

# WEEKLY MARKET ANALYSIS



AUSTRALIAN ENERGY  
REGULATOR

17 May-23 May 2009

## Summary

Average spot prices for the mainland regions ranged from \$28/MWh in Queensland to \$31/MWh in South Australia.

While average prices were generally lower than last week on the mainland, the average spot price in Tasmania was \$73/MWh, significantly higher than last week. The spot price in Tasmania was also relatively volatile, exceeding \$200/MWh for 44 trading intervals (with the majority of these as forecast and occurring during the off-peak periods) and two spot prices of -\$165/MWh.

In the contract markets, for one of the few occasions this year, there were trades in Q1 2010 base contracts in South Australia.

## Spot market prices

Figure 1 sets out the volume weighted average prices for 17 May to 23 May and the financial year to date across the National Electricity Market (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 May – 23 May	28	30	30	31	73
Financial year to date	37	43	51	73	50
% change from previous week	-4%	-3%	-3%	0%	83%
% change from year to date	-38%	-2%	0%	-33%	-11%

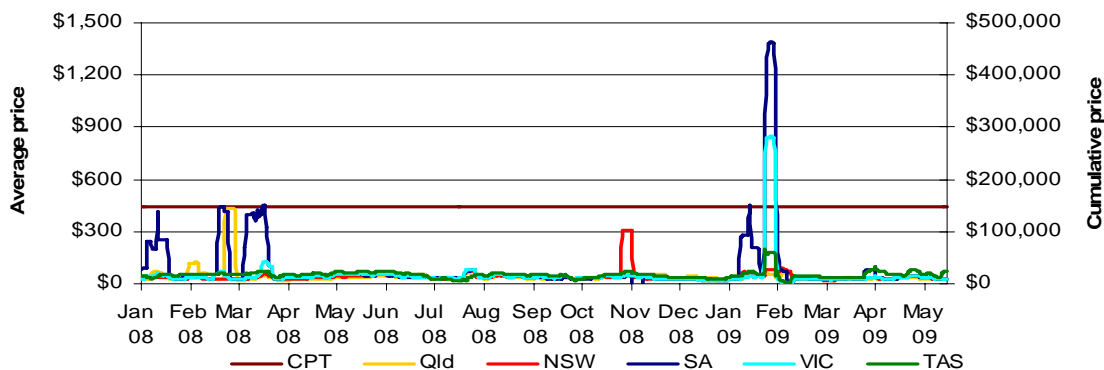
\*The percentage change between last week's average spot price and the average price for the previous week.

\*\*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.

The AER provides further information if the spot price exceeds three times the weekly average. This is detailed in Appendix A. Longer term market trends are attached in Appendix B.

Figure 2 shows the seven day rolling cumulative price for each region together with the Cumulative Price Threshold (CPT) (and the equivalent seven day time weighted average price).

**Figure 2: Seven day rolling cumulative price and CPT**



## Financial markets

Figures 3 to 10 show futures contract<sup>1</sup> prices traded on the Sydney Futures Exchange (SFE) as at close of trade on Monday 25 May. Figure 3 shows the base futures contract prices for the next three calendar years, and the three year average. Also shown are percentage changes compared to the previous week.

**Figure 3: Base calendar year futures contract prices (\$/MWh)**

	QLD		NSW		VIC		SA	
Calendar Year 2010	42	-1%*	45	-1%*	48	0%*	59	0%
Calendar Year 2011	47	-3%*	49	-2%*	52	-3%*	69	0%
Calendar Year 2012	62	0%	61	0%	69	0%	69	0%
Three year average	50	-1%	52	-1%	56	-1%	66	0%

Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

\* there were trades in these products.

Figure 4 shows the \$300 cap contract price for the first quarter of 2010 and the 2009-10 financial year and the percentage change from the previous week.

