

2016 Annual Review

Advancing physical
energy markets

Letter from emsTradepoint

Dear Participants

On behalf of emsTradepoint I am pleased to present our 2016 Annual Market Review.

In 2016 we saw continued growth for the emsTradepoint exchange-traded volumes and market liquidity have both increased substantially since 2015.

2016 also saw us change our focus, and rather than putting all our efforts into development of the exchange – or ‘the product’ – we put more focus on helping develop the gas industry, and our place in it.

This hasn’t been easy, but it has been a positive journey, and we believe we have now established a rock solid platform, alongside our industry partners, which the gas industry in New Zealand can use to flourish.

By the numbers

2016 was a great year for trading on the exchange. We saw a significant uplift in traded volumes overall, and pricing has shown representative and healthy market signals, both in the short and long term.

Due to the October 2015 implementation of market-based balancing, intraday volatility remained relatively high during the year. However, as the MBB mechanism has matured – including the addition of an independent broker to support the market, the buy/sell spread of First Gas transactions has substantially narrowed.

Traded volumes peaked in the first half of the year with a number of large monthly and weekly trades executed. By March we had already executed a trade volume of 1.7 PJ, with a total first half delivered volume of 2.0 PJ.

The second half of the year saw lighter total volumes as forward trading tapered off. However, the on-the-day market remained liquid, with strong order volumes and narrow bid/offer spreads.

Changes – internal and external

2016 saw a number of big changes for emsTradepoint – both internal changes and external industry developments.

In July 2016 we bid farewell James Whistler and Kristina Raba as they moved on to new opportunities. Needless to say, James and Kristina left big shoes to fill, but the new team – consisting of Megan van Oosten, Bennet Tucker and myself – has come rapidly up to speed and is ready for the challenges ahead.

Happily, for the new team, James is still close by to provide advice – James is leading ICAP’s New Zealand and Australian gas brokering desk. The desk was established in August 2016, and provides an inter-dealer broker service to industry participants. This has proved to be an invaluable source of liquidity, especially in the forward products.

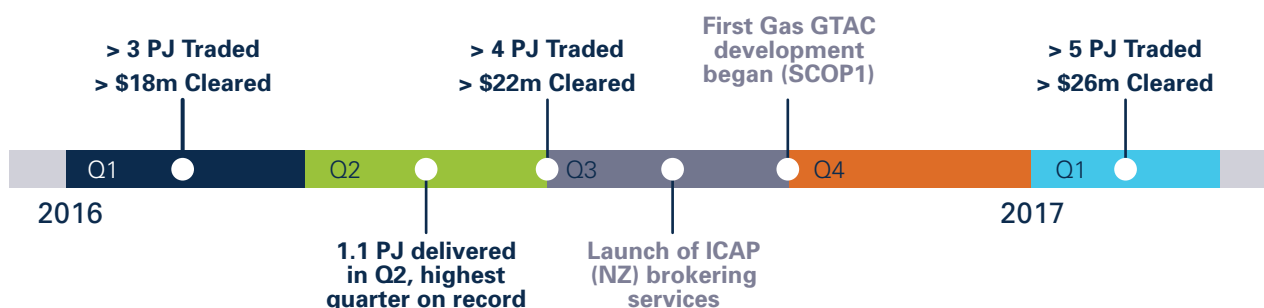
Last, but certainly not least, First Gas kicked off the development of a Single Operating Code (for Gas Transmission). This is a major and positive piece of work that comes with great potential to move the industry forward. We look forward to supporting the First Gas team as they progress through this project.

2017 is looking like being a big, challenging year for emsTradepoint. We can’t wait to meet the challenges head on, and look forward to working with industry participants to drive the New Zealand gas industry onwards and upwards!

