

WEEKLY ELECTRICITY MARKET ANALYSIS



20 June – 26 June 2010

Summary

The weekly average spot price ranged from \$21/MWh in Queensland to \$39/MWh in South Australia.

Spot market prices

Figure 1 sets out the volume weighted average prices for the week 20 June to 26 June 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 20 – 26 June 2010	21	28	36	39	34
% change from previous week*	7	12	47	23	36
09/10 financial YTD	37	52	42	83	30
% change from 08/09 financial YTD**	3	22	-15	20	-51

*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 28 June 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	33*	0%	42*	1%	39*	0%	44	1%
Calendar Year 2012	35*	-1%	44*	1%	42*	2%	46*	-2%
Calendar Year 2013	58	0%	61	0%	59	-9%	69	0%
Three year average	42	0%	49	1%	47	-4%	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.

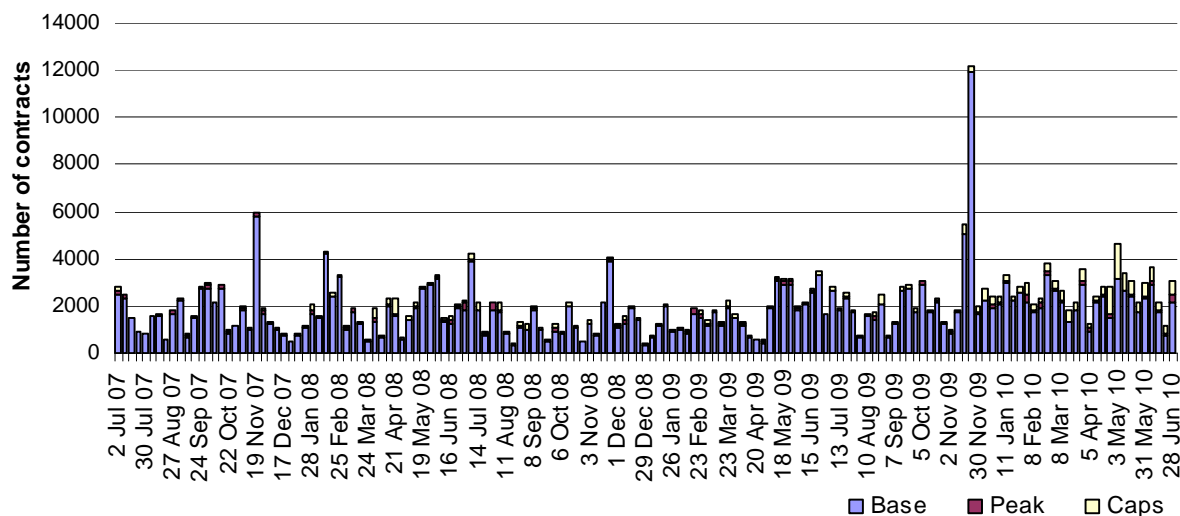
Figure 3: \$300 cap contract prices (\$/MWh)

	QLD		NSW		VIC		SA	
Q1 2011 (% Change)	17*	-4%	21*	1%	27*	-1%	40	0%
2011 (% Change)	8	-3%	12	2%	11	-1%	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