**Figure 4: \$300 cap contract prices (\$/MWh)**

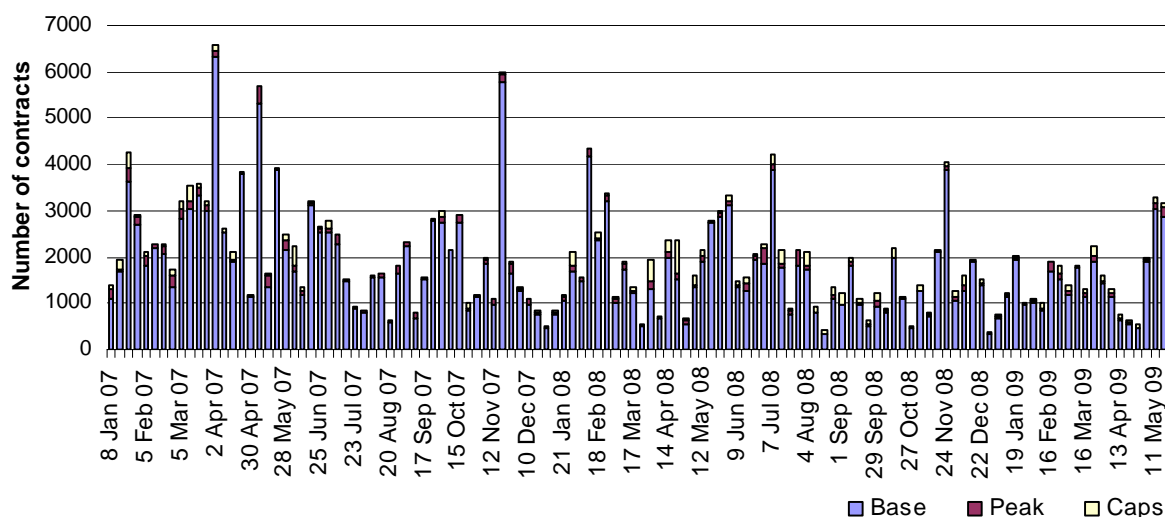
	QLD		NSW		VIC		SA	
Q1 2010	27	0%	21	0%	35	0%	45	0%
Financial 2009-10	11	-2%	10	-1%	11	-3%	16	-1%

Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

Note: there were no trades in these products.

Figure 5 shows the weekly trading volumes for base, peak and cap contracts. The date represents the end of the trading week.

**Figure 5: Number of exchange traded contracts per week**

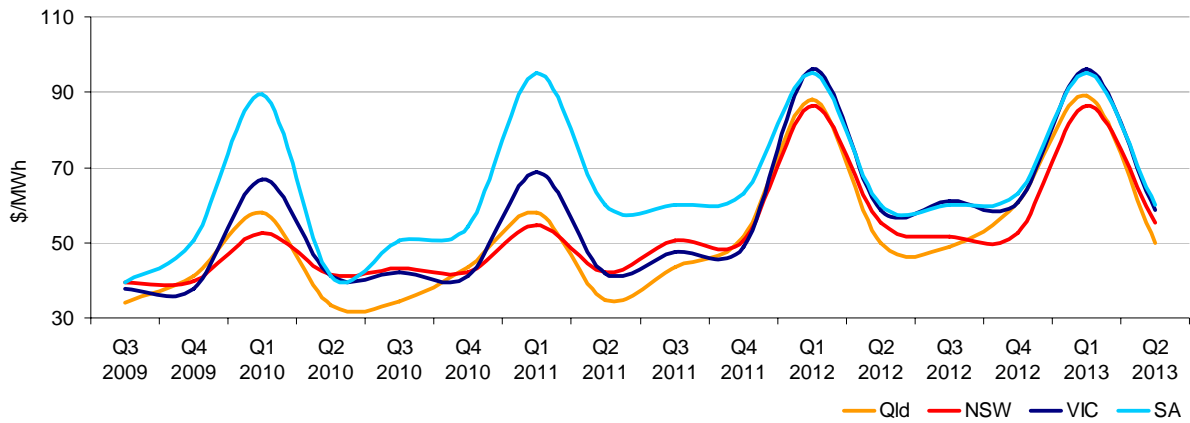


Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

Figure 6 shows the prices for base contracts for each quarter for the next four financial years.

<sup>1</sup> Futures contracts on the SFE are listed by d-cyphaTrade ([www.d-cyphatrade.com.au](http://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.

