

WEEKLY ELECTRICITY MARKET ANALYSIS



25 July – 31 July 2010

Summary

The weekly average spot price ranged from \$20/MWh to \$29/MWh across the mainland regions and \$39/MWh in Tasmania.

There were negative prices in Queensland, early Wednesday, Friday and Saturday mornings. On each occasion the five-minute dispatch price reached the price floor for one dispatch interval.

Spot market prices

Figure 1 sets out the volume weighted average prices for the week 25 July to 31 July 2010 and the 09/10 financial year 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 25 July – 31 July 2010 | 20 | 28 | 27 | 29 | 39 |
| % change from previous week* | -18 | -9 | -14 | -16 | 33 |
| 09/10 financial | 37 | 52 | 42 | 82 | 30 |
| % change from 08/09 financial ** | 3 | 23 | -14 | 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 and the average spot price 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 2 August 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 traded 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 | 32 | 0% | 41* | -1% | 38* | 0% | 45 | -1% |
| Calendar Year 2012 | 34* | 0% | 44 | -1% | 41* | 0% | 47 | 1% |
| Calendar Year 2013 | 58 | 0% | 60 | 0% | 59 | 0% | 69 | 0% |
| Three year average | 41 | 0% | 48 | 0% | 46 | 0% | 54 | 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.

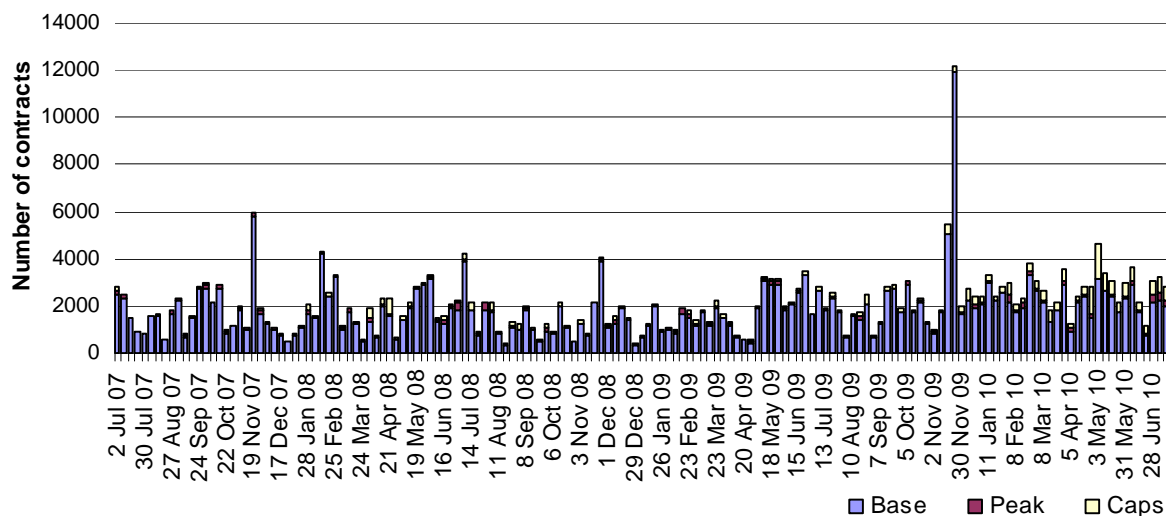
Figure 3: \$300 cap contract prices (\$/MWh)

| | QLD | | NSW | | VIC | | SA | |
|--------------------|-----|----|-----|-----|-----|----|----|----|
| Q1 2011 (% Change) | 18* | 4% | 21 | 0% | 27 | 1% | 38 | 0% |
| 2011 (% Change) | 8 | 2% | 11 | -1% | 10 | 0% | 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

