

## 13 - 19 May 2018

### 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 13 – 19 May 2018.

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

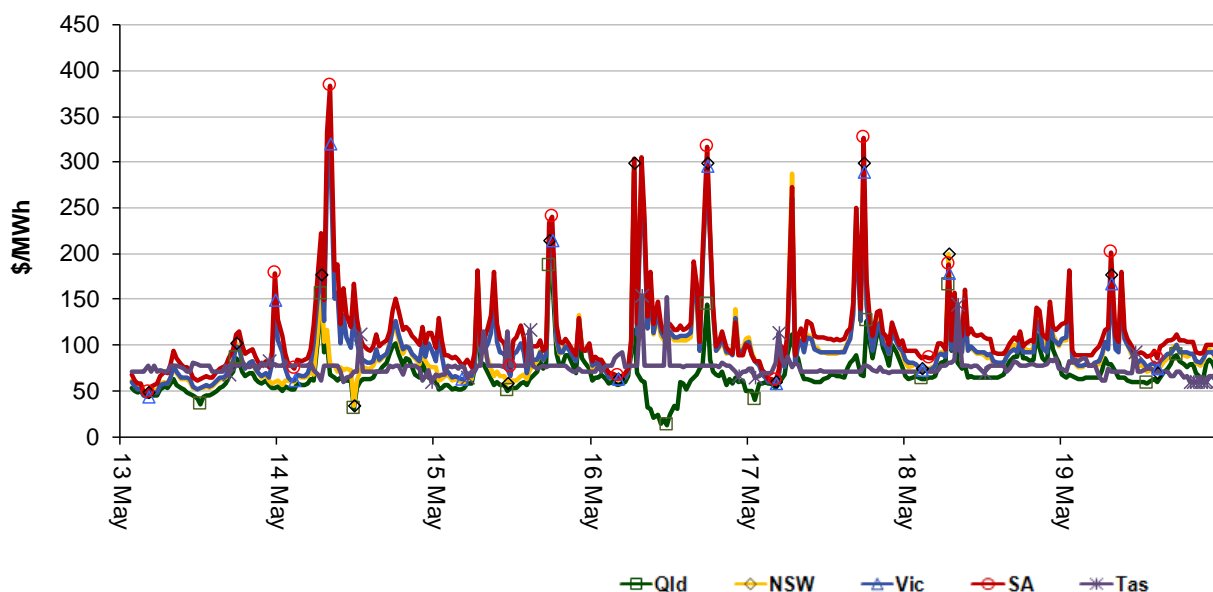
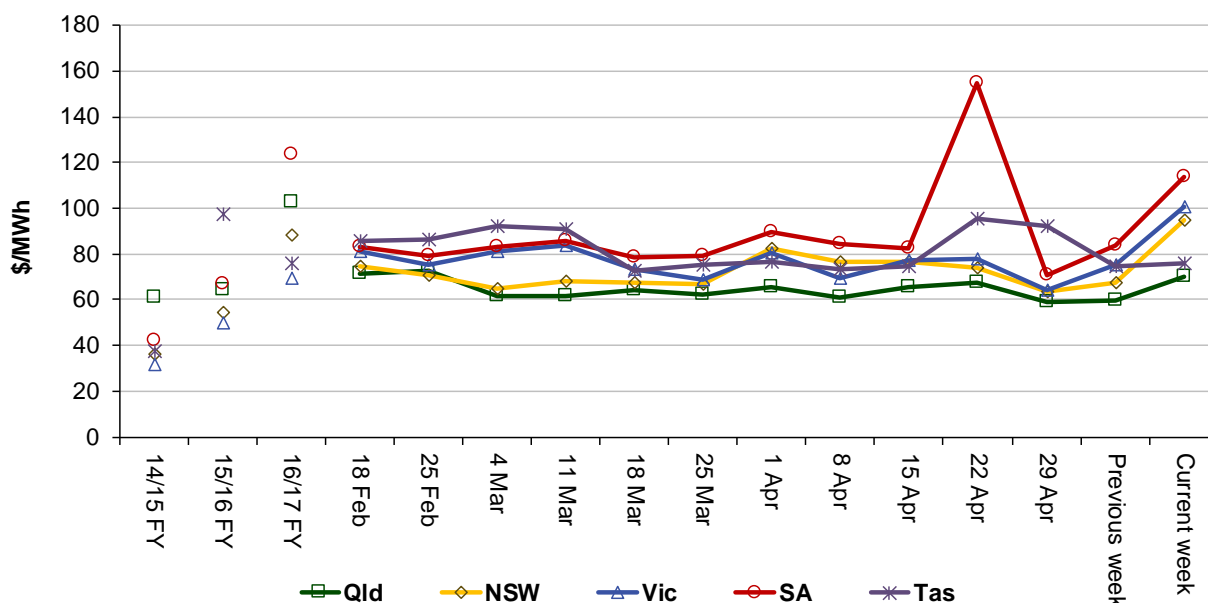


Figure 2 shows the volume weighted average (VWA) prices for the current week (with prices shown in Table 1) and the preceding 12 weeks, as well as the VWA price over the previous 3 financial years.

