A New Hope Where to next for the Brent oil price?

31 January 2018





A New Hope The never ending story

Oil prices have rallied, but does the market believe that further gains are sustainable? What are the medium and long-term market price sentiments for the Brent oil price? With the shift to a low carbon economy calling into question many long held assumptions, how can you ensure you're ready for the new realities?

Oil price rally

The big news of recent months isn't just how far prices have risen, but how fast. Brent reached a new two-year high of \$70.26/bbl on 15 January 2018. A range of converging forces have come together to push Brent through the \$70 mark.

In our last report we noted that the resolve of the largest OPEC members was hardening with regard to production cuts.

Yet this on its own wouldn't have created and sustained the recent momentum without the combination of a strengthening global economy, mounting geo-political tension (e.g. Iran, Venezuela etc) and depletion of stockpiles in the US amongst other factors. So will the increases be sustained?

OPEC strategy

OPEC's resolve appears to be holding. Compliance with the cuts is 87%, signalling that its members still believe that there is a continuance in oversupply. Continued faith in the strategy is demonstrated by an agreement to maintain curbs on production until the end of the year.

In a further boost, Russia is on board. The curbs have also been endorsed by Libya and Nigeria, which had been exempt from the agreement due to the political unrest and resulting disruption to production, but have now announced plans to limit 2018 production to 2017 levels. China has increased imports and the US continues to boost its output. The OPEC production cuts appear to be having their desired effect, but the question remains as to how long this will be sustainable and at what cost to OPEC market share?

Shale disruption

The increase in the number of rigs deployed in the US (from 797 December 2016 to 1,151 December 2017, Baker Hughes) points to the optimism in the US oil industry. The resilience of American shale producers in the current oil price environment has continued to disrupt conventional producers. Riding off the back of a Brent Oil price increase, the market consensus is that this disruption will continue.

Costs

Determined cost cutting (15%-20% since 2014 peak) has lowered the break even point for offshore oil & gas producers. Many shale oil producers however are experiencing cost inflation once again, after a period of declining costs (driven by discounts and technology improvements). The expectation from market participants more broadly is that the costs and rates from service companies are likely to increase in the near future.

"Members of the OPEC are not keen on increased Brent crude prices above \$60 a barrel because of shale oil". Bijan N. Zanganeh- Iran Oil Minister, January 2018

Energy transition

The continuing global push towards a low carbon future is leading to the potential suppression of oil demand and thus fiscal policy response to mitigate these impacts for oil producing nations.

We discuss this in further detail on the following slide.

The market verdict

Many market participants are in the sceptical camp. Our analysis indicates that most haven't increased their long-term price forecasts since our previous reports from 6 and 12 months ago. Indeed, our median Brent projections actually point to a decrease of \$7/bbl in 2021 and \$5/bbl in 2025 compared to a year ago and within a tighter consensus range.

The question behind the headline figures is whether this is a function of a delayed lag effect as we saw when the price first began to dip in 2014 or whether this reflects the market's view of a sustainable long term price.

Jacqueline Chow

(Director – Natural Resources Valuations)

The Force Awakens Energy transition (1/2)

Overview

The global directive to transition energy away from traditional fossil fuels to a low carbon economy is gathering pace. Both governments and companies will need to be agile and forward looking to embrace this fundamental change.

Declines in the price of renewable technology in conjunction with increased international policy regarding the reduction of CO2 emissions are both key factors driving a low oil price future. The International Energy Agency has devised 3 potential scenarios for oil prices dependent on how aggressively international policy reform is applied (see graph alongside). Both governments and oil companies must consider their approach and strategy for these scenarios.

Pro-active government response

As less fossil fuel is used, prices will come under pressure. Forward-looking governments of oil producing nations have begun to proactively consider fiscal response in relation to energy transition. The downward pressure on international oil prices from energy transition will inevitably result in a hole in government finances in oil producing nations. In work conducted for specific clients, our analysis of IEA World Energy Outlook price scenarios indicated the degree and speed to which borrowing to fill the gap. could result in unsustainable levels of debt for some governments in certain circumstances.