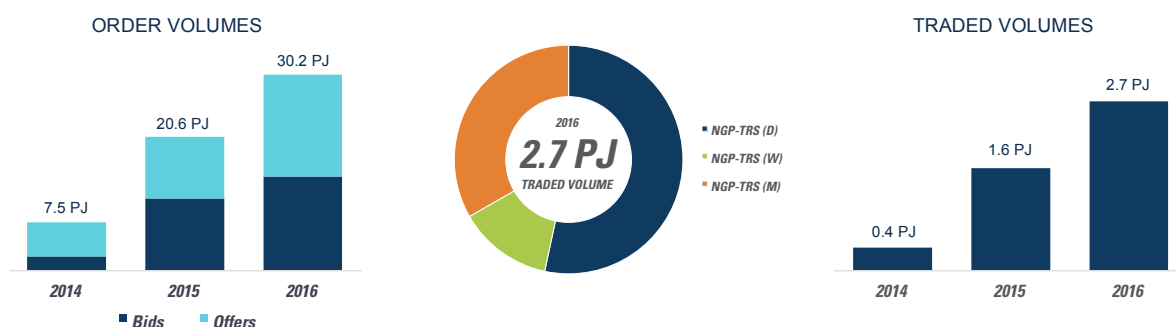


Quintin Tahau
General Manager, emsTradepoint

2016 IN NUMBERS



2.7^{PJ} DELIVERED VOLUME	▲ 65% YoY
\$13.9^m CLEARED	▲ 56% YoY
\$5.19^{/GJ} VWAP	▼ 5.4% YoY
7,342^{GJ} AVERAGE DAILY DELIVERY	▲ 65% YoY
35,000^{GJ} PEAK DAILY DELIVERY	▲ 37% YoY



Quarterly Results Summary

	Delivered Volume	Delivered Value	Delivery VWAP	High	Low
CAL Q4 2016	233,450 GJ	\$1,006,415	\$4.31	\$6.00	\$1.50
CAL Q3 2016	357,300 GJ	\$1,758,603	\$4.92	\$8.50	\$1.00
CAL Q2 2016	1,126,050 GJ	\$5,978,760	\$5.31	\$7.50	\$1.00
CAL Q1 2016	970,450 GJ	\$5,205,095	\$5.36	\$8.25	\$0.94
CAL Q4 2015	351,101 GJ	\$1,914,446	\$5.45	\$20.00	\$2.00
CAL Q3 2015	366,750 GJ	\$2,027,100	\$5.53	\$6.15	\$4.80
CAL Q2 2015	423,250 GJ	\$2,351,023	\$5.55	\$8.00	\$4.75
CAL Q1 2015	487,000 GJ	\$2,641,610	\$5.42	\$6.50	\$4.65
All time	5,132,351 GJ	\$27,231,640	\$5.31	\$20.00	\$0.94

2016 Trading Growth

2016 proved to be a great year for the gas spot market, with continued meaningful growth in traded volume and market liquidity. The market has continued to grow and mature in spite of challenging fundamentals, and early signs indicate that this growth and maturity will continue into 2017.

- 2.7 PJ was delivered across the year at a face value of \$13.9m. This is an increase of 1.1 PJ from 2015.
- Daily delivery averaged 7.3 TJ/day, with a peak of 35 TJ delivered on 9 March. This is a 65% increase in average delivered volume compared to 2015.
- Overall, gas was delivered via the market on 308 days (84%) of the year. This is an increase of 56 days over 2015.
- The first quarter of 2016 saw a spike in trading with a number of large monthly strips traded. 1.7 PJ was traded in the first quarter of 2016, with delivery of these trades spread across the first half of the year.
- Trading tapered off in the second half of the year, 650 TJ was traded between July and December, nearly all of which was in the daily product. Trading has picked up again in Q1 2017 with 707 TJ traded to date.

