Electricity Report

6 to 12 July 2014

AUSTRALIAN ENERGY REGULATOR

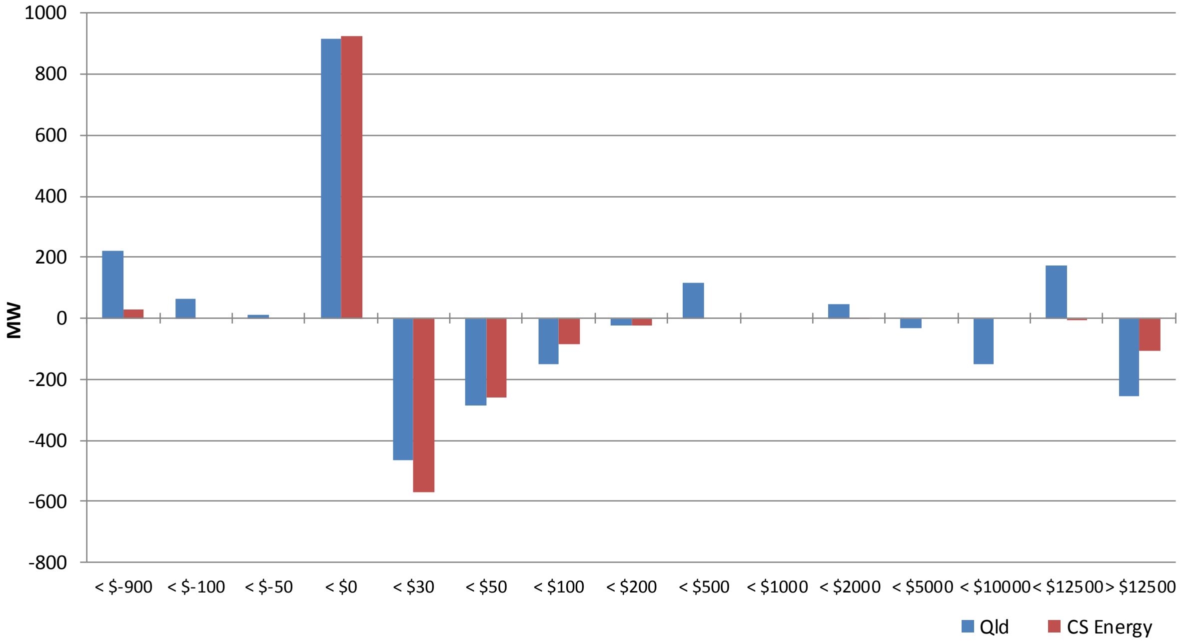
Introduction

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

The increase in the level of capacity offered at prices just below zero from June, as observed in the previous weekly from 1 July, has continued this week. Weekly spotlight Figure 1 shows the average change in capacity in price thresholds in Queensland and by CS Energy in the last two weeks in June and until 13 July.

Spotlight Figure 1: Average change in Queensland capacity in price thresholds ($/MWh)



As can be seen form the figure, the majority of the increase in capacity in Queensland in prices between zero and $-50/MWh (around 900 MW) can be attributed to changes by CS Energy and came from prices between zero and $100/MWh. The increase in the level of low priced capacity has had an impact on the average volume weighted spot price, which has fallen from $55/MWh during the last two weeks of June to $37/MWh in July.

Spot market prices

Figure 1 shows the spot prices that occurred in each region during the week 6 to 12 July 2014. The spot price reached $2276/MWh in South Australia on 6 July.

 AER reference: 39220 – D14/95052

Figure 1: Spot price by region ($/MWh)

