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LNG Outlook 2019

Breakthrough year?

Gas Strategies

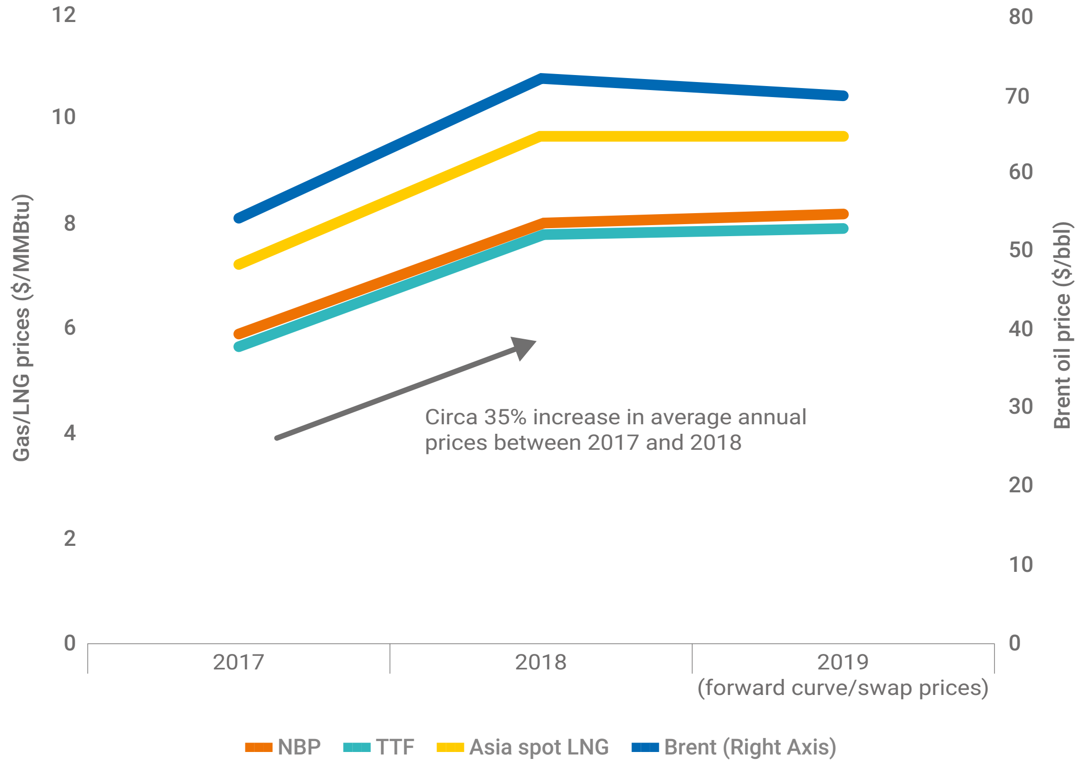
2018 turned out to be a year of surprises and, for some, disappointment. At around 25 mt, LNG supply growth has been more modest than Gas Strategies predicted in our LNG Outlook 2018, mainly due to delays at the Ichthys and Prelude projects. In terms of FIDs, the 4.5 mtpa Corpus Christi Train 3 did, as widely predicted, get the green light. Despite cost pressures and scepticism from many in the industry, the 13 mtpa LNG Canada project also got over the line. But, as always, the predictions of FID on many LNG supply projects in 2018 were not met.

Gas Strategies predicted a fall in LNG spot prices in Q2 '18, on the back of a market struggling to absorb another year of strong supply growth. This did not happen. In fact, Brent, European gas prices and Asian LNG prices are all up by around 35% (see Figure 1). While recognising that oil prices have been highly volatile at the end of the year, the Brent price has averaged approximately USD 72/bbl across 2018. Alongside increased coal and European carbon prices, this has supported the competitiveness of LNG even at higher prices.

By the end of 2018, LNG supply will have grown by an impressive 70 mt, or 29%, over just three years. 2018 was the year many analysts expected oversupply to hit the market. However, demand growth has been more robust than predicted, supported by China, which has absorbed close to 50% of global LNG supply growth over the last three years (see Figure 2).