**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	70	95	101	113	76
16-17 financial YTD	106	89	66	125	72
17-18 financial YTD	74	82	100	109	90

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 164 trading intervals throughout the week where actual prices varied significantly from forecasts. This compares to the weekly average in 2017 of 185 counts and the average in 2016 of 273. 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**

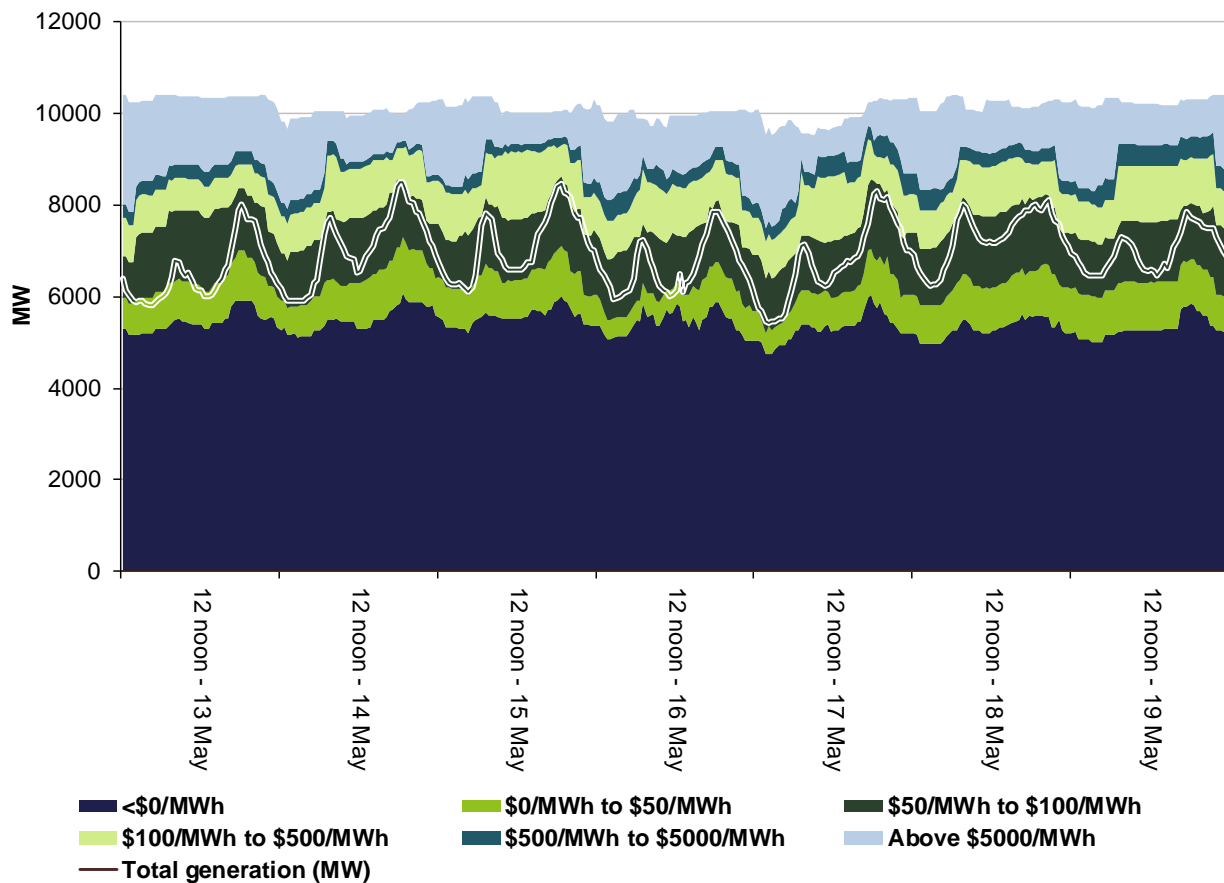
	Availability	Demand	Network	Combination
% of total above forecast	4	9	0	1
% of total below forecast	5	66	0	14