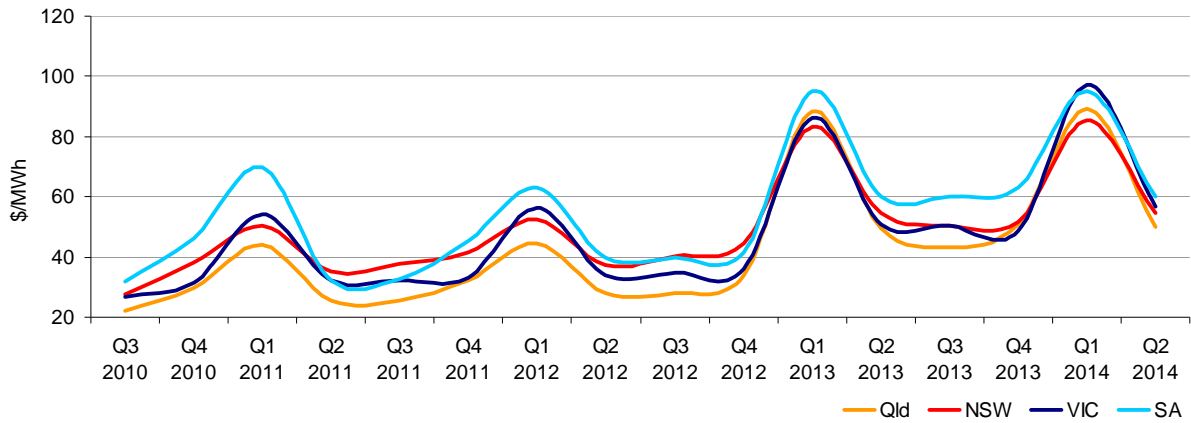


Source: d-cyphaTrade www.d-cyphatrade.com.au

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

⁴ Calculated on prices prior to rounding.

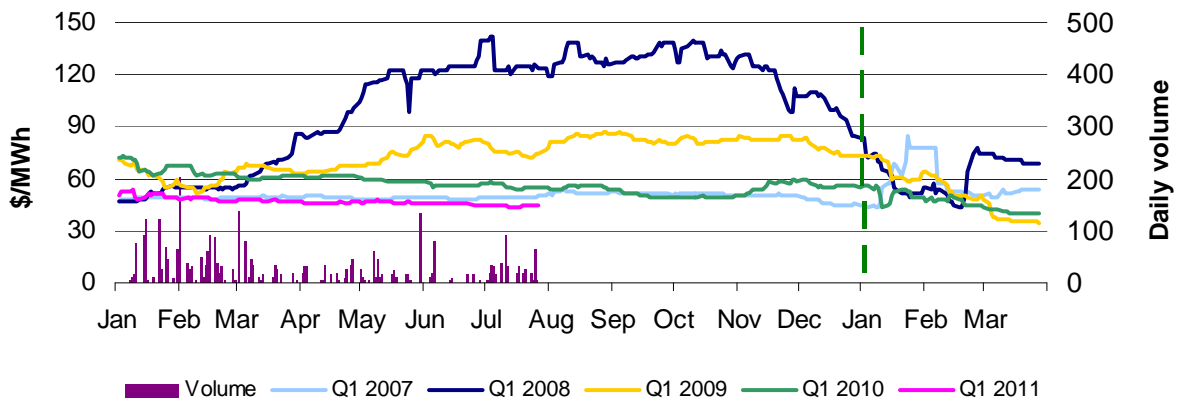
Figure 5: Quarterly base future prices Q3 2010 – Q2 2014



