ViewPoint

Resolving the mismatch between LNG buyers and sellers

Gas Strategies

Gary Regan

Manager

Email: g.regan@gasstrategies.com

Gary Regan is a Manager at Gas Strategies and leads much of our work in the LNG sector. He brings a wealth of experience across the LNG value chain. Gary has supported organisations in developing and financing liquefaction projects in Australia, Russia, the US and East Africa. His work with LNG buyers and LNG import project developers, particularly in Europe and Sub-Saharan Africa, mean that he also brings a perspective of the evolution in buyer's needs.

Gary's most recent work has focused on the US LNG market, working with both project sponsors to develop their market position and with LNG buyers trying to form a strategy around US LNG procurement / investment. He is also working with IOCs and utility companies to establish LNG marketing and trading capabilities.

Acknowledgments

This ViewPoint represents the thoughts and perspectives of Gas Strategies' LNG specialists and expert team whose input is acknowledged and greatly appreciated. Thanks in particular to Alex Forbes, Senior Associate with Gas Strategies, for his support in the development of the paper.

Introduction

There is a growing consensus that the small number of final investment decisions (FIDs) on new LNG supply projects since the start of 2016 will lead to a tightening market and rising spot LNG prices in the early 2020s. We are seeing the early signs of that already.

Only four projects have been sanctioned since the start of 2016 – Tangguh Train 3 in Indonesia, Coral South Floating LNG in Mozambique, and Elba Island and Corpus Christi Train 3 in the US. Total capacity is 14.2 mtpa. The contrast with 2011-2015 – when average annual sanctioned capacity exceeded 20 mtpa – is stark.

Why have we seen so few FIDs on new liquefaction projects?

Buyer-seller mismatch

There are numerous signs that the global LNG market is on a path to greater liquidity and commoditisation, but views differ as to how long it will take for the process to culminate and what the market will look like when it does. Meanwhile, it is caught between an inflexible past and a more flexible future and its migration path remains uncertain.

Buyers have therefore been reluctant to commit to the long-term oil-linked sales and purchase agreements (SPAs) that have traditionally underpinned the financing of new projects. There is a move towards shorter-term, more flexible contracts. Moreover, because of the current supply build-up from projects in Australia, the US and elsewhere, there is a perception that LNG can be procured on a spot or short-term basis with relative ease.

Without sufficient long-term contract cover, project sponsors have been reluctant to commit to highly capital-intensive liquefaction projects, either because finance would be difficult to obtain, or because risk is deemed to be unacceptably high – or both.

This ViewPoint seeks to answer a number of questions:

1. **Why has this buyer/seller mismatch arisen?**
2. **What possible approaches could help to resolve it?**
3. **Do we just have to be patient, and wait for the current supply build-up to play out?**

1 Why has the buyer-seller mismatch arisen?

The global LNG market is transitioning away from being a purely long-term contract business. The traditional image of a buyer – a monopoly gas or electricity utility, with captive predictable demand, a high credit rating, and seeking long-term predictability of supply for its own use – no longer applies to many of the players.

Market trends

The market transition is characterised by demand, supply and pricing trends:

Demand

- Successful opening up of new LNG markets has increased the number of LNG importing countries from 18 in 2008 to 42 today. The resulting proliferation of end-buyers is boosting competition and market liquidity. One driver has been the commoditisation of floating storage and regasification units (FSRUs), which support the trend towards shorter-term contracts.

- New types of buyer have emerged, some better able to manage risk than traditional buyers and sellers, while others make financing a project trickier. They include portfolio players (such as Shell and Total), traders (such as Trafigura, Vitol and Gunvor), second-tier end-buyers who previously bought from state-owned entities, and end-buyers with non-investment grade credit ratings.

Of particular importance are the “portfolio players”, who aggregate supply and demand, creating more flexibility and optionality than is possible with bilateral contracting. Increasingly, these companies are playing a crucial intermediary role between LNG producers and end-buyers.

