Electricity Report

16 to 22 March 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.

Spot market prices

Figure 1 shows the spot prices that occurred in each region during the week 16 to 22 March 2014.

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

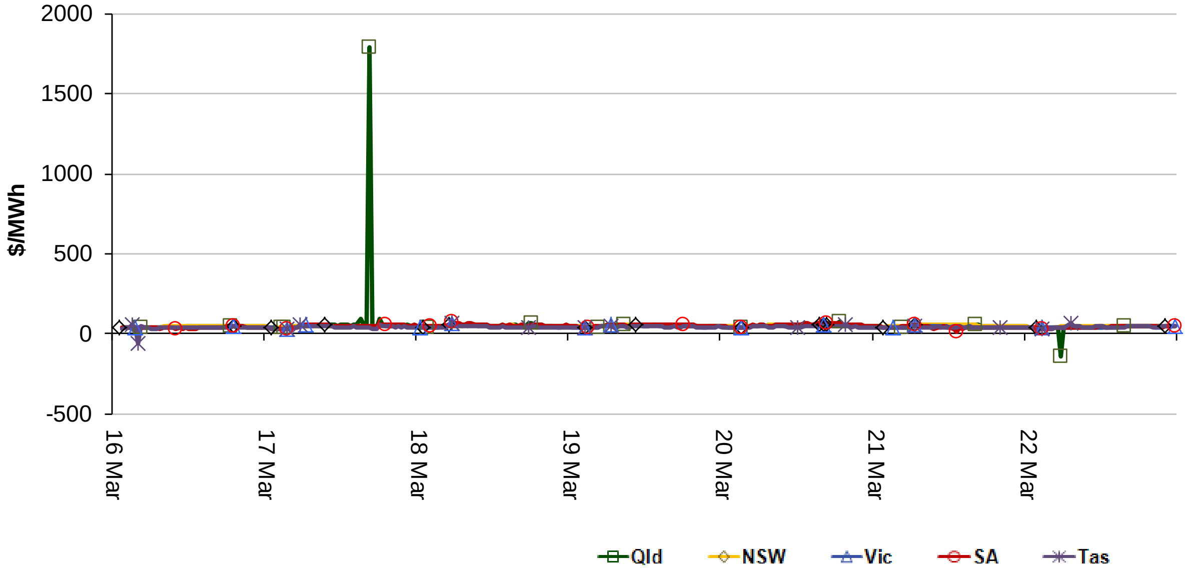


Figure 2 shows the volume weighted average (VWA) prices for the current week (with prices shown in Table 1) and the preceding 12 weeks, as well as the VWA price over the previous 3 financial years.