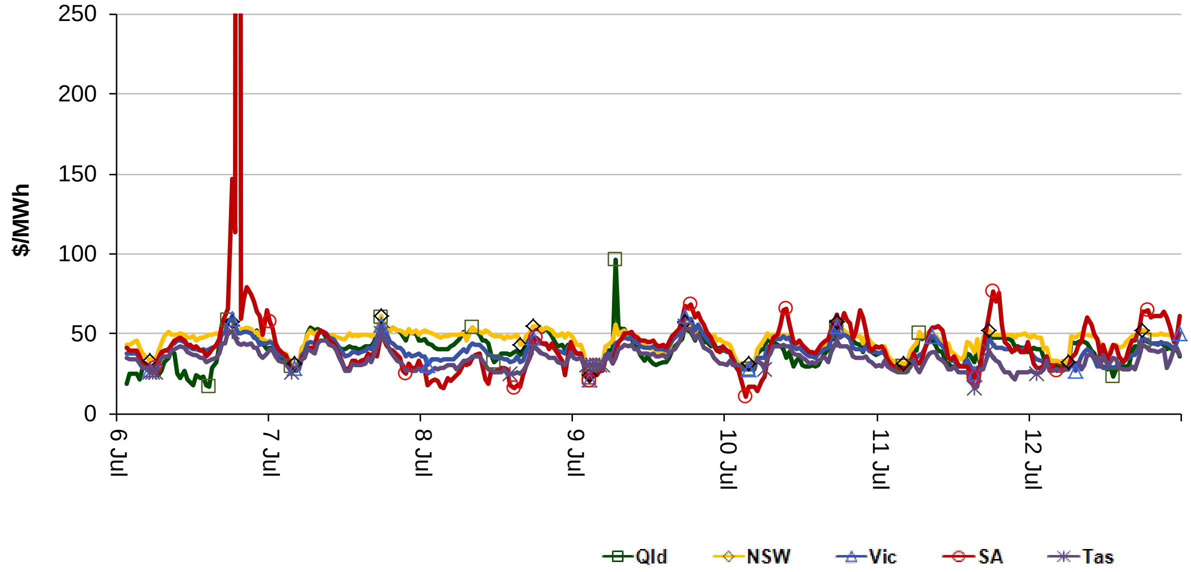


Figure 2 shows the volume weighted average (VWA) prices for the current week (with prices shown in Table 1) and the preceding 12 weeks, as well as the VWA price over the previous 3 financial years.

Figure 2: Volume weighted average spot price by region ($/MWh)

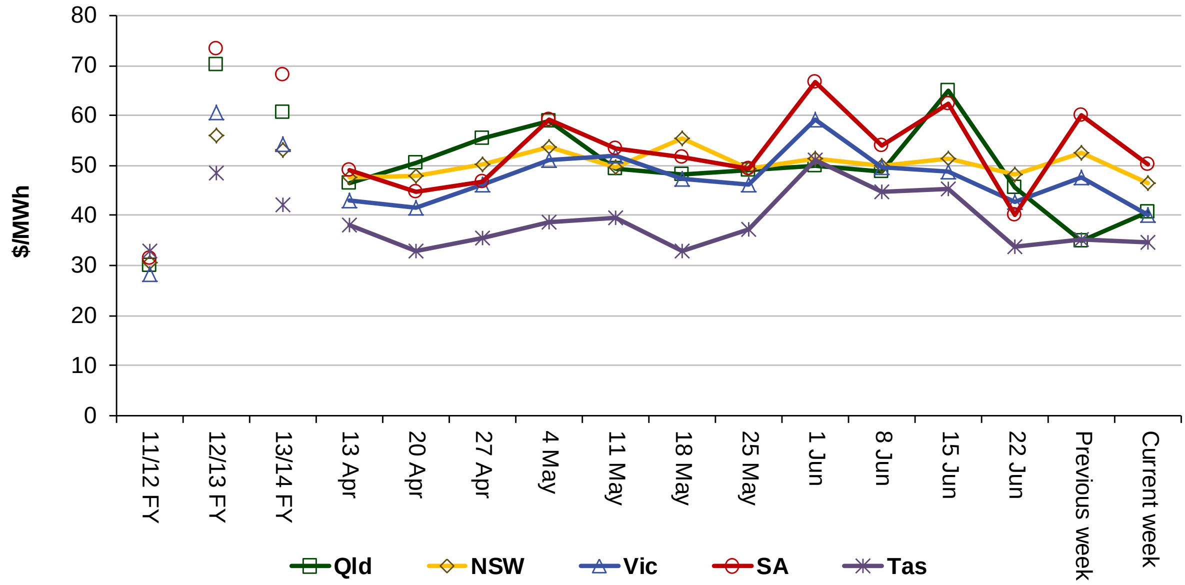


Table 1: Volume weighted average spot prices by region ($/MWh)

Region	Qld	NSW	Vic	SA	Tas
Current week	41	47	40	50	35
13-14 financial YTD	62	61	61	75	48
14-15 financial YTD	37	50	44	55	35

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 43 trading intervals throughout the week where actual prices varied significantly from forecasts. This compares to the weekly average in 2013 of 97 counts and the average in 2012 of 60. 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

	Availability	Demand	Network	Combination
% of total above forecast	3	5	0	0
% of total below forecast	43	42	0	8

Note: Due to rounding, the total may not be 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 3 to 7 show, the total generation dispatched and the amounts of capacity offered within certain price bands for each 30 minute trading interval in each region.

The red ellipse on Figure 6 highlights a period where there was little or no capacity offered in the $50-$500/MWh band, which coincides with a high price in South Australia and is further discussed in the analysis section.

