

WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY
REGULATOR

17 October – 23 October 2010

Summary

Weekly average spot prices ranged from \$19/MWh in Tasmania to \$27/MWh in Victoria.

Spot market prices

Figure 1 sets out the volume weighted average prices for the week 17 October to 23 October 2010 and the 10/11 financial year 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 17 Oct - 23 Oct 2010	21	24	27	23	19
% change from previous week*	-3	4	37	-54	13
10/11 financial YTD	21	29	25	28	37
% change from 09/10 financial YTD **	-18	1	0	3	55

*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.

The AER publishes further information if a spot price exceeds three times the weekly average and is above \$250/MWh. Details of these events are attached in Appendix A. Longer term market trends are attached in Appendix B¹.

Financial markets

Figures 2 to 9 show futures contract² prices traded on the Sydney Futures Exchange (SFE) as at close of trade on Monday 25 October 2010. Figure 2 shows the base futures contract prices for the next three calendar years, and the three year average. Also shown are percentage changes³ compared to 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 SFE 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 2011	30*	-2%	40*	-1%	35*	-1%	41	-1%
Calendar Year 2012	34*	-1%	44	0%	38	-1%	45	0%
Calendar Year 2013	48	-3%	55	-2%	53	-3%	69	0%
Three year average	37	-2%	46	-1%	42	-2%	52	0%

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

Figure 3 shows the \$300 cap contract price for the first quarter of 2011 and the 2011 calendar year and the percentage change⁴ from the previous week.

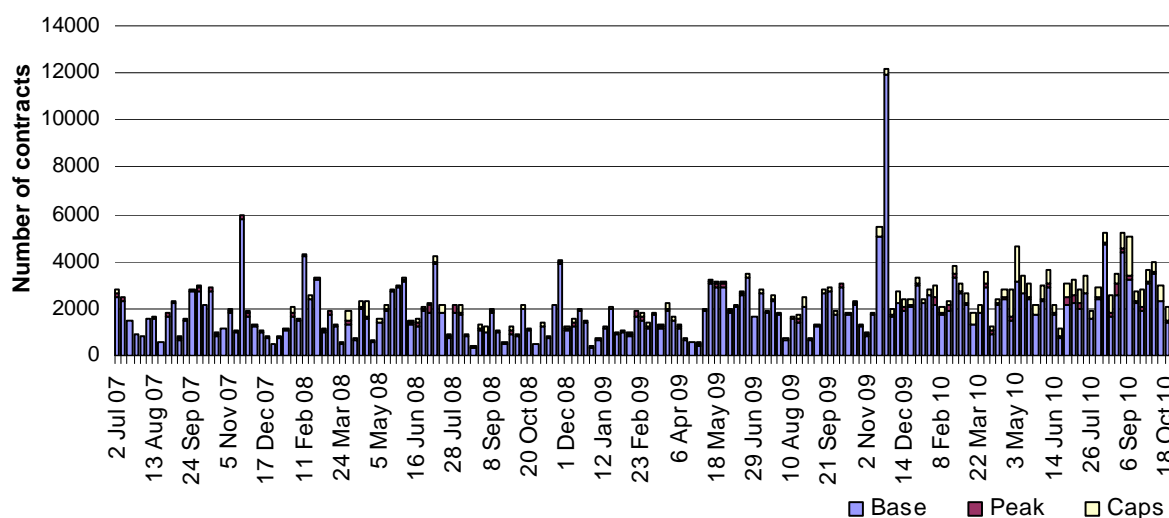
Figure 3: \$300 cap contract prices (\$/MWh)

	QLD		NSW		VIC		SA	
Q1 2011 (% Change)	13*	-8%	19*	-3%	23*	3%	31	0%
2011 (% Change)	7	-2%	12	-2%	9	0%	11	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