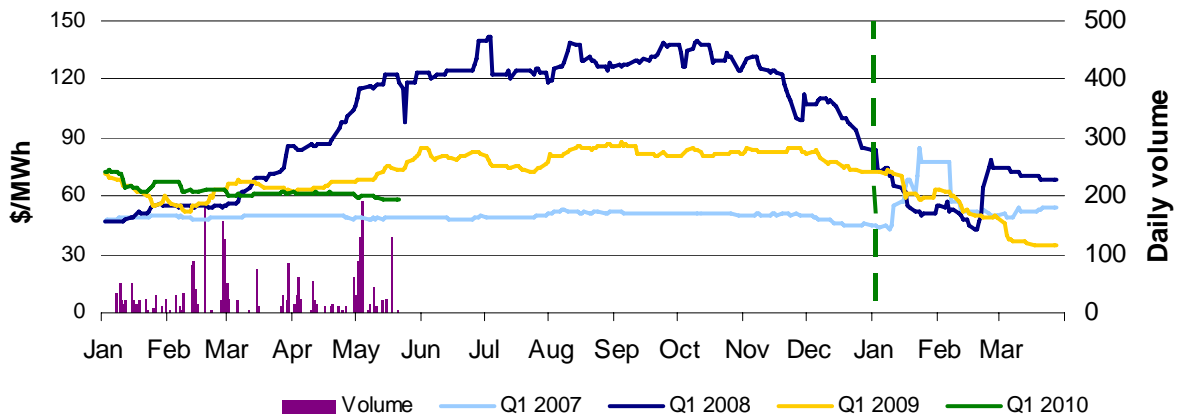
**Figure 6: Quarterly base future prices Q3 2009 – Q2 2013**



Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

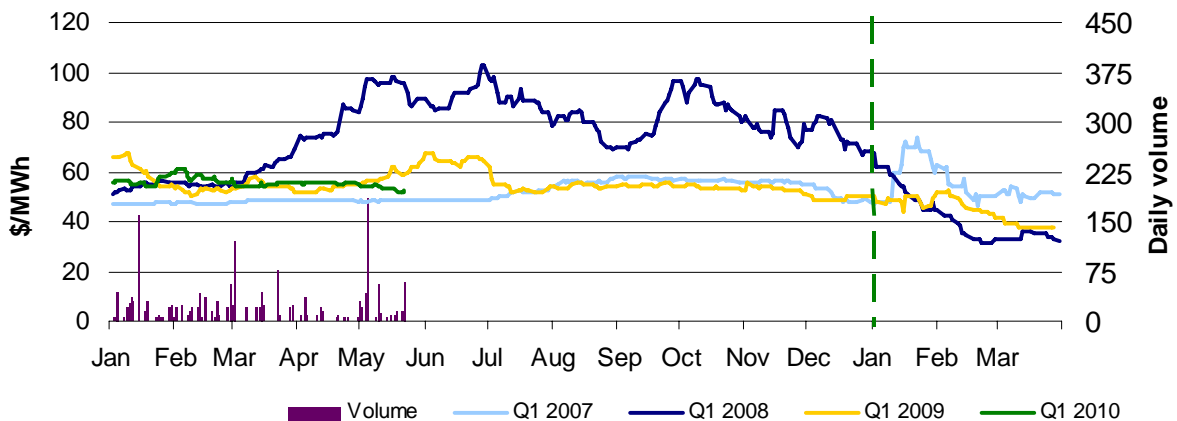
Figures 7-10 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009 and 2010. Also shown is the daily volume of Q1 2010 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.

**Figure 7: Queensland Q1 2007, 2008, 2009 and 2010**



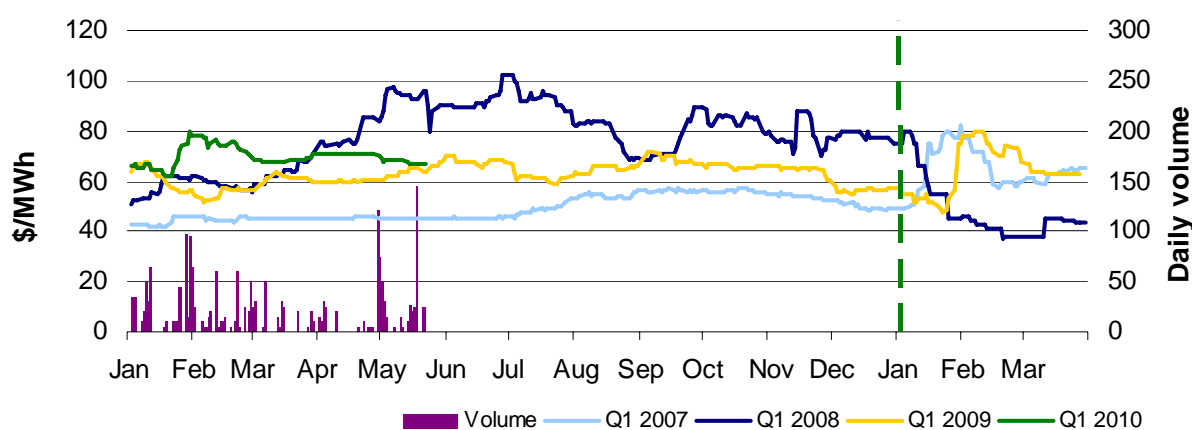
Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

