Electricity Report

AUSTRALIAN ENERGY REGULATOR

18 – 24 August 2019

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.

On 24 August 2019, the Basslink interconnector experienced a trip at 11 am caused by technical issues and has been out of service as of 10 September 2019. Investigation identified a failure in a low voltage cable caused the trip and Basslink Pty Ltd is preparing a plan for repair. AEMO has been notified that the Basslink interconnector will remain offline until mid-October 2019.

Spot market prices

Figure 1 shows the spot prices that occurred in each region during the week 18 to 24 August 2019.

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

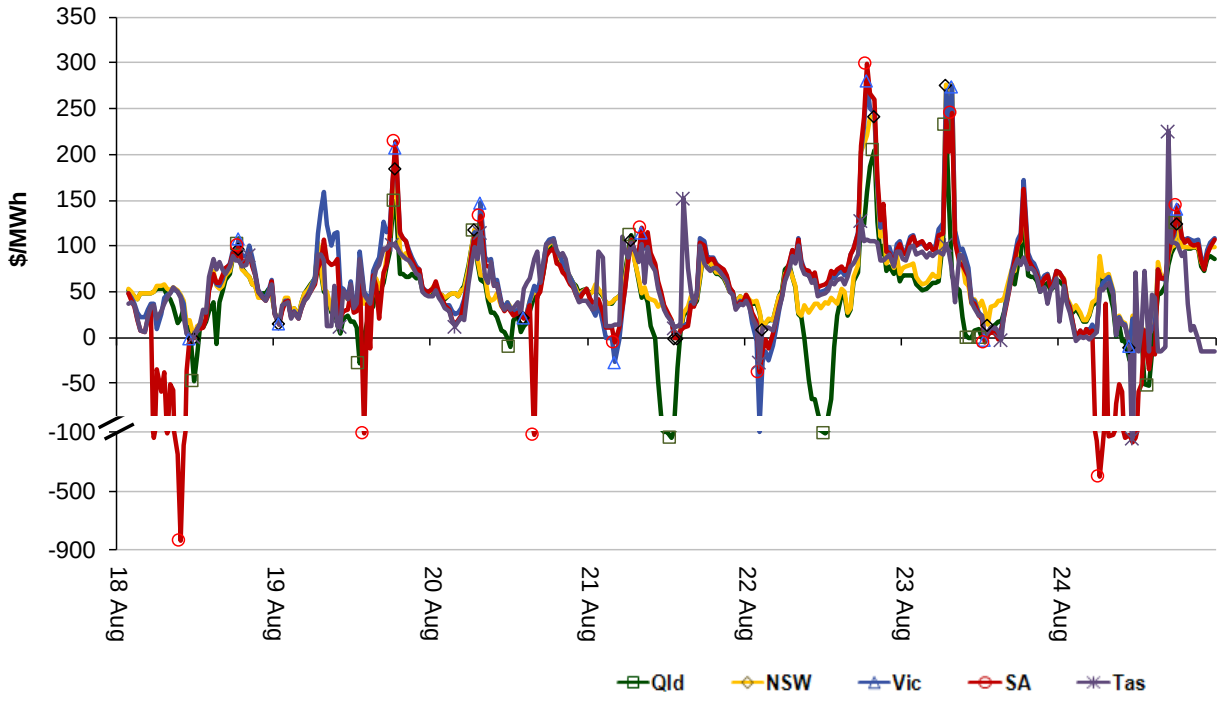


Figure 2 shows the volume weighted average (VWA) prices for the current week (with prices shown in Table 1) and the preceding 12 weeks, as well as the VWA price over the previous 3 financial years.

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

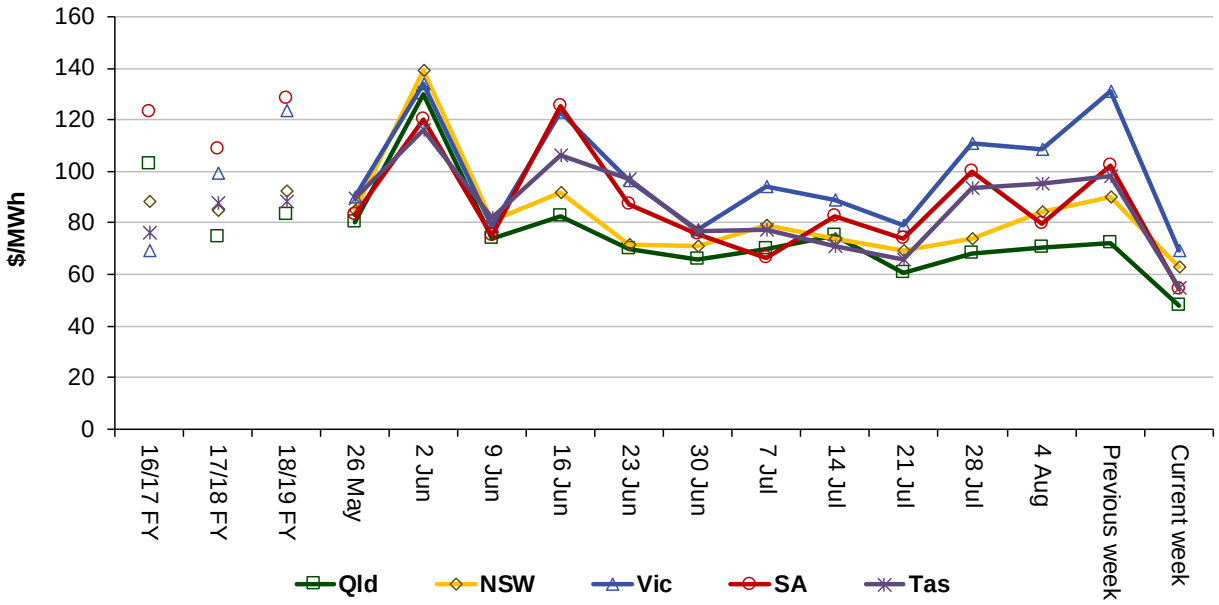


Table 1: Volume weighted average spot prices by region ($/MWh)

Region	Qld	NSW	Vic	SA	Tas
Current week	48	63	69	54	55
18-19 financial YTD	76	83	75	95	37
19-20 financial YTD	67	76	96	80	79

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 241 trading intervals throughout the week where actual prices varied significantly from forecasts. This compares to the weekly average in 2018 of 199 counts and the average in 2017 of 185. 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	28	0	1
% of total below forecast	6	49	0	6