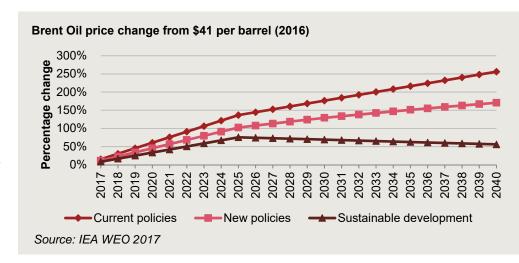
The short-term choice for oil producing nations is whether to cut output to bolster prices or increase supply to sustain revenues. The longer term priorities include diversifying economies and moving away from fiscal reliance on oil income, privatisation (notable examples include the IPO of Saudi Arabia's Aramco) and capital from sovereign wealth funds.

Policymakers of various countries are looking at a variety of potential solutions including subsidy and taxation reform, privatisation, diversification of revenue streams, the early identification of assets that could conceivably become stranded and other contingency plans.

Governmental response and the options available will vary dependent upon their economic maturity and financial position of the country, GDP dependence on oil, influence on the global oil markets and accessibility of alternative energy generation, amongst other factors.

The question for slower moving counterparts is how long they can wait as diversification and fiscal reform could take many years.

All governments, oil producing and nonoil producing alike, will have to work out how to ensure sufficient investment in renewable energy and other aspects of a green economy. Subsidies and tax breaks will continue to form an important part of this.



The Force Awakens Energy transition (2/2)

A new commercial mind-set for oil companies

Companies have been adjusting to the current oil price environment through revisiting their exploration programs, implementation of cost efficiencies and rationalisation of their asset portfolios. Energy transition will however require oil companies to adopt a new commercial mind-set.

Adoption of strategies to address energy transition is at the forefront of oil companies' minds, yet questions remain over whether companies are moving far and fast enough to respond. This is especially true if the oil price scenarios eventuate as indicated in the IEA projections as well as if government policy reform is implemented.

We have observed, however, progressive oil companies seriously considering investment in renewables and alternative energy generation, although this is still at a small and early stage at present. Among the challenges are the very different returns, risk profiles and regulatory factors governing renewables. Success is therefore likely to require a significant rethink of strategies and underlying valuation assumptions.





Broker and consultant Brent oil price forecasts (31 December 2017)

We have collated 22 recent Brent crude oil price forecasts of market participants.

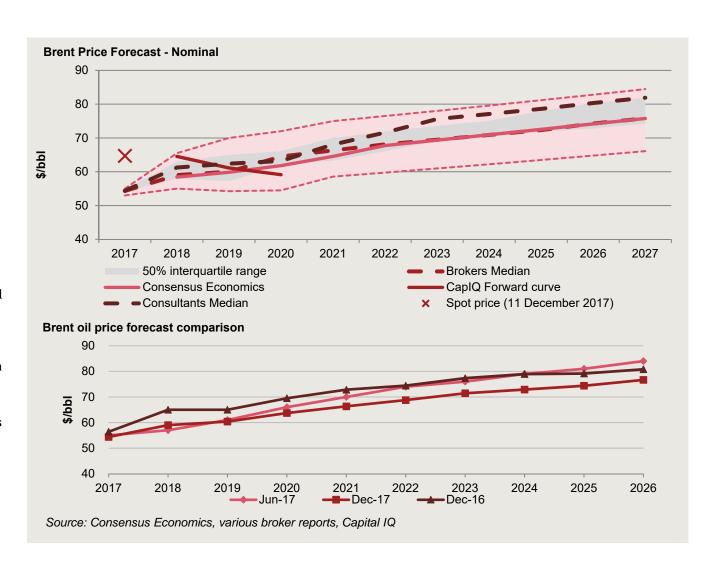
The graph on the right illustrates the brokers and consultants views against the Capital IQ Brent (ICE) forward curve as at 29 December 2017. The values shown are in nominal terms.

