ViewPoint

New LNG markets: time for change

Gas Strategies

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Chris has a passion for working with clients in developing energy markets to bring economic benefit through establishing gas, LNG and power chains.

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Introduction

It is becoming more challenging to develop new LNG markets. Over the past decade, the number of countries importing LNG has more than doubled – from 18 in 2008 to 42 today – but development strategies that worked in the past are unlikely to be as effective for most potential new markets in the future. Value creation is becoming more complex.

From an empirical perspective new market development has accelerated. In the five years from 2008 to 2012, nine countries began importing LNG, contributing 41 million tonnes (mt) of demand over that period. In the following five years, from 2013 to 2017, twelve countries became importers, contributing 56 mt.

The LNG supply environment for new market development has become more conducive in recent years. LNG procurement is more flexible than ever, with pure spot imports accounting for a fifth of sales in 2017, and portfolio trade rising rapidly. The overall LNG market grew by more than a fifth between 2012 and 2017. And, until recently, average prices had fallen, making LNG more competitive.

Meanwhile, the companies offering floating storage and regasification (FSRU) technology – a key enabler of new market development – have been making available more and larger vessels of greater send-out capacity.

Beyond the low-hanging fruit

The problem is that much of the low-hanging fruit has been picked. Analysis of new market development over the past decade shows that almost all new LNG-importing countries were existing gas markets and consequently had gas infrastructure and institutional capacity already in place. The utilisation of LNG to develop "virgin" gas markets has been the exception rather than the rule, and such markets have tended to be very small.

Governments and companies looking to develop future new LNG markets face the blunt reality that most opportunities will be in countries without existing gas industries or where such industries are still nascent – and development strategies will need to accommodate that. This poses several questions that this ViewPoint sets out to explore:

1. **What are the key learnings of the past decade of new LNG market development?**
2. **What are the future opportunities and how attractive are they to the various stakeholders?**
3. **How should stakeholders go about successfully exploiting new opportunities?**

1 What are the key learnings of the past decade of LNG market development?

The opening up of new markets for LNG over the past decade has played a major role in the growth of the industry. In 2008 there were 18 LNG-importing countries and global trade amounted to 172.1 million tonnes (mt), according to importers' group GIIGNL. By the end of 2017 there were 39[1] LNG-importing countries and global trade was 289.8 mt – up 68.4%.

