

WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY
REGULATOR

23 May – 29 May 2010

Summary

The weekly average spot price in Tasmania was \$51/MWh as a result of high prices on Sunday and Wednesday. The weekly average spot price in the remaining regions ranged from \$19/MWh in Queensland to \$31/MWh in South Australia.

Spot market prices

Figure 1 sets out the volume weighted average prices for the week 23 May to 29 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 23 May – 29 May 2010	19	28	30	31	51
% change from previous week*	-10	-12	-22	-13	-59
09/10 financial YTD	39	54	43	87	30
% change from 08/09 financial YTD**	6	25	-15	21	-39

*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 31 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	34*	-1%	42*	-3%	39*	0%	43	0%
Calendar Year 2012	36*	-1%	44*	-2%	41*	-1%	47	-2%
Calendar Year 2013	58	0%	61	0%	65	0%	69	0%
Three year average	43	-1%	49	-1%	48	0%	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)

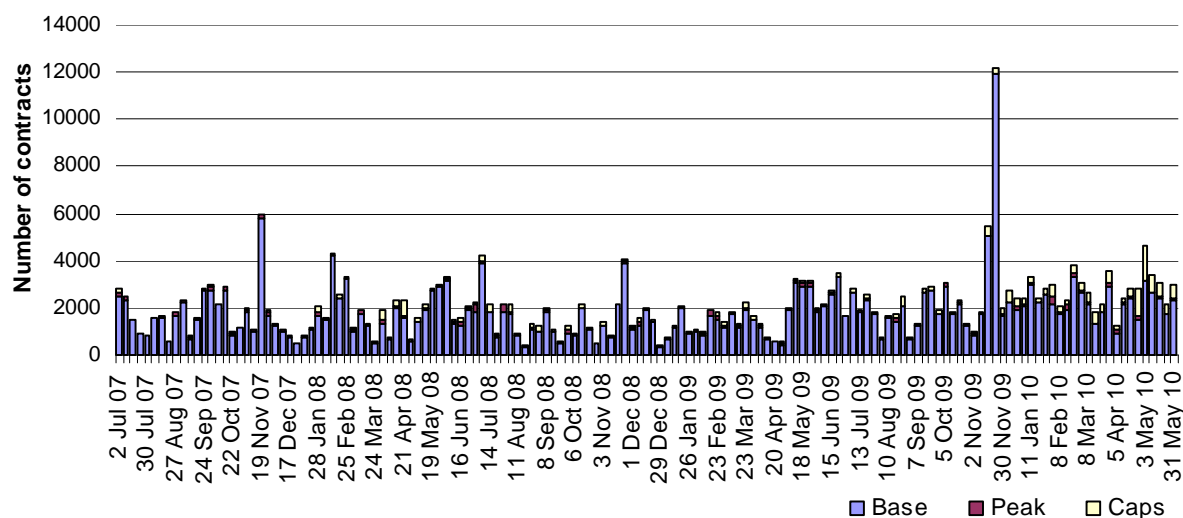
	QLD		NSW		VIC		SA	
Q1 2011 (% Change)	20	-1%	21*	-7%	27*	0%	40	0%
2011 (% Change)	9	-1%	12	-10%	11	-1%	14	0%

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

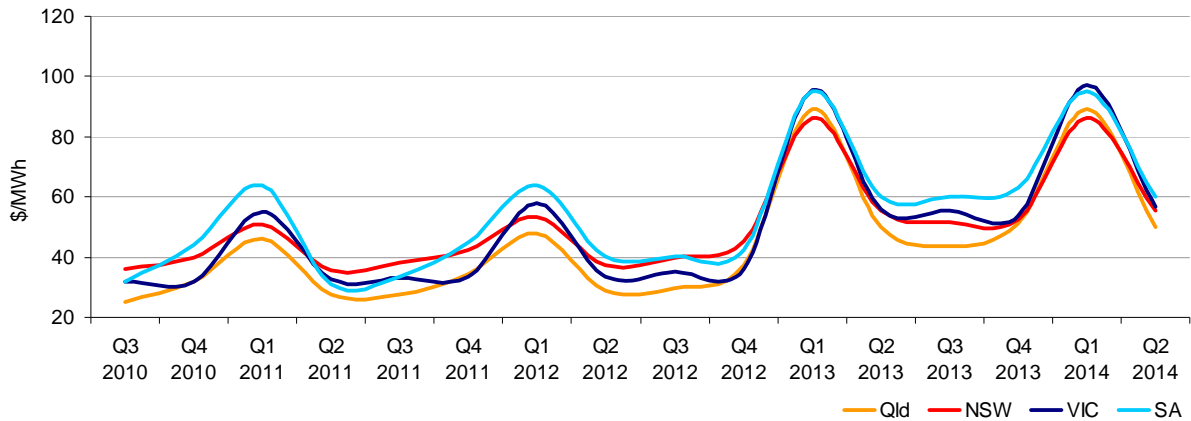


Source: d-cyphaTrade www.d-cyphatrade.com.au

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

⁴ Calculated on prices prior to rounding.