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

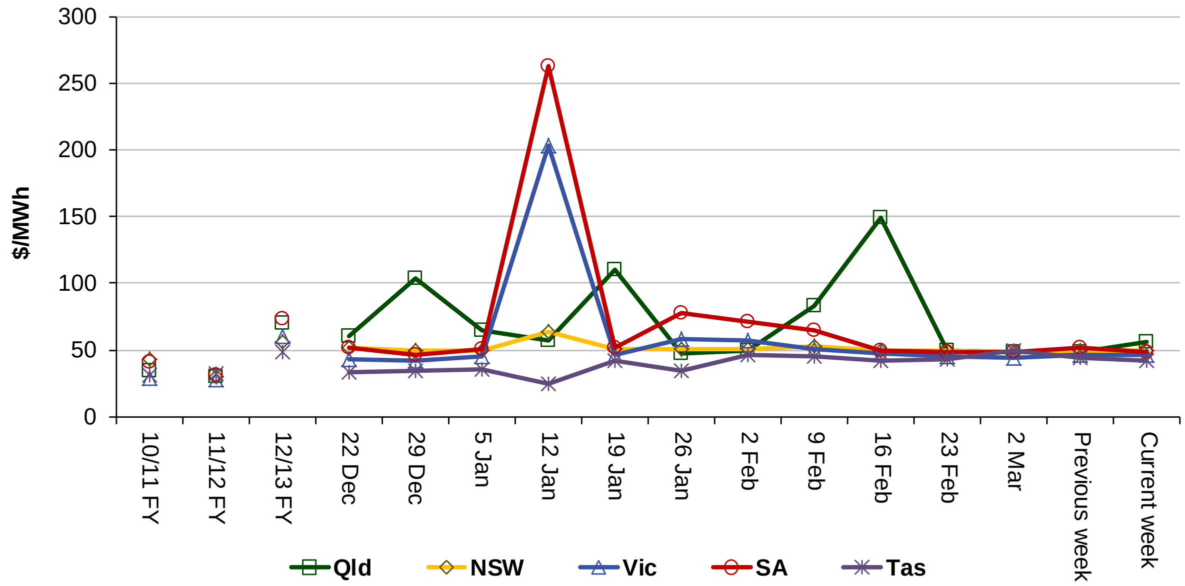


Table 1: Volume weighted average spot prices by region ($/MWh)

Region	Qld	NSW	Vic	SA	Tas
Current week	56	50	46	48	42
12-13 financial YTD	70	56	61	73	49
13-14 financial YTD	64	54	56	73	43

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 15 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	0	27	0	15
% of total below forecast	35	15	8	0

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 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.

