Electricity Report

AUSTRALIAN ENERGY REGULATOR

1 – 7 September 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.

Spot market prices

Figure 1 shows the spot prices that occurred in each region during the week 1 to 7 September 2019.

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

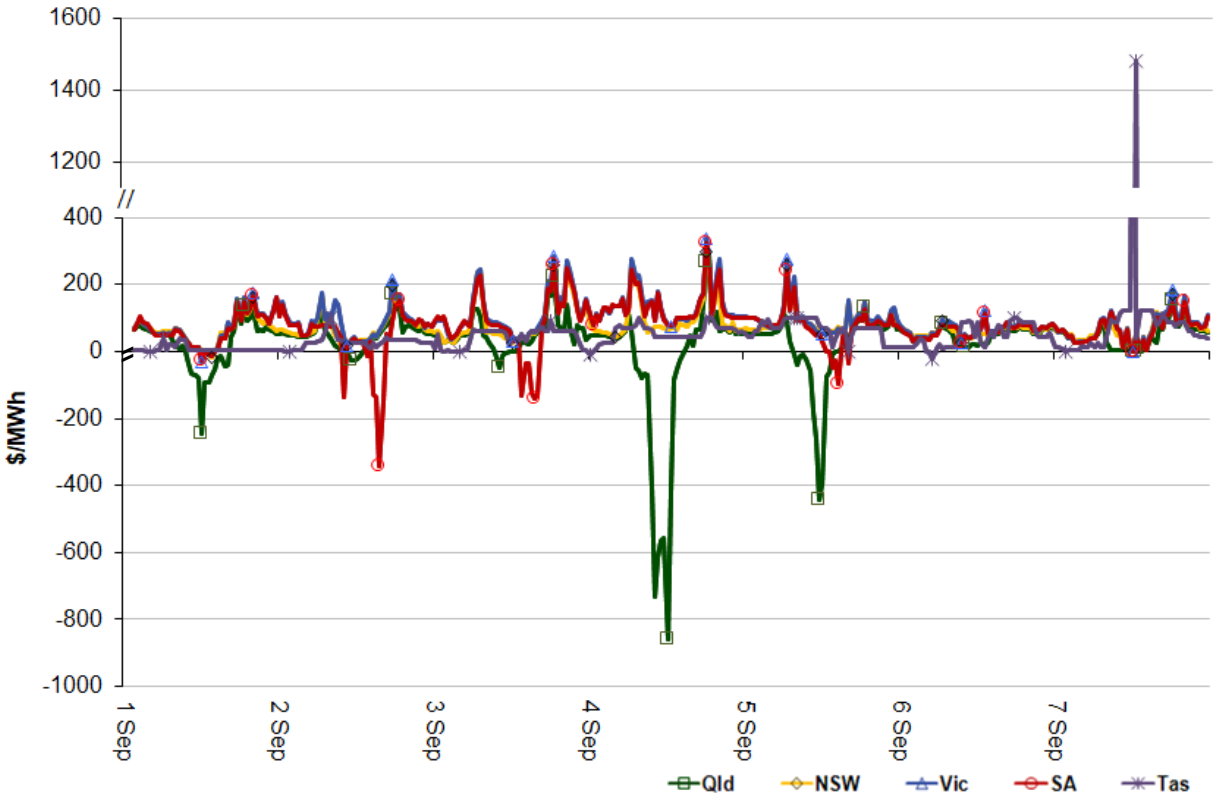


Figure 2 shows the volume weighted average (VWA) prices for the current week (with prices shown in Table 1) and the preceding 12 weeks, as well as the VWA price over the previous 3 financial years.

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

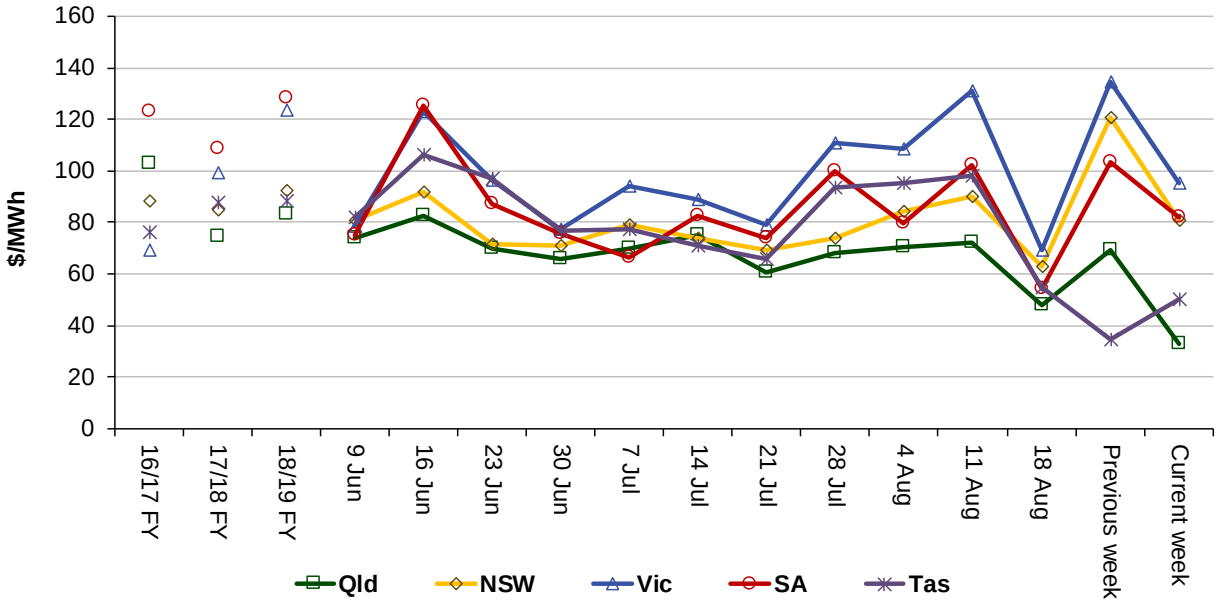


Table 1: Volume weighted average spot prices by region ($/MWh)

Region	Qld	NSW	Vic	SA	Tas
Current week	33	81	95	82	50
18-19 financial YTD	82	91	84	97	35
19-20 financial YTD	63	81	100	82	72

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 290 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	15	15	0	2
% of total below forecast	9	53	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