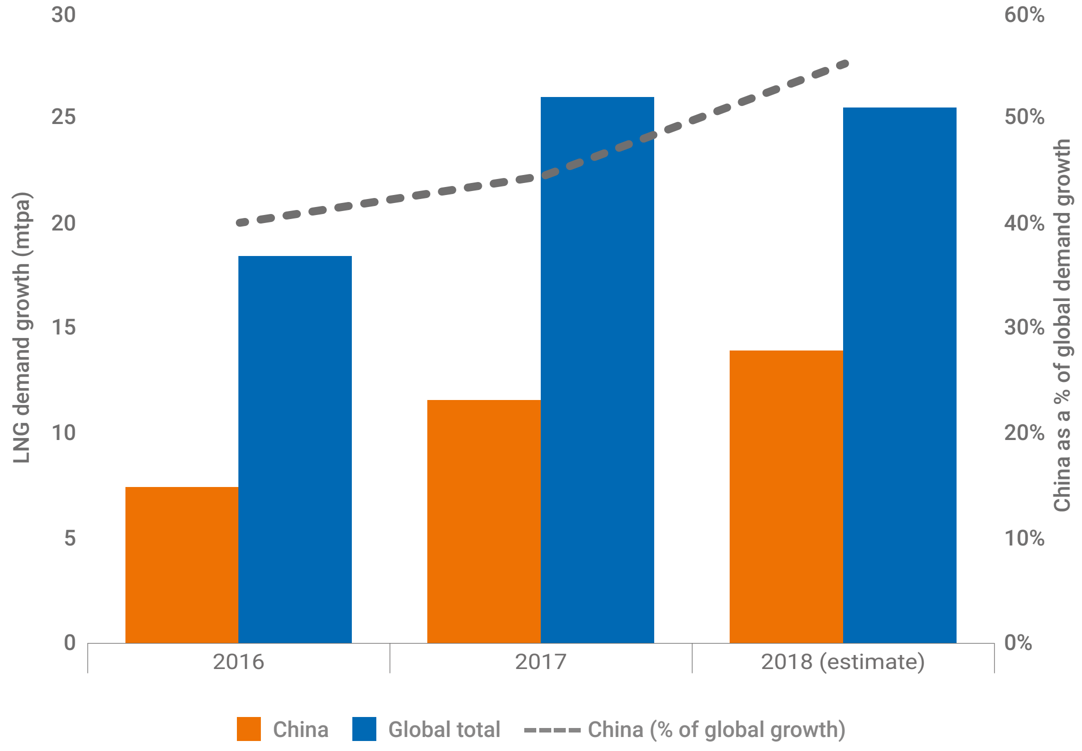
Finding sufficient buyers for long-term supply agreements continues to be the biggest challenge for planned LNG supply projects, but the number of long-term contracts being agreed is on the increase – at least for now. In 2018 to date, buyers have committed to at least 18 long-term, 15 year-plus, LNG supply agreements, from both existing and planned LNG projects, the majority of these being LNG SPAs. The total volume is estimated at 26.5 mtpa, excluding secondary LNG sales – meaning from companies reselling LNG – and commitments from shareholders to equity-lift the 14 mtpa output from LNG Canada, or Mozambique Area 4.