Figure 3: Queensland generation and bidding patterns

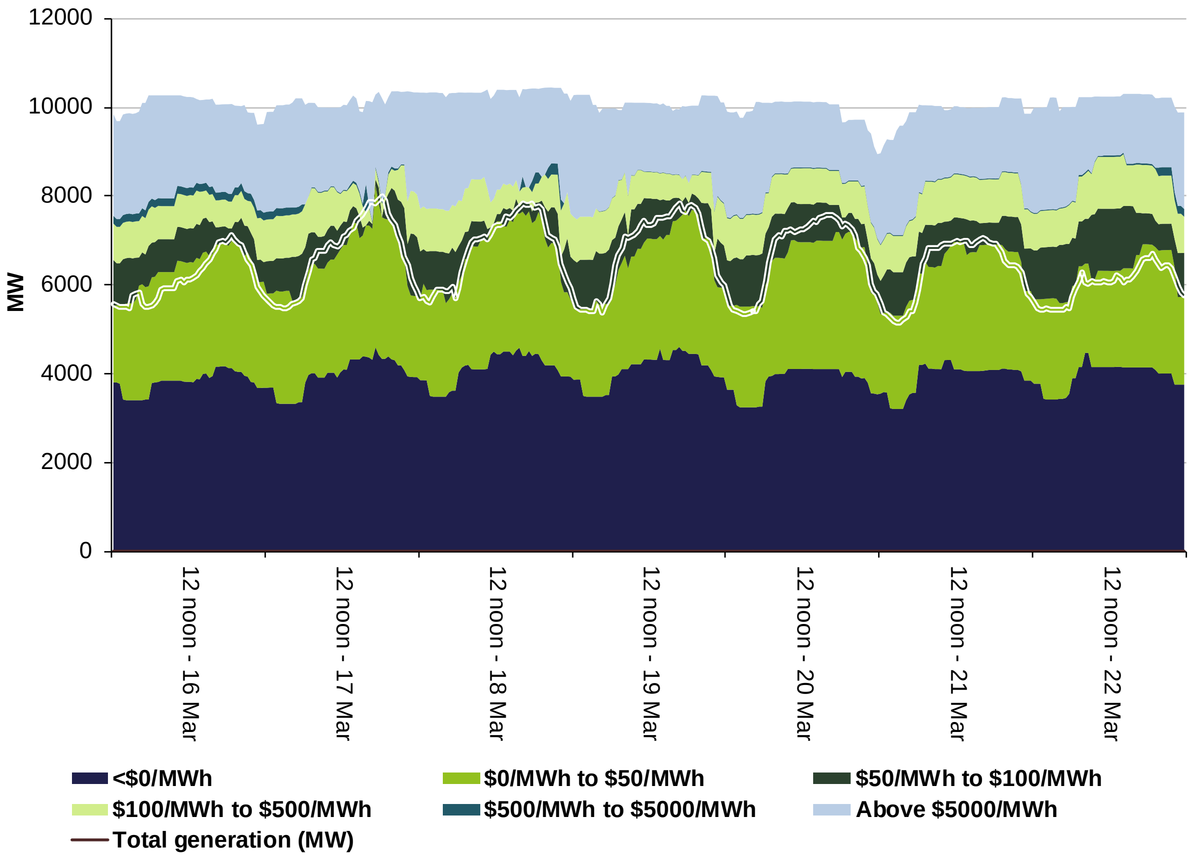


Figure 4: New South Wales generation and bidding patterns

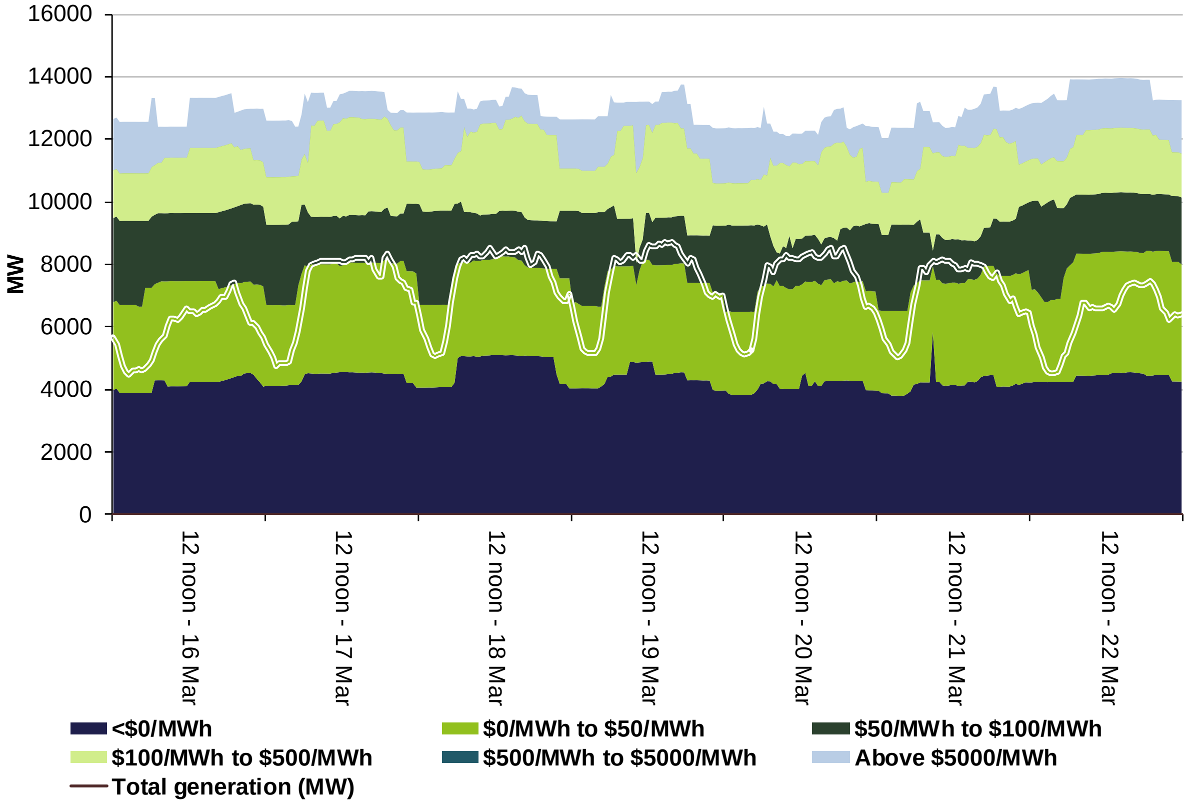


