

# ENERGY FOCUS

Calendar 2009 Review\_

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AUSTRALIAN ELECTRICITY  
THE ALTERNATIVE  
INVESTMENT

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**WELCOME TO THE 20<sup>TH</sup> EDITION OF ENERGY FOCUS**  
**CALENDAR YEAR REVIEW 2009**

	2007	2008	2009
Futures, Caps & Options contracts traded*	136,092	131,404	152,873
Avg Daily Volume*	542 contracts 1,158,951 MWh	517 contracts 1,112,716 MWh	600 contracts 1,292,819 MWh
% of underlying electricity consumption	149%	144%	168%
Total Traded MWh (Approx)	291 million	283 million	330 million
Face Value Traded (Approx)*	\$16 billion	\$14 billion	\$15.7 billion
Open interest (COB end Dec)	41,265 contracts	48,579 contracts	54,336 contracts
Face Value of Open Interest (COB end Dec)*	\$5.4 billion	\$5.8 billion	\$6.8 billion
*Contract traded volume is quoted on a 1 MW calendar quarter-equivalent basis. Face value of options is calculated at strike.			

The d-cyphaTrade ASX electricity futures and options market was one of the few financial markets in Australia to achieve strong liquidity growth during the Global Financial Crisis (GFC). According to the AFMA 2009 Australian Financial Markets Report (AFMR) for the year ending 30 June 2009, the impact of the GFC resulted in a 16.8% fall in Australian annual financial market turnover, the first decline in 9 years. However, the d-cyphaTrade ASX electricity futures and options market achieved a 24.9% increase in exchange traded volume (to 300 million MWh), eclipsing turnover in the over-the-counter electricity market by 44%.

The strong upward trend in liquidity in exchange traded electricity volumes continued throughout calendar 2009, reaching 330 million MWh, a 17% increase on the previous calendar year. Options trading volumes remained robust as market participants used options strategies to hedge their uncertainty surrounding the introduction of the proposed Carbon Pollution Reduction Scheme (CPRS). August 2009 was a stand out month for options with 46% of all exchange traded volumes occurring in option contracts and 54% in future contracts.

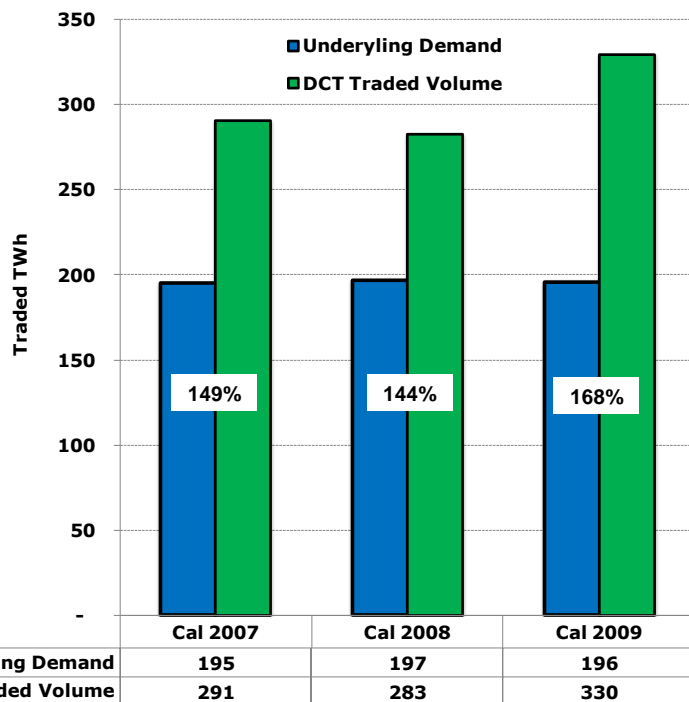
Exchange traded volume during November 2009 was equivalent to 308% of underlying NEM system demand, supported by 2010 Calendar options expiries. Overall 2009 traded volume was equivalent to 168% of annual NEM system demand.

The strong increase in liquidity was accompanied by significant futures price sell offs throughout 2010 contracts and beyond, across the 4 listed regions of the National Electricity Market (NEM). See Price Action below.