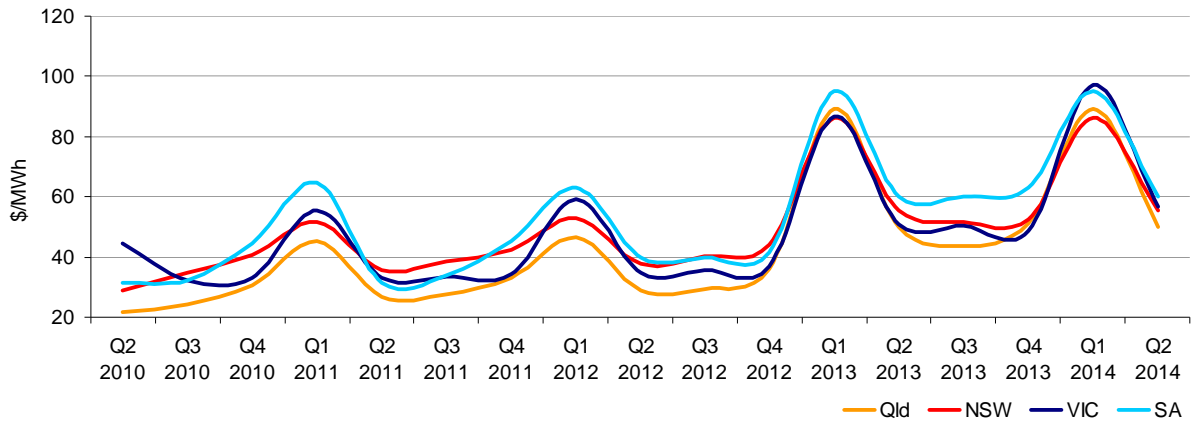


Source: d-cyphaTrade www.d-cyphatrade.com.au

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

⁴ Calculated on prices prior to rounding.

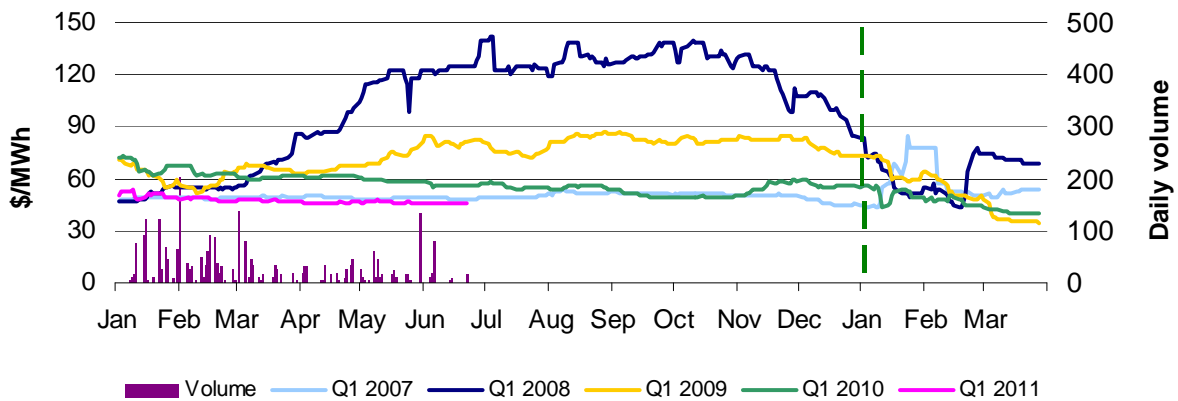
Figure 5: Quarterly base future prices Q2 2010 – Q2 2014



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

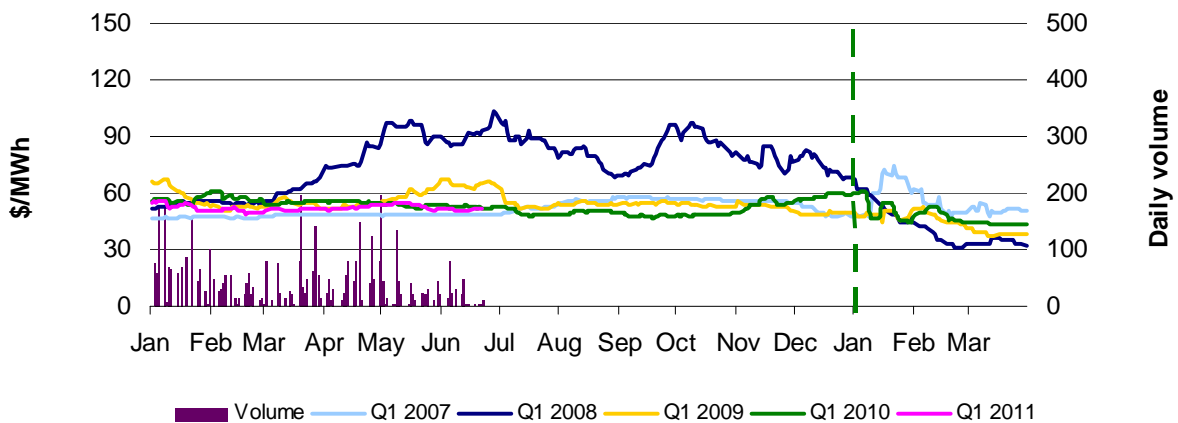
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009, 2010 and 2011. Also shown is the daily volume of Q1 2011 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.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