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

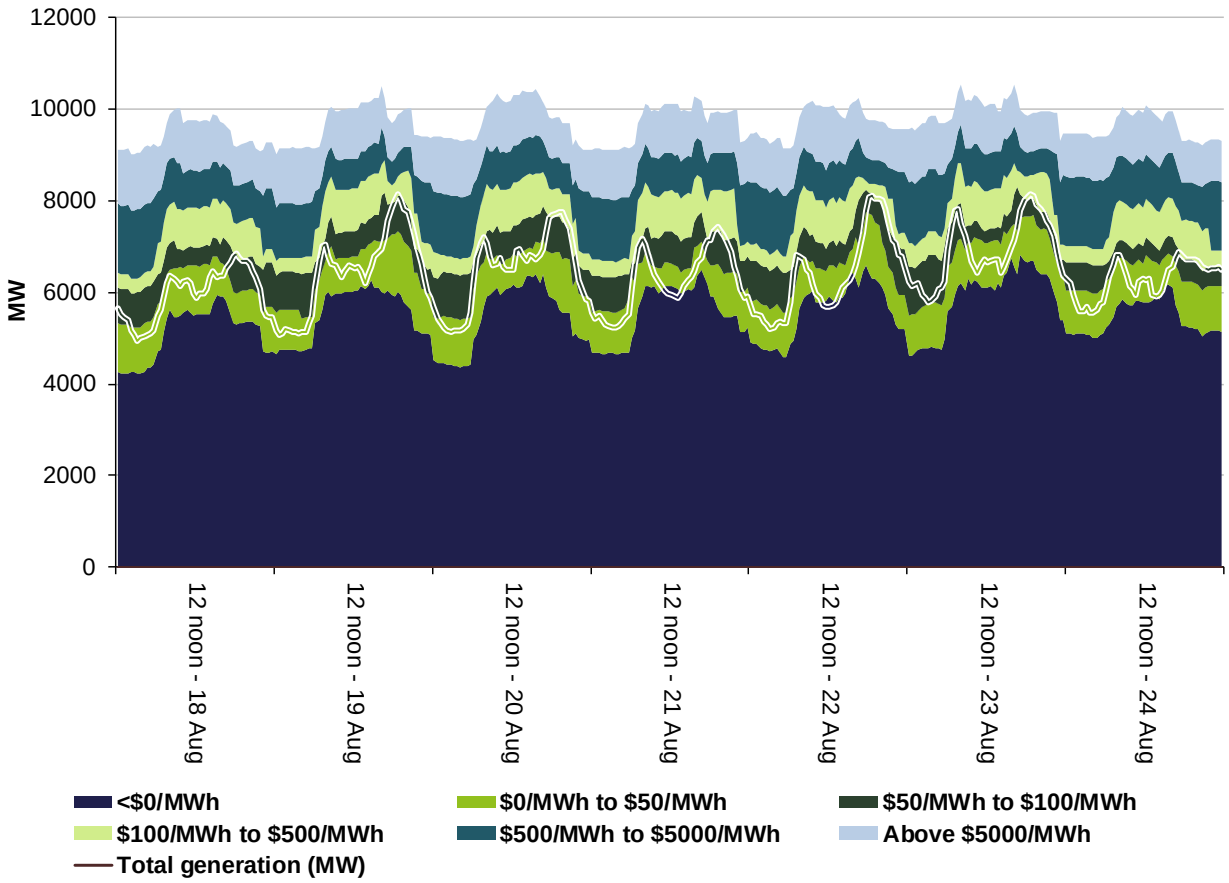


Figure 4: New South Wales generation and bidding patterns

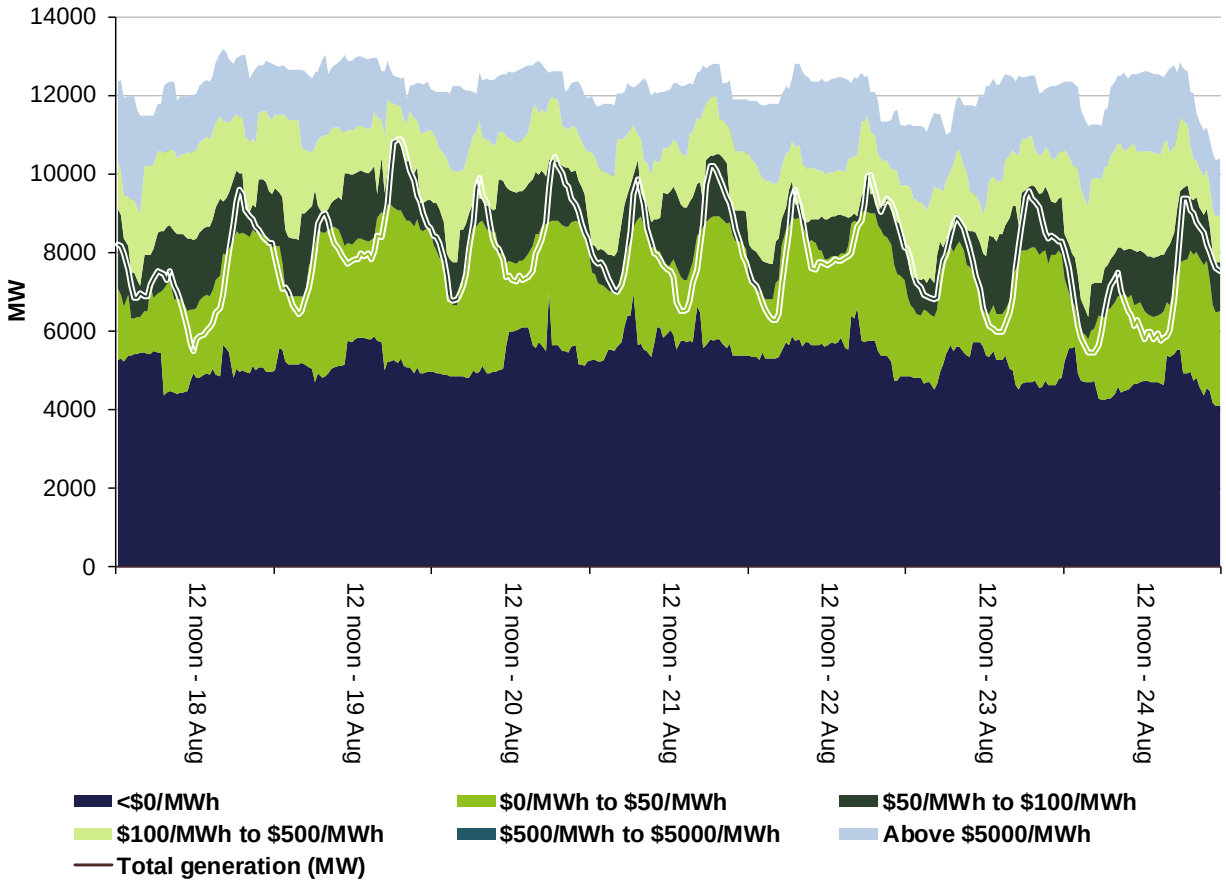


