

WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY
REGULATOR

20 March - 26 March 2011

Summary

In Queensland the spot price averaged \$37/MWh. Weekly average spot prices ranged from \$21/MWh to \$27/MWh in other regions.

Spot market prices

Figure 1 sets out the volume weighted average (VWA) prices for the week 20 March to 26 March and the 10/11 financial year to date (YTD) 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 20 Mar - 26 Mar 2011	37	27	25	21	24
% change from previous week*	46	1	-3	-21	-9
10/11 financial YTD	36	48	29	45	31
% change from 09/10 financial YTD **	-14	-20	-29	-54	13

*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.

Further information is provided in Appendix A when the spot price exceeds three times the weekly average and is above \$250/MWh, or is below \$-100/MWh. 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 28 March 2011. Figure 2 shows the base futures contract prices for the next three calendar years, and the average over these three years. Also shown are percentage changes³ from 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	35	-1%	42	-2%	30	-1%	36	-1%
Calendar Year 2012	37*	0%	43	0%	37*	0%	41	-1%
Calendar Year 2013	46	-1%	49	0%	45	0%	67	0%
Three year average	39	0%	45	-1%	37	0%	48	0%

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

* denotes trades in the product.

Figure 3 shows the \$300 cap contract price for Q1 2011 and calendar year 2011 and the percentage change⁴ from the previous week.

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

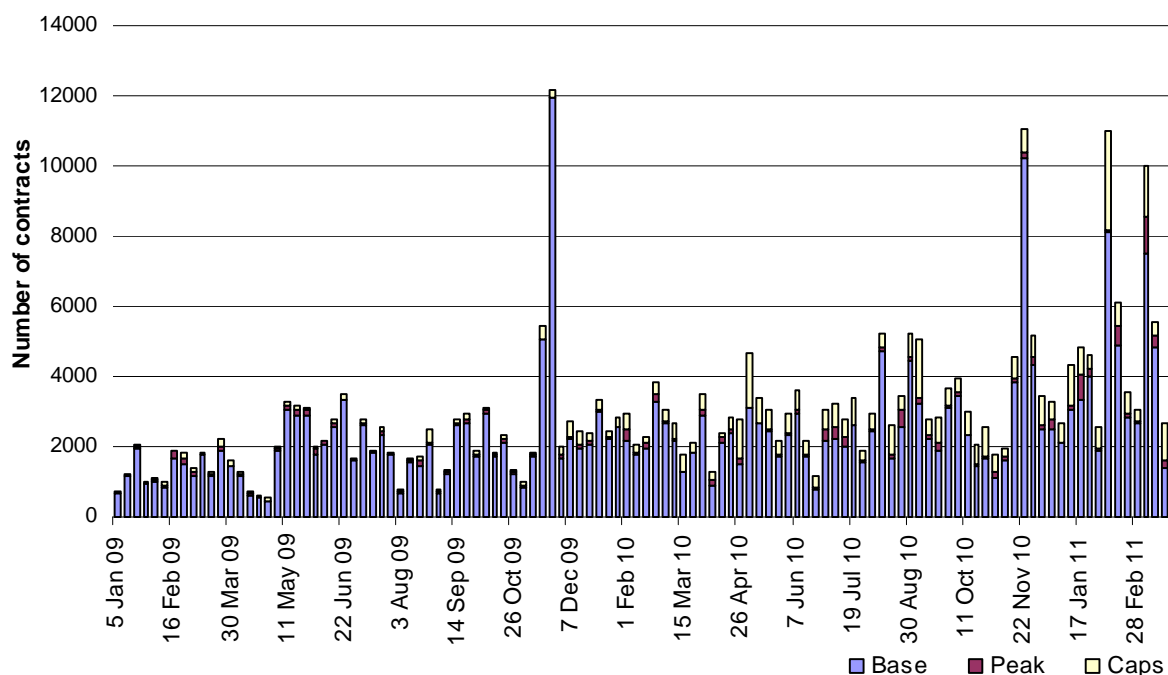
	QLD		NSW		VIC		SA	
Q1 2011 (% change)	21*	0%	31	0%	7	0%	25	0%
2011 (% change)	8	-1%	13	0%	4	-2%	9	0%