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

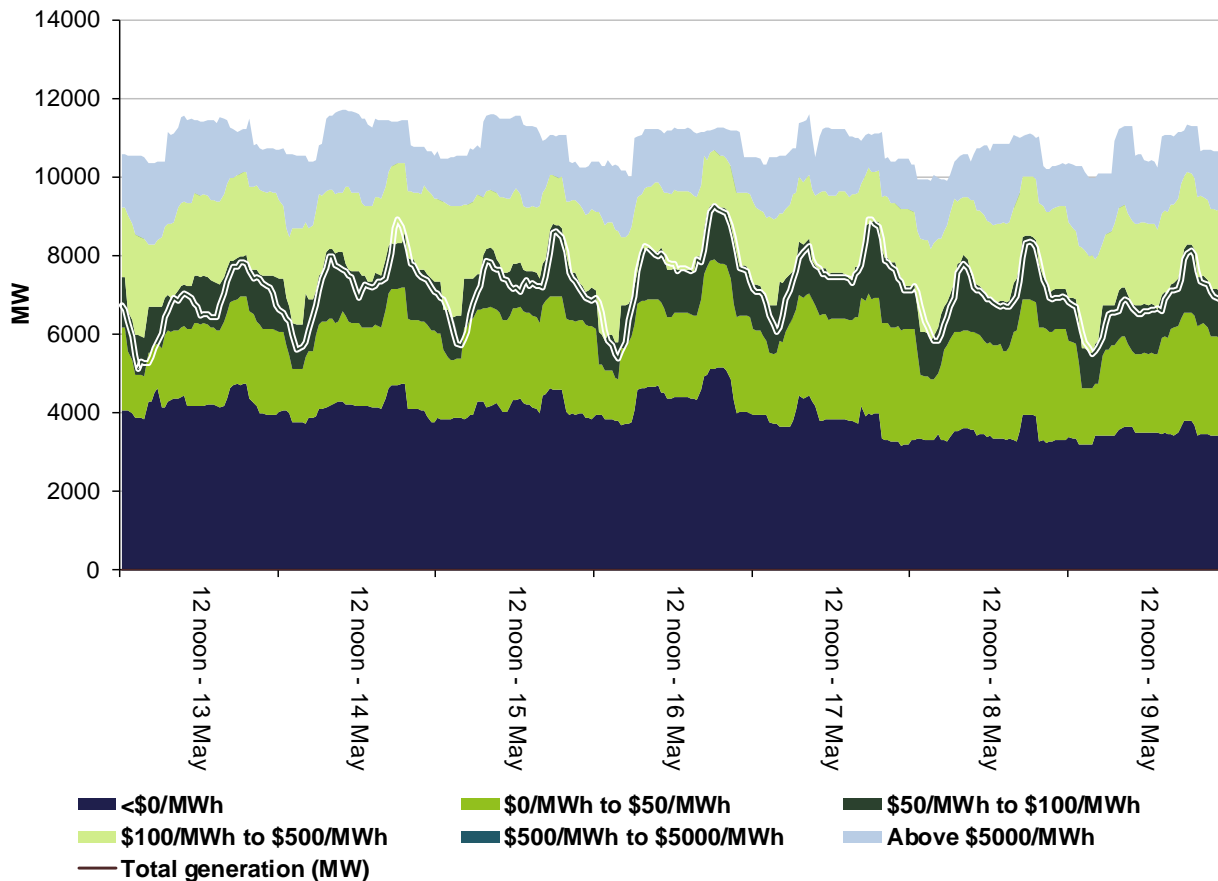
## Generation and bidding patterns

The AER reviews generator bidding as part of its market monitoring to better understand the drivers behind price variations. Figure 3 to Figure 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.