Figure 3: Queensland generation and bidding patterns

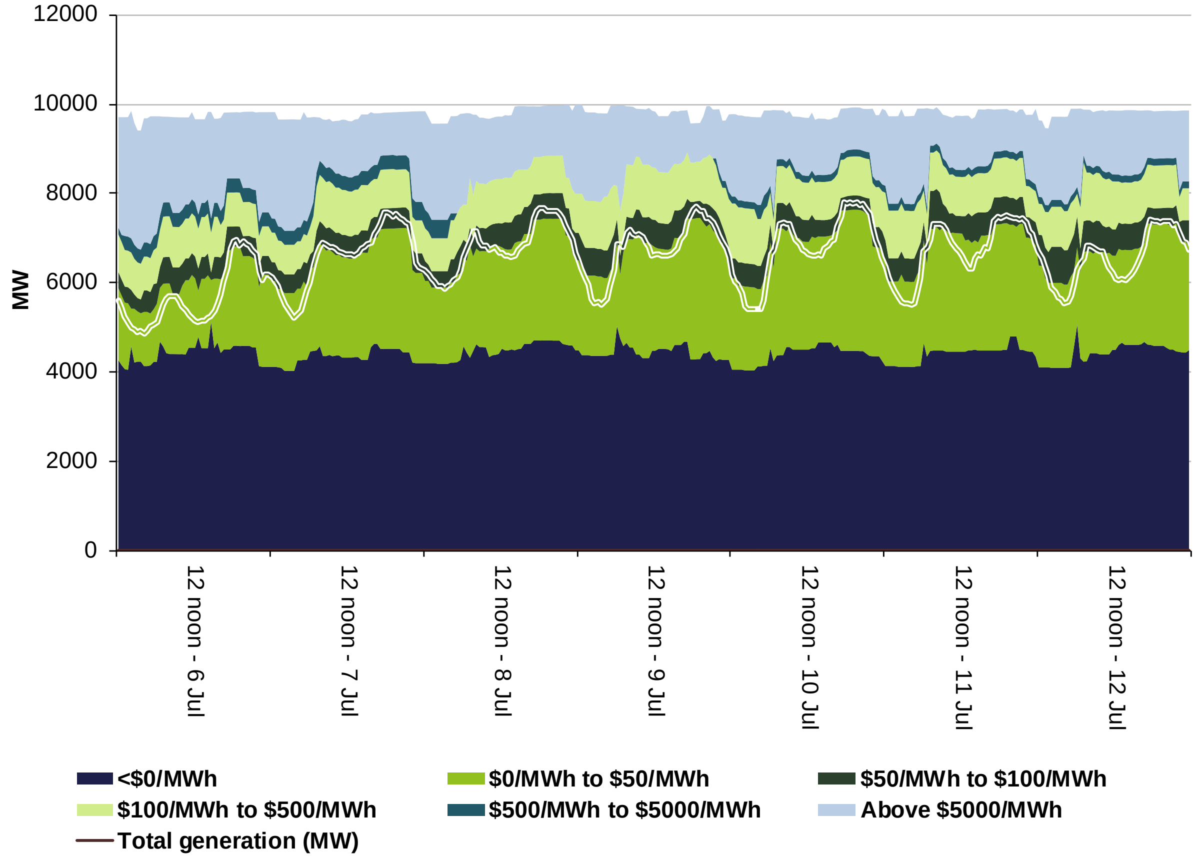


Figure 4: New South Wales generation and bidding patterns

