

# WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY  
REGULATOR

29 August – 4 September 2010

## Summary

The weekly average spot price ranged from \$21/MWh in Tasmania, \$23/MWh in Queensland and Victoria, \$25/MWh in New South Wales and \$40/MWh in South Australia. The higher price in South Australia was driven by a \$4249/MWh spot price on Wednesday as a result of lower than forecast import capability and higher than forecast demand.

## Spot market prices

Figure 1 sets out the volume weighted average prices for the week 29 August to 4 September 2010 and the 10/11 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 29 Aug - 4 Sep 2010	23	25	23	40	21
% change from previous week*	-10	-7	-12	55	-13
10/11 financial YTD	22	32	27	31	49
% change from 09/10 financial YTD **	-17	10	8	16	96

\*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 B<sup>1</sup>.

## Financial markets

Figures 2 to 9 show futures contract<sup>2</sup> prices traded on the Sydney Futures Exchange (SFE) as at close of trade on Monday 6 September 2010. Figure 2 shows the base futures contract prices for the next three calendar years, and the three year average. Also shown are percentage changes<sup>3</sup> compared to the previous week.

<sup>1</sup> 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](http://www.aer.gov.au) -> Monitoring, reporting and enforcement -> Electricity market reports -> Long-term analysis.

<sup>2</sup> Futures contracts traded 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.

<sup>3</sup> Calculated on prices prior to rounding.

**Figure 2: Base calendar year futures contract prices (\$/MWh)**

	QLD		NSW		VIC		SA	
Calendar Year 2011	32*	0%	42	0%	38*	-1%	44*	1%
Calendar Year 2012	35*	1%	45*	2%	41*	0%	47	0%
Calendar Year 2013	54	0%	56	0%	56	0%	69	0%
Three year average	40	0%	48	1%	45	0%	54	0%

Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://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 change<sup>4</sup> from the previous week.

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

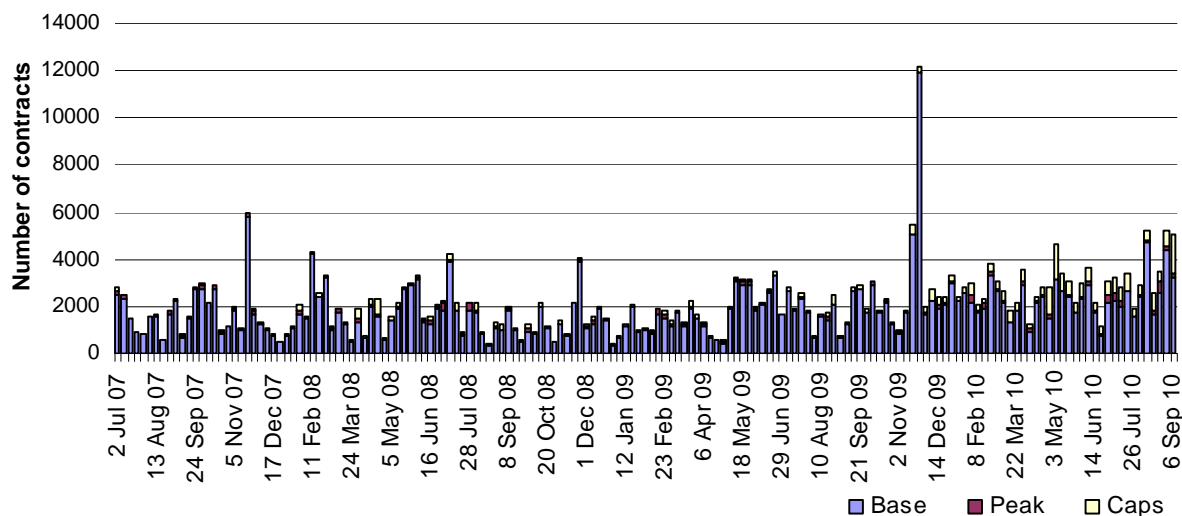
	QLD		NSW		VIC		SA	
Q1 2011 (% Change)	16*	-6%	20*	-1%	26*	-4%	34	0%
2011 (% Change)	7	-3%	12	0%	9	-4%	12	0%