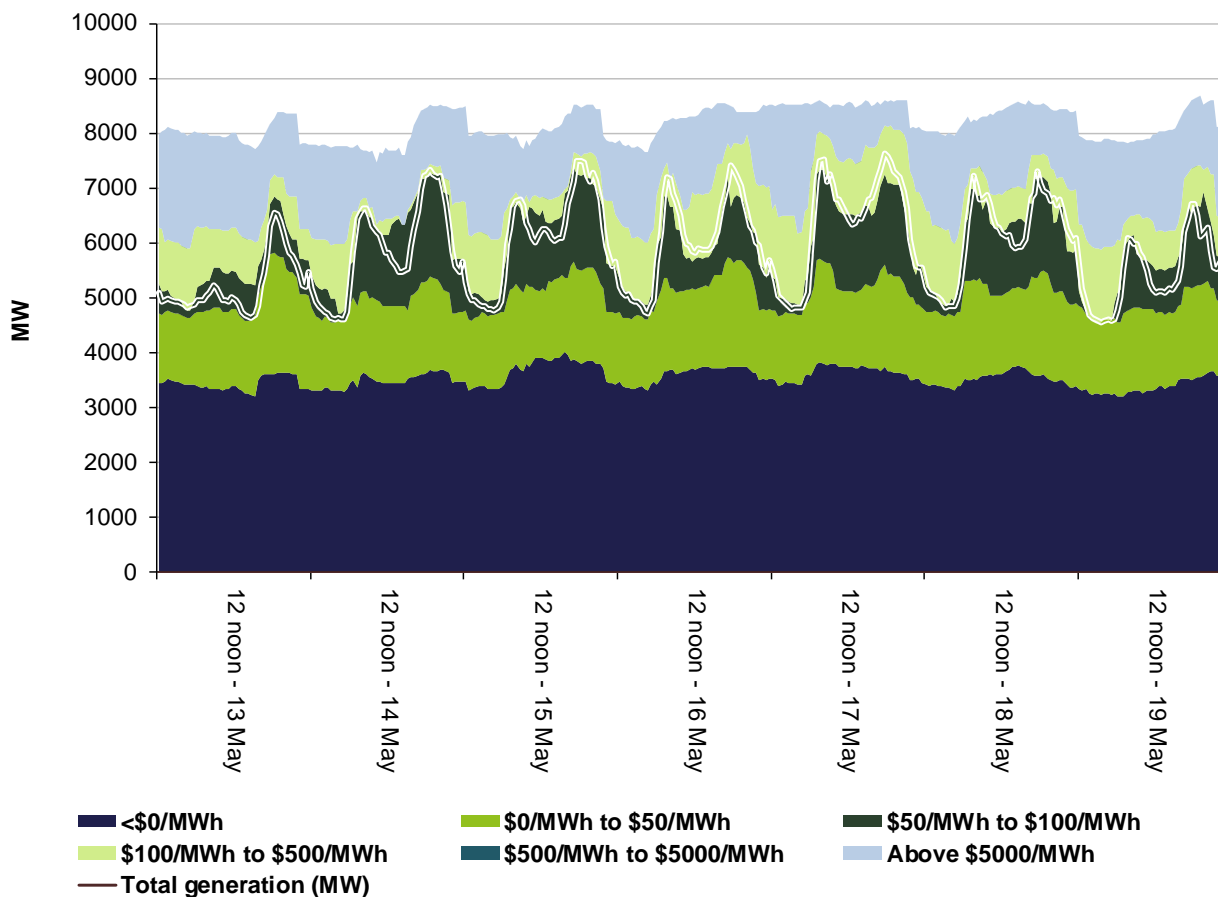
**Figure 3: Queensland generation and bidding patterns**



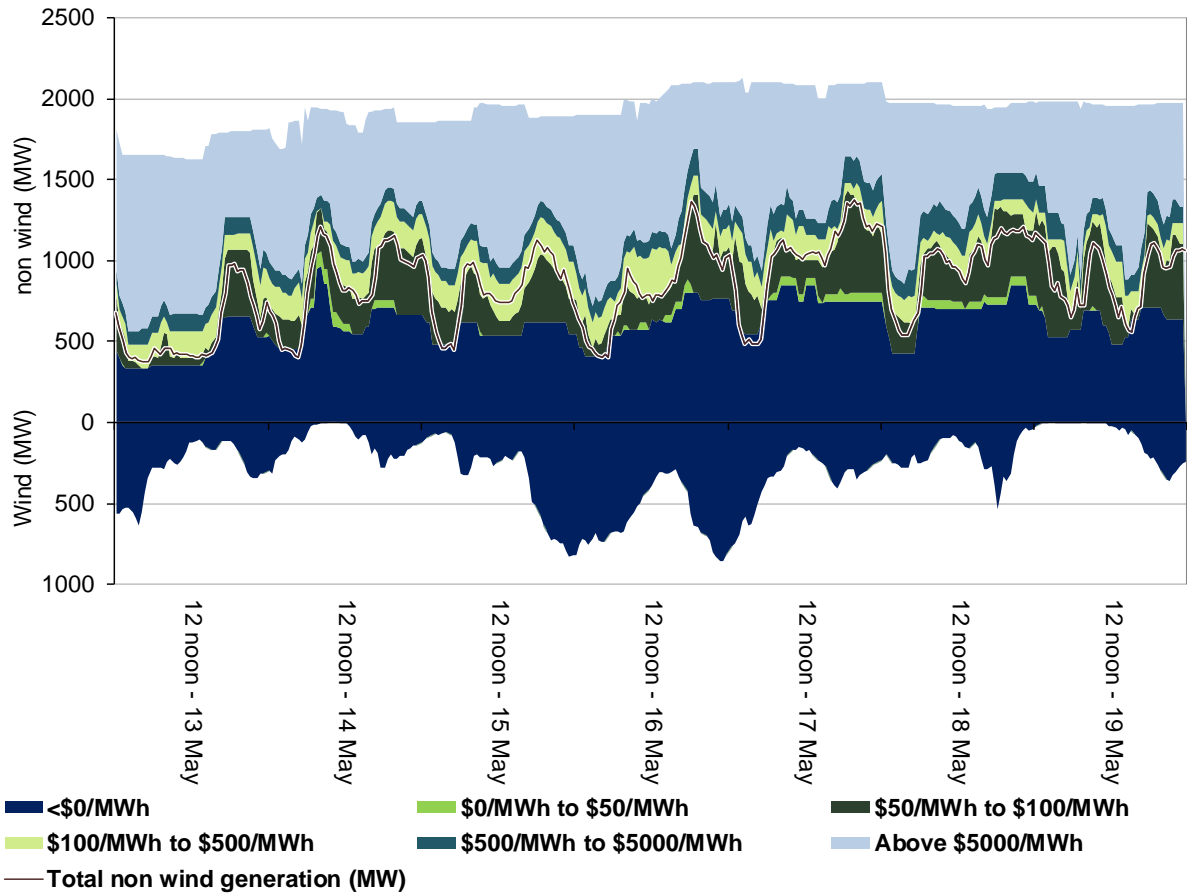
**Figure 4: New South Wales generation and bidding patterns**