Figure 5: Victoria generation and bidding patterns

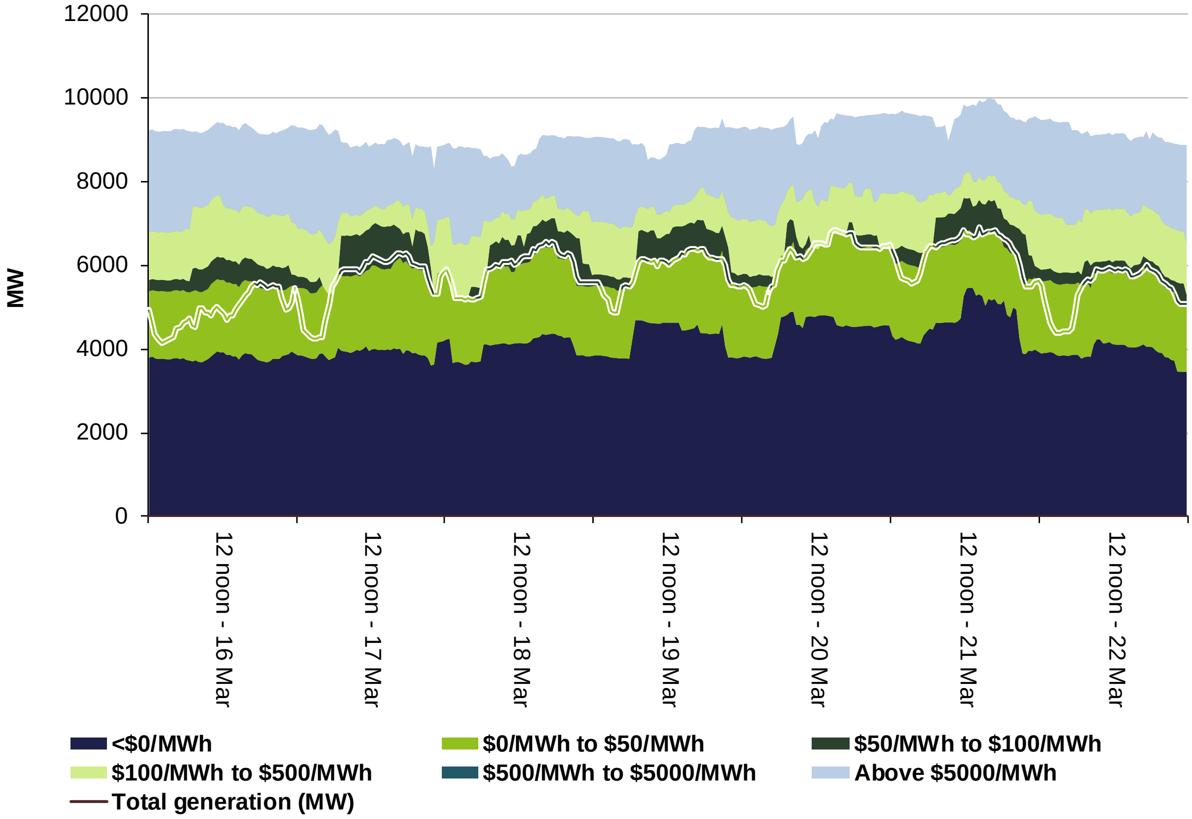


Figure 6: South Australia generation and bidding patterns

