WEEKLY ELECTRICITY MARKET ANALYSIS

AUSTRALIAN ENERGY REGULATOR

6 – 12 September 2009

Summary

Average spot prices ranged from $20/MWh in Tasmania to $36/MWh in South Australia.

Spot market prices

Figure 1 sets out the volume weighted average prices for the week 6 to 12 September and the financial year to date across the National Electricity Market (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 6 – 12 September	27	28	25	36	20
% change from previous week*	17	19	27	76	-12
09/10 financial YTD	26	29	25	27	24
% change from 08/09 financial YTD**	-30	-32	-43	-39	-46

*The percentage change between last week's average spot price and the average price for the previous week.
**The percentage change between the average spot price for the current financial year to date and the average spot price over the similar period for the previous financial year.

Longer term market trends are attached in Appendix B[1].

Financial markets

Figures 2 to 9 show futures contract[2] prices traded on the Sydney Futures Exchange (SFE) as at close of trade on Monday 14 September. Figure 2 shows the base futures contract prices for the next three calendar years, and the three year average. Also shown are percentage changes compared to the previous week.

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

	QLD		NSW		VIC		SA	
Calendar Year 2010	38*	-4%	40*	-3%	40	-5%	48	-2%
Calendar Year 2011	41*	-2%	44	-2%	44*	-4%	59	0%
Calendar Year 2012	50*	-5%	59	0%	60*	0%	69	0%
Three year average	43	-4%	48	-2%	48	-3%	59	-1%

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 -> Monitoring, reporting and enforcement -> Electricity market reports -> Long-term analysis.

[2] Futures contracts 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.

Figure 3 shows the $300 cap contract price for the first quarter of 2010 and the 2009-10 financial year and the percentage change from the previous week.

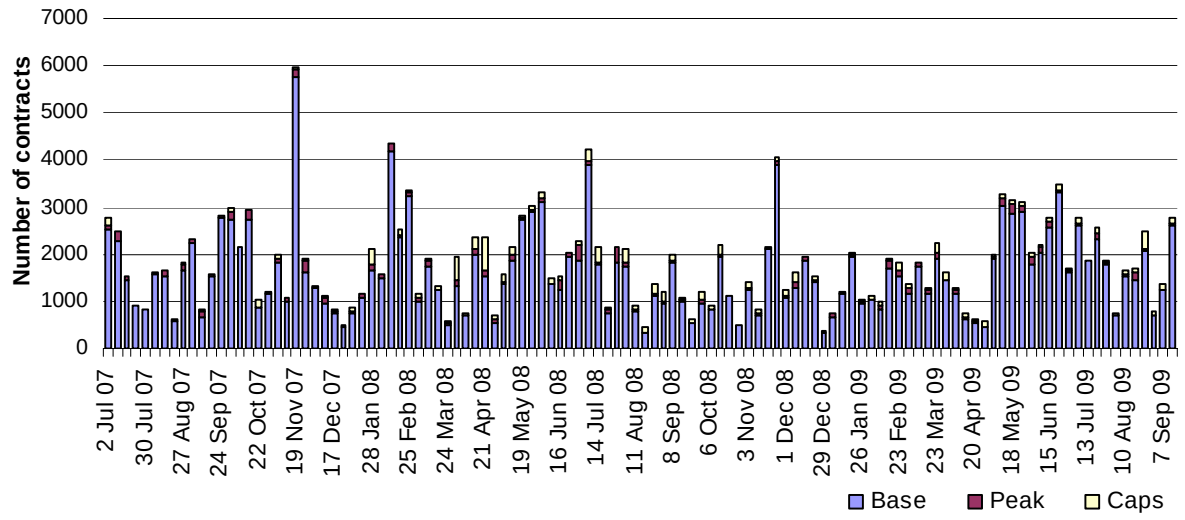
Figure 3: $300 cap contract prices ($/MWh)

	QLD		NSW		VIC		SA	
Q1 2010 (% change)	23	-4	19	0	26	-12	42	-7
FY 2010 (% change)	9	-5	9	0	8	-9	16	-5

Source: d-cyphaTrade www.d-cyphatrade.com.au
There were no trades.

Figure 4 shows the weekly trading volumes for base, peak and cap contracts. The date represents the end of the trading week.

