

WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY
REGULATOR

9 October - 15 October 2011

Summary

Weekly average spot prices ranged from \$28/MWh in Queensland to \$31/MWh in Tasmania.

Spot market prices

Figure 1 sets out the volume weighted average (VWA) prices for the week 9 October to 15 October and the 11/12 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 9 Oct - 15 Oct 2011	28	29	29	29	31
% change from previous week*	1	-2	10	-55	8
11/12 financial YTD	29	30	29	38	30
% change from 10/11 financial YTD **	33	4	17	35	-21

*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 B¹.

Financial markets

Figures 2 to 9 show futures contract² prices traded on the Australian Securities Exchange (ASX) as at close of trade on Monday 17 October 2011. 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.

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 -> Monitoring, reporting and enforcement -> Electricity market reports -> Long-term analysis.

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

	QLD		NSW		VIC		SA	
Calendar Year 2012	43*	3%	49*	4%	44*	4%	53*	2%
Calendar Year 2013	51	1%	56	0%	53	3%	58	0%
Calendar Year 2014	56	0%	59	0%	60	0%	69	0%
Three year average	50	1%	54	1%	52	2%	60	1%

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

* denotes trades in the product.

Figure 3 shows the \$300 cap contract price for Q1 2012 and calendar year 2012 and the percentage change⁴ from the previous week.

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

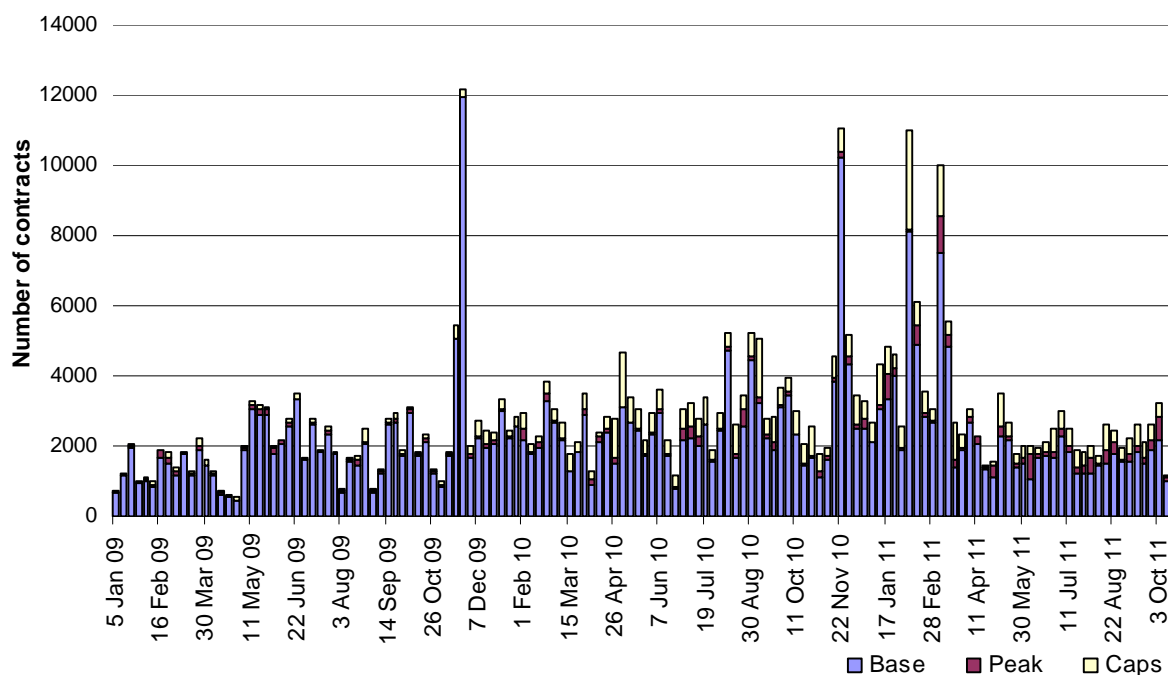
	QLD		NSW		VIC		SA	
Q1 2012 (% change)	14	2%	15*	2%	17*	5%	34	0%
2012 (% change)	7	4%	9	2%	6	2%	12	0%