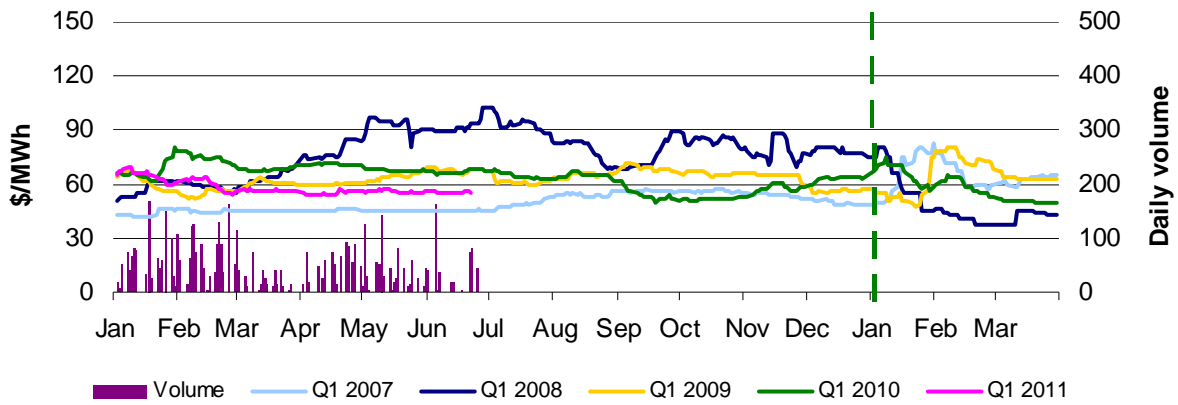
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



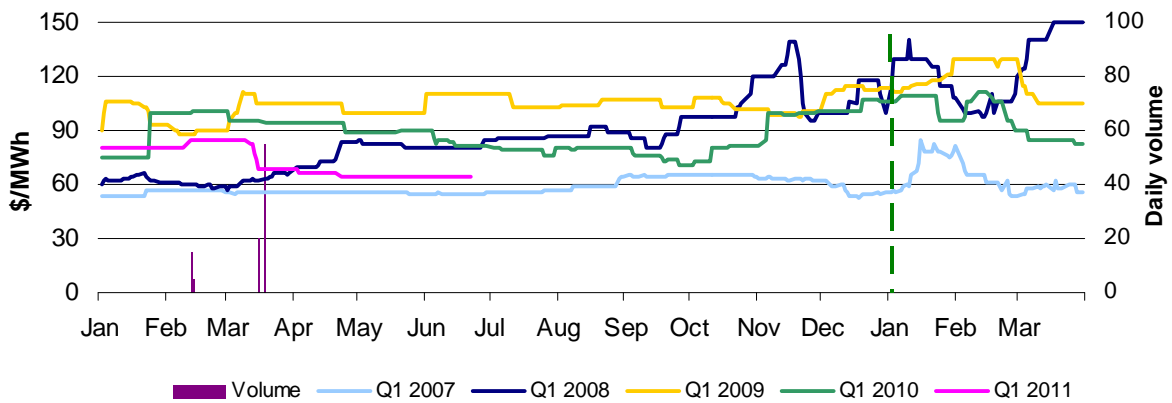
Source: d-cyphaTrade www.d-cyphatrade.com.au

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 37 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	5	18	0	0
% of total below forecast	53	18	1	5

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 61 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	61	-5	48	146
NSW	30	-166	-339	16
VIC	-163	-150	-460	186
SA	62	-53	-87	20
TAS	118	-53	-135	58
TOTAL	108	-427	-973	426

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.