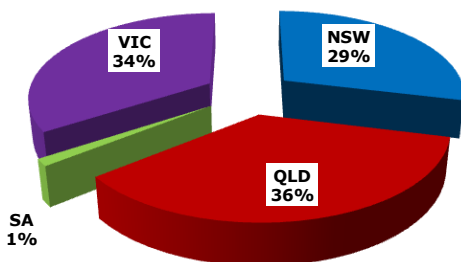
Retailers and wholesale energy users who have hedged their pool price risk using futures avoid that hedge cost being increased due to CPRS, unlike some OTC hedges with "carbon-pass-through" price adjustment clauses. In this way, publically available futures prices deliver hedge price certainty (and seamless independent valuation) for market participants, regardless of the introduction of CPRS. To view live futures prices please go to [www.d-cyphatrade.com.au/market\\_futures](http://www.d-cyphatrade.com.au/market_futures).

For further industry readings please go to the d-cyphaTrade Newsroom [www.d-cyphatrade.com.au/newsroom](http://www.d-cyphatrade.com.au/newsroom).

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**Open Interest by Region**  
**COB 31 Dec 2009**



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### PRICE ACTION IN 2010 FUTURES

Prices for the base load Calendar 2010 products across the board fell dramatically over the course of 2009 due to low volatility in the pool prices coupled with the announcement on the 4<sup>th</sup> of May 2009 by the government to delay the CPRS.

VIC led the way with a significant 34% decline in prices from the highs on February 2<sup>nd</sup> of \$58.69 to the lows on 23<sup>rd</sup> September of \$38.55. This was a \$20.14 move down for the calendar prices where they stabilised and closed the year slightly above the lows at \$42.34.

NSW opened the year near the highs then fell from a top of \$54.30 on 2<sup>nd</sup> of February to \$39.24 by 24<sup>th</sup> of September. This is a \$15.06 move representing a 28% decline on the base load calendar price over the year. By the end of December prices had rallied slightly to \$43.24.

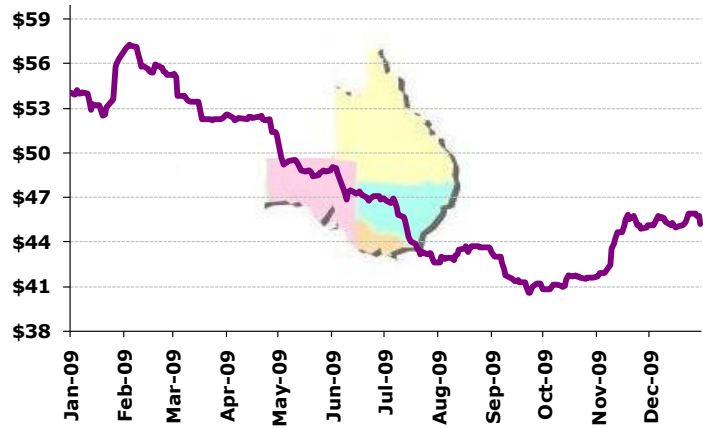
QLD followed the trend and shed a considerable 30% over the year beginning at the highs on the 6<sup>th</sup> of January at \$53.00 and falling to \$36.88 on the 23<sup>rd</sup> of September. This \$16.12 decline remained till the end of the year where the calendar closed marginally higher at \$38.38.

Whilst starting the year a little lower than the other states at \$55.92, SA showed the same picture with a substantial decrease in prices of 28% or \$17.86 over the year from the highs on 16<sup>th</sup> February of \$64.85 to the lows on September 30<sup>th</sup> at \$46.99. SA managed to rally by the end of the year to close at \$56.61.