Figure 5: Victoria generation and bidding patterns

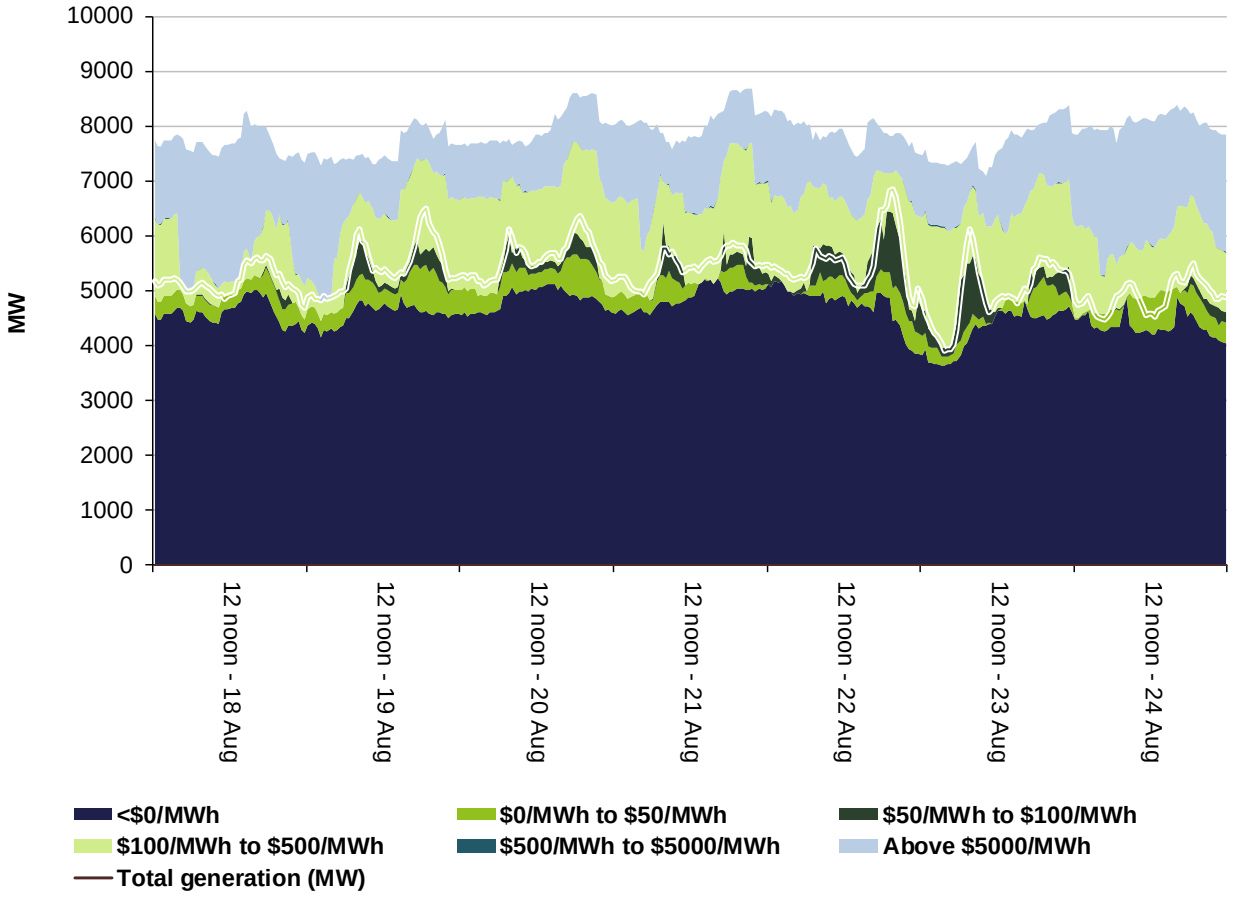


Figure 6: South Australia generation and bidding patterns

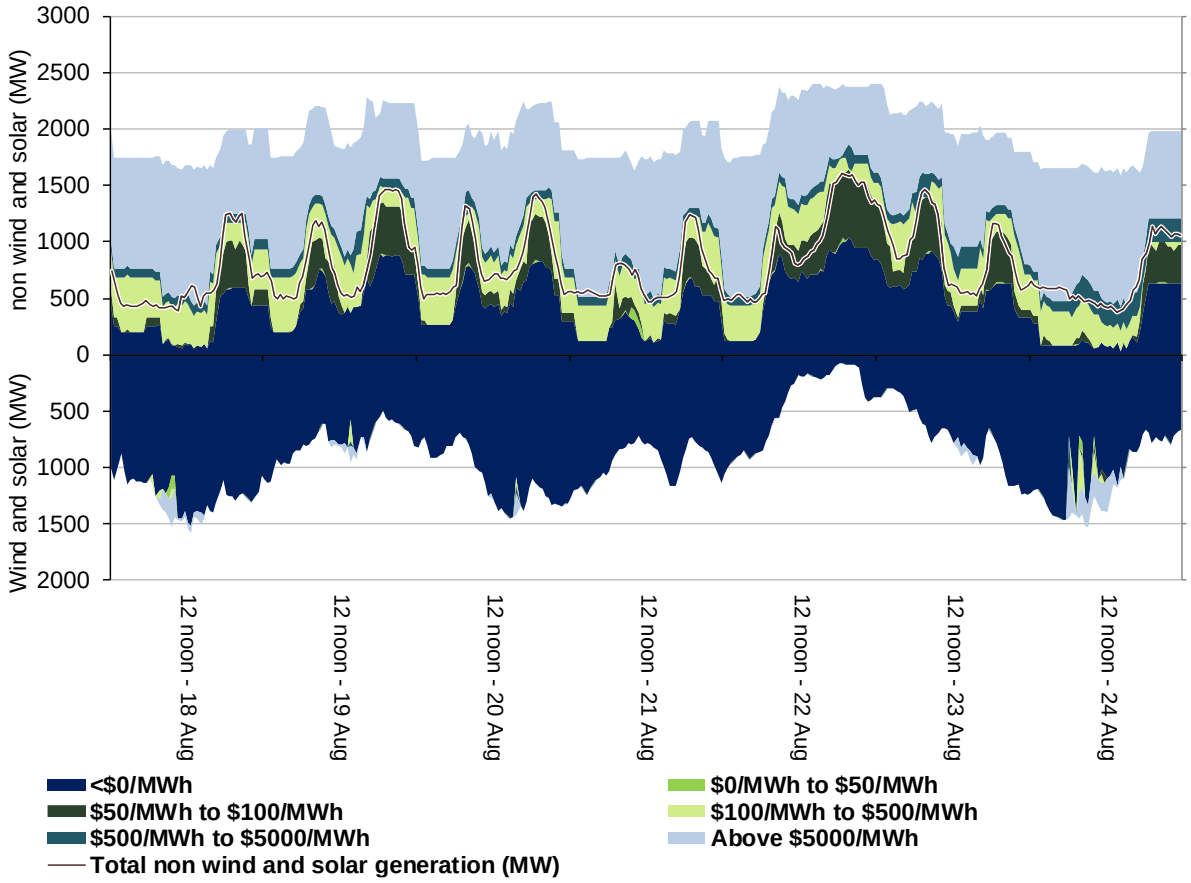
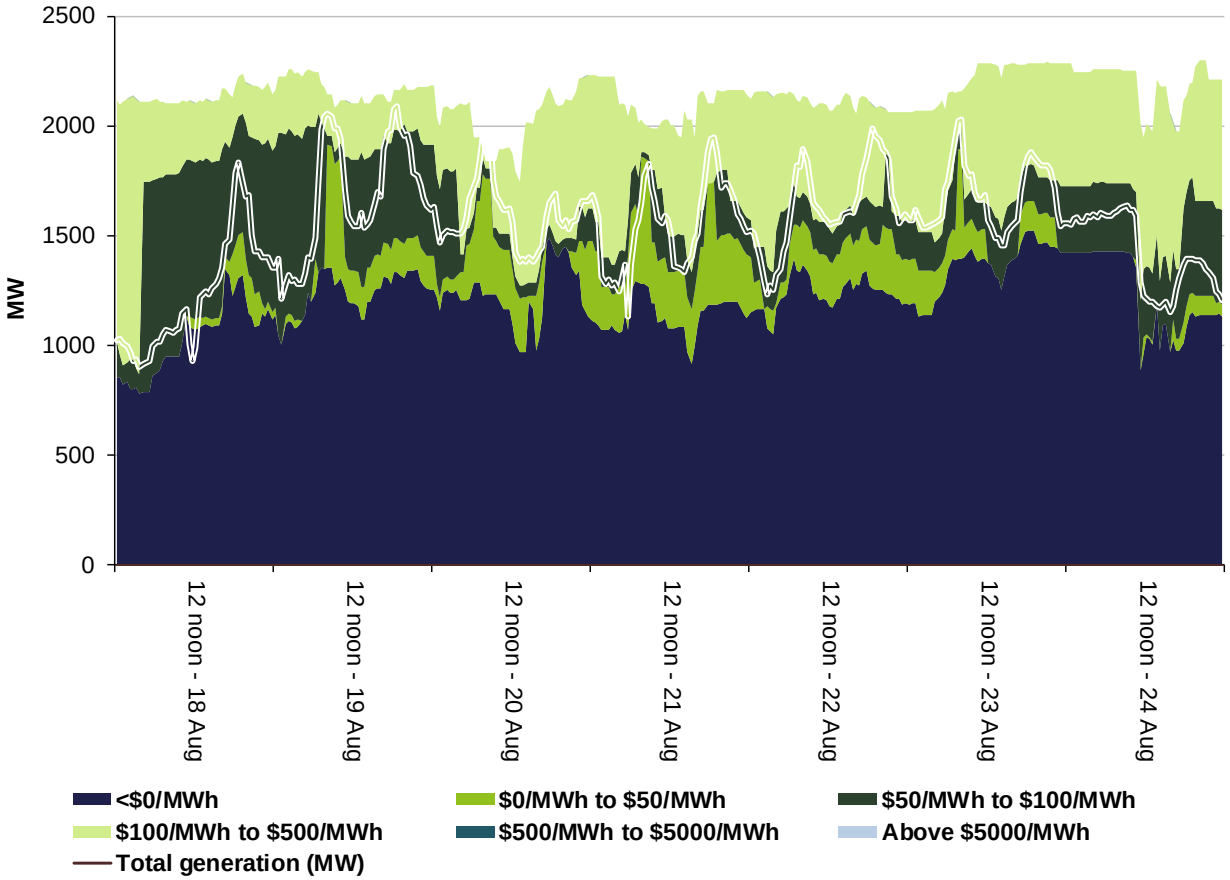