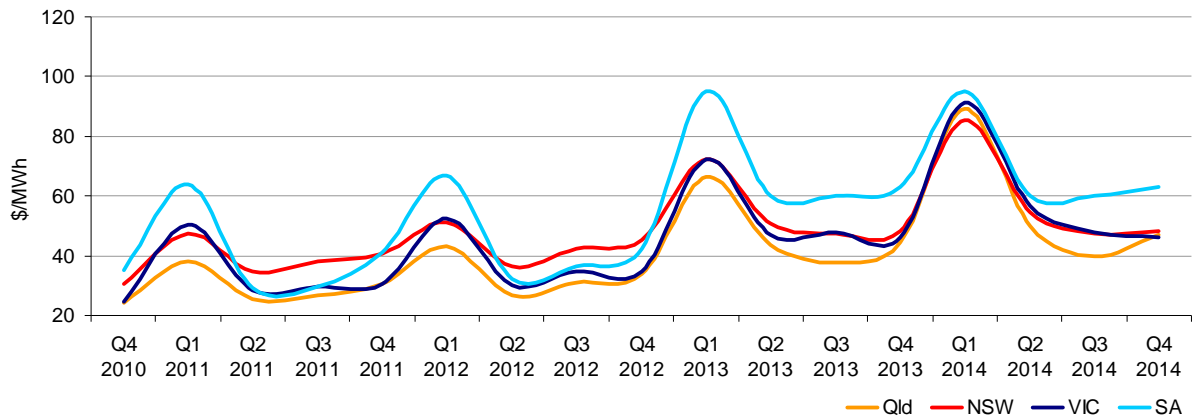


Source: d-cyphaTrade www.d-cyphatrade.com.au

⁴ Calculated on prices prior to rounding.

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

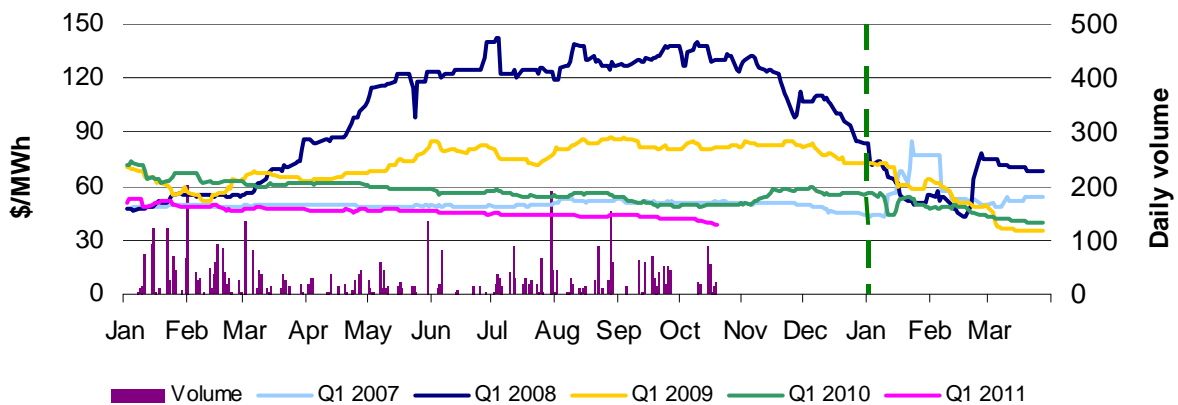
Figure 5: Quarterly base future prices Q4 2010 – Q4 2014



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

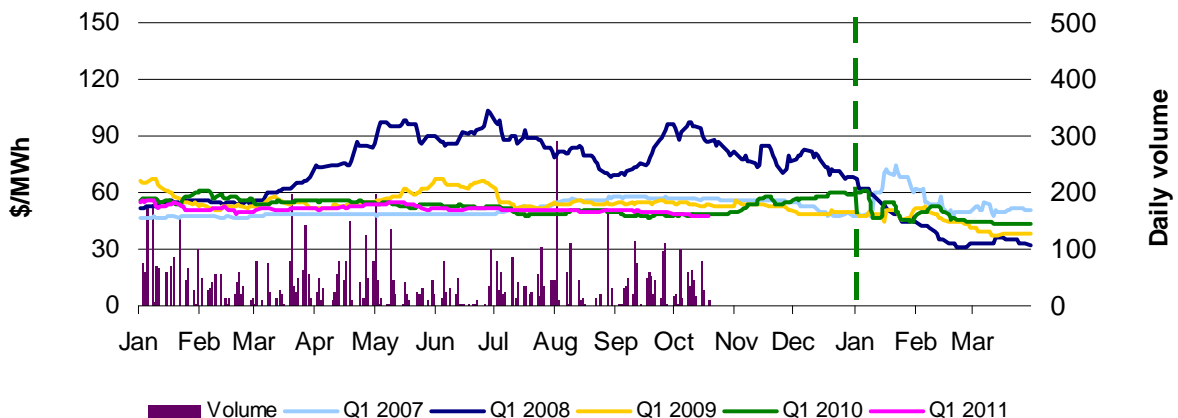
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009, 2010 and 2011. Also shown is the daily volume of Q1 2011 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.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