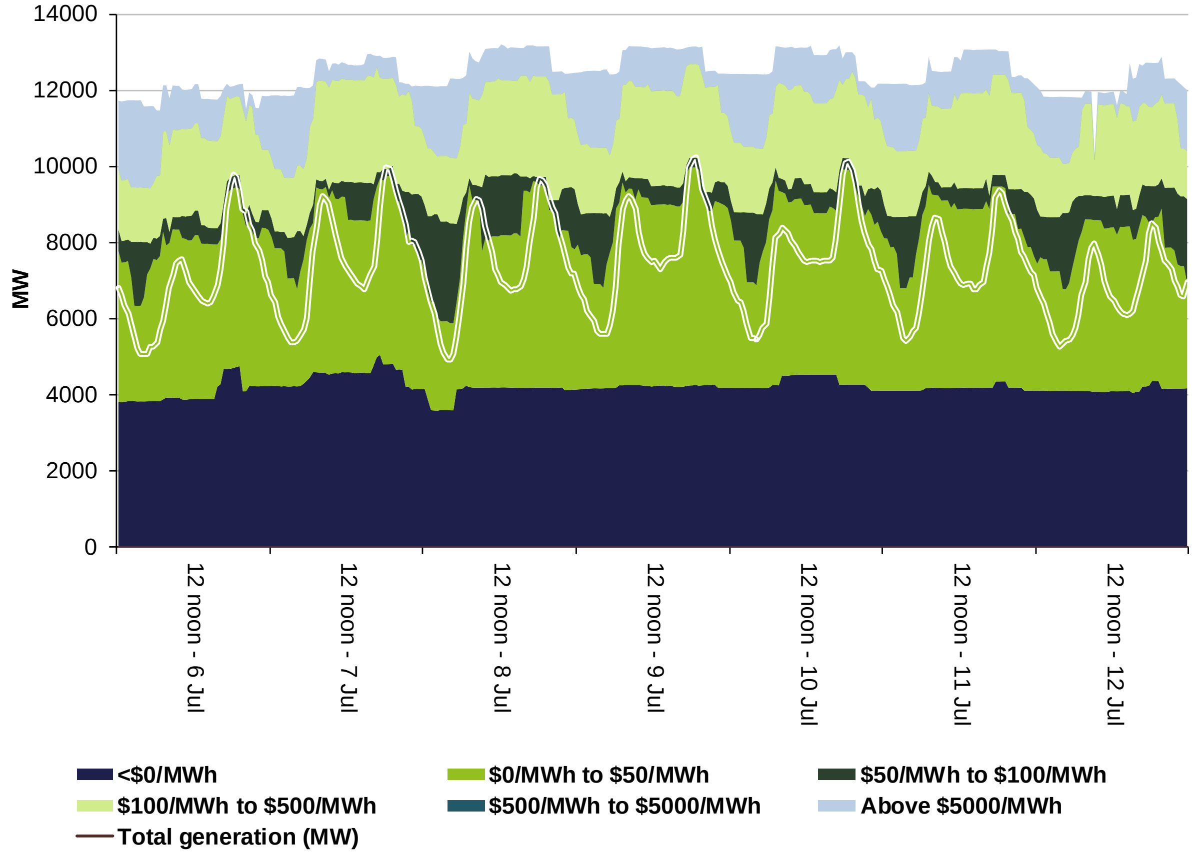


Figure 5: Victoria generation and bidding patterns

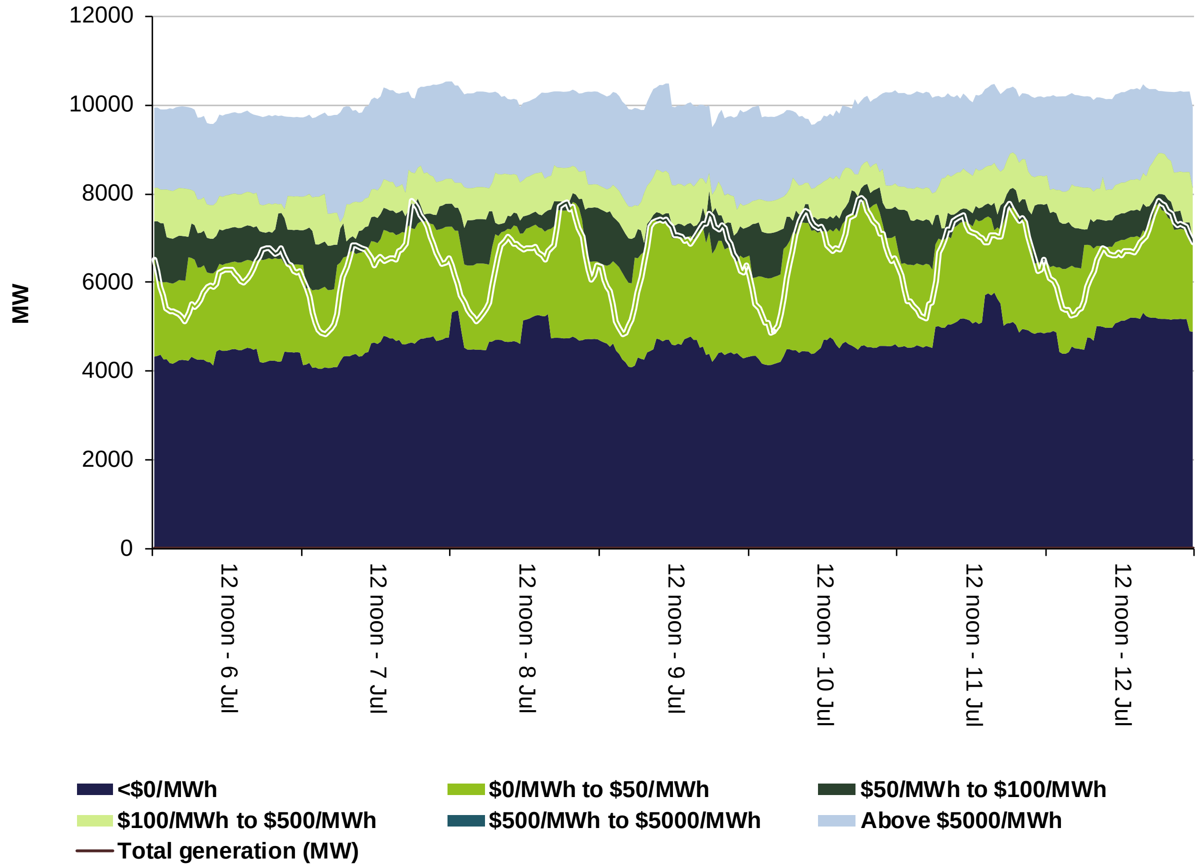