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

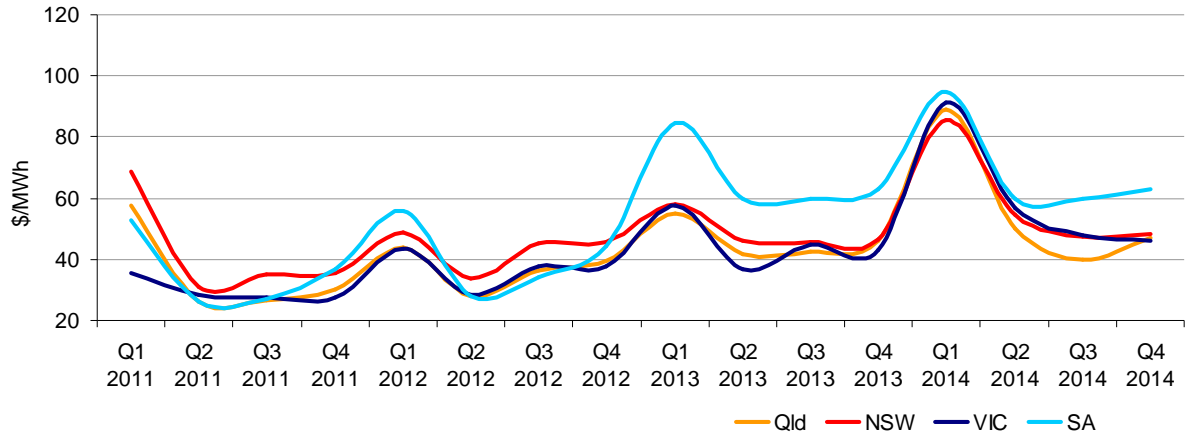


Source: d-cyphaTrade www.d-cyphatrade.com.au

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

⁴ Calculated on prices prior to rounding.

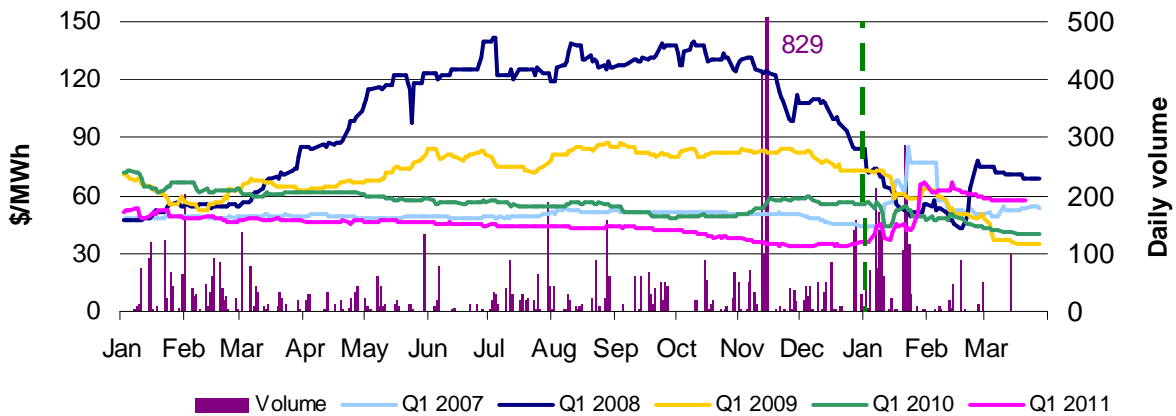
Figure 5: Quarterly base future prices Q1 2011 – Q4 2014



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

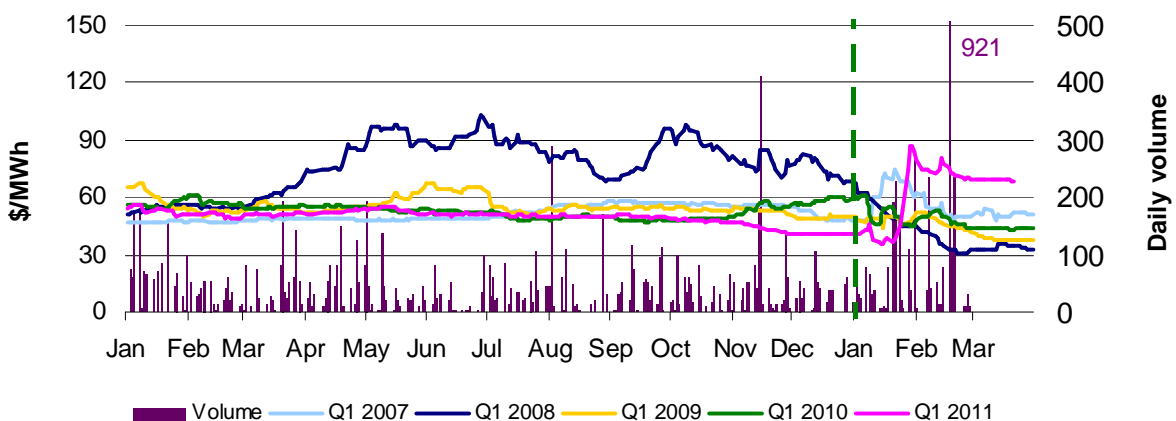
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009, 2010 and 2011. Also shown is the daily volume of Q1 2011 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.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