- Buyers, because of the pressures they are facing, are demanding greater contract flexibility and price mechanism diversity. Japan, for example, has outlawed destination restrictions in LNG contracts. Buyer concerns include greater downstream competition and policy related to carbon emissions.

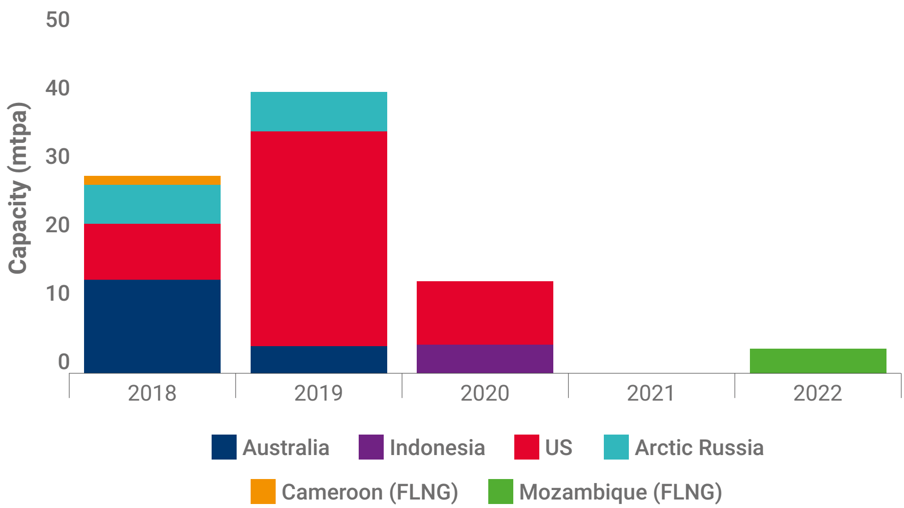
  Many traditional buyers are finding that demand is becoming less secure as downstream markets for gas and electricity are liberalised to foster competition. The world’s largest market for LNG, Japan, is a case in point. Its gas market was fully liberalised from the start of April 2017, with electricity liberalised a year earlier.

  Since the 2015 Paris Agreement on climate change, some countries have begun pursuing energy policies that impact demand for natural gas in general and LNG in particular. In some cases the result has been demand reduction; in others, the opposite.

Supply

- Sources of LNG supply are becoming more diverse. Following strong LNG supply growth in 2016 and 2017, there is still a substantial volume of liquefaction capacity which is due to start operations in the period 2018-2020. There is strong supply growth from new projects in Australia and the United States in particular (see chart below). This is leading not just to growth in traded volumes but also diversification of business models and price-formation mechanisms.

Figure 1 LNG supply capacity additions 2018 – 2022



Source: Gas Strategies

- Developments in the US are of particular significance because they are changing the market in fundamental ways.

  The first wave of projects introduced separation of resource from liquefaction capacity, price linkage to Henry Hub, and long-term tolling agreements with buyers who lift LNG on Free On Board (FOB) terms. These tolling agreements pass price risk to buyers. Most projects are brown-field, and so cheaper and quicker to construct than green-field projects.

The second wave of pre-FID projects promises further change, with smaller, modular trains that can be developed relatively quickly and in incremental steps to match market growth.

- Liquefaction projects constructed two decades ago or so are re-marketing capacity as long-term contracts expire. With capital costs long ago amortised, they can be more flexible with contracting strategies than new projects. Expiring contracts are much more likely to be renewed on a medium- or short-term basis than a long-term basis.

Pricing

- Multiple LNG price indexes are competing for dominance. Traditionally, long-term contracts into Asia have been indexed to crude oil. The rise of US exports into Asia means linkage to Henry Hub is playing a growing role. Meanwhile, a plethora of potential Asian indexes has been proposed. They include the Singapore Exchange (SGX) Index Group – or Sling – and Platts' Japan Korea Marker (JKM), a benchmark price assessment for spot physical cargoes delivered ex-ship into Japan, South Korea, China and Taiwan.

