commenced publishing its weekly electricity report in a new format. The report contains information on significant price variations, movements in the contracts market, together with analysis of spot market outcomes and rebidding behaviour. The new format includes a Weekly Spotlight section to highlight interesting events in the market for the week under review. The revised report has more of an emphasis on tracking spot market outcomes over time. The report still provides detailed analysis where the spot price is greater than three times the weekly average price in a region and above \$250/MWh or below -\$100/MWh.

Although the report in its new format does not include the detailed NEM Price and Demand Trends from the previous format, all the key information is now captured either in the body of the revised Electricity Report or in the [Performance of the Energy Sector](#) section of the AER website.

In addition, the revised report is in a more accessible format, providing better access to information for all users.

Stakeholders who have comments on the report should not hesitate to contact us at [aerinqury@aer.gov.au](mailto:aerinqury@ aer.gov.au).

Spot market prices

Figure 1 shows the volume weighted average (VWA) prices for the current week (with prices shown in Table 1) and the preceding 12 weeks, as well as the VWA price over the previous 3 financial years.

Figure 1: Volume weighted average spot price by region (\$/MWh)

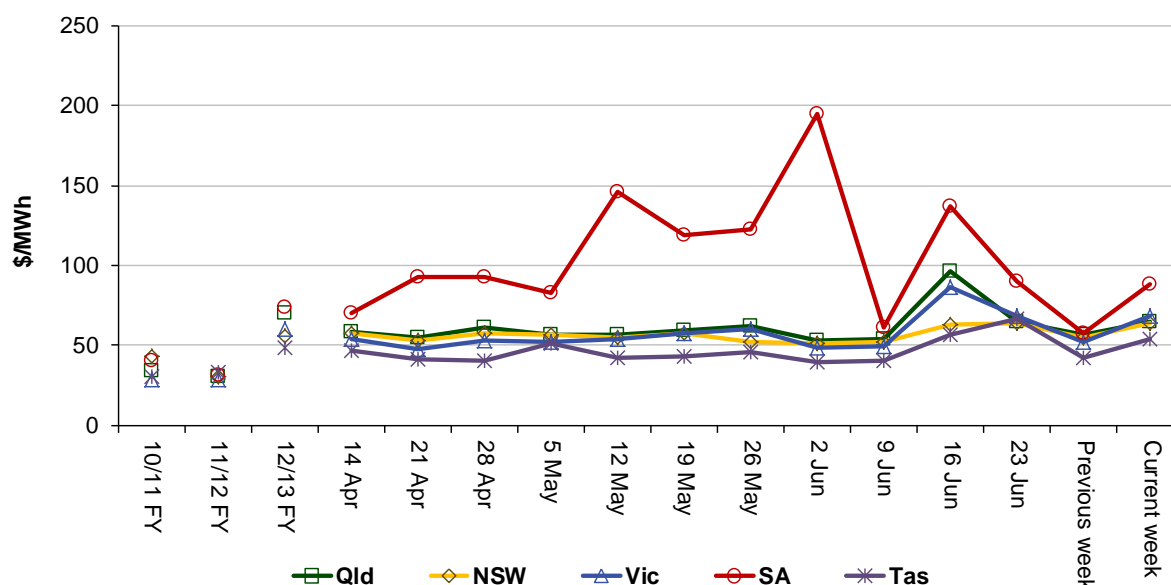


Table 1: Volume weighted average spot prices by region (\$/MWh)

Region	Qld	NSW	Vic	SA	Tas
Current week	65	64	68	88	54
12-13 financial YTD	66	72	92	97	68
13-14 financial YTD	61	60	61	74	48

Longer-term statistics tracking average spot market prices are available on the [AER website](#).

Spot market price forecast variations

The AER is required under the National Electricity Rules to determine whether there is a significant variation between the forecast spot price published by the Australian Energy Market Operator (AEMO) and the actual spot price and, if there is a variation, state why the AER considers the significant price variation occurred. It is not unusual for there to be significant variations as demand forecasts vary and participants react to changing market conditions. A key focus is whether the actual price differs significantly from the forecast price either four or 12 hours ahead. These timeframes have been chosen as indicative of the time frames within which different technology types may be able to commit (intermediate plant within four hours and slow start plant within 12 hours).