Figure 7: Tasmania generation and bidding patterns



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.

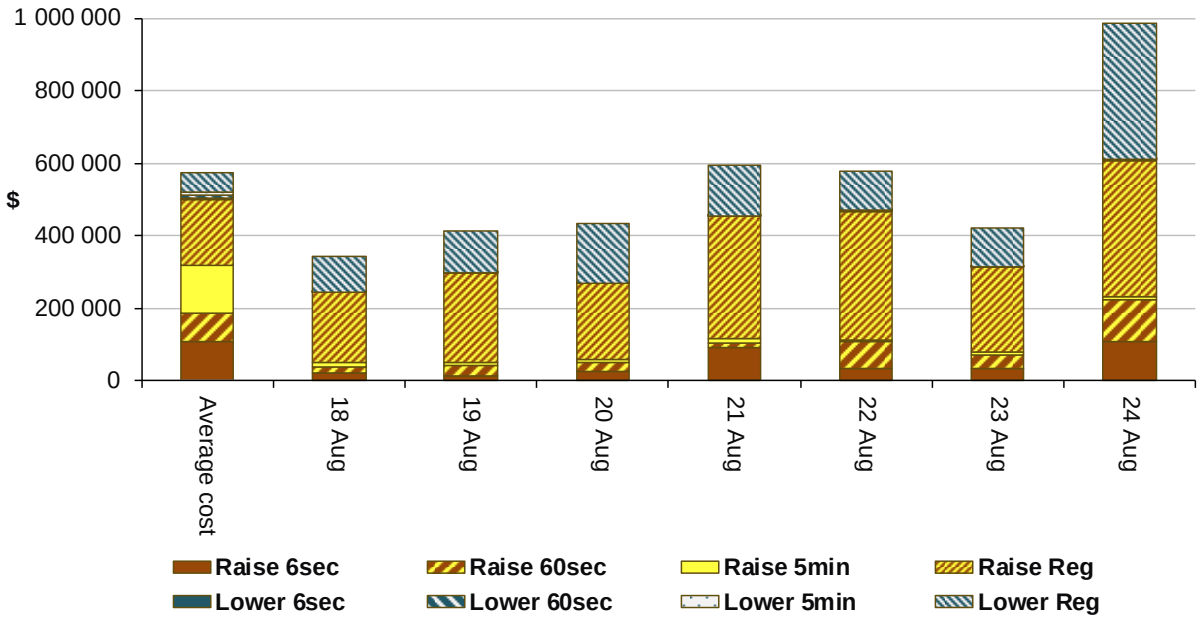
The Electricity Rules stipulate that generators pay for raise contingency services and customers pay for lower contingency services. Regulation services are paid for on a "causer pays" basis determined every four weeks by AEMO.

The total cost of FCAS on the mainland for the week was $2 938 000 or around 1 per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was $831 000 or around 8 per cent of energy turnover.

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



The FCAS cost on 24 August was higher than average cost due to a local Tasmanian event on that day. Following the Basslink outage on 24 August, the local lower regulation price in Tasmania reached $14 000/MW for three dispatch intervals, from 2.35 pm to 2.45 pm. At 2.06 pm, Hydro Tasmania rebid 130 MW of lower regulation service at Gordon from $101/MW to 14 000/MW and withdrew over 130 MW lower regulation service priced below $101/MW at John Butters station due to 'lake level different from forecast – Tribute, JB, Parangana'. These rebids drove Tasmanian local lower regulation price to $14 000/MW for three intervals.

Detailed market analysis of significant price events

Queensland

There were two occasions where the spot price in Queensland was below -$100/MWh.

