

## 1 - 7 November 2020

### Weekly Summary

Weekly volume weighted average (VWA) prices ranged from \$47/MWh in Queensland to \$55/MWh in Tasmania. Q4 2020 quarter to date prices ranged from \$38/MWh in South Australia to \$59/MWh in New South Wales, down at least 40% from the same time last year.

Our weekly reporting thresholds were breached on four occasions in South Australia, driven by participant rebidding, higher than forecast available capacity, and constraints managing system strength requirements. For more information, see ‘Detailed market analysis’ section.

### 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 1 to 7 November 2020.

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

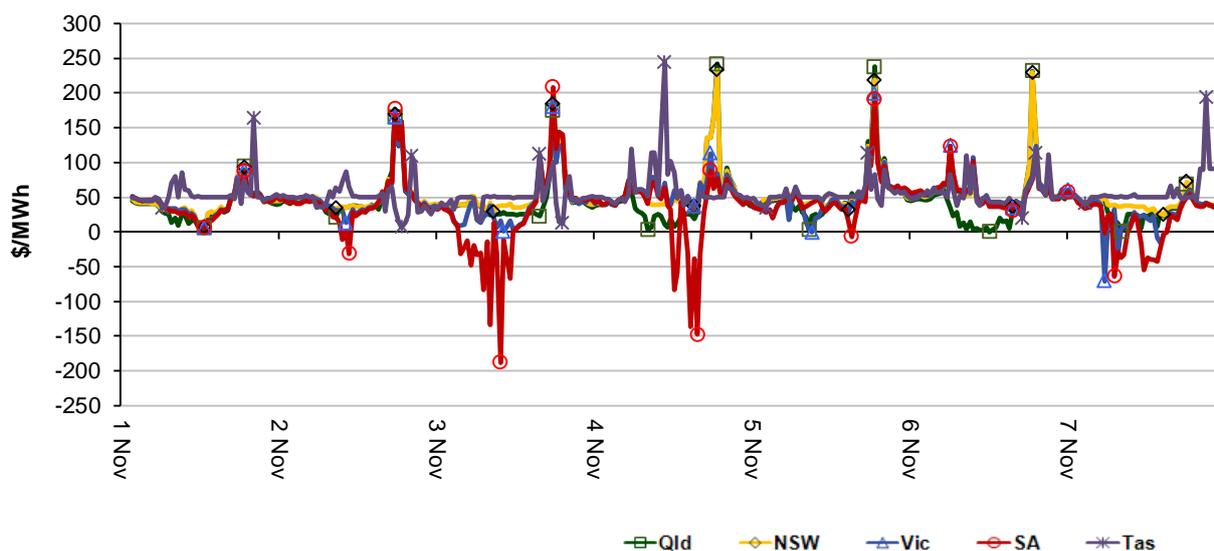
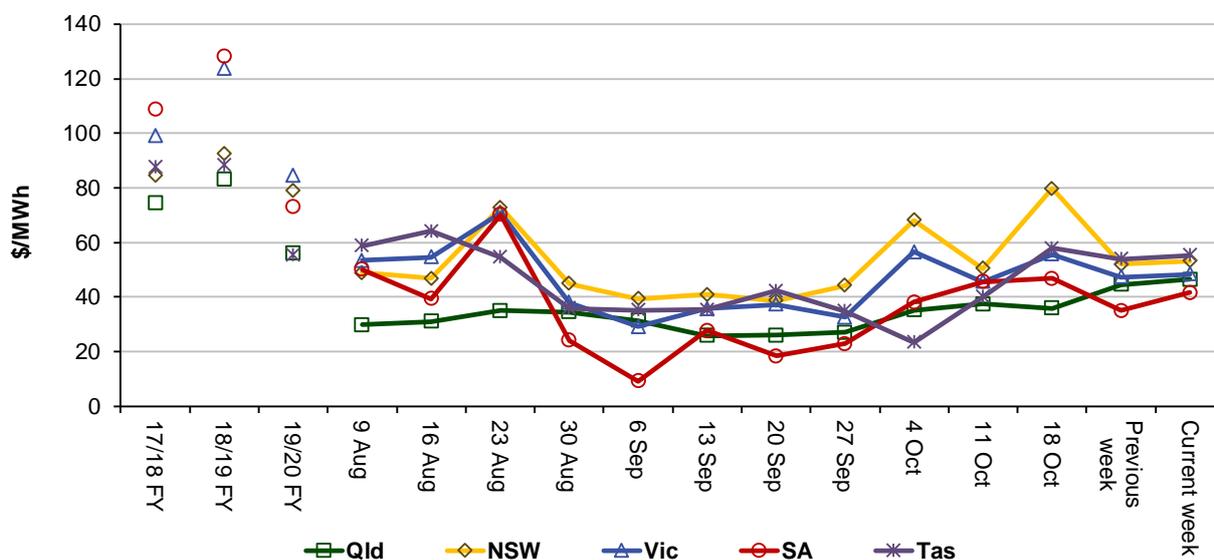


