

WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY
REGULATOR

9 May – 15 May 2010

Summary

The weekly average spot price ranged from \$26/MWh in Queensland to \$52/MWh in Tasmania. The high weekly average price in Tasmania was driven by a number of high prices on Friday and Saturday.

Spot market prices

Figure 1 sets out the volume weighted average prices for the week 9 May to 15 May 2010 and the financial year to date 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 May – 15 May 2010	26	32	34	33	52
% change from previous week*	23	35	38	26	139
09/10 financial YTD	40	55	44	90	27
% change from 08/09 financial YTD**	7	26	-16	22	-45

*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 to date and the average spot price over the similar period for the previous financial year. Percentage changes are calculated on VWA prices prior to rounding.

The AER provides further information if the 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 17 May 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 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	35	1%	44*	1%	39*	2%	43	0%
Calendar Year 2012	37*	1%	45	1%	41	0%	48	0%
Calendar Year 2013	58	0%	61	0%	65	0%	69	0%
Three year average	44	0%	50	0%	48	1%	53	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.

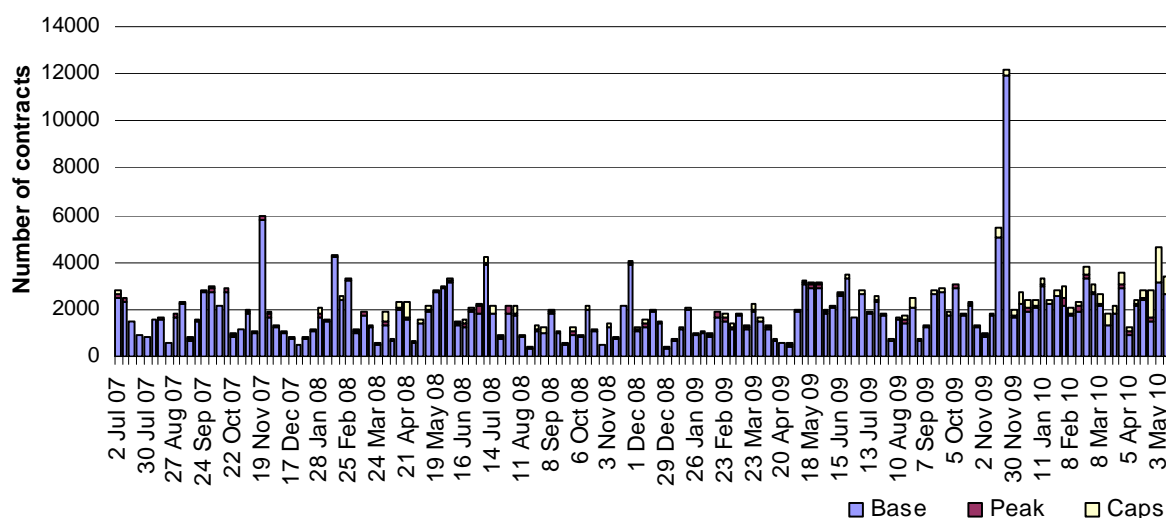
Figure 3: \$300 cap contract prices (\$/MWh)

	QLD		NSW		VIC		SA	
Q1 2011 (% Change)	20	0%	25*	2%	28*	3%	40	0%
2011 (% Change)	9	0%	14	0%	11	6%	14	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