We note that in the long term consultants are forecasting at a premium to brokers by c.\$7/bbl (2027).

Macquarie Capital's quarterly Energy Lender Price Survey is a commodity pricing poll of energy reservebased lenders. The 2017 Q4 survey represents data from 35 participating bank during the period 16 to 31 October 2017. The survey shows little change in the average prices as compared to the previous survey (Q1 2017) however a slight widening of the range of forecasts.

We note that the average price from the survey is towards the lower end of the broker views observed in our benchmarking analysis.

Long term median forecasts have been revised downwards since our previous benchmarking analysis conducted as at 30 June 2017 and 31 December 2016 by \$7/bbl and \$5/bbl respectively.



Broker and consultant Brent oil price forecasts (31 December 2017)

		Original broker											
Broker /Source	Date	unit	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Barclays	21/12/2017	US\$/bbl	54	59	55	n/a							
ВМО	18/12/2017	US\$/bbl	55	55	55	58	63	64	66	67	68	70	71
BNP Paribas	12/12/2017	US\$/bbl	54	58	62	n/a							
Credit Suisse	20/12/2017	US\$/bbl	55	60	61	60	60	70	71	73	74	76	77
Deutsche Bank	15/12/2017	US\$/bbl	53	55	56	63	64	66	67	68	70	71	73
Evercore	19/12/2017	US\$/bbl	55	65	70	n/a							
HSBC	01/12/2017	US\$/bbl	54	65	70	71	73	74	76	77	79	81	82
ING	13/12/2017	US\$/bbl	54	51	48	n/a							
Jefferies	20/12/2017	US\$/bbl	54	63	60	65	66	68	69	70	72	n/a	n/a
JP Morgan	12/12/2017	US\$/bbl	54	55	56	57	59	60	61	62	63	65	66
Macquarie	18/12/2017	US\$/bbl	n/a	56	54	65	66	68	69	70	72	73	75
Morgan Stanley	21/12/2017	US\$/bbl	54	60	60	n/a							
RBC	20/12/2017	US\$/bbl	55	59	60	64	n/a						
Societe Generale	12/12/2017	US\$/bbl	54	58	n/a								
UBS Research	13/12/2017	US\$/bbl	55	60	65	70	70	72	74	75	77	78	80
Wells Fargo Securities LLC	21/12/2017	US\$/bbl	55	56	59	63	n/a						
Scotiabank	21/12/2017	US\$/bbl	55	62	65	67	70	71	73	74	76	77	79
Numis Securities	18/12/2017	US\$/bbl	54	65	65	66	67	69	70	71	73	74	76
EIU (Consultants)	13/12/2017	US\$/bbl	55	59	58	55	59	62	n/a	n/a	n/a	n/a	n/a
GLJ (Consultants)	01/01/2018	US\$/bbl	54	66	64	63	66	69	72	75	78	80	82
McDaniel (Consultants)	01/01/2018	US\$/bbl	54	64	61	63	70	74	76	77	79	80	82
Sproule (Consultants)	31/12/2017	US\$/bbl	55	58	67	72	75	77	78	80	81	83	84
Overall High		US\$/bbl	55	66	70	72	75	77	78	80	81	83	84
Overall Low		US\$/bbl	53	55	54	55	59	60	61	62	63	65	66
Overall average		US\$/bbl	54	60	61	64	66	69	71	72	74	76	77
Overall median		US\$/bbl	54	59	60	64	66	69	71	73	74	77	78
Broker median		US\$/bbl	54	59	60	65	66	68	69	71	72	74	76
Consultants median		US\$/bbl	54	61	62	63	68	72	76	77	79	80	82
Consensus Economics	11/12/2017	US\$/bbl	n/a	58	60	62	65	68	69	71	73	74	76
CapIQ Forward curve	29/12/2017	US\$/bbl	n/a	65	61	59	58	58	n/a	n/a	n/a	n/a	n/a
Benchmarked overall median December 2016)	US\$/bbl	56	65	65	70	73	74	77	79	79	81	n/a
Benchmarked overall median June 2017		US\$/bbl	55	57	61	66	70	74	76	79	81	84	n/a
Energy Lenders Price Survey (Q4 2017)		US\$/bbl	49	50	51	52	54	n/a	n/a	n/a	n/a	n/a	n/a