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

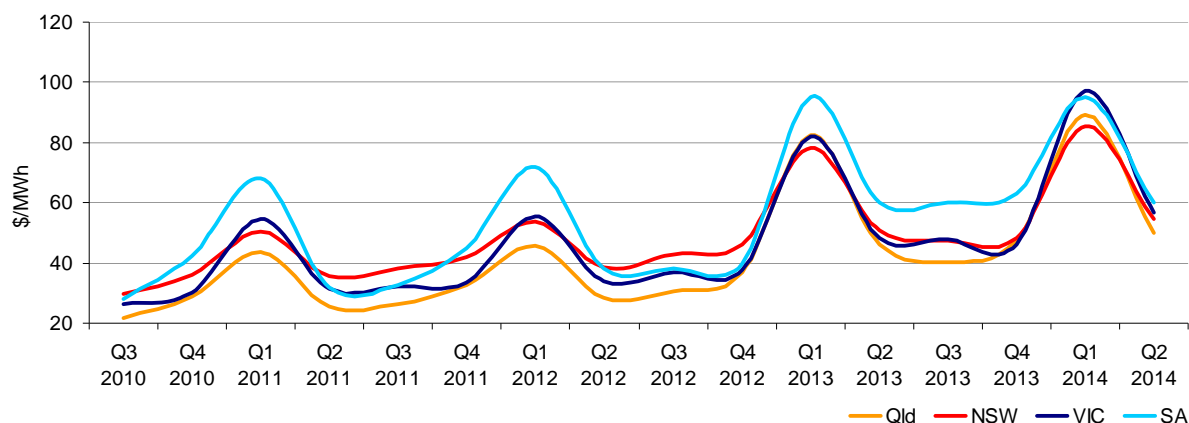


Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

<sup>4</sup> Calculated on prices prior to rounding.

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

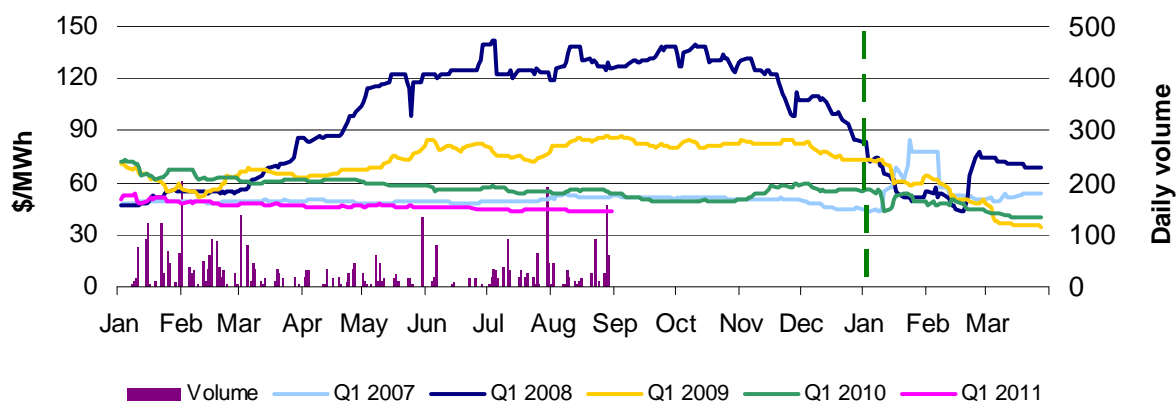
**Figure 5: Quarterly base future prices Q3 2010 – Q2 2014**



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

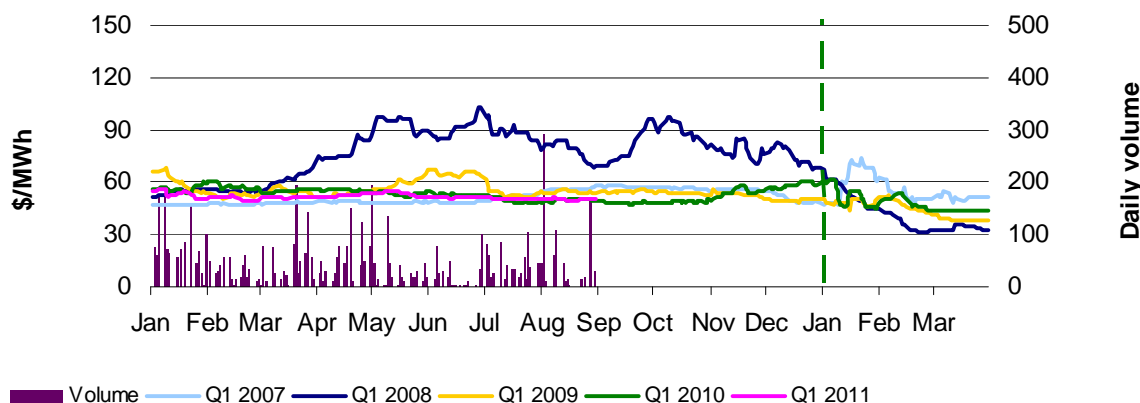
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009, 2010 and 2011. Also shown is the daily volume of Q1 2011 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.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