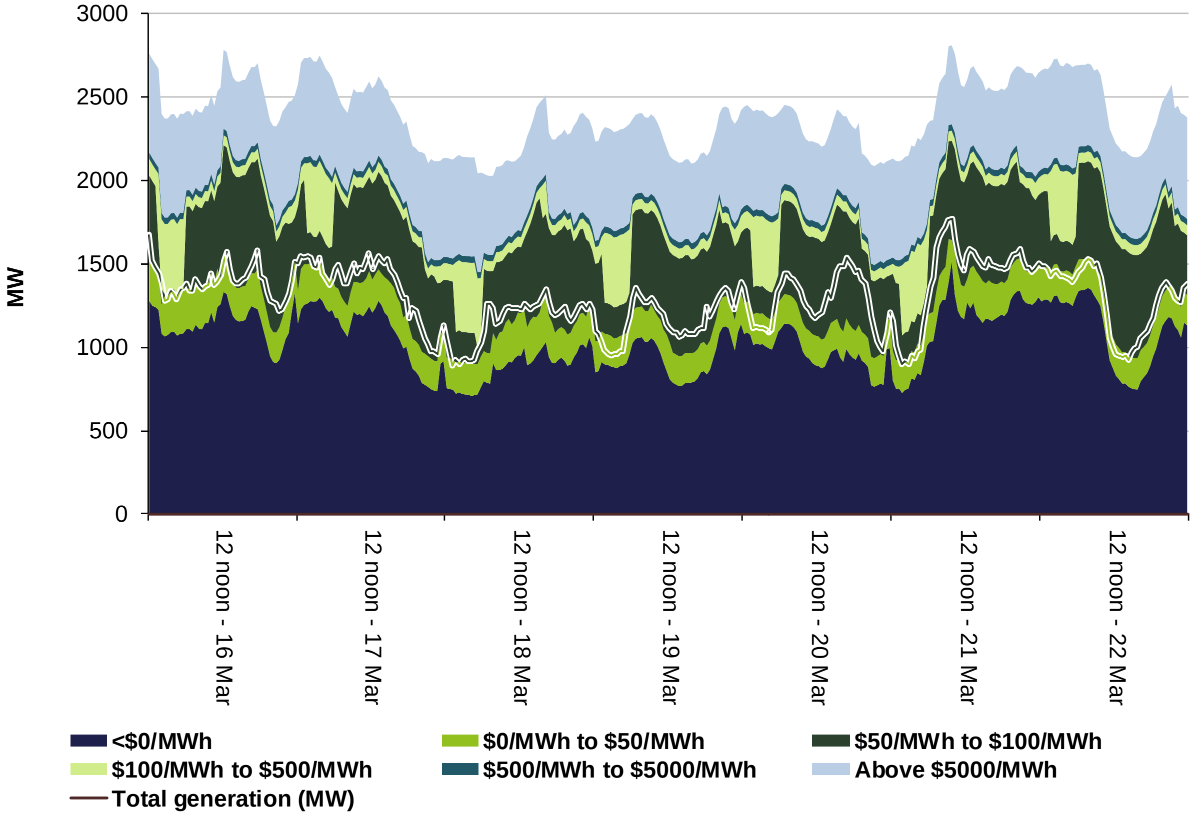
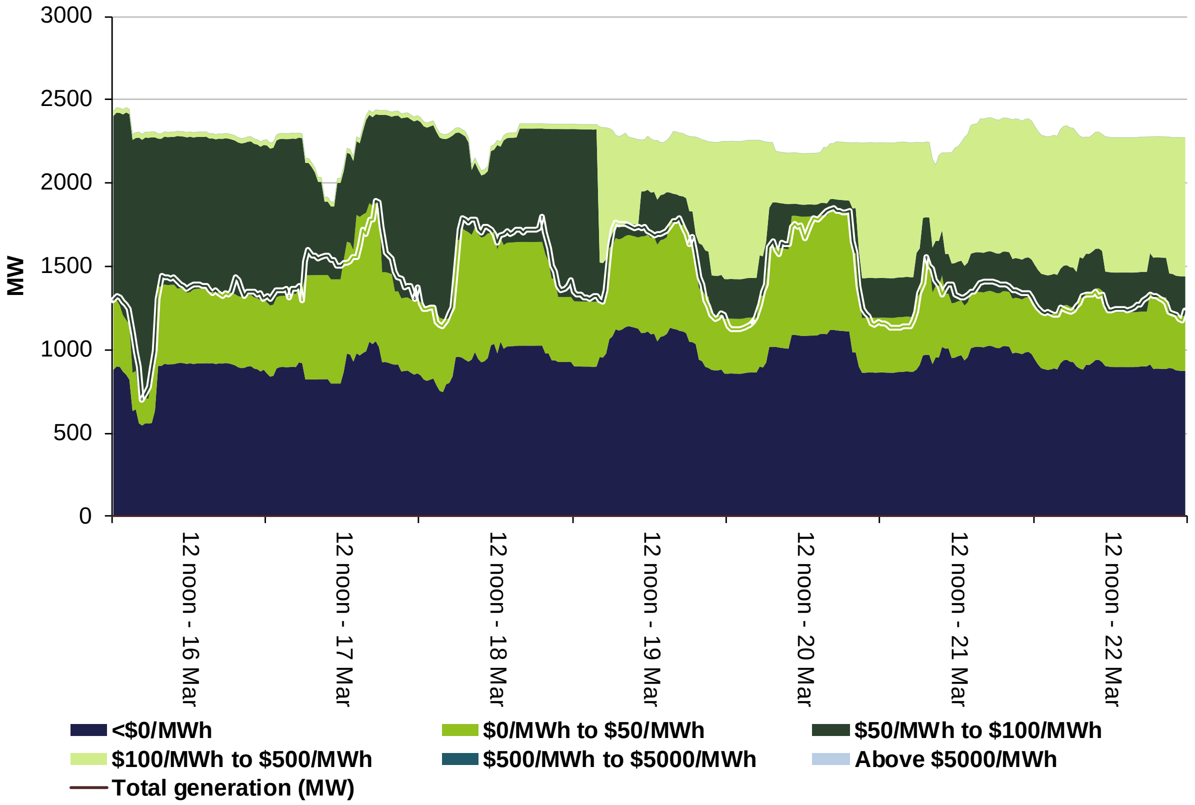


Figure 7: Tasmania generation and bidding patterns



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.

