

WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY
REGULATOR

12 December – 18 December 2010

Summary

On Monday the spot price in Queensland reached \$2091/MWh at 4.30 pm contributing to a weekly average spot price of \$31/MWh. In other regions average spot prices ranged from \$17/MWh in Tasmania to \$23/MWh in New South Wales.

Spot market prices

Figure 1 sets out the volume weighted average prices for the week 12 December to 18 December 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 12 Dec - 18 Dec 2010	31	23	18	18	17
% change from previous week*	43	-1	13	12	4
10/11 financial YTD	21	27	23	27	33
% change from 09/10 financial YTD **	-49	-59	-15	-69	22

*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 20 December 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	29*	1%	37	0%	32	1%	37	1%
Calendar Year 2012	33*	1%	40*	1%	36*	2%	40	0%
Calendar Year 2013	39	-2%	49	-2%	46	-1%	69	0%
Three year average	34	0%	42	0%	38	0%	49	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.

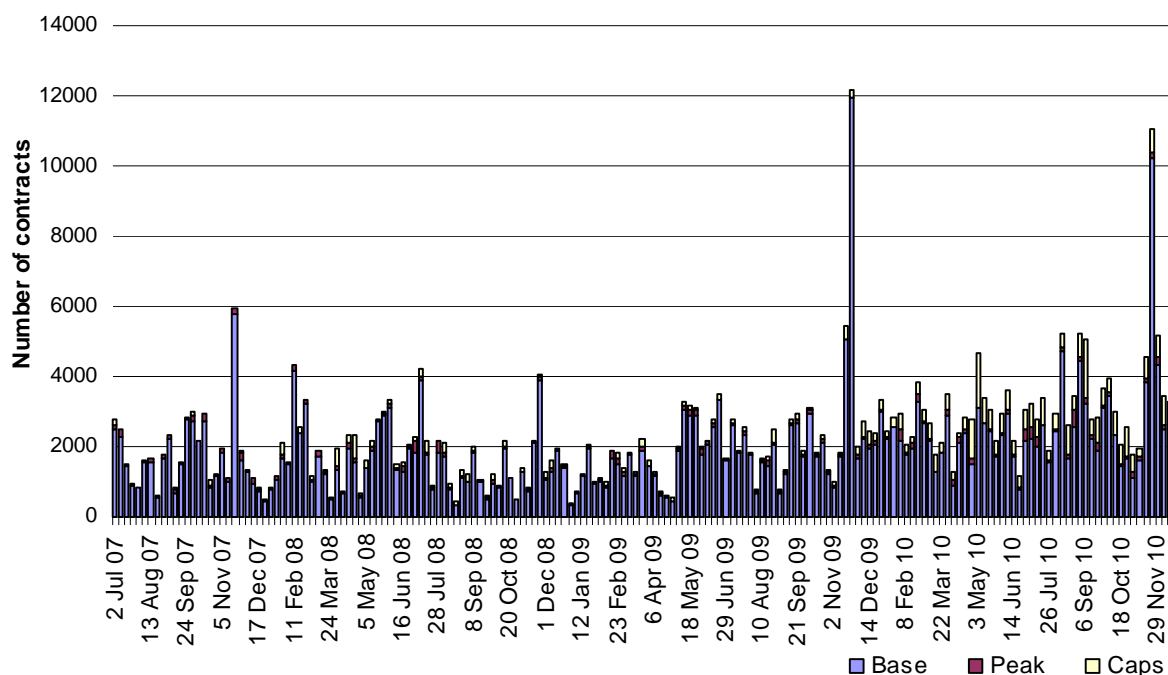
Figure 3: \$300 cap contract prices (\$/MWh)

	QLD		NSW		VIC		SA	
Q1 2011 (% Change)	11*	11%	15*	2%	18*	3%	25	0%
2011 (% Change)	6	7%	10	2%	7	2%	9	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

