Gas Strategies

May 2018 Barcelona

PATHFINDER FORUM REPORT

New markets, the future of LNG supply & the challenge of mature markets

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In early May 2018, Gas Strategies hosted and facilitated a Pathfinder Forum event in Barcelona for an invited group of leaders in the global gas and LNG industry, including LNG project developers, portfolio players, financiers and advisors. The event took place under the Chatham House Rule.

Through a highly interactive debate, the forum participants challenged each other to recognise the extent of the changes underway in the industry, the uncertainties that have been created by, amongst others, market liberalisation and climate change policy, and the need for our businesses to prepare for a very different future in which old rules and competitive strengths may no longer apply.

This report captures some of the key issues raised and discussed.

SUMMARY

Three key themes were addressed by the roundtable participants: new markets for natural gas and LNG; the future of LNG supply; and the challenge of mature markets.

Emerging Asian markets were identified as having the most potential for future growth. However, there are now fewer new potential markets for LNG that have existing downstream gas infrastructure and reliable gas demand. This means that the opportunity for LNG will increasingly rely on the creation of new demand through integrated LNG-to-power projects and conversion of existing oil-burning industrial demand.

LNG bunkering was seen as another new area of growth, especially ahead of the International Maritime Organisation's 2020 sulphur cap. However, this segment is only likely to make small inroads in the short term, as it faces several challenges, including shipowner hesitation to adopt LNG as a fuel.

Getting the next wave of LNG projects to FID has been a challenge. There was consensus that new models, perhaps involving more risk-taking for sponsors and lenders, would be needed, and that portfolio players would likely play a key role as the anchor customers.

Finally, three major issues arose when discussing the challenges facing the LNG industry with respect to mature markets: climate change policies impacting gas demand growth in established OECD markets; the gas industry's slow progress when it comes to capturing new markets, such as trucking and LNG bunkering; and the gas and LNG industry's failure to raise its profile for favour among politicians and voters.

NEW MARKETS FOR GAS AND LNG

THE FUTURE OF LNG SUPPLY

THE CHALLENGE OF MATURE MARKETS

NEW MARKETS FOR NATURAL GAS AND LNG

The discussion began by acknowledging a notable shift in the industry's focus when it comes to new, large-scale opportunities. The markets that have seen significant growth in recent years are now recognised, with some benefit of hindsight, to have been markets with existing gas industries. Most of the "low hanging fruit" has been picked, and further growth in demand will come not only from resupply where indigenous production has gone into decline, but also from opening new markets and creating demand through fuel substitution.

But large-scale gas-to-power opportunities, in markets new to gas and LNG, are taking a long time to materialise – perhaps because they are too big to succeed. Success requires favourable policy, political will and strong institutional capacity. In many cases, host governments have struggled to grasp the complexity of gas-to-power projects. As a result, they have failed to implement appropriate policy and regulatory frameworks that would enable the combined investment in LNG import infrastructure, ports, pipelines and large-scale power projects.

LNG suppliers are recognising the level of investment required, in time and resources, to work with government stakeholders, and that investments in opening up new LNG markets may take

“SUCCESS REQUIRES FAVOURABLE POLICY, POLITICAL WILL AND STRONG INSTITUTIONAL CAPACITY”

years to yield results. Those who are willing to play the long game, will develop smaller LNG import projects with a view to growing downstream demand. However, it is recognised that this requires a new mindset for some LNG companies. For some companies this type of investment is simply not attractive.

LNG Bunkering

The discussion soon turned to LNG bunkering which, ahead of the IMO’s 2020 sulphur cap, is seen to have enormous potential: the total size of the bunkering market is equivalent to 200 mtpa. To put this into perspective, if LNG took a 20% market share, the volumes required would be equivalent to Chinese LNG demand in 2017. However, this segment faces significant challenges, as not everyone in the shipping industry sees the need for conversion. Even in Europe, where Emissions Control Areas (ECAs) are already in place in the Baltic and North Sea, uptake has been slow. The availability of bunkering stations at ports is seen as the biggest barrier to development.