Wednesday, 21 August

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
1 pm	-142.72	-72.05	-154.54	4784	4847	4768	10 112	9970	10 208

Demand was 63 MW lower than forecast and availability was 142 MW higher than forecast, four hours prior. Higher than forecast availability was due to higher than forecast solar generation, which was mostly priced below $0/MWh. At 12.45 pm, demand in Queensland reduced by 97 MW and with only 22 MW of capacity priced between the four hour forecast price of -$72/MWh and -$330/MWh at the time, the dispatch price fell to -$372/MWh for one dispatch interval.

Thursday, 22 August

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
12.30 pm	-107.82	-98.22	-372.89	4712	4818	4804	10 226	10 503	10 549

Conditions at the time saw price close to forecast, four hours prior.

New South Wales

There were two occasions where the spot price in New South Wales was greater than three times the New South Wales weekly average price of $63/MWh and above $250/MWh.

Friday, 23 August

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 am	276.73	299.50	122.60	9738	9521	9463	11 074	10 889	11 046

Price was close to forecast, four hours prior.

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
8 am	275.96	185.42	262.95	10 225	10 054	9963	11 678	11 703	11 720

Price was aligned with the Victorian and South Australian prices. See Victorian section for this analysis.

Victoria

There were four occasions where the spot price in Victoria was greater than three times the Victoria weekly average price of $69/MWh and above $250/MWh.

Thursday, 22 August

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
7 pm	281.66	342.91	306.17	6867	6693	6792	7867	8000	8071
7.30 pm	250.61	339.23	353.39	6781	6629	6717	7810	7909	7992

Prices for these two trading intervals were aligned with the South Australian price. See South Australian section for this analysis.

Friday, 23 August

Table 8: 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	268.87	290.00	121.86	6109	5974	5914	7370	7487	7566

Price was close to forecast, four hours prior.

Table 9: 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 am	274.83	423.87	290.00	6680	6419	6331	7537	7614	7683

The prices in Victoria, New South Wales and South Australia were aligned and are discussed collectively in this section. The South Australian price did not breach our reporting threshold.

Across New South Wales, South Australia and Victoria, demand was 435 MW higher than forecast while availability was 93 MW less than forecast, four hours prior. From 6.04 am participants across New South Wales, South Australia and Victoria either added or shifted more

than 850 MW of capacity to below $133/MWh, see Table 10 for rebid details. As a result dispatch prices were around $290/MWh for most of this trading interval.

Table 10: Significant rebids

Submit time	Region	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
6.04 am	VIC	Energy Australia	Jeeralang B	168	11 501	<105	0555~A~adj avail due to mat change in VIC 5min pd price $290.00 vs $373.30 @ 0655
6.33 am	VIC	Energy Australia	Jeeralang A	54	14 500	<133	0630~A~band adj due to unforecast increase in VIC dispatch price $259.54 @ 0635
6.49 am	VIC	Energy Australia	Jeeralang A	54	14 500	<133	0645~A~band adj due to increase in VIC dispatch price $290 @ 0650
6.58 am	VIC	Snowy Hydro	Murray	100	14 700	<83	06:56:00 A VIC-NSW 5min pd price separation $240.29 higher than 30min pd 07:55@06:32 ($432.95)
5.24 am	NSW	AGL Energy	Liddell	20	14 700	-1000	0516~P~050 chg in unit operation~minimum load increased as per ops (plant failure)
6.06 am	NSW	Visy Power	Smithfield	120	N/A	-984	0600~A~NSW RRP for 0635 at 0605 299.60
6.20 am	NSW	AGL Energy	Liddell	110	14 700	-1000	0601~A~050 chg in AEMO pd~55 NSW pd price increase +$123 for 07:00
6.22 am	NSW	Origin Energy	Shoalhaven	200	14 700	-1000	0620A inc NSW dem 5pd 9,911 MW > 30pd 9,733 MW @ 0700
6.53 am	NSW	AGL Energy	Liddell	40	14 700	-1000	0631~A~050 chg in AEMO pd~51 pd demand increase [NEM] +186MW pe 0730 (0631pd)

South Australia

There were three occasions where the spot price in South Australia was greater than three times the South Australia weekly average price of $54/MWh and above $250/MWh and there were sixteen occasions where the spot price was below -$100/MWh.

Sunday, 18 August

Table 11: 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 am	-144.30	-.93	7.56	930	899	935	2884	2889	2904

Demand and availability were both close to forecast, four hours prior. For the 6 am dispatch interval, a network constraint affecting the flow on the Heywood interconnector was binding and caused exports from South Australia into Victoria to reduce by more than 60 MW. Generation in South Australia decreased by 19 MW as a consequence. With no capacity priced between $68/MWh and the price floor in South Australia at the time, the dispatch price fell to the floor for one dispatch interval.

Table 12: 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 am	-111.67	-1000.00	-1000.00	1125	986	1034	3083	2926	2947
9.30 am	-250.00	-1000.00	-1000.00	1076	1004	1060	3130	2995	2998
10 am	-839.51	-1000.00	-1000.00	970	962	1030	3195	3021	3011
10.30 am	-195.83	-1000.00	-1000.00	1078	928	1001	3111	3032	3068

Demand and availability were above forecast for all trading intervals. The additional availability was due to higher than forecast wind generation, mostly priced below $0/MWh. Rebidding in South Australia saw between 637 MW and 810 MW of capacity being shifted from the price floor to above -$152/MWh, see Table 13 and Table 14 for rebid details. This resulted in dispatch prices settling between -$200/MWh and -$35/MWh once or multiple times in each trading interval.

Table 13: Significant rebids – 8 am

Submit time	Effective trading interval	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
5.26 am		AGL Energy	Hallett 1 WF	55	-1000	>-35	0520~A~050 chg in AEMO pd~54 pd price decrease SA 06:10 5mpd -$1,000.00 vs 06:30 30mpd $36.36
5.26 am		AGL Energy	Hallett 2 WF	40	-1000	>-35	Same as above
5.26 am		AGL Energy	North Brown Hill WF	60	-1000	>-35	Same as above
5.26 am		AGL Energy	The Bluff WF	30	-1000	>-35	Same as above

Submit time	Effective trading interval	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
5.43 am		AGL Energy	Hallett 1 WF	20	-1000	-1	0540~A~050 chg in AEMO pd~54 pd price decrease SA 06:15 5mpd -$1,000.00 vs 06:30 30mpd $36.76
5.43 am		AGL Energy	Hallett 2 WF	10	-1000	-1	Same as above
5.43 am		AGL Energy	North Brown Hill WF	20	-1000	-1	Same as above
5.43 am		AGL Energy	The Bluff WF	10	-1000	-35	Same as above
6.03 am		Infigen	Lake Bonney 2 WF	159	-1000	-50	0555~A~SA price dp@0600 for 0600 1000 lwr thn 5pd@0550
6.06 am		Infigen	Lake Bonney 3 WF	39	-1000	-51	0600~A~SA price dp@0600 for 0600 1000 lwr thn 5PD@0550
7.39 am		Vena Energy Services	Tailem Bend Solar Project 1	95	-1000	14 700	07:37 A negative prices forecast
7.43 am		Trustpower	Snowtown WF	99	-1000	400	0740 A SA1 5min pd rrp for 0750 ($-200.0) published at 0740 is 625.82% lower than 5min pd rrp published at 0730 ($27.55) - time of alert: 0743