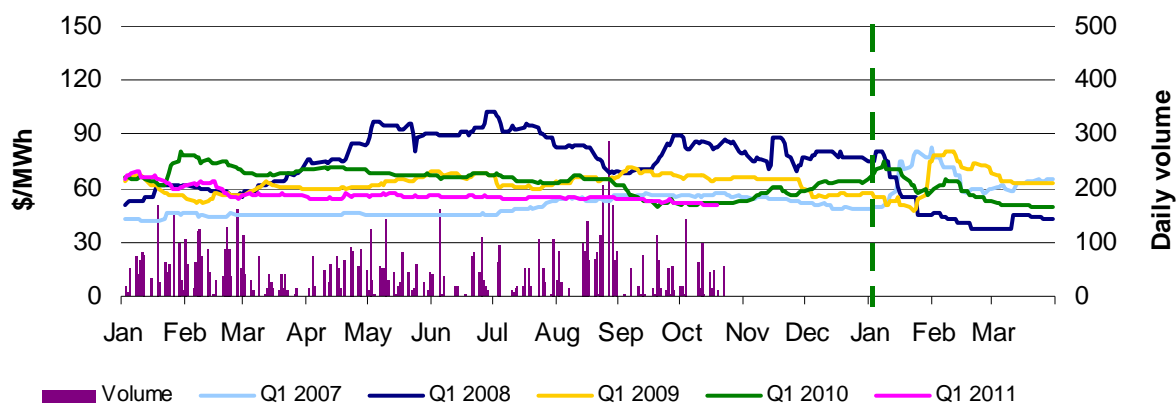
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



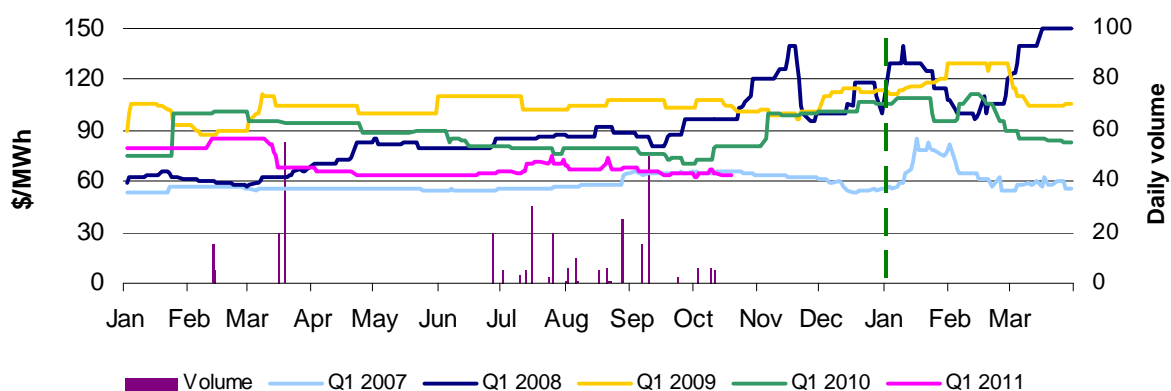
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



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

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



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 22 trading intervals throughout the week where actual prices varied significantly from forecasts⁵. This compares to the weekly average in 2009 of 103 counts. 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	3	33	5	5
% of total below forecast	37	7	0	10

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 159 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	159	148	528	-192
NSW	-429	247	616	-172
VIC	73	94	-89	-24
SA	59	-64	-14	45
TAS	-125	-183	-61	22
TOTAL	-263	242	980	-321

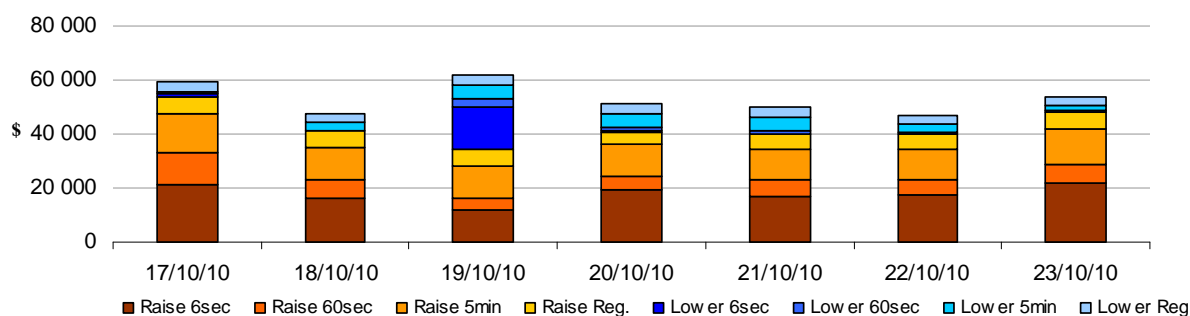
Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$279 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$91 000 or two and a half 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



⁷ A peak period is defined as between 7 am and 10 pm on weekdays, which aligns with the SFE contract definition.

Detailed Market Analysis



17 October – 23 October 2010

Queensland:

There was one occasion where the spot price in Queensland was greater than three times the Queensland weekly average price of \$21/MWh and above \$250/MWh.