Source: d-cyphaTrade 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

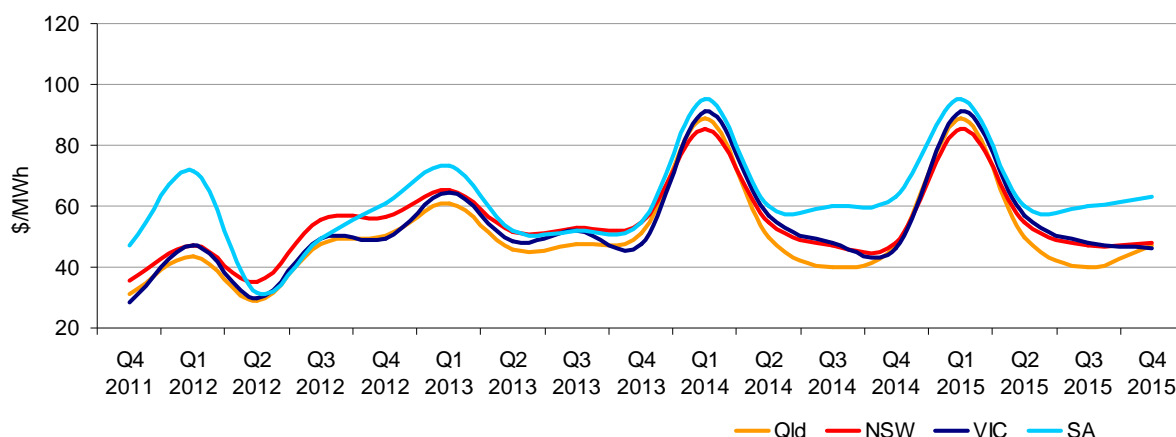


Source: d-cyphaTrade www.d-cyphatrade.com.au

⁴ Calculated on prices prior to rounding.

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

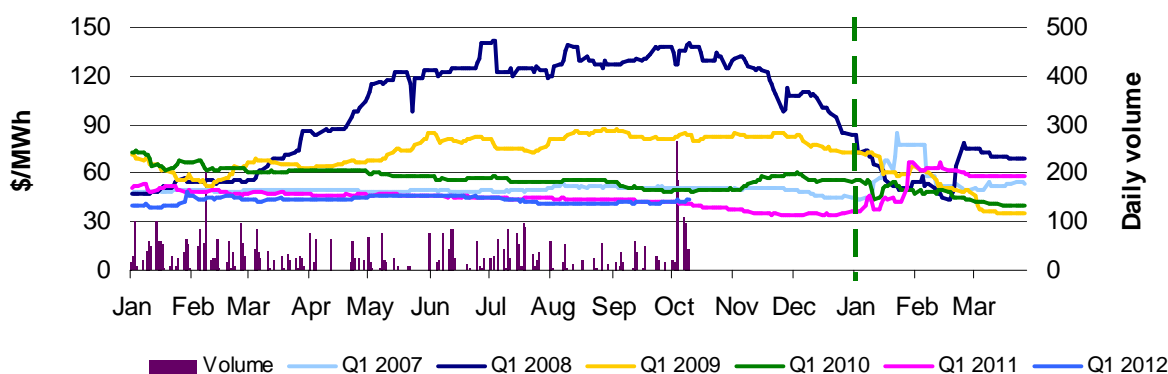
Figure 5: Quarterly base future prices Q4 2011 – Q4 2015



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

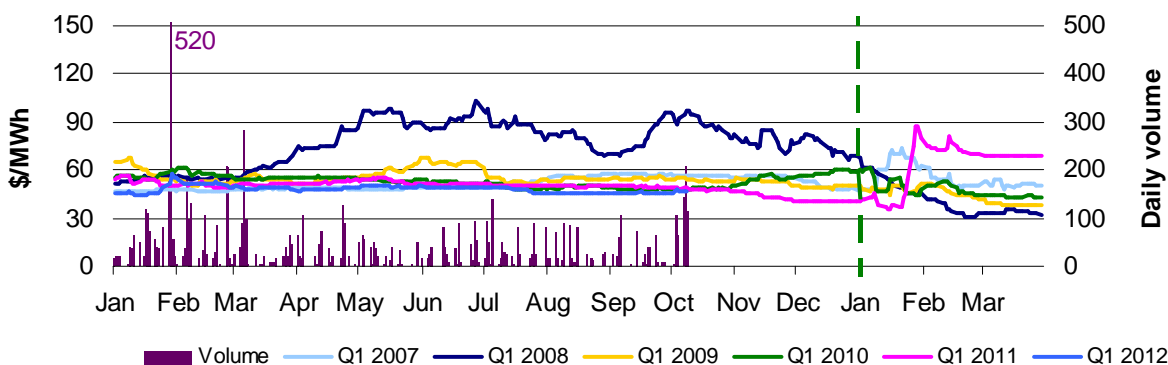
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009, 2010, 2011 and 2012. Also shown is the daily volume of Q1 2012 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased. To understand the diagrams, the dark-blue line in figure 6 demonstrates that throughout the middle of 2007, the market had an expectation of very high spot prices in the first quarter of 2008.