Participants considered that the development of LNG bunkering was most likely to take place on a regional basis rather than being driven by some global “grand plan”. Also, its opportunity for growth certainly relies on the enforcement of new IMO regulations, but that raised the question of who will do so. Will it be national authorities? Individual ports? Or cargo shippers wishing to manage their carbon footprint across the full supply chain? Financiers of vessels could also put significant pressure on shipowners to comply.

Paradigm Shift

Roundtable participants agreed that a paradigm shift was required if a new wave of LNG markets is to be opened up, with LNG suppliers beginning to recognise the advantages of smaller scale projects and greater flexibility. Economics, credit risk of anchor buyers, and the need for supply flexibility have been outside the risk envelope of many traditional players. Portfolio players and traders are potentially best placed to meet these requirements.

Notably, a new breed of player, with a more flexible and entrepreneurial mindset, has emerged to take on these risks. For example, the New Fortress Energy LNG solution in Jamaica was described as an “eye opener” for traditional LNG players. These new players are seeing a much wider business opportunity in establishing a hub-and-spoke model. This is a significant step away from large government sponsored projects. The question now is whether the industry needs to accept longer term and “sustainable” demand from less credit worthy buyers.

THE FUTURE OF LNG SUPPLY

The roundtable discussion then moved to the new reality of a tighter LNG market emerging in 2022-23. After successive years of strong supply growth, no new capacity is due in 2021, while in 2022, only Mozambique FLNG and Corpus Christi Train 3 are expected to start up.

While it is still likely that the market will see some kind of surplus of LNG once all US and Australian volumes come forward, it will be shorter lived than previously thought. With this in mind, the market will need more supply. A number of projects will get to FID over the next two years, offering a new window of opportunity for project developers.

What remains untested is how elastic demand may be in some markets when spot LNG prices rise. For example, India displayed strong LNG demand growth in 2016 when spot LNG prices were very low, but may cut imports if prices stay high, whereas other markets have tended to be more inelastic. It is unclear how other emerging LNG markets, such as Pakistan and Bangladesh, may react to higher LNG prices. Europe may not be the only swing market when the market tightens again.

FID Line Up

When it comes to new project commitments, these will be driven by different rationales – and not all projects take FID for reasons that appear rational to everyone. A prime example offered during the discussion was that of LNG Canada. Many industry participants see this project as too expensive to advance, but an FID decision looks plausible around the end of the year.

Politics will play a major role in some other projects, such as Novatek's Arctic LNG 2, which has strong support from the Russian government, particularly in the wake of economic sanctions and a drive to develop Russian LNG technology.

During the discussion, there seemed to be a consensus that many credible projects appear to be lining up to take FID in the coming years, with good progress being made in projects in the US, Canada, Qatar, Mozambique and Papua New Guinea.

The group was generally aligned on the notion that the LNG industry continues to be cyclical. Underinvestment was seen in new LNG supply projects in the

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last 2-3 years, and it is quite possible that an over correction will take place in coming years. This could indicate another wave of supply in 2024-2025, marking a new pattern of cyclicality for the enlarged industry.

Who Will Be The Kingmakers?

Portfolio players and IOCs look likely to be the kingmakers, either by pushing through the development of projects in which they are involved, such as Shell in LNG Canada, ExxonMobil in Mozambique, and Total in Arctic LNG 2, or by purchasing from projects that offer low cost LNG, with a possible focus on US LNG projects in this regard. However, this raised a question: will portfolio players and traders continue to build up their long-term contract exposure and act as the bridge between LNG projects and emerging LNG markets?

It was pointed out during the discussion that portfolio players, and potentially traders, could play an important role in linking project development with the opening of new markets, as they can manage uncertain delivery timings.

The Role Of Shipping

The role that shipping will play in the future realisation and management of market liquidity was recognised to be an increasingly significant question. That is as a consequence of the more flexible US liquefaction model, and of the scale of LNG supply contracted into portfolios, giving rise to large volumes of uncommitted LNG by 2021.

