

# WEEKLY MARKET ANALYSIS



AUSTRALIAN ENERGY  
REGULATOR

26 April-2 May 2009

## Summary

Average spot prices were higher than last week, ranging from \$40/MWh in Queensland to \$50/MWh in Victoria. In general this was due to an increase in demand brought about by cooler temperatures.

In Tasmania the average price increased compared to the previous week to \$78/MWh. There were 19 spot prices above \$250/MWh, generally occurring at low demand periods overnight.

Significant contract market trading volumes and price movements occurred following the announcement of a delay in the start of the Carbon Pollution Reduction Scheme on 4 May.

## Spot market prices

Figure 1 sets out the volume weighted average prices for 26 April to 2 May and the financial year to date across the National Electricity Market. 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 26 April – 2 May	40	47	50	48	78
Financial year to 2 May	37	44	53	75	49
% change from previous week*	16%	31%	38%	40%	58%
% change from previous year to date**	-39%	0%	3%	-33%	-11%

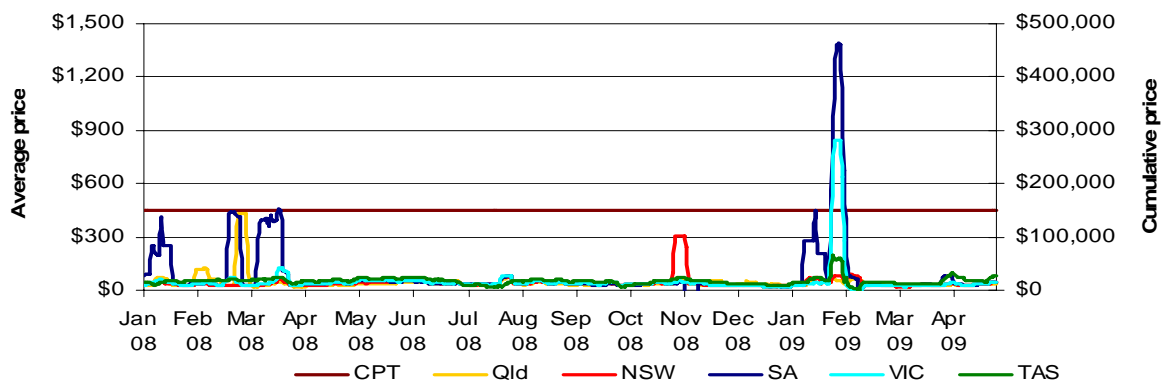
\*The percentage change between last week's average spot price and the average price for the previous week.

\*\*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. Details of these events are attached at 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 4 May. Figure 3 shows the base futures contract prices for the next three financial years, and the three year average. Also shown are percentage changes compared to a week earlier.

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

	QLD		NSW		VIC		SA	
Financial 2009-10	43	-1%	45	-3%	48	-2%	55	-5%
Financial 2010-11	46	-8%	51	-6%	50	-10%	65	-2%
Financial 2011-12	60	-4%	65	0%	64	-4%	69	0%
Three year average	50	-5%	53	-2%	54	-5%	63	-2%

Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)  
 Note: there were no trades in these products.

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

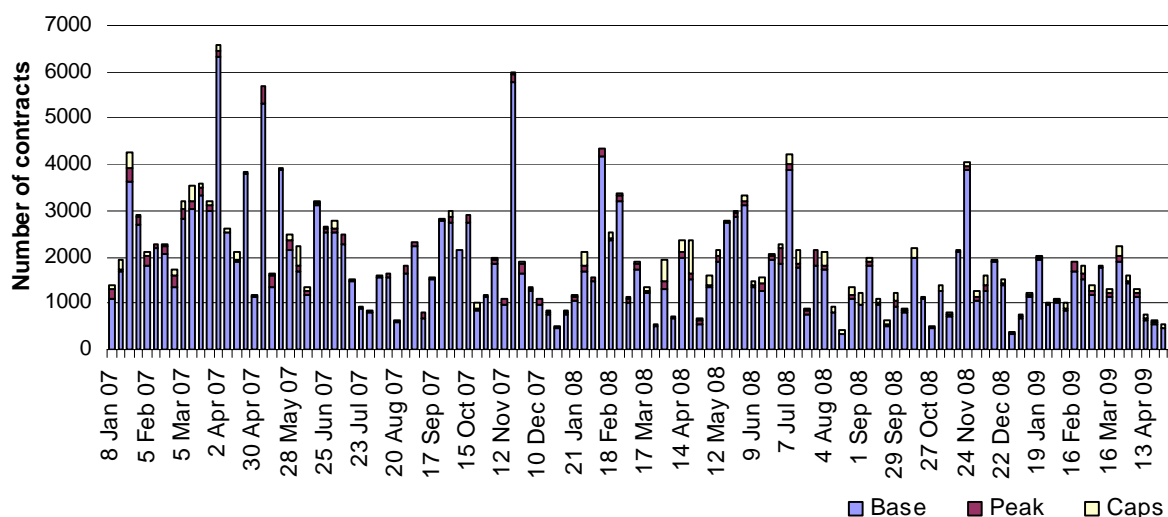
**Figure 4: \$300 cap contract prices (\$/MWh)**