  These indexes are growing in importance but have yet to make a substantial impact on the overall market. An International Gas Union (IGU) report on wholesale gas pricing reveals that while "pipeline trade has seen a continuous shift to gas-on-gas competition (GOG) … oil price escalation (OPE) has largely held its share in LNG trade". OPE accounted for 72% of the market in 2017, about the same as in 2007.

GOG price formation accounted for the remaining 28%. It comprised mainly LNG going to the traded markets of the UK, Belgium and the Netherlands in Europe, and spot LNG cargoes to the traditional LNG markets in Asia Pacific and Europe and some of the newer markets. The GOG share grew in 2017, in part due to the growth of US LNG exports linked to Henry Hub. We have yet to see how the various Asian indexes will fare over the medium to long term.

Together, these trends are causing a structural shift in market power away from sellers and towards buyers.

The buyer-seller mismatch

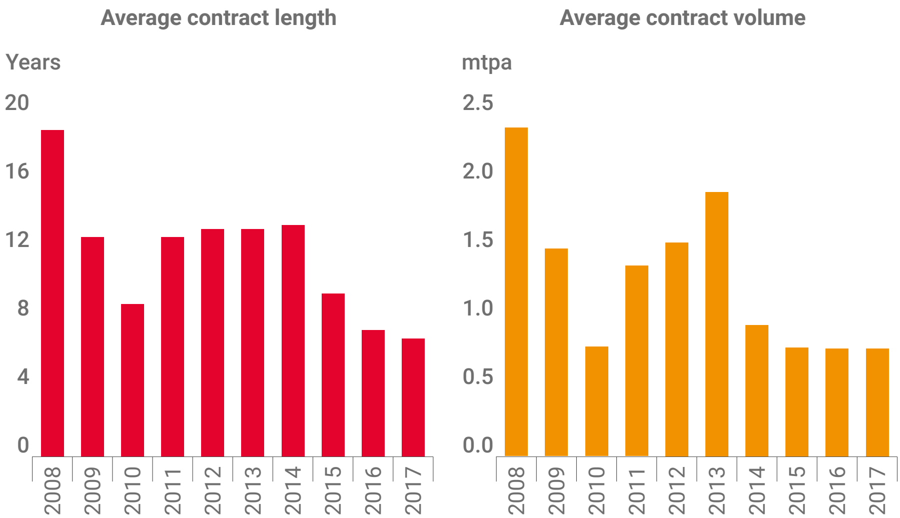
Because of the way the market is developing, buyers and sellers generally have different objectives in agreeing LNG contracts. Meanwhile, a liquid Asian LNG trading hub – which would go a long way towards resolving this mismatch – remains elusive.

Contracting objectives

Buyers can sense change coming and are increasingly unwilling to commit to inflexible long-term contracts. Destination restrictions have received a lot of attention but it is also true that average contract terms are getting shorter, while volumes in individual contracts are shrinking. “Pure spot” LNG imports – deliveries occurring less than three months from the transaction date – accounted for a fifth of the global market in 2017.

The charts below, from Shell’s 2018 LNG Outlook, show that average contract length has fallen from over 18 years for LNG SPAs signed in 2008 to less than seven years in 2017. Average contract volume has fallen from over 2.25 mtpa to around 0.75 mtpa, less than a third of what it was a decade ago.

Figure 2 Evolution in average LNG contract duration and volume 2008-2017



Source: Shell LNG Outlook 2018

At the same time that buyers are seeking greater flexibility, shorter terms and smaller volumes, most project sponsors still require long-term contract sales to underpin project financing and to mitigate market risks.

The elusive Asian LNG trading hub

While it is clear that liquidity in Asian LNG trading is increasing and confidence in reported prices is improving, a truly liquid Asian LNG traded hub, suitable for indexing long-term LNG contracts, remains elusive. Gas Strategies' view is that this will not develop until one of the large Asian gas markets – Japan perhaps the most likely candidate – develops a functioning physical trading gas hub. This is likely to be many years away.