Broker and consultant WTI oil price forecasts (31 December 2017)

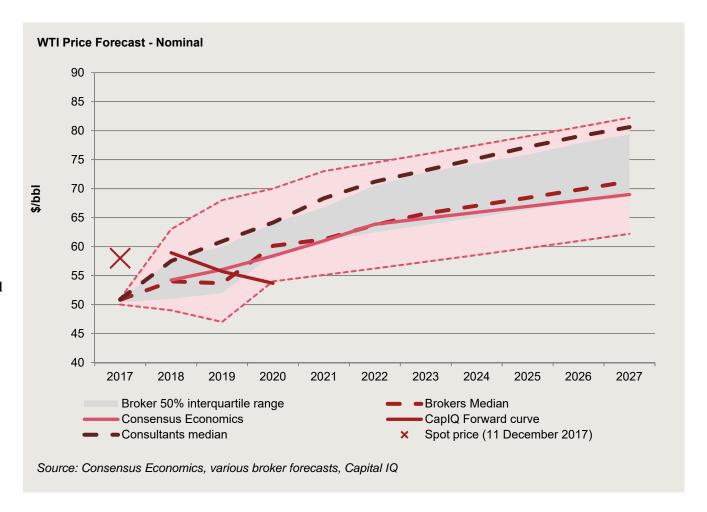
We have collated 18 recent WTI oil price forecasts from brokers and consultants.

The graph on the right illustrates the low, median, high and inter-quartile views against the Capital IQ WTI (ICE) forward curve as at 29 December 2017. The values shown are in nominal terms.

Macquarie Capital's quarterly Energy Lender Q4 2017 Price Survey indicates that average price forecasts have marginally decreased compared to the previous survey (Q1 2017), with a tightening of the range of forecasts.

We note that the average price from the survey is towards the lower end of the broker views observed in our benchmarking analysis.

Long term median forecasts for WTI have been revised downwards since our previous benchmarking analysis conducted as at 31 December 2016 by \$8/bbl in 2025.



Broker and consultant WTI oil price forecasts (31 December 2017)