	QLD		NSW		VIC		SA	
Q1 2010 (% Change)	27	0%	22	0%	35	0%	45	0%
FY 2010 (% Change)	12	-1%	11	-1%	12	0%	16	0%

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**

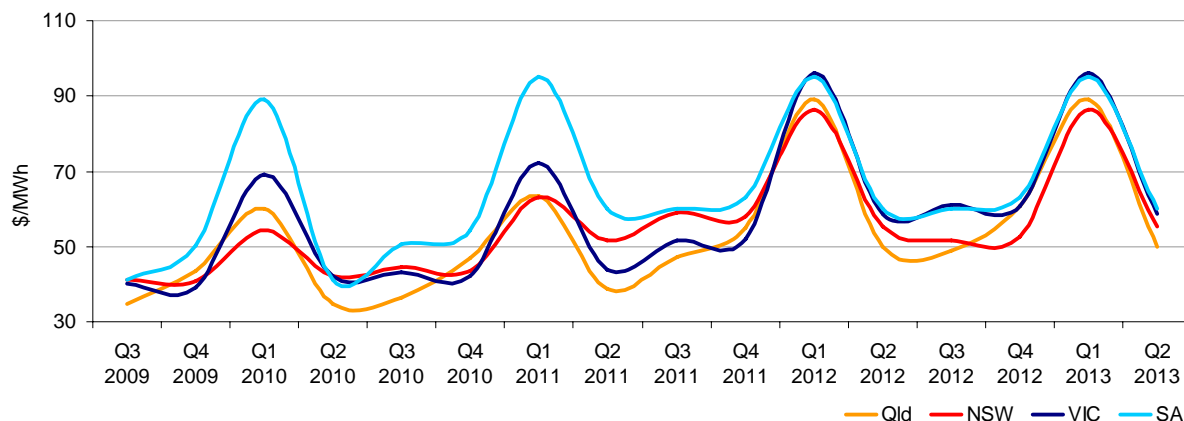


Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

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

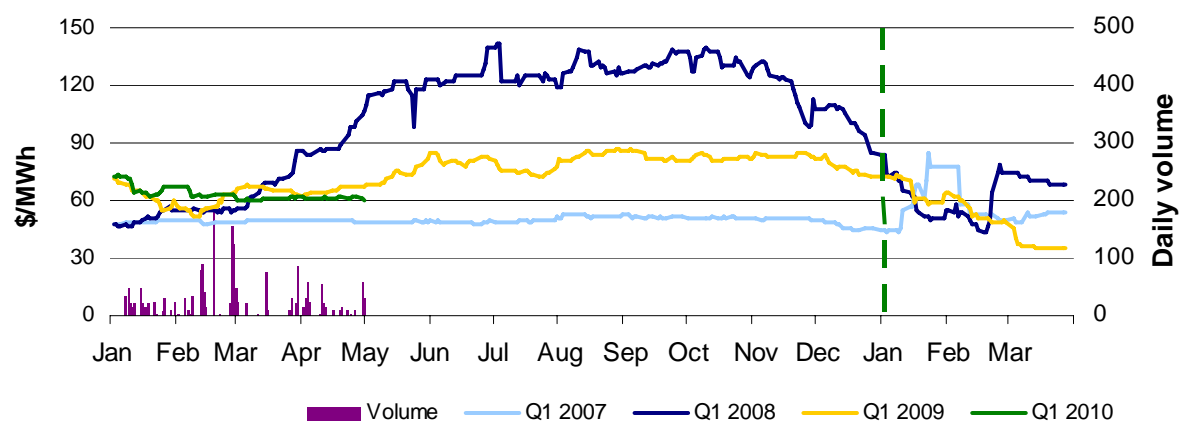
**Figure 6: Quarterly base future prices Q3 2009 – Q2 2013**