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

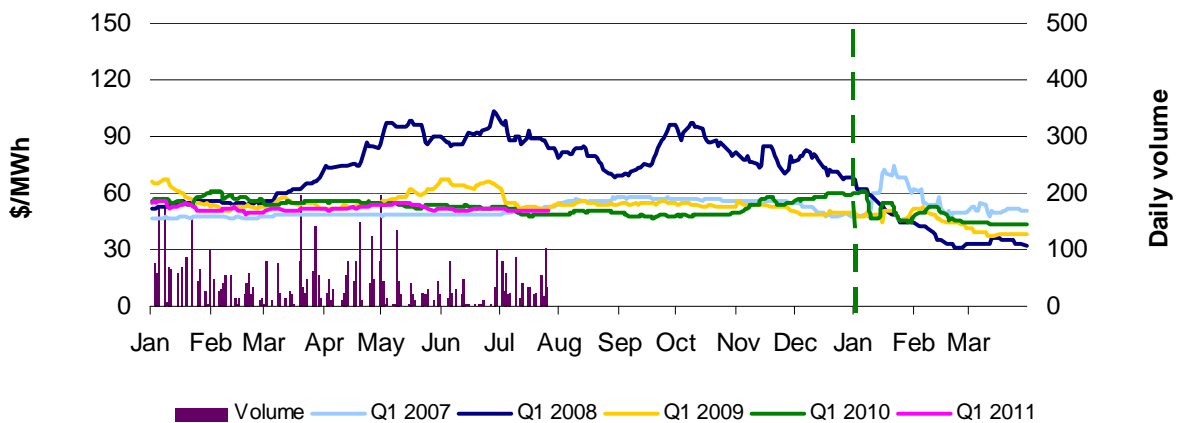
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009, 2010 and 2011. Also shown is the daily volume of Q1 2011 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.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



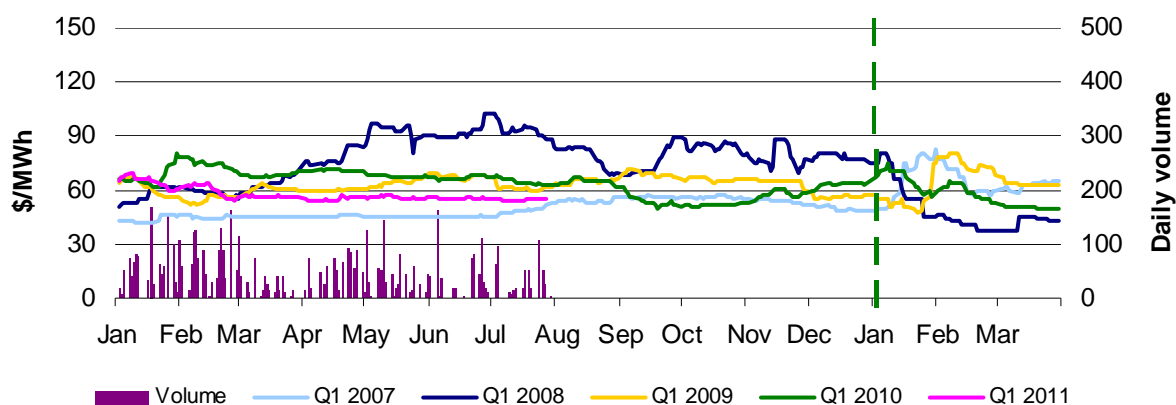
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



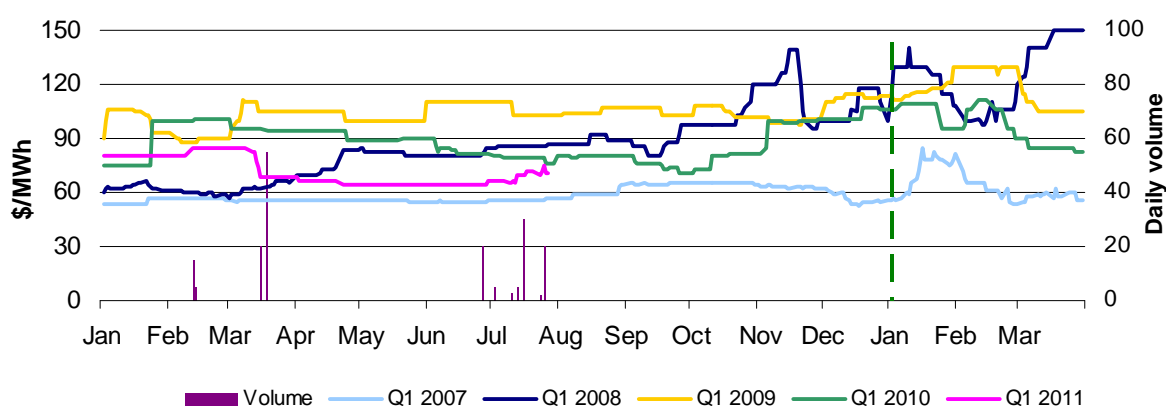
Source: d-cyphaTrade www.d-cyphatrade.com.au