		Original broker											
Broker /Source	Date	unit	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Barclays	31/12/2017	US\$/bbl	51	55	51	n/a							
ВМО	18/12/2017	US\$/bbl	51	50	52	55	60	61	62	64	65	66	68
Credit Suisse	22/12/2017	US\$/bbl	51	56	58	57	57	n/a	n/a	n/a	n/a	n/a	n/a
Deutsche Bank	15/12/2017	US\$/bbl	50	51	53	60	61	62	64	65	66	68	69
HSBC	01/12/2017	US\$/bbl	51	63	68	69	71	72	74	75	77	78	80
Jefferies	20/12/2017	US\$/bbl	51	59	58	63	n/a						
JP Morgan	12/12/2017	US\$/bbl	50	51	51	54	55	56	57	59	60	61	62
Macquarie	13/12/2017	US\$/bbl	n/a	51	49	60	61	62	64	65	66	68	69
RBC	18/12/2017	US\$/bbl	50	51	54	60	65	65	72	74	75	77	78
Societe Generale	12/12/2017	US\$/bbl	50	54	n/a								
UBS	13/12/2017	US\$/bbl	51	55	61	66	66	69	70	72	73	75	76
Wells Fargo	21/12/2017	US\$/bbl	51	51	53	56	n/a						
GMP Securities	20/12/2017	US\$/bbl	51	58	62	65	n/a						
ING	13/12/2017	US\$/bbl	50	49	47	n/a							
Scotiabank	21/12/2017	US\$/bbl	51	57	60	62	65	66	68	69	70	72	73
McDaniel (Consultants)	01/01/2018	US\$/bbl	51	59	59	62	69	73	75	76	78	79	81
GLJ (Consultants)	01/01/2018	US\$/bbl	51	59	59	60	63	66	69	72	75	77	79
Sproule (Consultants)	31/12/2017	US\$/bbl	51	55	65	70	73	74	76	77	79	81	82 82
Overall High		US\$/bbl	51	63	68	70	73	74	76	77	79	81	
Overall Low		US\$/bbl	50	49	47	54	55	56	57	59	60	61	62
Overall average		US\$/bbl	51	55	56	61	64	66	68	70	71	73	74
Overall median		US\$/bbl	51	55	58	60	64	66	69	72	73	75	76
Broker median		US\$/bbl	51	54	54	60	61	64	66	67	68	70	71
Consultants median		US\$/bbl	51	59	59	62	69	73	75	76	78	79	81
Consensus Economics	11/12/2017	US\$/bbl	n/a	54	56	58	61	64	65	66	67	68	69
CapIQ Forward curve	29/12/2017	US\$/bbl	n/a	59	56	54	52	52	n/a	n/a	n/a	n/a	n/a
Benchmarked overall median December 2016		US\$/bbl	55	62	67	71	71	74	76	77	79	80	n/a
Benchmarked overall median June 2017		US\$/bbl	52	55	60	64	69	72	74	75	77	78	n/a
Energy Lenders Price Survey (Q4 2017)		US\$/bbl	46	47	48	50	51	n/a	n/a	n/a	n/a	n/a	n/a



Broker and consultant Henry Hub gas price forecasts (31 December 2017)

We have collated 15 recent Henry Hub gas price forecasts from brokers and consultants.

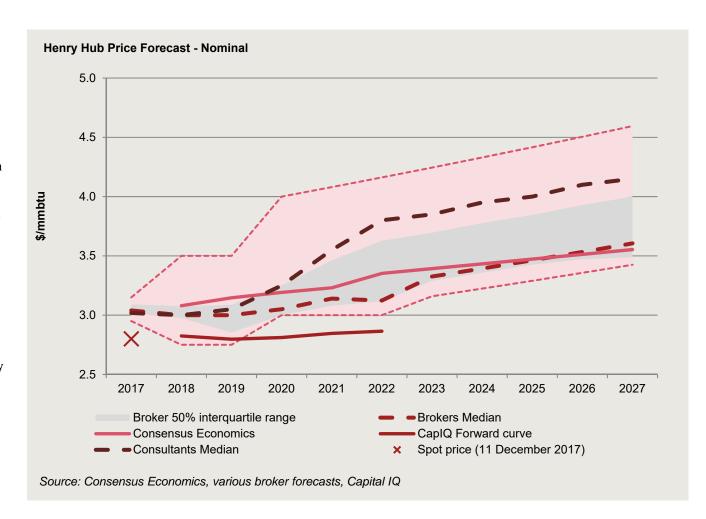
The graph on the right illustrates the low, median, high and inter-quartile views against the Capital IQ Henry Hub (NYMEX) forward curve as at 29 December 2017. The values shown are in nominal terms.

Market participant forecasts are generally higher than the liquid period of the forward curve in the medium term (2018+).

Macquarie Capital's quarterly Energy Lender Q4 2017 Price Survey indicates that average price forecasts have marginally decreased compared to the previous survey (Q1 2017), with a tightening of the range of forecasts.

We note that the average price from the survey is towards the lower end of the broker views observed in our benchmarking analysis.

Long term median forecasts for Henry Hub are largely the same as our previous benchmarking analysis conducted as at 31 December 2016.