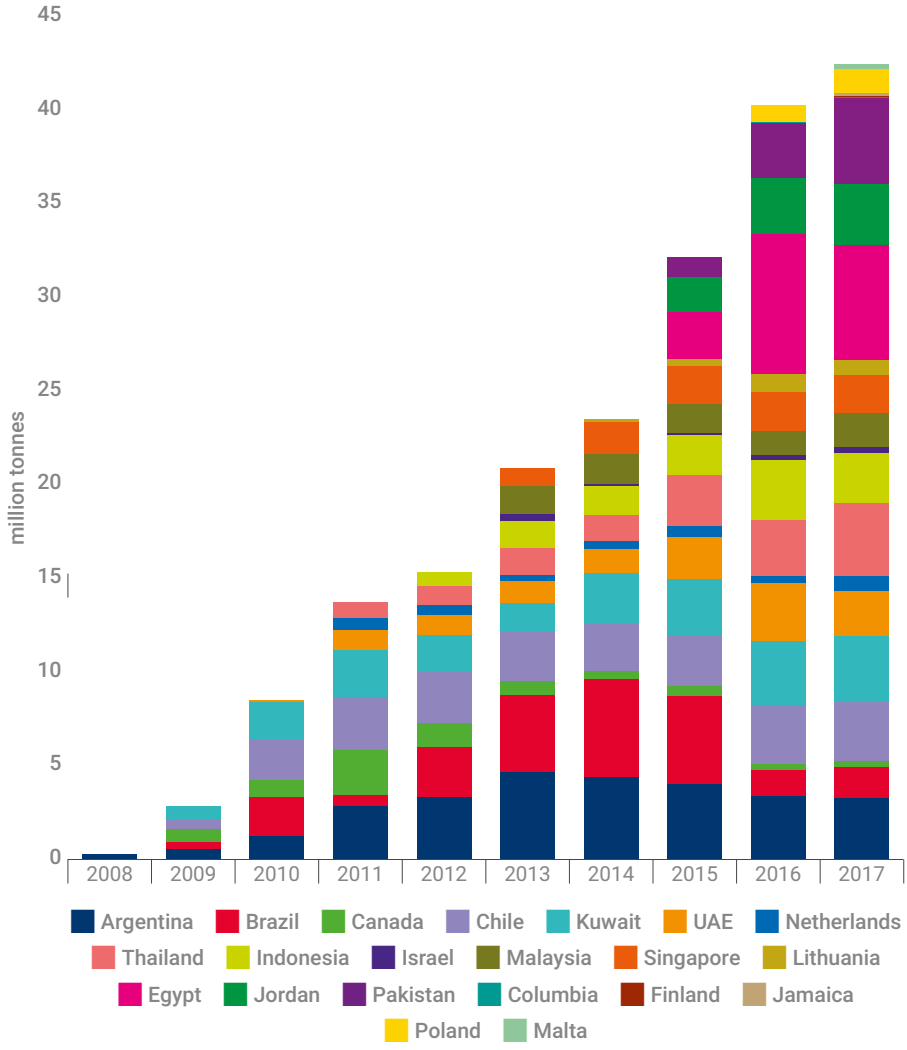
During 2018 we have seen two more markets open up – Panama and Bangladesh – and at least one more, Gibraltar, should begin imports by the end of the year, taking the total to 42.

The contribution that new markets have made to global LNG trade over the last decade is shown below. In 2017, markets that had opened since 2008 accounted for 42.8 mt, over a third of demand growth over the past decade. This is more than the growth of LNG imports into China between 2008 and 2017.

So, while individual new markets have generally accounted for relatively small volumes of LNG, in aggregate they have made a big difference to the overall picture.

[1] *Excluding Norway, which exceptionally imported 0.16 mt in 2016.*

Figure 1 LNG imports into new markets, 2008-2017



Source: Gas Strategies

It is not surprising therefore that big LNG suppliers – from national oil and gas companies such as Qatar Petroleum to major portfolio players such as Shell and Total – have been looking closely at opportunities for new market development, even considering investing further downstream the value chain to secure offtake, which they may have been reluctant to do in the past.

New waves of supply

Part of the motivation for this change of mind-set has been the perception until quite recently that new waves of supply from Australia, the United States, Russia and elsewhere would lead to a glut. So far the glut has not materialised – indeed we have been seeing signs of market tightness – but the wave of new supply has another couple of years to run. Moreover, numerous proposed liquefaction projects are working towards a final investment decision to take advantage of this projected market tightness in the early 2020s.

So new LNG market development – not just in the opening up of new countries, but also the growth of new demand sectors such as fuel for shipping – remains an attractive proposition.

What, then, can governments, companies and other stakeholders learn from the past decade of new market development – the successes and the failures – to help in evaluating future opportunities?

To explore this question, Gas Strategies has conducted analysis to determine the factors that have driven successful new market development. It focuses on the prerequisites: existence of an economic value chain, availability of finance, LNG supply and stakeholder alignment.

Economic value chain

LNG importation is worthwhile only if there are customers willing to pay an economic price for natural gas, or electricity in the case of LNG-to-power projects, and some means of delivering gas and/or electricity to those customers. Of the 21 new markets included in the analysis, most were already mature gas markets with transmission and distribution infrastructure in place and appropriate institutional capacity. The only exceptions were Jamaica and Malta, which have begun importing LNG primarily to supply power stations.