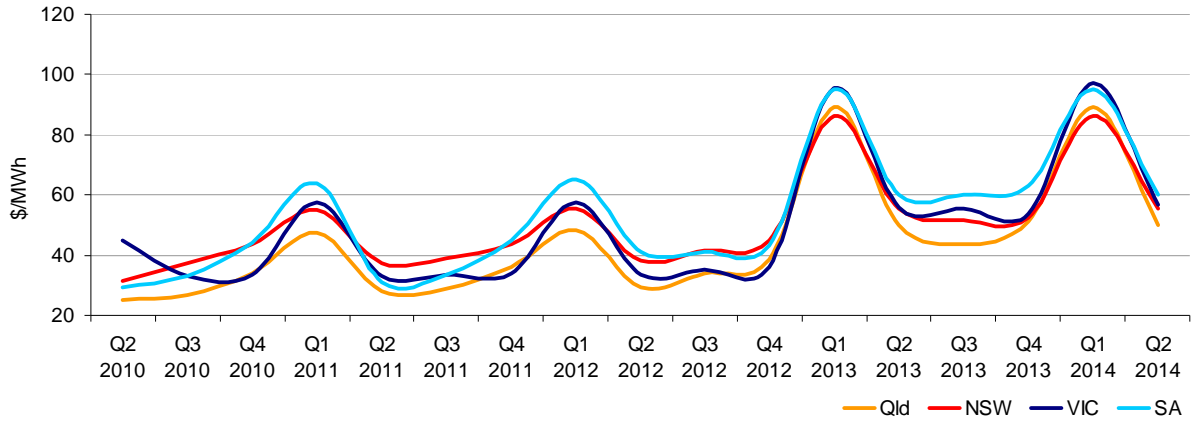


Source: d-cyphaTrade www.d-cyphatrade.com.au

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

⁴ Calculated on prices prior to rounding.

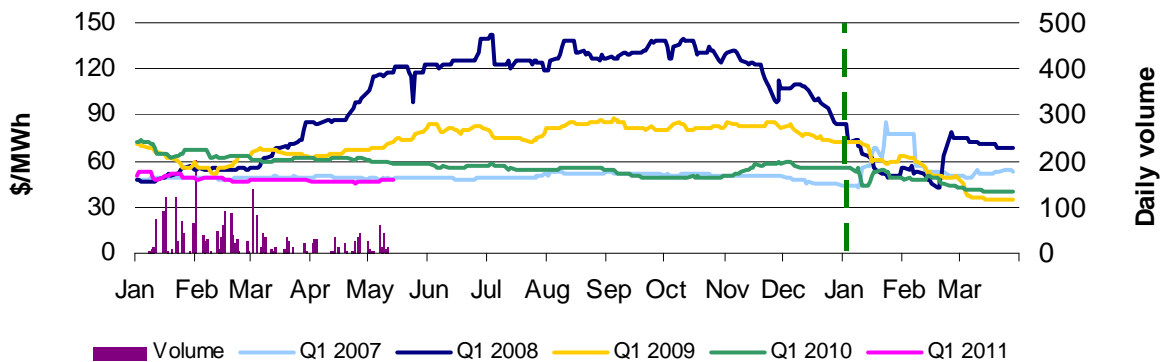
Figure 5: Quarterly base future prices Q2 2010 – Q2 2014



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

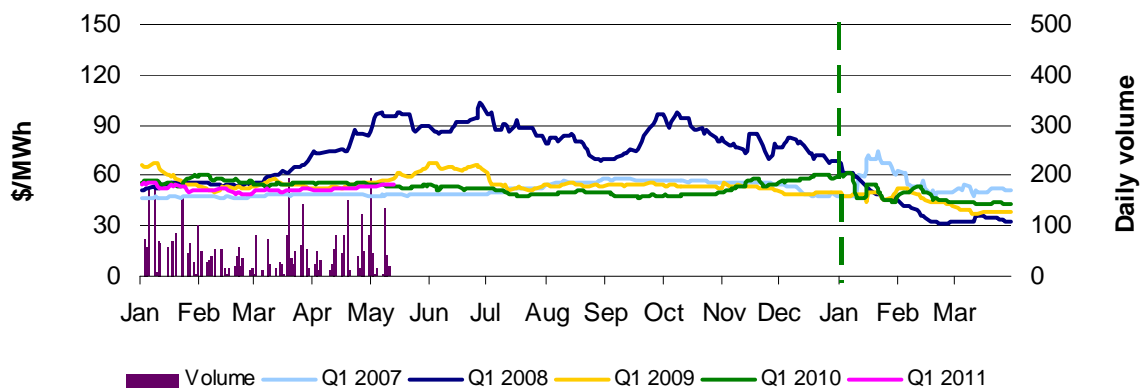
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009, 2010 and 2011. Also shown is the daily volume of Q1 2011 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.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