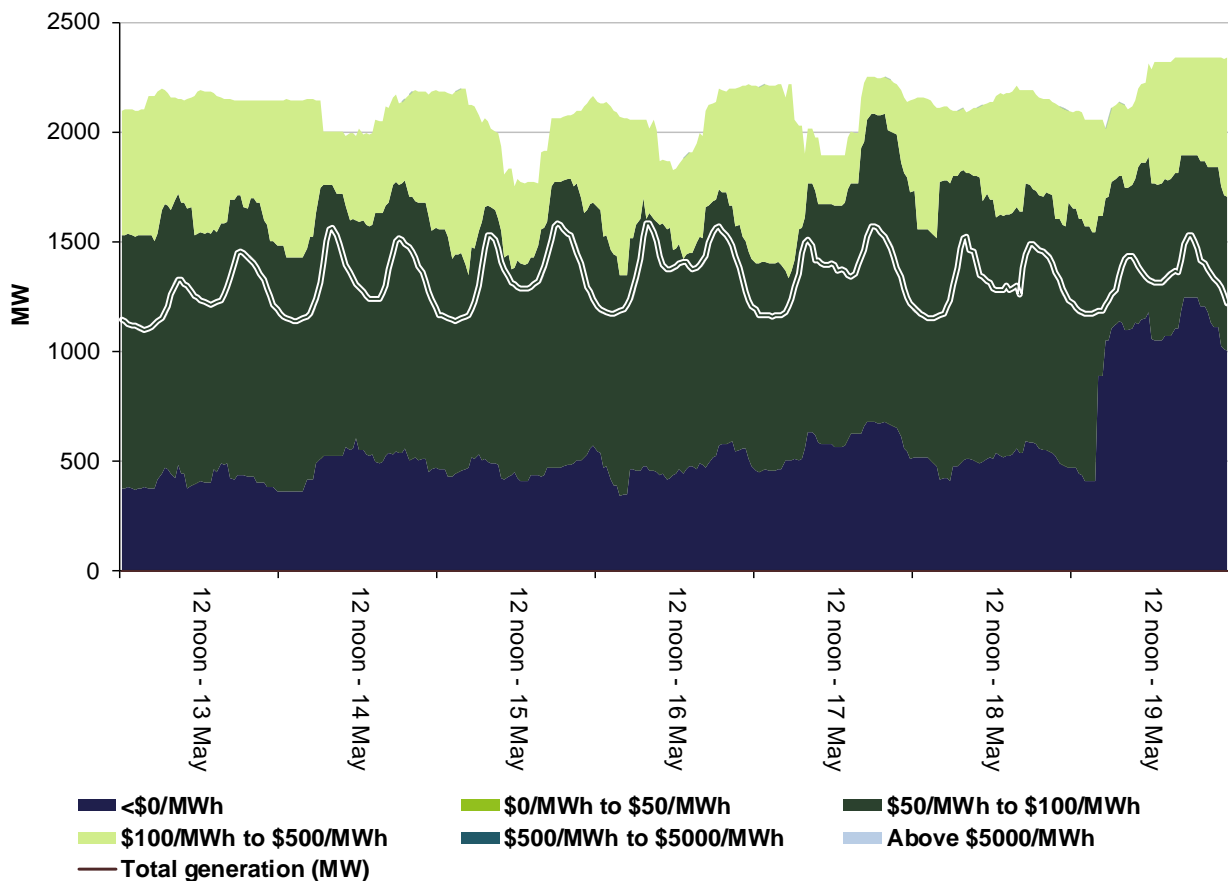
**Figure 5: Victoria generation and bidding patterns**



