

ASX Energy Focus 2015

AUSTRALIAN ELECTRICITY MARKET IN REVIEW

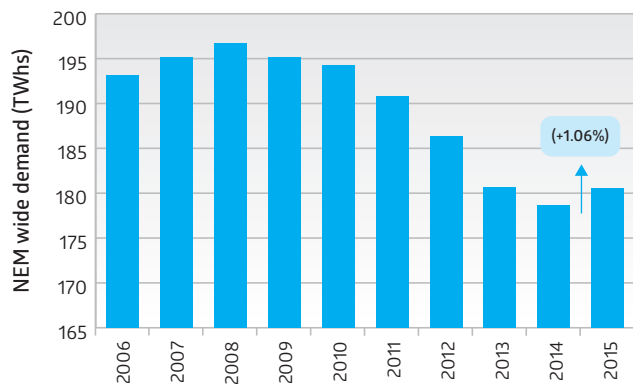


Energy Focus 2015

2015 was an eventful year for the Australian energy market with east coast natural gas linking to international markets via the start-up of three Gladstone LNG plants. The development of LNG infrastructure saw the trend of declining annual electricity demand finally reverse with a 1% increase in demand versus 2014. In electricity, a number of baseload closures were announced including Anglesea in Victoria as well as Alinta Energy's Northern power station (2016) and AGL's Torrens Island A (2017), significantly reducing baseload supply in South Australia. In renewables, four new wind farms joined the NEM as well as Australia's first scheduled solar farm whilst a Government review into the Renewable Energy Target saw a commitment to a reduced target of 33,000GWh.

2015 Spot Market Review

NEM Electricity Demand



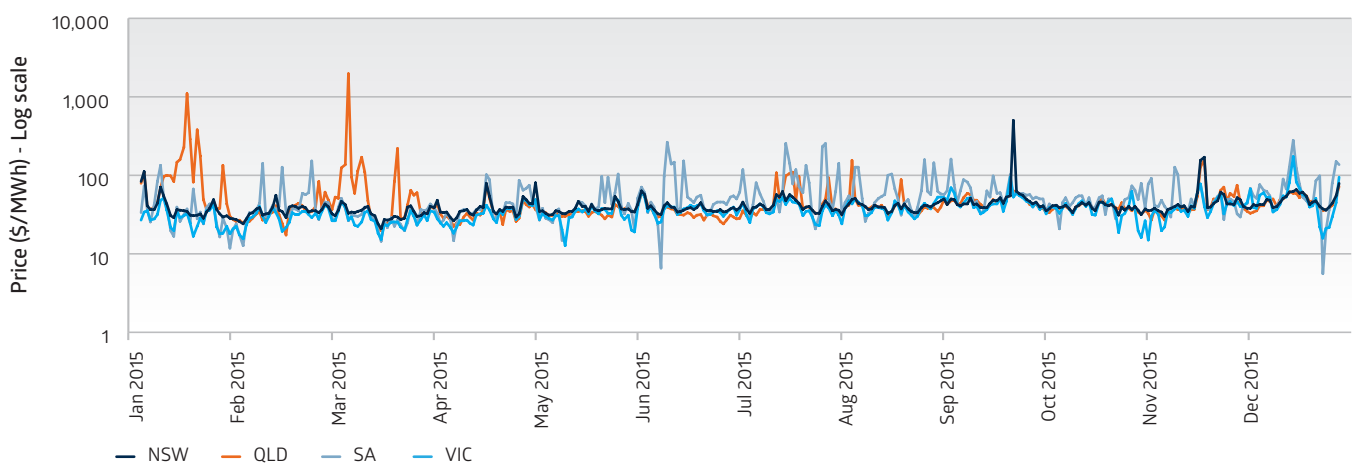
Source: AEMO

After 6 years of progressively declining demand, total NEM system demand grew 1.06% in 2015 over 2014. This modest increase was driven by strong demand growth in QLD of 5.04% over the prior year with system demand increasing each month from June onwards as the LNG trains ramped up their electricity demand.

Daily Spot Price Movements

In Queensland a very quiet February followed some brief but significant price volatility associated with a heat wave in the third week of January. However the start of March saw some very high prices, particularly on the 5th of March where the spot price averaged \$1,885 across the day as demand exceeded 8,800MW in Queensland, the highest demand in 4 years. South Australia saw constant price volatility throughout the year, particularly over winter. New South Wales was more subdued however NSW experienced some high prices on the 23rd of September associated with line outages effecting both the QNI and the VIC/NSW interconnector. Victoria was largely flat except for some volatility as the heat set in during December.