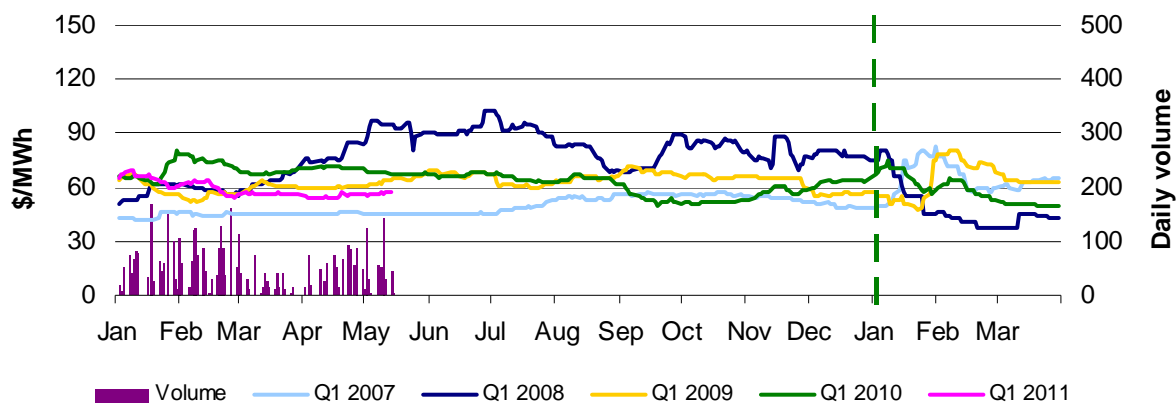
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



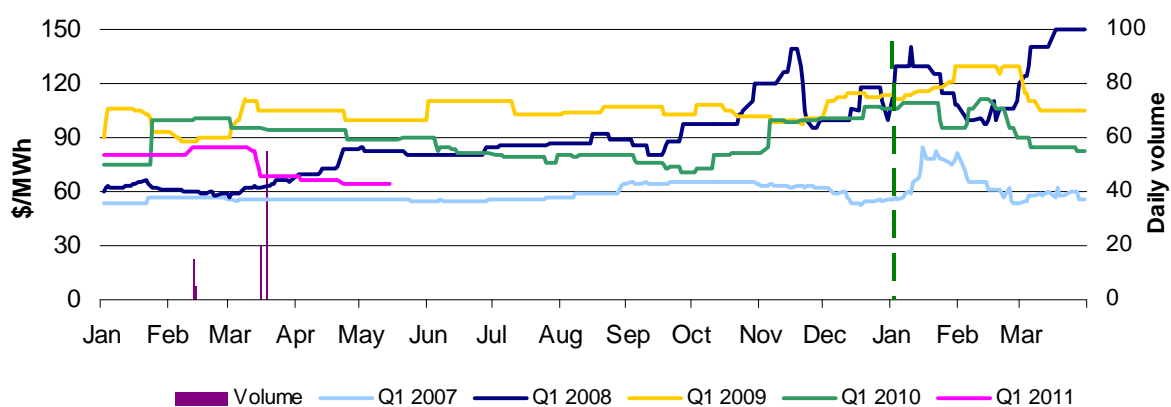
Source: d-cyphaTrade www.d-cyphatrade.com.au

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.

**This graph was modified on 23/7/2010 to correct an error in the original report.

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 159 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.

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.

Figure 10: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	3	21	1	4
% of total below forecast	65	4	0	2

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 105 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	105	28	230	58
NSW	33	-27	136	194
VIC	-146	-139	-263	217
SA	224	131	322	74
TAS	-34	-234	-86	56
TOTAL	182	-241	339	599

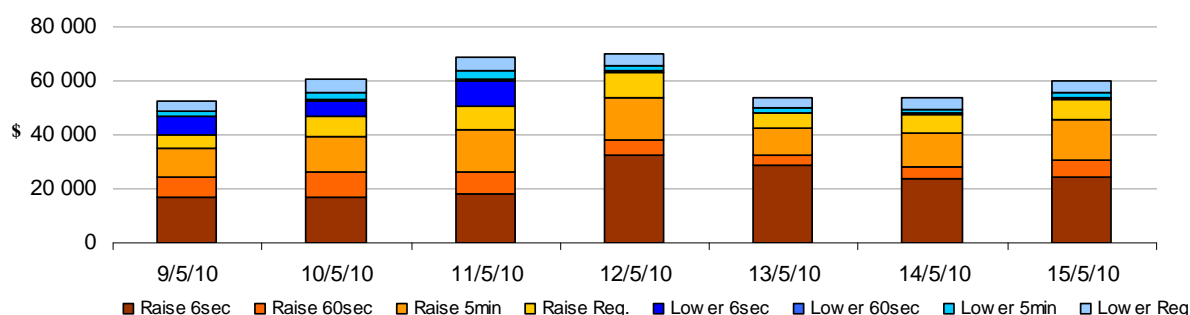
Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$262 800 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$157 100 or around two 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 June 2010

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



9 May – 15 May 2010

Queensland: There was one occasion where the spot price in Queensland was greater than three times the Queensland weekly average price of \$26/MWh and above \$250/MWh.