Figure 2 shows the volume weighted average (VWA) prices for the current week (with prices shown in Table 1) and the preceding 12 weeks, as well as the VWA price over the previous 3 financial years.

**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	47	53	48	42	55
Q4 2019 (QTD)	75	99	99	70	106
Q4 2020 (QTD)	39	59	48	38	44
18-19 financial YTD	68	90	102	79	79
19-20 financial YTD	36	51	53	44	49

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 233 trading intervals throughout the week where actual prices varied significantly from forecasts. This compares to the weekly average in 2019 of 204 counts and the average in 2018 of 199. 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**

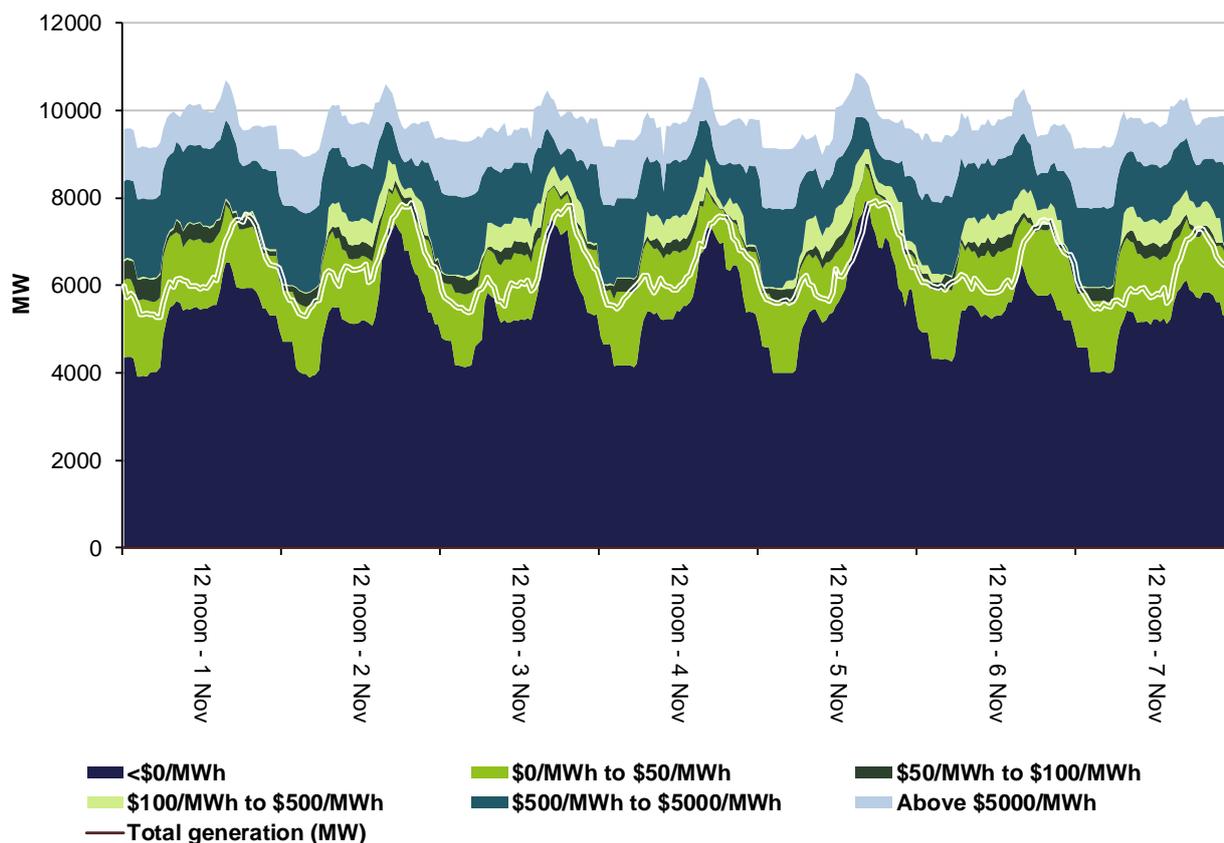
	Availability	Demand	Network	Combination
% of total above forecast	10	33	0	1
% of total below forecast	13	35	0	7