Broker and consultant Henry Hub gas price forecasts (31 December 2017)

		Original broker											
Broker /Source	Date	unit	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Barclays	31/12/2017	US\$/MMBtu	3.11	2.75	2.75	n/a							
ВМО	18/12/2017	US\$/MMBtu	3.10	3.00	3.00	3.00	3.30	3.37	3.44	3.51	3.58	3.65	3.72
Credit Suisse	22/12/2017	US\$/MMBtu	3.11	3.10	3.00	3.00	3.00	n/a	n/a	n/a	n/a	n/a	n/a
Deutsche Bank	01/01/2018	US\$/MMBtu	n/a	3.00	3.10	3.25	3.35	n/a	n/a	n/a	n/a	n/a	n/a
HSBC	01/12/2017	US\$/MMBtu	3.04	3.50	n/a								
ING	13/12/2017	US\$/MMBtu	3.00	2.85	2.83	n/a							
JP Morgan	12/12/2017	US\$/MMBtu	3.15	3.00	2.80	3.00	3.06	3.12	3.19	3.25	3.32	3.39	3.45
Macquarie	21/12/2017	US\$/MMBtu	3.04	3.05	2.75	n/a							
Morgan Stanley	18/12/2017	US\$/MMBtu	3.04	3.12	3.30	3.30	n/a						
RBC	18/12/2017	US\$/MMBtu	2.97	3.00	3.00	3.00	3.00	3.00	3.33	3.39	3.46	3.53	3.61
UBS Research	13/12/2017	US\$/MMBtu	3.06	3.00	3.25	3.25	3.14	3.10	3.16	3.22	3.29	3.36	3.43
Scotiabank	21/12/2017	US\$/MMBtu	3.03	2.95	2.95	3.10	3.50	3.57	3.64	3.72	3.79	3.87	3.95
Sproule (consultants)	31/12/2017	US\$/MMBtu	3.02	3.25	3.50	4.00	4.08	4.16	4.24	4.33	4.42	4.50	4.59
GLJ (Consultants)	01/01/2018	US\$/MMBtu	3.07	2.85	2.94	3.12	3.30	3.42	3.50	3.50	3.50	3.50	3.50
McDaniel (consultants)	01/01/2018	US\$/MMBtu	2.95	3.00	3.05	3.25	3.55	3.80	3.85	3.95	4.00	4.10	4.15
Overall High		US\$/MMBtu	3.15	3.50	3.50	4.00	4.08	4.16	4.24	4.33	4.42	4.50	4.59
Overall Low		US\$/MMBtu	2.95	2.75	2.75	3.00	3.00	3.00	3.16	3.22	3.29	3.36	3.43
Overall average		US\$/MMBtu	3.05	3.03	3.02	3.21	3.33	3.44	3.54	3.61	3.67	3.74	3.80
Overall median		US\$/MMBtu	3.04	3.00	3.00	3.12	3.30	3.39	3.47	3.50	3.54	3.59	3.66
Broker median		US\$/MMBtu	3.04	3.00	3.00	3.05	3.14	3.12	3.33	3.39	3.46	3.53	3.61
Consultants median		US\$/MMBtu	3.02	3.00	3.05	3.25	3.55	3.80	3.85	3.95	4.00	4.10	4.15
Consensus Economics	11/12/2017	US\$/MMBtu	2.80	3.08	3.15	3.19	3.23	3.35	3.39	3.43	3.47	3.51	3.55
CapIQ Forward curve	29/12/2017	US\$/MMBtu	2.78	2.82	2.80	2.81	2.85	2.86	n/a	n/a	n/a	n/a	n/a
Benchmarked overall median December 2016		US\$/MMBtu	3.21	3.30	3.40	3.56	3.49	3.29	3.58	3.65	3.73	3.80	n/a
Benchmarked overall median June 2017		US\$/MMBtu	3.09	3.10	3.12	3.16	3.24	3.37	3.47	3.54	3.61	3.68	n/a
Energy Lenders Price Survey (Q4 2017)		US\$/MMBtu	2.80	2.82	2.81	2.81	2.85	n/a	n/a	n/a	n/a	n/a	n/a