Daily Average Spot Prices



2015 ASX Liquidity Review

The ASX Australian Electricity market traded \$16.7 billion of futures and options (by face value) during Calendar 2015 equating to 397 TWh of traded energy or 220% of underlying NEM system demand. The average daily volume of energy traded was 1.55 TWh with a face value of \$61.7 million.

2015 saw a slight reduction in traded volumes compared to the prior year, with the final 6 months of 2014 having been particularly active as the market adjusted to the repeal of carbon legislation however the market has effectively delivered 9% year on year growth over the past 2 years.

Open Interest (the size of positions held open, measured in energy) decreased by 8% during 2015. Victoria and South Australia saw an increase in open interest of 25% and 8% respectively, while open interest was lower by 14% in Queensland and 28% in New South Wales.

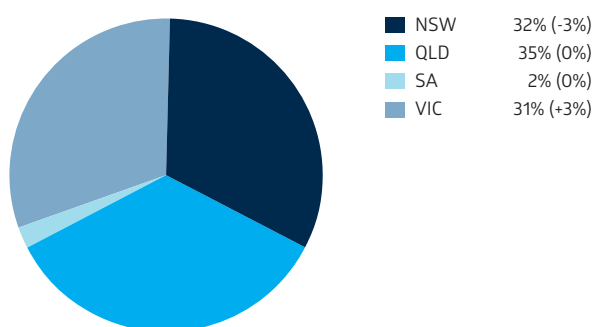
	Cal 2015	Cal 2014	Cal 2013
Contracts traded*	184,289	205,944	156,674
Avg Daily Volume*	720 contracts 1.55 TWh \$61.7M face value	808 contracts 1.74 TWh \$63.1M face value	614 contracts 1.31 TWh \$63.1M face value
% of underlying physical electricity consumption	220%	248%	184%
Total Traded TWh	397 TWh	443 TWh	333 TWh
Face Value Traded*	\$15.8 billion	\$16.1 billion	\$15.9 billion
Open Interest (COB 31 Dec)	57,205	66,635	49,993

* Contract traded volume is quoted on a 1 MW calendar quarter-equivalent basis. Face value of options calculated at strike. Trade volume includes futures resulting from option exercise.

Source: ASX

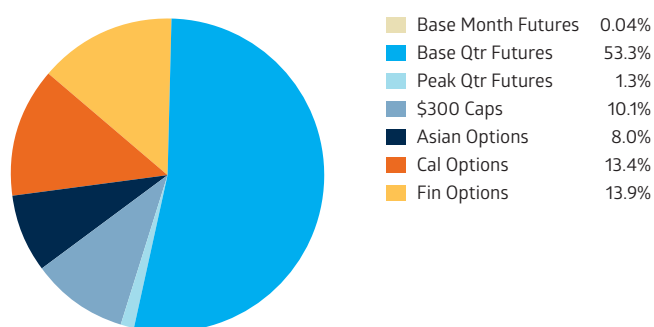
Regional Breakdown

The chart below shows the distribution of trading volume by underlying MWh of all futures and options products traded in 2015 by region, with changes from the prior calendar year. The distribution between regions was largely in line with 2014 however there was a small shift in the share of volume from New South Wales to Victoria.



Contract Breakdown

The chart below shows the breakdown of all volume traded by underlying MWh broken down by product type. In 2015, Asian options have become significantly more popular moving from 5.4% to 8% of the total trading activity while the financial year strip options significantly increased their share of activity from 3.7% to 13.9%.

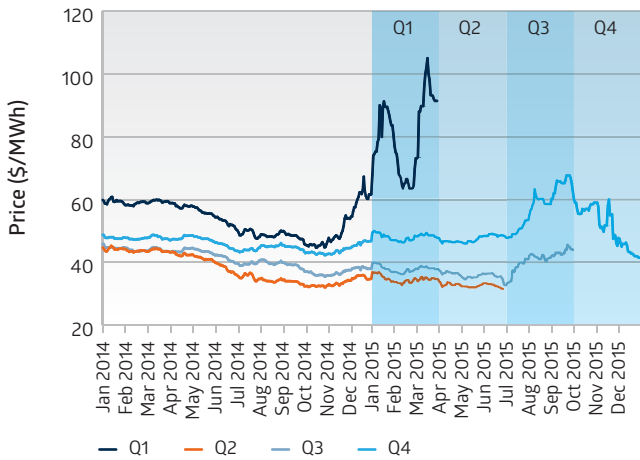


2015 Electricity Futures Activity

Queensland

After trading down across the prior year, Q1 rallied strongly coming into summer 2014/15. Q1 was heavily sold off about half way through the quarter before rallying back up to the prior peak towards the end of the quarter to settle just off the high.

