WEEKLY MARKET ANALYSIS

23 – 29 November 2008

Summary

Average spot prices ranged from \$26/MWh in Queensland and New South Wales to \$41/MWh in Tasmania. An increase in the availability of low priced capacity led to lower average prices compared to the previous week.

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In the financial markets, base financial year futures contract prices were up slightly compared to last week, albeit at lower volumes. Base contract prices for quarter 1 2009 decreased slightly in Queensland, New South Wales and Victoria, but increased in South Australia. Cap contract prices for 2009 were significantly lower in Victoria and slightly down in Queensland, and New South Wales, while there were no trades in South Australia.

Spot market prices

Figure 1 sets out the volume weighted average prices for 23-29 November 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 spo | t price by | region (\$/MWh) |
|------------------|----------|-------------|------------|-----------------|
|------------------|----------|-------------|------------|-----------------|

| | Qld | NSW | VIC | SA | Tas |
|--------------------------------|------|-----|------|------|------|
| Ave price for 23 – 29 November | 26 | 26 | 28 | 30 | 41 |
| Financial year to 29 November | 39 | 50 | 41 | 40 | 46 |
| % change from previous week* | -59% | -5% | -9% | 0% | -11% |
| % change from year to date** | -35% | -5% | -23% | -26% | -18% |

*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 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) for the last 18 months.





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Financial markets

Figures 3 to 10 show futures contract¹ prices traded on the Sydney Futures Exchange (SFE) as at close of trade on Monday 1 December. 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.

| | Q | LD | NS | SW | V | IC | S | A |
|--------------------|----|----|----|----|----|----|----|----|
| Financial 2009-10 | 51 | 2% | 51 | 2% | 52 | 1% | 55 | 0% |
| Financial 2010-11 | 60 | 1% | 62 | 2% | 64 | 2% | 61 | 1% |
| Financial 2011-12 | 57 | 0% | 50 | 0% | 54 | 0% | 58 | 4% |
| Three year average | 56 | 1% | 54 | 1% | 56 | 1% | 58 | 2% |

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

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

Figure 4 shows the \$300 cap contract price for the first quarter of 2009 and the 2009 calendar year and the change from the previous week.

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

| | Q | LD | N | SW | V | /IC | S | SA |
|------------------------------------|------------------|-----|----|-----|----|------|----|-----------|
| Q1 2009 price | 44 | -2% | 17 | -6% | 19 | -21% | 65 | 0% |
| Calendar 2009 | 18 | -1% | 10 | -3% | 9 | -12% | 21 | 0% |
| Courses developmente de summer des | mhatrada aama ay | | | | | | | |

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

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 <u>www.d-cyphatrade.com.au</u>

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¹ Futures contracts on the SFE are listed by d-cyphaTrade (<u>www.d-cyphatrade.com.au</u>). 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 years.

Figure 6: Quarterly base future prices 2008 - 2012



Source: d-cyphaTrade 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 and 2009. Also shown is the daily volume of Q1 2009 base contracts traded. The vertical dashed line signifies the start of the Q1 period.



Figure 7: Queensland Q1 2007, 2008 and 2009

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





Source: d-cyphaTrade <u>www.d-cyphatrade.com.au</u>





Figure 10: South Australia Q1 2007, 2008 and 2009



Source: d-cyphaTrade 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 that 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 43 trading intervals where actual prices significantly varied from forecasts² throughout the week. This compares to the weekly average in 2007 of 125 counts. Reasons for these variances are summarised in Figure 11³.

| Figure 11: Reasons for variations between forecast and actual prices | Figure 11 | : Reasons f | or variations | between | forecast | and actual | prices |
|--|-----------|-------------|---------------|---------|----------|------------|--------|
|--|-----------|-------------|---------------|---------|----------|------------|--------|

| | Availability | Demand | Network | Combination |
|-------------------------------|--------------|--------|---------|-------------|
| Price is higher than forecast | 0% | 52% | 4% | 0% |
| Price is lower than forecast | 44% | 0% | 0% | 0% |

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

² A trading interval is counted as having a variation if the actual price differs significantly from the forecast price either four or twelve hours ahead.