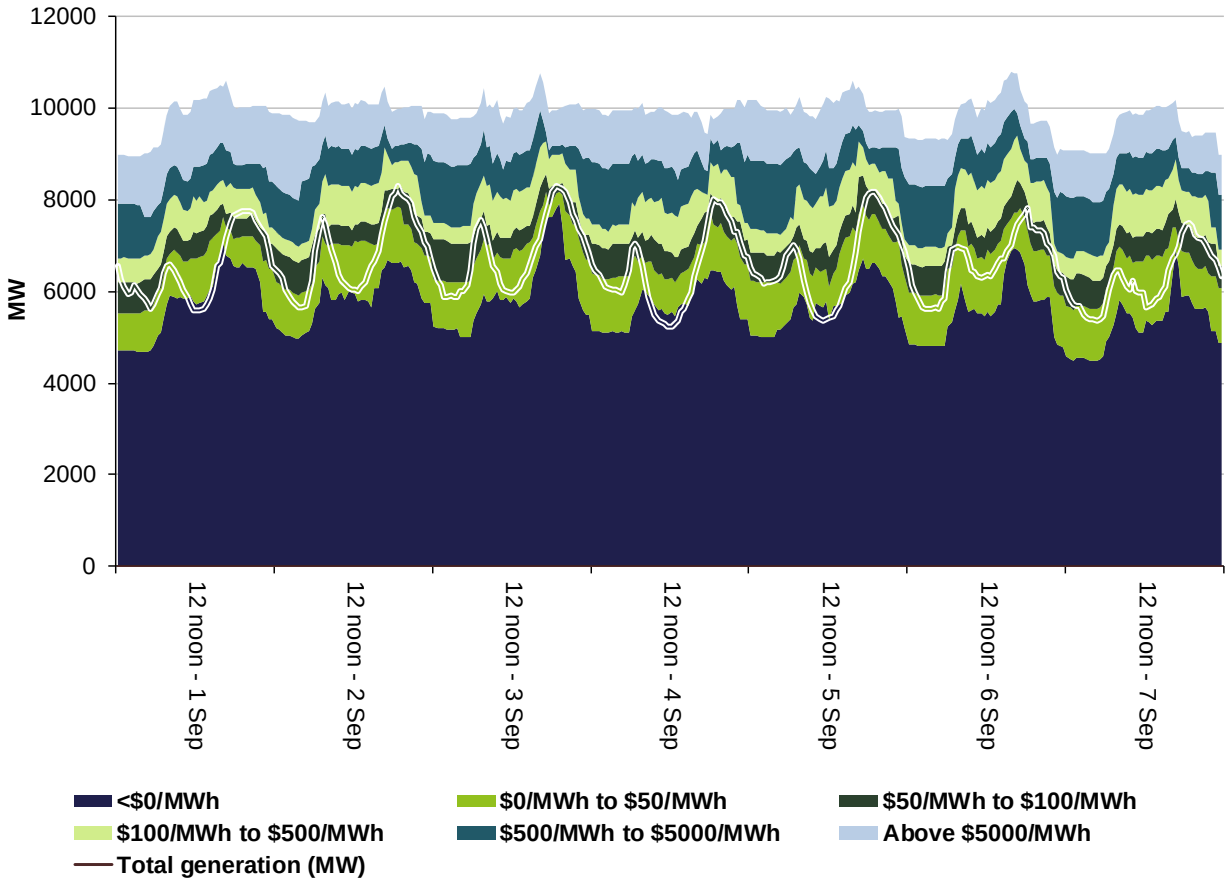


Figure 4: New South Wales generation and bidding patterns

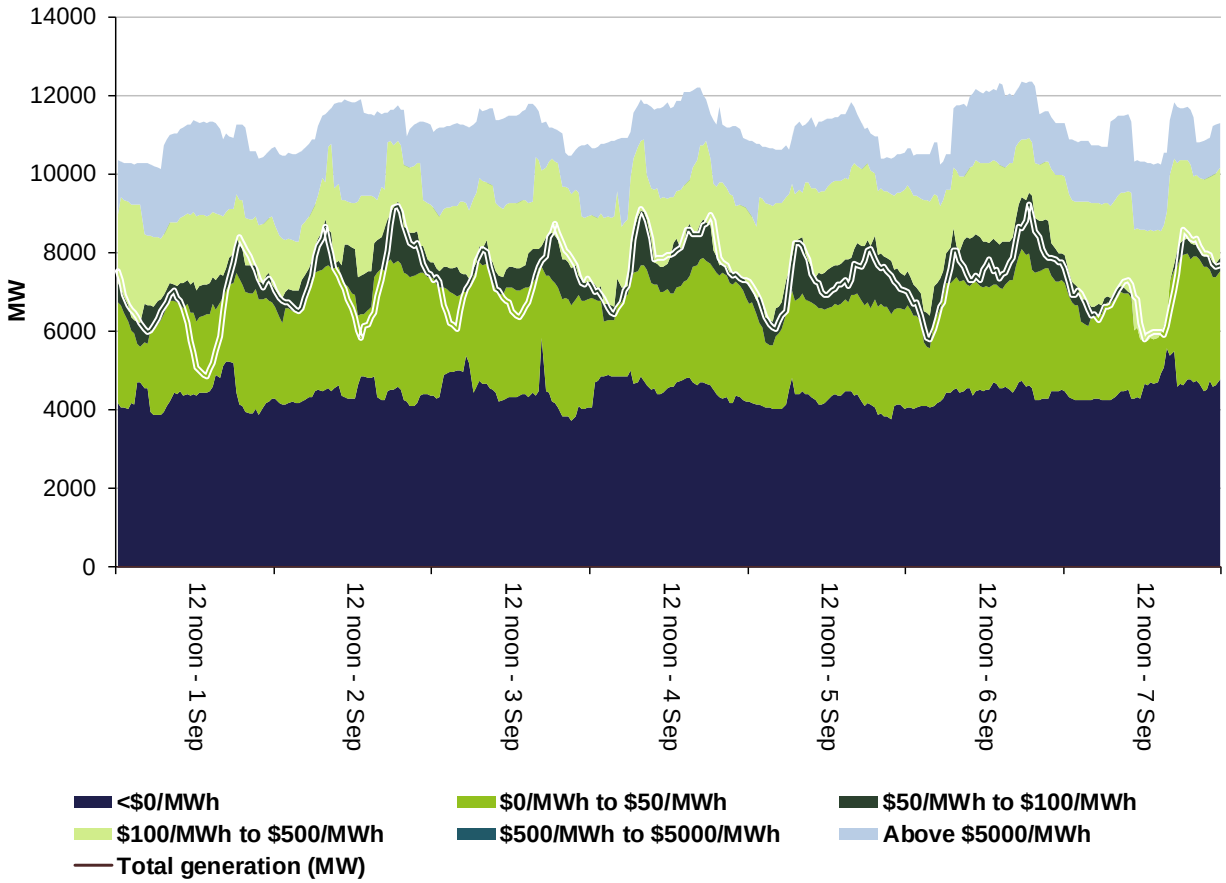


Figure 5: Victoria generation and bidding patterns