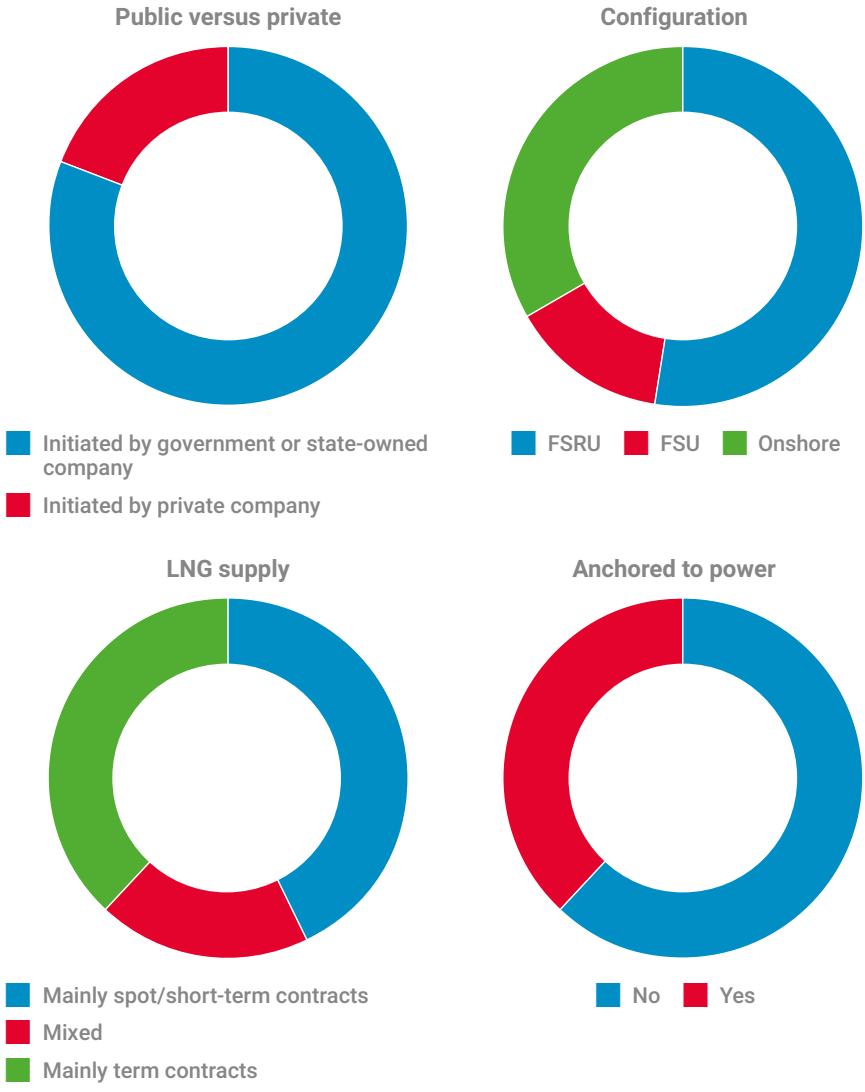
In Jamaica, LNG imports have been driven by a private US-based developer, New Fortress Energy (NFE). In 2015, Jamaica Public Service Company (JPS) – the country's main utility – signed an agreement with NFE for supply of gas to its existing 120 MW Bogue power plant, which was previously running on diesel fuel. NFE was responsible for sourcing LNG, putting import infrastructure in place and delivering gas to the power plant. It also provided the required finance and – not having an established LNG trading organisation – entered an LNG supply contract with UK-based Centrica.

More gas-fired power stations are under construction, with NFE as the developer, and industrial users are switching to gas. As the volume of LNG builds, the economic case for all these developments gets stronger. To begin with, the cost of boil-off gas was an issue because the volumes of LNG were small. The role of NFE as a "one-stop shop" has been crucial.

In Malta, the new import terminal forms part of the Delimara LNG-to-power project, capable of providing three-quarters of the islands' electricity needs. Previously, Malta relied on heavy fuel oil for much of its power. The project was driven by a new government's electoral commitment to reduce the price of electricity and to meet environmental obligations to reduce CO_2 emissions in generation. However, the facility is underutilised because electricity imported through an interconnector with Sicily, commissioned in 2015, is generally cheaper, while the prospect of the long-anticipated gas interconnector with Italy has also now been resurrected.

