

WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY
REGULATOR

23 – 29 June 2013

Spot market prices

Figure 1 sets out the volume weighted average (VWA) prices for 23 June to 29 June 2013 and the 12/13 financial year to date (YTD) across the NEM. It compares these prices with price outcomes from the previous week and year to date respectively.

Figure 1: Volume weighted average spot price by region (\$/MWh)

	QLD	NSW	VIC	SA	TAS
Average price for 23 Jun - 29 Jun 2013	64	64	69	90	66
% change from previous week*	-33	2	-20	-35	18
12-13 financial YTD	70	56	61	74	49
% change from 11-12 financial YTD**	134	84	115	130	48

*The percentage change between last week's average spot price and the average price for the previous week. Calculated on VWA prices prior to rounding.

**The percentage change between the average spot price for the current financial year and the average spot price for the previous financial year. Percentage changes are calculated on VWA prices prior to rounding.

Further information is provided in Appendix A when the spot price exceeds three times the weekly average and is above \$250/MWh or less than -\$100/MWh. Longer term market trends are attached in Appendix B.¹

Financial markets

Figures 2 to 9 show futures contract² prices traded on the Australian Securities Exchange (ASX) as at close of trade on Friday 28 June 2013. Figure 2 shows the base futures contract prices for the next three calendar years, and the average over these three years. Also shown are percentage changes³ from the previous week.

Figure 2: Base calendar year futures contract prices (\$/MWh)

	QLD		NSW		VIC		SA	
Calendar Year 2014	58 (25)	0%	53 (45)	0%	50	-3%	56	0%
Calendar Year 2015	48	3%	45	1%	41	3%	47	0%
Calendar Year 2016	51	0%	52	0%	47	0%	63	0%
Three year average	52	1%	50	0%	46	0%	55	0%

Source: d-cyphaTrade/ASX www.d-cyphatrade.com.au

A number in brackets denotes the number of trades in the product.

¹ Monitoring the performance of the wholesale market is a key part of the AER's role and an overview of the market's performance in the long term is provided on the AER website. Long-term statistics can be found there on, amongst other things, demand, spot prices, contract prices and frequency control ancillary services prices. To access this information go to www.aer.gov.au -> Australian energy industry -> Performance of the energy sector

² Futures contracts traded on the ASX are listed by d-cyphaTrade (www.d-cyphatrade.com.au). A futures contract is typically for one MW of electrical energy per hour based on a fixed load profile. A base load profile is defined as the base load period from midnight to midnight Monday to Sunday over the duration of the contract quarter. A peak load profile is defined as the peak-period from 7 am to 10 pm Monday to Friday (excluding Public holidays) over the duration of the contract quarter.

³ Calculated on prices prior to rounding.

Figure 3 shows the \$300 cap contract price for Q1 2014 and calendar year 2014 and the percentage change⁴ from the previous week.

Figure 3: \$300 cap contract prices (\$/MWh)