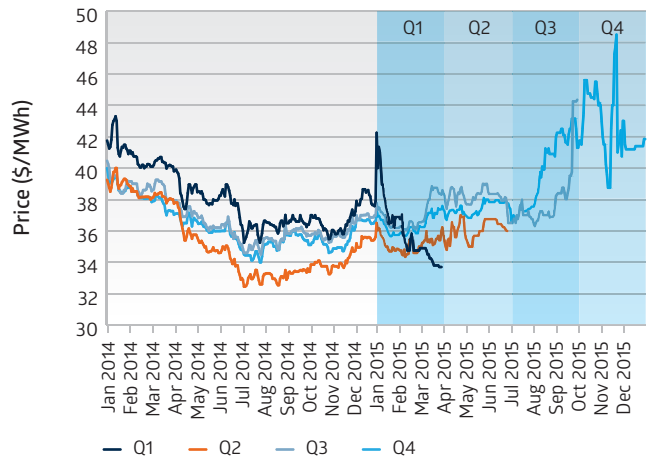
Q2 traded fairly flat across the year, while Q3 rallied strongly at the start of the quarter with Q4 moving higher in concert before rolling over into Q4 and trading down to close at its low.



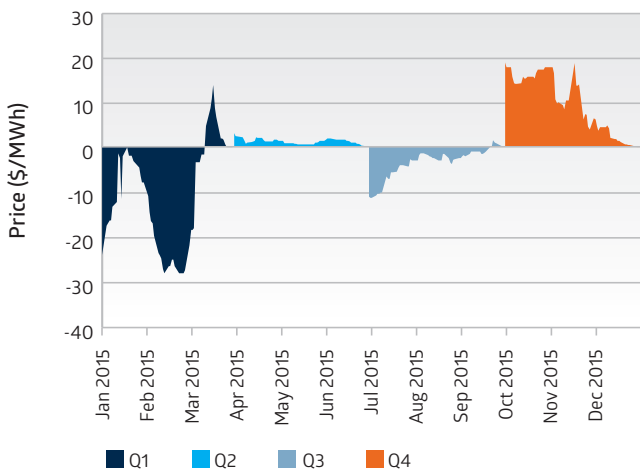
New South Wales

As we started 2015 Q1 rallied up dramatically, after having steadily traded lower the prior year. After this initial rally, Q1 dropped quite quickly to close at the low not just for the quarter, but below where it had traded the previous year as well.

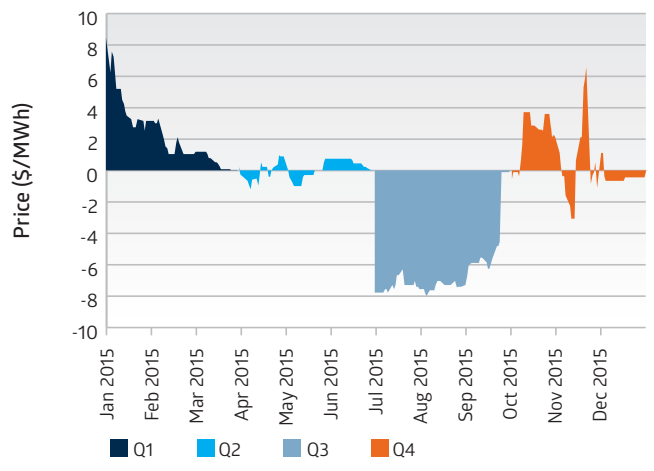
The remainder of the year traded up slowly across the first half of the year until the middle of Q3 where Q4 rallied strongly. Q3 traded fairly flat before the spot market volatility on the 23rd of September caused the market to move to close at its high.



Spot Contract Premium/Discount*



Spot Contract Premium/Discount*

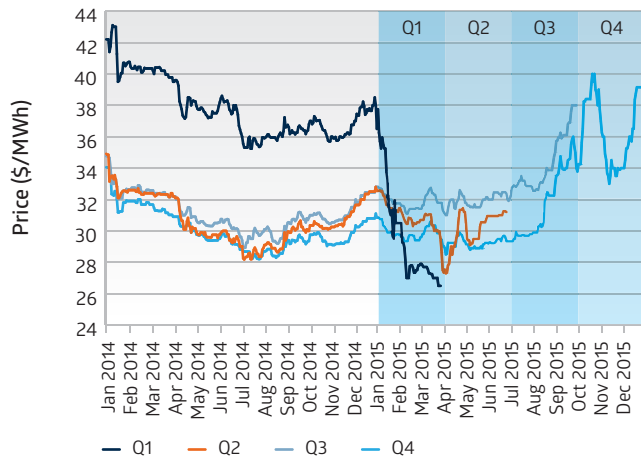


* The spot contract premium/discount charts displays where the contract traded relative to the final expiry price of the contract.