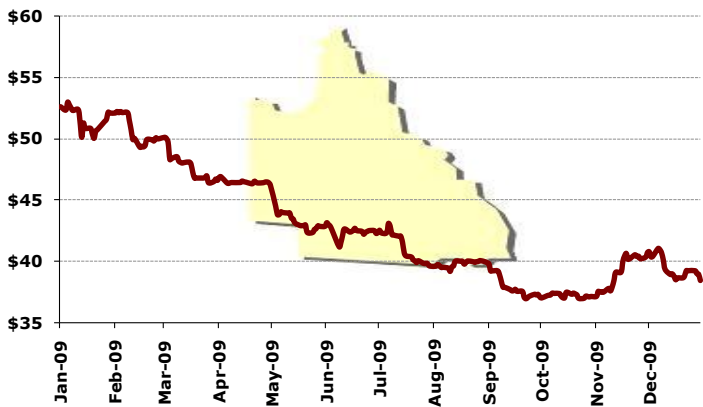
As at the close of business on December 31st 2009, open interest was 10% larger than the previous year (combined futures and options). The highlight however was the growth in the options market over 2009. Options open interest grew an impressive 37% year on year ending December. Just prior to the expiry of the 2010 options the total open interest peaked at 57,820 contracts (September 30<sup>th</sup>) including 8,246 calendar options contracts and 175 peak options contracts which is a massive 214% growth from the start of 2009. Total open interest at the September high was the equivalent of over 181 million MWh representing face value of approximately \$7.9 billion.

Price (\$/MWh)

### National Power Index 2010

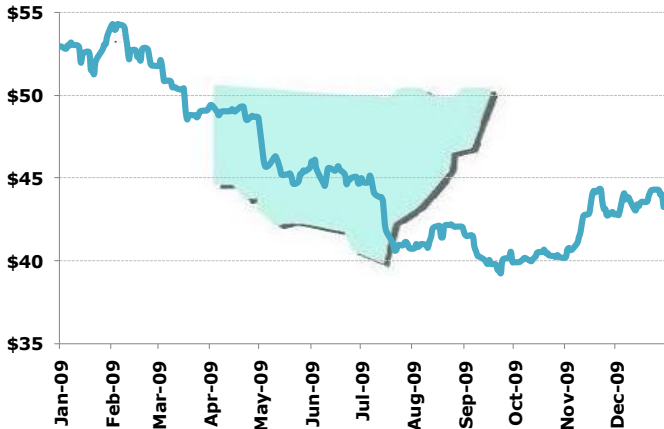


### QLD Base Cal 2010

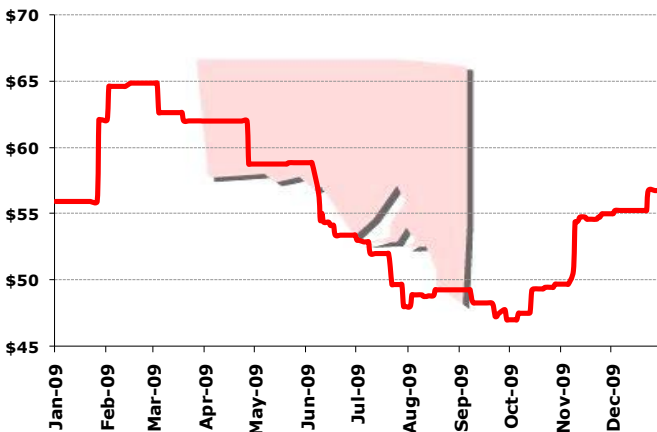


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### NSW Base Cal 2010

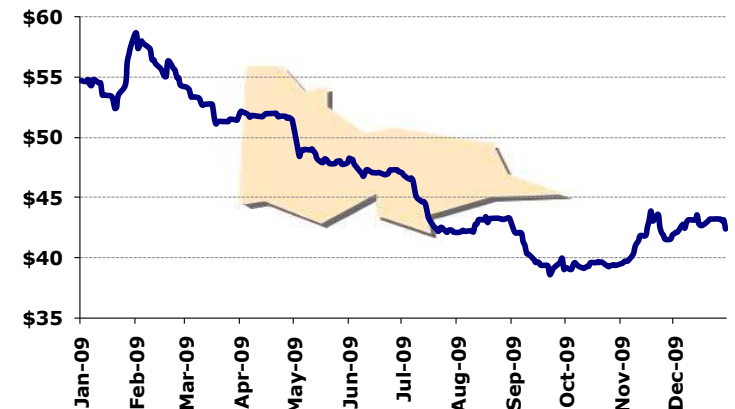


### SA Base Cal 2010



Price (\$/MWh)