**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.

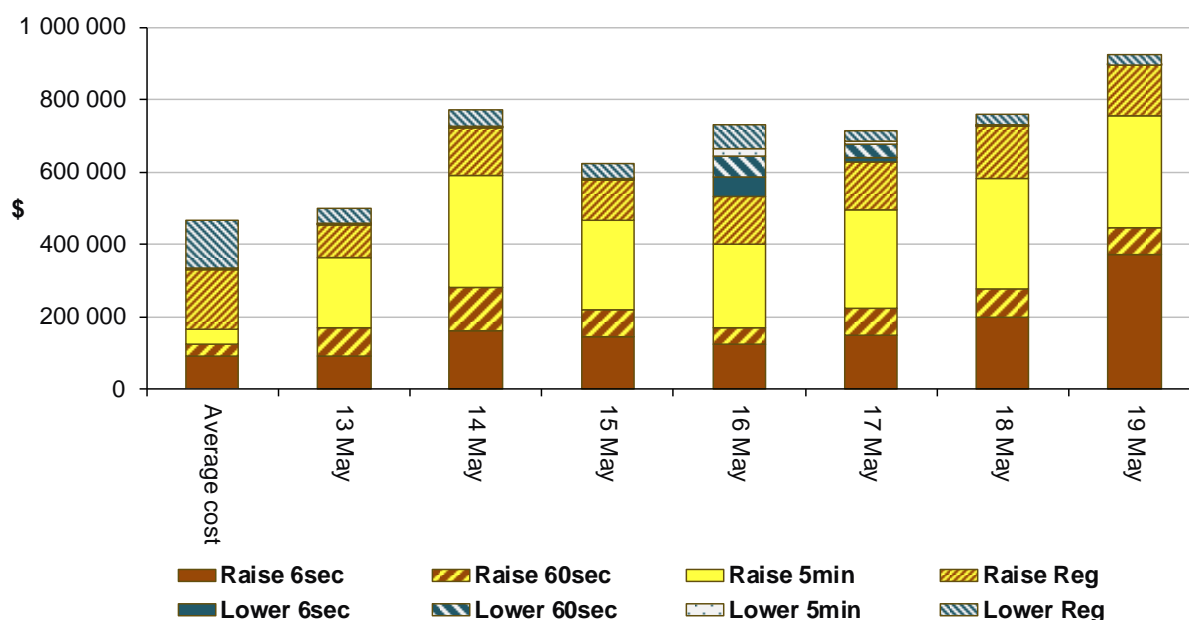
The Electricity Rules stipulate that generators pay for raise contingency services and customers pay for lower contingency services. Regulation services are paid for on a “causer pays” basis determined every four weeks by AEMO.

The total cost of FCAS on the mainland for the week was \$4 533 000 or less than two per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$489 000 or around three 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**



Raise 5 minute and raise 6 services prices were higher than average throughout the week as cheaper priced capacity could not be sourced from Tasmania due to the on-going outage of Basslink.

## Detailed market analysis of significant price events

### New South Wales

There were five occasions where the spot price in New South Wales was greater than three times the New South Wales weekly average price of \$95/MWh and above \$250/MWh.

#### Wednesday, 16 May

**Table 3: Price, Demand and Availability**

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 am	299.60	299.60	297.49	8745	8689	8631	10 905	10 453	10 529
8 am	293.08	299.60	299.60	9191	9219	9191	11 128	11 146	11 228
6 pm	299.60	299.60	3831.73	10 170	10 122	10 193	11 061	11 262	10 582

Prices were as forecast four hours ahead for all three trading intervals.

#### Thursday, 17 May

**Table 4: Price, Demand and Availability**

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 am	287.22	299.60	299.60	8935	8908	8939	10 551	10 623	10 623
6 pm	299.60	289.11	299.60	9989	9846	9939	10 934	10 964	11 370

Prices were close to forecast four hours ahead for both trading intervals.

### Victoria

There was one occasion where the spot price in Victoria was greater than three times the Victoria weekly average price of \$101/MWh and above \$250/MWh.

#### Monday, 14 May

**Table 5: Price, Demand and Availability**

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
8.30 am	320.25	1399.99	134.21	6303	6152	5979	7655	7646	7643

Prices in Victoria were aligned with South Australia and will be discussed as one region.

At times, AEMO may need to override the normal dispatch process to maintain system security. On this day AEMO directed a plant in South Australia triggering an intervention event. Special pricing arrangements apply for this interval in all regions following an intervention in the market.

The lower than four hours ahead forecast price was a result of participants rebidding around 500 MW of capacity from prices above \$10 000/MWh to less than \$150/MWh. Significant rebids are shown in Table 6.