Table 14: Significant rebids – 9.30 am to 10.30 am

Submit time	Effective trading interval	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
6.03 am	9.30 am	Infigen	Lake Bonney 2 WF	159	-1000	-50	0555~A~SA price dp@0600 for 0600 1000 lwr thn 5pd@0550
6.36 am	10 am 10.30 am	HWF3 Pty Ltd	Hornsdale Wind Farm 3	109	-1000	-150	0636 A change in forecast price
7.39 am	9.30 am 10 am 10.30 am	Vena Energy Services	Tailem Bend Solar Project 1	95	-1000	14 700	07:37 A negative prices forecast
7.50 am	9.30 am	Willogoleche Power	Willogoleche Wind Farm	119	-1000	-100	0745~A~demand 1137 vs 1029~
8.21 am	9.30 am 10 am 10.30 am	AGL Energy	Hallett 1 WF	65	-1000	-35	0801~A~050 chg in AEMO pd~51 pd available generation increase SA by avg 105MW from pe 0900 until 1030 in the 0701-0801 pd
8.21 am	9.30 am 10 am 10.30 am	AGL Energy	Hallett 2 WF	41	-1000	-35	Same as above

Submit time	Effective trading interval	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
8.21 am	9.30 am 10 am 10.30 am	AGL Energy	North Brown Hill WF	89	-1000	-35	Same as above
8.21 am	9.30 am 10 am 10.30 am	AGL Energy	The Bluff WF	23	-1000	-35	Same as above
8.38 am	10 am 10.30 am	Infigen	Lake Bonney 2 WF	159	-1000	-50	0840~A~SA price dp@0840 for 0840 63 lwr thn 5pd@0835
9.08 am	9.30 am	Trustpower	Snowtown WF	99	-1000	14 700	0901 A SA1 30min pd rrp for 0930 ($-150.0) published at 0901 is 50.0% lower than 30min pd rrp published at 0831 ($-100.0) – time of alert: 0908
9.21 am	9.30 am	HWF3 Pty Ltd	Hornsdale Wind Farm 3	109	-1000	0	0920 A change in forecast price
9.23 am	10 am	Trustpower	Snowtown WF	99	-1000	14 700	0901 A SA1 30min pd rrp for 1000 ($-150) published at 0901 is 85.0% higher than 30min pd rrp published at 0831 ($-1000) - time of alert: 0923
9.34 am	10 am 10.30 am	Energy Australia	Waterloo WF	130	-1000	400	09:33 ~ A ~ band adj to 5min negative dp
10.03 am	10.30 am	Trustpower	Snowtown WF	99	-1000	14 700	1000 A SA1 5min pd total demand for 1010 (972.95MW) published at 1000 is 9.16% higher than 5min pd total demand published at 0945 (891.27MW) - time of alert: 1003
10.06 am	10.30 am	Energy Australia	Waterloo WF	130	-100	400	10:06 ~ A ~ band adj to 5min negative dp

Monday, 19 August

Table 15: 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
2 pm	-106.94	49.13	38.24	1259	1254	1269	2840	3025	3236

Demand was close to forecast while availability was 185 MW less than forecast, both four hours prior. Availability was lower than forecast because of withdrawn capacity at Torren Island stations due to plant issues, mostly priced at the price cap.

Effective 1.55 pm, Neoen rebid 109 MW of capacity at Hornsdale 3 wind farm from -$150/MWh to the price floor due to 'unforecasted change in dispatch price'. This introduced additional capacity at the price floor and meant that higher priced generation needed to be backed off. As a result, generation at Lake Bonney 2 and Lake Bonney 3 wind farms were reduced and they became ramp-down constrained and unable set price. As these were the only two units in South Australia with offers priced between $148/MWh and the price floor at the time, the dispatch price fell to the floor for one dispatch interval.

Tuesday, 20 August

Table 16: 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
4 pm	-116.25	33.53	32.82	1364	1228	1189	3510	3219	3307

Demand was 136 MW higher than forecast while availability was 291 MW higher than forecast, both four hours prior. Additional availability was due to higher than forecast wind generation, the majority of which was priced at the floor. As a result, the price fell to the price floor in the first dispatch interval. In response to this, participants in South Australia rebid more than 500 MW of capacity from the price floor to above $51/MWh in the subsequent dispatch intervals and price settled between $38/MWh to $77/MWh for the remainder of this trading interval, see Table 17 for rebid details.

Table 17: Significant rebids

Submitted time	Time effective	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
3.33 pm	3.40 pm	Infigen	Lake Bonney 2 WF	159	-1000	12 879	1530~A~unforecast floor price in SA~
3.33 pm	3.40 pm	Trustpower	Snowtown WF	99	-1000	5000	1530 A SA1 5min pd rrp for 1540 ($23.96) published at 1530 is 30.67% lower than 5min pd rrp published at 1525 ($34.56) - time of alert: 1533
3.33 pm	3.40 pm	Vena Energy Services	Tailem Bend Solar Project 1	95	-1000	14 700	15:33 A actual negative prices
3.34 pm	3.45 pm	EnergyAustralia	Waterloo WF	130	-1000	400	15:33 ~ A ~ band adj to 5min negative dp
3.34 pm	3.45 pm	Engie	Pelican Point	20	-1000	68	1500~P~update rts profiile~

Thursday, 22 August

Table 18: 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	298.50	378.92	332.59	1974	1981	1999	2473	2462	2604
7.30 pm	266.47	378.92	378.92	1984	2022	2029	2471	2444	2575
8 pm	259.06	578.81	366.58	1965	1996	2005	2465	2455	2567

The prices in Victoria and South Australia were aligned for the 7 pm and 7.30 pm trading intervals and is discussed collectively in this section.

For all three trading intervals above, demand and availability were close to forecast, four hours prior. Rebidding from participants in both Victoria and South Australia for these trading intervals saw between 177 MW to 288 MW of capacity shifted from above $379/MWh to below $78/MWh, see Table 19 for rebid details. As a result dispatch prices were around $290/MWh for a majority of the time.