Thursday, 13 May

12 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	961.87	18.60	18.60
Demand (MW)	6338	6548	6548
Available capacity (MW)	10 466	10 756	10 743

Conditions at the time saw demand 210 MW and available capacity 290 MW lower than forecast four hours ahead. A system normal constraint used to prevent the thermal overload of the Calvale to Wurdong 275 kV line on the trip of a Calvale to Stanwell line, was binding from 6.50 am across the Queensland to New South Wales (QNI) interconnector.

At 12 pm a sudden reduction of the Calvale to Wurdong 275 kV line rating resulted in around 380 MW of available generation priced below \$30/MWh being constrained-off⁸. As a result, higher-priced generation was dispatched and the five minute price reached \$5679/MWh at 12 pm. As a number of the constrained generators were ramp rate down limited and could not reduce capacity as quickly as required, the constraint violated at 12 pm. Prices returned to previous levels at 12.05 pm when the previously constrained-off low-priced generation was able to meet targets.

Over two rebids at 7.30 am (effective from 7.40 am to 1 pm) and 8.30 am (effective from 8.40 am to 1 pm) Callide Power Trading reduced the available capacity of Callide C unit three by 75 MW (all of which was priced below \$75/MWh). The reasons given were “13/05/10 07:28 0730P Coal::slight improve inc load” and “13/05/10 08:30P coal::improved inc load”.

Over two rebids at 7.33 am (effective from 7.40 am to midnight) and 11.48 am (effective from 11.55 am to midnight), CS Energy reduced the available capacity at Callide B power station by a total of 185 MW (the majority of which was priced below \$25/MWh). The reason given for both rebids was “P:Call_B unit availability coal quality SL”.

At 11.07 am, effective from 11.15 am, Stanwell corporation shifted 70 MW of capacity at its Stanwell Power Station unit three from prices below \$30/MWh to above \$9400/MWh. The reason given was “1105P testing –demin water usage”.

Through a number of rebids from 11.27 am, all effective by 12 pm, Braemar Power shifted up to 173 MW of available generation capacity at its Braemar unit three from prices near the floor to above \$8900/MWh. The reasons given were “11.27 change in pd:13/05/2010 11:30” and “change in pd:13/05/2010 12:00”.

There was no other significant rebidding.

⁸ Network constraints can cause generators to be dispatched at a price that is lower than its offer price (constrained-on) or generators to not be dispatched even though its offer price is lower than the regional prices (constrained-off).

Tasmania: There were three occasions where the spot price in Tasmania was greater than three times the Tasmania weekly average price of \$52/MWh and above \$250/MWh.

Friday, 14 May

7:00 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	1903.32	98.38	9995.00
Demand (MW)	1336	1357	1319
Available capacity (MW)	2097	2097	2097

Conditions at the time saw demand and available capacity close to forecast.

In day-ahead offers, around 1200 MW of capacity was priced above \$9400/MWh for the 7 am trading interval, resulting in the forecast price of \$9995/MWh (for both the 7am trading interval and for much of the day). At 11.11 pm on Thursday night, Aurora Energy rebid all 120 MW of capacity for the three Bell Bay gas turbines from prices above \$9900/MWh to close to the price floor. The reason given was “2305 F portfolio optimisation gas v electricity”. This resulted in the forecast price reducing to below \$70/MWh.

Following this rebid there was only 40 MW of capacity priced between \$18/MWh and \$9400/MWh for most of the day. At 7 am there was a small increase in demand which resulted in the dispatch of high-priced Hydro Tasmania capacity and a 5-minute price spike to \$9995/MWh.

There was no other significant rebidding.

Saturday, 15 May

6:00 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	3348.45	75.09	75.09
Demand (MW)	1021	1083	1081
Available capacity (MW)	2133	2146	2146
7:00 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	344.33	79.09	79.09
Demand (MW)	1107	1143	1143
Available capacity (MW)	2146	2146	2146

Conditions at the time saw demand and available capacity close to forecast.