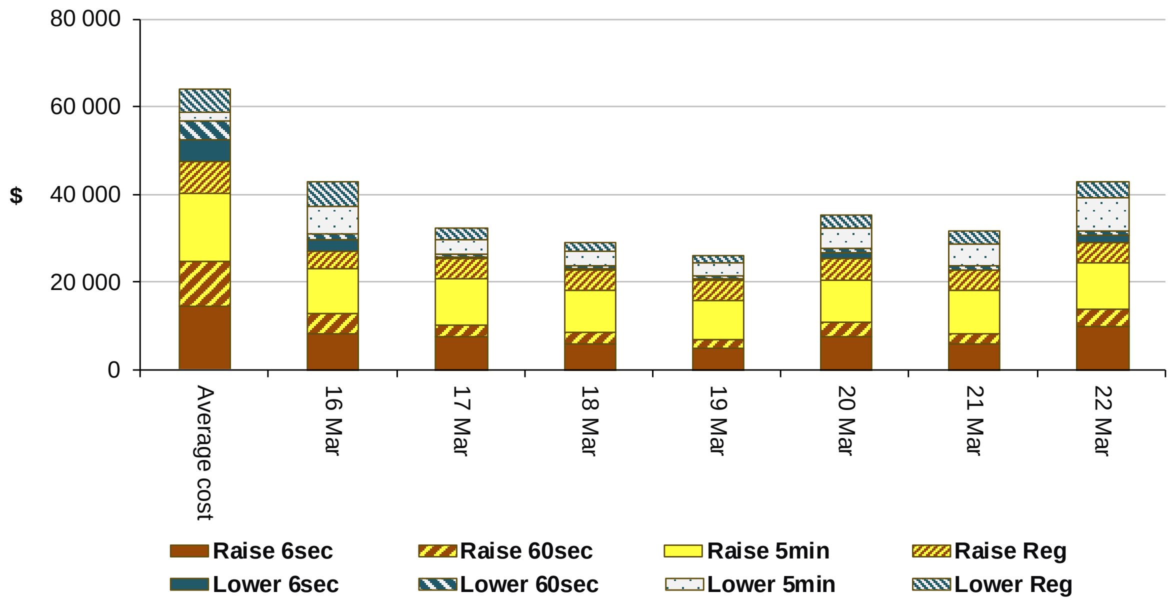
The Electricity Rules stipulate that generators pay for raise contingency services and customers pay for lower contingency services. Regulation services are paid for on a "causer pays" basis determined every four weeks by AEMO.

The total cost of FCAS on the mainland for the week was $208 000 or less than 1 per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was $32 500 or less than 1 per cent of energy turnover in Tasmania.

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 were two such occasions in Queensland as shown below.

Table 3: Queensland, Monday 17 March

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
5 PM	1791.26	57.85	59.22	7550	7496	7594	10 137	10 266	10 434

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

Effective for the 5 pm dispatch interval only, generators in Queensland rebid a total of 866 MW of available capacity to close to the price cap, most of which was priced below $60/MWh (see below table for detailed rebids). This saw the dispatch price increase from $50/MWh at 4.55 pm to $10 500/MWh at 5 pm.

Table 4: Queensland, Monday 17 March for the 5 pm trading interval

Time		Participant	Rebid ($/MWh)			
Submitted	Effective		Volume (MW)	From ($/MWh)	To ($/MWh)	Reason
4.51 pm	5.00 pm	CS Energy/ Gladstone	470	<60	>12 700	1650A dispatch price lower than 30MIN forecast-PE 1700-SL
4.52 pm	5.00 pm	Alinta Energy / Braemar	91	1	10 010	1650A demand 5PD 7551MW V 30PD 7569MW@16:52
4.52 pm	5.00 pm	Stanwell / Portfolio	205	<45	>12 900	1648A change in Qld generation - Gladstone SL
4.53 pm	5.00 pm	AGL/ Oakey	100	<240	12 408	16:31A chg in forecast::PD demand decrease Qld 51MW PE17:00