There were 98 (30-minute) trading intervals throughout the week where actual prices varied significantly from forecasts. This compares to the weekly average in 2012 of 60 counts and the average in 2011 of 78. Reasons for the variations for this week are summarised in Table 2. Based on AER analysis, the table summarises (as a percentage) the number of times when the actual price differs significantly from the forecast price four or 12 hours ahead and the major reason for that variation. The reasons are classified as availability (which means that there is a change in the total quantity or price offered for generation), demand forecast inaccuracy, changes to network capability

or as a combination of factors (when there is not one dominant reason). An instance where both four and 12 hour ahead forecasts differ significantly from the actual price will be counted as two variations.

Table 2: Reasons for variations between forecast and actual prices

Reason for variation	Availability	Demand	Network	Combination
% of total above forecast	6	9	0	2
% of total below forecast	33	44	0	7

Note: Due to rounding, the total may not be exactly 100 per cent

Generation and bidding patterns

The AER reviews generator bidding as part of its market monitoring to better understand the drivers behind price variations. Figures 2 to 6 show, the total generation dispatched and the amounts of capacity offered within certain price bands for each 30 minute trading interval in each region.

Figure 2: Queensland generation and bidding patterns

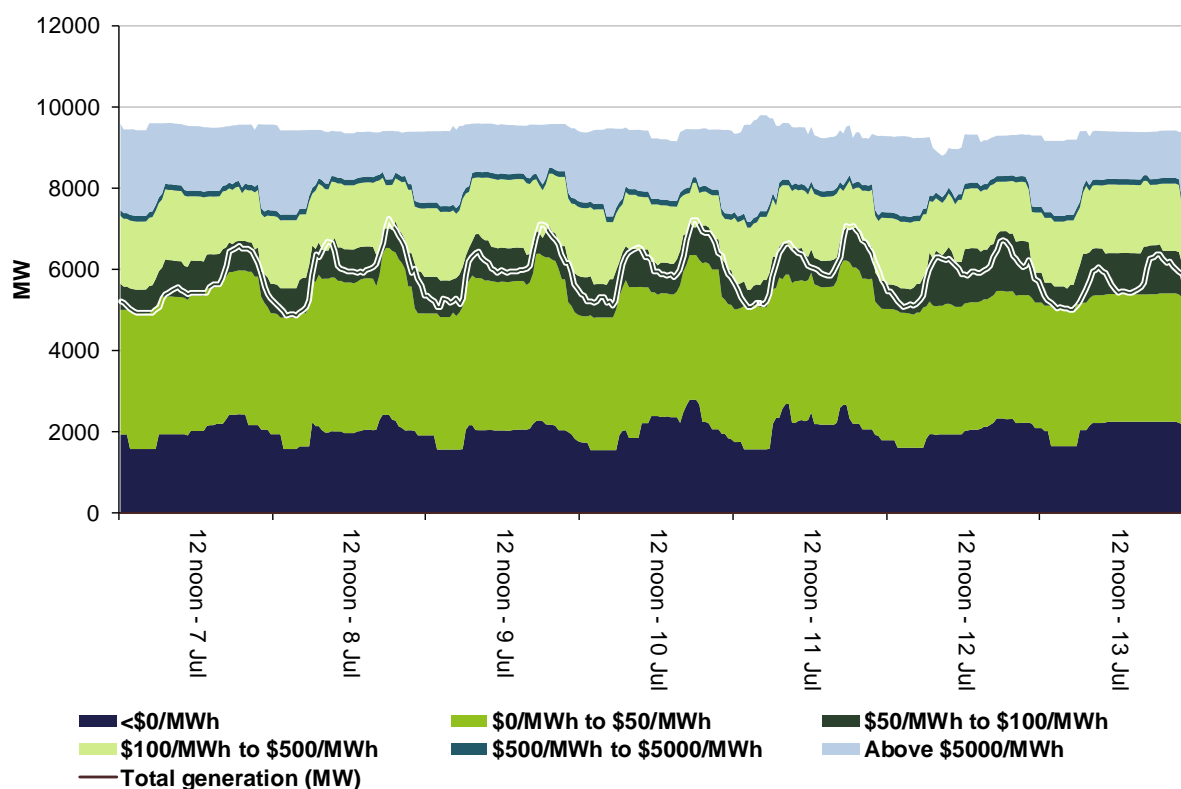


Figure 3: New South Wales generation and bidding patterns

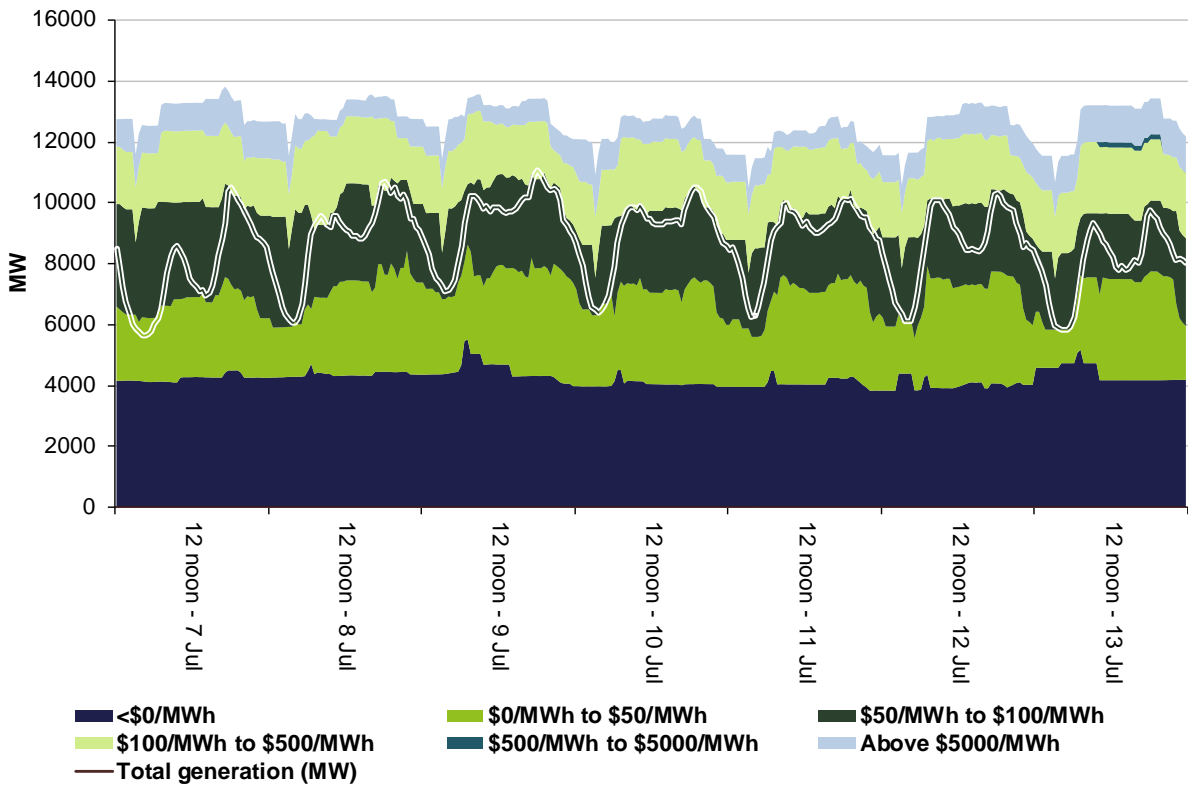


Figure 4: Victoria generation and bidding patterns

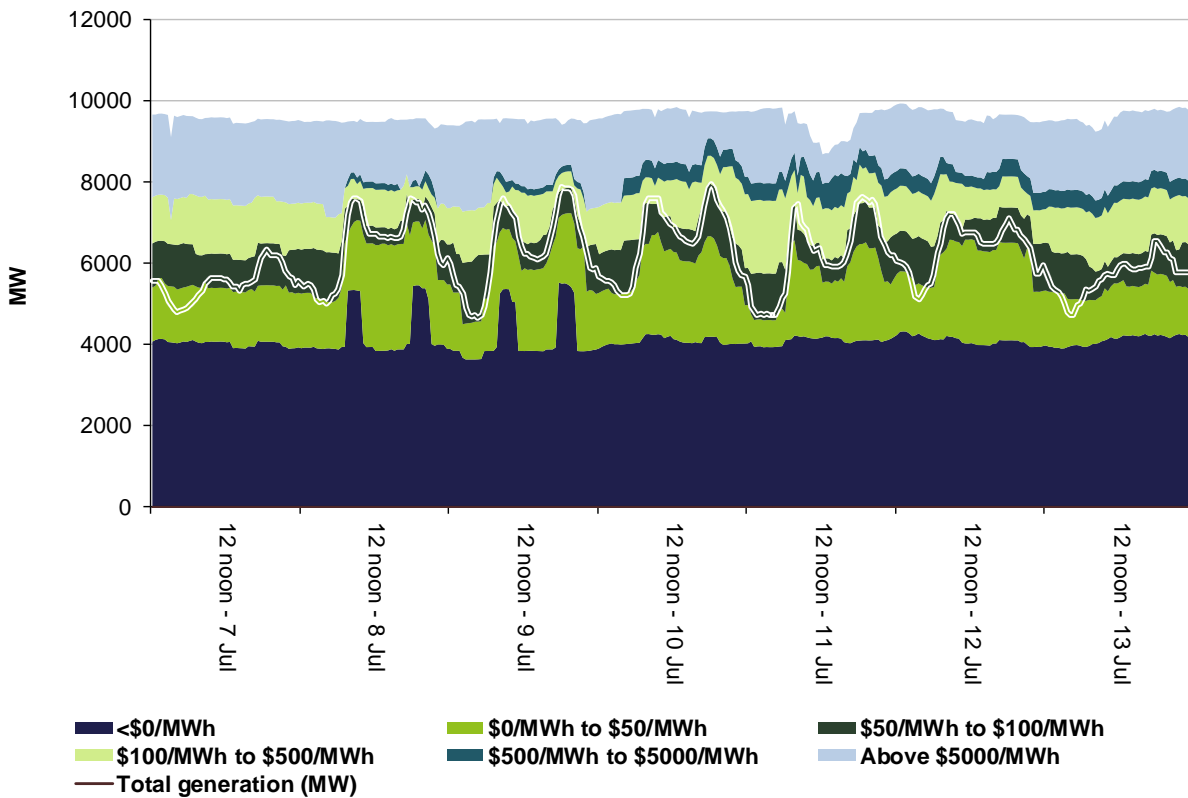


Figure 5: South Australia generation and bidding patterns

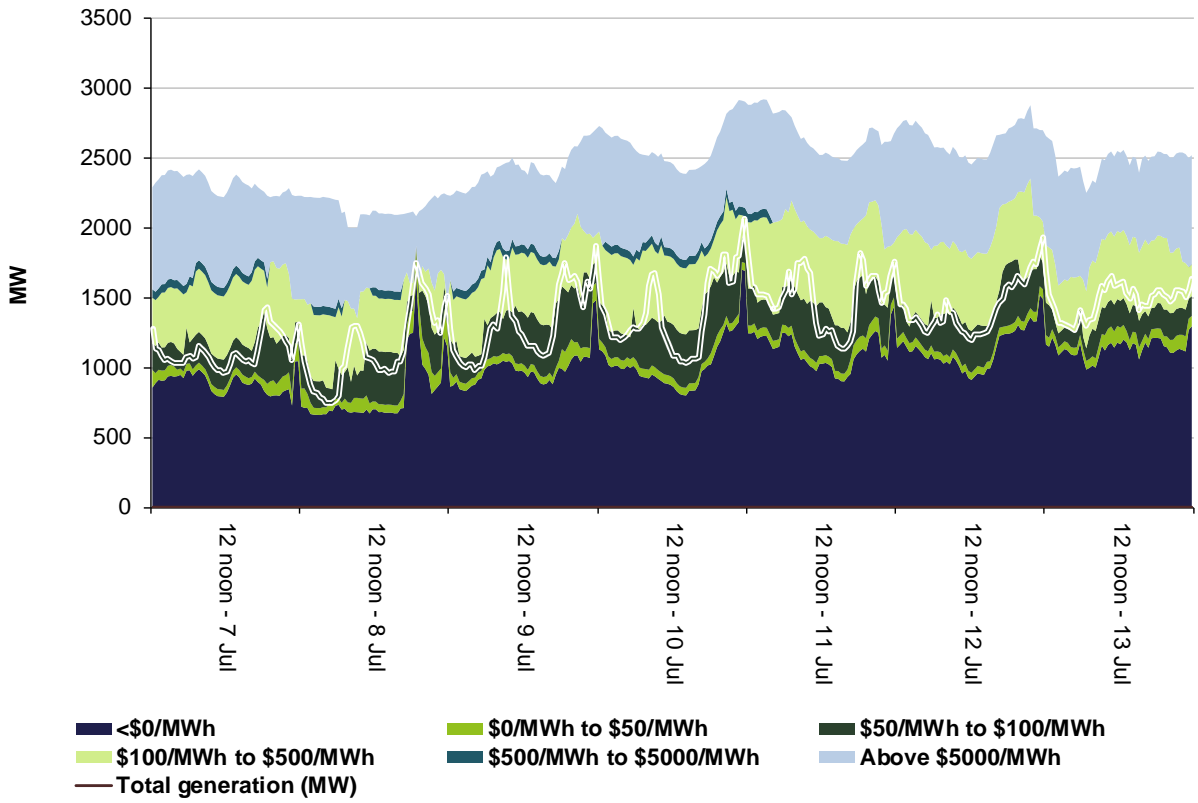
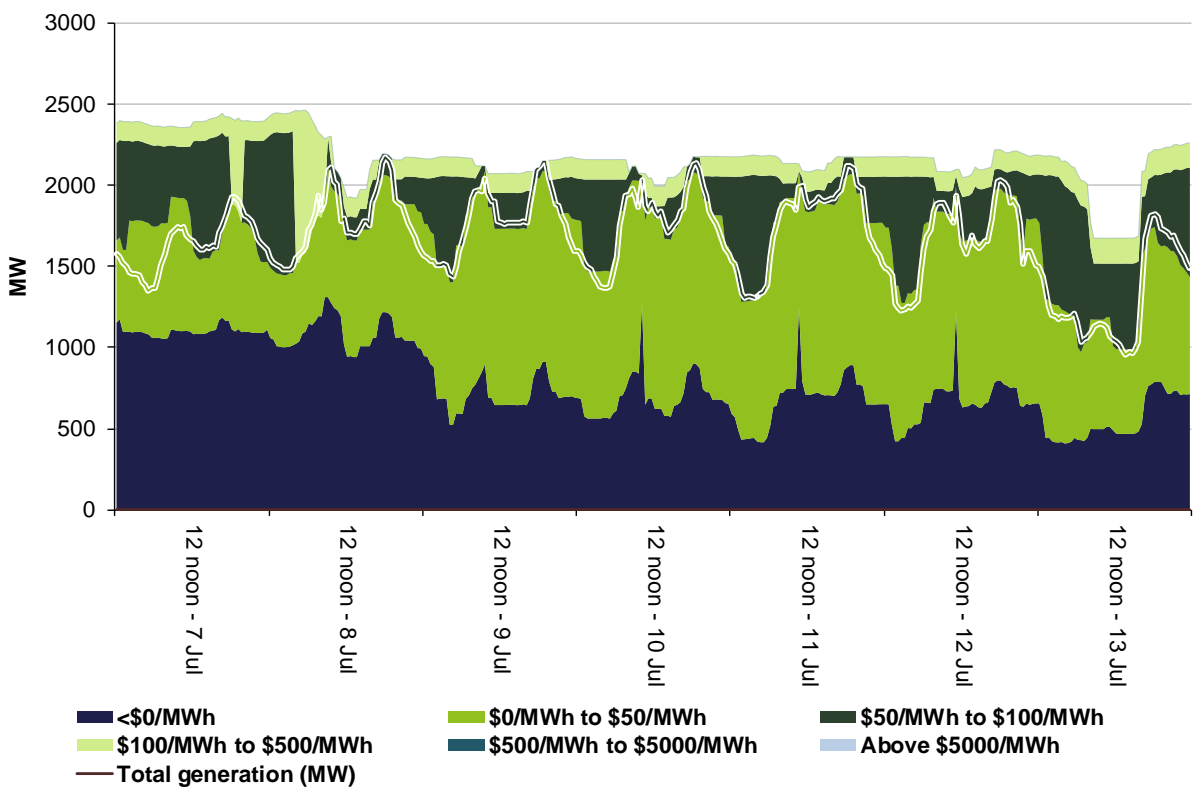