Figure 6: South Australia generation and bidding patterns

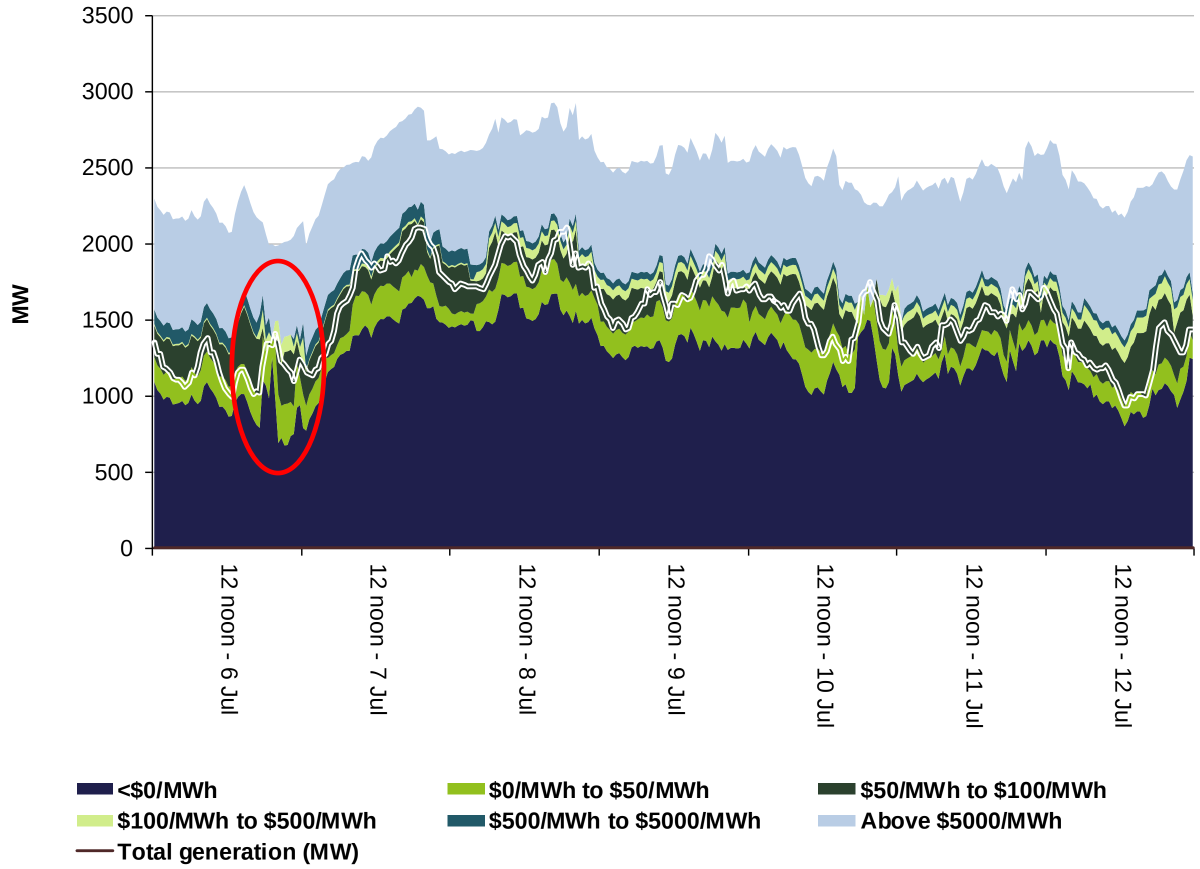
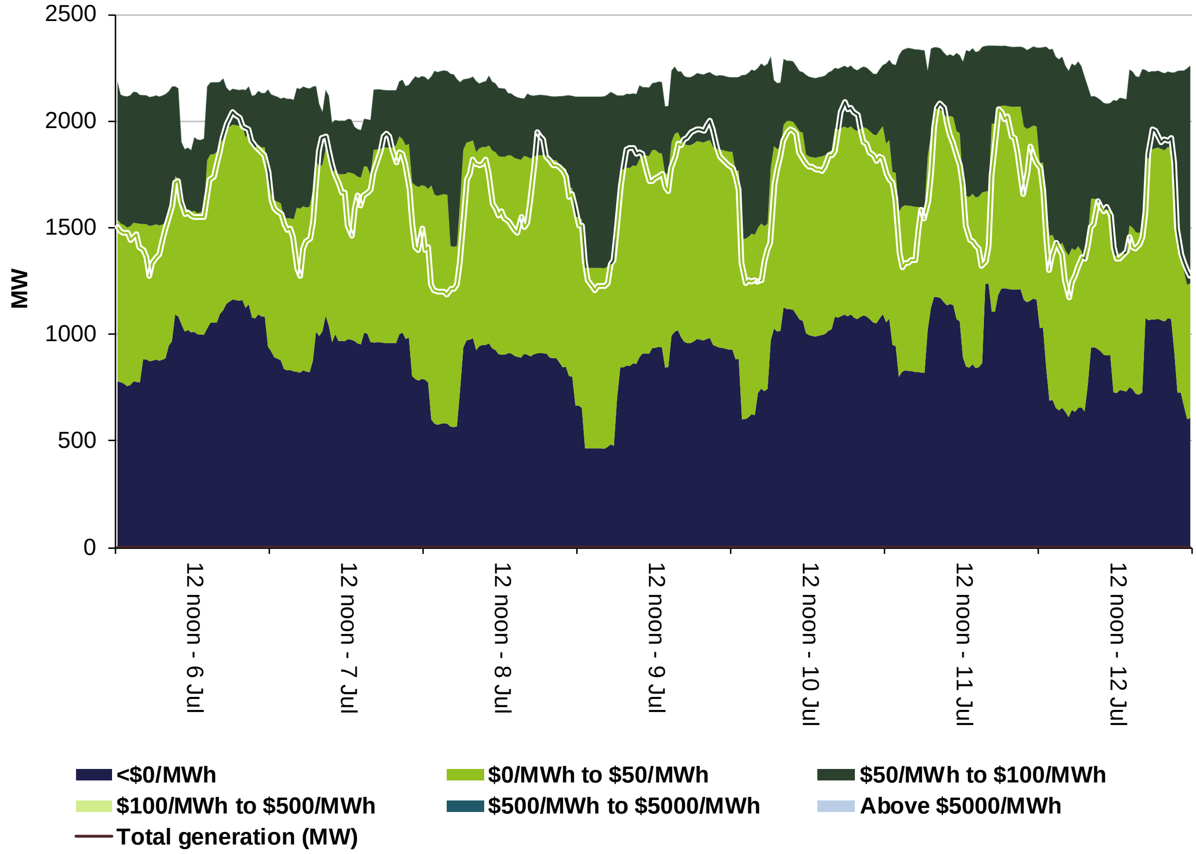


