

# WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY  
REGULATOR

26 September – 2 October 2010

## Summary

The weekly average spot price ranged from \$19/MWh in Tasmania to \$25/MWh in New South Wales. The spot price was just below zero in all regions at 3.30 am and 4 am on Monday 27 September. There were two further negative spot prices on Monday in South Australia at 4.30 pm and 6 pm.

## Spot market prices

Figure 1 sets out the volume weighted average prices for the week 26 September to 2 October 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 26 Sep - 2 Oct 2010	22	25	22	21	19
% change from previous week*	1	4	-1	-8	-5
10/11 financial YTD	22	30	26	28	41
% change from 09/10 financial YTD **	-17	5	3	5	72

\*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.

Longer term market trends are attached in Appendix A<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 4 October 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	31*	0%	41*	0%	36*	-1%	43	0%
Calendar Year 2012	35*	1%	44*	0%	39*	0%	46	0%
Calendar Year 2013	50	-1%	56	0%	55	0%	69	0%
Three year average	39	0%	47	0%	43	0%	53	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.

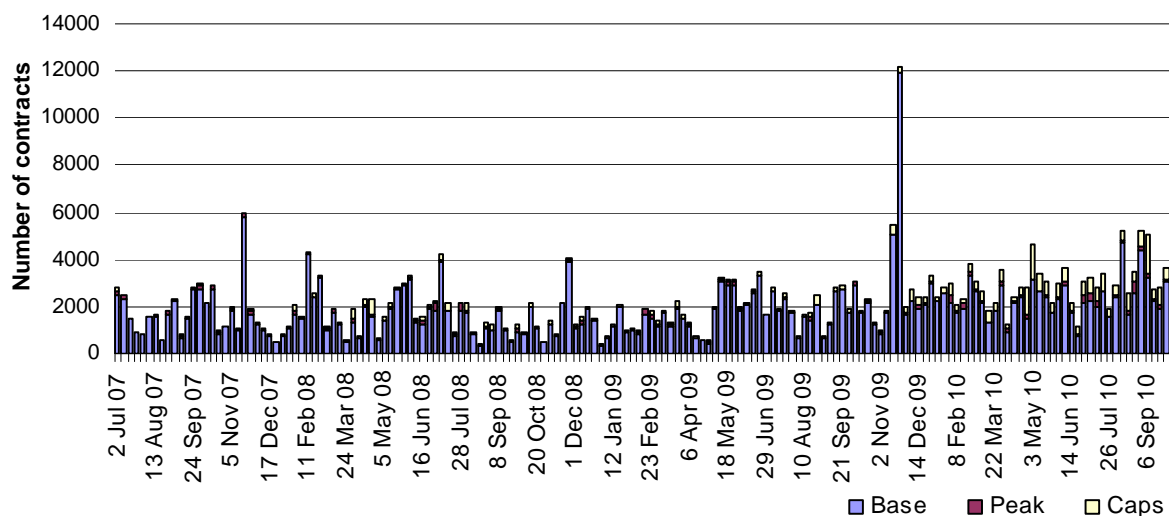
**Figure 3: \$300 cap contract prices (\$/MWh)**

	QLD		NSW		VIC		SA	
Q1 2011 (% Change)	16*	-2%	20*	1%	24*	2%	31	-3%
2011 (% Change)	8	2%	12	2%	9	0%	11	-2%

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**

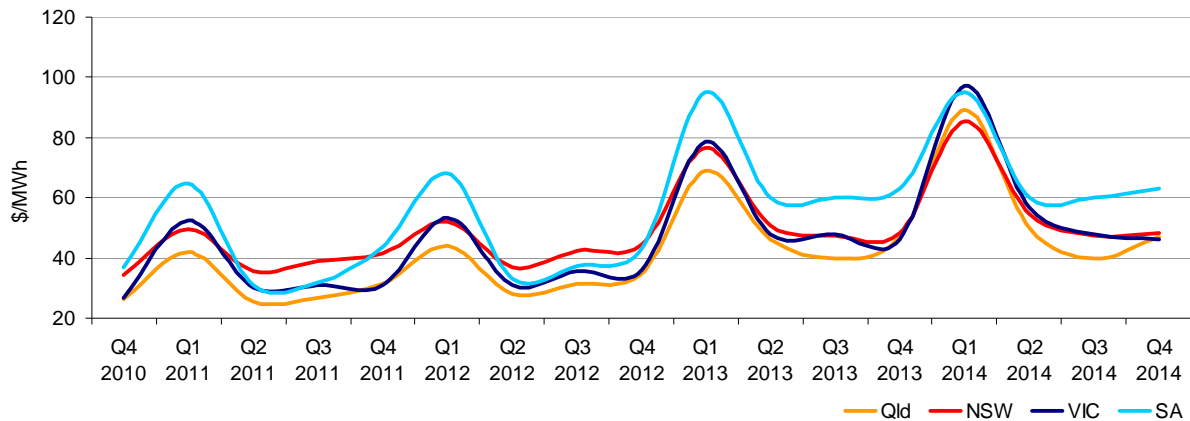


Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

<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.