Fig. 1: Cumulative Traded Volume

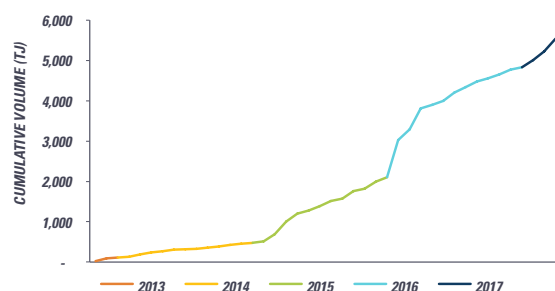


Fig. 2: Monthly Delivered Volumes

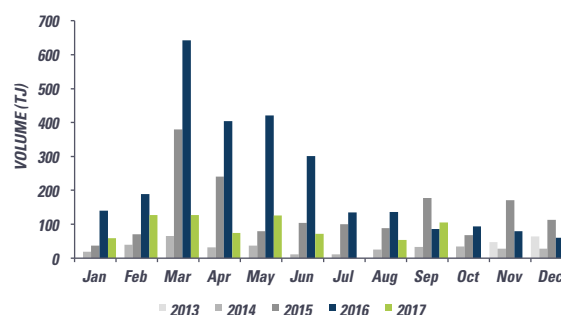


Fig. 3: Monthly VWAP, and Volume by Product

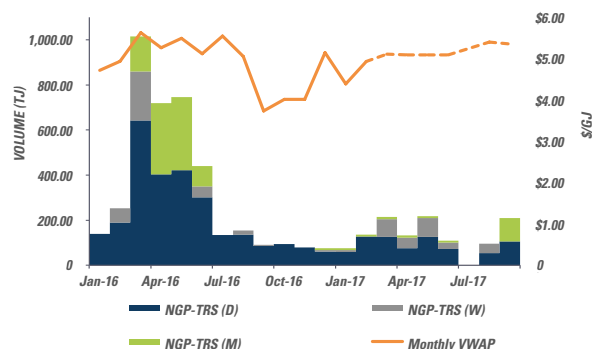
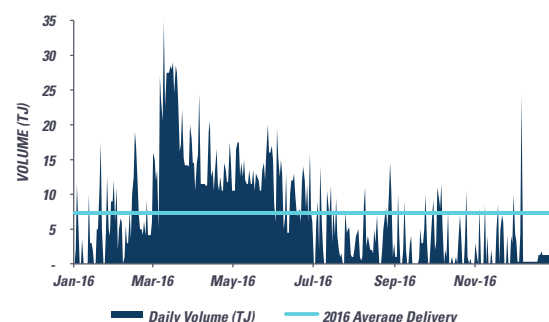


Fig. 4: 2016 Daily Deliveries



Source: emsTradePoint

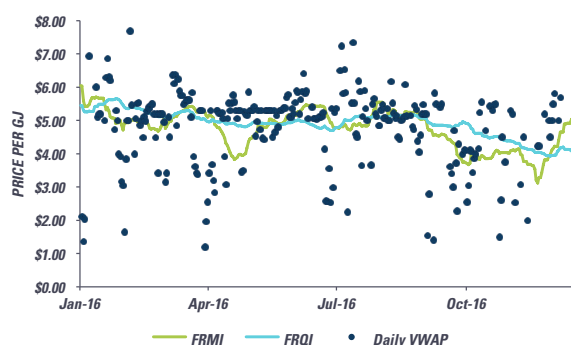
PRICES

Market behaviour has matured over the course of 2016, and is exhibiting good price discovery.

- 2016 prices averaged \$5.19/GJ, a decrease of \$0.30/GJ from 2015.
- The distortionary impact of Market-based balancing (MBB) has decreased substantially since it was first introduced, and the buy/sell spread continues to converge on the non-balancing market price.
- Price volatility was the highest in the second half of the year with Q3 and Q4 price standard deviation ranging between \$1.10-1.12/GJ, vs \$0.20-0.32/GJ in the first half of the year. However, this is largely due to lighter trading in the second half of the year rather than a genuine increase in price volatility.

FRMI Monthly Index	FRQI Quarterly Index
MIN \$3.12/GJ	MIN \$3.92/GJ
MAX \$6.04/GJ	MAX \$5.66/GJ
MARKET LOW \$1.20/GJ ▼43% YoY	MARKET HIGH \$7.69/GJ ▼62% YoY

Fig. 6: Average Daily Delivered Prices



Source: emsTradePoint

ORDERS

Order volumes increased in 2016, indicating market liquidity is growing.