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

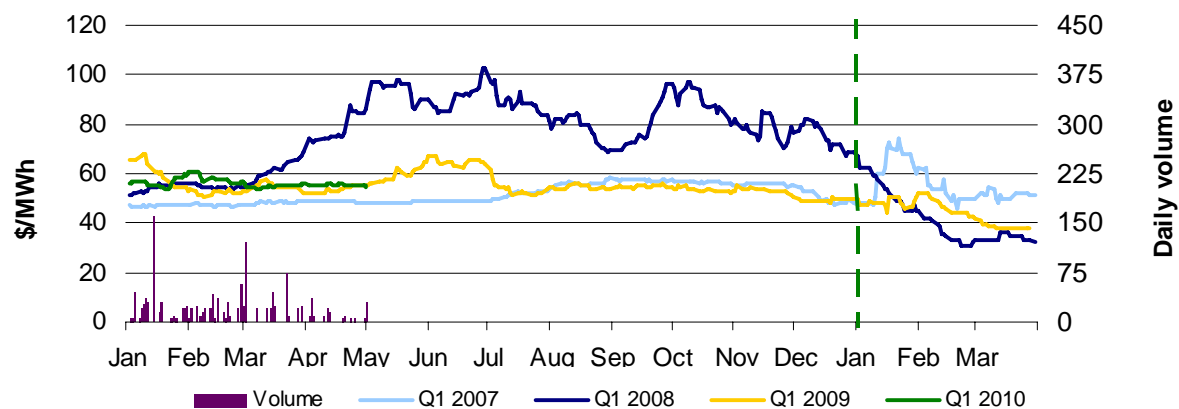
Figures 7-10 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009 and 2010. Also shown is the daily volume of Q1 2010 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.

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



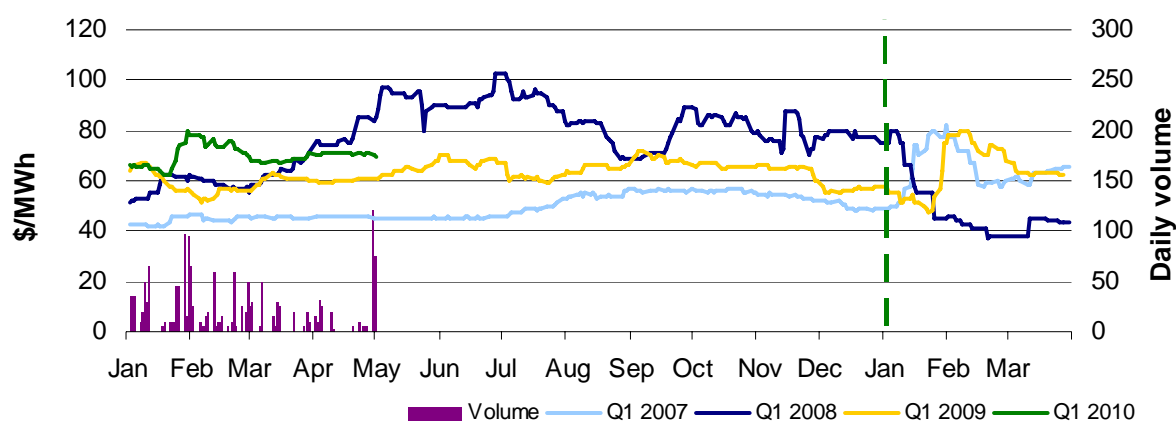
Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