Only modest volumes of LNG are traded on indexes such as the Singapore Sling and JKM. LNG volume traded on the JKM swaps index in Asia quadrupled in 2017, to around 170 cargoes. But that represents only around 3.5% of the global market, despite Asia's three-quarters share of global demand. For now, the JKM index is predominantly a mechanism to hedge short-term LNG prices rather than a reference price against which long-term contracts can be indexed.

2 What possible approaches could help to resolve the buyer-seller mismatch?

To meet forecast demand growth, Gas Strategies considers that LNG supply will need to grow by around 120 mtpa between 2023 and 2030. This will require investment in the region of USD 200 billion for upstream and liquefaction project development.

Numerous new LNG supply projects have been proposed, amounting to a total capacity of more than 300 mtpa, or 2.5 times the forecast demand growth to 2030. So competition to attract buyers is fierce.

But how will LNG supply keep pace with LNG demand if many end-customers are no longer able/willing to sign long-term SPAs?

There has been a marked uptick in optimism this year that FIDs will be reached on several new and expansion projects by the end of 2019. Projects that have stated their intentions to reach FIDs in this timeframe span North America, Africa, the Middle East, Russia and Asia. However, we are now well into the third quarter of 2018 and the only FID so far has been on Train 3 at Cheniere's US Corpus Christi project.

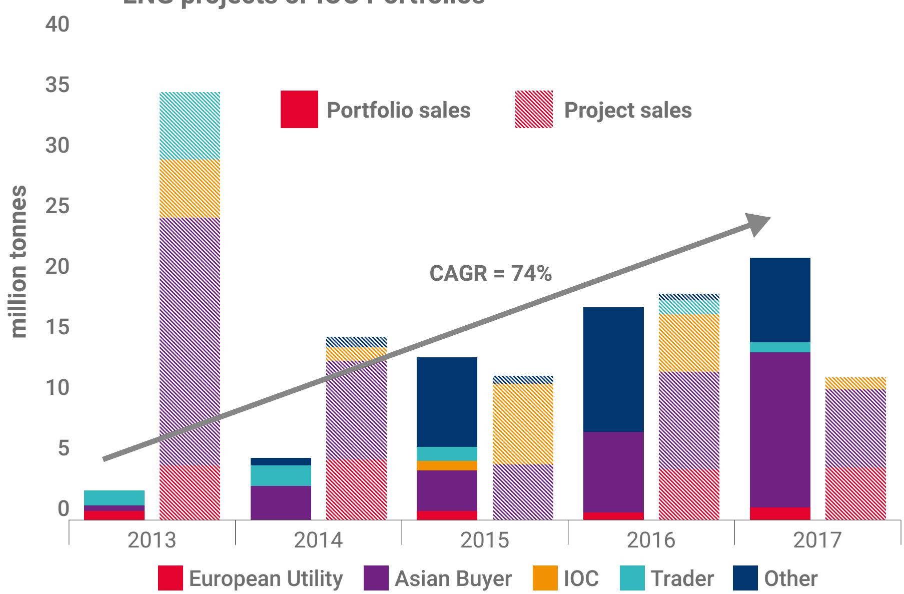
So what kind of approaches are likely to prove successful in resolving the buyer-seller mismatch? Gas Strategies has identified five possible responses.

1 Portfolio players become kingmakers

Some of the companies that have been aggregating purchase contracts and sales contracts to become portfolio players have become very influential. In particular, the consolidations of Shell with BG Group in 2016 and Total with Engie's upstream LNG business last July have created a top tier of portfolio players.

These companies will increasingly play the role of kingmakers, meaning that without necessarily taking equity interests in projects themselves they will enable projects to proceed by agreeing substantial long-term offtake contracts for LNG not yet earmarked for specific end-buyers. An example is BP's decision to sign up to the entire output of the 3.4 mtpa Coral FLNG project in Mozambique for 20 years – the deciding factor in that project taking FID last year. The chart below supports this view:

Figure 3 New contracts signed by Player Types, from either LNG projects or IOC Portfolios



Sources: GIIGNL, Gas Strategies

Note: Data used is GIIGNL which is based on publicly available and reported deals. This is expected to underestimate the Portfolio sales, due to fewer of these deals being publicly reported than project sales. Therefore this analysis should be seen as directional, and the message is expected to be accentuated if non-public deals are added.

