Electricity Report

AUSTRALIAN ENERGY REGULATOR

21 – 27 March 2021

Weekly Summary

Weekly volume weighted average prices (VWA) ranged from $30/MWh in Tasmania to $50/MWh in New South Wales. This week saw Victoria's highest weekly VWA price in Q1 2021 to date as Victorian spot prices reached over $250/MWh on 23 March. Despite this, Victoria quarter-to-date prices remained lowest in the NEM.

Purpose

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 21 to 27 March 2021.

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

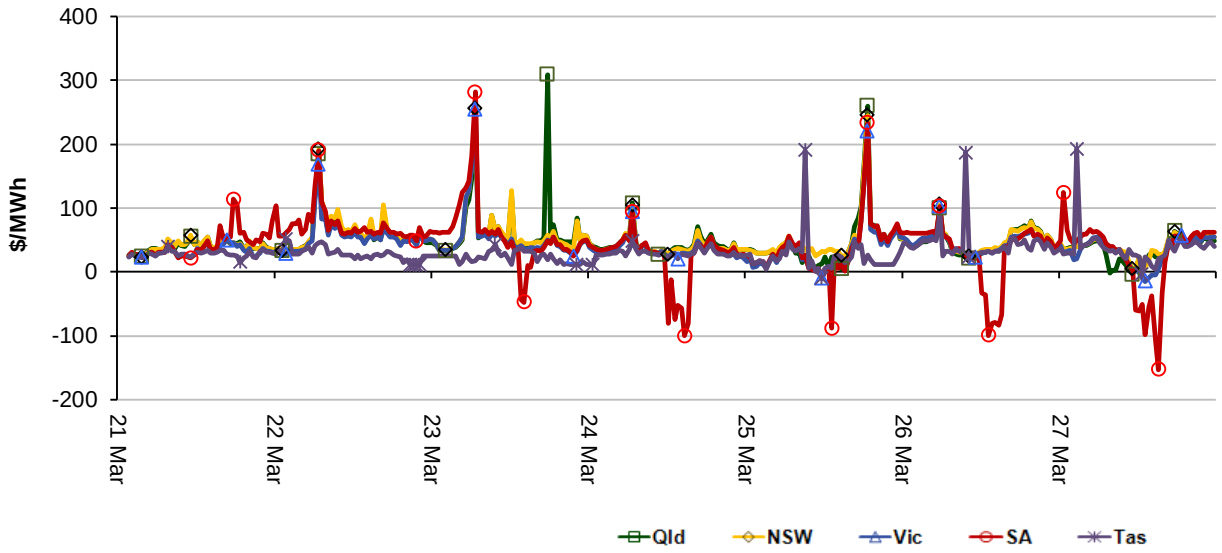


Figure 2 shows the volume weighted average (VWA) prices for the current week (with prices shown in Table 1) and the preceding 12 weeks, as well as the VWA price over the previous 3 financial years.

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

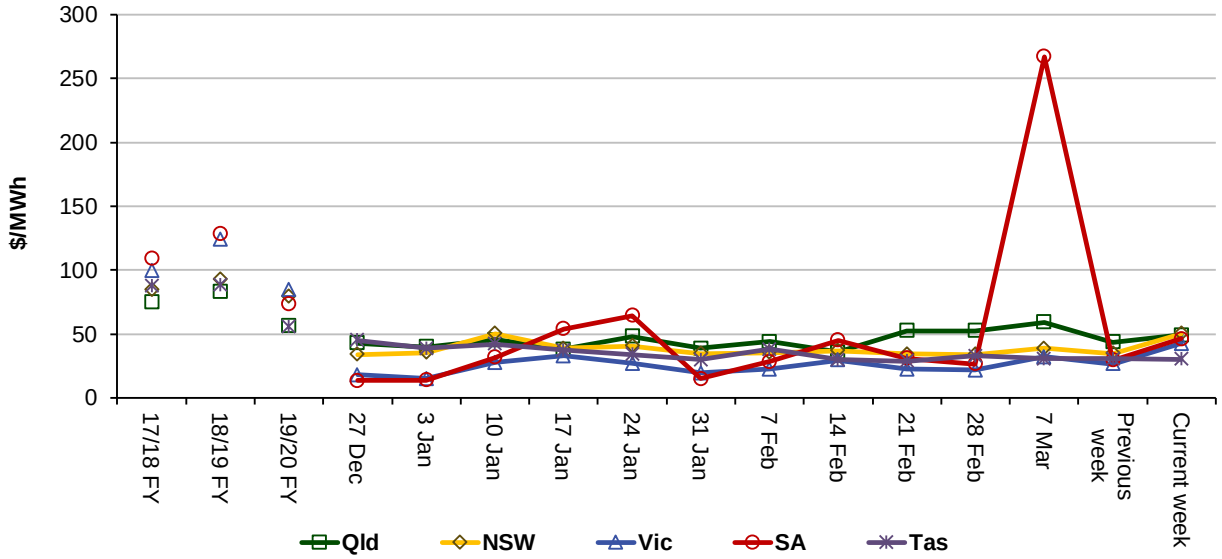


Table 1: Volume weighted average spot prices by region ($/MWh)