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



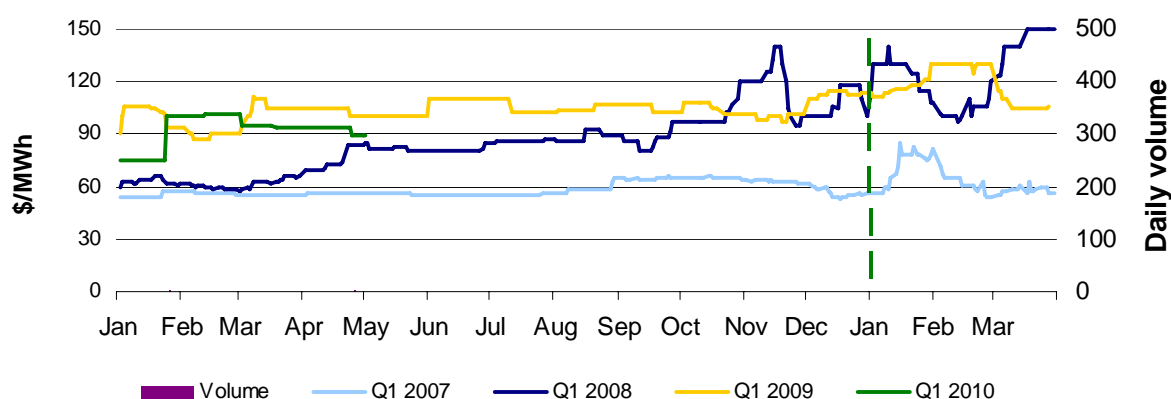
Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

**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 NEMMCO 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 182 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	7%	50%	0%	1%
% of total below forecast	36%	4%	0%	2%

<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 95 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	95	49	-88	-54
NSW	-236	133	-103	371
VIC	-65	193	158	521
SA	114	64	149	155
TAS	78	33	-67	170
<b>TOTAL</b>	<b>-14</b>	<b>472</b>	<b>49</b>	<b>1163</b>

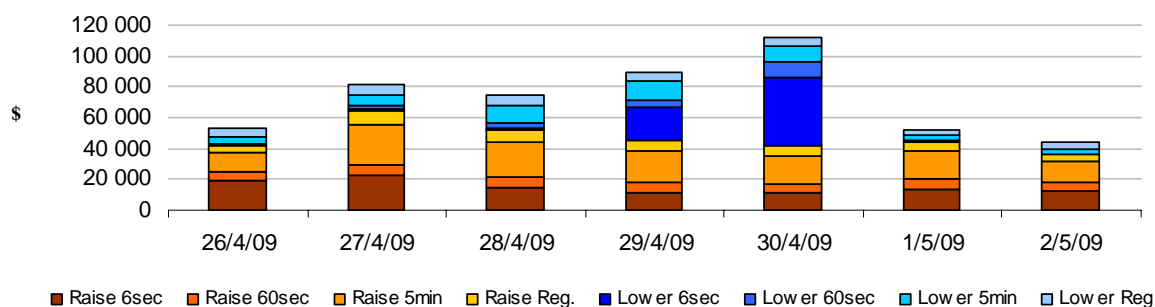
## Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$423 000 or less than one per cent of turnover in the energy market.

The total cost of FCAS in Tasmania for the week was \$85 000 or less than one per cent of turnover in the energy market in Tasmania.

Figure 13 shows the daily breakdown of cost for each frequency control ancillary service for the NEM.

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



## Australian Energy Regulator

May 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.

## Detailed Market Analysis



26 April - 2 May 2009

**Queensland:** There was one occasion where the spot price in Queensland was greater than three times the Queensland weekly average price of \$40/MWh.

**Monday, 27 April**

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	173.12	78.54	152.60
Demand (MW)	6896	6933	6897
Available capacity (MW)	8770	8874	8682

Conditions at the time saw demand and available capacity close to that forecast four and 12 hours ahead. Queensland and New South Wales prices were aligned.

At 2.46 pm, Stanwell reduced the available capacity of Stanwell unit two by 210 MW (most of which was priced below \$130/MWh). The reason given was “Technical issues::change avail/MW distrib”.

There was no other significant rebidding.

**New South Wales:** There was one occasion where the spot price in New South Wales was greater than three times the New South Wales weekly average price of \$47/MWh.

**Monday, 27 April**

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	183.89	80.00	152.53
Demand (MW)	10 416	9992	9986
Available capacity (MW)	10 811	10 933	11 323

Conditions at the time saw demand approximately 420 MW higher than forecast. Available capacity was approximately 500 MW lower than that forecast 12 hours ahead and 120 MW lower than that forecast four hours ahead. Queensland and New South Wales prices were aligned.

At 7.17 am Macquarie Generation delayed the return to service of Liddell unit three, reducing available capacity by 200 MW (all of which was priced below zero). A rebid at 1.58 pm, reduced available capacity by a further 120 MW to zero (all of which was priced below zero). A rebid at 11.06 am reduced the available capacity of Liddell unit one by 190 MW (all of which was priced below \$25/MWh). The reason given was “SFP coupling failure”.