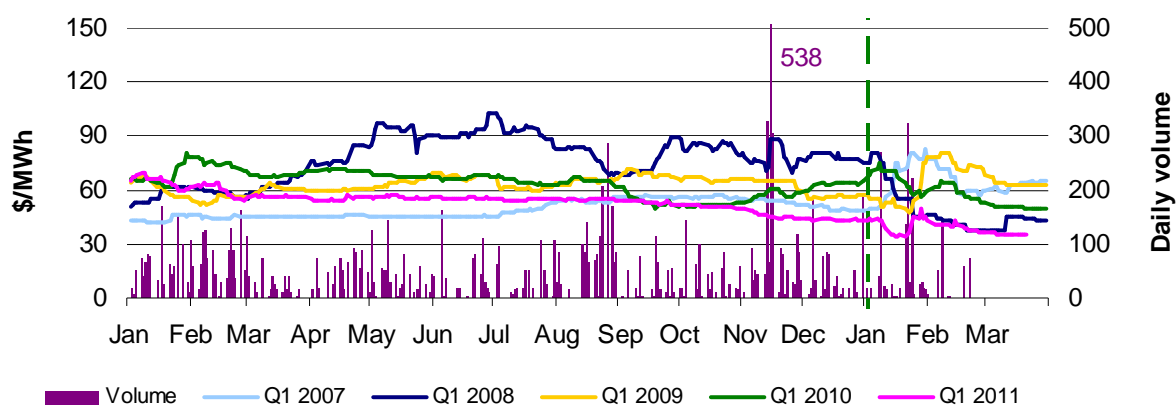
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



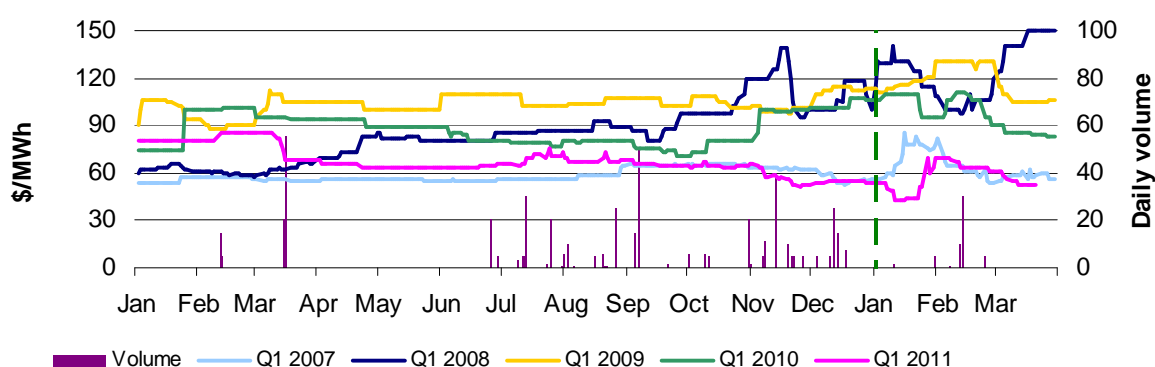
Source: d-cyphaTrade www.d-cyphatrade.com.au

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 75 trading intervals throughout the week where actual prices varied significantly from forecasts⁵. This compares to the weekly average in 2010 of 57 counts and the average in 2009 of 103. 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	0	14	0	2
% of total below forecast	46	36	0	3

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 620 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	-620	172	-763	203
NSW	29	-148	-280	75
VIC	333	73	248	286
SA	79	-153	4	-12
TAS	110	137	97	-96
TOTAL	-69	81	-694	456