Region	Qld	NSW	Vic	SA	Tas
Current week	49	50	42	46	30
Q1 2020 (QTD)	58	110	112	82	45
Q1 2021 (QTD)	45	39	26	53	34
19-20 financial YTD	63	91	99	84	64
20-21 financial YTD	43	53	41	45	44

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 226 trading intervals throughout the week where actual prices varied significantly from forecasts. This compares to the weekly average in 2020 of 233 counts and the average in 2019 of 204. 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	7	32	0	1
% of total below forecast	6	46	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. 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

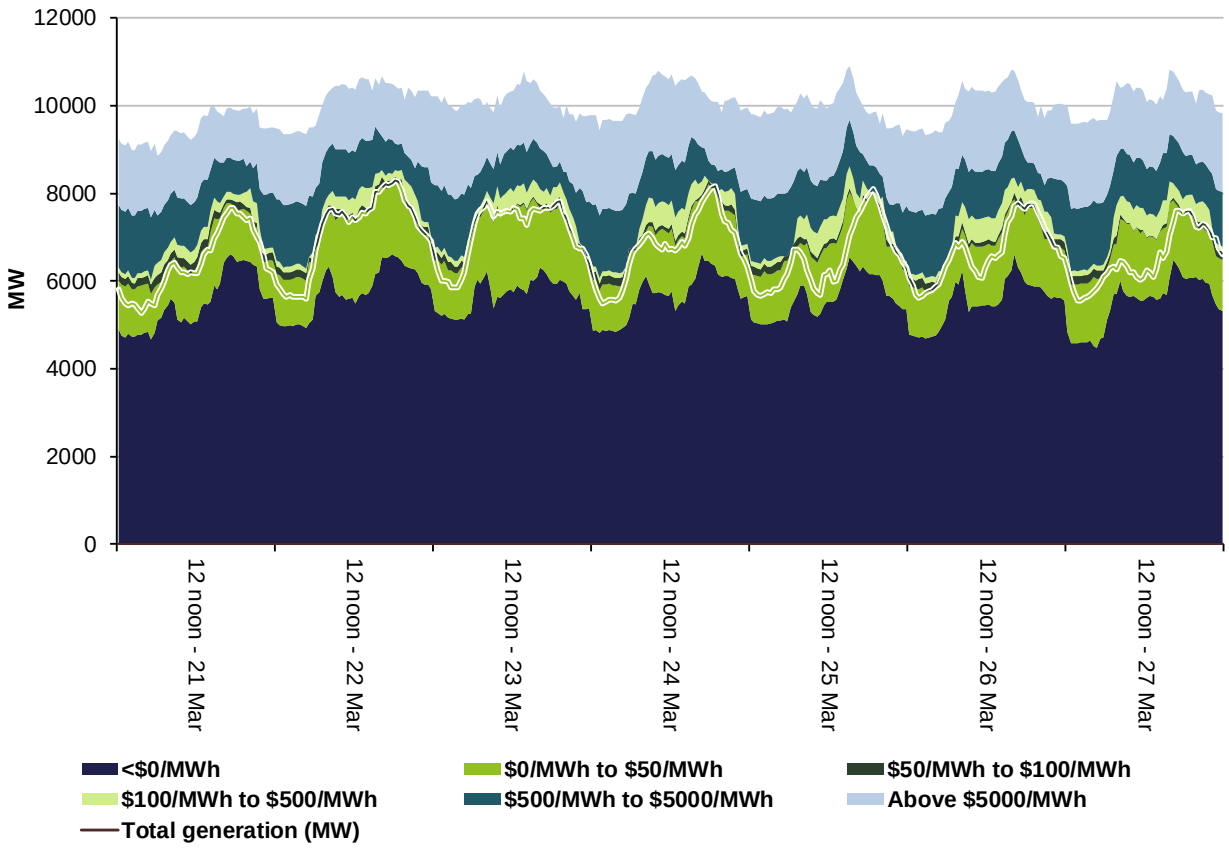


Figure 4: New South Wales generation and bidding patterns

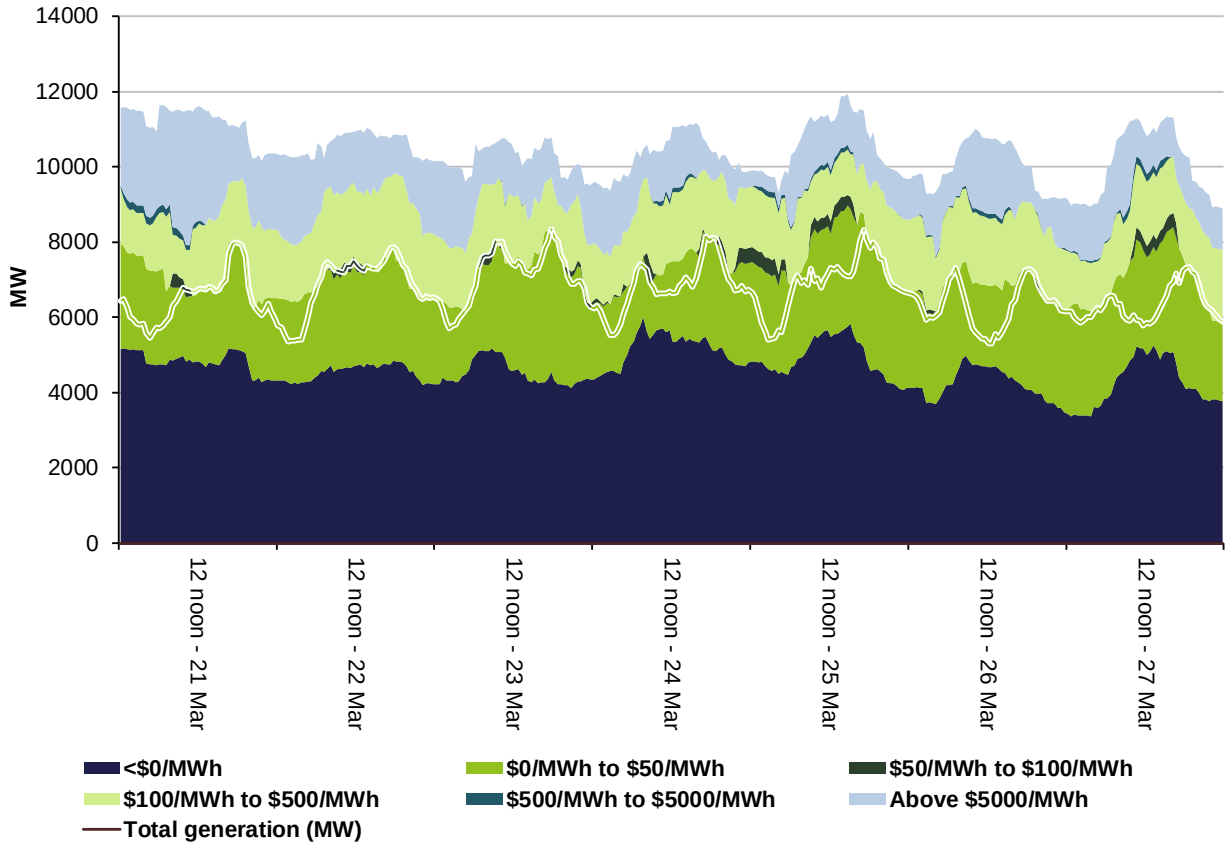


Figure 5: Victoria generation and bidding patterns