There was no other significant rebidding.

**Tasmania:** There were 21 occasions where the spot price in Tasmania was greater than three times the Tasmania weekly average price of \$78/MWh.

### Tuesday, 28 April

<b>4:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	262.30	262.30
Demand (MW)	1041	998	983
Available capacity (MW)	1878	1935	1878
<b>5:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	262.30	262.30
Demand (MW)	1047	1008	995
Available capacity (MW)	1878	1935	1878
<b>5:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	100.30	100.30
Demand (MW)	1071	1036	1024
Available capacity (MW)	1878	1935	1878
<b>6:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	262.30	262.32
Demand (MW)	1116	1075	1066
Available capacity (MW)	1878	1935	1878
<b>6:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	235.30	262.02	262.30
Demand (MW)	1186	1149	1142
Available capacity (MW)	1878	1935	1878
<b>10:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	262.30	262.30
Demand (MW)	1319	1233	1261
Available capacity (MW)	1920	1920	1920
<b>11:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	262.30	262.30
Demand (MW)	1258	1176	1160
Available capacity (MW)	1920	1920	1920
<b>11:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	262.30	262.30
Demand (MW)	1199	1121	1107
Available capacity (MW)	1920	1920	1920

Conditions at the time saw demand, available capacity and prices close to that forecast for a majority of trading intervals. There was no significant rebidding.

**Wednesday, 29 April**

<b>12:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	100.22	262.30
Demand (MW)	1167	1054	1068
Available capacity (MW)	1920	1920	1920
<b>12:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	100.30	262.30
Demand (MW)	1133	1034	1067
Available capacity (MW)	1920	1920	1920
<b>1:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	100.30	262.30
Demand (MW)	1102	1024	1054
Available capacity (MW)	1920	1920	1920
<b>1:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	100.30	262.30
Demand (MW)	1074	1019	1044
Available capacity (MW)	1920	1920	1920
<b>2:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	100.30	262.30
Demand (MW)	1069	1014	1037
Available capacity (MW)	1920	1920	1920
<b>2:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	262.30	262.30
Demand (MW)	1062	1013	1033
Available capacity (MW)	1920	1920	1920
<b>3:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	262.30	262.30
Demand (MW)	1063	1010	1031
Available capacity (MW)	1920	1920	1920
<b>3:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	262.30	262.30
Demand (MW)	1062	1012	1032
Available capacity (MW)	1920	1920	1920
<b>4:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	262.30	262.30
Demand (MW)	1065	1018	1037
Available capacity (MW)	1920	1920	1920
<b>4:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	262.30	262.30
Demand (MW)	1068	1026	1045
Available capacity (MW)	1883	1883	1883
<b>5:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	262.32	262.30
Demand (MW)	1089	1066	1060
Available capacity (MW)	1883	1883	1883
<b>5:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	262.22	262.22
Demand (MW)	1115	1084	1090
Available capacity (MW)	1883	1883	1883
<b>6:00 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	262.30	262.30	262.30
Demand (MW)	1166	1112	1124
Available capacity (MW)	1883	1883	1883

Conditions at the time saw available capacity as forecast. Prices and demand were generally as forecast. There was no significant rebidding.



## Detailed NEM Price and Demand Trends



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

Financial year	QLD	NSW	VIC	SA	TAS
2008-09 (\$/MWh) YTD	37	44	53	75	49
2007-08 (\$/MWh) YTD	61	44	51	112	55
Change*	-39%	0%	3%	-33%	-11%
2007-08 (\$/MWh)	58	44	51	101	57

**Table 2: NEM turnover**

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2008-09 YTD	\$8.155	174
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)
Dec-08	36	25	23	26	33	0.476
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
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 4 May**

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2010								
Price on 27 Apr (\$/MW)	61	105	56	91	71	123	94	102
Price on 04 May (\$/MW)	60	104	54	91	69	123	89	102
Open interest on 04 May	1665	65	1222	12	1565	40	8	0
Traded in the last week (MW)	105	0	40	0	210	5	2	0
Traded since 1 Jan 09 (MW)	1865	80	1360	12	1608	45	8	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
February 09 with February 08						
MW Priced <\$20/MWh	-373	32	-3	72	33	-241
MW Priced \$20 to \$50/MWh	328	141	149	-89	10	539
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

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

\*\* Estimated value