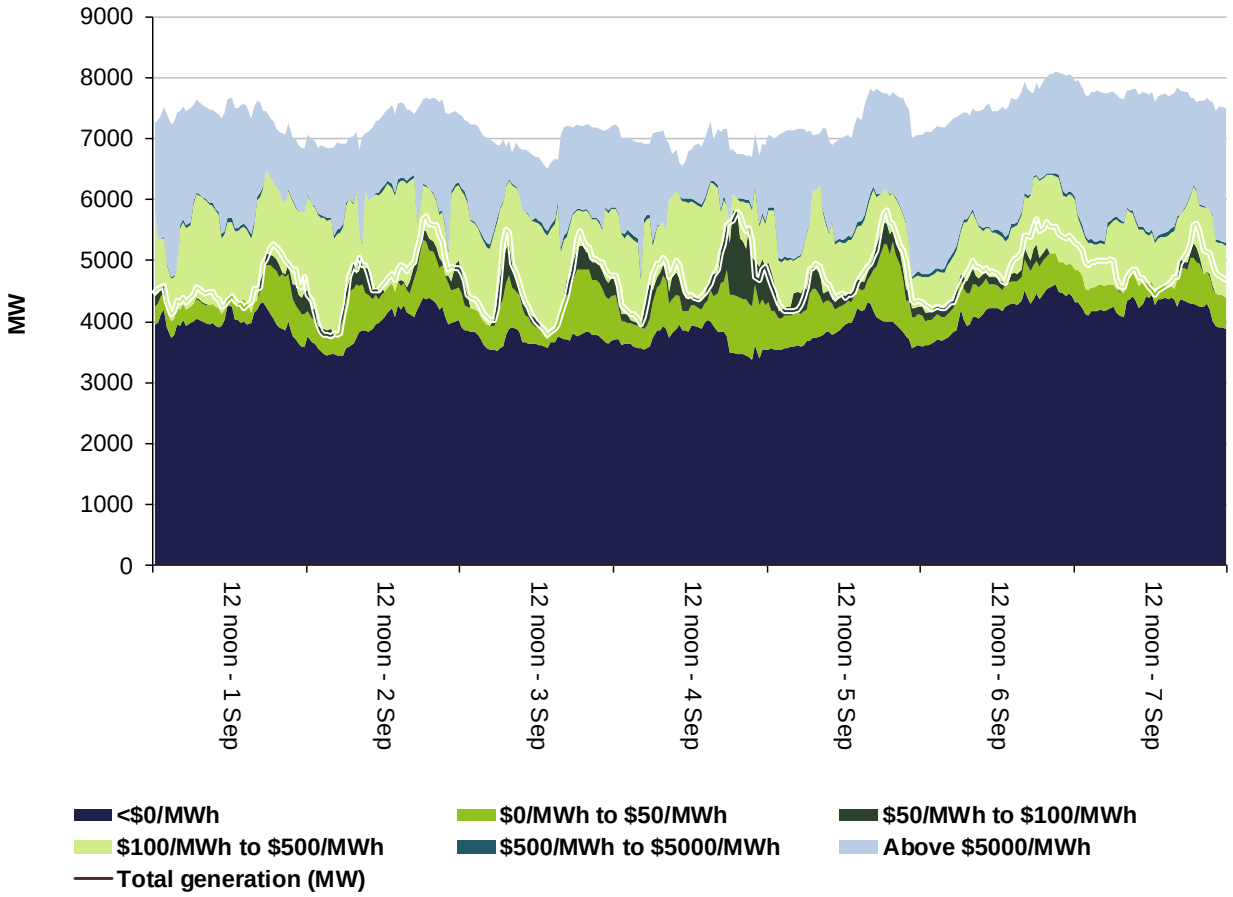


Figure 6: South Australia generation and bidding patterns

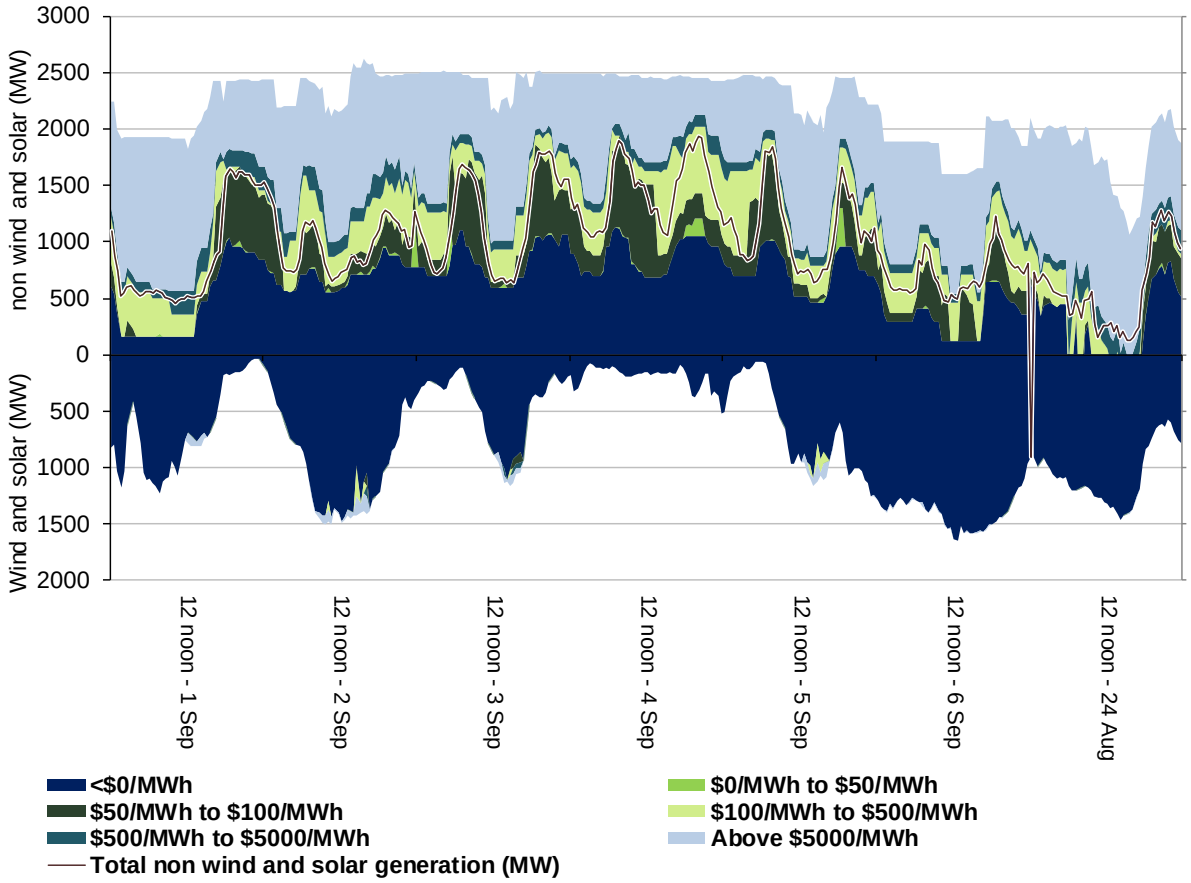
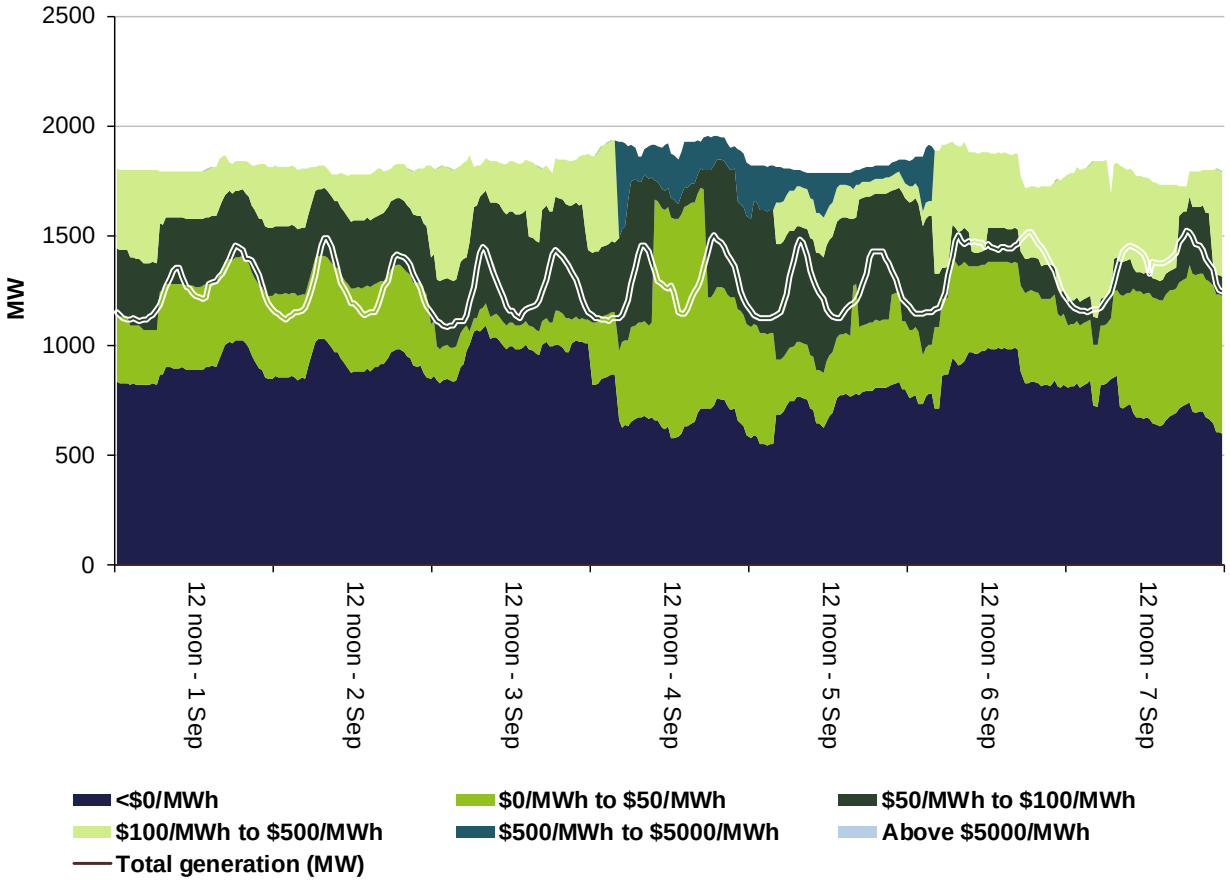