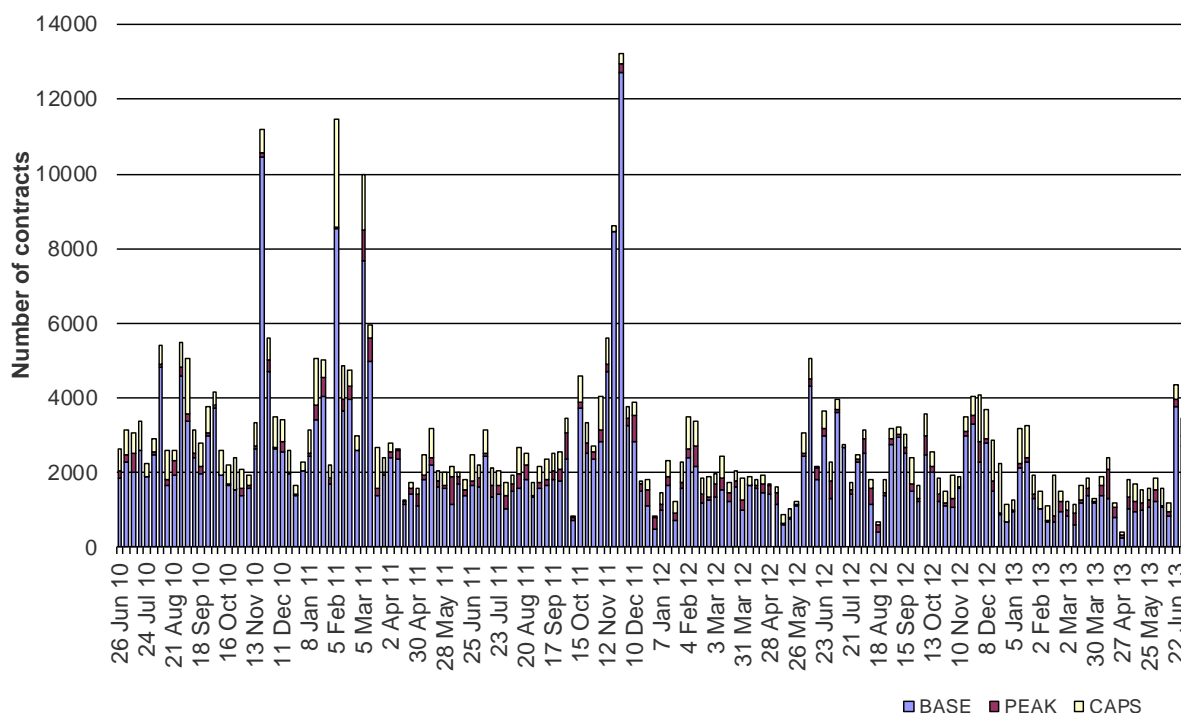
	QLD		NSW		VIC		SA	
Q1 2014	16	6%	8	-1%	11 (85)	-5%	17	0%
2014	8	6%	4	-1%	5	-4%	9	3%

Source: d-cyphaTrade/ASX www.d-cyphatrade.com.au

A number in brackets denotes the number of trades in the product.

Figure 4 shows for the last three years the weekly trading volumes for base, peak and cap contracts. The date represents the end of the trading week.

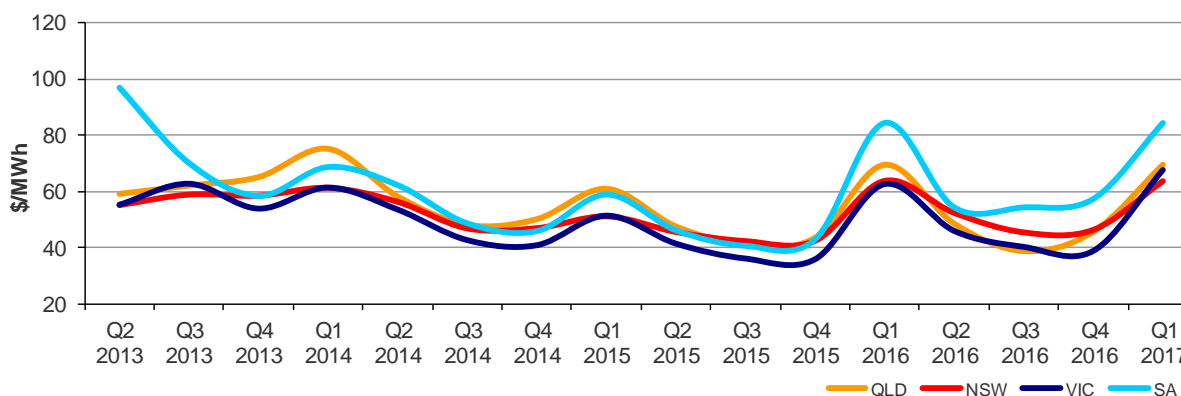
Figure 4: Number of exchange traded contracts per week



Source: d-cyphaTrade/ASX www.d-cyphatrade.com.au

Figure 5 shows the prices for base contracts for each quarter for the next four financial years.

