

# WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY  
REGULATOR

15 July – 21 July 2012

## Spot market prices

Figure 1 shows that for the second consecutive week average prices in all regions fell, in line with reduced demand, and increased wind generation in South Australia.

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

	Qld	NSW	VIC	SA	Tas
Average price for 15 July – 21 July 2012	60	62	62	71	53
Average price for 8 July – 14 July 2012	63	67	70	74	58
Average price for 1 July – 7 July 2012	68	75	108	116	74
Adjusted average price 1 July – 7 July 2012*	68	75	83	91	68
11/12 financial year	30	31	28	32	33

\*price spikes in South Australia, Victoria and Tasmania on 2 July due to network problems have been removed.

Longer term market trends are attached in Appendix A<sup>1</sup>.

## Financial markets

Figures 2 to 9 show futures contract<sup>2</sup> prices traded on the Australian Securities Exchange (ASX) as at close of trade on Monday 23 July 2012. 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>3</sup> from the previous week.

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

	QLD		NSW		VIC		SA	
Calendar Year 2013	56*	-1%	61*	-1%	56*	-1%	60*	0%
Calendar Year 2014	52*	0%	56*	-1%	52*	-1%	55	0%
Calendar Year 2015	55	0%	53	2%	52	0%	69	0%
Three year average	54	0%	57	0%	53	-1%	62	0%

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

\* denotes trades in the product.

<sup>1</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>2</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>3</sup> Calculated on prices prior to rounding.

Figure 3 shows the \$300 cap contract price for Q1 2013 and calendar year 2013 and the percentage change<sup>4</sup> from the previous week.

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

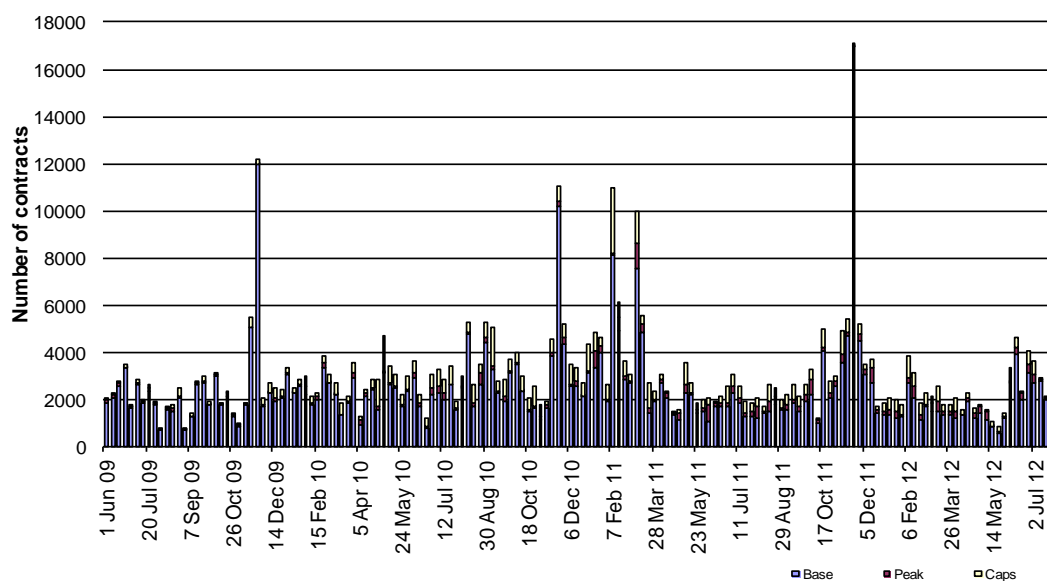
	QLD		NSW		VIC		SA	
Q1 2013 (% change)	14	0%	14*	-4%	14	-4%	21	-2%
2013 (% change)	6	0%	7	-5%	6	-2%	9	-2%

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

\* denotes trades in the product.

