WEEKLY ELECTRICITY MARKET ANALYSIS

AUSTRALIAN ENERGY REGULATOR

28 October – 3 November 2012

Spot market prices

Figure 1 sets out the volume weighted average (VWA) prices for the week 28 October to 3 November and the 11/12 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 28 October - 3 November 2011	50	56	56	58	47
% change from previous week*	-6	5	16	20	13
12/13 financial YTD	56	59	60	65	48
% change from 11/12 financial YTD **	99	98	111	69	57

*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 less than -$100/MWh. Longer term market trends are attached in Appendix B[1].

Financial markets

Figures 2 to 9 show futures contract[2] prices traded on the Australian Securities Exchange (ASX) as at close of trade on Monday 5 November 2012. 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 changes[3] from the previous week.

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

	QLD		NSW		VIC		SA	
Calendar Year 2013	57*	0%	58*	0%	53*	0%	57	0%
Calendar Year 2014	55*	0%	58*	0%	52	1%	56	0%
Calendar Year 2015	51	0%	52	0%	50	0%	68	0%
Three year average	54	0%	56	0%	52	0%	60	0%

Source: d-cyphaTrade www.d-cyphatrade.com.au
* denotes trades in the product.

[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 -> Australian energy industry -> Performance of the energy sector

[2] Futures contracts traded on the ASX 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 3 shows the $300 cap contract price for Q1 2013 and calendar year 2013 and the percentage change[4] from the previous week.

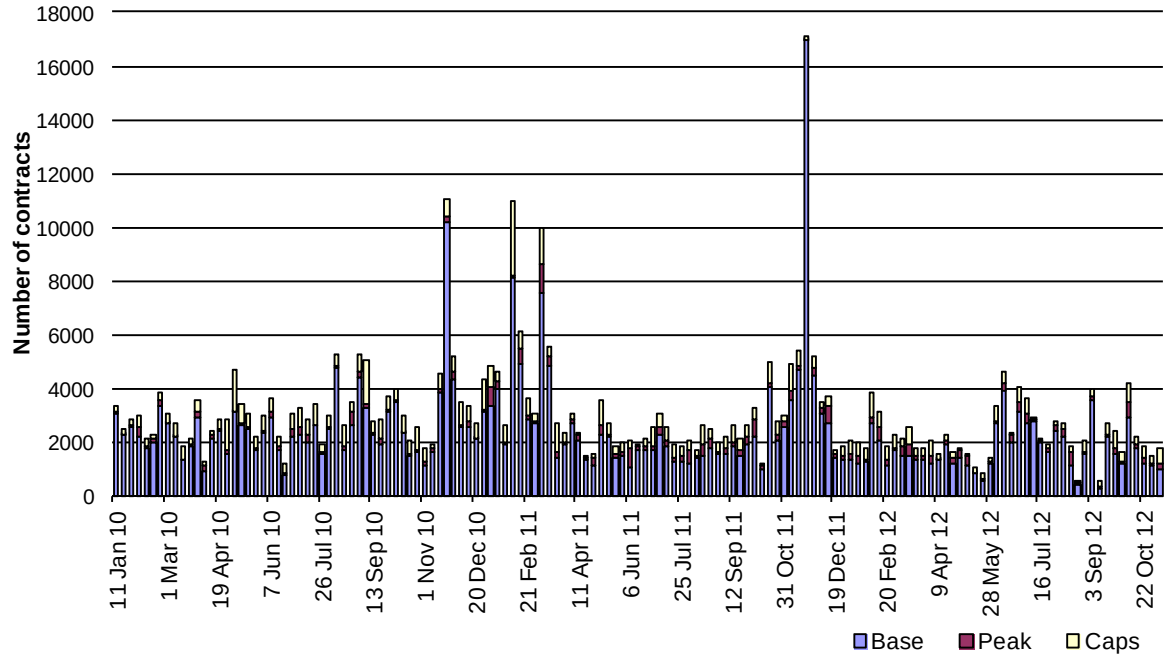
Figure 3: $300 cap contract prices ($/MWh)

	QLD		NSW		VIC		SA	
Q1 2013 (% change)	13	0%	10*	1%	8*	4%	13*	-12%
2013 (% change)	6	0%	6	-4%	4	1%	6	-6%

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.