Table 19: Significant rebids

Submitted time	Effective trading interval	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
4.31 pm	7 pm 7.30 pm 8 pm	Origin Energy	Quarantine	125	379	<78	1630A constraint management - N^^V_NIL_1 SL
5.47 pm	7 pm	EnergyAustralia	Jeeralang A	54	14500	-1000	1745~A~mat increase VIC price 1750 to $290
5.50 pm	7 pm	EnergyAustralia	Jeeralang A	54	14 500	-1000	Same as above
5.54 pm	7 pm	EnergyAustralia	Hallett	35	579	-1000	1750~A~mat increase SA price 1750,1755 $304.10, $258.05 vs pd30 $76.45
6.19 pm	7 pm	EnergyAustralia	Hallett	20	13 999	-1000	1810~A~increase SA p5 price fcst over 1830-1930 vs P30
6.19 pm	7.30 pm	EnergyAustralia	Hallett	55	13 999	-1000	Same as above
7.01 pm	7.30 pm	EnergyAustralia	Jeeralang A	108	14500	-1000	1900~A~mat increase VIC price $290 at 1905
7.20 pm	8 pm	EnergyAustralia	Hallett	52	13999	-1000	1915~A~mat increase SA p5 price from 1940 over hhe 2000

Saturday, 24 August

Table 20: 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 am	-156.05	-.08	-.07	955	914	910	3116	2879	2877
6.30 am	-402.77	39.27	30.73	1068	937	934	3104	2882	2879
7 am	-186.44	39.46	32.46	1096	987	993	3054	2883	2882
8 am	-132.74	57.42	47.13	1162	1085	1091	3096	2894	2887
8.30 am	-120.15	59.56	44.66	1149	1120	1131	3060	2877	2921

Demand was between 29 MW to 131 MW higher than forecast while availability was around 200 MW higher than forecast, four hours prior. Additional availability was due to higher than forecast wind generation, mostly priced below $0/MWh. With little or no capacity offered between $50/MWh and the price floor in South Australia at the time, the additional wind availability resulted in dispatch prices falling to the price floor, either once or multiple times in each of the above trading intervals.

Table 21: 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
10.30 am	-136.93	-45.13	-900.00	1075	973	978	2895	2897	2948

Demand was 102 MW higher than forecast while availability was close to forecast, both four hours prior.

Energy consumption by battery loads must be offset by an increase in generation. Starting at 9.40 am, Neoen rebid 40 MW of load at Hornsdale power reserve to start charging, due to change in forecast prices. However Neoen withdrew this load from the market, effective 10.05 am, due to change in forecast state of charge. This meant Hornsdale power reserve went from consuming 40 MW at 10 am to 0 MW at 10.05 am. At the same time, demand in South Australia decreased by 48 MW. Both of these events resulted in generation reducing by 58 MW at 10.05 am. This meant higher priced generation at Lake Bonney 3 wind farm was backed off and became ramp-down constrained and unable to set price. As it was the only generation unit offering capacity between $0/MWh and -$900/MWh at the time, price fell to -$900/MWh for one dispatch interval. In response to dispatch price close to the price floor, EnergyAustralia, Trustpower and AGL submitted rebids that saw more than 500 MW of capacity shift from below -$900/MWh to above $100/MWh and price settled between $0/MWh and $35/MWh for the remainder of the 10.30 am trading interval, see Table 22 for rebid details.

Table 22: Significant rebids

Submitted time	Time effective	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
10.02 am	10.10 am	Energy Australia	Waterloo WF	130	-1000	100	10:01 ~ A ~ managed 5 min negative prices
10.03 am	10.10 am	Trustpower	Snowtown WF	99	-1000	14700	1000 A SA1 5min pd rrp for 1030 ($0.0) published at 1000 is 100.0% higher than 30min pd rrp published at 0931 ($-151.85) - time of alert: 1003
10.07 am	10.15 am	AGL Energy	Hallett 1 WF	81	-900	300	1000~A~040 chg in AEMO disp~ V-S-MNSP1 flow increase vs pd -8MW vs -195MW
10.07 am	10.15 am	AGL Energy	Hallett 2 WF	57	-900	300	Same as above
10.07 am	10.15 am	AGL Energy	North Brown Hill WF	109	-900	300	Same as above
10.07 am	10.15 am	AGL Energy	The Bluff WF	40	-900	300	Same as above

Table 23: 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
11 am	-116.88	-900.00	-900.00	986	908	912	2964	2930	2951
11.30 am	-169.95	-900.00	-900.00	1030	858	855	3022	2938	2944
Midday	-136.99	-900.00	-900.00	1077	812	838	3017	2930	2917

Demand and availability were higher than forecast, four hours ahead. At 10.07 am, AGL rebid 287 MW of capacity from -$900/MWh to -$51/MWh, see for Table 24 rebid details. As a result, dispatch prices were above -$100/MWh for most of the time.

Table 24: Significant rebids

Submitted time	Effective trading interval	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
10.07 am	11 am 11.30 am midday	AGL Energy	Hallett 1 WF	81	-900	-51	1000~A~040 chg in AEMO disp~V-S-MNSP1 flow increase vs pd -8MW vs -195MW
10.07 am	11 am 11.30 am midday	AGL Energy	Hallett 2 WF	57	-900	-51	Same as above
10.07 am	11 am 11.30 am midday	AGL Energy	North Brown Hill WF	109	-900	-51	Same as above

10.07 am	11 am 11.30 am midday	AGL Energy	The Bluff WF	40	-900	-51	Same as above

Tasmania

There was one occasion where the spot price in Tasmania was below -$100/MWh.

Saturday, 24 August

Table 25: 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
11.30 am	-142.81	8.47	.00	1043	1057	1054	2044	2283	2280

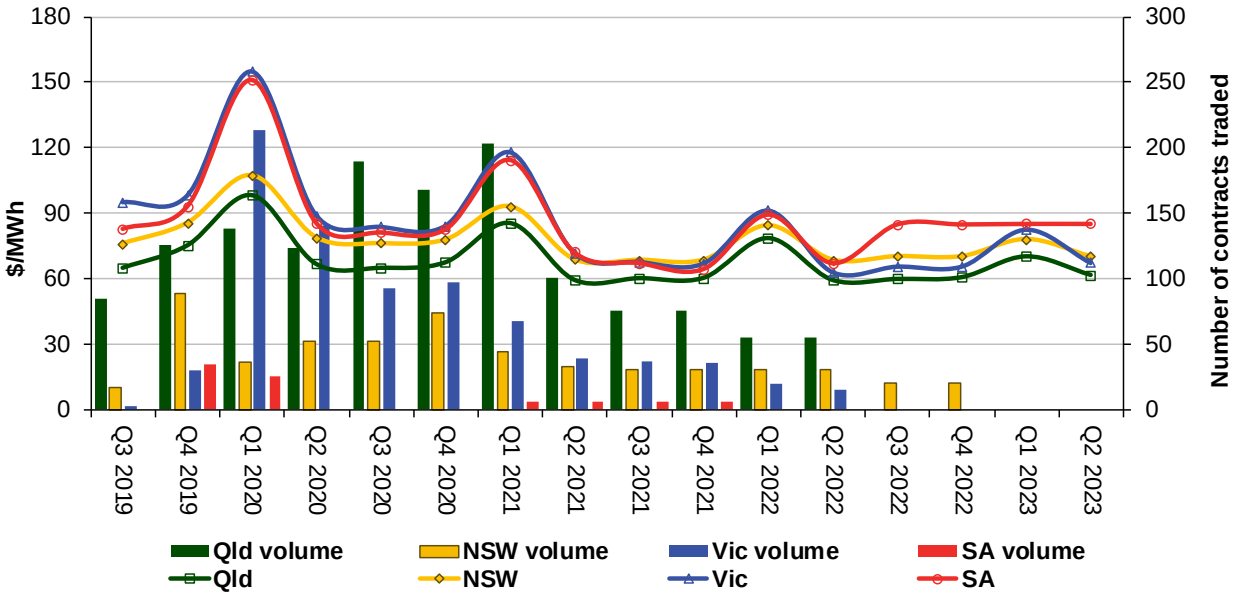
Demand was close to forecast while availability was 239 MW lower than forecast, both four hours prior. The lower than forecast availability was because of Hydro Tasmania withdrawing 238 MW of capacity at Reece station due to Reece unit 1 and 2 trip at 11.10 am.