Figure 7: Tasmania generation and bidding patterns



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.

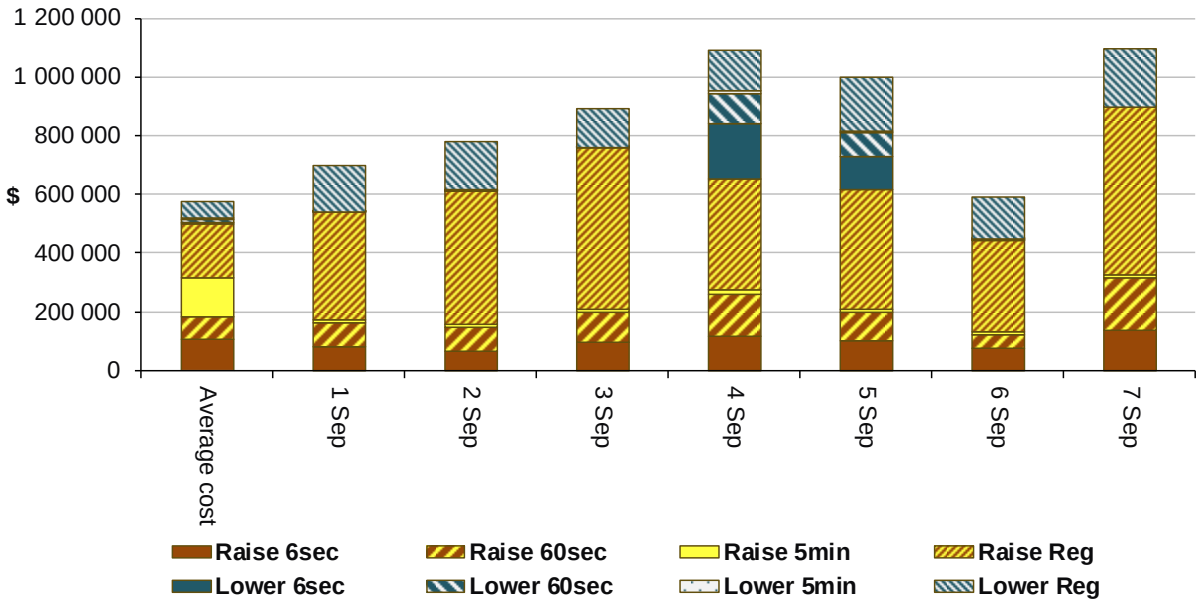
The Electricity Rules stipulate that generators pay for raise contingency services and customers pay for lower contingency services. Regulation services are paid for on a "causer pays" basis determined every four weeks by AEMO.

The total cost of FCAS on the mainland for the week was $5 564 000 or around 2 per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was $582 000 or around 6 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

Queensland

There was one occasion where the spot price in Queensland was greater than three times the Queensland weekly average price of $33/MWh and above $250/MWh and there were twelve occasions where the spot price was below -$100/MWh.

Sunday, 1 September

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
12.30 pm	-245.15	-47.82	-72.05	4300	4394	4353	10 191	10 092	10 088

Conditions at the time saw demand 94 MW lower and availability 99 MW higher than forecast, both four hours prior.

Prior to the commencement of the trading interval, approximately net 150 MW of capacity was shifted or added in at the price floor. With little capacity between the price floor and $-47/MWh, the dispatch price settled between the price floor and $-72/MWh for the trading interval. See Table 4 for detail.