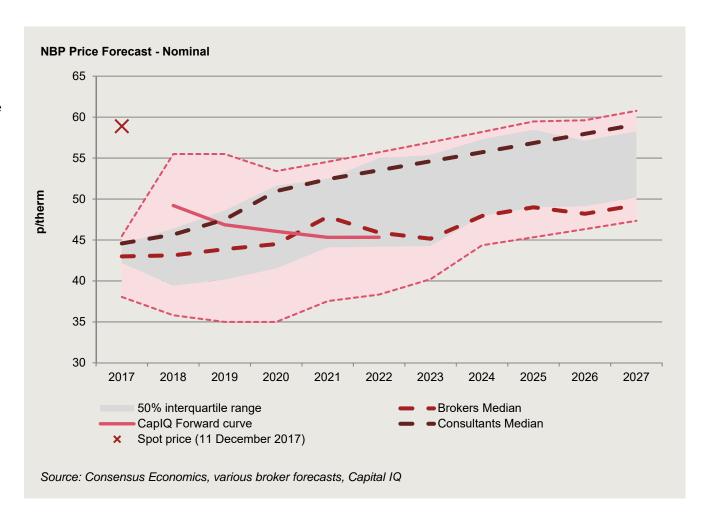
Broker and consultant NBP gas price forecasts (31 December 2017)

We have collated 12 recent NBP gas price forecasts from brokers and consultants.

The graph on the right illustrates the low, median, high and inter-quartile views against the Capital IQ NBP (ICE) forward curve as at 29 December 2017. The values shown are in nominal terms.

Market participant forecasts are generally in line with the liquid period of the futures curve.

Long term median forecasts have been revised slightly downwards since our previous benchmarking analysis conducted as at 31 December 2016 by \$2/bbl in 2025.



Broker and consultant NBP gas price forecasts (31 December 2017)

Original broker Broker /Source 2027 Date unit 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 Credit Suisse 14/12/2017 38 36 37 37 38 38 40 p/therm n/a n/a n/a n/a **Jefferies** 20/12/2017 43 47 56 58 p/therm n/a n/a RBC 47 04/12/2017 p/therm 41 40 40 41 42 42 43 44 45 46 **UBS** Research 45 19/12/2017 p/therm 48 49 51 51 n/a n/a n/a n/a n/a n/a **Numis Securities** 18/12/2017 p/therm 43 43 44 44 45 46 47 48 49 51 GKI Research - Consensus Economics 11/12/2017 p/therm n/a 56 56 52 52 55 n/a n/a n/a n/a n/a Llovd's Bank - Consensus Economics 11/12/2017 p/therm n/a 43 46 n/a n/a n/a n/a n/a n/a ABN Amro - Consensus Economics 46 44 11/12/2017 p/therm n/a n/a n/a n/a n/a n/a n/a n/a n/a ING Bank - Consensus Economics 11/12/2017 38 40 45 p/therm n/a n/a n/a n/a n/a n/a n/a n/a Capital Economics - Consensus Economics 11/12/2017 p/therm n/a 37 35 35 n/a n/a n/a n/a n/a n/a n/a GLJ (Consultants) 01/01/2018 p/therm 44 46 50 52 54 55 56 57 58 60 61 31/12/2017 Sproule (Consultants) p/therm 45 45 45 50 51 52 53 54 55 56 57 61 **Overall High** 45 56 56 53 55 56 57 58 59 60 p/therm 47 **Overall Low** 38 36 35 35 38 38 40 44 45 46 p/therm 54 Overall average p/therm 43 44 45 46 48 49 49 52 53 53 Overall median 43 45 48 51 50 54 55 54 p/therm 49 Broker median 43 43 44 45 48 46 45 48 49 48 p/therm 59 Consultants median 45 46 48 51 52 54 55 56 57 58 p/therm CapIQ Forward curve 29/12/2017 59 49 47 46 45 45 p/therm n/a n/a n/a n/a n/a 41 42 43 43 48 49 53 54 55 53 Benchmarked overall median December 2016 p/therm n/a Benchmarked overall median June 2017 p/therm 46 n/a



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