**Figure 8: New South Wales Q1 2007, 2008, 2009 and 2010**



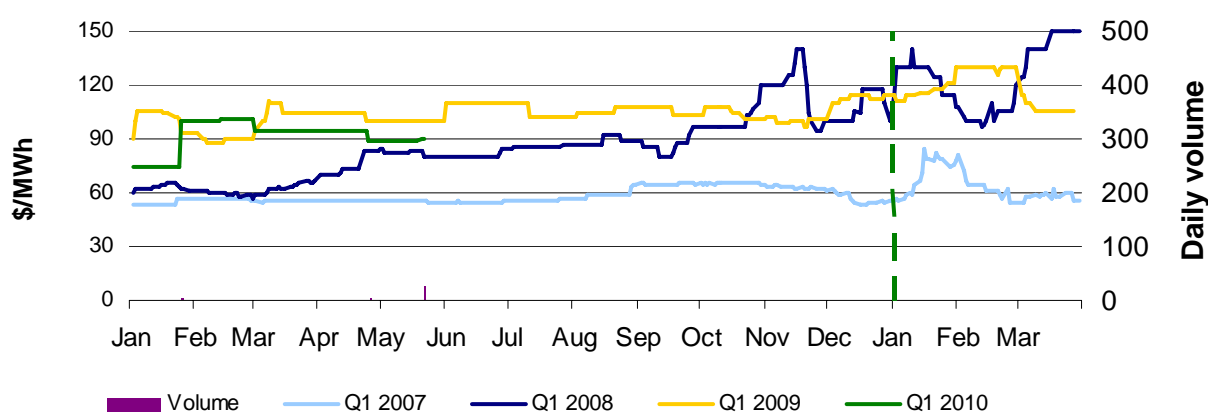
Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

**Figure 9: Victoria Q1 2007, 2008, 2009 and 2010**



Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

**Figure 10: South Australia Q1 2007, 2008, 2009 and 2010**



Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

### 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 National Electricity Market Management Company, 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 134 trading intervals throughout the week where actual prices varied significantly from forecasts<sup>2</sup>. This compares to the weekly average in 2008 of 130 counts. Reasons for these variances are summarised in Figure 11<sup>3</sup>.

**Figure 11: Reasons for variations between forecast and actual prices**

	Availability	Demand	Network	Combination
% of total above forecast	2%	40%	0%	1%
% of total below forecast	56%	0%	0%	1%

<sup>2</sup> 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.

<sup>3</sup> 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 12 shows the change in total available capacity in each region from the previous week and at the price levels shown, for peak periods<sup>4</sup>. For example, in Queensland 186 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 12: 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	186	88	148	125
NSW	179	-32	492	58
VIC	-134	-106	-165	2
SA	-78	-19	59	30
TAS	142	59	-42	26
<b>TOTAL</b>	<b>295</b>	<b>-10</b>	<b>492</b>	<b>241</b>

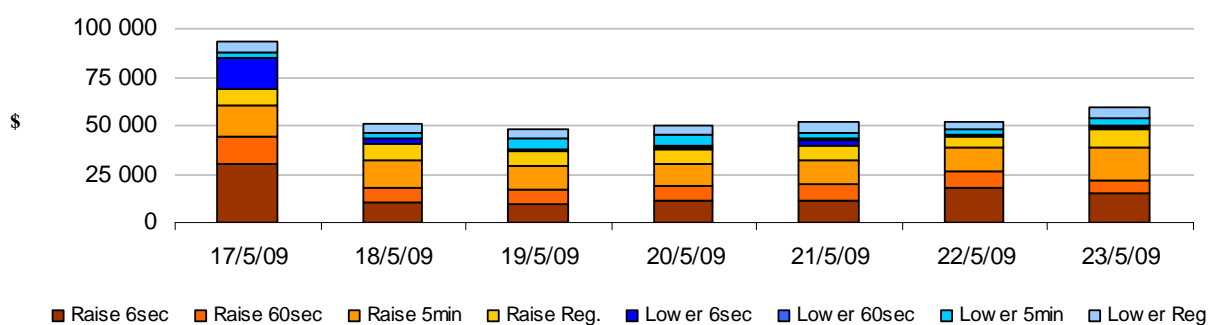
## Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$283 000 or less than one per cent of turnover in the energy market.