Figure 1 Increase in gas, LNG and oil prices 2017 to 2018 and outlook for 2019



Source: Gas Strategies, Reuters Eikon, forward curve as of 12 November 2018

Figure 2 Chinese LNG demand relative to global demand growth



Source: Gas Strategies

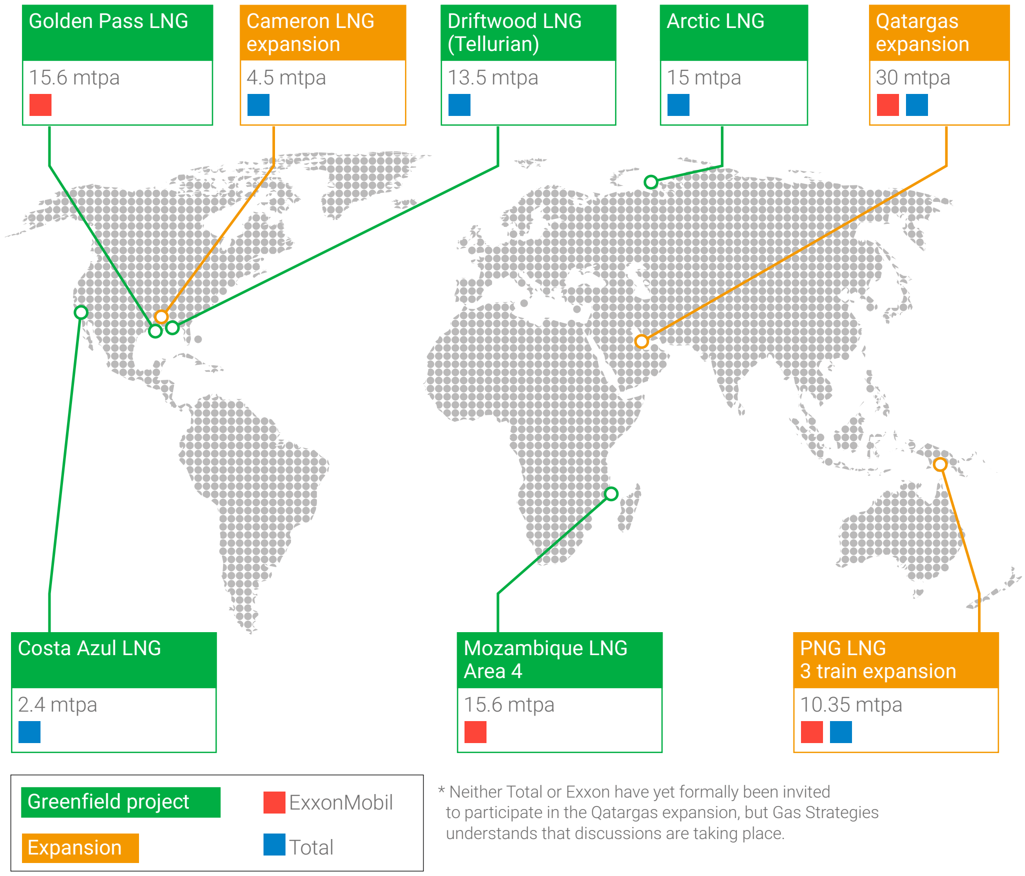
So what can 2018 tell us about the trends we could see in 2019? And with no crystal ball at hand, what hard predictions can we make about the next year?

Decisions by IOCs to have a big impact on the market in 2019

Much has been written on the dominant position Shell has created in the LNG industry, following its acquisition of BG. Its LNG sales in the first nine months of 2018 totalled 53.82 mt, equivalent to approximately 23% of the global LNG market. Of all the major LNG portfolio players, Shell was also the only one to secure additional long-term LNG supply in 2018, with its decision to take FID on LNG Canada adding 5.6 mtpa to its portfolio in the early to mid-2020s.

Looking forward to 2019, Gas Strategies sees decisions from two other IOCs having a big impact on the market: ExxonMobil and Total. The map below shows that, between them, they have a major involvement across a landscape of potential liquefaction projects with a total capacity of just over 100 mtpa. All are targeting FIDs in 2019-20.

Figure 3 Liquefaction projects targeting FID in 2019/2020 in which Total or ExxonMobil is a project sponsor or LNG offtaker



Source: Gas Strategies

Following the acquisition of Engie's LNG business in 2018, Total became the second-largest LNG player among the majors, with an overall LNG portfolio of around 40 mtpa by 2020 and a worldwide market share of 10%. Total looks well positioned to expand its portfolio beyond 2020. With half of its planned project involvements being in North America, it could be that Total has a bullish long-term view on US gas prices.

For its part, ExxonMobil's decisions seem to be largely driven by the monetisation of its upstream gas resources. To speed this process up in Mozambique, ExxonMobil has publicly stated its intention to lift LNG and take market risk itself rather than market volumes through the project on a long-term basis. Is this the start of an LNG portfolio for ExxonMobil?

Total and ExxonMobil look like they will commit to purchasing substantial LNG volumes from the projects they are involved in over the next couple of years – a major boost to the industry. But how many supply projects can these two companies make happen over a short period? The impact of Total and ExxonMobil's decisions in the next 12 months and beyond is likely to have a significant impact on the market.

China coming back to the market for long-term contracts

Meanwhile, China's LNG demand continues to grow at a rate of around 40% per year, with Gas Strategies forecasting demand in 2018 to be approximately 53 mt. This leads to an urgent need for Chinese buyers to secure additional supplies. To date in 2018, Chinese buyers have committed to new long-term LNG purchases or new LNG equity lifting totalling 10 mtpa.