Figure 5: Quarterly base future prices Q2 2013 – Q1 2017

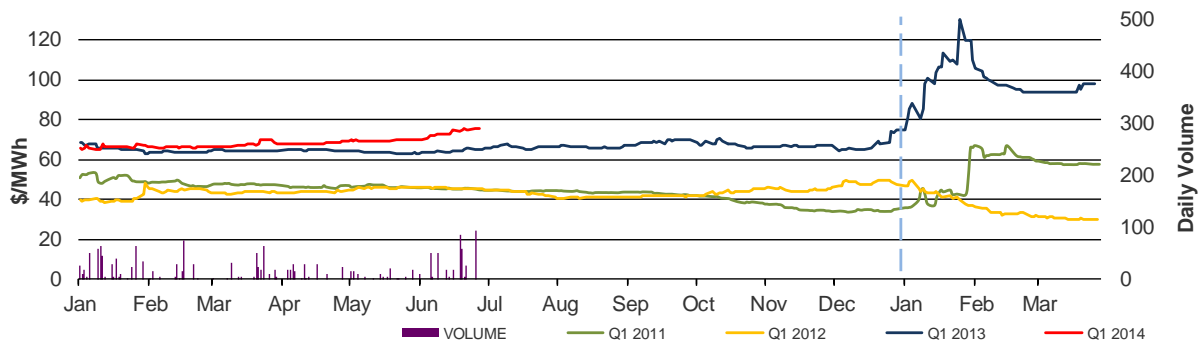


Source: d-cyphaTrade/ASX www.d-cyphatrade.com.au

⁴ Calculated on prices prior to rounding.

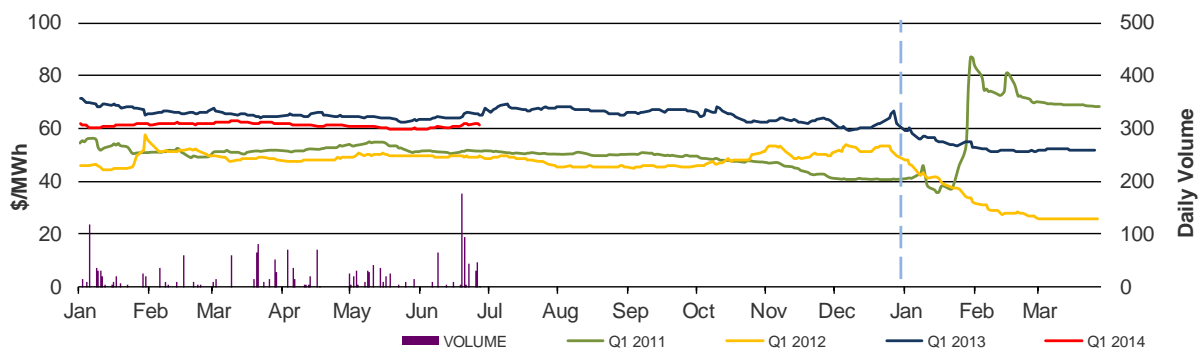
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2011, 2012, 2013 and 2014. Also shown is the daily volume of Q1 2014 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.

Figure 6: Queensland Q1 2011, 2012, 2013 and 2014



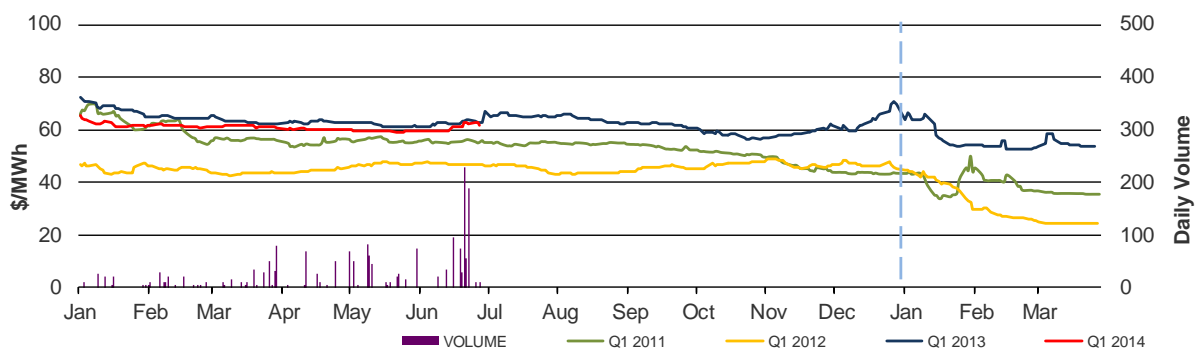
Source: d-cyphaTrade/ASX www.d-cyphatrade.com.au