Consequently it can be seen that there is as yet no example of an LNG import project being developed as part of a scheme to develop a new virgin market for gas without it being anchored to power.

Figure 2 Analysis of first import projects in 21 new LNG markets, 2008-2017



Source: Gas Strategies

Availability of finance

The financing of LNG import projects into new markets over the past decade has depended largely on their ownership and configuration. Of the 21 new markets analysed, 17 of the first LNG import terminals were initiatives on the part of governments or state-owned companies. The exceptions were Canada, Chile, Colombia and Jamaica.

Large onshore import terminals, costing up to $1 billion or more and mostly located in developed countries, have generally been project financed. Most of the first terminal projects initiated by governments or state-owned companies were based on FSRUs or floating storage units (FSUs) with regasification located on a jetty or onshore, which had a major bearing on how they were financed.

The investment required for the onshore facilities of an FSRU/FSU-based project is a fraction of what would be required for an onshore terminal and therefore affordable to most governments or state-owned companies without the need to resort to multilateral financing agencies or export credit agencies (ECAs). In the case of ECAs, there is little equipment to provide loan cover for. The more substantial capital cost of the FSRU/FSU is generally financed by its owner and the vessel then chartered by the customer.

Multilateral financing agencies are more likely to become involved in financing LNG import projects when they are linked to electricity generation, especially in developing countries.

For example, the International Finance Corporation (IFC, part of the World Bank Group), along with the Asian Development Bank (ADB), was involved in financing Pakistan's first import terminal, in which it also took an equity stake. Pakistan, whose economic development has been constrained by severe electricity shortages, has constructed

3.6 GW of new electricity generation capacity that will run at least partly on LNG.

LNG supply

The 21 new markets analysed have adopted a variety of LNG contracting strategies. Where supply security and price risk are priorities, import projects have tended towards term contracts, including long-term. However, for some of the projects flexibility is key and several rely entirely on spot and/or short-term contracts.

This has been facilitated by the ongoing LNG market transition towards more flexible contracting and the rise of portfolio players able to aggregate purchase contracts and sales contracts, and traders with wider credit risk appetite. (There are examples of a portfolio player sleeving LNG volumes to a new market through a trader so as to pass the credit and wider counterparty risk onto the trader.)

According to GIIGNL, "pure spot" LNG imports – deliveries occurring less than three months from the transaction date – accounted for a fifth of the global market in 2017. Meanwhile, the proportion of contracts signed on a portfolio rather than project basis has risen sharply over the past five years. (See our recent ViewPoint on "Resolving the mismatch between LNG buyers and sellers" available at **www.gasstrategies.com/downloads**.)

Price sensitivity

The analysis considers the price elasticity of demand in the various markets and concludes that none of them are particularly price sensitive – with the possible exception of Pakistan, where demand beyond that required for electricity generation would be more sensitive to price.

This is often because LNG is being imported to displace oil products from electricity generation and is generally cheaper than liquid fuels. In other cases gas is needed because of shortfalls elsewhere in the energy system, for example, the impact of low rainfall on hydropower in Brazil, making the market more tolerant to higher prices. (Brazil also turned to LNG imports to meet its gas demand in mid-2018, following a drop in domestic gas supply on the closure of an offshore production platform.)

Almost half of these new importing countries buy LNG mainly on spot and short-term contracts, often by issuing tenders, and so have flexibility in choosing whether to buy or not.

Creditworthiness

Some buyers may not have much choice as to how they procure LNG, particularly if they lack the creditworthiness for sellers to be comfortable agreeing to a long-term contract – a situation that is exacerbated if the seller needs the contract to underpin a finance agreement for a new liquefaction project.

Creditworthiness is becoming an increasing issue in new market development as less-developed countries look towards LNG imports.