An unplanned outage on Basslink occurred at 11.01 am due to technical issues related to the interconnector. From 11.05 am to 11.15 am, export flow to Victoria through Basslink reduced from 253 MW to 0 MW and resulted in excess generation in Tasmania. With higher priced generation units either trapped or stranded in FCAS and unable to set price, price fell to the floor once at 11.15 am.

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.

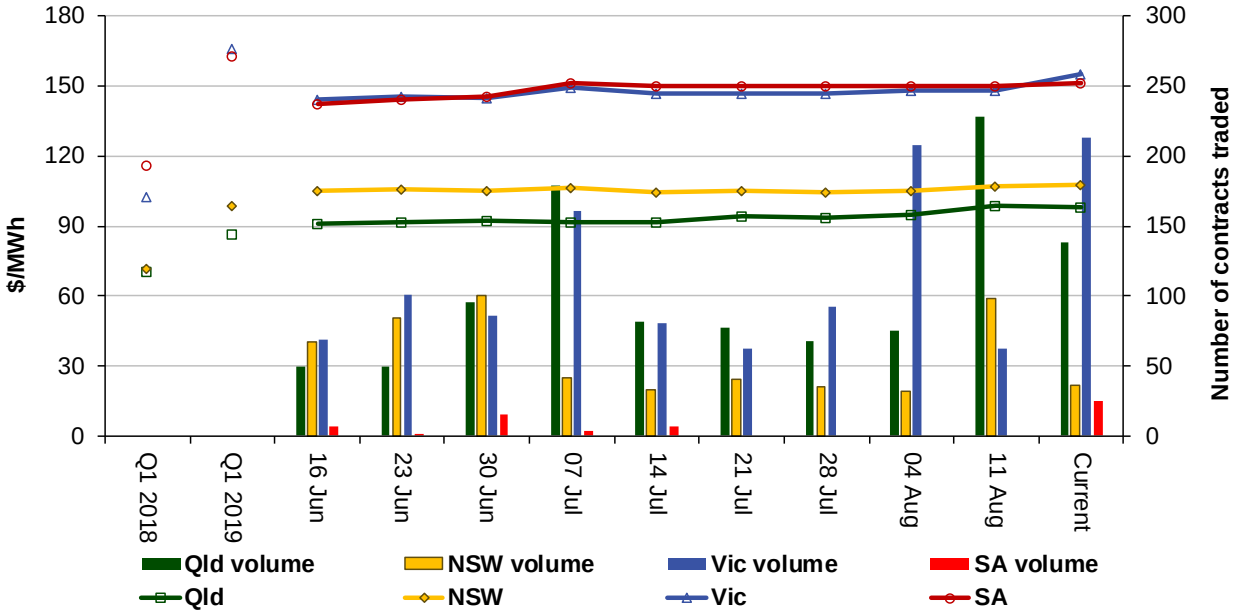
Figure 9: Quarterly base future prices Q3 2019 – Q2 2023



Source. ASXEnergy.com.au

Figure 10 shows how the price for each regional Q1 2020 base contract has changed over the last 10 weeks (as well as the total number of trades each week). The closing quarter 1 2018 and quarter 1 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 2020 base contracts over the past 10 weeks (and the past 2 years)



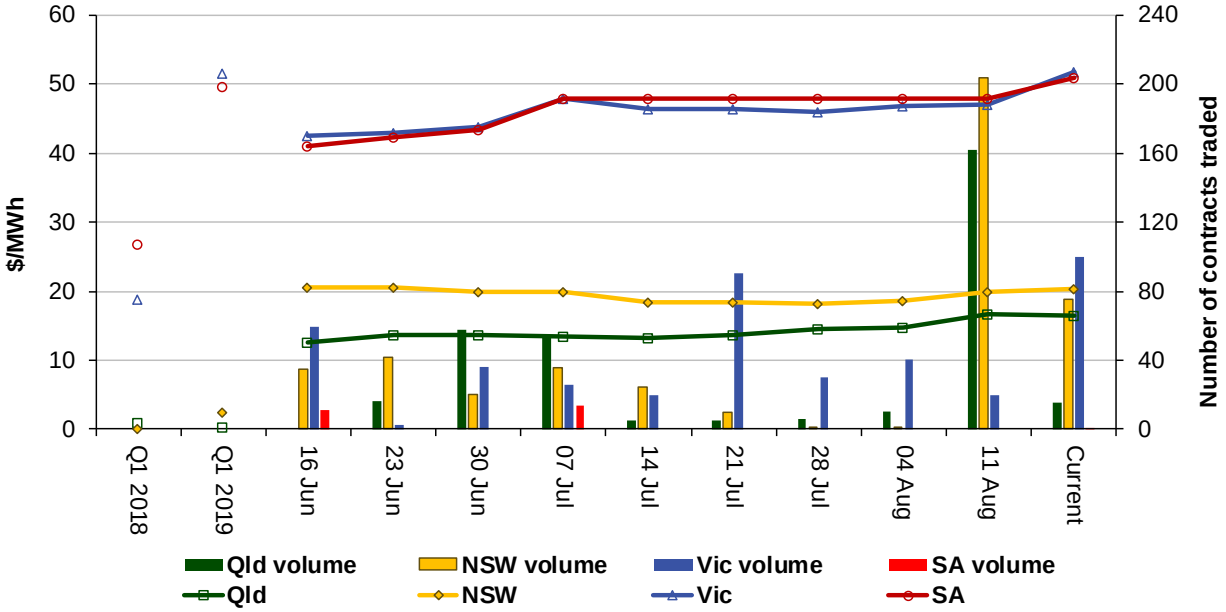
Note. Base contract prices are shown for each of the current week and the previous 9 weeks, with average prices shown for periods 1 and 2 years prior to the current year.

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 2020 cap contract has changed over the last 10 weeks (as well as the total number of trades each week). The closing quarter 1 2018 and quarter 1 2019 prices are also shown.

Figure 11: Price of Q1 2020 cap contracts over the past 10 weeks (and the past 2 years)



Source. ASXEnergy.com.au