Table 4: Significant rebids

Submitted time	Time effective	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
8.48 am		CS Energy	Callide B	230	0	-1000	0846A dispatch price lower than 5min forecast-SL 0847A dispatch price lower than 5min forecast-SL
8.48 am		CS Energy	Gladstone	20	1	-1000	0848A dispatch price lower than 5min forecast-SL
11.14 am		Braemar Power Project Pty Ltd	Collinsville Solar PV	32	-1000	-58	1110~A~change in price 5PD~
11.20 am		Braemar Power Project Pty Ltd	Rugby Run Solar Farm	65	-1000	-47	1120~A~change in price 5PD~

Wednesday, 4 September

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
10 am	-413.65	.00	-6.47	5234	5335	5325	10 559	10 502	10 482
10.30 am	-731.11	-47.24	-47.24	5142	5251	5279	10 639	10 426	10 413
11 am	-616.06	-72.05	-47.82	5157	5194	5225	10 634	10 436	10 422
11.30 am	-566.50	-80.59	-80.59	5192	5138	5175	10 582	10 443	10 420
Midday	-558.16	-72.05	-72.05	5183	5124	5180	10 549	10 405	10 423
12.30 pm	-859.85	-72.05	-72.05	5198	5160	5225	10 487	10 446	10 549
1 pm	-412.75	-76.52	-72.05	5271	5217	5292	10 493	10 430	10 550

For the trading intervals from 10 am to 1 pm, demand was lower than forecast and availability was higher than forecast, four hours ahead. The increased availability was due to higher than forecast solar generation, much of it priced below $0/MWh.

For the above trading intervals, up to 395 MW of capacity was moved before or during the trading intervals from prices over $1/MWh to the price floor or bid as inflexible. With very little capacity priced between the four hour forecast price and the price floor, small changes in demand or interconnector flows had the ability to cause large changes in price. As a result, there were multiple dispatch intervals in each trading interval where the price fell to, or close to, the price floor. See Table 6 for details.

Table 6: Significant rebids

Submitted time	Trading intervals	Participant	Station	Maximum capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
7.42 am	10 am 10.30 am 11 am 11.30 am	Childers Solar Pty Ltd ATF the Childers Solar Trust	Childers Solar Farm	16	N/A	-991	07:41 ~ P ~ commissioning testing HP3 approved~ SL
8.23 am	10 am 10.30 am 11 am 11.30 am Midday	CS Energy	Gladstone	100	>1	-1000	0823A FCAS/ENERGY co-optimisation-SL
9.06 am	10 am 10.30 am 11 am	Callide Power Trading	Callide C	70	19	-1000	0900A QLD1 RRP change -974 (09:00 P5 DI 04/09/19 09:55 value -998 VS 08:30 PD TI 04/09/19 10:00 value -24) SL
9.13 am	10 am	CS Energy	Gladstone	60	>294	-1000	0913A FCAS/ENERGY co-optimisation-SL

Submitted time	Trading intervals	Participant	Station	Maximum capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
9.52 am	10.30 am 11 am	CS Energy	Gladstone	60	>294	-1000	0951A FCAS/ENERGY co-optimisation-SL
10.12 am	11.30 am Midday 12.30 pm	Callide Power Trading	Callide C	44	N/A	fixed	1011P CC4 LSP 170MW low load nox emission testing M.M
10.28 am	11 am 11.30 am Midday 12.30 pm 1 pm	CS Energy	Gladstone	80	>61	-1000	1028A FCAS/ENERGY CO-OPTIMISATION-SL
10.36 am	11 am 11.30 am Midday 12.30 pm 1 pm	CS Energy	Gladstone	20	>54	-1000	1036A FCAS/ENERGY co-optimisation-SL
10.38 am	11 am	Millmerran Energy Trader	Millmerran	50	>11	-1000	10:35 A: QLD1 RRP change +768 (10:35 DS DI 04/09/19 10:40 value -232 VS 10:30 P5 DI 04/09/19 10:40 value -1000) SL
10.43 am	11 am	Callide Power Trading	Callide C	50	14700	-1000	1035E QLD1 RRP change +768 (10:35 DS DI 04/09/19 10:40 value -232 VS 10:30 P5 DI 04/09/19 10:40 value -1000) SL
10.58 am	11.30 am	Callide Power Trading	Callide C	50	14700	-1000	1055A QLD1 RRP change +845 (10:55 P5 DI 04/09/19 11:20 value -155 VS 10:50 P5 DI 04/09/19 11:20 value -1000) SL
10.58 am	11.30 am	Millmerran Energy Trader	Millmerran	50	>11	-1000	10:57 A: QLD1 RRP change -928 (10:55 DS DI 04/09/19 11:00 value -1000 VS 10:30 PD TI 04/09/19 11:00 value -72) SL
11.09 am	11.30 am Midday 12.30 pm 1 pm	Callide Power Trading	Callide C	30	48	-1000	1108A FCAS/ENERGY co-optimisation
11.32 am	Midday	Millmerran Energy Trader	Millmerran	50	>11	-1000	11:31 A: QLD1 RRP change +883 (11:30 DS DI 04/09/19 11:35 value -117 VS 11:25 P5 DI 04/09/19 11:35 value -1000) SL
11.33 am	Midday	Callide Power Trading	Callide C	50	14700	-1000	1130A QLD1 RRP change +883 (11:30 DS DI 04/09/19 11:35 value -117 VS 11:25 P5 DI 04/09/19 11:35 value -1000) SL
11.36 am	Midday 12.30 pm 1 pm	Callide Power Trading	Callide C	30	48	-1000	1135A FCAS/ENERGY co-optimisation
11.37 am	Midday 12.30 pm 1 pm	CS Energy	Gladstone	25	>54	-1000	1136A FCAS/ENERGY co-optimisation-SL

Submitted time	Trading intervals	Participant	Station	Maximum capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
11.41 am	Midday 12.30 pm 1 pm	Millmerran Energy Trader	Millmerran	100	>11	-1000	11:40 A: QLD1 RRP change +915 (11:40 DS DI 04/09/19 11:45 value -85 VS 11:35 P5 DI 04/09/19 11:45 value -1000) SL
11.58 am	12.30 pm 1 pm	Callide Power Trading	Callide C	50	14700	-1000	1155A QLD1 demand change +33 (11:55 DS DI 04/09/19 12:00 value 5200 VS 11:30 PD TI 04/09/19 12:00 value 5167) SL
12.08 pm	12.30 pm 1 pm	Millmerran Energy Trader	Millmerran	40	>11	-1000	12:05 A: QLD1 RRP change +841 (12:05 DS DI 04/09/19 12:10 value -159 VS 12:00 P5 DI 04/09/19 12:10 value -1000) SL
12.08 pm	12.30 pm 1 pm	Callide Power Trading	Callide C	20	14700	-1000	1205A QLD1 RRP change +841 (12:05 DS DI 04/09/19 12:10 value -159 VS 12:00 P5 DI 04/09/19 12:10 value -1000) SL

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
6.30 pm	266.52	253.04	251.20	7037	7192	7139	9800	10 128	10 114

Prices were aligned across the mainland and close to forecast.

Thursday, 5 September

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
11 am	-178.07	-6.47	-6.47	5040	5168	5203	10 187	9994	10 195
11.30 am	-262.47	-23.27	-23.27	5092	5105	5175	10 310	10 186	10 189
Midday	-441.04	-6.47	-6.47	5128	5119	5181	10 386	10 123	10 130
12.30 pm	-393.40	-23.27	-6.47	5192	5122	5203	10 429	10 189	10 243

Conditions saw availability around 124 MW to 260 MW higher than forecast, four hours prior. The increased availability was due to higher than forecast coal generation, much of it priced below $0/MWh.