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

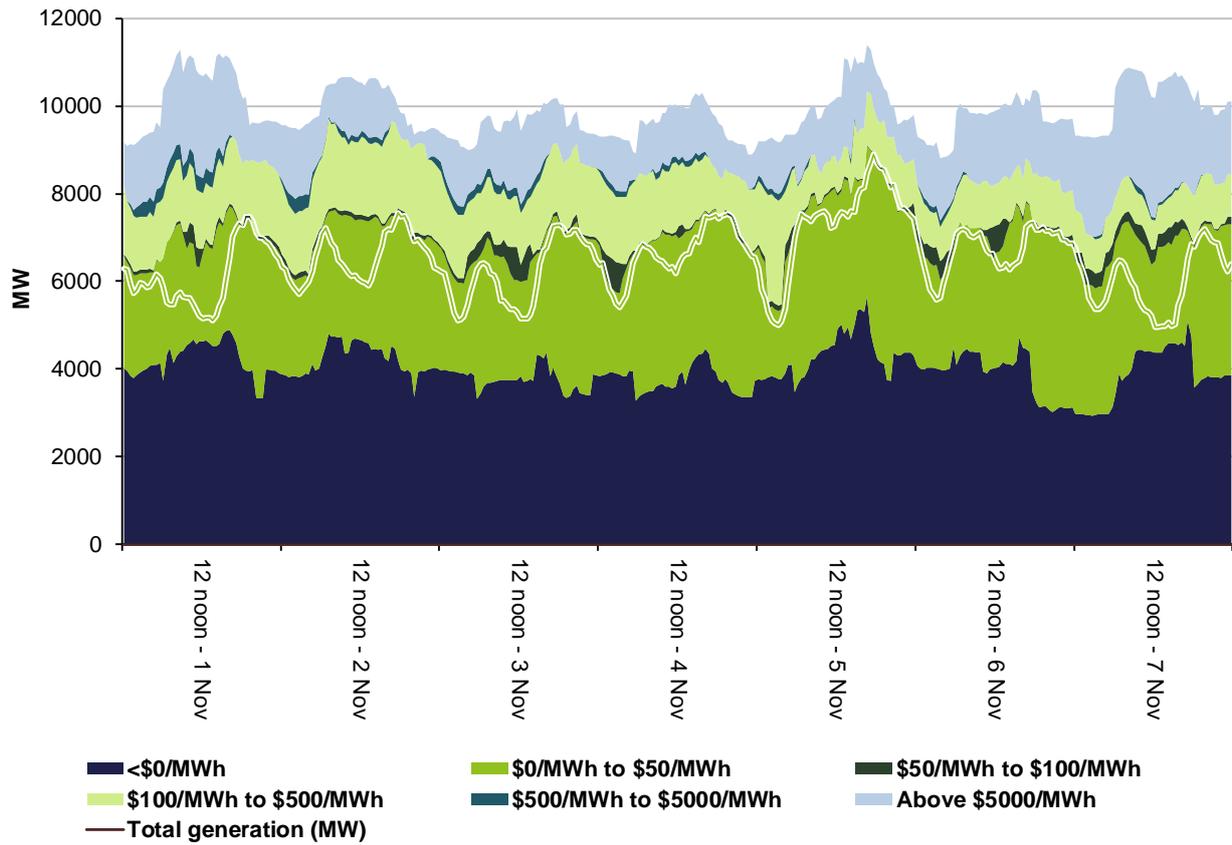
## Generation and bidding patterns

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.