Based on GIIGNL data, it shows that the proportion of contracts signed on a portfolio rather than project basis has increased sharply over the past five years – by a compound annual growth rate (CAGR) of 74%. This is probably an underestimate because the public reporting of portfolio sales is likely to be less complete than that of project sales.

2 Convincing financiers to take on more market risk

Before the sponsors of a proposed liquefaction project can proceed to a positive FID, they need to be reasonably sure not only that the project will be profitable over its lifetime but that they will be able to fund it, with either equity and/or debt finance.

With the exception of a very few LNG players with very deep pockets, most project sponsors will need some debt finance to develop a multi-billion dollar liquefaction project. A 70:30 debt/equity split is common. This means convincing potential financiers – banks, ECAs, sovereign wealth funds and so on – that the cash flows generated by the project will be sufficient to service any loans, especially those that come in the form of non-recourse or limited-recourse project finance.

There has been much discussion, debate and speculation about when it will become possible to begin sanctioning LNG projects without long-term contract cover, or with a much smaller proportion of cover than has been acceptable in the past. This essentially means: when will it become possible to finance a project primarily targeting a deep and liquid spot/short-term market – in other words, on a full or partial merchant basis?

Bankers like to say in public that the world is awash with capital looking for "good" projects. But the question then becomes how do you define "good"?

> “We understand the model’s going to change. We provided $40 billion in financing between 2012 and 2015 on the back of [long-term] tolls and fixed-price contracts. Our clients are telling us we’re not going to get those. We’re probably going to get a combination, where we take some market risk, and where we have some long-term contracts underpinning the financing.
>
> “The nature of the contracts will drive what the financing looks like. Shorter contracts and more market price exposure will mean less debt and higher prices. When people start entering into SPAs and tolling agreements, or whatever, we’ll start engineering solutions around their problems.”
>
> *Roberto Simon, Managing Director and Head of Natural Resources & Infrastructure for the Americas, Société Générale, November 2017.*

3 More flexible price formation

The mismatch between the needs of sellers and buyers could be ameliorated by changes to price-formation mechanisms that reduce perceived buyer risk in long-term contracts and thus widen the pool of available buyers. This process has already begun in various ways, though generally is still in the early stages.

One possibility is for a project or portfolio player to offer a buyer an alternative to oil indexation – such as linkage to a market hub price like TTF in continental Europe, the UK’s NBP or Asia’s JKM. There are a number of projects looking at these options. For this to work, project sponsors will need to be comfortable that their economics are robust in diverse price scenarios and that they are able to manage the risk.

Another possibility is to address buyer concerns that price formation mechanisms in their home market may change over time. This could, for example, involve extending the scope of price review clauses to allow linkage to move from, say, oil indexation to market pricing after a period of some years, to keep in line with price formation in the home market. Many long-term LNG contracts already contain price review clauses but do not necessarily anticipate a change in indexation.

Buyers will not necessarily be uncomfortable with 20-year contracts if they know the price is going to be “in the market”.

4 A move towards an incremental project approach

LNG projects in the US have the advantage of not needing to develop upstream gas production. This means they can come to market faster than integrated projects.

With average long-term contract volumes getting smaller, some project sponsors have responded with plans to construct liquefaction projects with smaller “mid-scale” trains rather than the 5 mtpa or so versions adopted by most recent projects.

The idea is to match train size more closely with the volume which could be realistically marketed to a maximum of say 2-3 customers. Projects can then be phased to come on stream in smaller increments, better matching market growth. Instead of having to secure long-term contracts for 10 mtpa or more before taking FID, 3-4 mtpa might be sufficient.

Also, there is more potential for brown-field expansions because of the number of projects that are already being developed. For example, Cheniere plans to utilise mid-scale trains for the next expansion of Corpus Christi. It proposes the phased construction of seven trains with total capacity of 23 mtpa for its Stage 3 Project, a nominal train capacity of 3.3 mtpa. Construction is scheduled to begin “upon receipt of all required authorisations”, with first LNG in 2022.