Figure 7: Tasmania generation and bidding patterns



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.

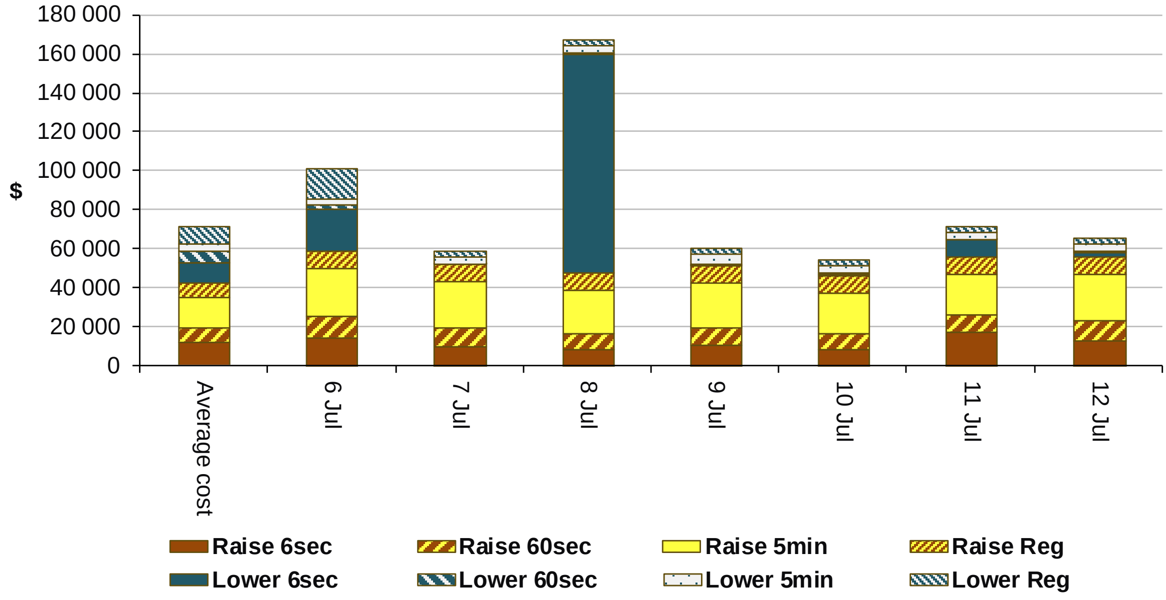
The Electricity Rules stipulate that generators pay for raise contingency services and customers pay for lower contingency services. Regulation services are paid for on a “causer pays” basis determined every four weeks by AEMO.

The total cost of FCAS on the mainland for the week was $427 000 or less than 1 per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was $149 000 or 2 per cent of energy turnover in Tasmania. A majority of this cost, $112 000, was accrued on 8 July in lower 6 second services. On 8 July at 1.25 am, after Basslink entered the no-go zone triggering a constraint which sets local requirements for FCAS lower 6 second services in Tasmania, violated. The requirement for lower 6 second services increased from zero at 1.20 am to 188 MW at 1.25 am. The co-optimisation between energy and FCAS markets resulted in the price reaching $7183/MW at 1.25 am.