For the above trading intervals, up to 643 MW of capacity was moved before or during the trading intervals from prices over $0/MWh to the price floor or close to the price floor. This resulted in the dispatch pricing dropping to the price floor for a number of dispatch intervals. See Table 9 for rebids.

Table 9: Significant rebids

Submitted time	Trading interval	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
8.12 am	11 am 11.30 am Midday	CS Energy	Callide B	240	>0	-1000	0811A FCAS/ENERGY co-optimisation-SL 0810A FCAS/ENERGY co-optimisation-SL
9.09 am	11 am	Callide Power Trading	Callide C	10	N/A	-1000	0908P C3 clinker de-load not required M.M
9.56 am	11 am	Stanwell Corporation	Stanwell	25	N/A	-1000	0954P revised commissioning profile; SL; fixed load TI 1000-0400; ROC TI 1000; TI 1130-0400;
10.12 am	Midday 12.30 pm	Stanwell Corporation	Stanwell	60	N/A	-1000	1009P revised commissioning profile; SL; fixed load TI 1030-0400; ROC TI 1130-0400;
10.20 am	11 am 11.30 am	CS Energy	Gladstone	160	>1	-1000	1019A FCAS/ENERGY co-optimisation-SL
10.23 am	11 am	Millmerran Energy Trader	Millmerran	70	N/A	-1000	10:23 P: plant limitation ash system resolved
10.35 am	11 am 11.30 am	Callide Power Trading	Callide C	50	14700	-1000	1030A QLD1 RRP change -208 (10:30 DS DI 05/09/19 10:35 value -232 VS 10:00 PD TI 05/09/19 11:00 value -24) SL
10.49 am	11 am	CS Energy	Gladstone	40	48	-1000	1048A dispatch price lower than 30min forecast-SL
11.53 am	11.30 am	Callide Power Trading	Callide C	50	14700	-988	1050A QLD1 RRP change +77 (10:50 DS DI 05/09/19 10:55 value -155 VS 10:45 P5 DI 05/09/19 10:55 value -232) SL
10.56 am	11.30 am Midday 12.30 pm	CS Energy	Gladstone	40	48	-1000	1056A dispatch price lower than 30min forecast-SL
11.06 am	12.30 pm	Stanwell Corporation	Stanwell	25	N/A	-1000	1051P revised commissioning profile; SL; fixed load TI 1130-0400; ROC TI 1130-0400;
11.14 am	11.30 am Midday	Callide Power Trading	Callide C	63	14700	-988	1113A QLD1 RRP change +872 (11:05 DS DI 05/09/19 11:10 value -117 VS 11:00 P5 DI 05/09/19 11:10 value -989) SL
11.17 am	Midday 12.30 pm	CS Energy	Gladstone	160	>1	-1000	1116A FCAS/ENERGY co-optimisation-SL
11.24 am	Midday	Millmerran Energy Trader	Millmerran	30	14700	-1000	11:15 A: QLD1 RRP change +761 (11:15 P5 DI 05/09/19 11:40 value -232 VS 11:10 P5 DI 05/09/19 11:40 value -993) SL
11.35 am	Midday 12.30 pm	Callide Power Trading	Callide C	50	16	-1000	1134A dispatch price lower than 30min PD
11.40 am	Midday 12.30 pm	Millmerran Energy Trader	Millmerran	20	14700	-1000	11:30 A: QLD1 RRP change +768 (11:30 P5 DI 05/09/19 11:40 value -232 VS 11:25 P5 DI 05/09/19 11:40 value -1000) SL
11.41 am	12.30 pm	Stanwell Corporation	Stanwell	35	N/A	-1000	1139P revised commissioning profile; SL ; fixed load TI 1200-0400; ROC TI 1200-0400;

Submitted time	Trading interval	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
11.45 am	12.30 pm	Callide Power Trading	Callide C	113	14700	-988	1140A QLD1 RRP change +800 (11:40 DS DI 05/09/19 11:45 value -188 VS 11:35 P5 DI 05/09/19 11:45 value -988) SL

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 $81/MWh and above $250/MWh.

Tuesday, 3 September

Table 10: 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	259.90	299.60	299.60	9325	9385	9430	11 143	11 496	11 354

Prices aligned across all mainland regions of the NEM and will be discussed as one region.

Demand was close to forecast and availability was around 550 MW lower than forecast, four hours prior. Lower availability than forecast was largely driven by removal of approximately 270 MW of capacity at Liddell, Vales Point and Smithfield priced below $300/MWh, due to plant issues. However the lower availability was compensated for by around 1600 MW of capacity being rebid from prices above $300/MWh to below $283/MWh. This resulted in the dispatch price settling lower than forecast for the trading interval. See Table 11 for detail on the rebids.

Table 11: Significant rebids

Submitted time	Time effective	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
3.12 pm		AGL Energy	Liddell	-100	<0	N/A	1510~P~020 reduction in avail cap~203 plant failure as per OPS (SL)
4.42 pm		Snowy Hydro	Tumut	50	450	110	16:41:32 P plant outage - T2 UNIT 6 MW reallocation
5.10 pm		Origin Energy	Shoalhaven	160	14700	-1000	1709A material change in NEM dem SL
5.17 pm		Origin Energy	Uranquinty	163	14700	<87	1716A material change in NEM dem SL
5.28 pm		Snowy Hydro	Tumut	70	>300	97	17:27:24 P update capability parameters for change to outage plan/plant conditions
5.28 pm		Snowy Hydro	Upper Tumut	50	14700	<69	17:27:24 P update capability parameters for change to outage plan/plant conditions

Submitted time	Time effective	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
5.45 pm		Delta Electricity	Vales Point	-10	98	N/A	1744P milling/feeder limit
5.48 pm		Origin Energy	Uranquinty	-4	69	N/A	1746P change in avail - ambient conditions SL
6.22 pm		Snowy Hydro	Tumut	190	450	110	17:51:00 A VIC 5min PD PRICE $18.57 lower than 5min PD 18:05@17:46 ($86.46)
6.25 pm	6.35 pm	Delta Electricity	Vales Point	-20	48	N/A	1825P milling/feeder limit revises
5.42 pm		EnergyAustralia	Jeeralang B	84	320	<105	1735~A~adj bands VIC price 145 V 5P 110 @ 1745 SL~
5.46 pm		EnergyAustralia	Jeeralang A	24	13050	<133	1740~A~VIC price 299 V 5P 140 @ 1750 SL~
5.58 pm		EnergyAustralia	Jeeralang A	54	>426	283	1755~A~adj bands mat change VIC price @ 1805 86 V 266 SL~
6.21 pm		EnergyAustralia	Yallourn	10	N/A	<25	1820~P~adj avail revised idf amp SL~
4.41 pm		Origin Energy	Ladbroke Grove	85	319	-1000	1640A inc VIC dem 5PD 5639 MW > 30PD 5352 MW @ 1730 SL
4.41 pm		Origin Energy	Quarantine	153	>319	<78	1640A inc VIC dem 5PD 5639 MW > 30PD 5352 MW @ 1730 SL
4.48 pm		Vena Energy Services (Australia) Pty Ltd	Tailem Bend Solar Project 1	95	14700	-1000	16:48 A Positive pre-dispatch prices
5.48 pm		EnergyAustralia	Hallett	40	>579	-1000	1745~A~adj bands sa price 263 V5P 168 @ 1750 SL~
6.10 pm		Visy Power Generation	Smithfield	-123	-984	N/A	1750~A~NSW PRICE 5PD@1805 FOR 1820 21 LWR THN 5PD@1800 SL~
6.17 pm		Origin Energy	Quarantine	-124	<78	N/A	1815P change in avail - forced limitation revised SL
6.27 pm	6.35 pm	Origin Energy	Quarantine	124	N/A	<78	1824P change in avail - unit RTS SL
6.33 pm	6.40 pm	EnergyAustralia	Hallett	15	13999	-1000	1830~A~adj bands sa price above 5P 294 V 235 @ 1835 SL~
6.40 pm	6.50 pm	EnergyAustralia	Hallett	20	>579	-1000	1835~A~adj bands mat change SA 5P PRICE @ 1900 175 V 124 SL~

