

WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY
REGULATOR

29 July – 4 August 2012

Summary

Lower average wind generation than the previous week in South Australia saw the average spot price in that region increase by 8 per cent on the previous week.

Spot market prices

Figure 1 sets out the volume weighted average (VWA) prices for the week 29 July to 4 August 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 29 July - 4 August 2011	65	67	67	77	55
% change from previous week*	-6	-2	1	8	-2
12/13 financial YTD	65	68	75	82	59
% change from 11/12 financial YTD **	137	117	145	135	79

*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 6 August 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 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 -> 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 2: Base calendar year futures contract prices (\$/MWh)

	QLD		NSW		VIC		SA	
Calendar Year 2013	58*	2%	62*	1%	57*	1%	60	0%
Calendar Year 2014	56*	7%	59	5%	55	6%	55	0%
Calendar Year 2015	55	0%	53	0%	52	0%	69	0%
Three year average	56	3%	58	2%	55	2%	62	0%

Source: d-cyphaTrade www.d-cyphatrade.com.au
 * denotes trades in the product.

Figure 3 shows the \$300 cap contract price for Q1 2013 and calendar year 2013 and the percentage change⁴ from the previous week.

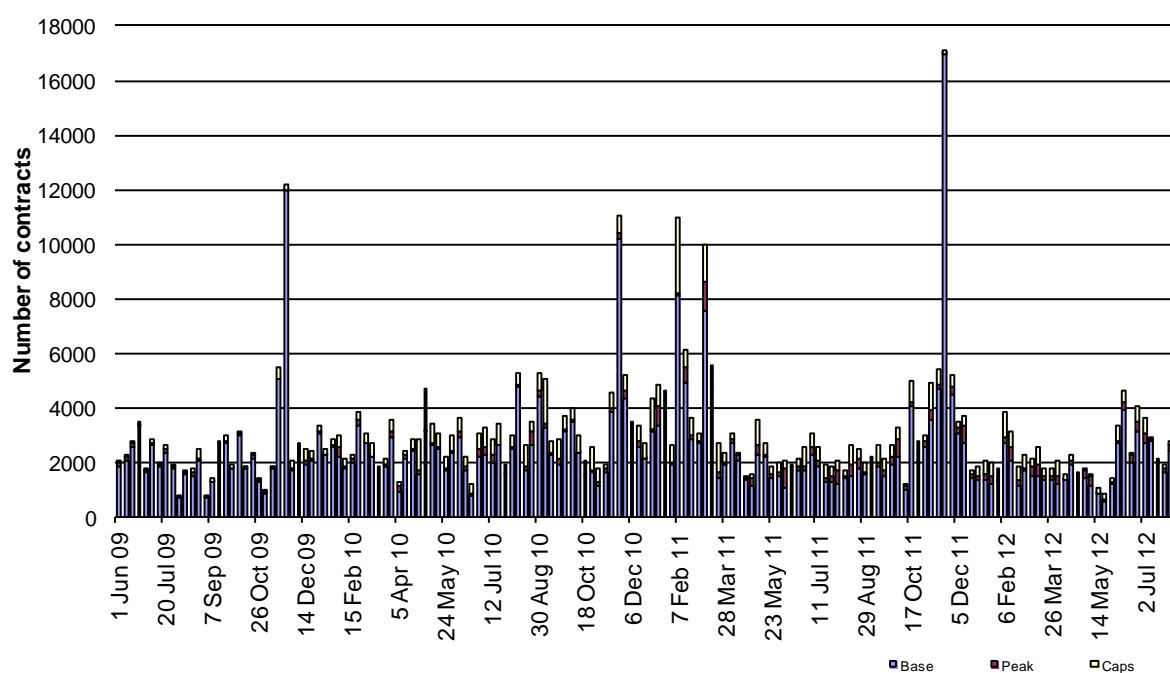
Figure 3: \$300 cap contract prices (\$/MWh)

	QLD		NSW		VIC		SA	
Q1 2013 (% change)	14	0%	14	0%	14*	-1%	21	0%
2013 (% change)	6	0%	7	0%	6	-1%	9	1%