5 Project participants agreeing to lift LNG output

Among the list of proposed projects hoping to reach FID before the end of 2019 are several where major LNG buyers – such as Korea Gas Corporation (Kogas) and CNPC/PetroChina – and/or portfolio players are the project sponsors. Such sponsors could move a project forward by agreeing to lift the output themselves.

Gas Strategies expects an increase in the number of projects opting for equity lifting/marketing rather than joint marketing. The success of such a strategy will depend on how cost competitive the LNG is versus opportunities to buy elsewhere.

One project explicitly pursuing this option is the Rovuma LNG venture onshore Mozambique.

> “We have made significant progress on marketing and are now in active negotiations on binding sales and purchase agreements for Rovuma LNG with some affiliated buyer entities of the Area 4 co-venturers.”
>
> *Peter Clarke, President, ExxonMobil Gas and Power Marketing Company, June 2018.*

Co-venturers include Eni, CNPC/PetroChina, Kogas, Galp and the national oil and gas company, Empresa Nacional de Hidrocarbonetos (ENH). Clarke did not say which companies he was referring to or what volumes they might take. But he did confirm FID was expected in 2019.

3 Do we just have to be patient, and wait for the current supply build-up to play out?

Whatever the possibilities, the market reality today is that the projects that look the most likely to go ahead over the coming 18 months are those that have been able to secure sufficient long-term contracts to cover most of their output.

Projects that can credibly say they are in this position (or have project sponsors planning to offtake LNG) are few. They include: the two onshore Mozambique projects; LNG Canada; and Calcasieu Pass (Venture Global) in the US. (Some of these projects face significant other hurdles – including economics in the case of the two North American projects – but these are beyond the scope of this ViewPoint.)

For LNG supply projects with less advanced LNG marketing positions, the continued need to secure long-term contracts to underpin project financing presents a number of questions:

- Should they target a seemingly contracting and increasingly competitive segment of the LNG market with appetite for long-term, oil-indexed contracts?

- Should they re-position themselves to manage the risks of flexibility associated with downstream market liberalisation and hub-traded market prices? Or, perhaps more realistically, target sales to portfolio players?

- Or should they just be patient and wait for the current supply build-up to play out, in the hope that buyers will begin to sign more long-term contracts as the market tightens?

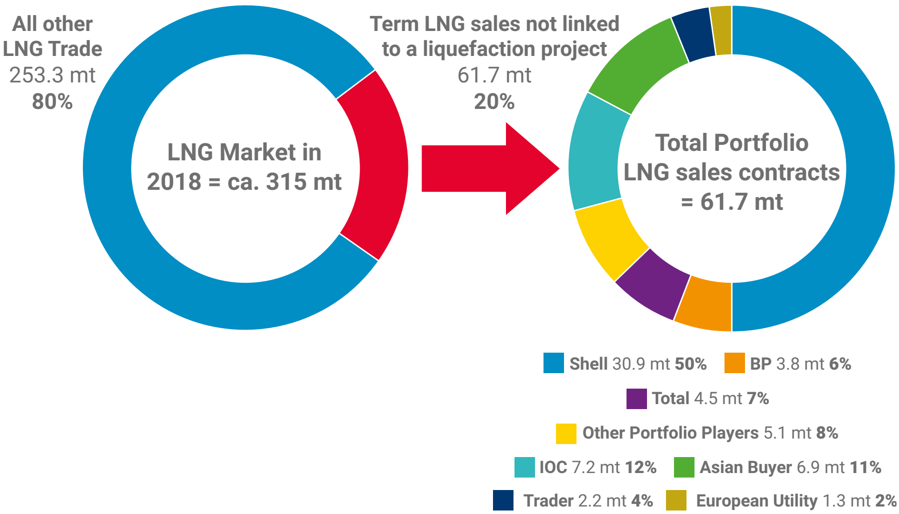
How should LNG businesses respond?