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

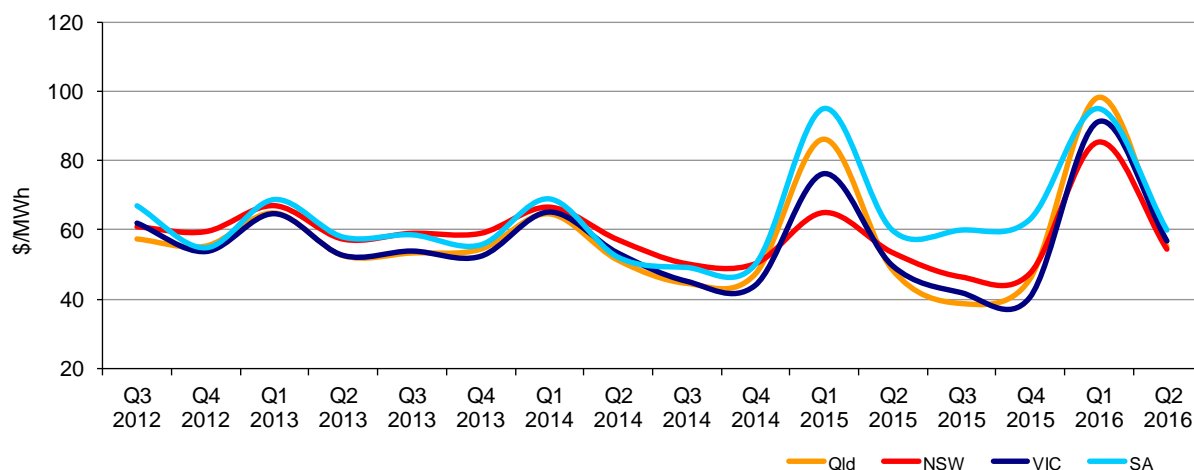
**Figure 4: Number of exchange traded contracts per week**



Source: d-cyphaTrade [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.

**Figure 5: Quarterly base future prices Q3 2012 – Q2 2016**

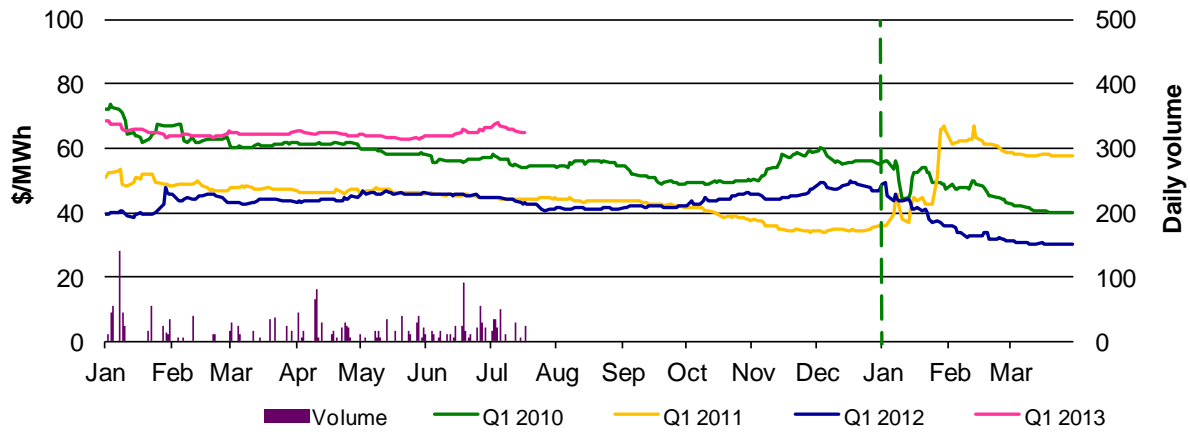


Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

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

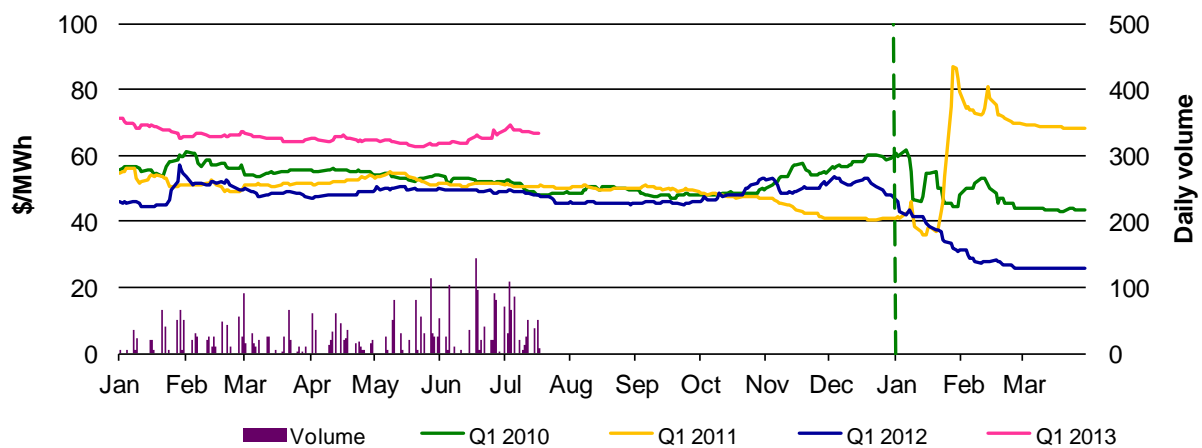
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2010, 2011, 2012 and 2013. Also shown is the daily volume of Q1 2013 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.