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.

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 34 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 | 3 | 8 | 0 | 0 |
| % of total below forecast | 44 | 28 | 1 | 16 |

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.

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 167 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 | 167 | -114 | 561 | -45 |
| NSW | -444 | -28 | -205 | -368 |
| VIC | -274 | 408 | 206 | -234 |
| SA | 64 | -15 | 67 | -122 |
| TAS | -32 | -58 | 36 | -7 |
| TOTAL | -519 | 193 | 665 | -776 |

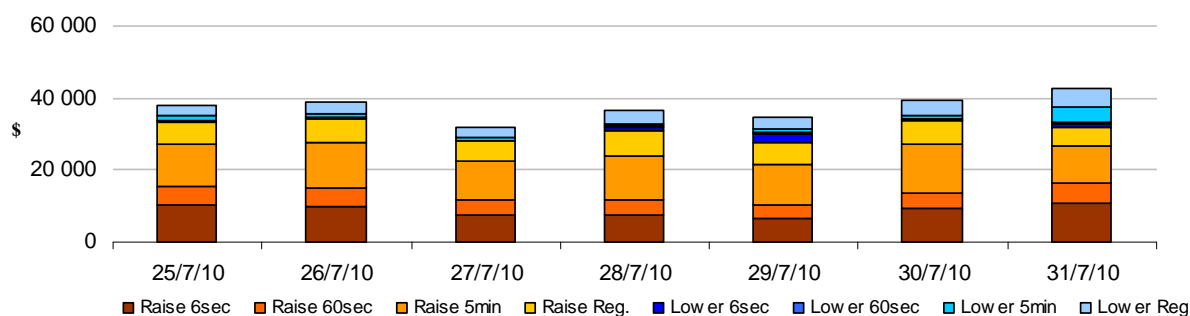
Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$231 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$32 000 or less than one 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 August 2010

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

25 July – 31 July 2010

Tasmania:

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

Wednesday, 28 July

| 7:00 am | Actual | 4 hr forecast | 12 hr forecast |
|-------------------------|---------------|----------------------|-----------------------|
| Price (\$/MWh) | 4156.88 | 34.13 | 40.87 |
| Demand (MW) | 1374 | 1403 | 1402 |
| Available capacity (MW) | 2494 | 2494 | 2494 |

Conditions on the day saw demand and available capacity close to forecast.

Day-ahead offers saw a step reduction in the availability of low-priced (under \$300/MWh) capacity in Tasmania from 2316 MW at 6 am to 1365 MW at 6.30 am and to 711 MW at 7 am. At 7 am, 1783 MW out of the 2494 MW of available generation in Tasmania was priced above \$9990/MWh. Around 1600 MW of this was offered by Hydro Tasmania but this capacity was offered at less than \$300/MWh for the rest of the day.

Initial forecasts showed a price of \$10 000/MWh for the 7 am trading interval. Rebids by Aurora Energy in response saw 98 MW of capacity across Bell Bay Three unit one and Tamar Valley Power Station shifted from prices above \$9900/MWh to below \$35/MWh committing the units. The reason given was “1230 A predispatch price forecast”. As a result of these rebids the 7 am forecast price fell to around \$40/MWh.