Figure 8 shows the daily breakdown of cost for each FCAS for the NEM, as well as the average cost since the beginning of the previous financial year.

Figure 8: 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 weekly average price in a region and above $250/MWh or was below -$100/MWh.

There was one occasion where the spot price in South Australia was greater than three times the South Australia weekly average price of $50/MWh and above $250/MWh.

Table 3: South Australia, Sunday 6 July

Time	Price ($/MWh)			Demand (MW)			Availability (MW)		
	Actual	4 hr forecast	12 hr forecast	Actual	4 hr forecast	12 hr forecast	Actual	4 hr forecast	12 hr forecast
7.30 PM	2275.88	85.04	87.48	1812	1862	1916	1988	2160	2094

Conditions at the time saw demand and available capacity close to that forecast.

At 6.57 pm, effective from 7.05 pm, AGL rebid a total of 140 MW of available capacity at Torrens B 2 and 3 from the price floor to the price cap. The reason given was “18:55A chg in dispatch::price increase vs PD SA $292 vs $74”.

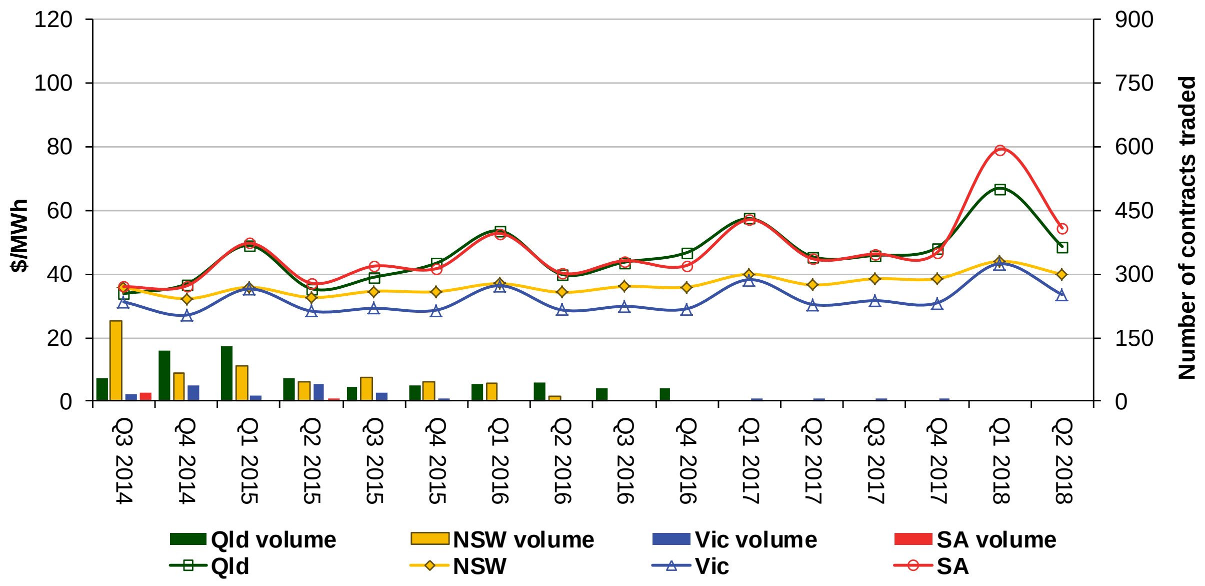
Also at 6.57 pm, effective from 7.05 pm, Energy Australia rebid 130 MW of available capacity at Hallett from prices between $296/MWh and $11 000/MWh to $13 090/MWh. The reason given was “18:56 A adj bands mat chg $SA and 5MPD @ 1900,1910,1915”.

At 7.20 pm there was a 77 MW increase in demand (mainly due to Angaston and Pt Stanvac reducing output). And the five minute price increased from $77/MWh at 7.15 pm to $13 090/MWh at 7.20 pm (set by Hallett). At 7.25 pm there was a 120 MW decrease in demand (mainly due to Angaston and Pt Stanvac increasing their output) which saw the five minute price return to previous levels.

Financial markets

Figure 9 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.