**Table 6: Significant rebids**

Region	Time submitted	Participant	Station	Capacity rebid (MW)	Price from (\$/MWh)	Price to (\$/MWh)	Rebid reason
Vic.	6.17 am	Ecogen Energy	Jeeralang B	84	>10 000	<128	0615~A~band adj due to change in 5min pd price 302 > 194.90 @ 0630 SL~
Vic.	7.24 am	Ecogen Energy	Jeeralang B	84	>10 000	<145	0700~A~band adj due to change in 5min pd price 496 > 296 @ 0805 SL~
Vic.	7.34 am	Ecogen Energy	Jeeralang A	108	>11 501	<200	0730~A~band adj due to change in 5min pd price 758 > 501 @ 0750 SL~
SA	5.29 am	Origin Energy	Quarantine	125	14 200	-1000	0527A inc vic dem - 5pd 4739 mw > 30pd 4570 mw @ 06:00 sl
SA	6.18 am	Origin Energy	Quarantine	48	14 200	-1000	0615A inc vic dem - 5pd 5252 mw > 30pd 5038 mw @ 06:30 sl
SA	7.33 am	Engie	Dry Creek	48	13 100	<0	0730~A~sa price 5 min pd > 30 min pd sl~

## South Australia

There was one occasion where the spot price in South Australia was greater than three times the South Australia weekly average price of \$113/MWh and above \$250/MWh.

### Monday, 14 May

**Table 7: Price, Demand and Availability**

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
8.30 am	384.01	1750.05	203.09	1660	1655	1598	1840	1841	1844

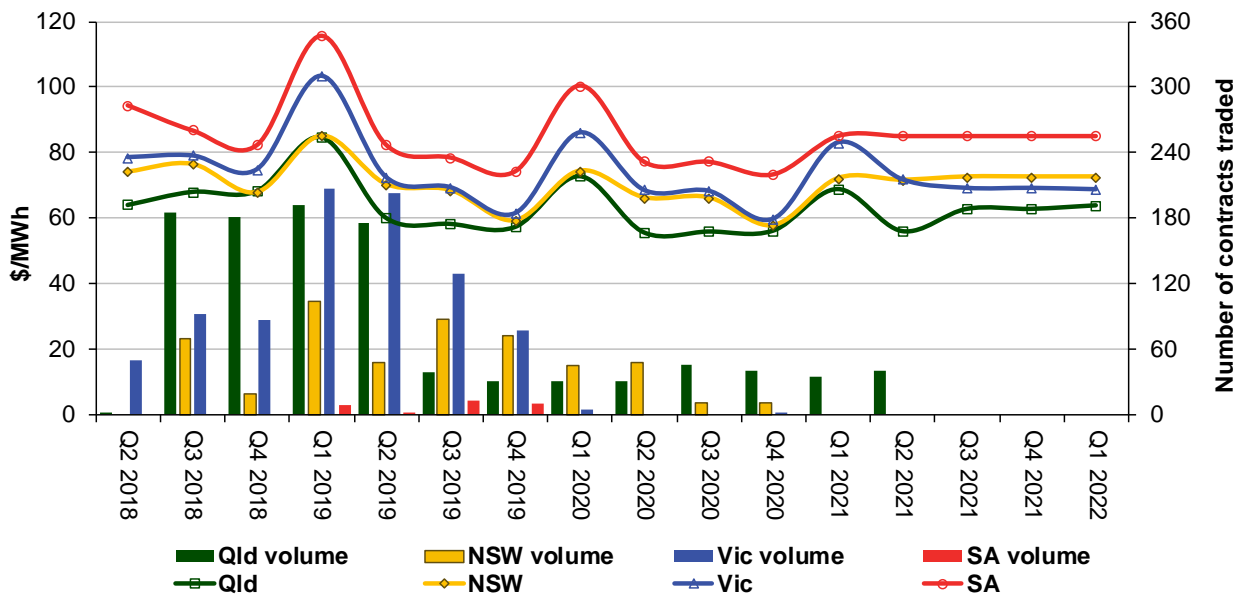
Prices in South Australia were aligned with Victoria and will be discussed as one region. See Victoria section for more information.