**Figure 6: Queensland Q1 2010, 2011, 2012 and 2013**



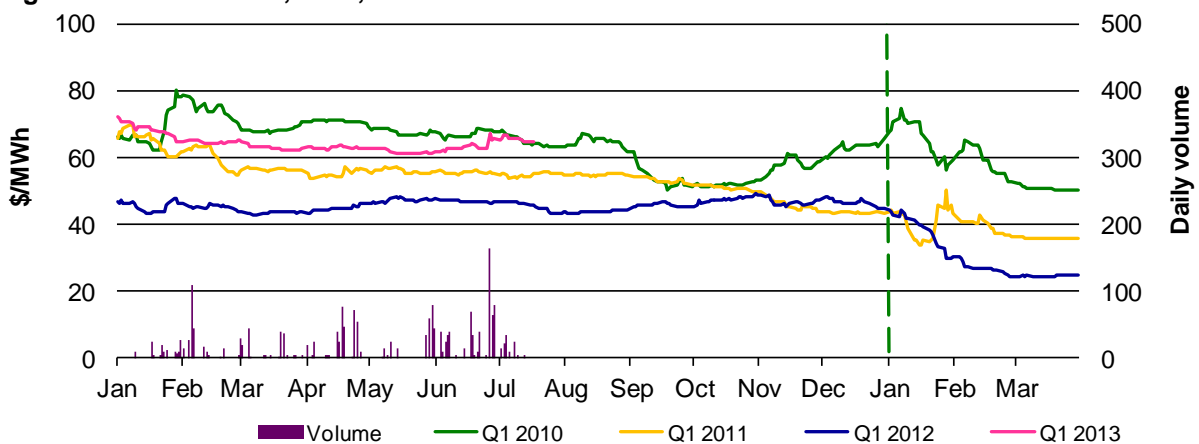
Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

**Figure 7: New South Wales Q1 2010, 2011, 2012 and 2013**



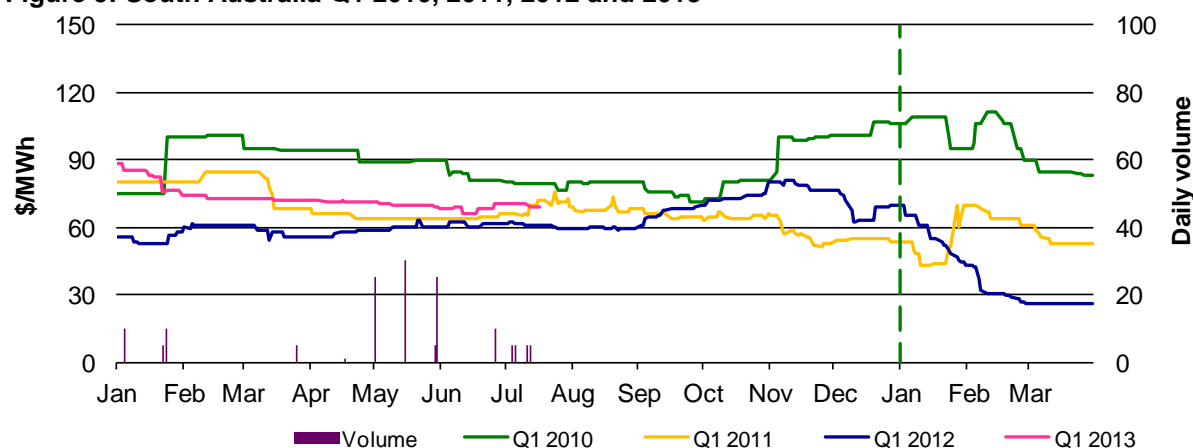
Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

**Figure 8: Victoria 2010, 2011, 2012 and 2013**



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

**Figure 9: South Australia Q1 2010, 2011, 2012 and 2013**



Source: d-cyphaTrade [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 36 trading intervals throughout the week where actual prices varied significantly from forecasts<sup>5</sup>. This compares to the weekly average in 2011 of 78 counts and the average in 2010 of 57. Reasons for these variances are summarised in Figure 10<sup>6</sup>.