In an integrated LNG-to-power project the issue of creditworthiness can lead to situations that prevent the structuring of the package of contracts needed to attract finance. For example, at present a power station project is only debt financeable if there is a long-term power purchase agreement (PPA) in place backed up with a long-term LNG sales and purchase agreement (SPA). Lack of creditworthiness on the part of any of the parties involved in this value chain will cause the project to fail.

Stakeholder alignment

Good alignment between stakeholders can be a make-or-break factor in the success of a project. Our analysis found that alignment was not a major issue in any of the 21 new markets analysed– which is what you might expect given that all the projects went ahead! There were, however, instances of past problems that had to be resolved before projects could proceed.

In Pakistan, although the first import project was implemented in less than a year from contract signing to first gas, the nation had been trying to develop LNG imports since the mid-2000s. It took a change of government and a new approach to make the first project a success.

In the case of Singapore LNG (SLNG), the government initially designated PowerGas, a subsidiary of Singapore Power Corporation, as the terminal owner and operator. However, in 2009 the minister in charge decided "the government would take over the development and ownership of the Singapore LNG terminal, as it was difficult to proceed with the project on a commercial basis". That decision led to the formation of SLNG. The terminal was initially developed to address security of supply concerns and has since been expanded several times and now offers a wide variety of services. More recently the government declared the aim of SLNG is to create "an LNG trading hub for the region".

Singapore is something of an exception, given its hub agenda and wealth, but the point that LNG market development cannot always proceed "on a commercial basis" has wider applicability.

There are several examples of countries where attempts to establish LNG import projects have failed, sometimes at the eleventh hour, because of a lack of stakeholder alignment – though in some cases other factors have also been at work. Examples include Ghana, Morocco and South Africa. Their attempts continue.

2 What are the future opportunities and how attractive are they to the various stakeholders?

Opportunities to open up new markets come in a variety of forms, some of which will potentially be more attractive to some stakeholders than to others, while some may not be attractive at all, at least without the involvement of multilateral financing institutions and/or ECAs. The table below shows a selection of new market opportunities beyond the 21 countries in our initial analysis.

Figure 3 New LNG markets in 2018 and future opportunities

Markets opening up in 2018	Under construction and development	Proposed/potential	
Bangladesh	Bahrain	Australia	Ireland
Gibraltar		Barbados	Ivory Coast
Panama		Canary Islands	Morocco
		Croatia	Myanmar
		Cyprus	Namibia
		El Salvador	Philippines
		Estonia	South Africa
		Ghana	Sri Lanka
		Haiti	Uruguay
		Hong Kong	Vietnam

The three markets opening up in 2018 and the sole market under construction, Bahrain, are already operational or well advanced in their development. This leaves the countries in the proposed/potential

column, which have been attempting to get LNG import projects under way, or have expressed a strong interest in so doing. Several of what at first sight look promising opportunities – perhaps because of the scale of the governments' ambitions – have a history of initiating projects which then foundered.

The main stakeholders involved in the opening up of new LNG markets include governments and/or state-owned entities such as national oil and gas companies, private project developers, LNG suppliers and financiers.

The governmental perspective

As we have seen from the analysis of the 21 new markets from 2008 to 2017, most LNG import projects in new markets have been initiated by governments and/or state-owned companies.

It is understandable that governments seek to establish projects that will provide energy for their populations. Energy shortages and economic growth are major political issues that capture votes, especially in less-developed countries. A key question that needs to be answered is: what is the most appropriate fuel source for power generation?

If the answer turns out to be LNG, there needs to be strong awareness that getting a new LNG import project under way requires a certain level of institutional capability on the part of the government and the state-owned entity involved. There also needs to be strong alignment and communication between the various types of state institutions, which can include regulators, power companies, environmental authorities, port authorities and so on. There is danger in trying to do too much too quickly. Some projects can end up "too big to succeed".