The total cost of FCAS in Tasmania for the week was \$123 000 or approximately one per cent of turnover in the energy market.

Figure 13 shows the daily breakdown of cost for each FCAS for the NEM.

**Figure 13: Daily frequency control ancillary service cost**



## Australian Energy Regulator

June 2009

<sup>4</sup> A peak period is defined as between 7 am and 10 pm on weekdays, which aligns with the SFE contract definition.

# APPENDIX A

## Detailed Market Analysis



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17 May - 23 May 2009

**Tasmania:** There were 36 occasions where the spot price in Tasmania was greater than three times the Tasmania weekly average price of \$73/MWh.

**Monday, 18 May**

<b>7:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	237.80	265.30	265.30
Demand (MW)	1319	1325	1325
Available capacity (MW)	2069	2069	2069
<b>9:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	41.28	265.30
Demand (MW)	1391	1324	1350
Available capacity (MW)	1997	2022	2069
<b>10:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	237.80	100.28	265.32
Demand (MW)	1329	1274	1300
Available capacity (MW)	1997	1997	2069
<b>10:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	265.30	265.30
Demand (MW)	1277	1222	1248
Available capacity (MW)	1997	1997	2069
<b>11:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	265.30	265.30
Demand (MW)	1210	1164	1190
Available capacity (MW)	1997	1997	2069
<b>11:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	265.28	100.30
Demand (MW)	1172	1111	1137
Available capacity (MW)	1997	1997	2069

Conditions at the time saw demand up to 67 MW higher than that forecast four hours ahead. For the 9.30 pm and 10 pm trading intervals, there was only approximately 50 MW of capacity priced between approximately \$45/MWh and \$260/MWh meaning that a small increase in demand resulted in the actual spot price being greater than that forecast four hours ahead. All other prices were as forecast four hours ahead.

There was no significant rebidding.

## Tuesday, 19 May

<b>12:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	265.30	265.32
Demand (MW)	1134	1076	1102
Available capacity (MW)	1997	1997	2069
<b>12:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	265.30	265.32
Demand (MW)	1111	1082	1082
Available capacity (MW)	1997	1997	2069
<b>1:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.28	265.30	265.30
Demand (MW)	1090	1067	1067
Available capacity (MW)	1997	1997	2022
<b>1:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.28	265.30	265.30
Demand (MW)	1077	1052	1052
Available capacity (MW)	1997	1997	2022
<b>2:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.28	265.30	265.30
Demand (MW)	1069	1046	1046
Available capacity (MW)	1997	1997	2022
<b>2:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.28	265.30	265.30
Demand (MW)	1065	1043	1043
Available capacity (MW)	1997	1997	2022
<b>3:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.28	265.30	265.30
Demand (MW)	1062	1043	1043
Available capacity (MW)	1997	1997	2022
<b>3:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.28	265.28	265.30
Demand (MW)	1064	1045	1045
Available capacity (MW)	1997	1997	2022
<b>4:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.28	265.28	265.30
Demand (MW)	1061	1049	1049
Available capacity (MW)	1997	1997	2022
<b>4:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.28	265.32	265.34
Demand (MW)	1063	1057	1057
Available capacity (MW)	2022	2022	2022
<b>5:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.28	265.32	265.34
Demand (MW)	1070	1070	1070
Available capacity (MW)	2022	2022	2022

<b>5:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	265.32	265.34
Demand (MW)	1088	1102	1102
Available capacity (MW)	2022	2022	2022
<b>6:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.29	265.34	265.34
Demand (MW)	1152	1150	1150
Available capacity (MW)	2022	2022	2022
<b>6:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	265.34	290.04
Demand (MW)	1243	1231	1231
Available capacity (MW)	2022	2022	2022
<b>7:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	269.62	264.62	265.33
Demand (MW)	1344	1337	1337
Available capacity (MW)	2022	2022	2022
<b>7:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	268.05	29.05	47.56
Demand (MW)	1489	1450	1450
Available capacity (MW)	2018	2022	2022
<b>8:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	36.22	41.26
Demand (MW)	1578	1535	1536
Available capacity (MW)	1997	2022	2022
<b>8:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	37.96	44.44
Demand (MW)	1584	1539	1542
Available capacity (MW)	1914	1939	2022
<b>9:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.29	36.54	54.39
Demand (MW)	1563	1506	1510
Available capacity (MW)	1914	1914	1997
<b>9:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.28	46.28	46.41
Demand (MW)	1522	1464	1469
Available capacity (MW)	1914	1914	1997
<b>10:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	46.28	245.55
Demand (MW)	1469	1404	1410
Available capacity (MW)	1914	1914	1997
<b>10:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	35.96	46.32
Demand (MW)	1423	1358	1364
Available capacity (MW)	1914	1914	1997