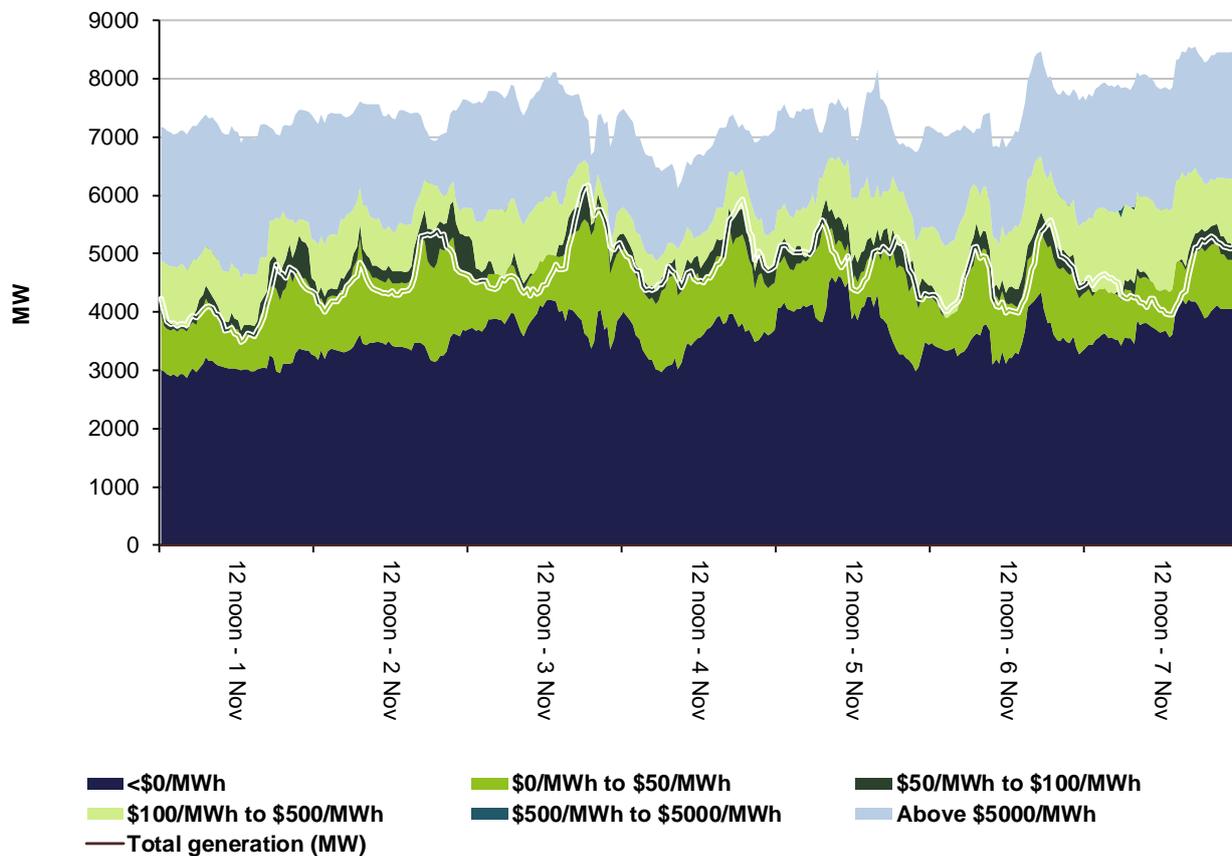
**Figure 3: Queensland generation and bidding patterns**