- Total order volumes were up 46% year on year to 30.2 PJ.
- For every 10 GJ offered on the supply side there was approximately 9 GJ bid on the demand side. This is quite different from 2015 where demand outweighed supply (the ratio was 10 GJ offered to 12 GJ bid).
- The high volume of offers compared with bids shows the market was, generally, long. This is supported by the soft fundamentals (see page 8 for more information)
- The conversion rate of orders in 2016 was approximately ~18% which is an increase of ~2% compared to 2015.

Fig. 5: Daily Quoted VWAP

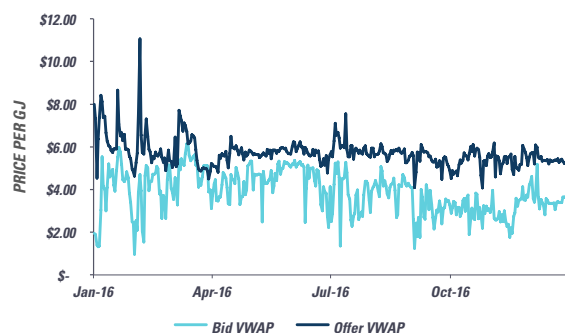
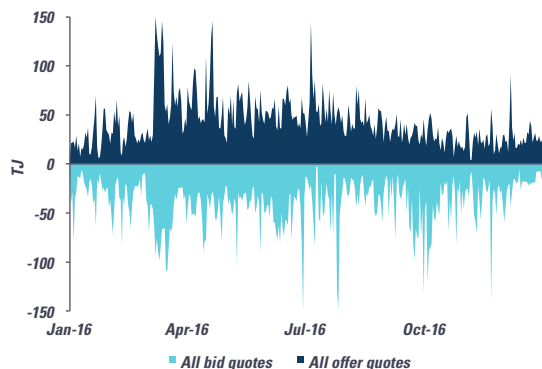


Fig. 7: Daily Quoted Volumes

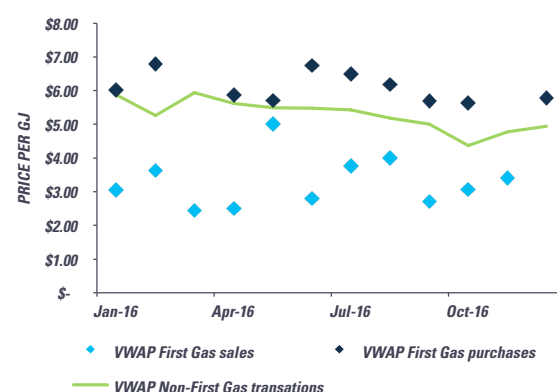


2016 Trading Growth CONTINUED

MARKET-BASED BALANCING

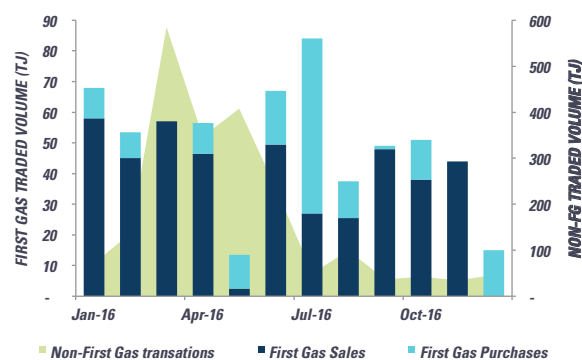
- › Market-based balancing (MBB) completed its first full year in 2016. MBB was introduced in October 2015 to provide a market-based mechanism to reconcile imbalance positions on the Maui pipeline. MBB has had a dramatic impact on both the operation of the pipeline, and the emsTradepoint intra-day market.
- › In late 2015 MBB had some teething issues, resulting in significant distortion to the market prices. However, upon the revision of the default rule, MBB has been gradually been improving.
- › The Gas Industry Company published a report confirming pipeline imbalance positions have reduced on average. Market prices for balancing transaction have been converging on the prevailing market price for natural gas.
- › In the last quarter of 2016, First Gas engaged with ICAP in order to improve the prices received for balancing transactions even further. Fig 8 (right) shows the improvements in balancing transaction pricing in 2016.