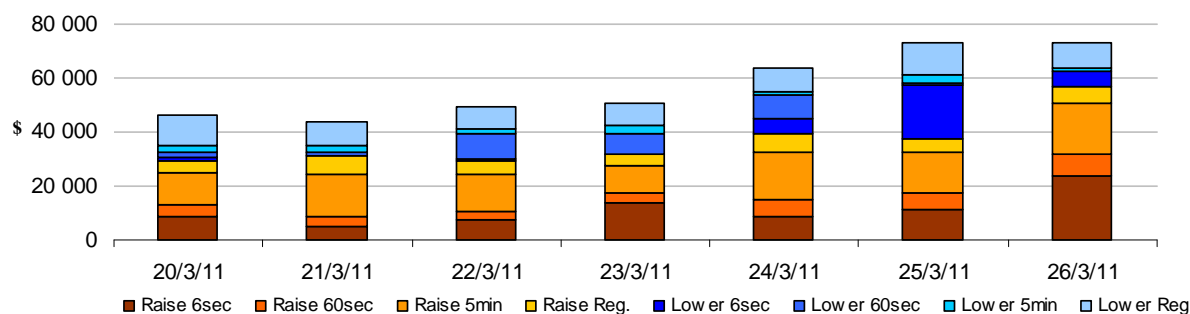
Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$298 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$102 000 or 2.5 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.

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 \$37/MWh and above \$250/MWh, and one occasion where the spot price in Queensland was below \$-100/MWh.

Sunday, 20 March

2.00 PM	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	1561.04	25.67	26.01
Demand (MW)	6070	6206	6281
Available capacity (MW)	10 038	10 096	10 115

At 1.55 pm a constraint managing the overload of the Calvale to Wurdong 275 kV on the loss of the Calvale Stanwell line, violated as result of a reduction in the dynamic rating of the Calvale to Stanwell 275 kV line. This saw imports into Queensland decrease by over 150 MW in five minutes before returning to previous levels. A large amount of negatively priced generation was also constrained off. The step change resulted in a 5-minute price spike to \$9218/MWh at 1.55 pm.

There was no significant rebidding.

Friday, 25 March

5.30 AM	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	-151.45	24.81	24.01
Demand (MW)	4946	5049	5070
Available capacity (MW)	9759	10 165	10 305

In preparation for a planned outage of the Armidale to Tamworth 330 kV transmission line scheduled from 5.30 am, a ramping constraint was invoked by AEMO to reduce interconnector transfers to New South Wales. This saw flows across QNI at 5.20 am fall by 159 MW from the previous dispatch interval. Flows on the Directlink interconnector were also limited by a similar ramping constraint, with flows decreasing by 80 MW.

The sudden drop in exports saw Queensland generators reduced at their ramp down rates and the 5-minute price decrease to the price floor at 5.20 am. The 5-minute price subsequently increased to zero before returning to positive levels from 5.30 am onwards.

There was no significant rebidding.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
20 March - 26 March 2011



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

Financial year	QLD	NSW	VIC	SA	TAS
2010-11 (\$/MWh) YTD	36	48	29	45	31
2009-10 (\$/MWh) YTD	43	60	41	100	27
Change*	-14%	-20%	-29%	-54%	13%
2009-10 (\$/MWh)	37	52	42	82	30

Table 2: NEM turnover

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2010-11 (YTD)	\$5.923	150
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)
Nov-10	18	23	19	26	29	0.346
Dec-10	23	23	17	19	17	0.315
Jan-11	48	58	50	183	26	0.959
Feb-11	123	190	48	33	29	1.794
Mar-11(MTD)	29	27	25	23	26	0.351
Q4 2010	21	23	19	23	21	1.050
Q4 2009	53	100	29	134	31	3.555
Change*	-61%	-77%	-35%	-83%	-30%	-70.47%

Table 4: ASX energy futures contract prices at end of 28 March

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2011								
Price on 21 Mar (\$/MW)	58	97	69	119	36	52	53	88
Price on 28 Mar (\$/MW)	58	97	69	118	36	52	53	93
Open interest on 28 Mar	1355	162	2126	332	1989	215	193	9
Traded in the last week (MW)	100	0	0	1	0	0	0	0
Traded since 1 Jan 10 (MW)	10127	293	13272	757	13391	414	533	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
January 11 with January 10						
MW Priced <\$20/MWh	-500	-928	-218	404	383	-859
MW Priced \$20 to \$50/MWh	-10	-204	24	168	-318	-339
February 11 with February 10						
MW Priced <\$20/MWh	-391	-468	-446	363	33	-909
MW Priced \$20 to \$50/MWh	-45	-671	550	160	225	219
March 11 with March 10 (MTD)						
MW Priced <\$20/MWh	-303	-180	-282	226	188	-351
MW Priced \$20 to \$50/MWh	-30	-1	72	272	296	609

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

** Estimated value