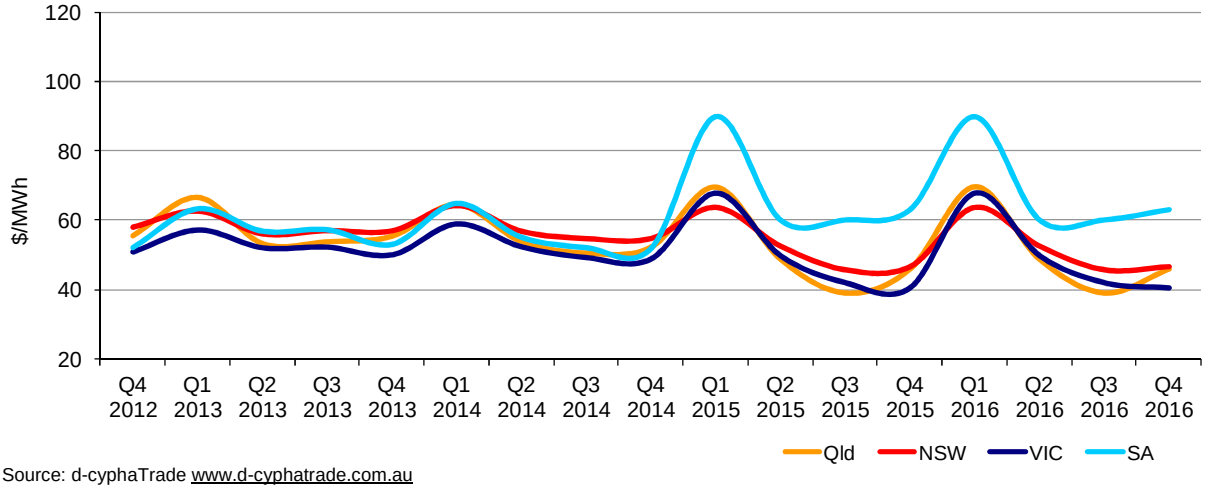
Figure 4: Number of exchange traded contracts per week



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.

Figure 5: Quarterly base future prices Q4 2012 – Q4 2016

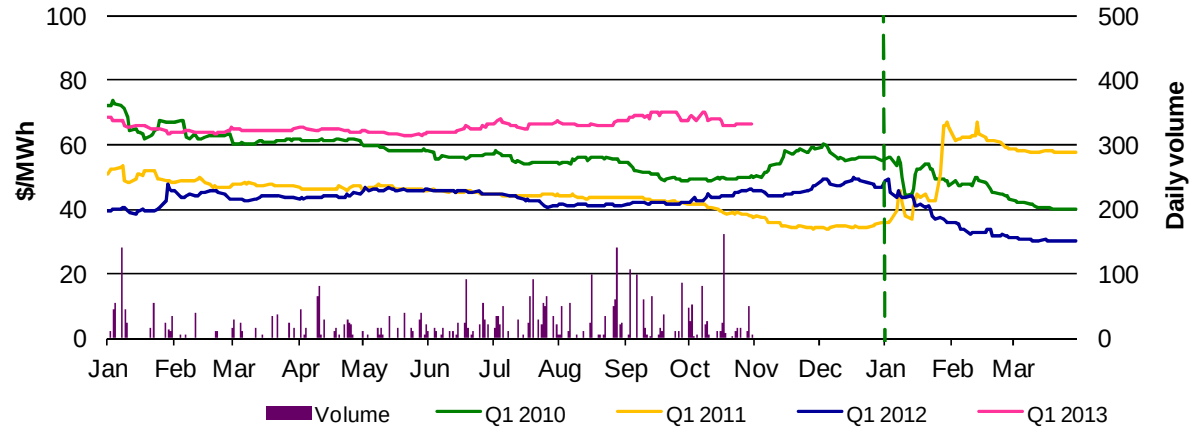


Source: d-cyphaTrade www.d-cyphatrade.com.au

[4] Calculated on prices prior to rounding.