Figure 7: New South Wales Q1 2011, 2012, 2013 and 2014



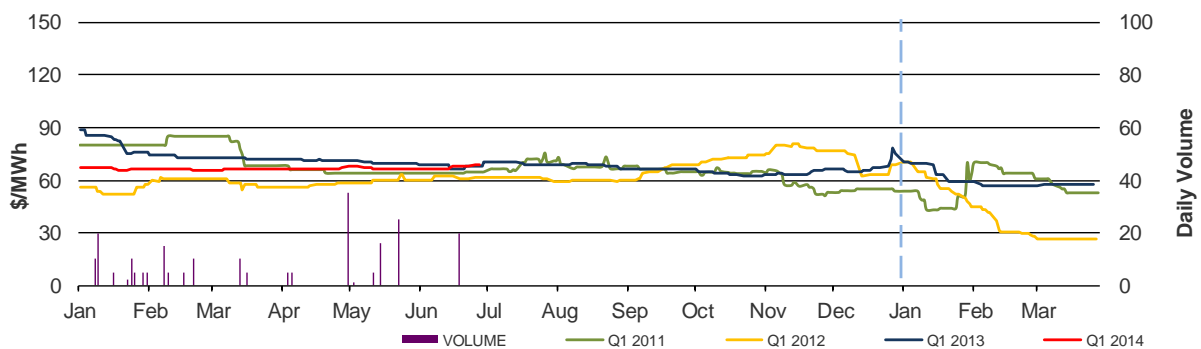
Source: d-cyphaTrade/ASX www.d-cyphatrade.com.au

Figure 8: Victoria Q1 2011, 2012, 2013 and 2014



Source: d-cyphaTrade/ASX www.d-cyphatrade.com.au

Figure 9: South Australia Q1 2011, 2012, 2013 and 2014



Source: d-cyphaTrade/ASX www.d-cyphatrade.com.au

The daily volume scale for South Australia is smaller than for other regions to reflect the lower liquidity in the market in South Australia.

Spot market forecasting 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 as participants react to changing market conditions. There were 135 trading intervals throughout the week where actual prices varied significantly from forecasts.⁵ This compares to the weekly average in 2012 of 60 counts and the average in 2011 of 78. Reasons for these variances are summarised in Figure 10.⁶

Figure 10: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	0	20	0	0
% of total below forecast	52	17	0	10

The total may not equal 100% due to rounding

Demand and bidding patterns

The AER reviews demand, network limitations and generator bidding as part of its market monitoring to better understand the drivers behind price variations. Figure 11 shows the weekly change in total available capacity at various price levels during peak periods⁷. For example, in Queensland 416 MW less capacity was offered at prices under \$20/MWh this week compared to the previous week. Also included is the change in average demand during peak periods, for comparison.

Figure 11: Changes in available generation and average demand compared to the previous week during peak periods

MW	<\$20/MWh	Between \$20 and \$50/MWh	Total availability	Change in average demand
QLD	-416	497	170	-128
NSW	-528	142	-833	-57
VIC	-572	569	557	-10
SA	-10	62	117	-61
TAS	-197	-439	63	-9
Total	-1723	831	74	-265

⁵ A trading interval is counted as having a variation if the actual price differs significantly from the forecast price either four or 12 hours ahead.

⁶ 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.

⁷ A peak period is defined as between 7 am and 10 pm on weekdays.

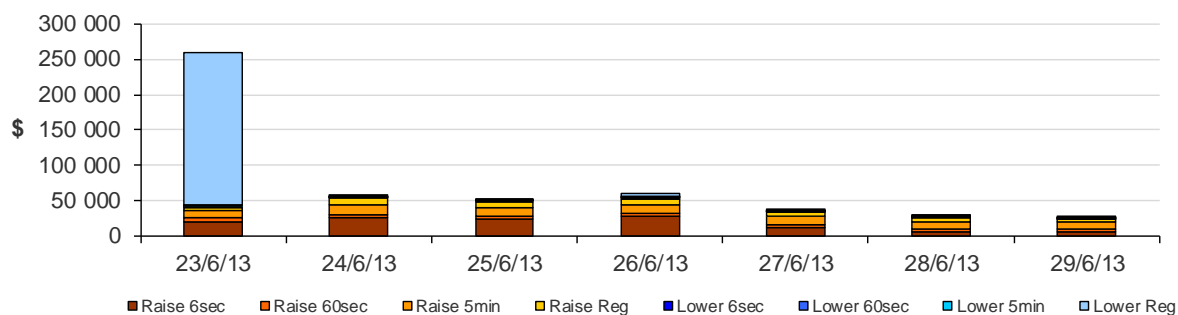
Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$183 500 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$340 000 or around two per cent of energy turnover in Tasmania. A majority of this cost occurred on Sunday when the price for Lower regulation services (LReg) reached the price cap for four consecutive dispatch intervals, 8.05 am to 8.20 am. At around 6.40 am flows across Basslink were within its no go zone (50 MW to – 50 MW), which meant that Basslink was unable to transfer frequency control ancillary services and all services were required locally. The requirement for LReg went to 50 MW. At 8.05 am a step change in the offer price for LReg saw only 26 MW available at low prices resulting in the dispatch of LReg services which were priced at the price cap.