Table 5: Queensland, Monday 22 March

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
6 AM	-142.20	38.25	40.64	4781	4782	4739	10 004	10 164	10 164

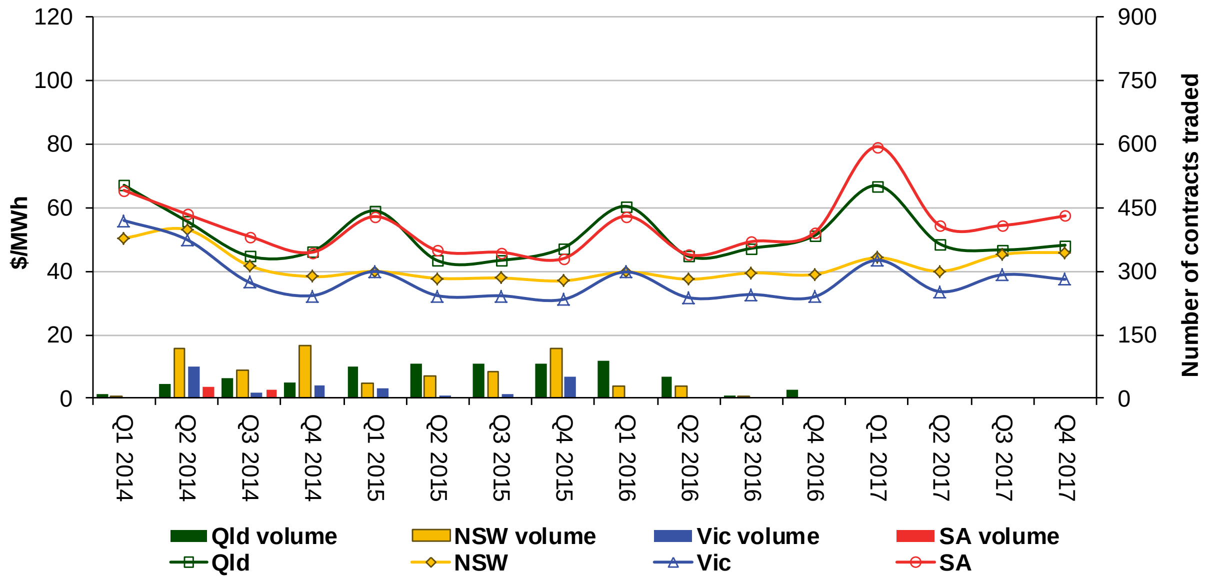
Conditions at the time saw demand and available capacity close to that forecast.

At 5.45 am a ramping constraint was invoked by AEMO in preparation for the outage of the Armidale 330 kV bus, scheduled for 6.15 am. The ramping constraint reduced imports into Queensland on QNI from 399 MW at 5.45 am to 223 MW at 5.55 am. There was also a reduction in demand of 33 MW at 5.55 am leading to excess generation and generation being ramp rate limited as it could not be backed off quickly enough. This saw generation setting the price at the price floor at 5.55 am. At 6 am demand increased by 23 MW and prices returned 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.