Figure 6: Tasmania generation and bidding patterns



Frequency control ancillary services markets

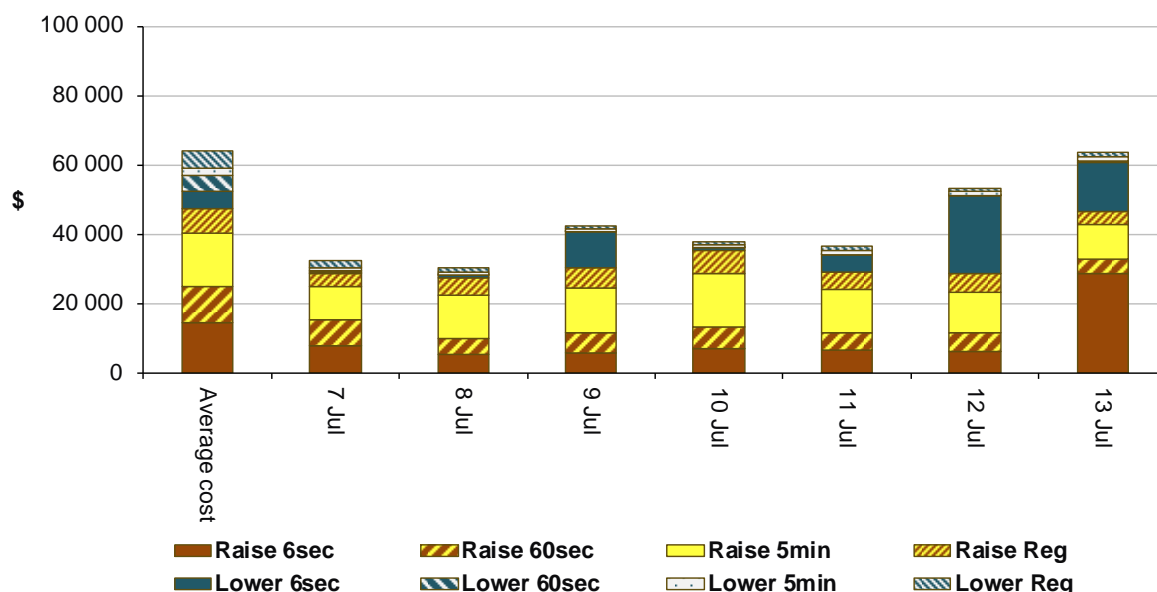
Frequency control ancillary services (FCAS) are required to maintain the frequency of the power system within the frequency operating standards. Raise and lower regulation services are used to address small fluctuations in frequency, while raise and lower contingency services are used to address larger frequency deviations. There are six contingency services:

- *fast services*, which arrest a frequency deviation within the first 6 seconds of a contingent event (raise and lower 6 second)
- *slow services*, which stabilise frequency deviations within 60 seconds of the event (raise and lower 60 second)
- *delayed services*, which return the frequency to the normal operating band within 5 minutes (raise and lower 5 minute) at which time the five minute dispatch process will take effect.

The Electricity Rules stipulate that generators pay for raise contingency services and customers pay for lower contingency services. Regulation services are paid for on a “causer pays” basis determined every four weeks by AEMO.

The total cost of FCAS on the mainland for the week was \$257 000, or less than one per cent of energy turnover on the mainland. In Tasmania (which requires dedicated services for much of the time) the total cost for the week was \$62 500 or less than one per cent of energy turnover in Tasmania. Figure 7 shows the daily breakdown of costs for each service, as well as the average daily costs for the previous financial year.

Figure 7: Daily frequency control ancillary service cost



Detailed market analysis of significant price events

We provide more detailed analysis of events where the spot price was greater than three times the average weekly price in a region and above \$250/MWh or was below -\$100/MWh.

There were two such occasions during this week, which occurred in South Australia on Monday 8 July. The tables below shows actual South Australian price, demand and available capacity outcomes compared to those forecast 4 and 12 hour ahead.

Table 3: South Australia, Monday 8 July

9:00 AM	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	283.25	199.99	187.29
Demand (MW)	1919	1871	1828
Available capacity (MW)	2002	2102	2116

Conditions at the time saw demand 48 MW higher than that forecast four hours ahead and available capacity 100 MW lower than forecast.

Over two rebids at 6.28 am and 6.30 am, Origin Energy rebid a total of 50 MW of capacity at Quarantine units two and three unavailable after they failed to start. All of this capacity was priced below \$60/MWh.

This along with an increase in demand saw the 5 minute price reach around \$300/MWh for most the trading interval.

There was no other significant rebidding.

Table 4: South Australia, Monday 8 July

7:00 PM	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	1948.97	300.07	11 029.70
Demand (MW)	2136	2229	2234
Available capacity (MW)	2079	2262	2243

Conditions at the time saw demand around 95 MW and available capacity around 180 MW lower than that forecast four hours ahead.

With no capacity priced between \$300/MWh and \$10 800/MWh, any reductions in import capability, rebidding of capacity into high price bands or increases in demand, had the potential to result in a significant jump in the spot price.

The change in forecast price between the 12 and 4 hours ahead forecast was due to the commitment of two of Origin Energy's Quarantine units for a total of 50 MW.

At 6.28 pm, effective from 6.35 pm, GDF Suez rebid Dry Creek unit two unavailable for a total of 50 MW (5 MW at the price floor and 45 MW at \$11 042/MWh) when the unit failed to start.