Figure 12 shows the daily breakdown of cost for each FCAS for the NEM.

Figure 12: Daily frequency control ancillary service cost



23 – 29 June 2013

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 \$90/MWh and above \$250/MWh.

Saturday, 29 June

Midnight	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	1906.40	69.10	72.13
Demand (MW)	1701	1690	1704
Available capacity (MW)	2131	2141	2117

Actual demand and available capacity were both close to forecast.

There was a steep increase in demand from 1587 MW at 11.30 pm to 1820 MW at 11.40 pm. This was related to off peak hot water load. Demand then reduced for the remainder of the trading interval, to 1811 MW at 11.45 pm and to 1636 MW by midnight.

At 11.33 pm, effective for 11.45 pm, AGL rebid a total of 165 MW of capacity at Torrens Island across units A2, A4, B2, and B3 from under \$300/MWh to prices at or above \$11 090/MWh. The reason given was “23:35A CHG in dispatch:price increase VS PD [SA] [\$26] 00.00”. As a result, the 5-minute price increased from \$102/MWh at 11.40 pm to \$11 048/MWh at 11.45 pm.

At 11.42 pm, effective from 11.50 pm, AGL reversed the previous rebid with the reason given “23:45A CHG in dispatch::price increase VS PD SA>\$11K 30/5”.

There was no other significant bidding

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
23 June - 29 June 2013



Table 1: Financial year to date spot market volume weighted average price

Financial year	QLD	NSW	VIC	SA	TAS
2012-13 (\$/MWh) YTD	70	56	61	74	49
2011-12 (\$/MWh) YTD	30	31	28	32	33
Change*	134%	84%	115%	130%	48%
2011-12 (\$/MWh)	30	31	28	32	33

Table 2: NEM turnover

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2012-13 YTD	11.973	194
2011-12	5.987	199
2010-11	7.445	204

Table 3: Recent monthly and quarterly spot market volume weighted average price and turnover

Volume weighted average (\$/MWh)	QLD	NSW	VIC	SA	TAS	Turnover (\$, billion)
February-13	60	53	56	63	46	0.855
March-13	76	53	55	62	50	0.986
April-13	56	55	51	80	45	0.836
May-13	59	56	56	116	45	0.982
June-13 MTD	67	58	63	120	51	1.040
Q2 2013 QTD	61	56	57	106	47	2.857
Q2 2012 QTD	30	33	32	31	35	1.585
Change*	100%	68%	75%	238%	36%	0.803

Table 4: ASX energy futures contract prices at end of 28 June 2013

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2014								
Price on 21 Jun (\$/MWh)	76	89	62	75	63	79	68	92
Price on 28 Jun (\$/MWh)	75	90	61	75	62	80	69	92
Open Interest on 28 Jun (\$/MWh)	957	145	1517	275	1082	265	148	35
Traded in the last week (MW)	122	0	129	0	266	0	0	0
Traded since 1 Jan 13 (MW)	1665	116	1881	505	1911	325	224	35
Settled price for Q1 13 (\$/MWh)	97	110	52	54	53	62	58	69

Table 5: Changes to availability of low priced generation capacity offered to the market

Comparison:	QLD	NSW	VIC	SA	TAS	NEM
April 13 with April 12						
MW Priced \$20/MWh	-4017	-164	-415	-348	-316	-5259
MW Priced \$20/MWh to \$50/MWh	2269	-1179	951	-513	284	1811
May 13 with May 12						
MW Priced \$20/MWh	-4007	-399	-985	-453	-277	-6121
MW Priced \$20/MWh to \$50/MWh	2294	-1499	255	-603	293	740
June 13 with June 12 MTD						
MW Priced \$20/MWh	-3447	129	273	-207	-392	-3643
MW Priced \$20/MWh to \$50/MWh	2089	-1778	-61	-486	65	-170

*Note: These percentage changes are calculated on VWA prices prior to rounding

** Estimated value