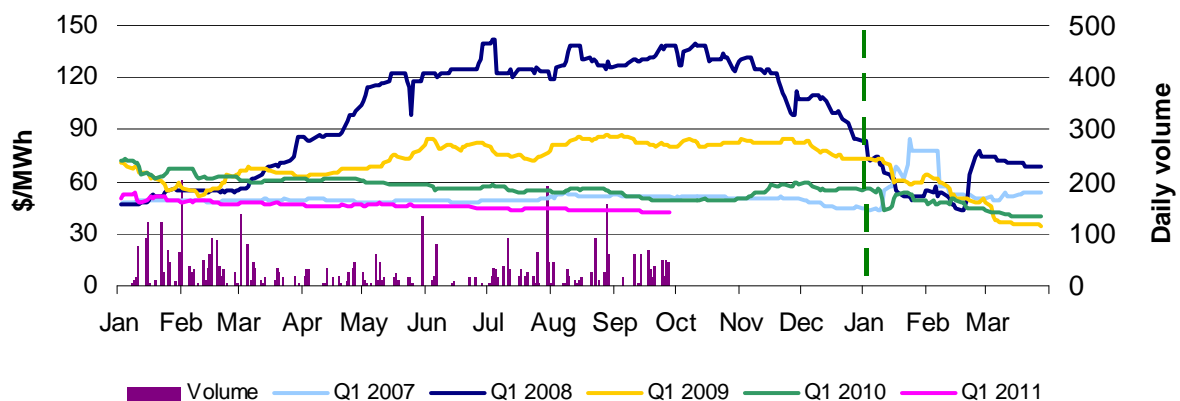
**Figure 5: Quarterly base future prices Q4 2010 – Q4 2014**



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

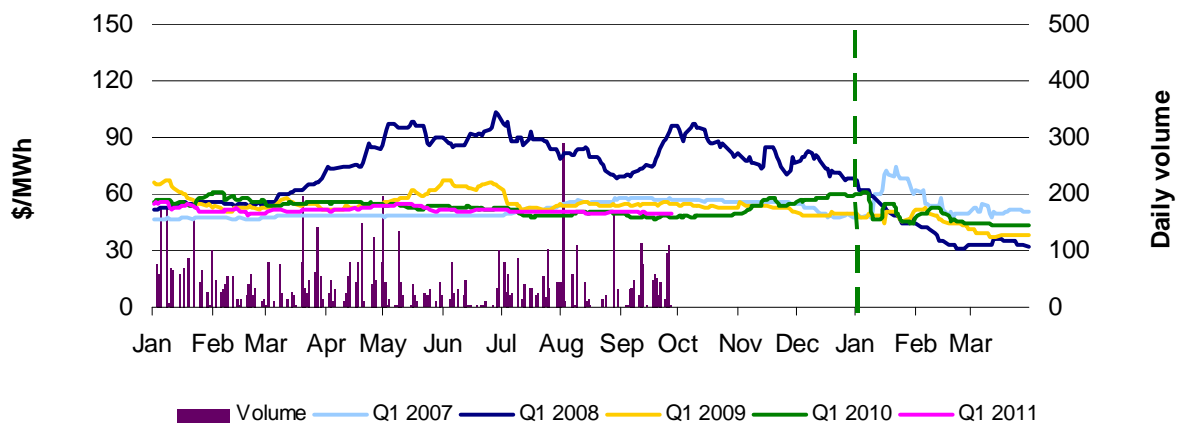
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009, 2010 and 2011. Also shown is the daily volume of Q1 2011 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.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



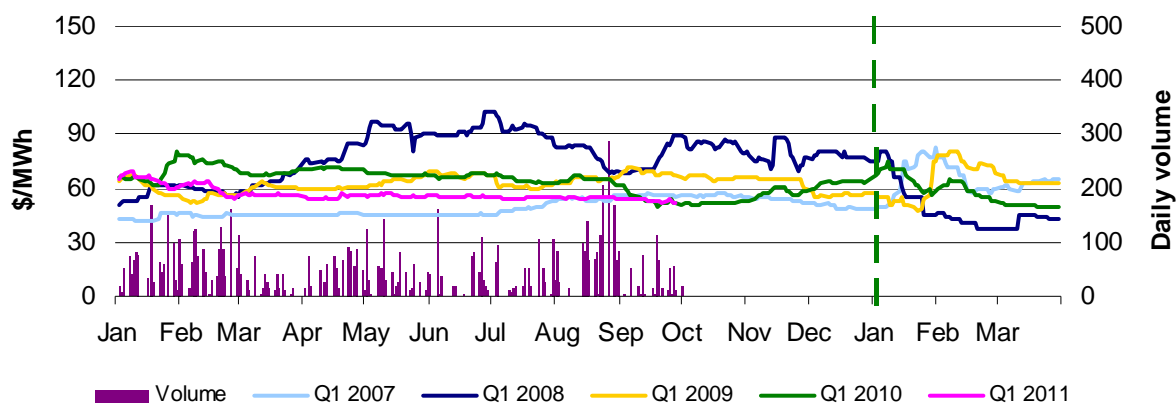
Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