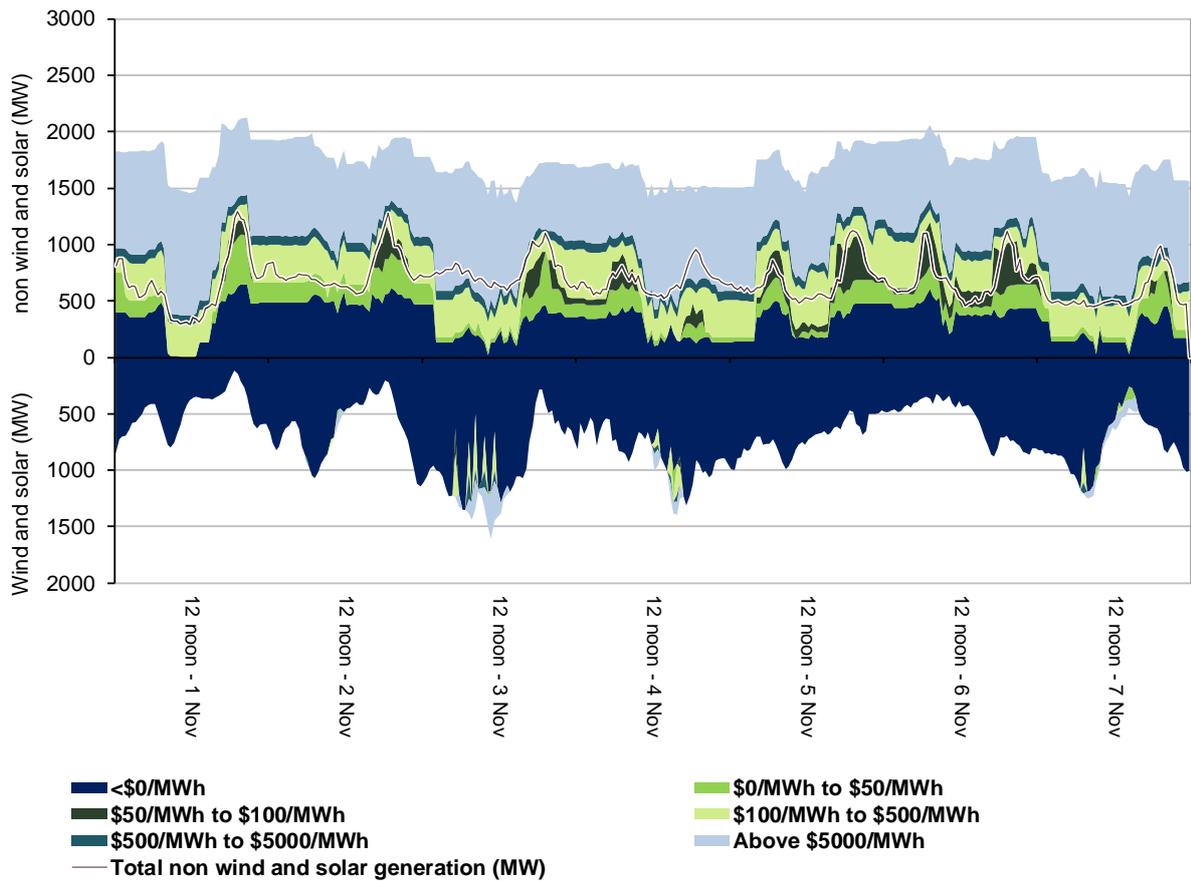
**Figure 4: New South Wales generation and bidding patterns**



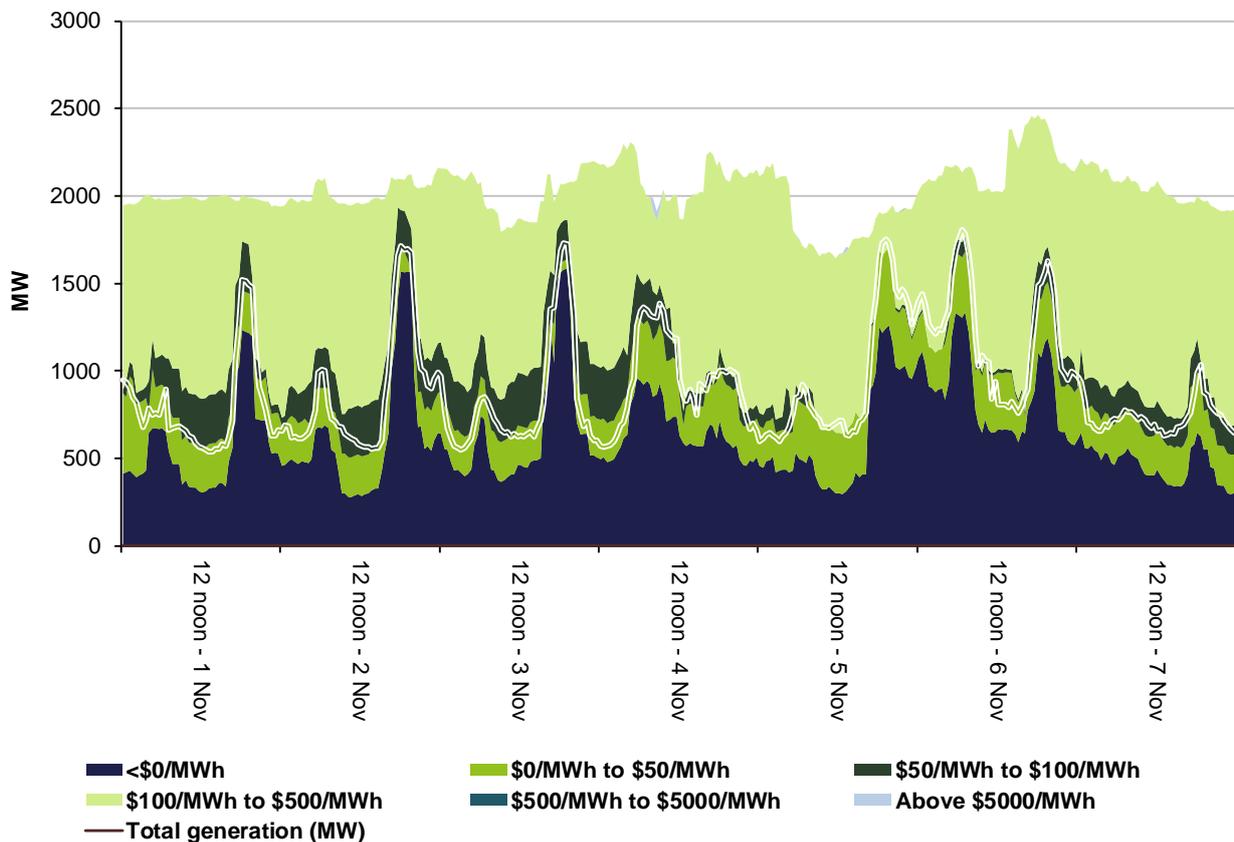
**Figure 5: Victoria generation and bidding patterns**