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

Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$214 900 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$238 000 or around three per cent of energy turnover in Tasmania.

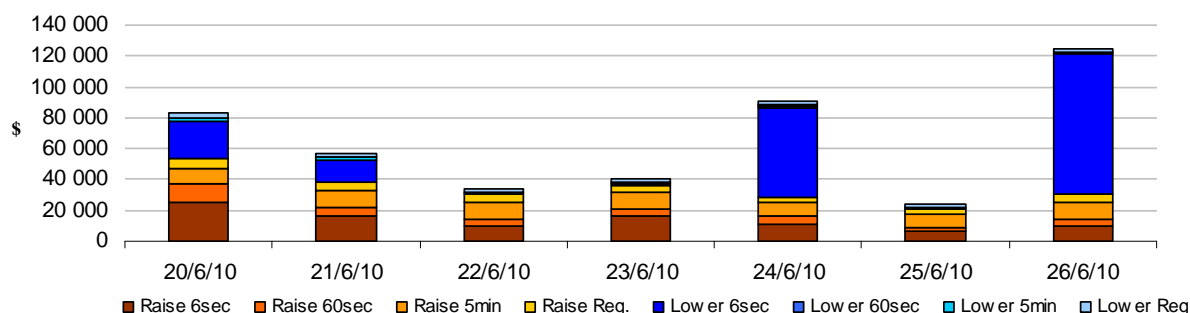
On Sunday 20 June, there was a step reduction in the availability of low-priced (under \$2/MW) lower 6-second ancillary service offers, from 128 MW at 8 am to under 4 MW at 8.05 am. However, the lower 6-second service requirement in Tasmania remained at around 53 MW. As a result, 48 MW of the lower 6-second service priced at \$24/MW was dispatched. Accordingly, the price increased from \$0.10/MW at 8 am to \$24/MW at 8 am and remained above \$10/MW until 9.20 am. Flows across Basslink were at zero (in the 'no go zone') for most part of this period and was not able to import any FCAS.

On Thursday 24 June, the lower 6-second service price spiked at \$3630/MW at 2.10 pm. At 2.05 pm Basslink was exporting 50 MW (into Victoria), the export limit was 300 MW. By 2.10 pm, Basslink was flowing into Tasmania at 103 MW. Therefore it could only provide up to 53 MW or lower services as a result of the no-go zone. The changes in flow (and limits), saw the local requirement for the lower 6-second service increased from zero at 2.05 pm to 148 MW at 2.10 pm. As a result, generation was constrained-off in the energy market to allow increased dispatch of ancillary services.

On Saturday 26 June, prices for the lower 6-second service increased significantly for two dispatch intervals (from \$0.50/MW at 12.35 am to \$2897/MW at 12.40 am and from \$9/MW at 6.15 am to \$2876/MW at 6.20 am). At 12.40 am, Basslink was only 18 MW above its 'no go zone' and was therefore limited in the amount of FCAS it could import from the mainland. As a result, there was an increase in the requirement for FCAS to be sourced locally in Tasmania and the requirement for local lower 6-second services increased from 0 MW at 12.35 am to 159 MW at 12.40 am. At 6.15 am Basslink was in its 'no go zone' and local requirement reached 166 MW. For both high-priced dispatch intervals generation was constrained-off in the energy market to allow increased dispatch of ancillary services. The co-optimisation between energy and FCAS markets resulted in price spikes of above \$2800/MWh for lower 6 second service.

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

Figure 12: Daily frequency control ancillary service cost



Detailed Market Analysis



20 June – 26 June 2010

Victoria

There was one occasion where the spot price in Victoria was greater than three times the Victoria weekly average price of \$36/MWh and above \$250/MWh.

Monday, 21 June

9:00 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	1755.87	37.15	36.88
Demand (MW)	7534	7430	7429
Available capacity (MW)	9232	9180	9185

Conditions at the time saw demand around 105 MW greater than forecast and available capacity close to forecast.