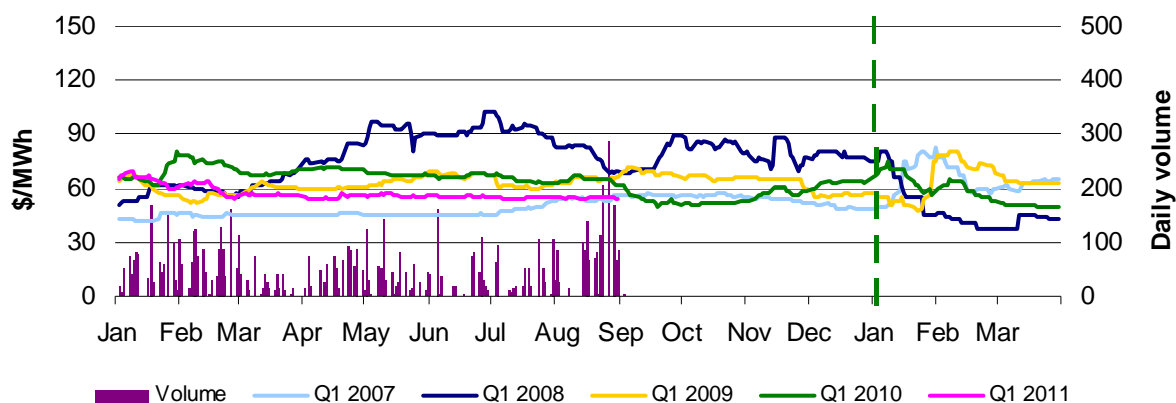
Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

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



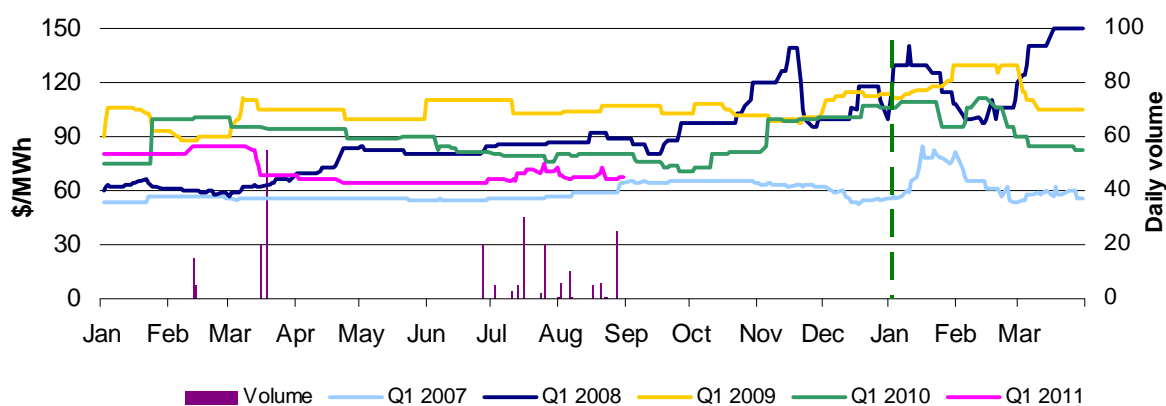
Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

**Figure 8: Victoria Q1 2007, 2008, 2009, 2010 and 2011**



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

**Figure 9: South Australia Q1 2007, 2008, 2009, 2010 and 2011**



Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://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 20 trading intervals throughout the week where actual prices varied significantly from forecasts<sup>5</sup>. This compares to the weekly average in 2009 of 103 counts. Reasons for these variances are summarised in Figure 10<sup>6</sup>.