These volumes will need to be moved, and liquidity in molecules will only be realisable to the extent that there is availability and flexibility in shipping capacity. The question was raised whether true optimisation can be achieved in portfolios of the scale now being realised by industry consolidations like Shell/BG and Total/Engie.

THE CHALLENGE OF MATURE MARKETS

There were three major issues discussed in this session that drew out the challenges facing the gas and LNG industry with respect to mature markets, where gas is anxiously looking for its future.

To start with, policies designed to combat climate change are having an impact on gas demand growth in mature OECD markets. Nonetheless, the OECD still represents nearly 50% of global gas demand, and mature markets will remain key destinations for LNG.

The discussion focused on the EU market, which represents almost 12% of global gas demand, but has shrunk by nearly 1% per year for the last five years compared to a global growth of 1.2% per year and non-OECD growth of 2.2%. Given the forecast reduction of production in Norway from the mid-2020s and the precipitous decline in supply from Groningen, there is clearly room for additional LNG in Europe.

However, few downstream European players have the confidence to enter into long term agreements given the uncertainty of demand, price formation and competitive pressures, and many of the "traditional" players have shifted their strategic focus to renewable energy. In some cases, they have divested their "fossil fuel" businesses altogether, E.ON being a notable example.

It seems likely that European buyers with strong credit ratings will in future play less of a role in the long term contracting that supports new LNG projects being financed and launched.

Uncertain Pathways

The combination of market liberalisation, carbon reduction policies, the energy transition and a long recession, has had the effect of severely curtailing gas demand in Europe versus historic projections, while creating huge uncertainty as to the future pathways for the energy mix, which has created challenges for those seeking to sell into the market. We have yet to see these issues replicated elsewhere in the world. It was noted, however, that with the proposed liberalisation of the gas market in Japan and other countries in Asia, we may see similar uncertainties created in what have been, to date, extremely conservative and reliable "monopoly" based markets.

Another key issue that was discussed was the relentless fall in the costs of renewable electricity. Costs have fallen in Europe to a point where subsidy-free offshore wind farms are being developed, which together with increasing deployment of battery storage is threatening to solve the short-term effects of intermittency. As a result, the future of gas, at least in power generation in Europe, could be as provider of back up for longer term intermittent power. This would lead to a world where gas and LNG capacity would still be required to deliver at peak, but the average volumes delivered through the year could continue to decline, creating challenges for the ways in which infrastructure is remunerated.

Image Problem

The group then moved on to discuss the issue of gas' "image". It was felt that the gas and LNG industry had failed to sell its strength to politicians and voters as a solution to CO2 reduction. Roundtable participants agreed that it has an "image problem", especially in Europe, where it has been lumped in the public imagination together with coal and oil, an anachronistic hangover of the carbon age, to be consigned to the past as quickly as possible.

The positive effects of substituting gas for coal in power generation have been clearly demonstrated by the UK's introduction of a carbon price floor, which has favoured the use of gas over coal. This policy has led to the UK being the only major European country that has seen its emissions from power generation consistently falling over the last five years.

Despite this, neither the upstream industry nor transmission system operators have effectively advocated for gas, despite the fact that both rely on continued demand for their future existence and profitability. What efforts the industry has made have been disjointed and limited, and it was agreed that it has been "guilty of complacency".

Conclusion

Gas Strategies acknowledges the commitment of time and openness of conversation which the Pathfinder Forum participants brought to the event.

The diversity of perceptions was very wide ranging. This clearly represented the extent to which the participants and their organisations are navigating uncharted waters of new opportunity following the recent years of industry recession and the prior benign decade to 2013.

Gas Strategies' Pathfinder Forums are opportunities for sharing experiences, thoughts and perceptions. This report captures some of the key exchanges during the Barcelona event, while respecting the Chatham House Rule convention. We look forward to facilitating and reporting on further events during 2018.

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