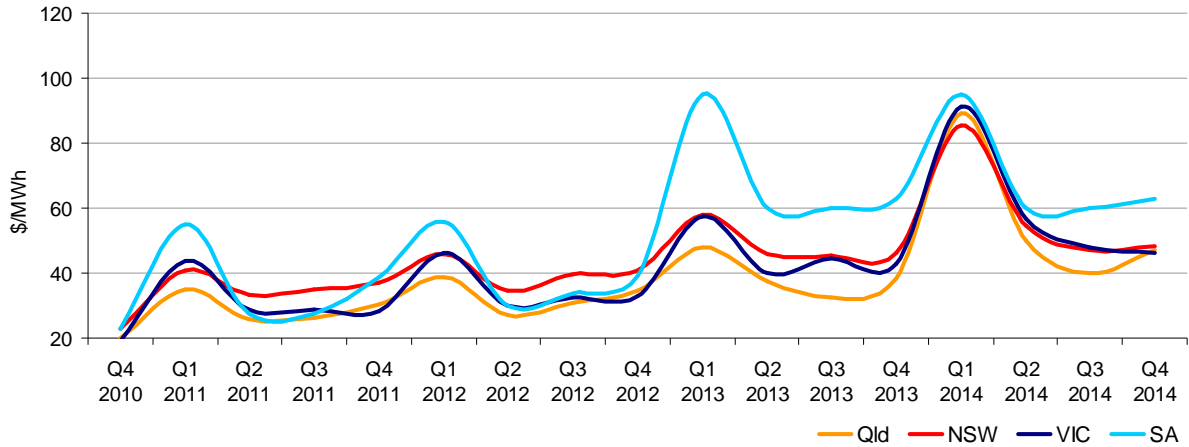


Source: d-cyphaTrade www.d-cyphatrade.com.au

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

⁴ Calculated on prices prior to rounding.

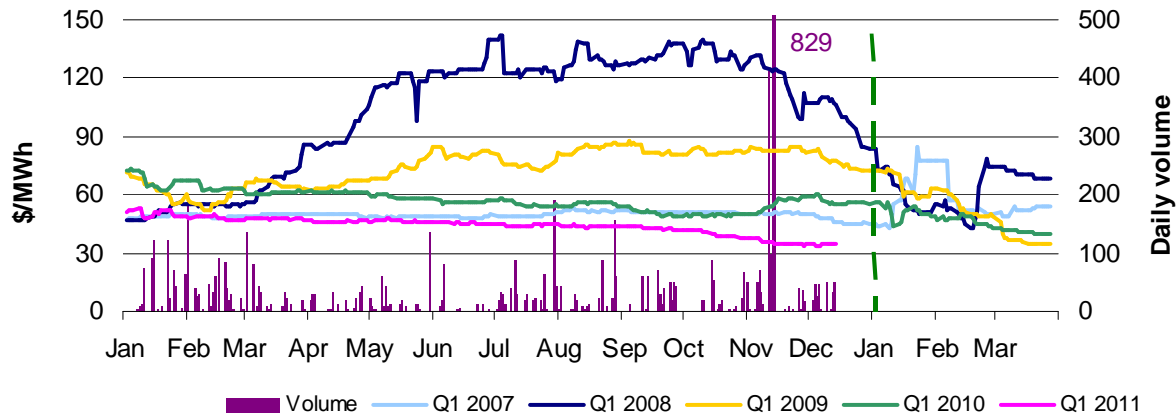
Figure 5: Quarterly base future prices Q4 2010 – Q4 2014



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

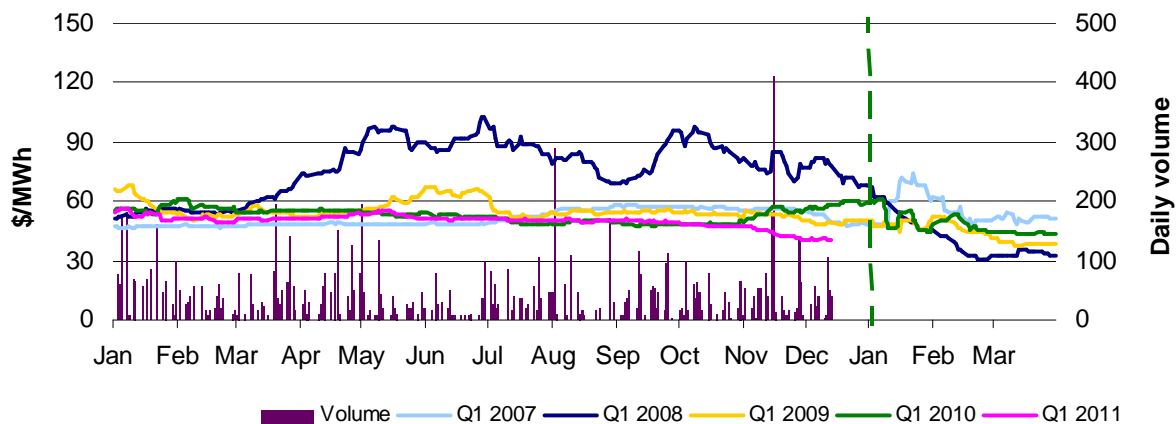
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009, 2010 and 2011. Also shown is the daily volume of Q1 2011 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.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