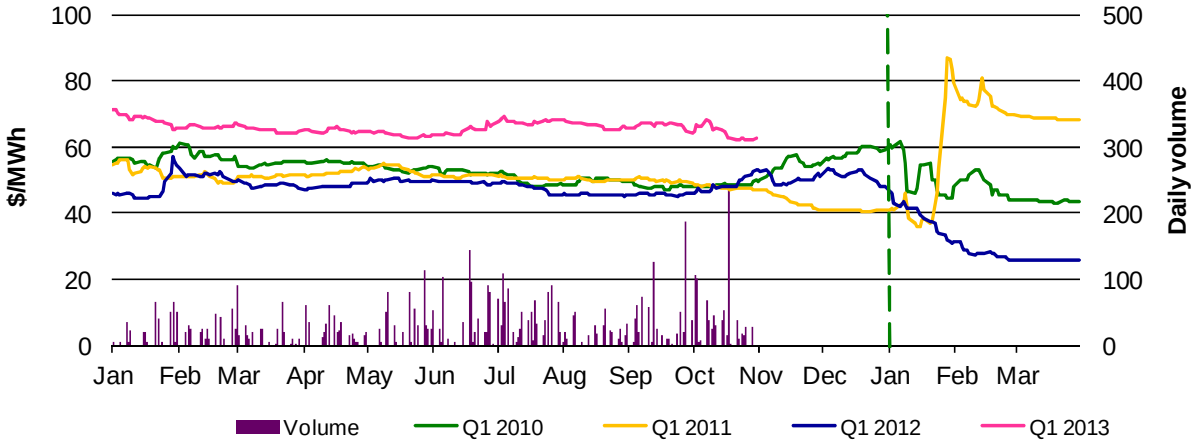
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2010, 2011, 2012 and 2013. Also shown is the daily volume of Q1 2013 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.

Figure 6: Queensland Q1 2010, 2011, 2012 and 2013



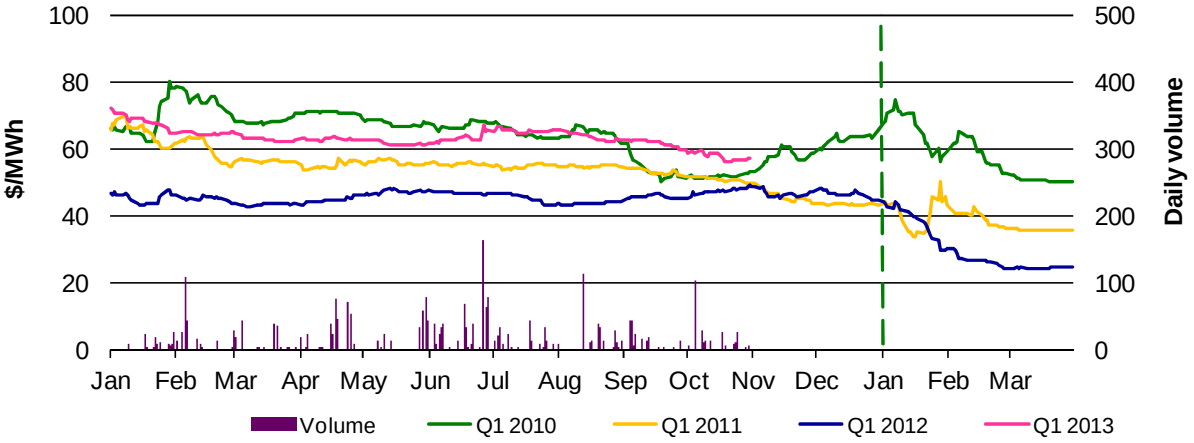
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 7: New South Wales Q1 2010, 2011, 2012 and 2013