**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.

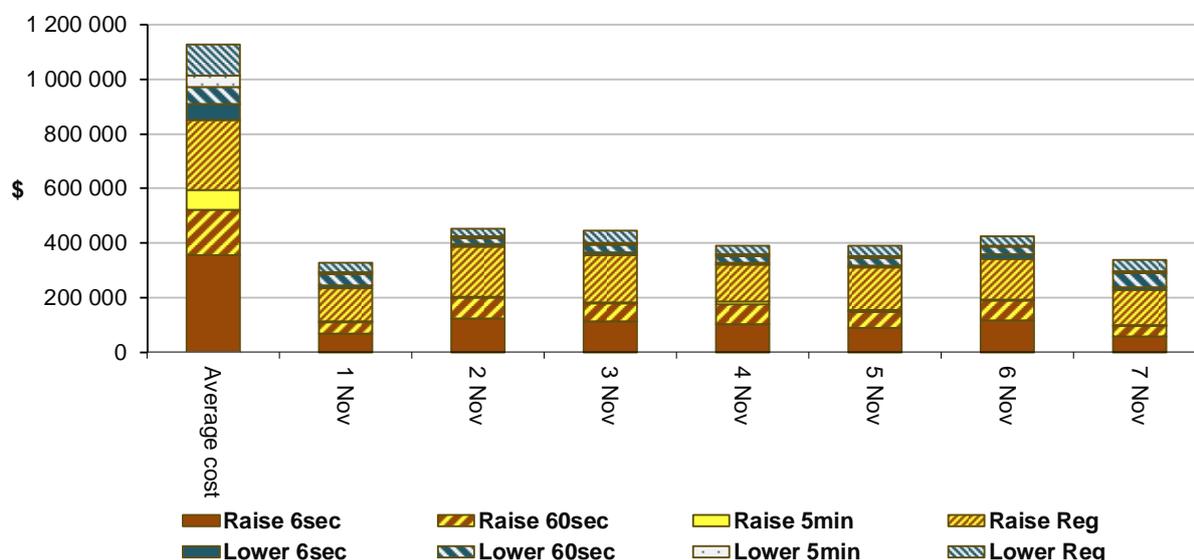
The Electricity Rules stipulate that generators pay for raise contingency services and customers pay for lower contingency services. Regulation services are paid for on a “causer pays” basis determined every four weeks by AEMO.

The total cost of FCAS on the mainland for the week was \$2 429 000 or less than 2 per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$335 500 or less than 4 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

### South Australia

There were four occasions where the spot price in South Australia was below  $-\$100/\text{MWh}$ .