In day-ahead offers, there was a step decrease in the availability of lower-priced capacity in Tasmania from the 5.30 am to the 6 am trading interval. While the majority of capacity (2053 MW) for the 5.30 am trading interval was priced below \$500/MWh, 70 per cent (1522 MW) of capacity for the 6 am trading interval was priced above \$9400/MWh. The majority of the high-priced capacity was offered by Hydro Tasmania.

At 3.50 pm on Friday, Aurora Energy rebid all 120 MW of capacity for the three Bell Bay gas turbines from prices above \$9900/MWh to less than \$100/MWh. The reason given was “1230 A predispach price forecast”. This resulted in the forecast price reducing to below \$70/MWh. A further rebid at 5.50 am, effective from 5.55 am, Aurora Energy reduced the available capacity at Bell Bay unit three, all of which was priced below zero. The reason given was “0547 P unit start failure”.

Following this rebid there was only 40 MW of capacity priced between \$18/MWh and \$9400/MWh. Any reductions in import capability, rebidding of capacity into high price bands or increases in demand, had the potential to result in a significant increase in the energy price.

At 5.35 am there was a small increase in demand, which combined with the step decrease in capacity offered in low price bands resulted in the dispatch of high-priced generation. As a result, the 5-minute price increased from \$24/MWh at 5.30 am to \$9995/MWh at 5.35 am and 5.40 am. Prices returned to \$24/MWh by 5.45 am, primarily due to an apparent demand side response that led to a reduction in demand by around 70 MW. When the apparent demand side response finished at around 6.15 am, 5-minute prices rose to around \$260/MWh.

At 5.48 am, effective from 5.55 am, Aurora Energy reduced capacity at Bell Bay unit three to zero from 40 MW for the remainder of the 6 am trading interval and rebid from prices close to the floor to above \$9900/MWh for the 6.30 am trading interval. The reason given was “0547P unit start failure”.

There was no other significant rebidding.

During the high-price period, flows to Tasmania across the Basslink interconnector were limited to around 400 MW by a constraint used to manage the Frequency Control Special Protection Scheme (FCSPS). The nominal import limit across Basslink is 478 MW.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
09 May - 15 May 2010



AUSTRALIAN ENERGY
REGULATOR

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

Financial year	QLD	NSW	VIC	SA	TAS
2009-10 (\$/MWh) (YTD)	40	55	44	90	27
2008-09 (\$/MWh) (YTD)	37	44	52	74	49
Change*	7%	26%	-16%	22%	-45%
2008-09 (\$/MWh)	36	43	49	69	62

Table 2: NEM turnover

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2009-10 (YTD)	\$8.797	179
2008-09	\$9.413	208
2007-08	\$11.125	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)
Jan-10	67	63	88	160	30	1.336
Feb-10	45	66	90	213	23	1.235
Mar-10	25	27	24	25	26	0.443
Apr-10	22	25	84	32	25	0.625
May-10 (MTD)	23	28	29	29	37	0.226
Q1 2010	46	52	67	134	27	3.014
Q1 2009	37	43	87	161	55	3.136
Change*	24%	20%	-23%	-17%	-52%	-3.89%

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

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2011								
Price on 10 May (\$/MW)	47	79	54	92	56	102	64	100
Price on 17 May (\$/MW)	47	82	55	93	57	102	64	100
Open interest on 17 May	1765	117	2950	110	3365	20	45	0
Traded in the last week (MW)	81	0	204	15	275	0	0	0
Traded since 1 Jan 10 (MW)	2331	88	4016	100	4297	20	95	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
March 10 with March 09						
MW Priced <\$20/MWh	943	-1063	101	386	-6	361
MW Priced \$20 to \$50/MWh	-482	632	117	-164	596	699
March 10 with March 09						
MW Priced <\$20/MWh	1050	-23	-169	118	158	1134
MW Priced \$20 to \$50/MWh	-673	895	289	-240	636	907
May 10 with May 09 - MTD						
MW Priced <\$20/MWh	1313	-873	-421	105	497	622
MW Priced \$20 to \$50/MWh	-670	1114	-195	-232	171	189

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

** Estimated value