³ The table summarises (as a percentage) the number of times when the actual price differs significantly from the forecast price four or twelve 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 twelve and four 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 changes to the offer price and available capacity of generation in each region for the peak periods only⁴. For example, in Queensland 283 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.

| \$/MWh | <20 | Between 20 and 50 | Total availability | Change in average demand |
|-----------------|------|-------------------|-----------------------|-----------------------------|
| Queensland | 283 | 164 | 821 | 103 |
| New South Wales | -304 | -15 | -330 | -91 |
| Victoria | 450 | -98 | 490 | 126 |
| South Australia | -128 | -28 | -143 | 114 |
| Tasmania | 91 | 45 | -48 | -27 |
| Total | 392 | 68 | 790 | 225 |

| Figure 12: Changes in available generation | n compared to the previous | week during peak times |
|--|----------------------------|------------------------|
|--|----------------------------|------------------------|

Ancillary services market

The total cost of ancillary services on the mainland for the week was \$172 000 or less than one per cent of turnover in the energy market.

The total cost of ancillary services in Tasmania for the week was \$96 000 or one per cent of turnover in the energy market in Tasmania, with half of this accruing during an hour long outage of Basslink on Thursday. 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

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⁴ Peak period is defined as between 7 am and 10 pm on weekdays, which aligns with the SFE contract definition.

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Detailed Market Analysis

23 – 29 November 2008

Tasmania: On two occasions the spot price in Tasmania was greater than three times the Tasmania weekly average price of \$41/MWh.

Thursday, 27 November

| 5:00 pm | Actual | 4 hr forecast | 12 hr forecast |
|--|---------------------------------|---------------------------------------|--|
| Price (\$/MWh) | 167.43 | 49.28 | 49.28 |
| Demand (MW) | 1052 | 1194 | 1183 |
| Available capacity (MW) | 1891 | 1991 | 1991 |
| | | | |
| 5:30 pm | Actual | 4 hr forecast | 12 hr forecast |
| 5:30 pm Price (\$/MWh) | Actual 167.95 | 4 hr forecast 49.30 | 12 hr forecast 49.28 |
| 5:30 pm Price (\$/MWh) Demand (MW) | Actual 167.95 1231 | 4 hr forecast 49.30 1189 | 12 hr forecast 49.28 1182 |

At 4.19 pm Basslink tripped while importing around 450 MW. This resulted in a reduction in demand in Tasmania by around 340 MW. Local frequency control ancillary services were required following the outage, with prices for lower services peaking at \$2000/MW for the lower 6 second service. Basslink returned to service at 5.40 pm and prices returned to previous levels.

There was no significant rebidding.

Queensland: On one occasion the spot price in Queensland was greater than three times the Queensland weekly average price of \$26/MWh.

Friday, 28 November

| 1:30 pm | Actual | 4 hr forecast | 12 hr forecast |
|-------------------------|--------|---------------|----------------|
| Price (\$/MWh) | 101.73 | 43.68 | 38.01 |
| Demand (MW) | 7606 | 7680 | 7611 |
| Available capacity (MW) | 9558 | 9652 | 9831 |

Conditions at the time saw available capacity lower than forecast.

Over several rebids from 10.43 am Callide Power Trader reduced the available capacity of Callide unit three by 75 MW. The reasons given were "Support reason for other unit" and "Mill failure".

Over two rebids at 10.56 am and 11.22 am, CS Energy rebid 200 MW of capacity at Swanbank unit E from prices below zero to prices above \$230/MWh. The reason given was "Swan_E Gas Management".

At 1.12 pm, Stanwell Corporation rebid 50 MW of capacity across Gladstone units one, three and four, priced below \$70/MWh to above \$220/MWh. The reason given was "Portfolio optimisation::Change MW distrib".

There was no other significant rebidding.