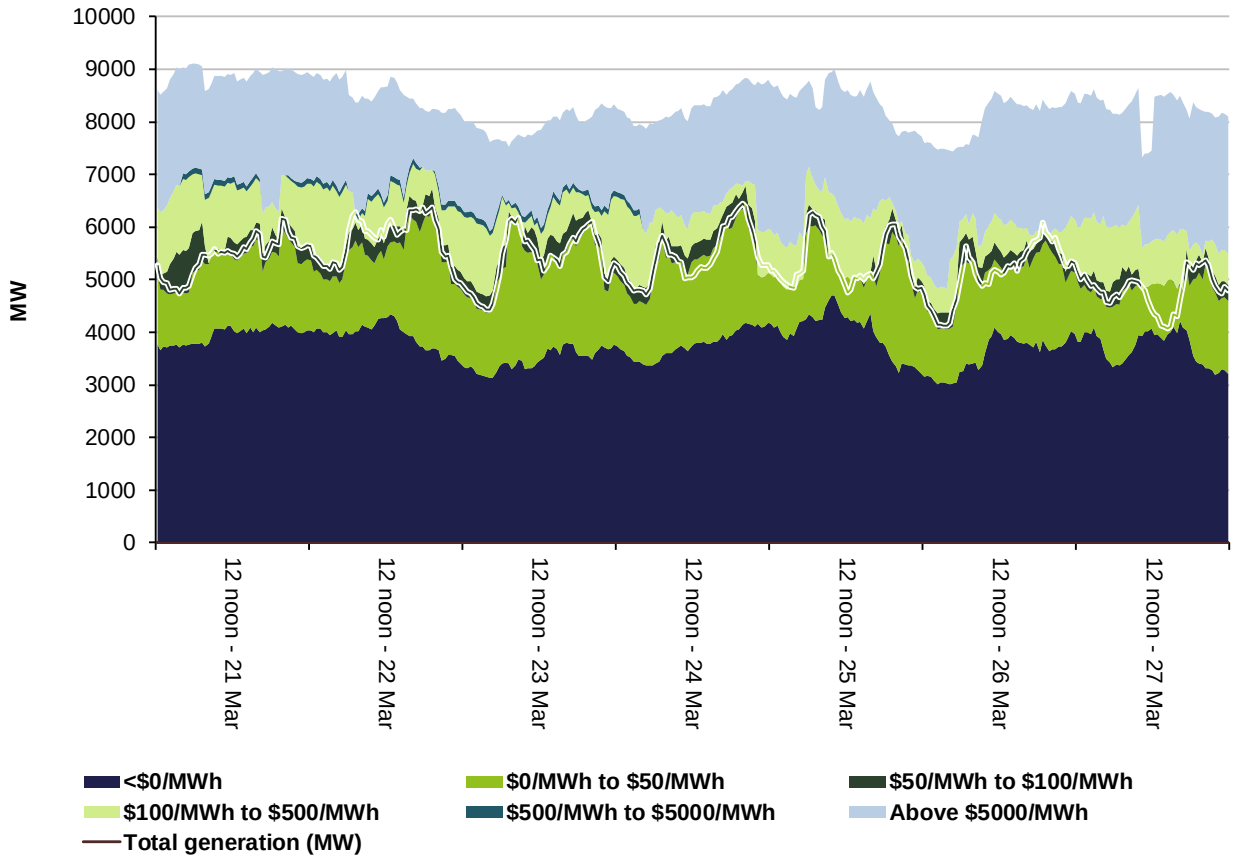


Figure 6: South Australia generation and bidding patterns

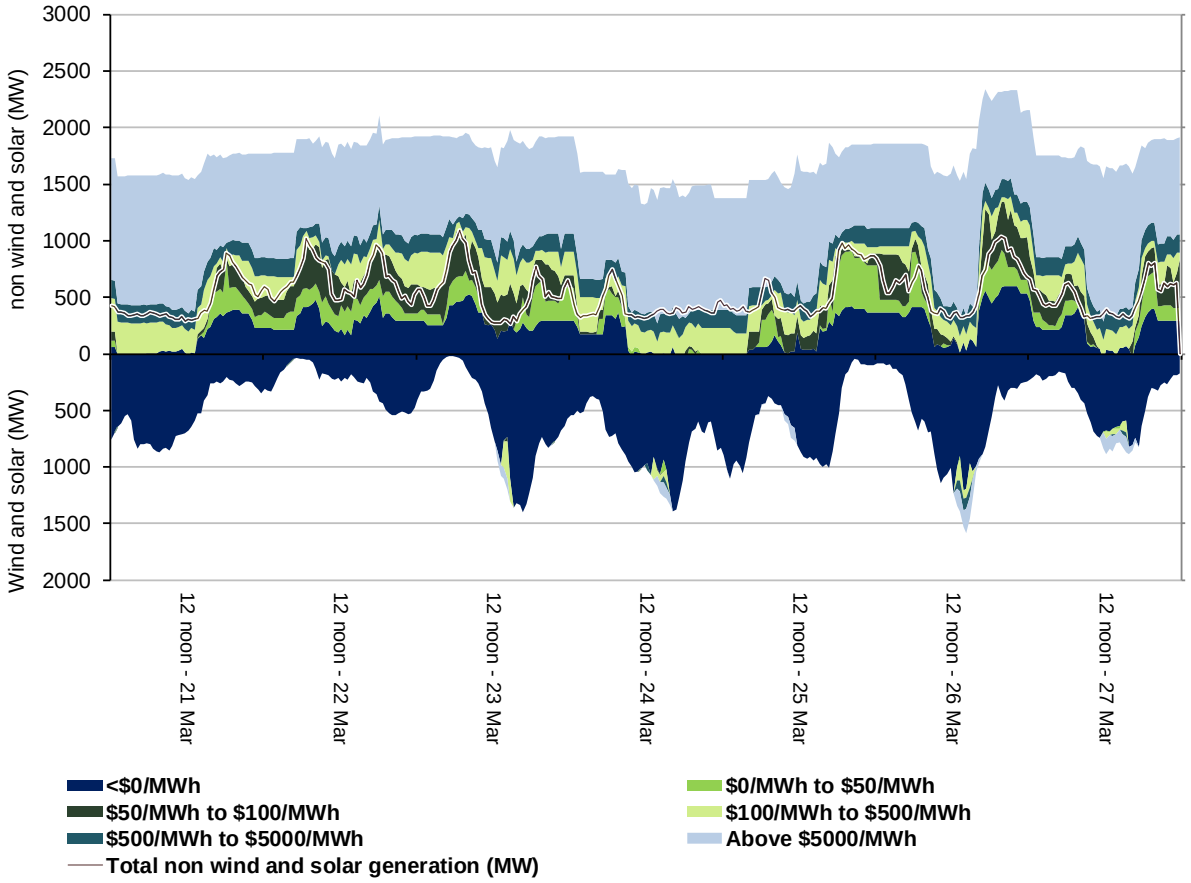
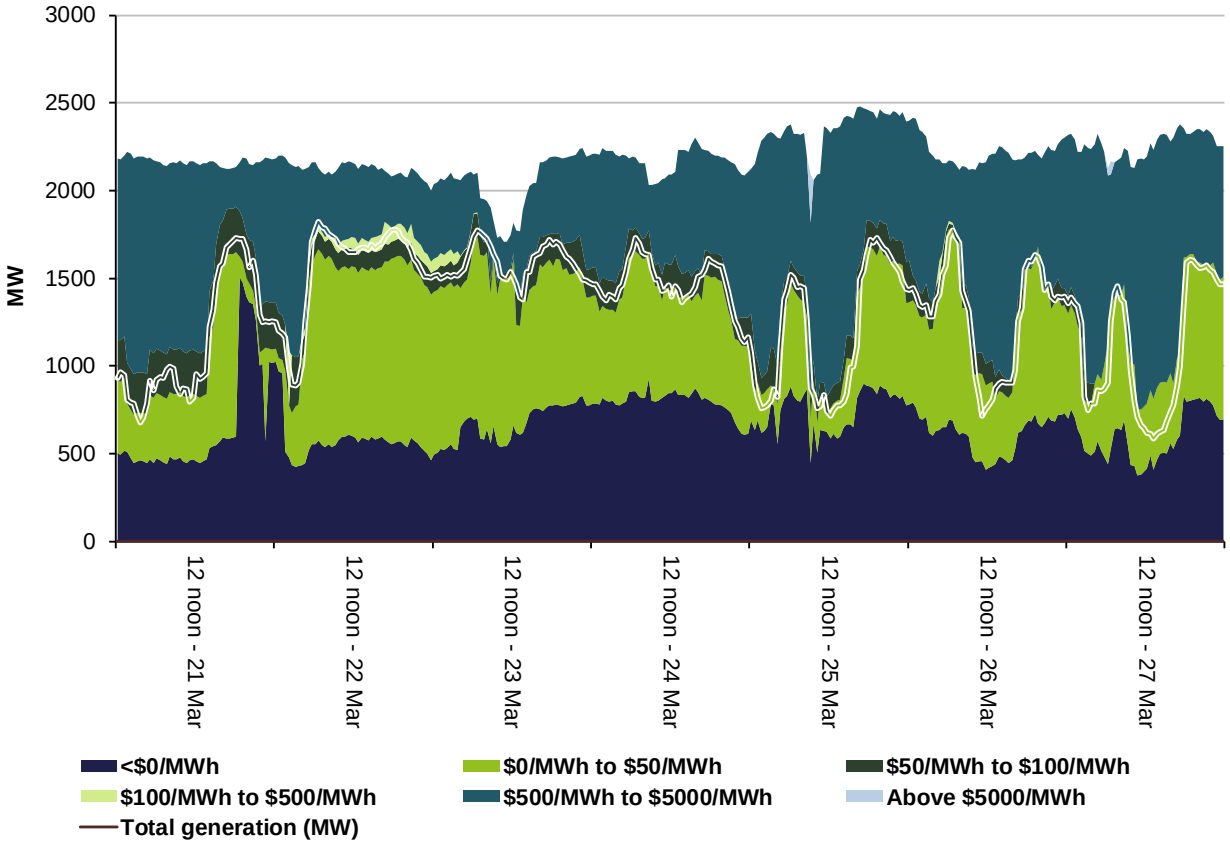


Figure 7: Tasmania generation and bidding patterns



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.