Figure 6: Queensland Q1 2007, 2008, 2009, 2010, 2011 and 2012



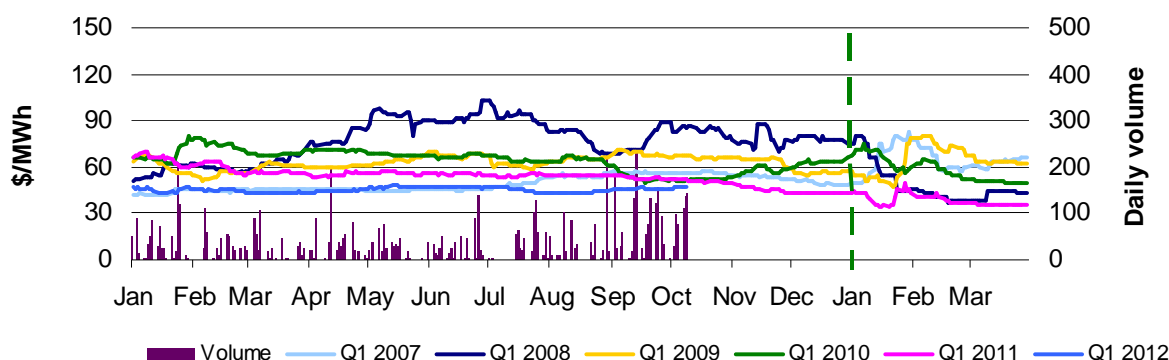
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 7: New South Wales Q1 2007, 2008, 2009, 2010, 2011 and 2012



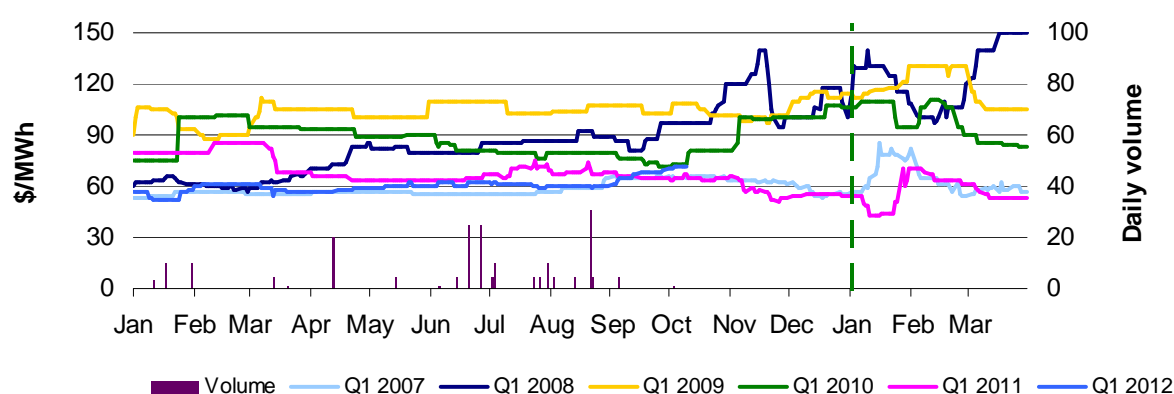
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 8: Victoria Q1 2007, 2008, 2009, 2010, 2011 and 2012



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

Figure 9: South Australia Q1 2007, 2008, 2009, 2010, 2011 and 2012



Source: d-cyphaTrade 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 123 trading intervals throughout the week where actual prices varied significantly from forecasts⁵. This compares to the weekly average in 2010 of 57 counts and the average in 2009 of 103. Reasons for these variances are summarised in Figure 10⁶.

Figure 10: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	2	10	0	0
% of total below forecast	81	6	0	1

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.

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 331 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	-331	334	-505	221
NSW	70	-278	-120	16
VIC	-477	-137	-510	28
SA	157	14	82	61
TAS	-150	-156	86	4
TOTAL	-731	-223	-967	330