#### Tuesday, 3 November

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

Time	Price ( $\$/\text{MWh}$ )			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	-133.46	-3.10	29.90	1221	1125	1143	2957	2830	2904
10 am	-188.23	-200	8.64	1045	974	1035	2893	3008	2976

For the 8.30 am trading interval, demand was 96 MW higher than forecast and availability was 127 MW higher than forecast, four hours prior. Higher than forecast availability was due to higher than forecast low-priced generation. Rebids immediately prior to dispatch and effective 8.05 am shifted over 200 MW from the price cap to the price floor, resulting in price falling to the price floor at 8.05 am. In response, participants rebid over 800 MW from the price floor to higher prices. Prices remained above  $\$33/\text{MWh}$  from the remainder of the interval.

For the 10 am trading interval, prices were close to forecast four hours prior.

#### Wednesday, 4 November

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

Time	Price ( $\$/\text{MWh}$ )			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	-136.71	30.61	-200	851	1015	864	2756	2576	2815
4 pm	-147.98	30.09	-190	1035	1045	928	2901	2586	2846

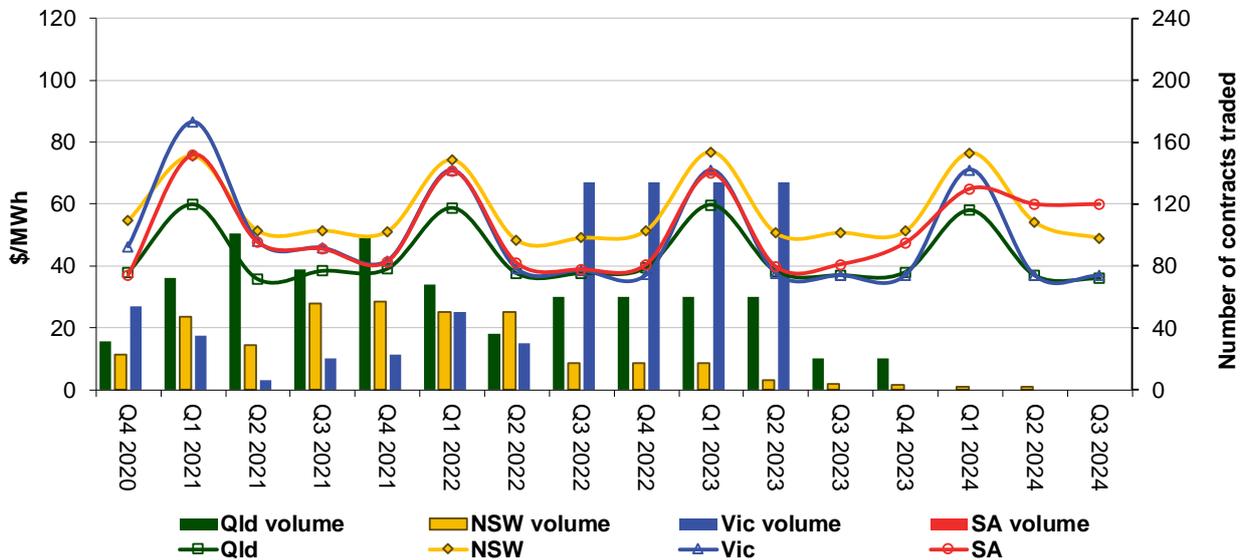
For the 3 pm trading interval, demand was 164 MW lower than forecast while availability was 180 MW higher than forecast, four hours prior. Higher than forecast availability was due to higher than forecast renewable generation, most of which was priced below  $\$0/\text{MWh}$ . Throughout the trading interval the availability of wind generation (mostly priced below  $\$0/\text{MWh}$ ) fluctuated as AEMO limited their output to maintain system security. This saw prices between  $-\$514/\text{MWh}$  and  $\$39/\text{MWh}$  throughout the trading interval. As a result, the spot price was set below forecast.

For the 4 pm trading interval, demand was close to forecast while availability was 315 MW higher than forecast, four hours prior. Higher than forecast availability was due to higher than forecast renewable generation, most of which was priced below  $\$0/\text{MWh}$ . With little capacity priced between  $\$20/\text{MWh}$  and the price floor, the increased availability resulted in the price falling below  $-\$500/\text{MWh}$  on two occasions.