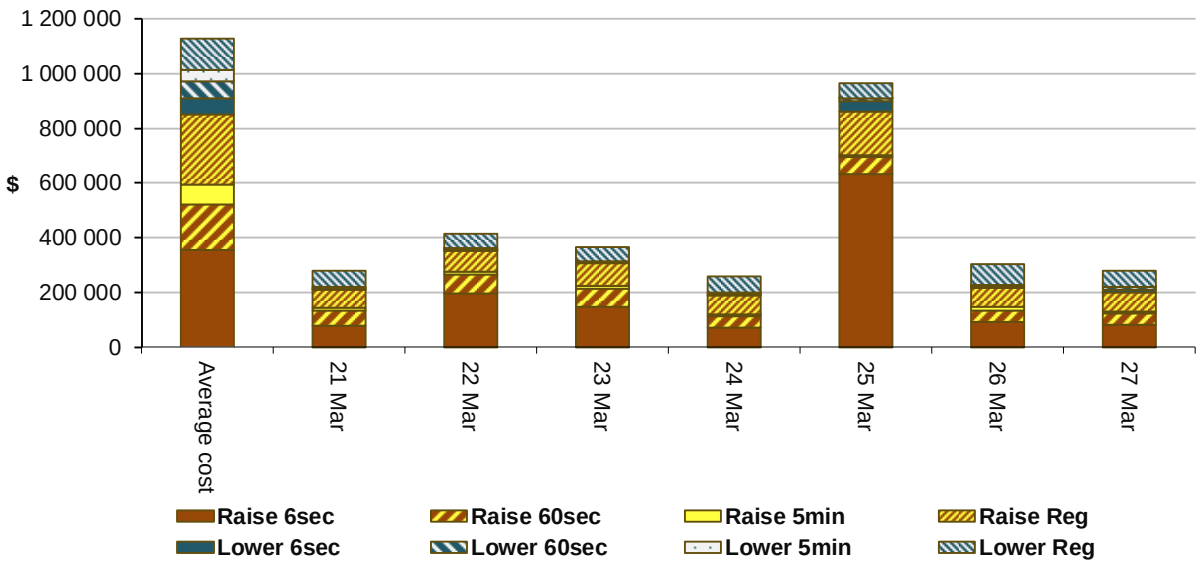
The Electricity Rules stipulate that generators pay for raise contingency services and customers pay for lower contingency services. Regulation services are paid for on a "causer pays" basis determined every four weeks by AEMO.

The total cost of FCAS on the mainland for the week was $2,110,500 or around 1% of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was $756,500 or less than 15% 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



High raise 6 second FCAS costs on 25 March were driven by several high raise 6 second prices in Tasmania, reaching up to $14,540/MW at 9.20 am. Constraints related to the potential loss of several lines in Tasmania bound, driving a high requirement for raise 6 second services throughout most of the day.

Detailed market analysis of significant price events

Mainland

There was one occasion where the spot price on the mainland was greater than three times the New South Wales weekly average price of $50/MWh and above $250/MWh. The New South Wales price is used as a proxy for the NEM.

Tuesday, 23 March

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	255.61	299.6	299.6	22,155	21,449	21,463	30,266	30,941	30,912

Prices were aligned across mainland regions and were close to forecast 4 hours prior.

Queensland

There were two occasions where the spot price in Queensland was greater than three times the Queensland weekly average price of $49/MWh and above $250/MWh.

Tuesday, 23 March

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
6 pm	309.30	123.70	101.99	7,805	7,736	7,835	10,039	10,113	10,125

Demand and availability were close to forecast 4 hours prior.

A rebid by Callide Power Trading at Callide C at 4.40 pm shifted 30 MW of capacity priced at $102/MWh to the price cap due to forecast interconnector exports. At 6 pm demand increased by nearly 80 MW, and with several generators unable to come on in 5 minutes, the dispatch price reached $1,552/MWh.

Thursday, 25 March

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
7 pm	259.70	591.42	62.32	8,103	8,117	8,090	9,844	9,798	10,485

Demand and availability were close to forecast 4 hours prior.