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

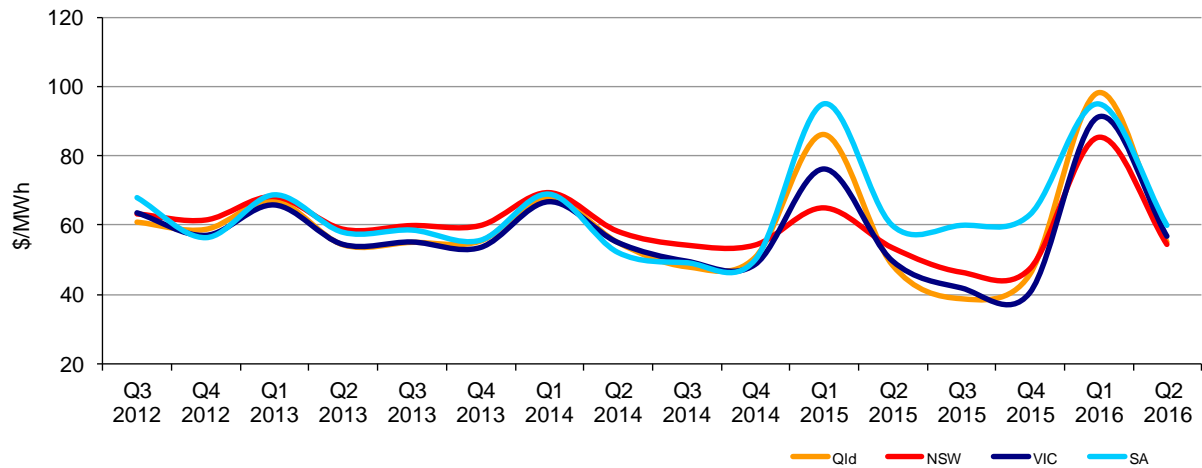


Source: d-cyphaTrade www.d-cyphatrade.com.au

⁴ Calculated on prices prior to rounding.

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

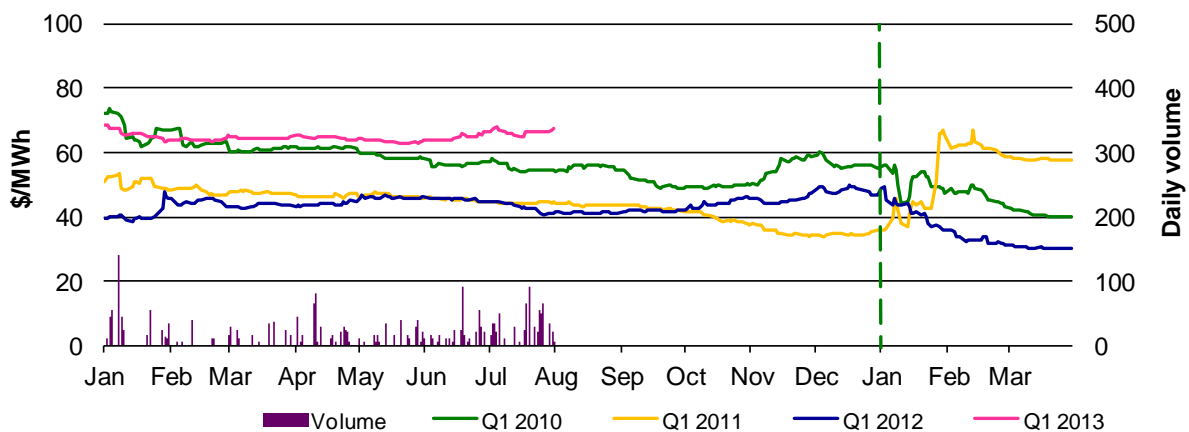
Figure 5: Quarterly base future prices Q3 2012 – Q2 2016



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

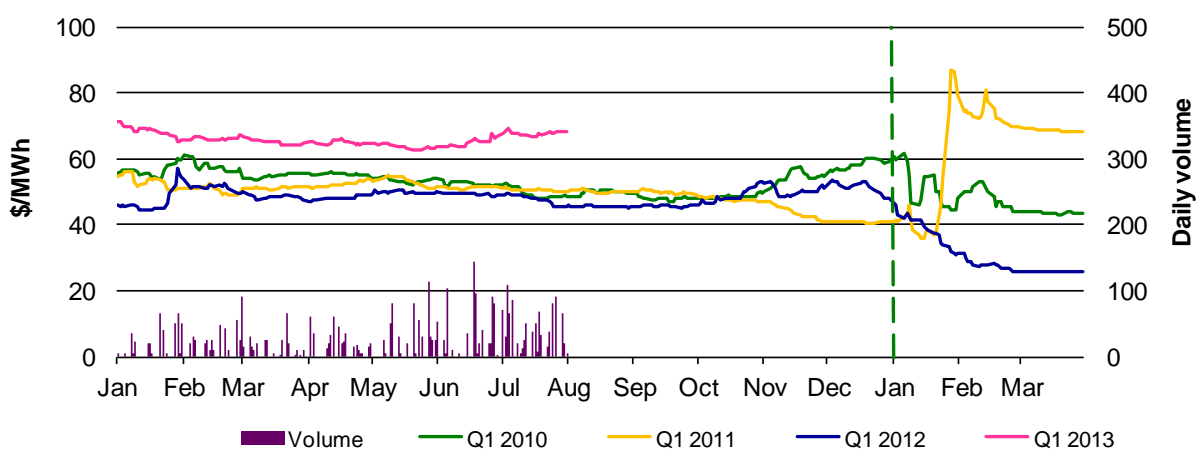
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2010, 2011, 2012 and 2013. Also shown is the daily volume of Q1 2013 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.