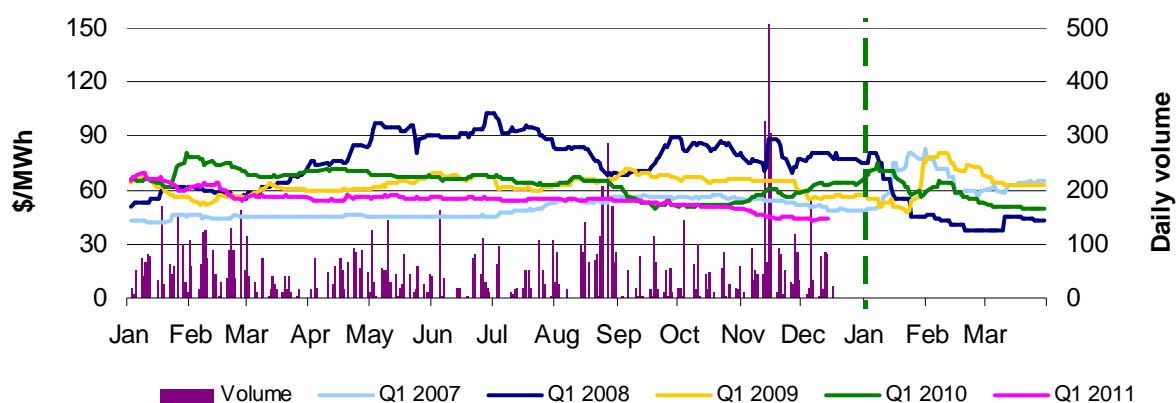
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



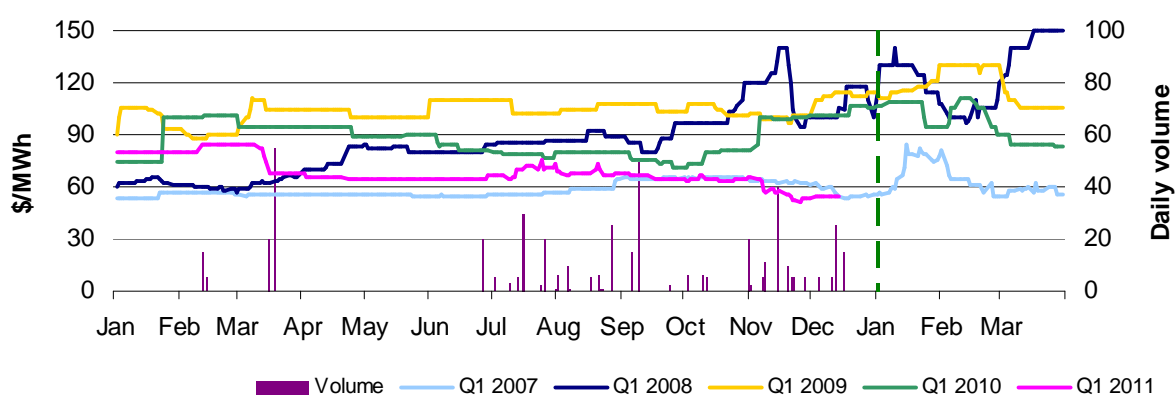
Source: d-cyphaTrade www.d-cyphatrade.com.au

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 18 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	13	13	0	16
% of total below forecast	42	16	0	0

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 420 MW less 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	-420	133	-298	111
NSW	-309	276	397	-395
VIC	-453	-73	-523	-382
SA	-25	28	61	-74
TAS	-105	-5	-9	10
TOTAL	-1312	359	-372	-730