Victoria

Q1 Victoria had been trading at a significant premium to the remainder of the year, however as Q1 got underway it quickly became evident that the premium was not warranted. The contract fell throughout the first half of the quarter before expiring at the low.

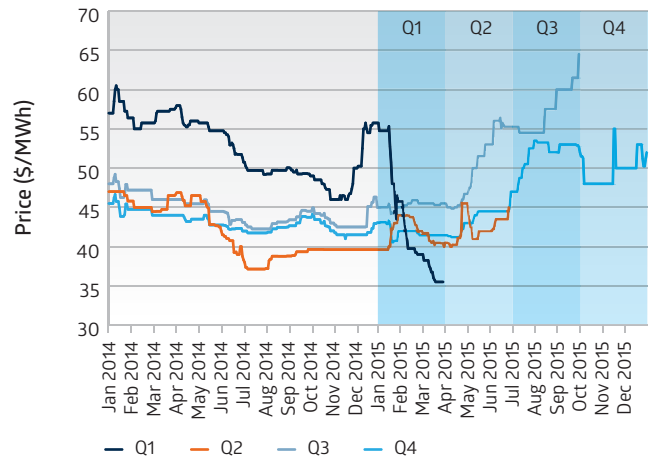
Q2 also dropped dramatically at the time before quickly recovering. Q3 and Q4 both traded fairly flat throughout the year before rallying halfway through Q3. Q3 went on to expire at its high while Q4 dropped back half way through the quarter before recovering to expire back near the high.



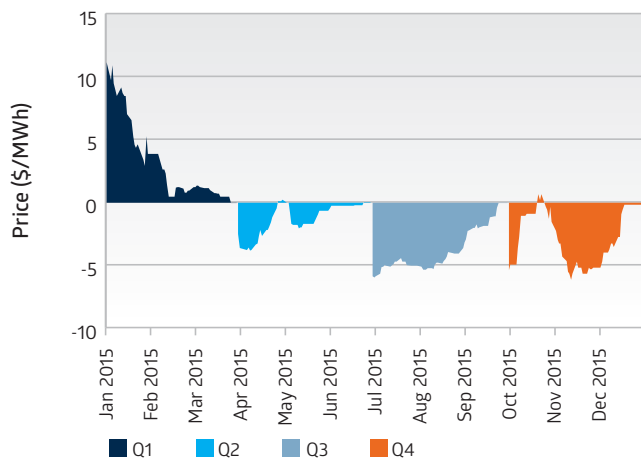
South Australia

South Australia also saw Q1 trade a premium to the remainder of the year throughout 2014 and as the year got underway Q1 traded down with Victoria to expire at its low.

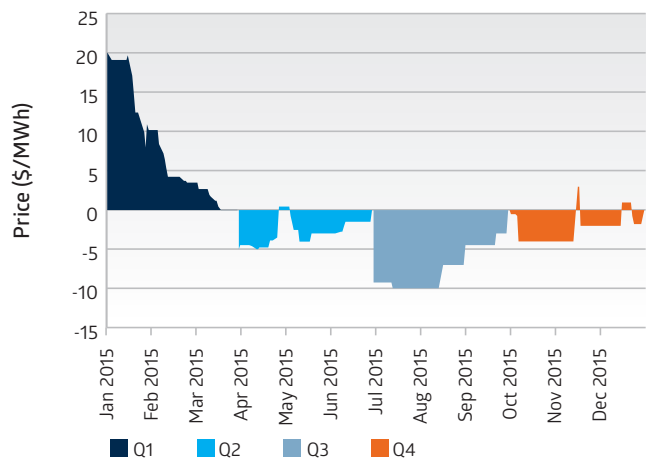
Meanwhile the other quarters were unaffected with Q3 rallying throughout Q2 and Q3 towards expiry to end at its high. Q4 rallied up at the start of Q3 before trading largely sideways for the rest of the year.