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



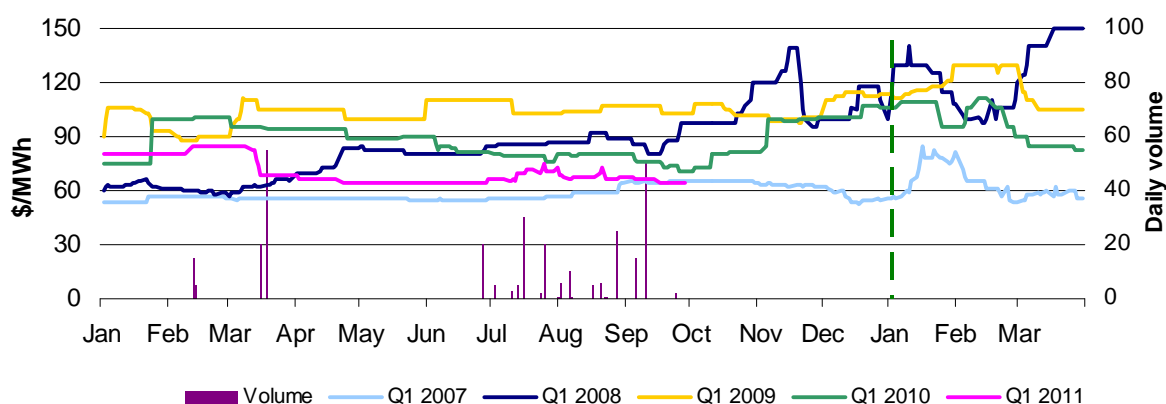
Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

**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 18 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	2	2	0	0
% of total below forecast	21	56	0	19

<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 56 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	56	46	44	62
NSW	-902	-537	-1067	-156
VIC	408	45	456	41
SA	-15	-31	-114	-69
TAS	208	-142	65	78
<b>TOTAL</b>	<b>-245</b>	<b>-619</b>	<b>-616</b>	<b>-44</b>

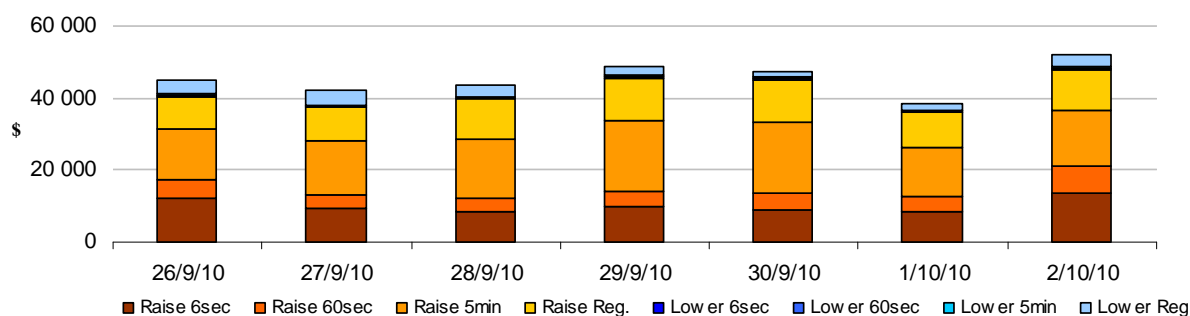
## Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$300 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$17 000 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 NEM Price and Demand Trends

for Weekly Market Analysis  
26 September - 2 October 2010



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

Financial year	QLD	NSW	VIC	SA	TAS
2010-11 (\$/MWh) YTD	22	30	26	28	41
2009-10 (\$/MWh) YTD	26	28	25	27	24
Change*	-17%	5%	3%	5%	72%
2009-10 (\$/MWh)	37	52	42	82	30

**Table 2: NEM turnover**

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2010-11 (YTD)	\$1.482	54
2009-10	\$9.643	206
2008-09	\$9.413	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)
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
Aug-10	22	37	28	28	70	0.579
Sep-10	22	24	23	27	21	0.386
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 4 October**

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2011								
Price on 27 Sep (\$/MW)	42	72	49	82	52	92	65	108
Price on 04 Oct (\$/MW)	42	72	50	81	52	93	65	108
Open interest on 04 Oct	1568	147	2419	279	2177	110	141	0
Traded in the last week (MW)	166	0	226	1	140	5	0	0
Traded since 1 Jan 10 (MW)	4373	150	7054	372	8088	150	303	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
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
August 10 with August 09						
MW Priced <\$20/MWh	566	-841	-562	184	-86	-739
MW Priced \$20 to \$50/MWh	85	715	537	46	313	1696
September 10 with September 09 (MTD)						
MW Priced <\$20/MWh	495	762	85	655	73	2069
MW Priced \$20 to \$50/MWh	344	-417	125	-167	299	186

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

\*\* Estimated value