Participants shifted capacity up and down in the 4 hours prior to the start of the trading interval, due to either plant reasons, forecast prices or interconnector constraints. As a result, an

additional 180 MW of low priced capacity was available at the start of the trading interval and prices remained below $321/MWh throughout the trading interval.

South Australia

There were three occasions where the spot price was below -$100/MWh.

Wednesday, 24 March

Table 6: 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
3 pm	-100.48	-111.61	-540.17	810	747	683	2,728	2,537	2,569

Prices were close to forecast 4 hours prior.

Saturday, 27 March

Table 7: Price, Demand and Availability

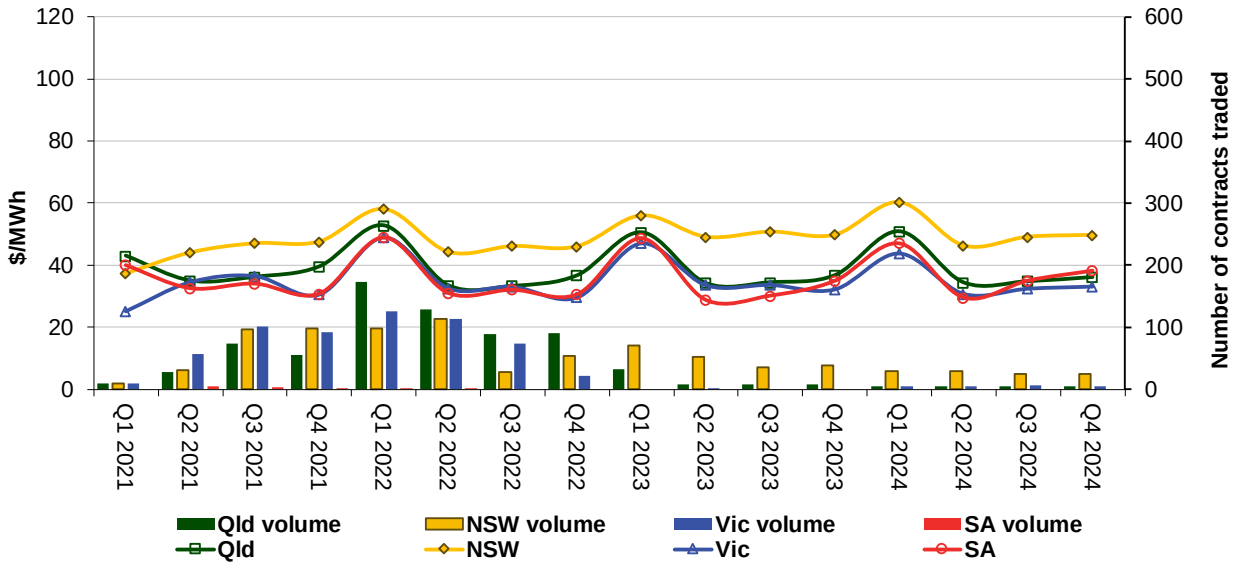
Time	Price ($/MWh)			Demand (MW)			Availability (MW)		
	Actual	4 hr forecast	12 hr forecast	Actual	4 hr forecast	12 hr forecast	Actual	4 hr forecast	12 hr forecast
3 pm	-107.20	-132.50	-512.57	581	586	569	2,472	2,588	2,587
3.30 pm	-153.43	-135.96	-200	632	677	619	2,522	2,593	2,580

For the 3 pm and 3.30 pm trading intervals, prices were close to forecast 4 hours prior.

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.