Spot Contract Premium/Discount*

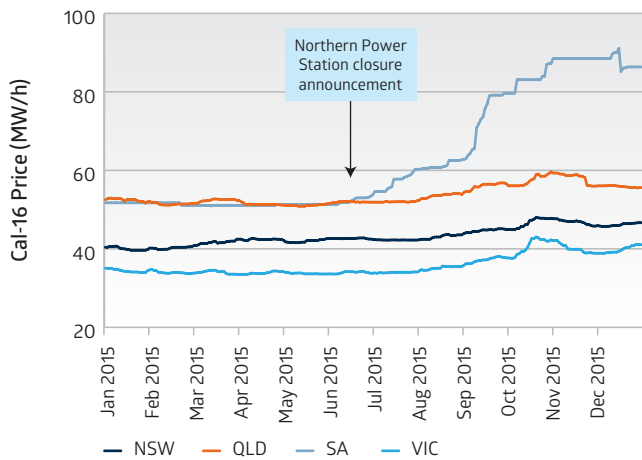


Spot Contract Premium/Discount*



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How the Market saw 2016



The Calendar Year 2016 strip traded up from the middle of the year with South Australia leading the way.

QLD: Base load Calendar year 2016 prices began the year at \$50.50 and slowly traded down to a low of \$47.60 on the 12th of February. Prices trended sideways until the second half of July where they started to rally, climbing at up to \$1.41 a day in September before peaking at \$64.39 on the 29th of October. After coming off a little from the high, the strip closed at \$56.83 which represents a gain of 12.5% across the year.

NSW: Base load Calendar year 2016 prices started the year at \$38.77 before trading down to a low of \$37.81 in late January. Prices then slowly recovered along with other regions, then rallying strongly in October to a peak of \$47.96 on the 21st. NSW Cal16 ended the year at \$46.65, a 19.3% increase across the year.

VIC: Base load Calendar year 2016 started the year at \$34.05 before reaching a low of \$32.44. Victorian Cal 16 then rallied strongly in October to a high of \$42.89 before ending the year at \$41.27. This represents a 3.9% increase across the year

SA: South Australia was by far the most volatile region, having started the year \$49.77 and trading as low as \$47.89 on the 29th of January it rallied quickly from June following the announcement of the retirement of Northern power station. South Australian Cal16 leapt \$4.06 on the 27th of October to \$80, reaching a peak of \$88.00 at the start of November before finishing the year up 62.2% at \$80.72.

ASX 2015 Market initiatives

ASX Energy has been actively working with customers in 2015 to deliver on many product and service initiatives.

1. Lower Cost of Option Execution

As of the 3rd of August 2015 ASX reduced the headline fees on both Asian (Average Rate) Options and Calendar and Financial Year strip options. Fees were reduced from \$59 to \$44.50 per side for Calendar and Financial Year strip options while the Average Rate Option fees were reduced from \$29.50 to \$11.00 per side. This represents a headline fee reduction of over 24% for the strips and 62% for the average rate options.

2. New ASX Energy Data Centre File Delivery Mechanism

In order to improve the timeliness and reliability of the delivery of the daily settlement files for ASX Energy Data Centre customers ASX has implemented a new file delivery mechanism. This new mechanism ensures secure, accurate and timely reporting of ASX price and trade information. ASX will deactivate the legacy file delivery mechanism at the end of February 2016.

3. New Gas futures

On the 7th of April ASX launched new financially settled futures contracts on AEMO's Wallumbilla Gas Supply Hub (GSH) in Queensland. These futures are referenced to the Wallumbilla End of Day Benchmark Price published by AEMO. Since launching in March 2014 the Wallumbilla hub has seen steady increases in traded volume, particularly towards the end of 2015.

4. ASX/AEMO Energy Clearing Design Study

ASX in cooperation with AEMO and energy market participants explored the potential of new clearing service designs for the Australian energy market to provide increased capital efficiencies between spot, over-the-counter and exchange traded derivative markets.

5. New options Daily Settlement Price methodology

ASX enhanced the methodology for calculating the daily settlement prices for options. By applying a smoothing algorithm options can settle with different implied volatility levels at different strikes.

Sneak peek into 2016

New Trading Platform

ASX expects to launch a New Trading Platform mid 2016.

ASX's investment will help deliver greater innovation, efficiency and liquidity to customers, and strengthen ASX's position as one of the world's leading exchange groups. ASX's investment in leading technology recognises customer demand for richer product and service functionality, and for improved cost-effectiveness to operate in Australia's financial markets.

Updates to the ASX Energy Website

The ASX Energy website will be undergoing some improvements in 2016 to ensure it is even easier to find the information and data you are looking for.

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Training

ASX runs full day training courses for those seeking further education about ASX's energy derivatives and their role in the Australian energy market.

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