Sunday, 17 October

3 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	979.13	17.30	18.24
Demand (MW)	5314	5458	5511
Available capacity (MW)	10 129	10 452	10 480

Prior to this event, AEMO determined that the constraint to manage the overload of the Calvale to Stanwell line on the loss of the Calvale to Wurdong line was not managing security. As a result a further constraint was invoked by AEMO at 2.45 pm, which immediately constrained off up to 740 MW of low-priced generation and reduced the capability for imports across QNI into Queensland. This very large step change was unable to be satisfied as a result of generator ramp rates, causing the constraint to violate immediately. The step change in supply saw the dispatch price increase from \$17.50/MWh at 2.40 pm to \$5790.69/MWh at 2.45 pm. This resulted in counter-price flows across the interconnector and the accumulation of around \$0.5 million of negative residues.

There was no significant rebidding.

Victoria:

There was one occasion where the spot price in Victoria was greater than three times the Victoria weekly average price of \$27/MWh and above \$250/MWh.

Friday, 22 October

11:00 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	2469.60	23.73	23.82
Demand (MW)	6382	6342	6437
Available capacity (MW)	8919	9109	9134

During a planned outage of a busbar at a Hazelwood Terminal station, AEMO determined that the constraint to manage the outage was ineffective. As a result a further constraint was invoked by AEMO at 10.55 am which immediately constrained off low-priced Victorian generation and changed the capability for imports across all interconnectors into Victoria.

Basslink was importing into Victoria at around 330 MW before, but forced to export 223 MW after the constraint was invoked. Murraylink and Heywood were exporting into South Australia a total of around 110 MW before, but forced to export 1100 MW after the constraint was invoked. Forced flows of 1365 MW into New South Wales across the Vic-NSW interconnector were required after the constraint was invoked compared to economic dispatch of 800 MW into New South Wales before.

Up to 1000 MW of Victorian low-priced generation was also constrained off.

This very large step change in supply was unable to be satisfied as a result of generator ramp rates, causing the constraint to violate immediately and the 5-minute dispatch price reached \$11 785/MWh at 11 am.

The combination of forced exports and high prices resulted in negative settlement residues across the Victoria to New South Wales and Victoria to South Australia interconnectors of around \$946 000 and \$176 000 respectively.

In response to the high prices, Victorian generators rebid large amounts of capacity into negative price bands. Availability of negatively priced capacity increased from 4545 MW at 11 am to more than 7000 MW for the trading intervals until 2.30 pm, with over 90 per cent of capacity offered in negative bands at 1.30 pm. This resulted in negative spot prices at 11.30 am, 1 pm and 2.30 pm, as 5-minute dispatch prices fluctuated between \$700/MWh and the price floor.

There was no other significant rebidding.

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
2010-11 (\$/MWh) YTD	21	29	25	28	37
2009-10 (\$/MWh) YTD	26	29	25	27	24
Change*	-18%	1%	0%	3%	55%
2009-10 (\$/MWh)	37	52	42	82	30

Table 2: NEM turnover

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2010-11 (YTD)	\$1.733	65
2009-10	\$9.643	206
2008-09	\$9.413	208

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-10	23	35	33	38	32	0.563
Jul-10	22	28	27	31	31	0.495
Aug-10	22	37	28	28	70	0.579
Sep-10	22	24	23	27	21	0.386
Oct-10 (MTD)	21	23	22	26	18	0.274
Q3 2010	22	30	26	29	41	1.697
Q3 2009	26	28	25	27	24	1.918
Change*	-16%	5%	4%	6%	72%	-11.51%

Table 4: ASX energy futures contract prices at end of 25 October

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2011								
Price on 18 Oct (\$/MW)	41	68	48	79	51	91	64	108
Price on 25 Oct (\$/MW)	38	65	47	78	50	90	64	108
Open interest on 25 Oct	1649	157	2471	285	2233	176	147	0
Traded in the last week (MW)	187	5	119	6	129	52	0	0
Traded since 1 Jan 10 (MW)	4671	165	7549	385	8611	232	320	0
Settled price for Q1 10(\$/MW)	40	65	44	68	50	89	83	160

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

Comparison:	QLD	NSW	VIC	SA	TAS	NEM
August 10 with August 09						
MW Priced <\$20/MWh	566	-841	-562	184	-86	-739
MW Priced \$20 to \$50/MWh	85	715	537	46	313	1696
September 10 with September 09						
MW Priced <\$20/MWh	495	762	85	655	73	2069
MW Priced \$20 to \$50/MWh	344	-417	125	-167	299	186
October 10 with October 09 (MTD)						
MW Priced <\$20/MWh	590	544	527	482	646	2788
MW Priced \$20 to \$50/MWh	335	-273	40	-97	-446	-441

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

** Estimated value