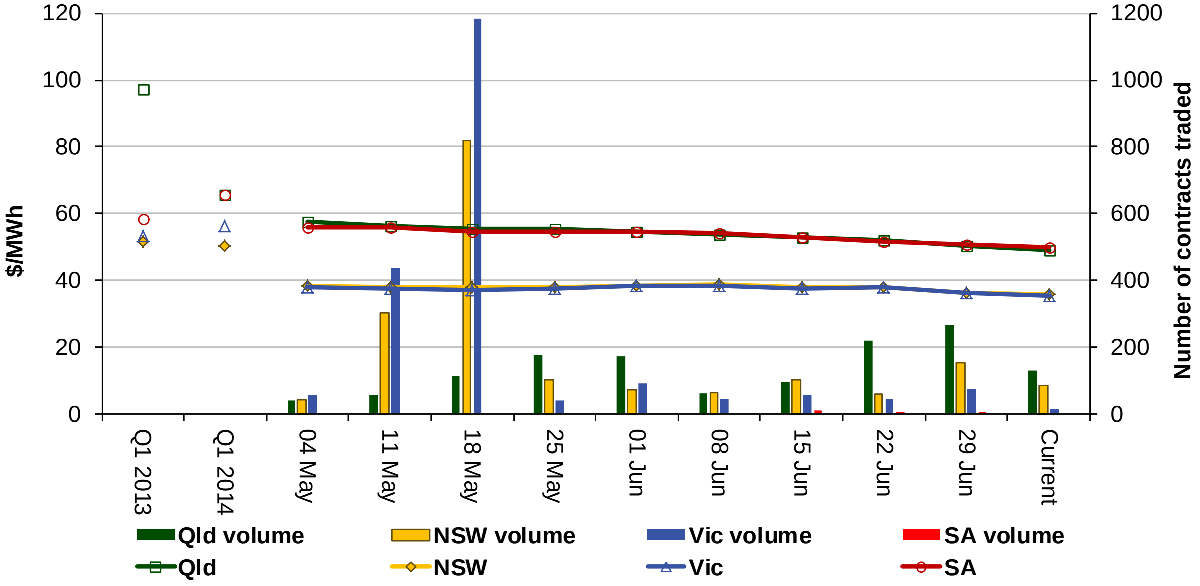
Figure 9: Quarterly base future prices Q3 2014 – Q2 2018



Source: ASXEnergy.com.au

Figure 10 shows how the price for each regional Quarter 1 2015 base contract has changed over the last 10 weeks (as well as the total number of trades each week). The closing quarter 1 2013 and quarter 1 2014 prices are also shown. The AER notes that data for South Australia is less reliable due to very low numbers of trades.

Figure 10: Price of Q1 2015 base contracts over the past 10 weeks (and the past 2 years)



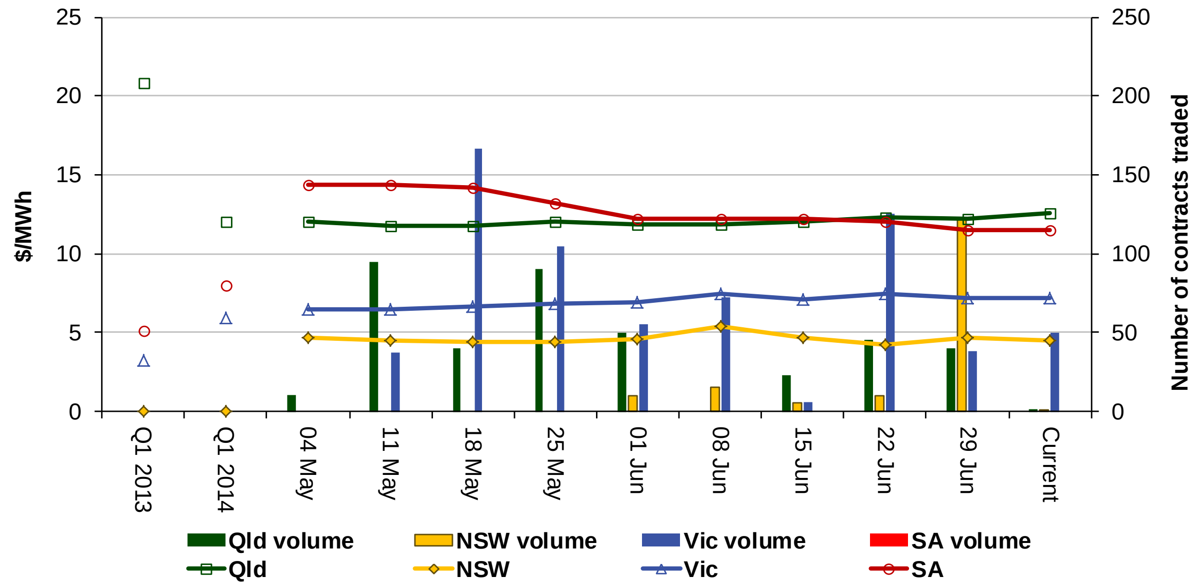
Note: Base contract prices are shown for each of the current week and the previous 9 weeks, with average prices shown for yearly periods 1 and 2 years prior to the current year

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 11 shows how the price for each regional Quarter 1 2015 cap contract has changed over the last 10 weeks (as well as the total number of trades each week). The closing quarter 1 2013 and quarter 1 2014 prices are also shown.

Figure 11: Price of Q1 2015 cap contracts over the past 10 weeks (and the past 2 years)



Source: ASXEnergy.com.au

Australian Energy Regulator

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