## 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.

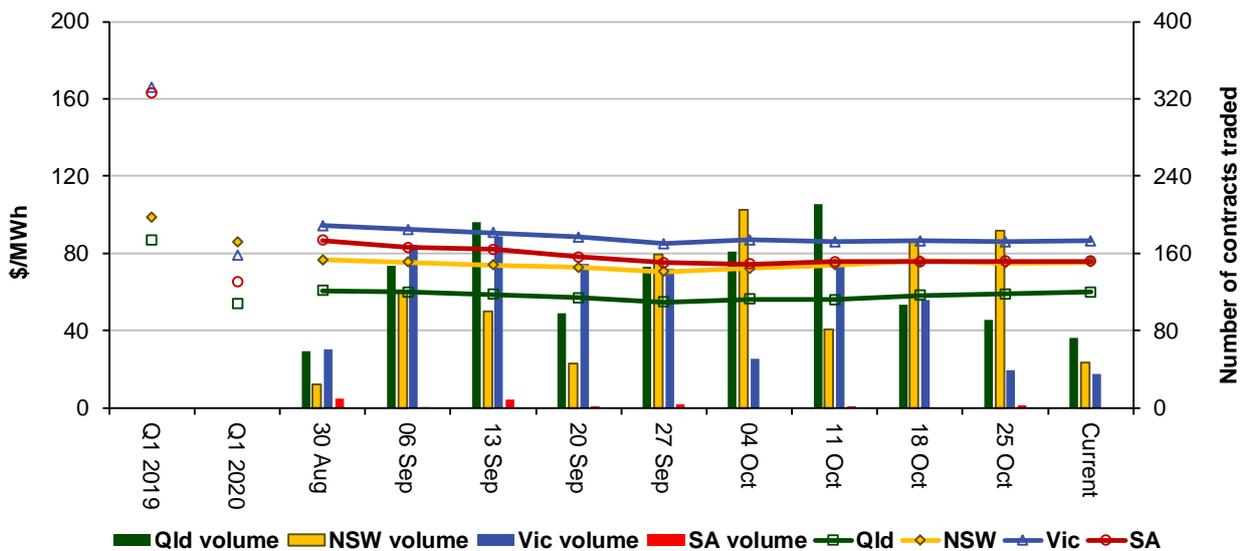
**Figure 9: Quarterly base future prices Q4 2020 – Q3 2024**



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)**

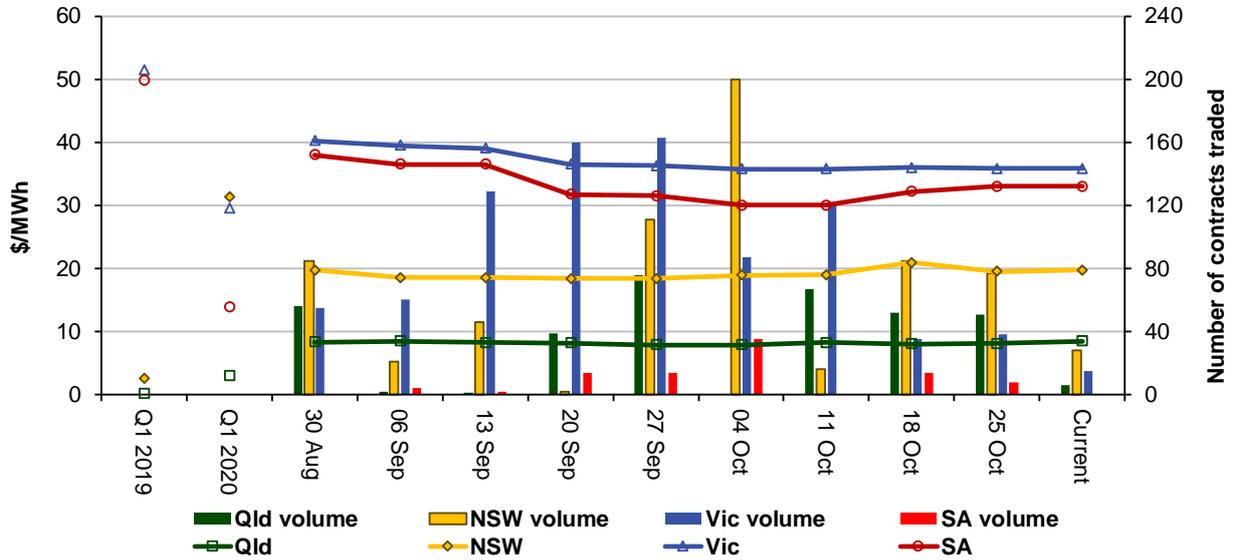


Note. Base contract prices are shown for each of the current week and the previous 9 weeks, with average prices shown for periods 1 and 2 years prior to the current year.

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  
November 2020**