## 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.

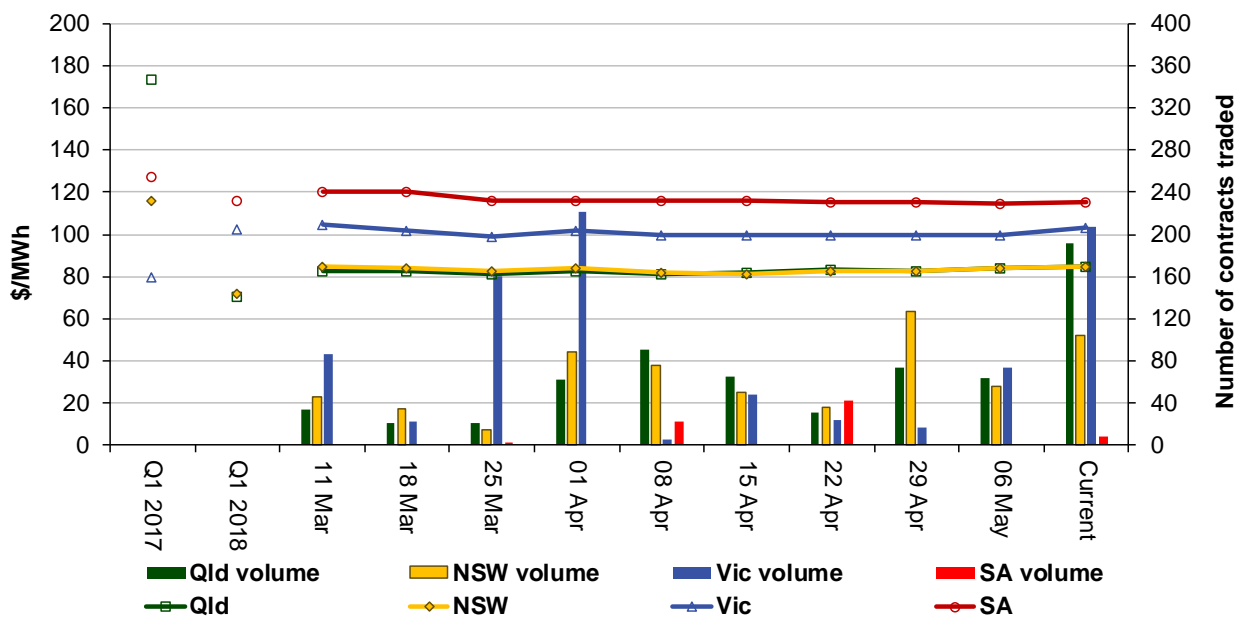
**Figure 9: Quarterly base future prices Q2 2018 – Q1 2022**



Source. ASXEnergy.com.au

Figure 10 shows how the price for each regional Q1 2019 base contract has changed over the last 10 weeks (as well as the total number of trades each week). The closing quarter 1 2017 and quarter 1 2018 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 2019 base contracts over the past 10 weeks (and the past 2 years)**



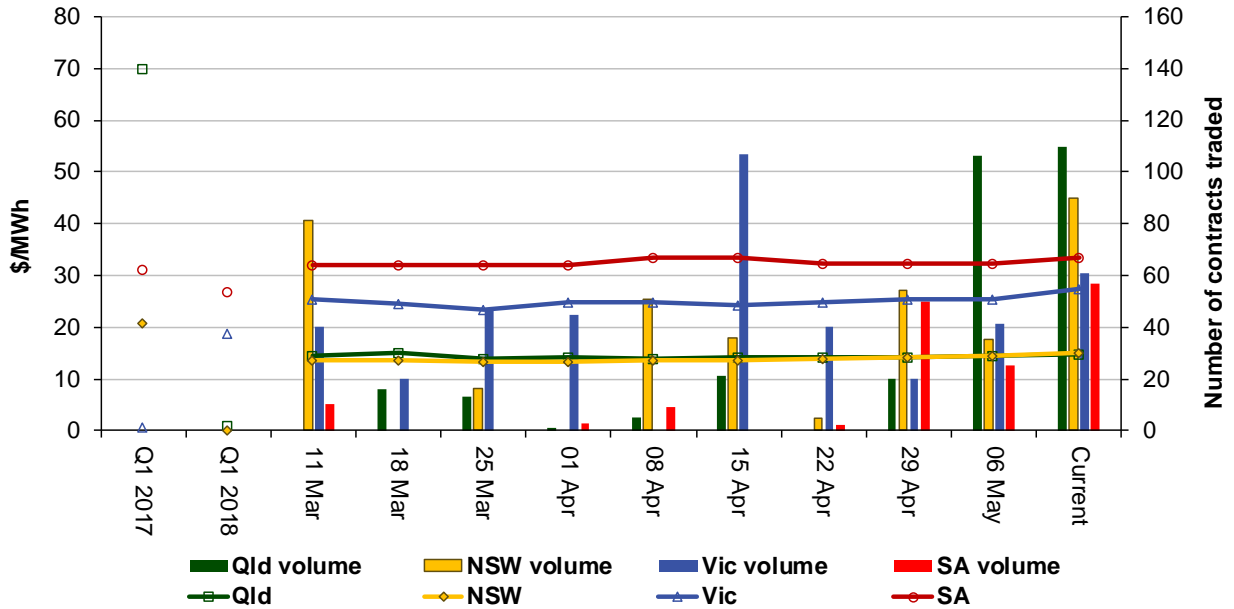
Note. Base contract prices are shown for each of the current week and the previous 9 weeks, with average prices shown for periods 1 and 2 years prior to the current year.

Source. ASXEnergy.com.au

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

Figure 11 shows how the price for each regional quarter 1 2019 cap contract has changed over the last 10 weeks (as well as the total number of trades each week). The closing quarter 1 2017 and quarter 1 2018 prices are also shown.

**Figure 11: Price of Q1 2019 cap contracts over the past 10 weeks (and the past 2 years)**



Source: ASXEnergy.com.au

**Australian Energy Regulator  
June 2018**