Fig. 8: First Gas Trade Prices



Source: emsTradepoint, BGIX

Fig. 9: First Gas Trade Volumes



BROKER FACILITATED LIQUIDITY AND THE 2017 FORWARD CURVE

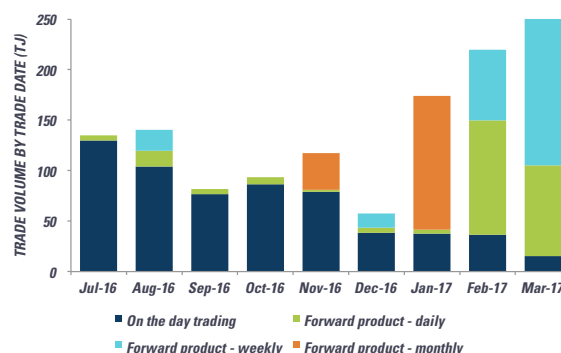
The presence of an independent broker (ICAP) has facilitated a number of key improvements to the exchange.

- › Improvements in the pricing of balancing (and fuel gas) transactions; First Gas transactions are now converging on the non-First Gas market price. This means that MBB is operating in the way it was designed (ie. the balancing transactions are similar to those of non-balancing transactions), and balancing transactions avoid distorting pricing on the exchange and the associated metrics (ie. the Frankley Road indices).
- › Facilitated an increased rate of price discovery and activity in forward products. The broker builds liquidity pools across all products on the exchange and enables the ability to use these liquidity pools to form matches faster, and across more products, than is observed on the exchange.

Trading in the 2017 day ahead market (daily, weekly and monthly strips) has provided a valuable forward price signal for the market.

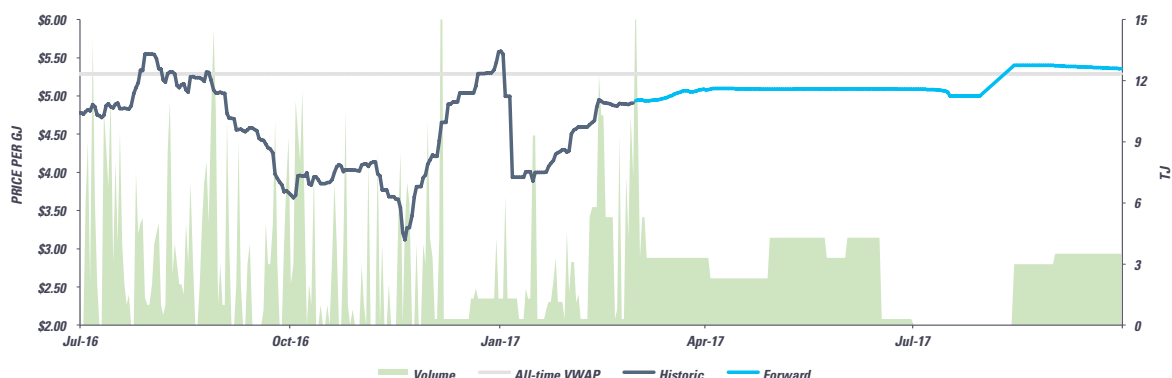
- › We have seen large volumes of trading in products out to September 2017.
- › Brokered day ahead trading since January 2017 has totalled approximately 575 TJ.