Buyer	Seller	Volume (mtpa)	Term	Notes
CNPC	Corpus Christi LNG / Cheniere Marketing International	1.2	25 years	Technically two separate LNG SPAs. CNPC will purchase approximately 1.2 million tonnes per annum of LNG, with a portion of the supply beginning in 2018 and the balance beginning in 2023. The term of each SPA continues through 2043.
CNPC	Qatargas	3.4	22 years	First cargo under the contract delivered only a month after signing the contract.
CNOOC	Total	0.5 / 1.5	10 years	Amendment to existing sale, signed in 2008, with an annual contract volume of 1 mtpa for a period of 15 years. Increased the contract volume from 1 mtpa to 1.5 mtpa, sourced from Total's LNG portfolio. Term extended to 20 years.
CNPC	CNPC / LNG Canada	2.6	20 years	Partners in the 13 mtpa LNG Canada project are each responsible for supplying their own gas and for lifting and marketing their own LNG. CNPC has a 20% stake in the project
CNOOC	Woodfibre LNG	0.75	13 years	HOA. Project yet to take FID
ENN	Toshiba	2.2	20 years	ENN has purchased Toshiba's US LNG business, including its 2.2 mtpa liquefaction tolling agreement with Freeport LNG

While 10 mtpa of new LNG supply commitments in a year – as of November 2018, and noting the year is not over – is substantial, China's recent LNG demand growth means buyers are becoming increasingly reliant on the spot and short-term LNG market to meet demand. Substantial new long-term contract commitments look imminent.

Sinopec, which has some 15% share of the Chinese gas market, is absent from the table above. One might have expected it to follow CNPC's lead of committing to the next wave of US LNG supply projects. However, the US-China 'trade war', which really ramped up after the Cheniere-Corpus Christi deal was agreed, may have prevented such a move.

CNPC looks like it may have additional volumes lined up in 2019 with the planned FID on Mozambique Area 4. But it looks as if Chinese buyers could be very active in the long-term contract market in 2019.

Ability of the EPC world to deliver

As 2018 closes, EPC contractors are faced with an accumulation of challenges in delivering LNG project construction – a salutary reminder of the complexity and risks inherent in these major civil and process engineering works. While fixed price contracting and liquidated damages provisions have provided comfort to project developers and financiers, these have now proved to result in existential threats to the contractors when faced with the reality of delays and cost overruns – even in what was expected to be a relatively favourable construction environment in the US.

A number of contractors now face significant challenges as a result of existing commitments on such fixed price project arrangements, with potential knock-on effects on other projects in which they are embedded. Chiyoda's reported needs for a USD 1 billion injection from Mitsubishi appears to represent risk to the projects in which they are presently involved – not just the US Gulf constructions which have been the cause.

Cost overruns and delays have always been a characteristic of liquefaction projects. However, the thin capitalisation of the new wave of US Gulf infrastructure developers has denied these projects the support that IOC balance sheets and business depth have provided to major liquefaction projects up to now. In 2019, this may have challenging implications for both underway construction and aspiring FIDs.

A growing number of LNG 'portfolio players'

There is ongoing debate over how quickly, and to what extent, liquidity in the LNG market will grow and if/when prices will move away from oil-indexation to an Asian gas/LNG price index. The answers to these fundamental questions are unlikely to become clearer in 2019.

What is clear is that the LNG market has become sufficiently liquid for LNG traders to enter the portfolio game. In 2018, for the first time, trading companies were seen stepping out from trading cargoes, or strips of cargoes, and committing to long-term LNG supply contracts. Trafigura and Vitol both signed 15-year deals with Cheniere, and Axpo has an HoA for a 10-year supply from the planned Goldboro LNG project in east Canada.

The entry of new companies into the LNG sector – not just traders – has created more competition for entities acting as intermediaries for LNG sales. The days of European utilities having a low risk, high margin business based on buying LNG at European gas prices, and then selling to Asian buyers at premium prices on an opportunistic ad hoc basis, seem to be gone. Optimisation and trading in the LNG industry has become more sophisticated, as organisations bring more advanced risk management processes to bridge between the supply and price rigidity offered by liquefaction projects and the flexibility demanded by customers.

In addition to the LNG traders committing to long-term LNG contracts, Eni and ExxonMobil have taken clear steps towards an LNG portfolio model most evidently based on their strategy to monetise Mozambique Area 4 gas resources. The purpose of the JERA/EDF JV is clearly to turn JERA into a truly global LNG player and Polish Oil and Gas Company, PGNiG, has committed to 6 mtpa of US LNG with a stated ambition of growing a global LNG trading business.

Some such companies will be setting out next year to replicate the success of existing portfolio players such as Shell, Total and BP. Most will not succeed. But it is likely that in 2019 we will see more companies demonstrating an ambition to develop a global portfolio LNG business fit to compete in a globalising and more commoditised LNG market.