The two Victoria to South Australia interconnectors and Basslink were unconstrained for the majority of the 9 am trading interval. As a result, for the purpose of dispatch the regions were effectively one combined region.

Over three rebids at 8.11 am, 8.30 am and 8.49 am, Loy Yang reduced the available capacity at Loy Yang unit one by 520 MW (all of this capacity was priced below \$20/MWh). The reasons given were “1725 Plant requirements”, “0828P unit outage – tube leak” and “0845 unit outage”. The plant was offline from around 9 am and remained offline for the rest of the day. The plant returned to service on Friday 25 June.

There was limited support from New South Wales, with flows from Victoria to New South Wales of around 300 MW into New South Wales, counter price. The counter-price flow was a result of the Lower Tumut to Wagga line being out of service from 8.35 am (with the outage completed by 11.30 am) Import limits (into Victoria) began to reduce from 8.05 am in preparation for the outage. AEMO invoked constraints to manage the accumulation of negative settlement residues across the Victoria to New South Wales interconnector from 9.15 am. However, flows did not reduce to zero as it conflicted with the outage constraints that were in place at the time. Prices in New South Wales and Queensland for the 9 am interval were below \$33/MWh.

The reduction in available capacity by 520 MW in Victoria combined with counter-price flows saw a five minute price spike (above \$9700/MWh) in Victoria, South Australia and Tasmania at 9 am, resulting in spot prices in each of the respective regions reaching above \$1700/MWh.

South Australia

There was one occasion where the spot price in South Australia was greater than three times the South Australia weekly average price of \$39/MWh and above \$250/MWh.

Monday, 21 June

9:00 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	1808.95	39.42	39.29
Demand (MW)	1994	1908	1907
Available capacity (MW)	2248	2285	2338

Conditions at the time saw demand around 90 MW greater than that forecast and available close to forecast.

The two Victoria to South Australia interconnectors and Basslink were unconstrained for the majority of the 9 am trading interval. As a result, for the purpose of dispatch the regions were effectively one combined region, with conditions reflecting those described in the Victoria section.

Tasmania

There was one occasion where the spot price in Tasmania was greater than three times the Tasmania weekly average price of \$34/MWh and above \$250/MWh.

Monday, 21 June

9:00 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	1749.41	33.91	33.66
Demand (MW)	1636	1602	1603
Available capacity (MW)	2411	2427	2427

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

The two Victoria to South Australia interconnectors and Basslink were unconstrained for the majority of the 9 am trading interval. As a result, for the purpose of dispatch the regions were effectively one combined region, with conditions reflecting those described in the Victoria section.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
20 June - 26 June 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)	37	52	42	83	30
2008-09 (\$/MWh) (YTD)	36	43	49	69	62
Change*	3%	22%	-15%	20%	-51%
2008-09 (\$/MWh)	36	43	49	69	62

Table 2: NEM turnover

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2009-10 (YTD)	\$9.521	204
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)
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	22	29	32	31	61	0.509
Jun-10 (MTD)	22	30	32	36	32	0.441
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 28 June

	QLD		NSW		VIC		SA	
Q1 2011	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Price on 21 Jun (\$/MW)	45	78	51	85	56	98	64	100
Price on 28 Jun (\$/MW)	45	78	52	85	55	98	65	100
Open interest on 28 Jun	1889	123	3231	135	3595	40	45	0
Traded in the last week (MW)	15	0	25	0	200	20	0	0
Traded since 1 Jan 10 (MW)	2684	94	4521	145	5118	40	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
April 10 with April 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						
MW Priced <\$20/MWh	1400	-590	-619	172	155	517
MW Priced \$20 to \$50/MWh	-707	1109	57	-121	213	551
June 10 with June 09 (MTD)						
MW Priced <\$20/MWh	978	-620	-467	71	222	184
MW Priced \$20 to \$50/MWh	-729	408	260	-54	346	231

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

** Estimated value