However the future LNG market develops, the trend towards an increasingly commoditised and liquid LNG market is almost certain to be irreversible. Gas Strategies knows of no examples of a commodity reaching the level of liquidity already seen in the LNG market and then reverting to historic models.

There is a strong argument that the LNG industry will continue to segment into separate sub-markets: a segment comprising large, long-term end-user LNG buyers, likely to shrink over time; and a growing segment comprising new LNG buyers and those facing downstream market liberalisation – a sub-market that is becoming increasingly competitive and liquid, demanding greater flexibility and more sophisticated risk management from LNG sellers.

In general, the companies best positioned to extract value in an increasingly commoditised and liquid LNG market – and able to play in both the short-term and long-term markets – are the portfolio players. In this context, it is worth noting that Shell accounts for around 50% of existing term contract portfolio sales.

Figure 4 Contracted LNG demand increasingly being captured by Portfolio players – Shell holds dominant position



Source: Gas Strategies, GIIGNL

Note: The chart above only captures medium (longer than 4 years) and long-term LNG sales from portfolio players or non-liquefaction project companies to end-user companies. The actual volumes traded by portfolio and trading companies are far larger.In addition to this, GIIGNL data is likely to underestimate portfolio LNG sales as some deals do not get publicly announced.

Portfolio players are able to commit to long-term contract volumes and re-sell on the basis of matching buyers' needs for flexibility and shorter-term contracts. There is an increasing trend of LNG players, upstream and downstream, who have seen their margins squeezed in the last 2-3 years, looking to establish more sophisticated marketing and trading organisations to manage their LNG portfolios.

The "squeezed middle" – those established LNG players being out-competed by more nimble approaches to marketing and trading LNG and now less able to meet buyer's needs – is likely to grow, extending beyond just European utilities.

It may be that some pure LNG buyers and pure LNG sellers choose to retreat from the market, effectively outsourcing LNG procurement or marketing to other organisations as they are out-competed by those with the capability to buy and sell and more effectively manage risk in a shorter-term, more flexible market.

We may see more instances of big buyers moving upstream to manage/hedge risk, as Chinese and Korean buyers have been doing. This could create the conditions necessary for even mega-projects to move forward.

Where do you want to play?

A recognition that the LNG market is changing fundamentally, and segmenting, means organisations need to decide where they want to play.

The nature of opportunities in the LNG industry is becoming more diverse as the industry grows and matures. Developing a liquefaction project in the US for example is very different from developing an integrated upstream and liquefaction project in a remote part of Australia. Investing in the development of a new LNG market in order to sell LNG requires a very different approach and skill set to selling LNG to a large experienced LNG player. Managing the risk of multiple price indexes rather than just buying and selling LNG on an oil-index requires much more sophisticated risk management.

For some organisations, perhaps those which have historically relied on large balance sheets and barriers to entry in the LNG industry preventing competition, the extent of commoditisation and change in the LNG industry in recent years has already left them far behind new competitors. These organisations , which in our observation includes upstream resource holders as well as smaller demand side players, may be up against significant institutional barriers which could prevent them playing in a more competitive faster paced environment. Finding a niche to play in may be key to future ongoing success.

LNG marketing strategies and project commercial propositions will need to evolve to adapt to these new realities, looking out to 2023 and beyond

At present, it looks as though LNG supply growth will be minimal in the period 2022-2023 because of the stalemate between LNG buyers and sellers that occurred during 2015-2017 and the resulting scarcity of FIDs. We have seen a big uptick in long-term deals being signed in 2018, but Gas Strategies' view is that the relationship between buyers and sellers has changed from what it was when the last wave of LNG projects came forward during 2011-2014.

Traditional LNG business models are starting to look outdated and companies that were successful in the past will not necessarily succeed in a rapidly evolving LNG market.

Notes

Gas Strategies Group

10 St Bride Street
London
EC4A 4AD

ISSN: 0964-8496

T: +44 (0)20 7332 9900
W: www.gasstrategies.com