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



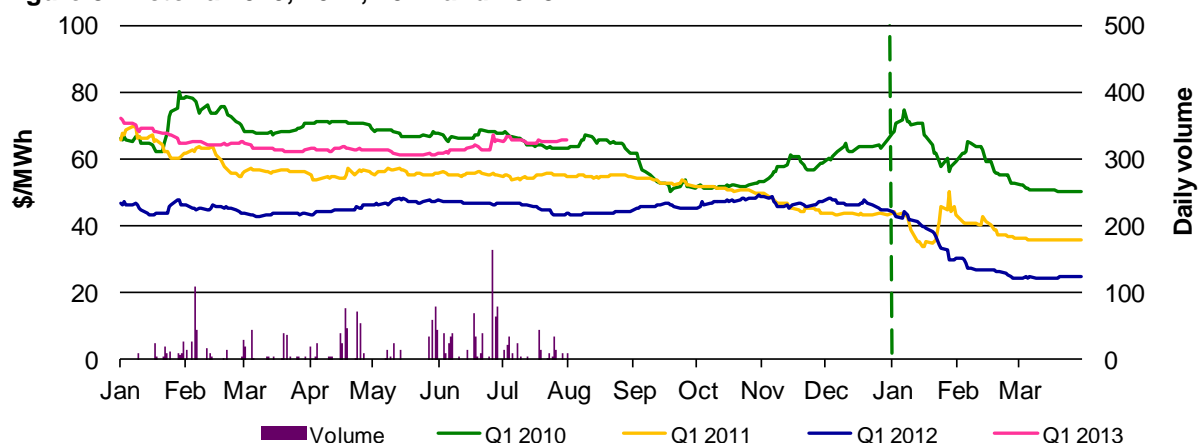
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



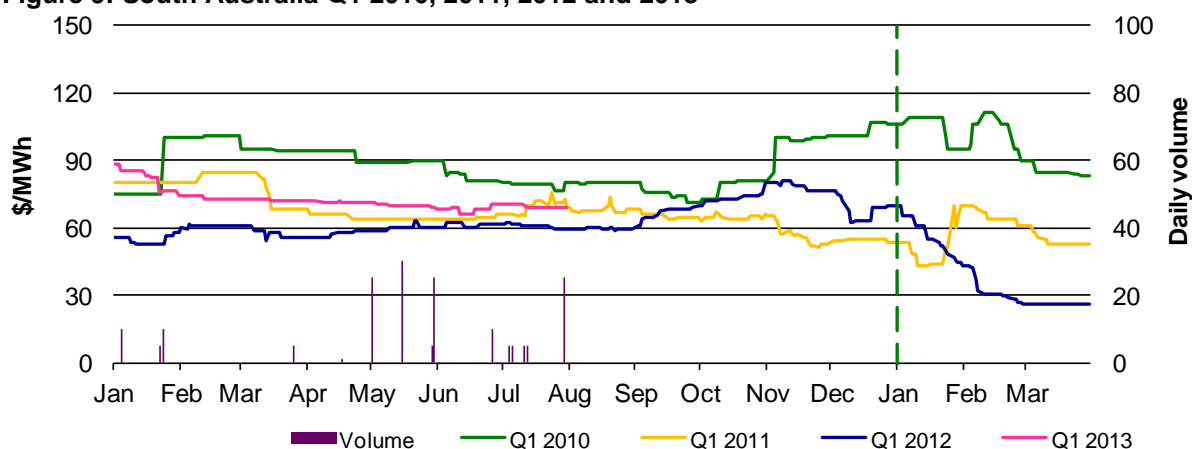
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 8: Victoria 2010, 2011, 2012 and 2013



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

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



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 51 trading intervals throughout the week where actual prices varied significantly from forecasts⁵. 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 10⁶.

Figure 10: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	0	37	0	1
% of total below forecast	30	28	0	4

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 205 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.