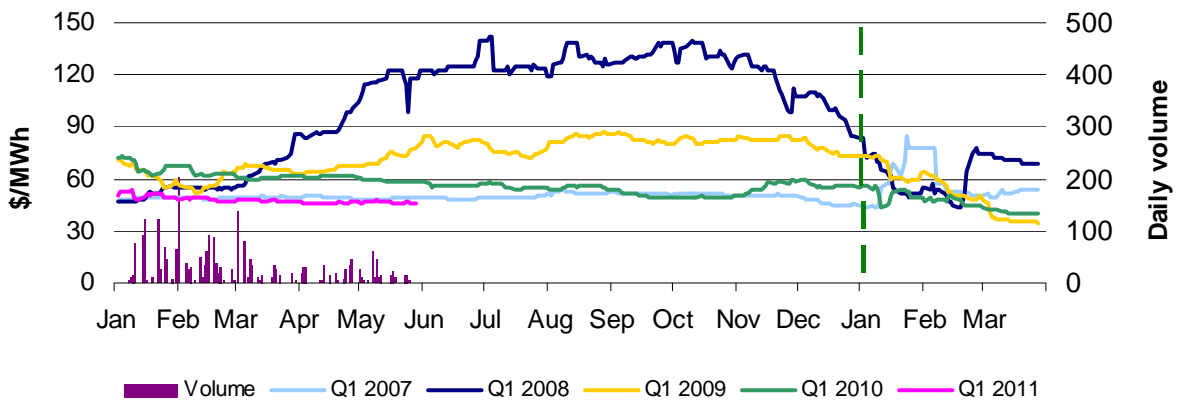
Figure 5: Quarterly base future prices Q3 2010 – Q2 2014



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

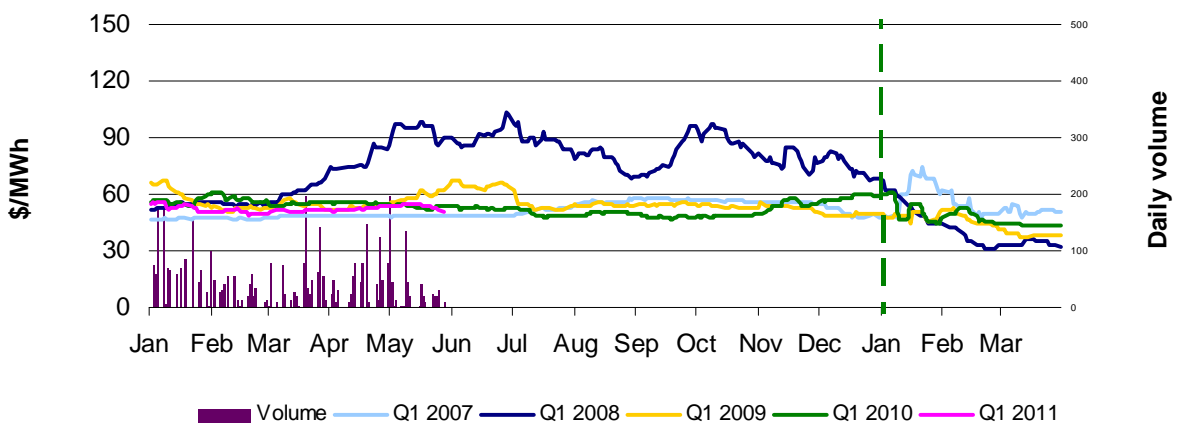
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009, 2010 and 2011. Also shown is the daily volume of Q1 2011 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.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