At 6.33 pm, effective from 6.40 pm, EnergyAustralia rebid 55 MW of capacity at Hallett from zero to prices above \$10 800/MWh. The reason given was "Band adj due to IC constraint SL". This saw the 5 minute price at 6.40 pm reach \$11 030/MWh.

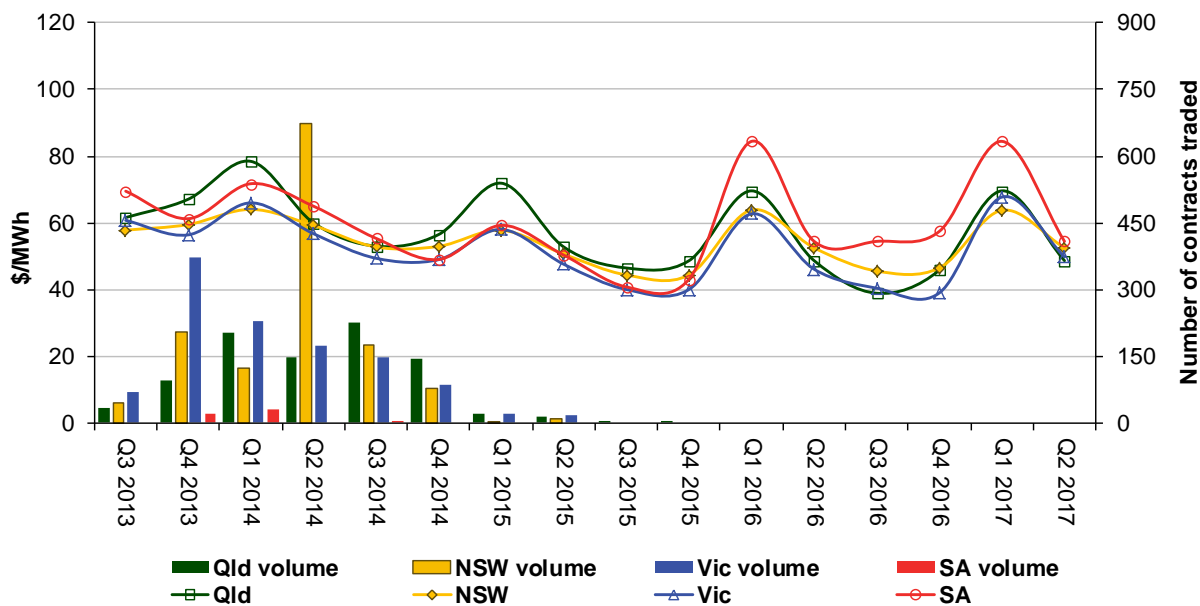
In response to the high price there was an apparent demand side response of around 100 MW as the result of an increase in non-scheduled generation at Angaston and Port Stanvac. Participants also rebid capacity into low prices which returned prices to previous levels.

There was no other significant rebidding.

Financial markets

Figure 8 shows for all mainland regions the prices for base contracts (and total traded quantities for the week) for each quarter for the next four financial years.

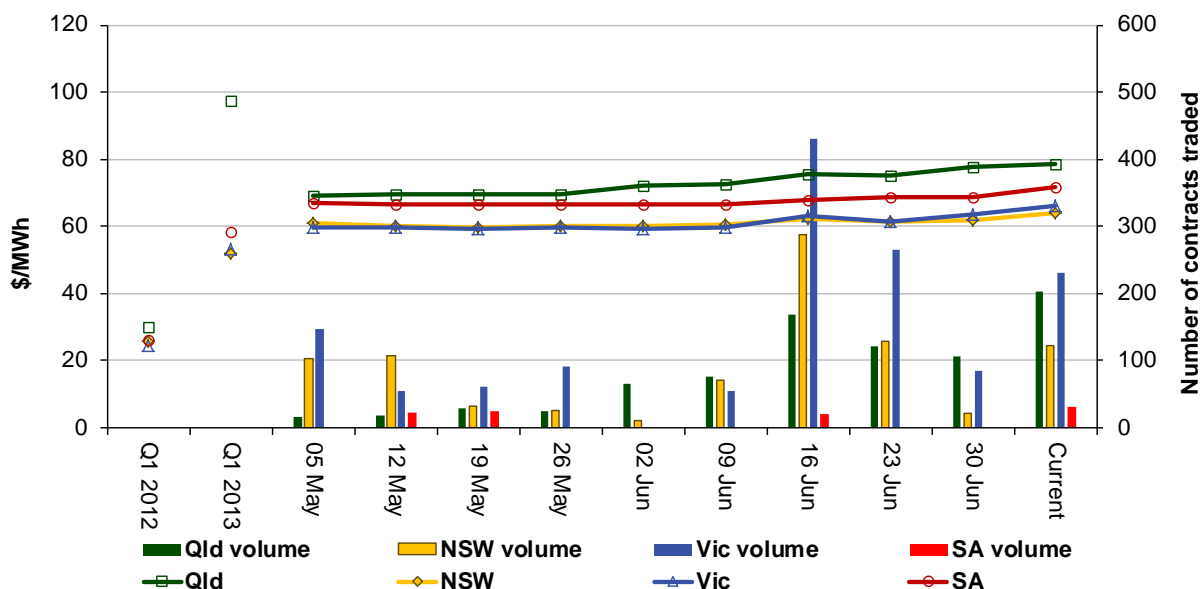
Figure 8: Quarterly base future prices Q3 2013 – Q2 2017



