

# WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY  
REGULATOR

**30 June – 6 July 2013**

Average spot price in all regions for the week was below \$60/MWh and between 13 and 36 per cent less than the previous week. On 1 July 2013, a new market price cap of \$13 100/MWh and Cumulative Price Threshold (CPT) of \$197 100 applied.<sup>1</sup> The market price cap and CPT that applied in the 2012-13 financial year was \$12 900/MWh and \$193 900 respectively. The market price cap and CPT are indexed to the consumer price index (CPI) annually.

## Spot market prices

Figure 1 sets out the volume weighted average (VWA) prices for 30 June to 6 July 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 30 Jun - 6 Jul 2013	56	55	53	58	42
% change from previous week*	-13	-14	-24	-36	-36
12-13 financial YTD	70	56	61	74	49
% change from 11-12 financial YTD**	134	84	115	132	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.

Longer term market trends are attached in Appendix A.<sup>2</sup>

## Financial markets

Figures 2 to 9 show futures contract<sup>3</sup> prices traded on the Australian Securities Exchange (ASX) as at close of trade on Friday 5 July 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 changes<sup>4</sup> from the previous week.

<sup>1</sup> Where the sum of the spot prices in a region in 336 consecutive trading intervals exceeds the CPT, the Administered Price Cap will be applied in that region. The APC is currently \$300/MWh for all regions of the NEM, for all time periods. The CPT is an explicit risk management mechanism designed to limit participants' exposure to protracted levels of high prices in the wholesale spot market.

<sup>2</sup> 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](http://www.aer.gov.au) -> Australian energy industry -> Performance of the energy sector

<sup>3</sup> Futures contracts traded on the ASX are listed by d-cyphaTrade ([www.d-cyphatrade.com.au](http://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.

<sup>4</sup> Calculated on prices prior to rounding.

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

	QLD		NSW		VIC		SA	
Calendar Year 2014	60 (50)	3%	54	2%	51	4%	57	1%
Calendar Year 2015	52 (3)	8%	47	3%	43	4%	47	0%
Calendar Year 2016	51	0%	52	0%	47	0%	63	0%
Three year average	54	4%	51	2%	47	2%	56	0%

Source: d-cyphaTrade/ASX [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

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

Figure 3 shows the \$300 cap contract price for Q1 2014 and calendar year 2014 and the percentage change<sup>5</sup> from the previous week.

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

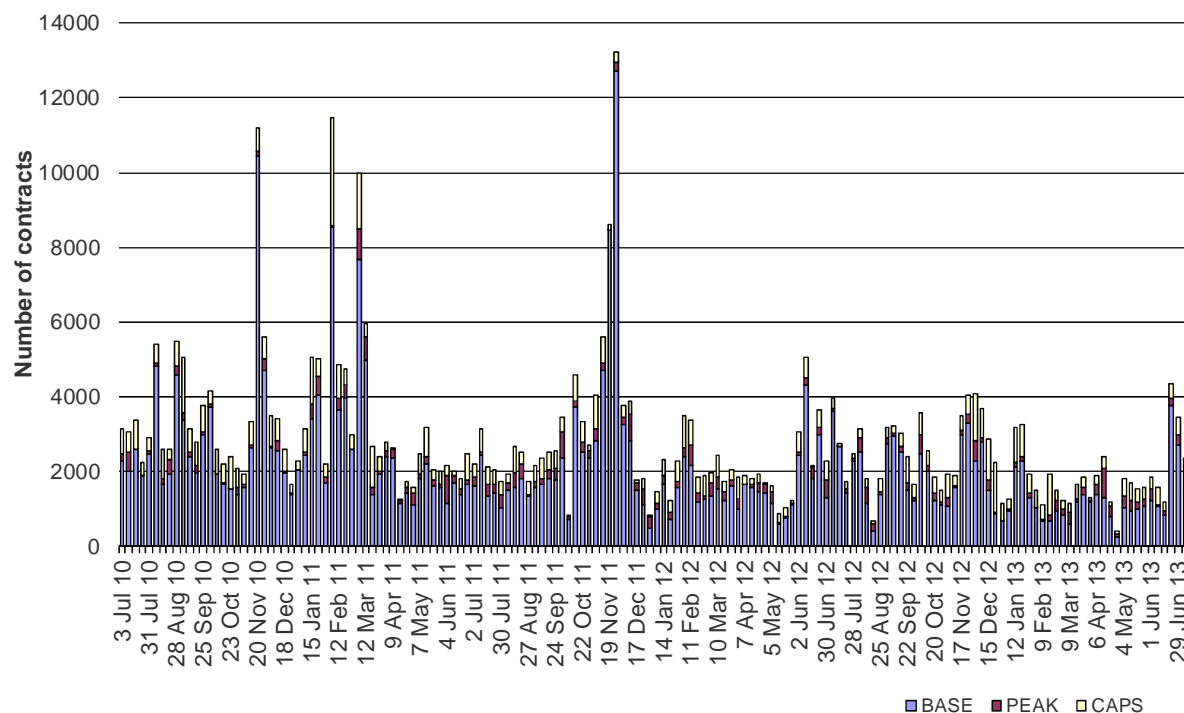
	QLD		NSW		VIC		SA	
Q1 2014	16	0%	8	3%	12 (60)	5%	17	0%
2014	8	0%	4	3%	5	5%	9	0%