Fig. 10: Trade Volume by Trade Date and Product



As at 2 March 2017
Source: emsTradepoint

Fig. 11: 30-Day Rolling Average Price and Volume

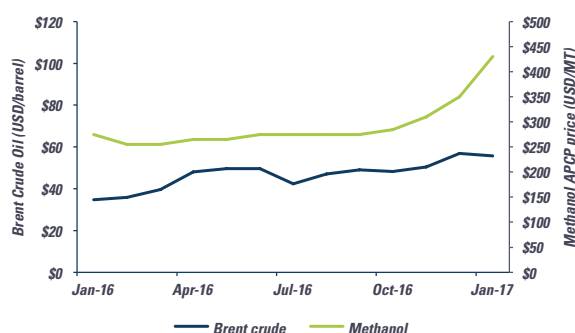


2016 Market Fundamentals

2016 proved to be a mixed year for New Zealand gas-related commodity markets. Domestic electricity prices remained flat and oil increased slightly over the year but still remains low. In contrast methanol prices increased sharply in the fourth quarter.

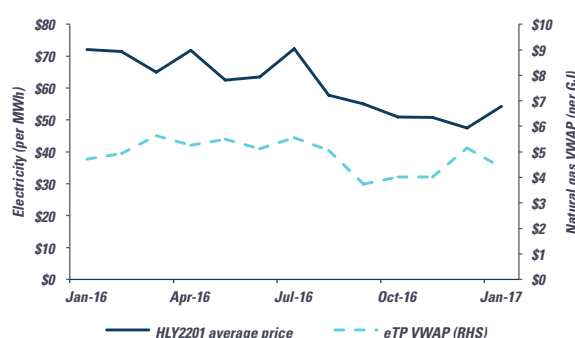
- › Electricity price (referenced to the HLY2201 node) has declined across 2016 beginning at \$72/MWh in January and finishing at a low of \$47/MWh in December. These prices have reduced demand for gas-fired electricity generation, and put downward pressure on gas prices.
- › Brent oil went from approximately USD 35/barrel in January 2016 to USD 55/barrel. 2016 prices were still low compared to pre-2015 prices. The market appears to be recovering from the sub USD 30/barrel prices observed at the end of 2015 and beginning of 2016.
- › Methanol Asian-Posted Contract Price (APCP) was below USD 300/MT for the first three quarters of 2016, but in Q4 the price recovered rapidly to USD 350/MT in December and is now listed at USD 500/MT (March 2017 APCP).

Fig. 12: Brent Crude & Methanex Asian Posted Contract Prices



Source: Methanex, Bloomberg

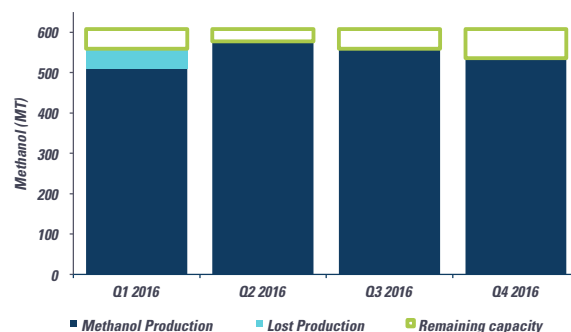
Fig. 13: Average Electricity Price



Source: EMI, emsTradepoint.

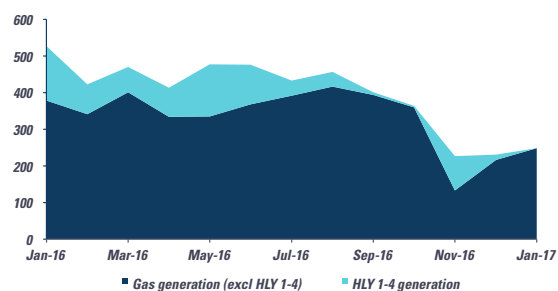
- › Methanex has recovered from the operational issues they experienced throughout 2015 and early 2016 and have been producing at near capacity in Q2 through Q4.
- › Ahuroa gas storage facility showed significant flexibility in 2016 with the first half of the year increasing from 9.3 PJ to 10.9 PJ stored, and the second half of the year showing a net decline from 10.9 PJ to 10.1 PJ.
- › Hydro storage remained high for most of 2016, with storage only dropping below the long term historical average in Q1 2016. This excess of hydro storage has led to low prices observed in the electricity market.
- › In the carbon market, NZUs were trading between \$9-10/NZU in January 2016 (spot market). The spot price has since increased nearly ~100% and has been trading at ~\$18/NZU since July 2016.