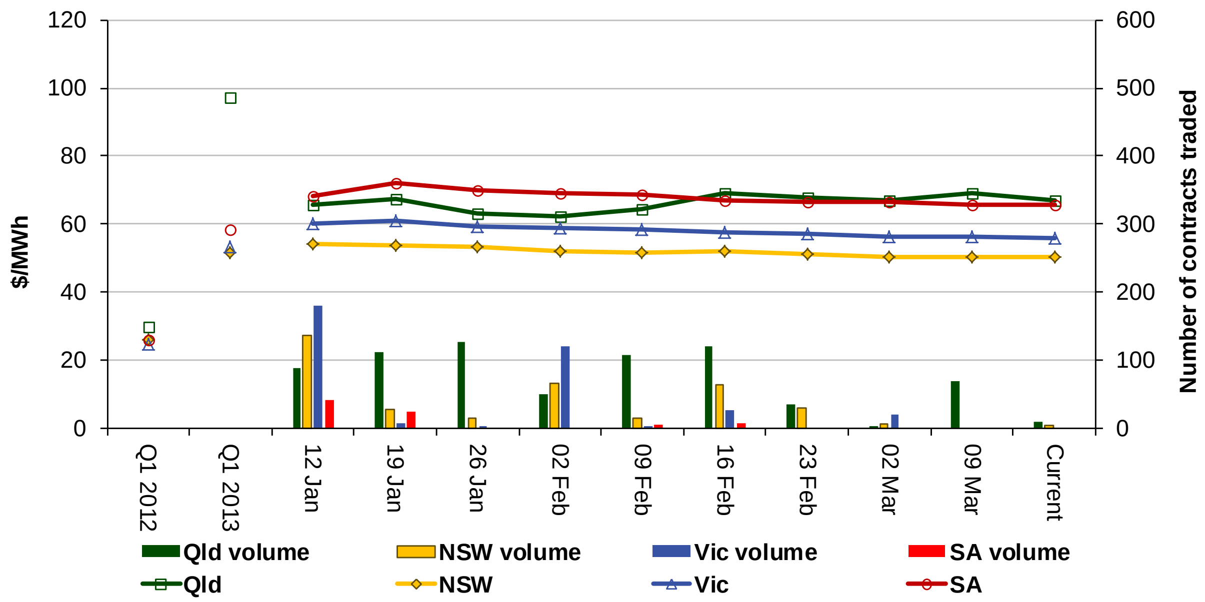
Figure 9: Quarterly base future prices Q1 2014 – Q4 2017



Source: ASXEnergy.com.au

Figure 10 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. The AER notes that data for South Australia is less reliable due to very low numbers of trades.

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



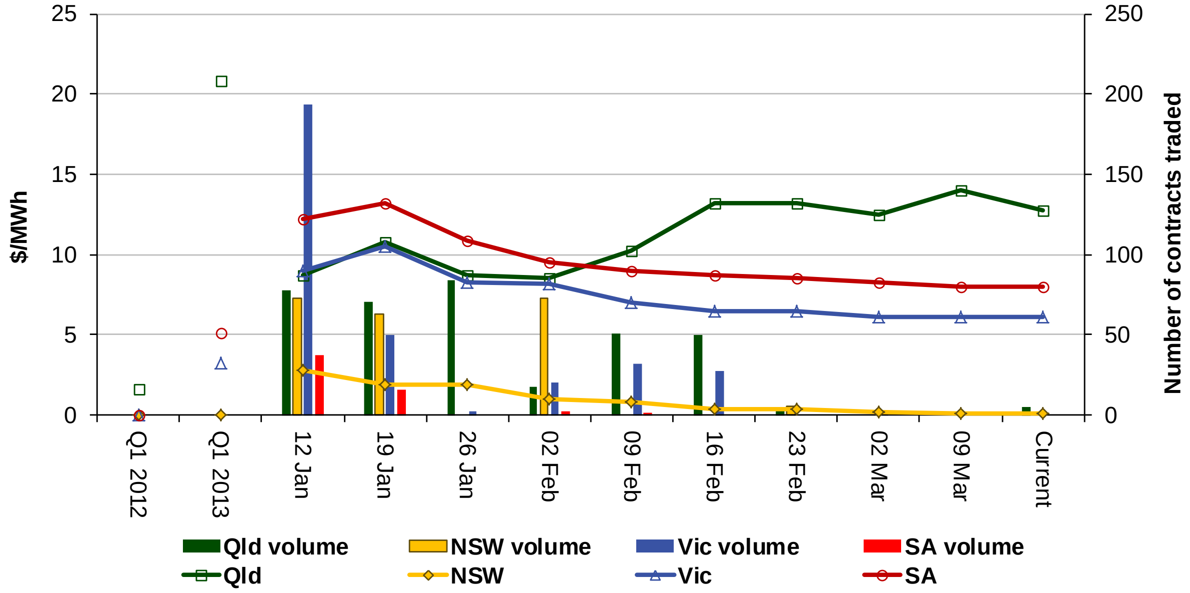
Note: Base contract prices are shown for each of the current week and the previous 9 weeks, with average prices shown for yearly periods 1 and 2 years prior to the current year

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 11 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.

Figure 11: Price of Q1 2014 cap contracts over the past 10 weeks (and the past 2 years)



Source: ASXEnergy.com.au

Australian Energy Regulator

April 2014