Source: ASXEnergy.com.au

Figure 9 shows how the price for each regional Quarter 1 2014 base contract has changed over the last 10 weeks (as well as the total number of trades each week). The closing Quarter 1 2012 and Quarter 1 2013 prices are also shown.

Figure 9: Price of Q1 2014 base contracts over the past 10 weeks (and the past 2 years)



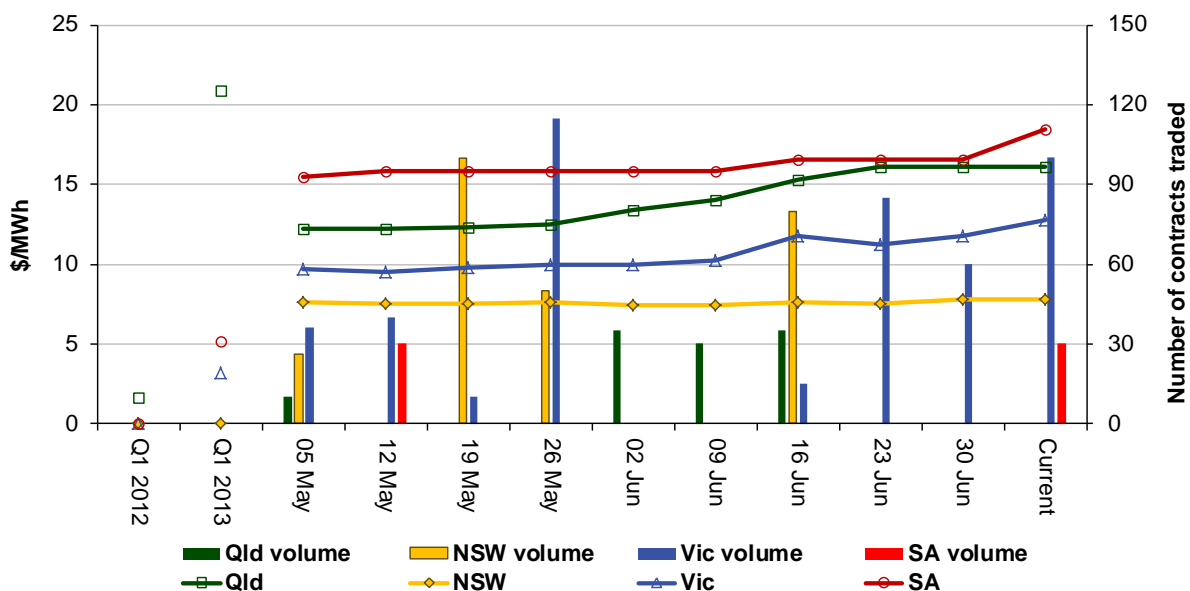
Note: Base contract prices are shown for each of the current week and the previous 9 weeks, with average prices shown for yearly periods 1 and 2 years prior to the current year

Source: ASXEnergy.com.au

Prices of other financial products (including longer-term price trends) are available in the [Performance of the Energy Sector](#) section of our website.

Figure 10 shows how the price for each regional Quarter 1 2014 cap contract has changed over the last 10 weeks (as well as the total number of trades each week). The closing Quarter 1 2012 and Quarter 1 2013 prices are also shown. The cap contracts limit exposure to extreme spot prices (above \$300/MWh) and is an indicator of the cost of risk management.

Figure 10: Price of Q1 2014 cap contracts over the past 10 weeks (and the past 2 years)



Source: ASXEnergy.com.au

Australian Energy Regulator

July 2013