**Figure 10: Reasons for variations between forecast and actual prices**

	Availability	Demand	Network	Combination
% of total above forecast	0	3	2	0
% of total below forecast	35	55	0	5

<sup>5</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>6</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 11 shows the weekly change in total available capacity at various price levels during peak periods<sup>7</sup>. For example, in Queensland 16 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	16	141	-448	-123
NSW	423	-579	-481	-530
VIC	464	-76	-40	-108
SA	3	-99	-125	-70
TAS	-98	37	-41	-51
<b>TOTAL</b>	<b>808</b>	<b>-576</b>	<b>-1,135</b>	<b>-882</b>

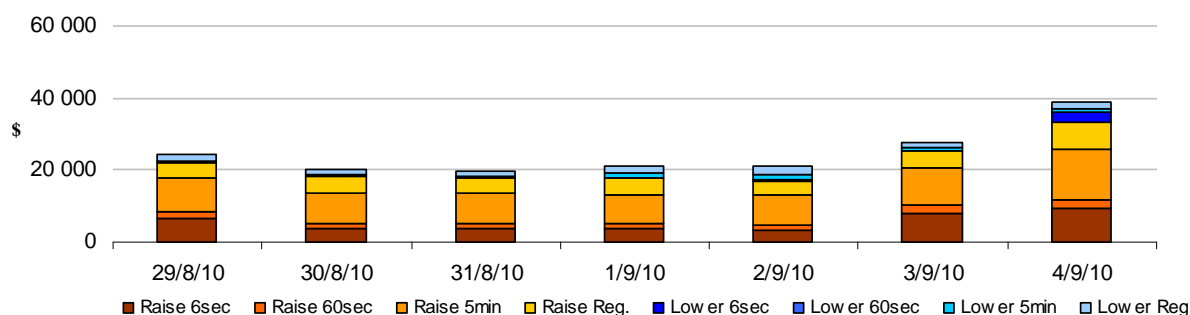
## Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$153 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$20 000 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**



<sup>7</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



29 August – 4 September 2010

**South Australia:**

There was one occasion where the spot price in South Australia was greater than three times the South Australia weekly average price of \$40/MWh and above \$250/MWh.

**Wednesday, 1 September**

<b>6:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	4248.82	30.76	32.88
Demand (MW)	2126	1931	1881
Available capacity (MW)	2486	2532	2525

Conditions at the time saw demand greater than forecast by 195 MW four hours ahead and 245 MW 12 hours ahead. Available capacity was close to forecast.

On the day there was a planned network outage of the South East transformer, which reduces import capability into South Australia across the Heywood interconnector. Forecasts throughout the day showed import capability of around 380 MW into South Australia. For the 6.25 pm and 6.30 pm dispatch intervals, however, import capability was less than 150 MW.

In addition, as a result of a network security problem in Victoria, AEMO invoked a discretionary constraint from 6.20 pm to reduce import capability into South Australia across the Murraylink interconnector from 220 MW to 170 MW at 6.25 pm and 6.30 pm.

The combination of significantly lower than forecast import capability and higher than forecast (and steeply rising) demand led to tight supplies. This saw the 5-minute price increasing from \$65/MWh at 6.15 pm to \$340/MWh at 6.20 pm and to the price cap (\$12 500/MWh) for 6.25 pm and 6.30 pm. These prices were set by Infratil Energy's Angaston units, which are operated by AGL.

Day-ahead offers at AGL's Torrens Island B unit 4 limited the availability of the unit to 60 MW for this trading interval. All of this capacity was priced at the price floor. In a rebid at 6.32 pm, first effective at 6.40 pm, AGL shifted 140 MW at Torrens Island B unit 4 from prices above \$30/MWh to the price floor. The reason given was "18:25A Unfcast network constraint :: V>>S\_SETX\_NPS\_SETX". The rebid, however, did not change the offer as the availability remained at 60 MW. A further rebid at 6.42 pm, effective from 6.50 pm, saw AGL increase the availability of Torrens Island B unit 4 from 60 MW to 200 MW. The reason given was "18.25E Error in prev offer or rebid :: revised avail". This rebid reason is consistent with the AER's Rebidding and Technical Parameter Guideline, which states where a participant becomes aware of an error in a rebid reason it has provided AEMO, and there is sufficient time to lodge another rebid, a rebid should be submitted under the category of "E" (for error).

There was no other significant rebidding.