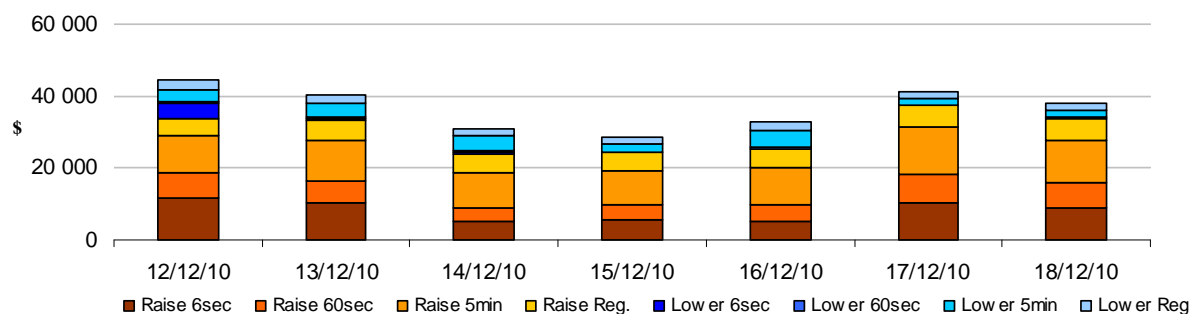
Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$218 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$39 000 or around 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



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

Detailed Market Analysis



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Queensland:

There was one occasion where the spot price in Queensland was greater than three times the Queensland weekly average price of \$31/MWh and above \$250/MWh.

Monday, 13 December

4:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	2090.80	26.96	25.32
Demand (MW)	7421	7366	7151
Available capacity (MW)	9369	10 245	10 587

Conditions at the time saw demand 55 MW higher than that forecast four hours ahead and up to 270 MW higher than that forecast twelve hours ahead. Available capacity was 876 MW lower than forecast four hours ahead and around 1200 MW lower than that forecast 12 hours ahead.

From 3.20 pm, available capacity at Gladstone power station was rapidly reduced by a total of 850 MW down to 550 MW at 4 pm due to issues with wet coal. Imports from New South Wales were limited to only 162 MW at the time. At 4.05 pm the five-minute dispatch price spiked from \$59/MWh to \$12 375/MWh for one dispatch interval. This resulted in a spot price of \$2091/MWh for the trading interval ending 4.30 pm. There was no other significant rebidding.

Following the high 5-minute price 1372 MW of generation was rebid into negative price bands for the remainder of the trading interval. This reduced the price in Queensland and interconnector flows reversed into New South Wales from 4.15 pm reaching 600 MW by 4.30 pm. This saw average flow for the 4.30 pm trading interval towards New South Wales, which combined with the high average spot price caused \$126 638 of negative settlement residues to accumulate over the Queensland to New South Wales interconnector.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
12 December - 18 December 2010



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

Financial year	QLD	NSW	VIC	SA	TAS
2010-11 (\$/MWh) YTD	21	27	23	27	33
2009-10 (\$/MWh) YTD	41	66	27	85	27
Change*	-49%	-59%	-15%	-69%	22%
2009-10 (\$/MWh)	37	52	42	82	30

Table 2: NEM turnover

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2010-11 (YTD)	\$2.382	96
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)
Aug-10	22	37	28	28	70	0.579
Sep-10	22	24	23	27	21	0.386
Oct-10	20	23	21	25	18	0.358
Nov-10	18	23	19	26	29	0.346
Dec-10 (MTD)	25	24	18	19	18	0.200
Q3 2010	22	30	26	29	41	1.697
Q3 2009	26	28	25	27	24	1.918
Change*	-16%	5%	4%	6%	72%	-11.51%

Table 4: ASX energy futures contract prices at end of 20 December

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2011								
Price on 13 Dec (\$/MW)	34	54	41	64	43	75	54	97
Price on 20 Dec (\$/MW)	35	55	41	64	44	75	55	100
Open interest on 20 Dec	1637	162	2643	318	2344	215	210	9
Traded in the last week (MW)	139	0	204	8	281	0	45	3
Traded since 1 Jan 10 (MW)	7322	246	9349	565	11382	412	473	9
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
October 10 with October 09						
MW Priced <\$20/MWh	499	679	527	481	686	2873
MW Priced \$20 to \$50/MWh	350	-128	-24	-98	-594	-494
November 10 with November 09						
MW Priced <\$20/MWh	-73	-20	777	227	994	1906
MW Priced \$20 to \$50/MWh	393	95	-524	-110	-663	-809
December 10 with December 09 (MTD)						
MW Priced <\$20/MWh	-647	-513	1067	351	916	1174
MW Priced \$20 to \$50/MWh	418	199	-616	-79	-424	-502

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

** Estimated value