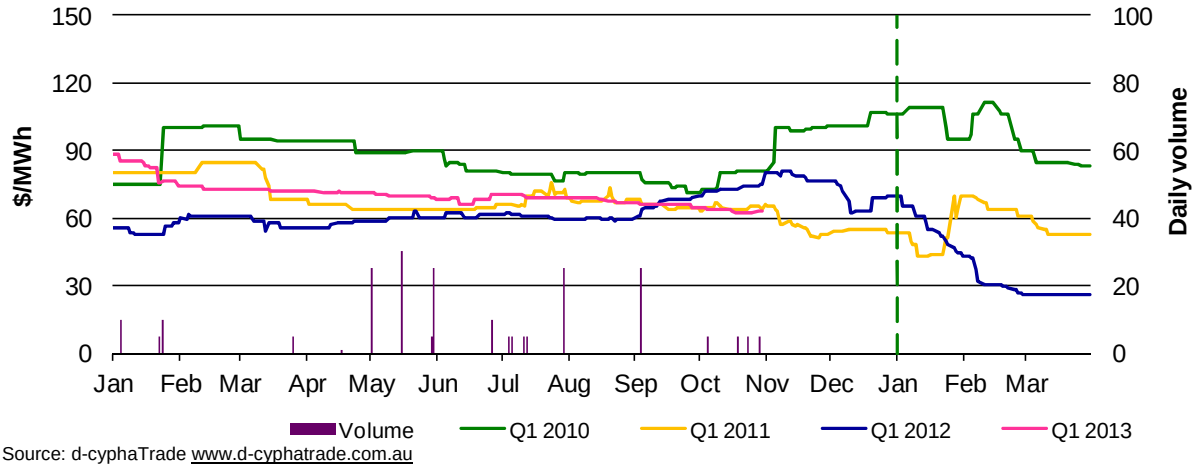
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 8: Victoria Q1 2010, 2011, 2012 and 2013



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

Figure 9: South Australia Q1 2010, 2011, 2012 and 2013



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 25 trading intervals throughout the week where actual prices varied significantly from forecasts[5]. This compares to the weekly average in 2011 of 78 counts and the average in 2010 of 57. Reasons for these variances are summarised in Figure 10[6].

Figure 10: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	14	4	6	7
% of total below forecast	4	65	0	0

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[7]. For example, in Queensland 109 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.

[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.

[7] A peak period is defined as between 7 am and 10 pm on weekdays.

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	-109	34	-208	31
NSW	511	-267	117	191
VIC	-172	-78	-121	279
SA	53	-26	45	84
TAS	-43	-8	-100	-27
TOTAL	240	-345	-267	558

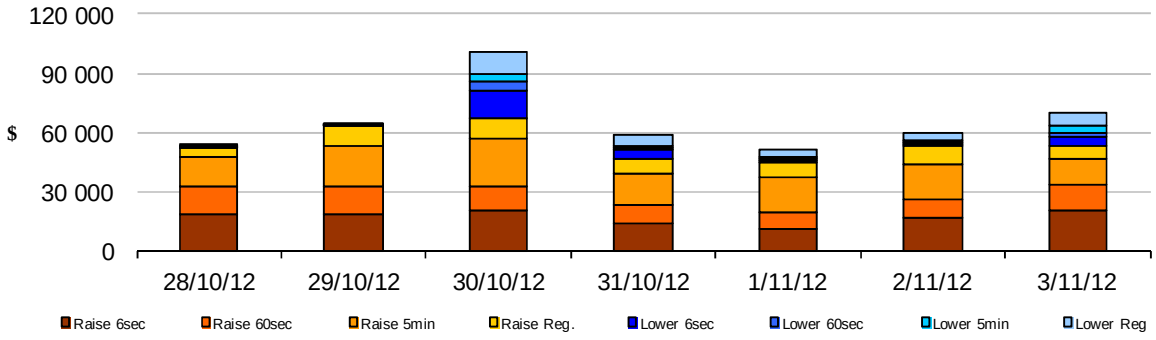
Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was $421 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was $36 000 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



Australian Energy Regulator
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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 $58/MWh and above $250/MWh.