Wednesday, 4 September

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
7 am	260.17	299.60	232.12	8655	8590	8533	11 382	11 084	11 110
6.30 pm	297.45	287.56	287.56	9099	9013	9053	11 750	12 019	11 918
7 pm	255.00	262.75	287.56	9067	9042	9070	11 359	11 984	11 863

Conditions for the 7 am and 6.30 pm trading intervals saw prices close to forecast.

For the 7 pm trading interval, prices aligned across New South Wales, Victoria and South Australia and will be discussed as one region. At 7 pm, a raise FCAS constraint became binding and cause the price to co-optimise between the FCAS and energy markets. This caused the dispatch price to drop to between $98/MWh to $109/MWh for one dispatch interval.

Thursday, 5 September

Table 13: 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	259.10	230.66	230.68	8213	8228	8299	10 848	10 733	10 827

Conditions at the time saw prices close to forecast.

Victoria

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

Tuesday, 3 September

Table 14: 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	286.04	318.69	343.34	6028	6023	5991	7226	7282	7335

Prices aligned across New South Wales, Victoria, and South Australia and will be discussed as one. See New South Wales section for analysis.

Wednesday, 4 September

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
6.30 pm	338.71	319.67	338.47	6144	6069	6154	7011	7216	7204
7 pm	286.64	336.19	348.43	6162	6172	6207	6818	7207	7191

For the 6.30 pm trading interval, prices were close to forecast.

For the 7 pm trading interval, prices aligned across New South Wales, Victoria and South Australia and will be discussed as one. See New South Wales section for analysis.

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 $82/MWh and above $250/MWh and there were nine occasions where the spot price was below -$100/MWh.

Monday, 2 September

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
10:30 am	-135.83	-1000.00	-1000.00	1159	1140	1106	3674	3637	3663

Demand and availability were both close to forecast, four hours prior.

In response to forecast and actual negative prices participants rebid or removed low priced capacity resulting in the higher than forecast price. See Table 17 for the relevant rebids.

Table 17: Significant rebids

Submitted time	Trading interval	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
8.22 am		Engie	Pelican Point	-90	-1000	N/A	0810~A~low load ops respond to negative prices in 30min pd ~
9.15 am		Vena Energy Services	Tailem Bend Solar Project 1	95	-1000	14 700	0914 A Negative pre dispatch prices
10.23 am	10.30 am	Infigen	Lake Bonney 2 WF	159	-3	12 879	0655~A~floor price sl~
10.23 am	10.30 am	EnergyAustralia	Waterloo WF	130	-1000	400	10:23 ~ A ~ band adj to 5min negative dp ~ sl

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
3 pm	-125.24	32.14	35.86	1286	1206	1222	3978	3650	3334
3:30 pm	-136.55	33.47	50.39	1299	1252	1238	3942	3563	3223
4 pm	-344.39	45.04	77.50	1241	1327	1250	4001	3468	3100
4:30 pm	-144.13	46.25	77.50	1326	1365	1294	4012	3457	3195

Conditions at the time saw availability between 328 MW to 555 MW higher than forecast, four hours prior. Higher availability was due to higher than forecast wind generation, much of which was priced at the floor. As there were only two generation units offering capacity priced between the price floor and $77/MWh at the time, small changes in availability, demand or interconnector flows could cause large changes in price. This resulted in the dispatch price dropping to the price floor for at least one dispatch interval for each of the above trading intervals.

Tuesday, 3 September

Table 19: 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	-133.17	35.56	34.92	969	1064	1081	3395	3114	3206
3:30 pm	-122.86	48.28	37.19	1004	1143	1090	3386	3063	3118
4 pm	-141.13	46.67	48.02	1063	1174	1109	3575	3295	3089
4:30 pm	-125.97	57.52	50.03	1114	1235	1160	3480	3215	2968

Conditions at the time saw demand up to 139 MW lower and availability between 265 MW to 323 MW higher than forecast, four hours prior. Higher availability was due to higher than forecast wind generation, much of which was priced at the floor. As there was less than approximately 130 MW of capacity priced between the price floor and $64/MWh at the time, the changes in demand and availability resulted in the dispatch price dropping to the price floor for one dispatch interval for each of the above trading intervals.

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
7 pm	260.53	304.18	318.91	1708	1734	1725	2856	2858	2768

Prices aligned across New South Wales, Victoria and South Australia and will be discussed as one. See New South Wales section for analysis.

Wednesday, 4 September

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
6.30 pm	323.33	319.43	318.92	1849	1764	1699	2641	2497	2737
7 pm	270.16	336.67	326.47	1932	1843	1780	2721	2531	2795

For the 6.30 pm trading interval, prices were aligned across the mainland and close to forecast.

For 7 pm trading interval, prices aligned across South Australia, Victoria and New South Wales and will be discussed as one. See New South Wales section for analysis.

Tasmania

There was one occasion where the spot price in Tasmania was greater than three times the Tasmania weekly average price of $50/MWh and above $250/MWh.