At 5.40 am, the 5-minute pre-dispatch run (which shows 5-minute resolution prices for the next hour) forecast the 6.35 am price to reach \$10 000/MWh. As a result, over two rebids at 5.40 am and 5.48 am, Aurora Energy shifted a further 80 MW of capacity at Bell Bay Three units two and three, from prices above \$9990/MWh to the price floor, committing the units. The reasons given were “0540 A predispatch price forecast increased” and “0548 A predispatch price forecast increased”. The 5.48 am rebid was effective from 5.55 am and the 5.40 am rebid was effective from 6.35 am.

Following this rebid all of Aurora Energy’s capacity was priced at less than \$33/MWh. Hydro Tasmania had around 1600 MW out of 2100 MW priced above \$11 000/MWh.

The rebids resulted initially in a decrease in 5-minute pre-dispatch forecast prices (below \$250/MWh). However by the 6 am 5-minute pre-dispatch run prices were forecast to be above \$10 000/MWh again from 6.50 am. The high prices were not, however, forecast to occur at all in the 30-minute predispatch systems. This discrepancy was as a result of different forms of constraint acting in the 30-minute predispatch systems compared to the 5-minute predispatch and dispatch systems.

The Tasmania 5-minute price was below \$42/MWh from 6.35 am to 6.50 am and reached \$12 400/MWh at 6.55 am and 7 am. From 7.05 am, there was a large increase in the availability of lower-priced generator offers and the price fell to \$22/MWh.

There was no other significant rebidding.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
25 July - 31 July 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) | 37 | 52 | 42 | 82 | 30 |
| 2008-09 (\$/MWh) | 36 | 43 | 49 | 69 | 62 |
| Change* | 3% | 23% | -14% | 20% | -51% |

Table 2: NEM turnover

| Financial year | NEM Turnover** (\$, billion) | Energy (TWh) |
|----------------|------------------------------|--------------|
| 2009-10 | \$9.643 | 206 |
| 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) |
|----------------------------------|------|------|-----|-----|------|------------------------|
| 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 | 23 | 35 | 33 | 38 | 32 | 0.563 |
| Jul-10 | 22 | 28 | 27 | 31 | 31 | 0.495 |
| Q2 2010 | 22 | 30 | 48 | 34 | 40 | 1.697 |
| Q2 2009 | 32 | 35 | 34 | 35 | 106 | 1.918 |
| Change* | -30% | -16% | 40% | -5% | -63% | -11.51% |

Table 4: ASX energy futures contract prices at end of 2 August

| | QLD | | NSW | | VIC | | SA | |
|--------------------------------|------|------|------|------|------|------|------|------|
| | Base | Peak | Base | Peak | Base | Peak | Base | Peak |
| Q1 2011 | | | | | | | | |
| Price on 26 Jul (\$/MW) | 44 | 77 | 51 | 84 | 55 | 97 | 72 | 100 |
| Price on 02 Aug (\$/MW) | 45 | 77 | 50 | 84 | 55 | 97 | 71 | 100 |
| Open interest on 02 Aug | 1787 | 123 | 3033 | 225 | 3000 | 40 | 110 | 0 |
| Traded in the last week (MW) | 95 | 0 | 212 | 6 | 186 | 0 | 22 | 0 |
| Traded since 1 Jan 10 (MW) | 3160 | 114 | 5341 | 246 | 5825 | 40 | 180 | 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 |
|----------------------------|------|------|------|------|-----|-----|
| 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 | | | | | | |
| MW Priced <\$20/MWh | 959 | -520 | -482 | 46 | 227 | 230 |
| MW Priced \$20 to \$50/MWh | -743 | 378 | 301 | -43 | 345 | 237 |
| July 10 with July 09 | | | | | | |
| MW Priced <\$20/MWh | 977 | -476 | 1 | 77 | -90 | 489 |
| MW Priced \$20 to \$50/MWh | -445 | 328 | 180 | 72 | 382 | 518 |

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

** Estimated value