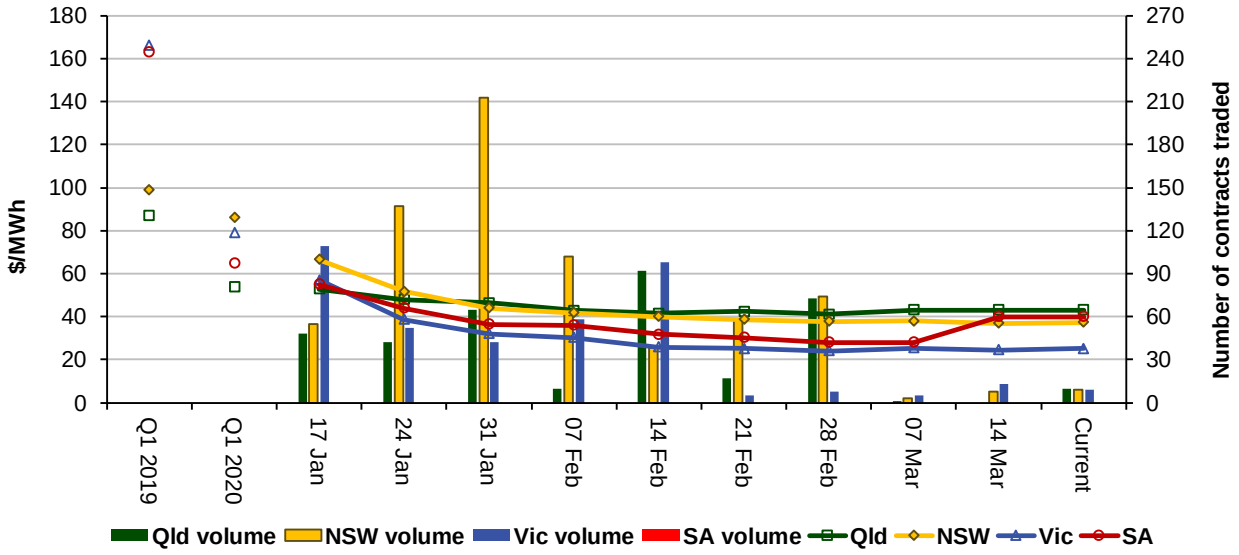
Figure 9: Quarterly base future prices Q1 2021 – Q4 2024



Source. ASXEnergy.com.au

Figure 10 shows how the price for each regional Q1 2021 base contract has changed over the last 10 weeks (as well as the total number of trades each week). The closing Q1 2020 and Q1 2019 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 2021 base contracts over the past 10 weeks (and the past 2 years)

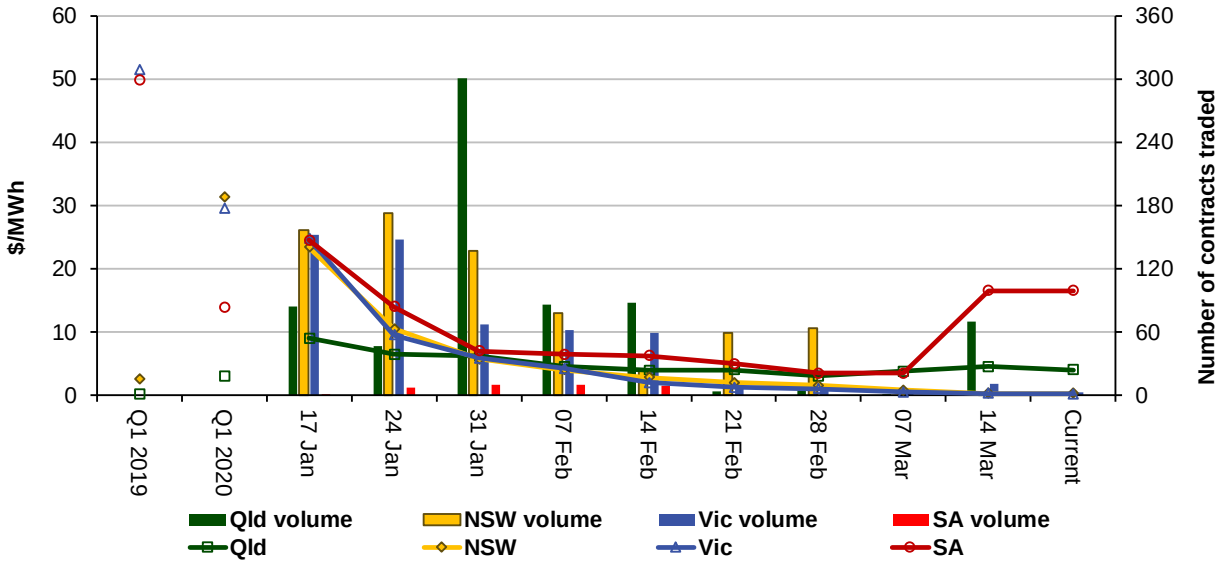


Note. Base contract prices are shown for each of the current week and the previous 9 weeks, with average prices shown for periods 1 and 2 years prior to the current year.

Source. ASXEnergy.com.au

Figure 11 shows how the price for each regional Q1 2021 cap contract has changed over the last 10 weeks (as well as the total number of trades each week). The closing Q1 2020 and Q1 2019 prices are also shown.

Figure 11: Price of Q1 2021 cap contracts over the past 10 weeks (and the past 2 years)



Source. ASXEnergy.com.au

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

Australian Energy Regulator
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