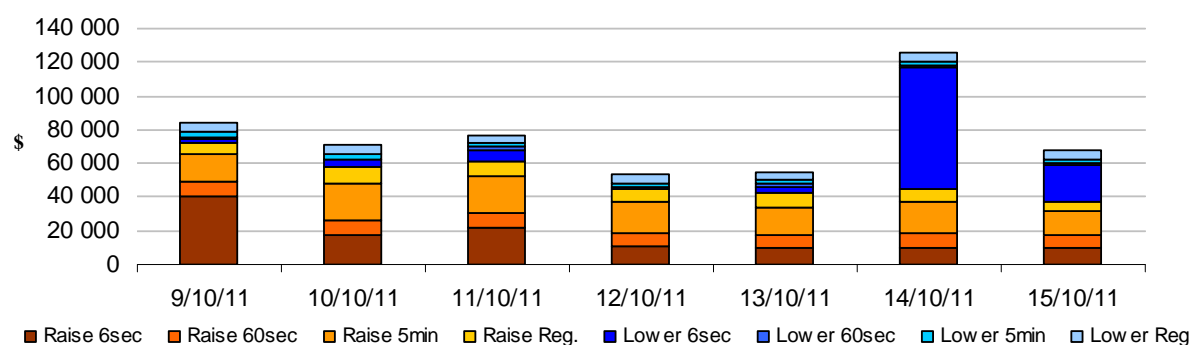
Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$317 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$217 000 or around four 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



Australian Energy Regulator November 2011

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

Detailed Market Analysis



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South Australia

There was one occasion where the spot price in South Australia was less than -\$100/MWh.

Saturday, 15 October

2 PM	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	-230.51	15.88	12.90
Demand (MW)	1073	964	940
Available capacity (MW)	2624	2568	2672

At the time there was around 1000 MW of wind generation in South Australia and up to 1400 MW of South Australian generation capacity was priced below zero.

At 1.34 pm, effective from 1.35 pm, Origin Energy increased the available capacity at Ladbroke Grove from zero to 84 MW, all of which was priced close to the floor price. The reason given was “1320 plant test – purge test et 1hr sl”.

A system normal constraint used to avoid the overloading of the south east transformer in South Australia was binding at the time of the rebid. Following the rebid, the limit for flows out of South Australia into Victoria across the Heywood interconnector reduce from around 244 MW at 1.35 pm to 92 MW at 1.40 pm. This constraint also affected generation at Lake Bonney (wind generation).

The rebid by Origin Energy combined with the reduction in exports (152 MW) from South Australia into Victoria across the Heywood interconnector saw wind generation near Robertstown being targeted down (by around 200 MW). The change in wind generation resulted in the binding of a system normal constraint used to avoid the overloading of the Robertstown transformer at 1.40 pm. As a result the limit for flow out of South Australia into Victoria across the Murraylink interconnector reduced from around 137 MW at 1.35 pm to 33 MW at 1.40 pm. The dispatch price fell to -\$925/MWh at 1.40 pm. At 1.45 pm, increase in exports out of South Australia saw the dispatch price return to previous levels of around \$20/MWh.

There was no other significant rebidding.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
9 October - 15 October 2011



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

Financial year	QLD	NSW	VIC	SA	TAS
2011-12 (\$/MWh) YTD	29	30	29	38	30
2010-11 (\$/MWh) YTD	22	29	25	28	38
Change*	33%	4%	17%	35%	-21%
2010-11 (\$/MWh)	34	43	29	42	31

Table 2: NEM turnover

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2011-12 (YTD)	\$1.792	59
2010-11	\$7.445	204
2009-10	\$9.643	206

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)
Jun-11	26	28	29	33	30	0.447
Jul-11	27	32	31	36	34	0.508
Aug-11	29	31	31	36	29	0.483
Sep-11	29	29	28	40	27	0.427
Oct-11 (MTD)	28	29	27	46	30	0.211
Q1 2011	65	90	41	83	27	3.484
Q1 2010	46	52	67	134	27	3.014
Change*	41%	74%	-38%	-38%	2%	15.57%

Table 4: ASX energy futures contract prices at end of 17 October

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2012								
Price on 10 Oct (\$/MW)	43	65	46	71	46	75	70	120
Price on 17 Oct (\$/MW)	44	67	47	73	47	76	72	125
Open interest on 17 Oct	1268	115	2053	535	2363	271	170	5
Traded in the last week (MW)	703	0	637	40	564	25	1	0
Traded since 1 Jan 11 (MW)	5657	151	8052	978	6803	517	221	5
Settled price for Q1 11(\$/MW)	57	96	68	118	35	51	53	93

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

Comparison:	QLD	NSW	VIC	SA	TAS	NEM
August 11 with August 10						
MW Priced <\$20/MWh	-1212	-877	10	-152	-198	-2429
MW Priced \$20 to \$50/MWh	96	656	-241	57	-43	524
September 11 with September 10						
MW Priced <\$20/MWh	-856	-1281	-424	-614	-345	-3520
MW Priced \$20 to \$50/MWh	-376	1085	148	175	161	1191
October 11 with October 10 (MTD)						
MW Priced <\$20/MWh	-677	-1249	-721	-173	-840	-3660
MW Priced \$20 to \$50/MWh	-307	1123	455	101	491	1862

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

** Estimated value