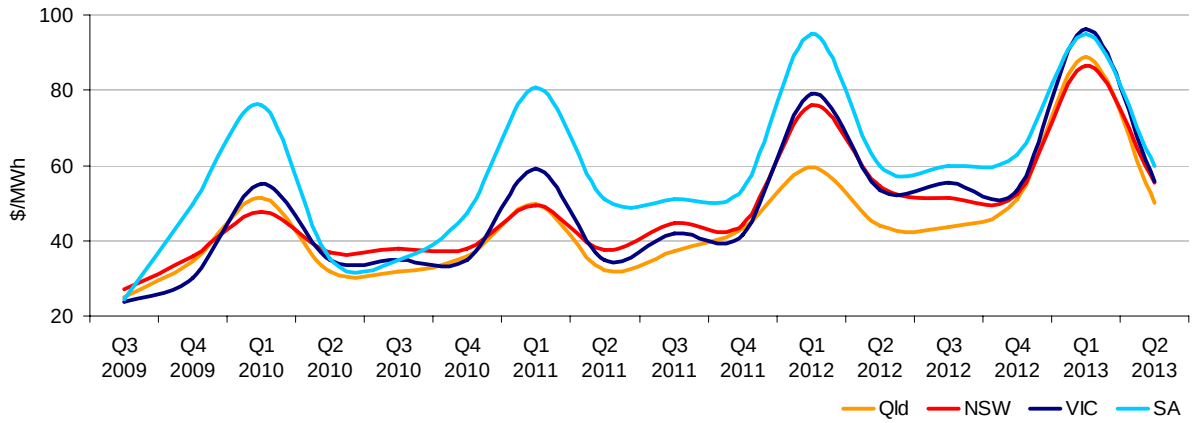
Figure 4: Number of exchange traded contracts per week



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.

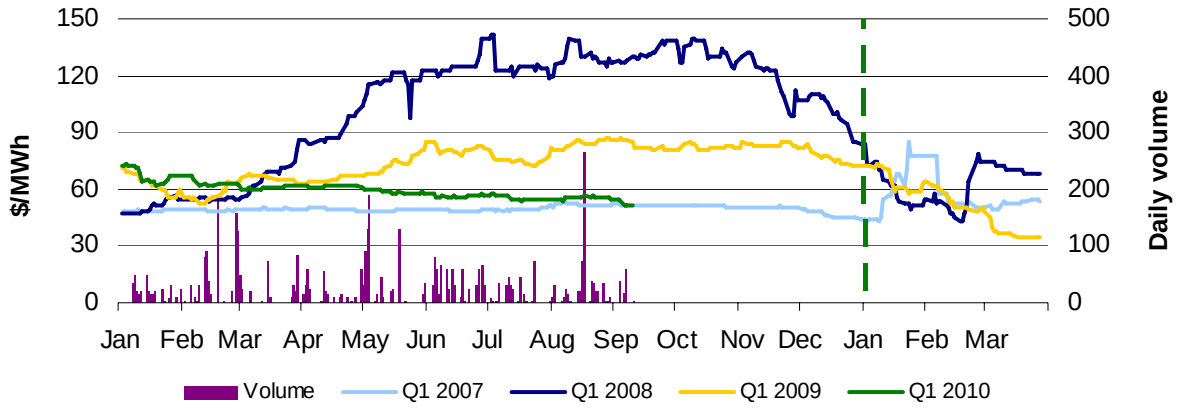
Figure 5: Quarterly base future prices Q3 2009 – Q2 2013



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

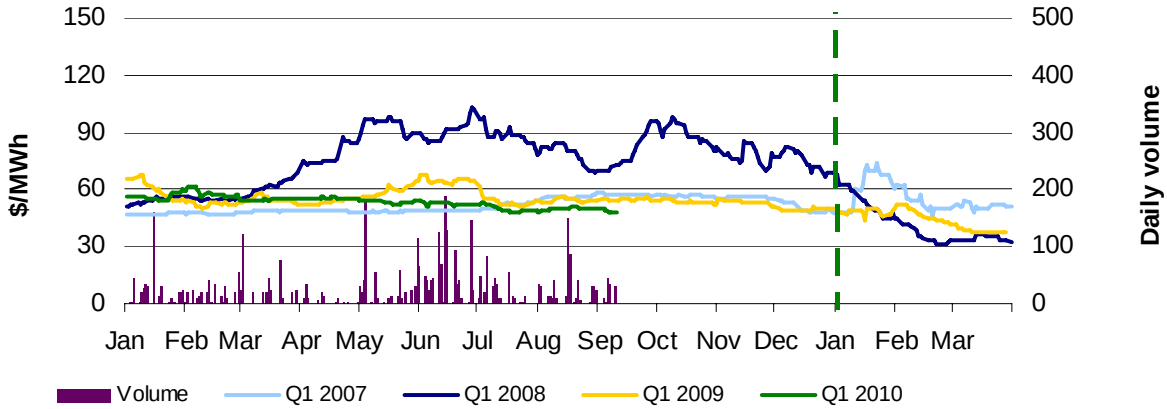
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009 and 2010. Also shown is the daily volume of Q1 2010 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased. To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