Source: d-cyphaTrade/ASX [www.d-cyphatrade.com.au](http://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**

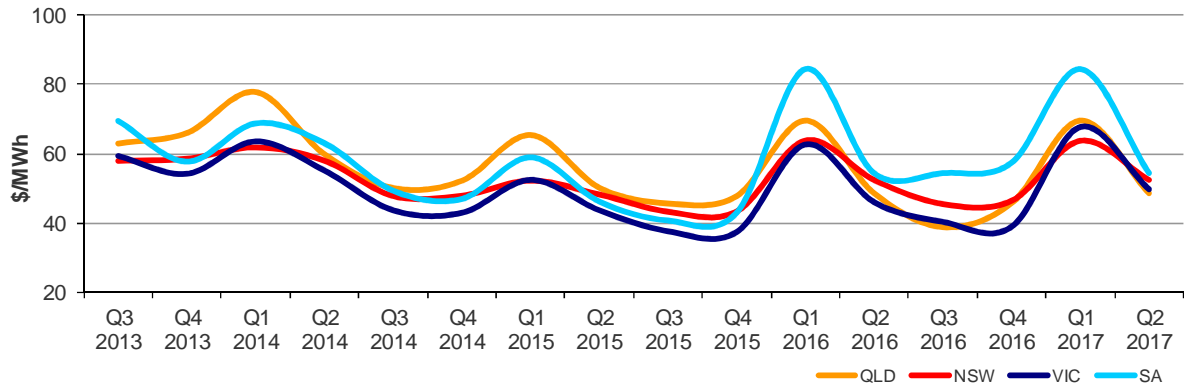


Source: d-cyphaTrade/ASX [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

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

<sup>5</sup> Calculated on prices prior to rounding.

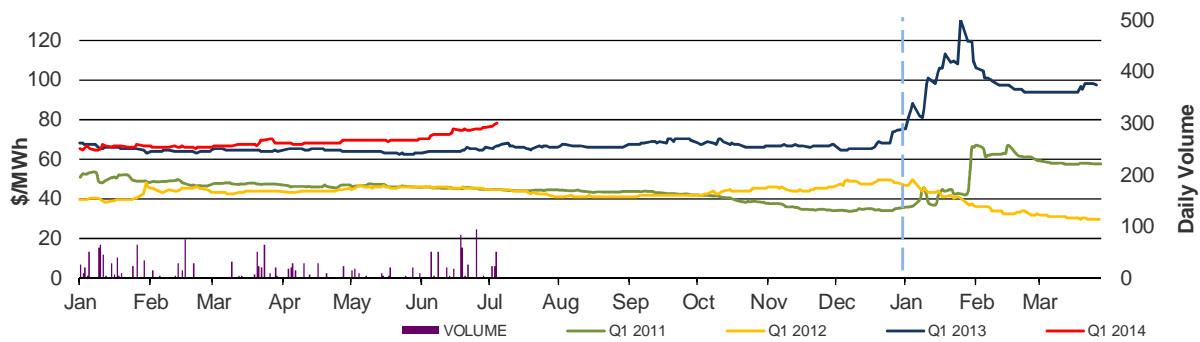
**Figure 5: Quarterly base future prices Q3 2013 – Q2 2017**