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

	Availability	Demand	Network	Combination
% of total above forecast	0	3	0	0
% of total below forecast	8	85	0	4

### 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>7</sup>. For example, in Queensland 14 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.

<sup>5</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>6</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>7</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	-14	-237	277	-166
NSW	50	717	-218	45
VIC	193	160	146	-165
SA	-132	-22	-155	-35
TAS	-296	210	-53	-70
<b>TOTAL</b>	-199	828	-3	-391

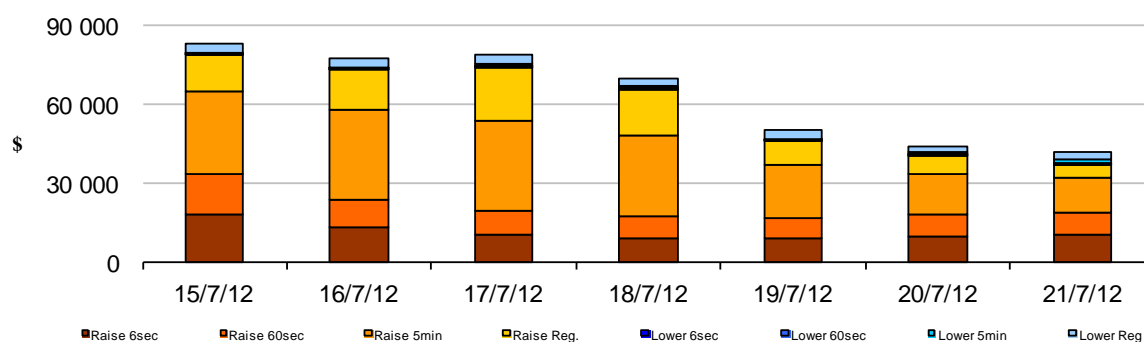
### Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$419 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$27 000 or less than one per cent of energy turnover in Tasmania.

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

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



# Detailed NEM Price and Demand Trends

for Weekly Market Analysis  
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**Table 1: Financial year to date spot market volume weighted average price**

Financial year	QLD	NSW	VIC	SA	TAS
2012-13 (\$/MWh) YTD	64	68	80	87	62
2011-12 (\$/MWh) YTD	27	31	31	38	32
Change*	136%	117%	158%	133%	96%
2011-12 (\$/MWh)	30	31	28	32	33

**Table 2: NEM turnover**

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2012-13 (YTD)	\$0.846	12
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)
Mar-12	28	26	24	26	36	0.396
Apr-12	30	34	33	30	36	0.457
May-12	26	29	27	30	33	0.434
June-12	35	37	38	31	35	0.619
July-12 (MTD)	64	68	80	87	62	0.846
Q3 2012 (QTD)	64	68	80	87	62	0.846
Q3 2011 (QTD)	27	31	31	38	32	0.378
Change*	136%	117%	158%	133%	96%	123.65%

**Table 4: ASX energy futures contract prices at end of 23 July 2012**

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2013								
Price on 16 Jul (\$/MWh)	66	91	67	90	65	89	71	108
Price on 23 Jul (\$/MWh)	65	88	67	89	65	89	69	108
Open interest on 23 Jul	867	88	1294	235	1169	78	109	0
Traded in the last week (MW)	60	0	170	0	5	0	10	0
Traded since 1 Jan 12 (MW)	2000	162	3466	228	2083	134	146	0
Settled price for Q1 12(\$/MWh)	30	37	26	28	25	29	26	30

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

Comparison:	QLD	NSW	VIC	SA	TAS	NEM
May 12 with May 11						
MW Priced <\$20/MWh	26	-1367	593	-94	34	-809
MW Priced \$20 to \$50/MWh	38	217	98	177	182	712
June 12 with June 11						
MW Priced <\$20/MWh	-685	-2047	-480	66	13	-3133
MW Priced \$20 to \$50/MWh	238	1100	269	40	168	1814
July 12 with July 11 (MTD)						
MW Priced <\$20/MWh	-3776	-1955	-1727	-84	-286	-7828
MW Priced \$20 to \$50/MWh	2364	-1216	368	-498	107	1125

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

\*\* Estimated value