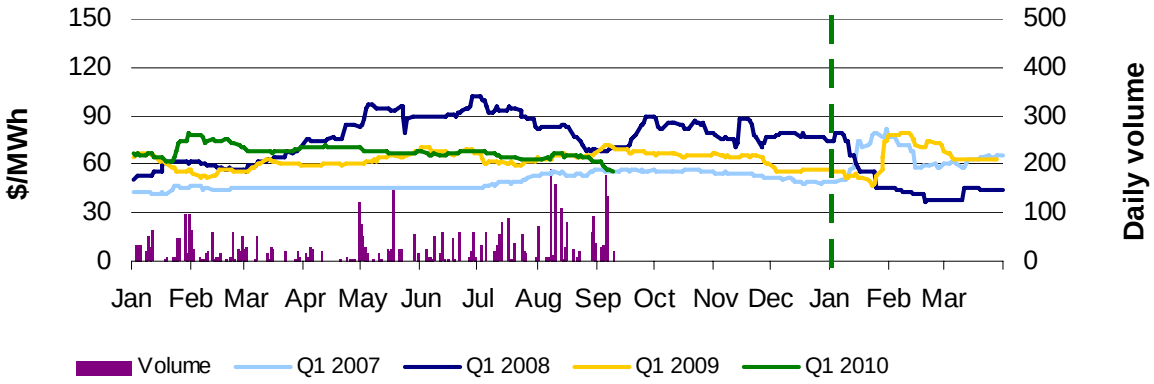
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



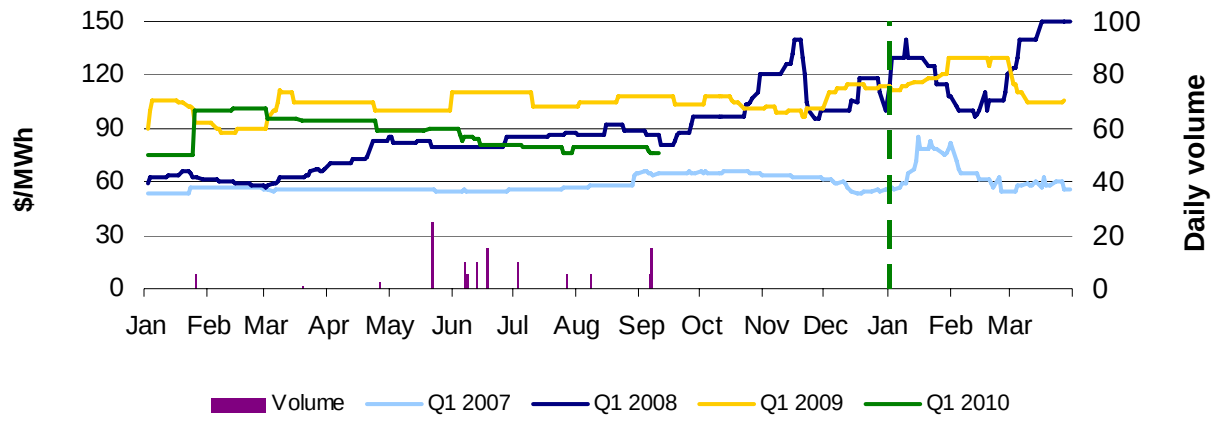
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



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

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



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 64 trading intervals throughout the week where actual prices varied significantly from forecasts[3]. This compares to the weekly average in 2008 of 130 counts. Reasons for these variances are summarised in Figure 10[4].

Figure 10: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	0	45	2	0
% of total below forecast	32	13	0	8

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[5]. For example, in Queensland 62 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.

3 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.

4 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.

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

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	-62	-20	-442	87
NSW	-432	-51	-75	31
VIC	-44	16	102	103
SA	-242	86	-147	38
TAS	-73	-27	-113	-61
TOTAL	-853	4	-675	198