Friday, 2 November

6:30 AM	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	258.59	64.92	58.71
Demand (MW)	1397	1367	1330
Available capacity (MW)	2517	2501	2404

Early in the morning, AEMO's online monitoring (contingency analysis tool) detected a potential network overload for the trip of the Parafield Gardens West to Pelican Point 275kV line. As a result the automatic constraint "CA_MQS_3FA51EAC_01" was invoked at 1.25 am. The constraint bound immediately. The constraint contained a large number of generators, which could be constrained off including Osborne and Pelican Point (with the largest coefficients) and forced exports across the Heywood interconnector into Victoria. As a result, the limit across the Heywood interconnector changed from 384 MW (into South Australia) at 1.20 am to 23 MW (forced into Victoria) at 1.25 pm. The constraint bound for the majority of the time until 10.35 am, when the constraint was revoked.

In response to being constrained off, a number of rebids to reprice capacity close to the price floor occurred:

- At 5.55 am, effective from 6.05 am, International Power rebid 70 MW of capacity at Pelican Point Power Station, from prices above $40/MWh to the price floor. The reason given was "0554A constraint mgmt: CA_MQS_3FA51EAC_01 sl".
- At 6.08 am, effective from 6.15 am, Origin Energy rebid 153 MW of capacity at Ladbroke and Osborne Power Stations from prices above $27/MWh to below -$960/MWh. At 6.20 am, effective at 6.30 am, a further 80 MW was shifted from $11 300/MWh to the price floor at its Quarantine Power Station unit 5. The reason given for each of these rebids was "A constraint management - CA_MQS_3FA51EAC_01 sl".

At 6.19 am, effective from 6.25 am, AGL Energy rebid 140 MW of capacity at Torrens Island B unit 2 from prices above $60/MWh to the price floor. The reason given was "06:01A chg in dispatch::price increase vs pd sa $198".

The combination of rebidding and the network congestion saw the 6.30 am trading interval price increase to above $255/MWh.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
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Table 1: Financial year to date spot market volume weighted average price

Financial year	QLD	NSW	VIC	SA	TAS
2012-13 ($/MWh) YTD	56	59	60	65	48
2011-12 ($/MWh) YTD	28	30	28	38	31
Change*	99%	98%	111%	69%	57%
2011-12 ($/MWh)	30	31	28	32	33

Table 2: NEM turnover

Financial year	NEM Turnover** ($, billion)	Energy (TWh)
2012-13 (YTD)	$3.940	67
2011-12	$5.987	199
2010-11	$7.445	204

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)
July-12	65	68	76	83	60	1.228
August-12	55	58	57	65	48	0.971
September-12	53	53	55	56	40	0.084
October-12	53	58	52	52	44	0.848
November-12 (MTD)	51	55	54	58	48	0.081
Q4 2012 (QTD)	53	57	52	52	44	0.929
Q4 2011 (QTD)	28	29	24	41	32	0.504
Change*	92%	100%	116%	26%	36%	84.14%

Table 4: ASX energy futures contract prices at end of 05 November 2012

	QLD		NSW		VIC		SA	
Q1 2013	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Price on 29 Oct ($/MWh)	66	89	63	80	57	72	63	85
Price on 05 Nov ($/MWh)	67	90	63	79	57	72	63	85
Open interest on 05 Nov	1320	258	1656	489	1264	112	174	0
Traded in the last week (MW)	81	26	73	42	38	0	5	0
Traded since 1 Jan 12 (MW)	4163	463	5966	561	2998	185	216	0
Settled price for Q1 12($/MWh)	30	37	26	28	25	29	26	30

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

Comparison:	QLD	NSW	VIC	SA	TAS	NEM
September 12 with September 11						
MW Priced <$20/MWh	-2600	-525	-1694	13	-126	-4932
MW Priced $20 to $50/MWh	2307	-1266	823	-316	111	1658
October 12 with October 11						
MW Priced <$20/MWh	-3085	-908	-2042	-48	98	-5985
MW Priced $20 to $50/MWh	2830	-1652	857	-175	148	2008
November 12 with November 11						
MW Priced <$20/MWh	-3489	275	-2516	-131	-529	-6390
MW Priced $20 to $50/MWh	3273	-2197	759	-112	902	2625

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