Source: d-cyphaTrade/ASX [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

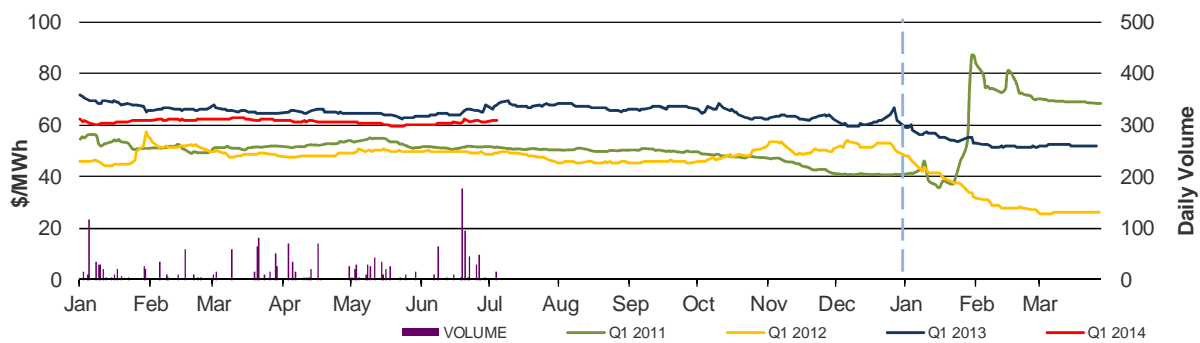
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2011, 2012, 2013 and 2014. Also shown is the daily volume of Q1 2014 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.

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



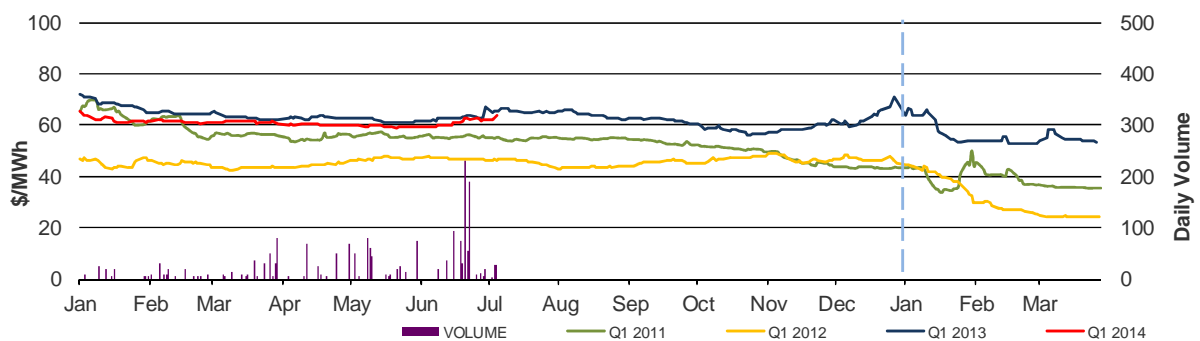
Source: d-cyphaTrade/ASX [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

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



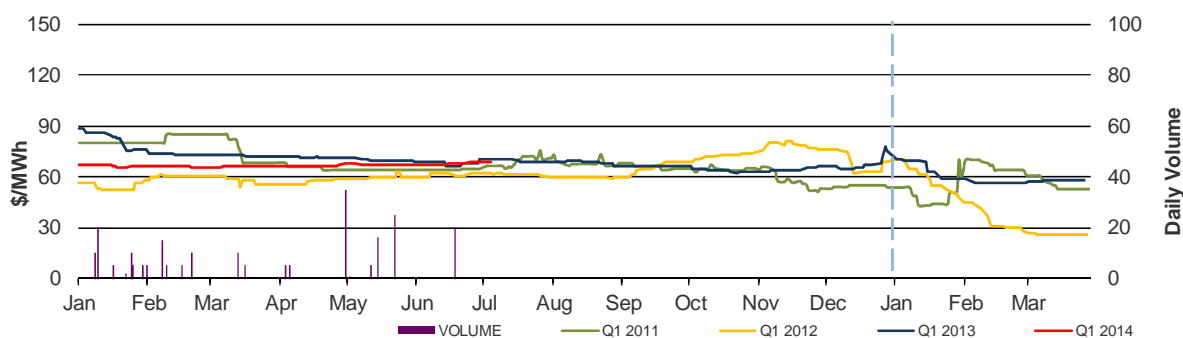
Source: d-cyphaTrade/ASX [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

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



Source: d-cyphaTrade/ASX [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

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



Source: d-cyphaTrade/ASX [www.d-cyphatrade.com.au](http://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 80 trading intervals throughout the week where actual prices varied significantly from forecasts.<sup>6</sup> 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<sup>7</sup>.