Ancillary services market

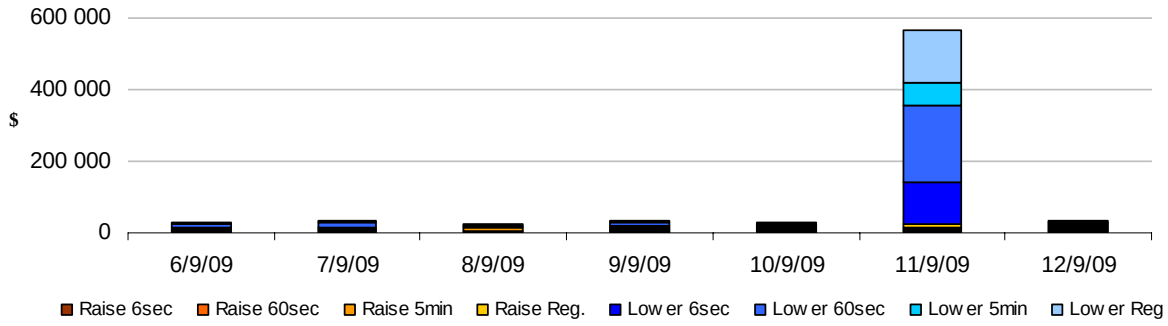
The total cost of frequency control ancillary services (FCAS) in Tasmania for the week was $111 000 or around three per cent of turnover in the energy market.

The total cost of FCAS on the mainland for the week was $636 000 or less than one per cent of turnover in the energy market. The majority of this occurred on Friday.

On Friday 11 September, at 7.20 pm, there was an outage of the Moorabool to Sydenham No 2 500kV line. The constraint equation invoked by AEMO inappropriately caused an increase in the requirements for lower ancillary services in South Australia and a step change in flows across the Heywood interconnector. This led to an increase in the five minute energy price from around $20/MWh to around $10 000/MWh (as detailed in Appendix A). The prices for ancillary services also reached the price cap before returning to previous levels at 7.35 pm. The cost for ancillary services during this 15 minute period totalled around $520 000.

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
September 2009

6 – 12 September 2009

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 $36/MWh and $250/MWh.

Friday, 11 September

7:30 pm	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	3347.42	24.90	25.31
Demand (MW)	1503	1530	1641
Available capacity (MW)	2621	2490	2544

Conditions at the time saw demand around that forecast four hours ahead and available capacity up to 130 MW greater than that forecast four hours ahead.

At 7.25 pm, there was a short outage of the Moorabool to Sydenham No 2 500 kV line in Victoria. AEMO invoked a constraint to manage the outage, which was too restrictive.

The constraint changed flows, across the Heywood interconnector from 100 MW into South Australia at 7.20 pm to 180 MW into Victoria at 7.25 pm. This resulted in the dispatch of high-priced generation in South Australia. This in turn caused the dispatch price in South Australia to increase from around $20/MWh at 7.20 pm to around $10 000/MWh at 7.25 pm and 7.30 pm. The line returned to service and the constraint was revoked from 7.40 pm and prices returned to previous levels.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
6 - 12 September 2009

AUSTRALIAN ENERGY REGULATOR

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

Financial year	QLD	NSW	VIC	SA	TAS
2009-10 ($/MWh) (YTD)	26	29	25	27	24
2008-09 ($/MWh) (YTD)	37	43	44	45	45
Change*	-30%	-32%	-43%	-39%	-46%
2008-09 ($/MWh)	36	43	49	69	62

Table 2: NEM turnover

Financial year	NEM Turnover** ($, billion)	Energy (TWh)
2009-10 (YTD)	$1.134	42
2008-09	$9.413	208
2007-08	$11.125	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-09	28	31	33	35	49	0.550
Jun-09	33	37	31	33	194	0.746
Jul-09	29	34	28	29	27	0.539
Aug-09	24	25	23	24	22	0.418
Sep-09 (MTD)	25	26	22	29	22	0.163
Q2 2009	32	35	34	35	106	1.918
Q2 2008	38	42	47	46	61	2.251
Change*	-17%	-15%	-27%	-24%	75%	-14.81%

Table 4: ASX energy futures contract prices at 14 September

	QLD		NSW		VIC		SA	
Q1 2010	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Price on 07 Sep ($/MW)	54	95	50	82	62	114	80	145
Price on 14 Sep ($/MW)	51	91	48	80	55	98	76	145
Open interest on 14 Sep	2534	150	2341	51	2535	119	68	0
Traded in the last week (MW)	121	0	125	15	396	0	20	0
Traded since 1 Jan 09 (MW)	4398	220	4251	78	4393	185	113	0
Settled price for Q1 09($/MW)	35	48	38	48	62	114	102	200

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

Comparison:	QLD	NSW	VIC	SA	TAS	NEM
July 09 with July 08						
MW Priced <$20/MWh	-657	-516	-41	152	55	-1006
MW Priced $20 to $50/MWh	470	93	4	-53	194	707
August 09 with August 08						
MW Priced <$20/MWh	-131	-261	-343	67	513	-155
MW Priced $20 to $50/MWh	47	140	-194	-58	251	187
September 09 with September 08 (MTD)						
MW Priced <$20/MWh	-493	-799	-57	55	626	-668
MW Priced $20 to $50/MWh	105	941	-359	-115	102	674

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