### VIC Base Cal 2010



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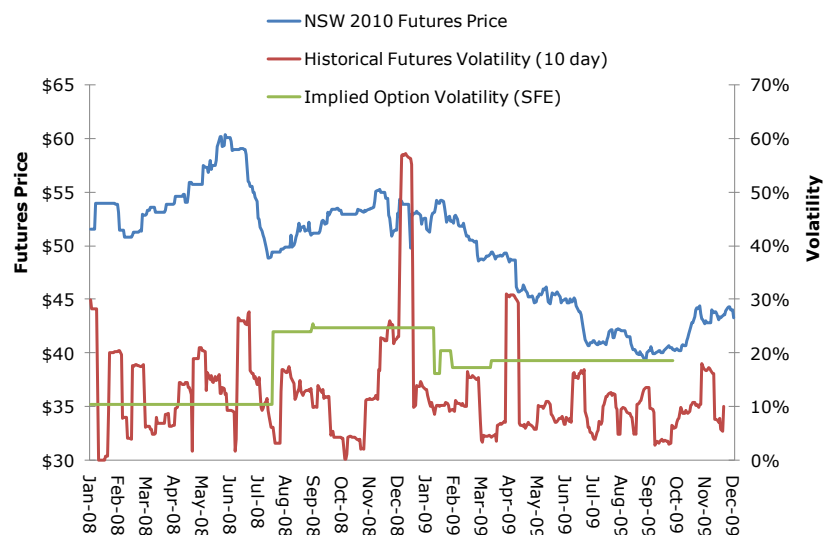
## OPTIONS TRADING SUMMARY

Australia has one of the world's largest exchange traded electricity options markets trading 89 million MWh during 2009. The most heavily traded options are the base load Calendar year options. These options over NSW, VIC, SA and QLD are marked to market daily by the SFECC. Due to the emerging nature of the market a large proportion of electricity options trades involve directional strategies and are not delta-hedged by the buyer and/or seller. Directional option strategies are used by utility companies to hedge electricity pool price risk exposures out to 2013. The most popular option strategies traded during 2009 included call spreads and put spreads.

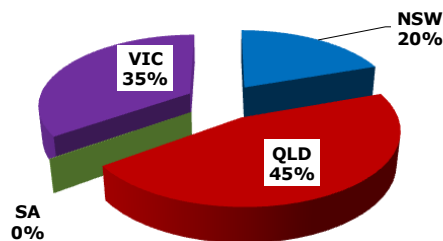
The graph below compares the closing implied volatility of the base load NSW 2010 options contracts (which expired in November 2009) against the 10 day rolling volatility of the underlying NSW 2010 futures price.

OPTION ONLY Statistics	2007	2008	2009
Option contracts traded*	16,714	40,694	40,672
% Base vs Peak Options	99.1% base 0.9% peak	99.7% base 0.3% peak	99.4% base 0.6% peak
Option Avg Daily Volume*	66 Contract 144,094 MWh	160 Contracts 350,316 MWh	160 Contracts 349,505 MWh
Option % of underlying electricity consumption	19%	45%	45%
Option Total Traded MWh (Approx)	36,455,790 MWh	88,980,360 MWh	88,774,320 MWh
Option Face Value Traded (Approx)*	\$1.9 billion	\$4.7 billion	\$4.6 billion
Option Open interest (COB end Dec)	1,986	2,683	3,675
Face Value of Option Open Interest (COB end June)*	\$0.84 billion	\$1.4 billion	\$1.8 billion
*Contract traded volume is quoted on a 1 MW calendar quarter-equivalent basis. Face value of options is calculated at strike.			

### NSW 2010 Historical Futures Volatility v.s. Implied Option Volatility



### Options volume in Traded MWh by State, Cal 09



Calendar base load option straddle closing prices 31 Dec 2009 \$/MWh				
	NSW	VIC	QLD	SA
2011	2.42	5.09	4.11	3.00
2012	4.47	11.23	11.84	5.70
2013	6.22	17.00	17.42	7.03

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