The moment of truth for Venture Global – a disrupter for the US LNG industry

If you speak to any of the US LNG project developers, they all have something to say about Venture Global's planned 10 mtpa Calcasieu Pass LNG project. In its 2018 outlook, Gas Strategies said it was a project to watch. This remains the case in 2019.

Venture Global has achieved what few other greenfield US liquefaction projects have to date: it has signed up a sufficient number of LNG customers to enable an FID decision. However, key to this success has been the low-price offering. Shell reportedly signed up to its first 1 mtpa deal with Venture Global with a liquefaction tariff of just USD 1.75/MMBtu. Subsequent deals have reportedly been signed at higher prices but still below those being charged by competing projects.

For competing LNG projects, Venture Global has already been a disrupter, providing a benchmark for liquefaction tariffs which other LNG projects cannot – or at least will not – match. Many believe that Venture Global simply cannot deliver LNG at the prices which have been agreed. If it does succeed in doing so, it will be a game-changer for the industry. With FERC approval due in January 2019, FID should theoretically be achievable in Q1 '19. But is the project economically viable? Will Venture Global have to return to buyers to negotiate higher prices?

Calcasieu Pass committed LNG sales

Customer name	Volume commitment
Shell	2 mtpa
Edison SpA	1 mtpa
Galp	1 mtpa
BP	2 mtpa
PGNiG	1 mtpa
Repsol	1 mtpa

Source: Venture Global

The success or failure of Venture Global will have implications for a number of organisations. While some of the committed buyers, such as BP and Shell, will have a depth in their LNG supply portfolio that provides plenty of cover in the event that Venture Global does not succeed, other committed buyers, such as Repsol, PGNiG, GALP and Edison, may be in such circumstances forced to look elsewhere for LNG volumes which they require in the early 2020s. Competing US greenfield LNG project sponsors such as NextDecade, Sempra and Tellurian could find themselves picking up additional customers.

2019: a breakthrough year?

Gas Strategies' view is that LNG FIDs will bounce back in 2019. It is realistic to expect as much as 35-40 mtpa of LNG capacity to reach this crucial milestone. This would be a level of activity the industry has not seen since 2011. New supply projects are being enabled by robust LNG demand growth and an increasingly bullish outlook from LNG buyers.

But competition between LNG supply projects is intense. The table below shows a list of projects with a total capacity of 211 mtpa which have all publicly stated plans to take FID in 2019.

Project Name	Location	Capacity (mtpa)
Freeport LNG T4	US	5
Sabine Pass LNG T6	US	4.5
Calcasieu Pass LNG	US	10
Driftwood LNG	US	27.6
Golden Pass LNG	US	15.6
Jordan Cove LNG	US	7.8
Magnolia LNG	US	8
Rio Grande LNG	US	27
Goldboro LNG	Canada	10
Woodfibre LNG	Canada	2.1
Mozambique LNG (Area 1 - Anadarko-led)	Mozambique	12.88
Mozambique LNG (Area 4 - Exxon/Eni-led)	Mozambique	15.2
Nigeria LNG T7	Nigeria	8
BP Senegal/Tortue FLNG	Senegal	2.5
Arctic LNG 2	Russia	19.8
Sakhalin 2 expansion	Russia	5
Qatargas expansion	Qatar	30

2019 looks set to be a crucial year for the second wave of US LNG projects. Sabine Pass Train 6 is fairly nailed down for FID; Freeport LNG Train 4 may not be far behind. Picking potential winners from the greenfield US projects is more challenging.

Outside of the US, it is difficult to bet against Mozambique Area 4 due to the strength of the project sponsors and their willingness to take the LNG marketing risks. Lessons from the recent past tell us that economic growth and energy demand forecasts will not provide the best indication of LNG demand in 2023-24, which is when some of the supply projects above might come online. LNG demand in this period will be informed by long-term commitments made by buyers in the next 12 months or so. History also tells us that buyers have a tendency to overcommit as a result of following the crowd.

Many in the industry are now expecting a supply shortage in the period around 2022-23. In 2018, buyers returned to making commitments to long-term supply from new LNG projects. The challenge remains that these commitments have been fragmented across a relatively wide range of planned projects. This momentum, sustained into 2019, looks like it will lead to a breakthrough year for a number of project sponsors and will unlock the next wave of investment which is now urgently needed.

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