Detailed NEM Price and Demand Trends

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

| Financial year | QLD | NSW | VIC | SA | TAS |
|----------------------|------|-----|------|------|------|
| 2008-09 (\$/MWh) YTD | 39 | 50 | 41 | 40 | 46 |
| 2007-08 (\$/MWh) YTD | 59 | 52 | 53 | 54 | 56 |
| Change | -35% | -5% | -23% | -26% | -18% |
| 2007-08 (\$/MWh) | 58 | 44 | 51 | 101 | 57 |

Table 2: NEM turnover

| Financial year | NEM Turnover* (\$, billion) | Energy (TWh) |
|-----------------------------|-----------------------------|--------------|
| 2008-09 YTD | \$3.9 | 88 |
| 2007-08 | \$11.1 | 208 |
| 2006-07 | \$12.7 | 206 |
| Change (2006-07 to 2007-08) | -12% | 0.8% |

* estimated value

Table 3: Recent monthly and quarterly spot market volume weighted average price and turnover

| Volume weighted | | | | | | | Turnover |
|------------------|------|------|-------|------|------|------|---------------|
| average (\$/MWh) | QLD | NSW | SNOWY | VIC | SA | TAS | (\$, billion) |
| Jul-08 | 40 | 44 | - | 46 | 48 | 31 | 0.82 |
| Aug-08 | 37 | 42 | - | 42 | 44 | 56 | 0.79 |
| Sep-08 | 32 | 37 | - | 38 | 34 | 46 | 0.61 |
| Oct-08 | 43 | 94 | - | 41 | 37 | 47 | 1.05 |
| Nov-08 MTD | 40 | 32 | - | 36 | 34 | 51 | 0.60 |
| | | | | | | | |
| Q3 2008 | 36 | 41 | - | 42 | 42 | 44 | 2.23 |
| Q3 2007 | 56 | 59 | - | 60 | 62 | 65 | 3.17 |
| Change | -35% | -31% | - | -30% | -31% | -32% | |

Table 4: ASX energy futures contract prices at 1 December

| | Q | LD | NS | SW | VIC | | SA | |
|--------------------------------|------|------|------|------|------|------|------|------|
| Q1 2009 | Base | Peak | Base | Peak | Base | Peak | Base | Peak |
| Price on 24 Nov (\$/MW) | 85 | 152 | 53 | 89 | 65 | 113 | 101 | 191 |
| Price on 01 Dec (\$/MW) | 82 | 151 | 50 | 89 | 58 | 107 | 110 | 191 |
| Open interest on 01 Dec | 2581 | 174 | 2660 | 171 | 2376 | 474 | 182 | 20 |
| Traded in the last week (MW) | 120 | 0 | 25 | 0 | 220 | 0 | 8 | 0 |
| Traded since 1 Jan 08 | 5498 | 439 | 5673 | 215 | 4554 | 757 | 369 | 40 |
| Settled price for Q1 08(\$/MW) | 68 | 97 | 32 | 42 | 43 | 65 | 152 | 322 |

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

| Comparison: | QLD | NSW | SNOWY* | VIC | SA | TAS | NEM |
|--------------------------------|------|------|--------|------|-----|------|------|
| September 08 with September 07 | 7 | | | | | | |
| MW Priced <\$20 | 913 | 717 | - | -84 | 137 | 147 | 1829 |
| MW Priced \$20 to \$50 | 189 | -401 | - | 186 | 187 | 37 | 199 |
| October 08 with October 07 | | | | | | | |
| MW Priced <\$20 | 248 | -230 | - | -138 | 112 | -356 | -364 |
| MW Priced \$20 to \$50 | 357 | -325 | - | 150 | 45 | -36 | 191 |
| November 08 with November 07 | | | | | | | |
| MW Priced <\$20 | -175 | 391 | - | 26 | 4 | -62 | 183 |
| MW Priced \$20 to \$50 | 450 | 25 | - | -41 | 10 | -27 | 417 |

*For comparative purposes Snowy generation for July 2007 and 2008 has been incorporated into New South Wales and Victoria