Saturday, 7 September

Table 22: 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	1481.07	12.26	87.49	1237	1175	1250	1765	1818	1823

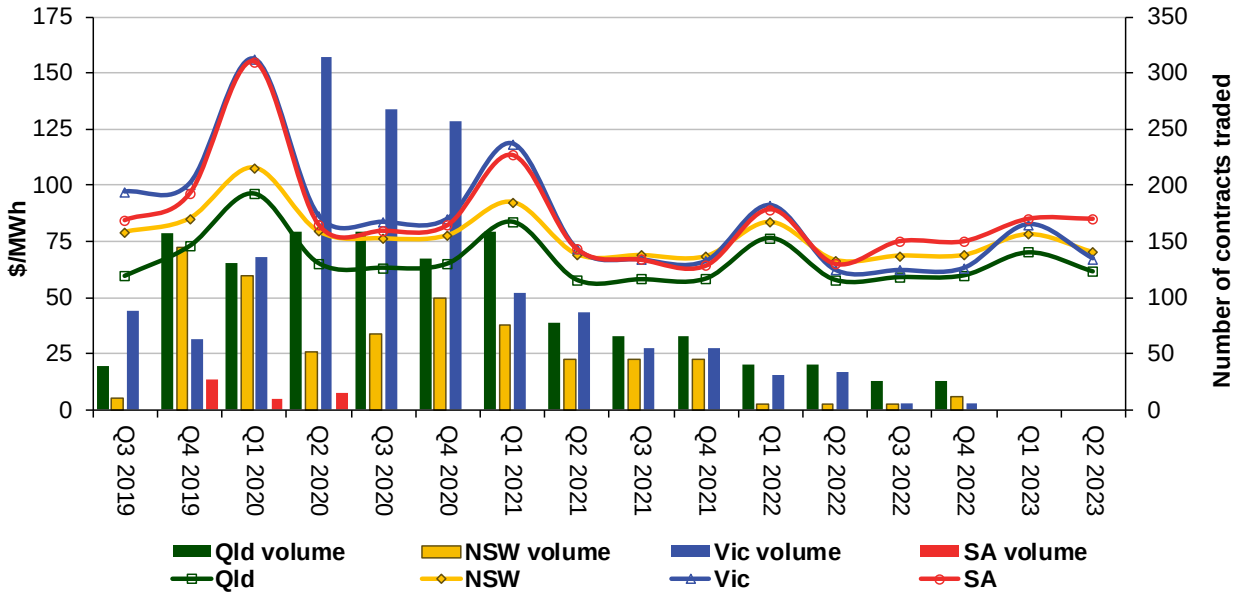
Conditions saw demand 62 MW higher and availability 53 MW lower than forecast, four hours prior. Basslink was still out, so any FCAS requirements had to be sourced from within the region.

At 12.25 pm, an increase in local requirements for raise 60 second service resulted in co-optimisation between the FCAS and energy markets. This caused a single dispatch price of $8388/MWh.

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.

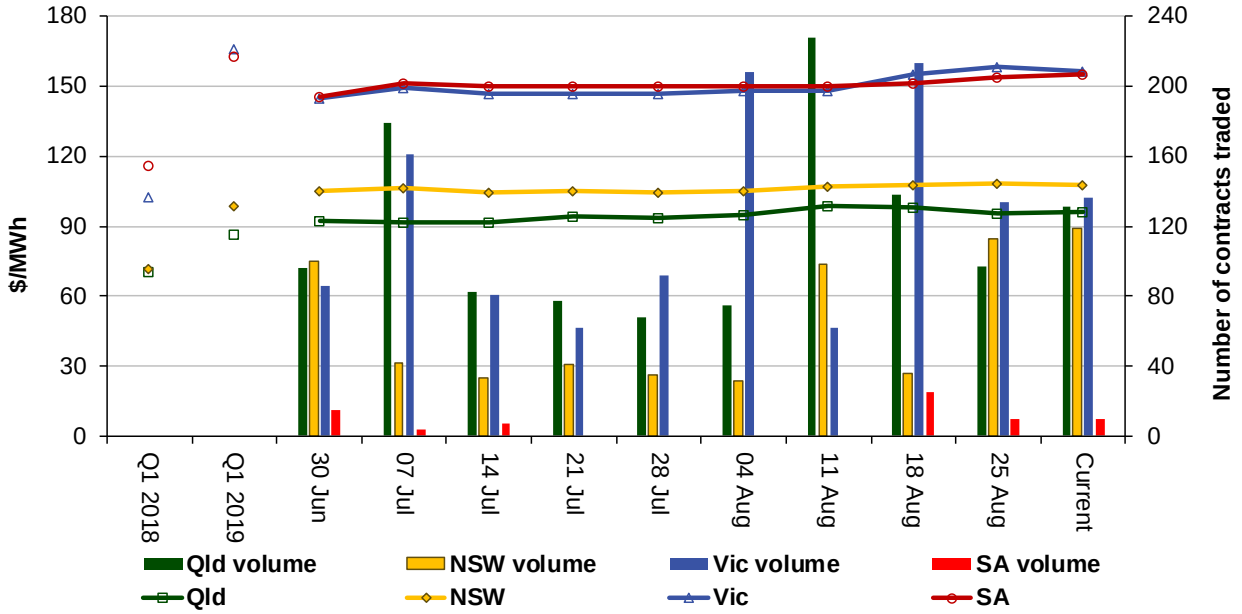
Figure 9: Quarterly base future prices Q3 2019 – Q2 2023



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)



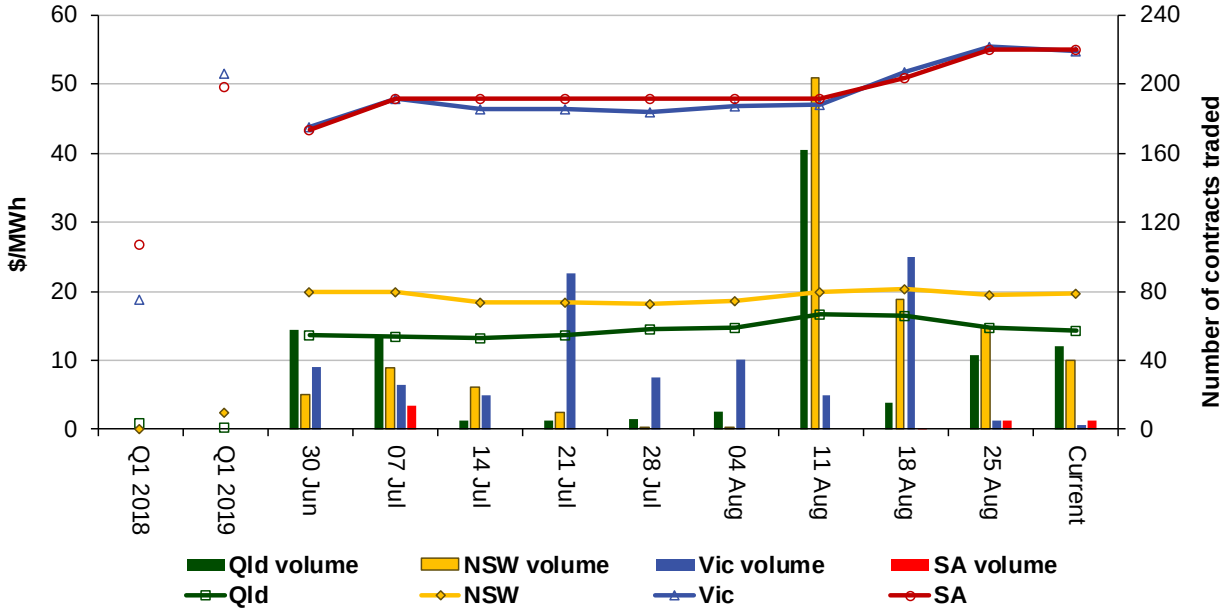
Note. Base contract prices are shown for each of the current week and the previous 9 weeks, with average prices shown for periods 1 and 2 years prior to the current year.

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