<b>11:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	36.14	46.32
Demand (MW)	1380	1321	1328
Available capacity (MW)	1914	1914	1997
<b>11:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	36.05	46.32
Demand (MW)	1345	1290	1296
Available capacity (MW)	1895	1914	1997
<b>12:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.28	36.96	42.60
Demand (MW)	1312	1270	1276
Available capacity (MW)	1828	1914	1997
<b>12:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	257.56	41.30	42.60
Demand (MW)	1282	1256	1257
Available capacity (MW)	1828	1914	1997

Conditions at the time saw demand up to 65 MW greater than that forecast four hours ahead. Available generation was up to 86 MW lower than that forecast four hours ahead.

Prices were as forecast until an increase in demand from the 7.30 am trading interval saw actual prices higher than forecast, as there was only 20 MW of capacity available at prices between \$38/MWh and \$255/MWh.

There was no significant rebidding.

### Wednesday, 20 May

<b>8:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	237.80	41.33	46.30
Demand (MW)	1447	1517	1516
Available capacity (MW)	1972	1972	1972
<b>8:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	44.95	41.26
Demand (MW)	1448	1522	1531
Available capacity (MW)	1889	1889	1889

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

As there was only a small amount of capacity priced between \$33/MWh and \$250/MWh, small changes in demand and the import limit into Tasmania had significant impacts on actual prices.

There was no significant rebidding.

## Thursday, 21 May

<b>12:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	265.30	265.30	265.32
Demand (MW)	1032	1081	1087
Available capacity (MW)	1997	1997	1997

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

There was no significant rebidding.

<b>5:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	255.50	299.98	299.98
Demand (MW)	966	1077	1071
Available capacity (MW)	1997	1997	1997

Conditions at the time saw demand 111 MW lower than that forecast four hours ahead, leading to a lower actual price than that forecast four hours ahead.

There was no significant rebidding.

# Detailed NEM Price and Demand Trends

for Weekly Market Analysis  
17 May - 23 May 2009



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

Financial year	QLD	NSW	VIC	SA	TAS
2008-09 (\$/MWh) YTD	37	43	51	73	50
2007-08 (\$/MWh) YTD	59	44	51	108	56
Change*	-38%	-2%	0%	-33%	-11%
2007-08 (\$/MWh)	58	44	51	101	57

**Table 2: NEM turnover**

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2008-09 YTD	\$8.536	186
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-09	44	57	190	374	85	1.962
Feb-09	42	47	38	47	40	0.709
Mar-09	27	26	26	35	37	0.466
Apr-09	34	38	40	38	69	0.622
May-09 MTD	29	31	34	34	56	0.419
Q1 2009	37	43	87	161	55	3.136
Q1 2008	80	34	50	243	54	3.358
Change*	-53%	28%	73%	-34%	1%	1.09%

**Table 4: ASX energy futures contract prices at 25 May**

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2010								
Price on 18 May (\$/MW)	58	99	53	87	67	122	89	102
Price on 25 May (\$/MW)	58	99	53	86	67	122	90	102
Open interest on 25 May	1911	135	1368	22	1662	35	23	0
Traded in the last week (MW)	135	0	110	0	240	0	25	0
Traded since 1 Jan 09 (MW)	2530	155	1792	22	2004	50	33	0
Settled price for Q1 09(\$/MW)	35	48	38	48	62	114	102	200

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

Comparison:	QLD	NSW	VIC	SA	TAS	NEM
March 09 with March 08						
MW Priced <\$20/MWh	-557	-386	119	-246	-50	-1121
MW Priced \$20 to \$50/MWh	562	347	129	-1	-2	1035
April 09 with April 08						
MW Priced <\$20/MWh	-755	-678	323	366	-41	-785
MW Priced \$20 to \$50/MWh	698	-218	-214	-33	57	290
May 09 with May 08						
MW Priced <\$20/MWh	-432	-540	511	199	-68	-331
MW Priced \$20 to \$50/MWh	553	238	-36	40	241	1037

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

\*\* Estimated value