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	205	275	98	75
NSW	132	-301	615	368
VIC	-190	290	-214	172
SA	-41	-3	63	99
TAS	440	-402	-53	20
TOTAL	546	-141	509	734

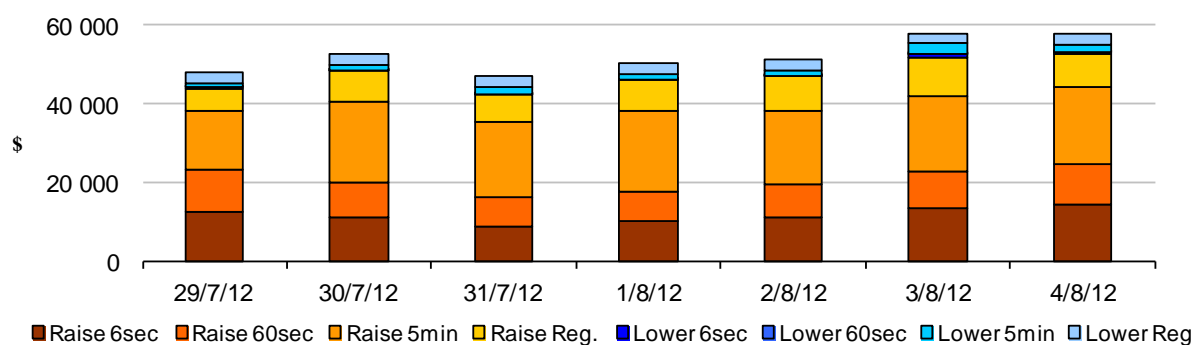
Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$332 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$34 000 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



Australian Energy Regulator August 2012

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



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National

There was one occasion where the spot price aligned nationally and the New South Wales price was greater than three times the New South Wales weekly average price of \$67/MWh and above \$250/MWh.

Tuesday, 31 July

6:30 PM	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	291.23	146.14	144.98
Demand (MW)	29 930	29 700	29 760
Available capacity (MW)	38 373	38 611	38 596

Conditions at the time saw national demand 230 MW higher than forecast four hours ahead, while available capacity was 238 MW below that forecast four hours ahead. A number of low cost generators were out of service on the day.

At 2.51 pm, effective from 4.35 pm, Origin Energy rebid 166 MW of capacity at Uranquinty unit 12 priced at \$134/MWh to under \$62/MWh bringing the start of the unit forward one hour. The reason given was “Avoid short run – ensure economic dispatch SL”. This reduced the 6.30 pm forecast price from \$145/MWh to \$134/MWh.

A second rebid by Origin at 4.14 pm, effective from 5.35 pm, shifted 166 MW of capacity at Uranquinty unit 13 from \$300/MWh to below \$62/MWh, committing the unit into service. This reduced the 6.30 pm forecast price from \$134/MWh to \$116/MWh.

At 5.26 pm, effective from 5.35 pm, Macquarie Generation shifted a total of 740 MW of capacity at Bayswater and Liddell (the majority of which was priced below \$130/MWh) into price bands above \$11 400/MWh. The reason given was “1725A unforecast start of GT’s in NSW”.

This increased the 6.30 pm forecast price from \$116/MWh to \$208/MWh.

There was no other significant rebidding.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
29 July - 4 August 2012



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

Financial year	QLD	NSW	VIC	SA	TAS
2012-13 (\$/MWh) YTD	65	68	75	82	59
2011-12 (\$/MWh) YTD	27	31	30	35	33
Change*	137%	117%	145%	135%	79%
2011-12 (\$/MWh)	30	31	28	32	33

Table 2: NEM turnover

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2012-13 (YTD)	\$1.380	20
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)
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	65	68	76	83	60	1.228
August-12 (MTD)	65	67	66	73	53	0.152
Q3 2012 (QTD)	65	68	75	82	59	1.380
Q3 2011 (QTD)	27	31	30	35	33	0.622
Change*	137%	117%	145%	135%	79%	121.92%

Table 4: ASX energy futures contract prices at end of 6 August 2012

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2013								
Price on 30 Jul (\$/MWh)	66	89	68	89	65	89	69	108
Price on 06 Aug (\$/MWh)	67	90	68	89	66	89	69	108
Open interest on 06 Aug	847	158	1379	319	1194	78	134	0
Traded in the last week (MW)	175	50	181	4	68	0	25	0
Traded since 1 Jan 12 (MW)	2435	237	3883	312	2226	134	171	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
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						
MW Priced <\$20/MWh	-3838	-1796	-1613	-170	-211	-7628
MW Priced \$20 to \$50/MWh	2427	-1157	516	-497	110	1399
August 12 with August 11 (MTD)						
MW Priced <\$20/MWh	-3375	-1507	-1080	-184	6	-6141
MW Priced \$20 to \$50/MWh	2727	-793	998	-352	-135	2445

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

** Estimated value