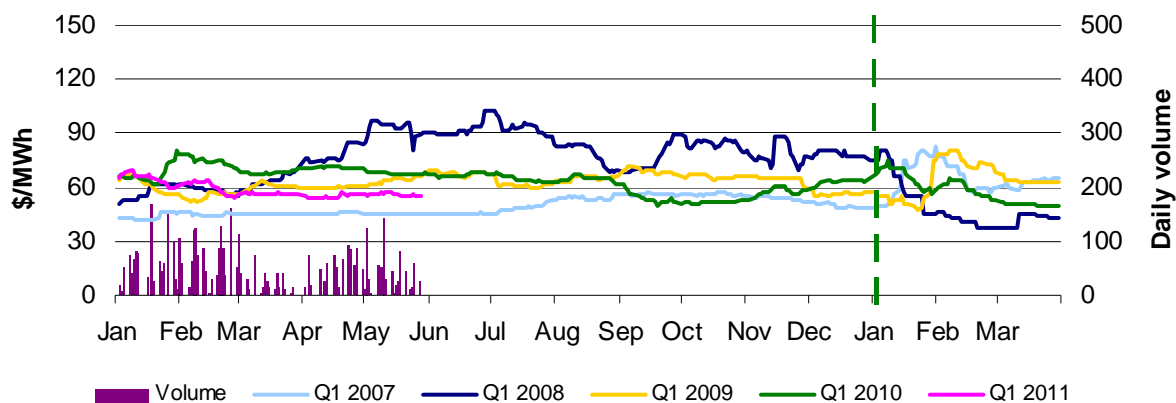
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



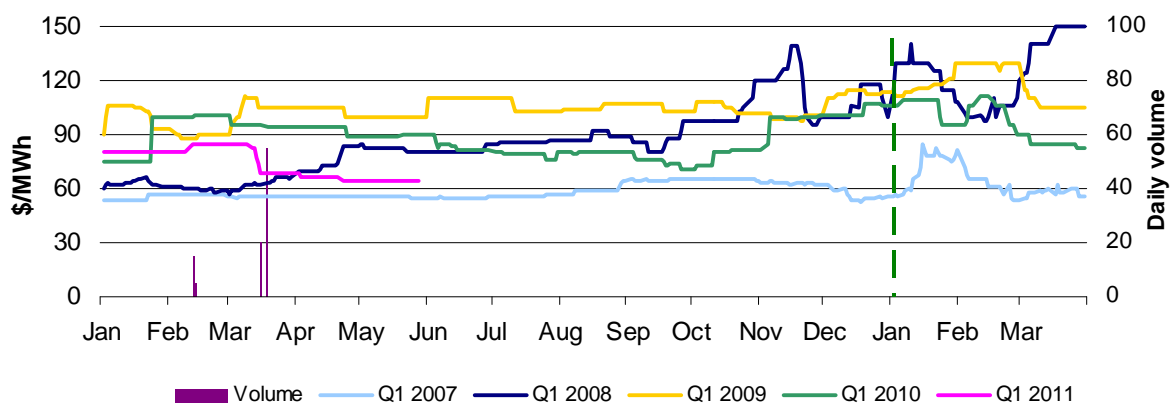
Source: d-cyphaTrade www.d-cyphatrade.com.au

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 116 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	0	27	1	0
% of total below forecast	57	14	0	1

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 548 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

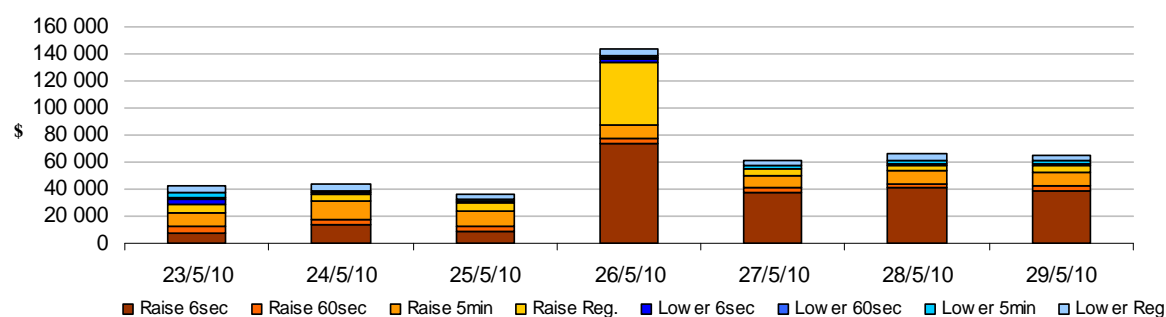
MW	<\$20/MWh	Between \$20 and \$50/MWh	Total availability	Change in average demand
Qld	548	6	650	63
NSW	199	-418	33	99
VIC	642	94	687	11
SA	-190	-112	-358	-57
TAS	-391	183	54	-39
TOTAL	808	-247	1,066	77

Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$196 400 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$261 800 or 2.5 per cent of energy turnover in Tasmania. High energy and FCAS prices occurred on Wednesday when Basslink was bid unavailable for two dispatch intervals. There was around 80 MW reduction in available raise ancillary services over 10 minutes. The co-optimisation of energy and frequency ancillary services saw the Tasmanian Raise 6 sec and Raise regulation price reach above \$9700/MWh for one dispatch interval at 1.45 pm. 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



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Tasmania

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

Sunday, 23 May

4:30 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	500.00	70.08	23.08
Demand (MW)	1157	1000	987
Available capacity (MW)	2164	2164	2164
5:00 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	500.00	20.56	70.08
Demand (MW)	1157	1004	996
Available capacity (MW)	2164	2164	2164

Conditions at the time saw demand up to 157 MW greater than forecast four hours ahead and 170 MW greater than forecast 12 hours ahead. Available capacity was as forecast.

With only 40 MW of capacity priced between \$10/MWh and \$500/MWh, the increase in demand of around 150 MW resulted in the higher than forecast price.

There was no significant rebidding.

Sunday, 23 May

8:30 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	275.30	22.14	23.29
Demand (MW)	1346	1321	1229
Available capacity (MW)	2164	2164	2164
9:00 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	354.56	23.85	24.02
Demand (MW)	1378	1350	1260
Available capacity (MW)	2164	2164	2164
9:30 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	500.26	24.34	24.49
Demand (MW)	1421	1359	1270
Available capacity (MW)	2164	2164	2164

Conditions at the time saw demand up to 62 MW higher than forecast four hours ahead and 151 MW higher than that forecast 12 hours ahead. Available capacity was as forecast. There was only 18 MW of available capacity priced between \$22/MWh and \$497/MWh. A 29 MW increase in demand over 10 minutes resulted in a significant jump in the five-minute price from \$26/MWh at 8.10 am to \$100/MWh at 8.15 am, and \$500/MWh at 8.20 am. Prices remained at \$500/MWh from 8.20 am to 8.50 am and 9.05 am to 9.30 am.

There was no significant rebidding.

Sunday, 23 May

5:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	438.80	84.10	84.10
Demand (MW)	1382	1380	1342
Available capacity (MW)	2147	2164	2164

Conditions at the time saw demand and available capacity close to forecast. With only 24 MW of available capacity priced between \$84/MWh and \$476/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 jump in the spot price.

The five-minute price in Tasmania increased from \$31/MWh at 4.50 pm to \$500/MWh at 4.55 am. At 5.05 pm, 115 MW of low priced generation was trapped in frequency control raise ancillary services and high priced generation was dispatched in its place. This resulted in the dispatch price increasing from \$500/MWh at 5 pm to \$1000/MWh at 5.05 pm and 5.10 pm. Prices reduced to below \$101/MWh at 5.15 pm when capacity that was previously trapped in ancillary services became available.

There was no significant rebidding.

Wednesday, 26 May

2:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	1733.01	35.91	36.27
Demand (MW)	1153	1190	1202
Available capacity (MW)	1990	1990	1990
10:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	1695.70	37.06	205.25
Demand (MW)	1242	1256	1248
Available capacity (MW)	2129	2136	2136

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

Basslink reduced its availability from 240 MW at 1.35 pm to zero for four dispatch intervals from 1.40 pm to 1.55 pm inclusive. This reduction resulted in the dispatch of a high priced generation (\$260.24/MWh) in Tasmania at 1.40 pm. As Basslink was within its “no go zone” it could not transfer FCAS. Some low-priced generation was constrained-off to provide local raise FCAS resulting in the dispatch of high-priced generation. During this time there were also high FCAS prices.

The high energy price at 10.30 pm occurred as a result of the 5-minute price reaching \$9995/MWh for the 10.05 pm dispatch interval. This 5-minute price spike coincided with a step reduction in the availability of lower-priced capacity (priced below \$50/MWh).

There was no 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
2009-10 (\$/MWh) (YTD)	39	54	43	87	30
2008-09 (\$/MWh) (YTD)	37	43	51	72	49
Change*	6%	25%	-15%	21%	-39%
2008-09 (\$/MWh)	36	43	49	69	62

Table 2: NEM turnover

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2009-10 (YTD)	\$9.053	187
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	22	29	32	31	61	0.509
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 24 May

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2011								
Price on 24 May (\$/MW)	46	81	53	92	55	102	64	100
Price on 31 May (\$/MW)	46	80	51	87	55	102	64	100
Open interest on 31 May	1842	122	3081	120	3515	20	45	0
Traded in the last week (MW)	35	5	105	0	110	0	0	0
Traded since 1 Jan 10 (MW)	2413	93	4196	110	4577	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
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

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

** Estimated value