**Figure 10: Reasons for variations between forecast and actual prices**

	Availability	Demand	Network	Combination
% of total above forecast	2	5	0	2
% of total below forecast	26	49	0	16

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 periods<sup>8</sup>. For example, in Queensland 31 MW more 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.

<sup>6</sup> 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.

<sup>7</sup> 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.

<sup>8</sup> A peak period is defined as between 7 am and 10 pm on weekdays.

**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	31	-185	254	-185
NSW	-212	-63	122	-457
VIC	-513	163	-608	-592
SA	-44	-34	42	-158
TAS	398	250	-85	-98
<b>TOTAL</b>	<b>-340</b>	<b>131</b>	<b>-275</b>	<b>-1490</b>

### Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$189 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$195 000 or around 2.5 per cent of energy turnover in Tasmania.

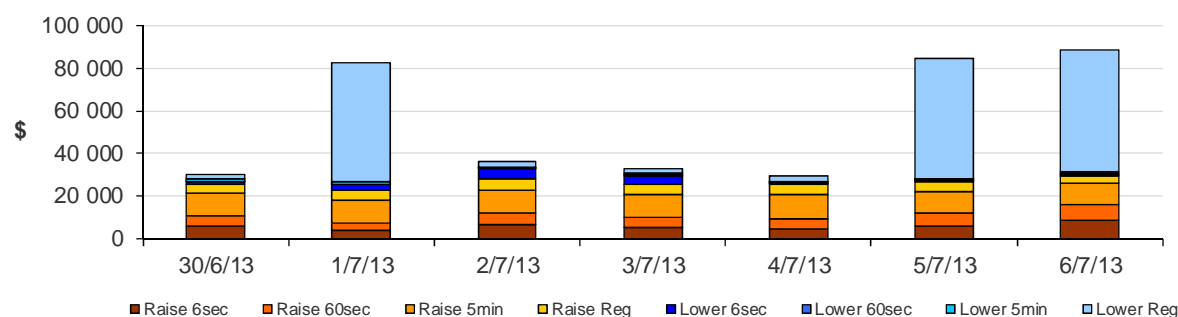
The 5 minute dispatch price of lower regulation FCAS in Tasmania reached \$12 900/MW on three occasions during the week, resulting in a cost of \$53 750 on each occasion.

On 1 July 2013, exports into Victoria across Basslink increased from 523 MW at 3.40 pm to 579 MW at 3.45 pm.<sup>9</sup> As the metered flow was above the interconnector's bid maximum availability of 571 MW, the interconnector was not able to provide FCAS services. This saw the local lower regulation service requirements in Tasmania increased from 25 MW at 3.40 pm to 50 MW at 3.45 pm. With limited FCAS offers at the time, high priced lower regulation service offers at the price cap of \$12 900/MW were dispatched to meet the requirement.

Similarly, exports into Victoria exceeded Basslink's maximum bid availability of 571 MW on 5 and 6 July, causing a price spike for one dispatch interval each time. The local regulation requirements increased to 50 MW at 5.55 pm on 5 July and at 6.05 pm on 6 July.

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

**Figure 12: Daily frequency control ancillary service cost**



### Australian Energy Regulator July 2013

<sup>9</sup> This refers to metered interconnector flows, not target flows.

# Detailed NEM Price and Demand Trends

for Weekly Market Analysis

30 June - 6 July 2013

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

Financial year	QLD	NSW	VIC	SA	TAS
2012-13 (\$/MWh)	70	56	61	74	49
2011-12 (\$/MWh)	30	31	28	32	33
Change*	134%	84%	115%	132%	48%
2011-12 (\$/MWh)	30	31	28	32	33

**Table 2: NEM turnover**

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2012-13	12.001	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	66	57	63	118	51	1.067
Q2 2013	60	56	57	106	47	2.885
Q2 2012	30	33	33	30	35	1.600
Change*	100%	67%	74%	248%	37%	0.803

**Table 4: ASX energy futures contract prices at end of 5 Jul 2013**

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2014								
Price on 28 Jun (\$/MWh)	75	90	61	75	62	80	69	92
Price on 5 Jul (\$/MWh)	78	91	62	75	64	82	69	92
Open Interest on 5 Jul (\$/MWh)	1012	145	1517	285	1098	275	148	35
Traded in the last week (MW)	105	0	21	10	84	10	0	0
Traded since 1 Jan 13 (MW)	1770	116	1902	515	1995	335	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						
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