Fig. 14: Methanol Production



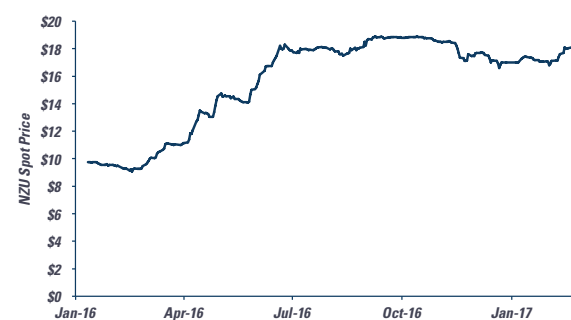
Source: Methanex

Fig. 15: Thermal Electricity Generation



Source: EMI

Fig. 16: Carbon - NZU Spot Price



Source: Carbon Match

2016 News and Updates

2016 was a very busy year in the gas industry and emsTradepoint – the industry has undergone a number of developments, and emsTradepoint has implemented a number of internal changes.

INDUSTRY UPDATES

Upstream and Transmission

- › 2016 saw First Gas enter the industry as the largest natural gas Transmission and Distribution owner and operator in New Zealand, taking control of the Maui and Vector transmission networks, and the non-Auckland Vector distribution networks. First Gas is a child company of Colonial First State Global Asset Management, and was formed following the purchase of the transmission and distribution assets in 2015.
- › In September, First Gas, with the support of the Gas Industry Company, began a process that aims to replace the current Maui and Vector Pipeline Operating codes with a single new code. This process will take approximately 24-36 months and will involve reviewing a vast array of technical and regulatory mechanisms. This is a great opportunity for the industry to develop and initiate innovation.
- › Upstream activity has continued to be quiet with the exploration and production sector focussing on optimising exiting assets. Exploration permits awarded have declined sharply with only a single permit award in the 2016 block offer (219 km² total acreage), down from 9 permits in 2015 (12,111 km² total acreage) and 15 permits in 2014 (47,690 km² total acreage).



Brokering and Downstream

- › Fundamentals are expected to remain soft in the medium term. Oil prices are forecast to remain at or around 55 USD/barrel in 2017 and 2018. Electricity price indicators are low, with 2017 calendar year futures currently priced at approximately \$59/MWh; 2018 calendar year futures are priced slightly higher at approximately \$76/MWh.
- › In August 2016 ICAP launched their natural gas brokerage service in the New Zealand wholesale gas market. ICAP provide an inter-dealer broker service to industry participants, and utilises the emsTradepoint exchange to execute trades formed. The broker has proved to be an valuable source of liquidity, especially in the forward products (weekly and monthly strips).
- › In April 2016, Genesis announced that they would be retaining the Huntly Rankine units until 2022, having previously stated they would be retired at the end of 2018.
- › Shell announced in December 2015 that they would be reviewing their New Zealand assets, with a focus on large growth opportunities (a criterion that New Zealand does not meet at the global level). In August 2016, Shell announced that this review was still ongoing and there was nothing material to report.

Sources: EIA short term energy outlook, Electricity Authority, NZX, Energy News.

TECHNOLOGY UPDATES

Exchange platform upgrades

- › The exchange platform was enhanced in 2016, primarily to add functionality to accommodate the introduction of off-market trades formed via a brokerage.
- › Off market trades (including brokered trades) are now highlighted on the trading board and listed in the CSV download so that they are easily identified.
- › Following consultation, The Frankley Road Natural Gas Index and VWAP (volume weighted average price) calculations have been updated to include trades that are anonymously brokered in emsTradepoint's market data.
- › Trade confirmation emails for off-market trades have been updated to include reference details.



MORE INFORMATION

More information on emsTradepoint,
including market data and contracts,
is available at www.emstradepoint.co.nz.



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