Size is not the only issue. Market evolution needs to proceed at an appropriate and manageable pace. Generally, new markets will need to begin with the award of exclusive franchise periods to encourage the investment needed to build the required infrastructure and capabilities. Trying to move too quickly towards the facilitation of competition and third-party access to infrastructure – desirable features of mature markets – is likely to be counter-productive. In Jamaica, for example, New Fortress Energy has effectively established an exclusive position on LNG imports.

Implementing LNG import projects is not as straightforward as some may assume, even in an era of readily available FSRUs. While it may be very evident that such projects are technically feasible, the challenge is now more likely to be commercial realisability. Smaller projects may not attract the big players, such as the international oil and gas companies, but are more digestible and can be handled – and financed – by a wider pool of smaller players.

Why countries choose to begin importing LNG

- **To meet energy demand growth –** LNG imports can contribute towards meeting rapid energy demand growth, especially where domestic gas production is flat or declining and pipeline imports are difficult or unfeasible. Examples include Bangladesh, Pakistan and Thailand.

- **To diversify gas supplies –** LNG can improve supply security or reduce import dependence on a single supplier. Canada, the Netherlands and Israel are examples of supply diversification. Poland and Lithuania wanted to reduce dependence on a single supplier, Gazprom. Chile began importing LNG primarily because Argentina was reducing exports due to shortages at home.

- **Exporters who run short of gas –** Several countries have chosen to import LNG because domestic production shortfalls forced them to cease or reduce exports and eventually led to shortages at home. Examples include Egypt and Argentina.

- **Producers short of gas to fuel electricity generation –** Some significant gas producers have resorted to LNG, often seasonally, to supply fuel to power stations, especially when gas can be used to displace expensive oil products, reducing imports or freeing up oil production for export. Examples include Kuwait and the United Arab Emirates (UAE).

- **Countries looking to move gas within country –** Some LNG producers have become both exporters and importers

because their liquefaction facilities are distant from some of their markets. Examples include Malaysia and Indonesia.

- **Countries importing gas for the first time to fuel electricity generation –** The only examples of virgin gas markets in our analysis were Jamaica and Malta, countries without existing gas industries but needing to import LNG specifically to fuel power stations. Both are very small markets and represent two different models: separate projects to construct LNG import facilities to fuel an existing power station; and an integrated LNG-to-power project.

- **Countries seeking to improve their environment –** In markets heavily dependent on coal for heating and electricity generation, a desire to improve local air quality or to meet climate action pledges on greenhouse gas emissions could be implemented by switching to LNG, if sufficient supplies of natural gas are not otherwise available. The most obvious example of this in recent times has been a country that falls just outside the scope of our new markets definition, having begun importing LNG in 2006: China.

There is a need for realism regarding costs, not just capital expenditure for import infrastructure and the ongoing costs of buying LNG, also the level of utilisation of the import infrastructure which ultimately feeds into the cost of the gas. Following the oil price crash of 2014, LNG prices plummeted, partly because of the indexation of many long-term contracts to oil prices but also because of plentiful supply. Over the past year, however, oil prices have recovered to more than $80/barrel and prices in LNG spot markets have been driven sharply upwards by a range of factors, the most significant being Chinese policy-driven

gas demand growth. Price sensitivity is likely to be more of an issue in future new markets than those developed over the past decade.

LNG is looking less competitive with coal in markets where a ready supply of coal is available, so there needs to be a strong rationale for choosing LNG over coal, especially for projects anchored to electricity generation. This may well be a more a matter of policy rather than basic economics.

The private project developer perspective

It is unusual for a private project developer to get involved in opening up a new LNG market without the state being involved. The only examples in our analysis were Chile and Colombia. Conversely, except in cases where a national oil and gas company is the developer – as is the case with Petronas in Malaysia, for example, or Klaipėdos Nafta in Lithuania – the government usually works with a project developer.

Project developers sometimes fail to appreciate the need to navigate domestic politics and work with state stakeholders to define projects that are deliverable. This is an area where an LNG player that has existing business in the country, for example as a supplier of liquid fuels, may have an advantage because of existing relationships with state entities.

In the case of a project based on an FSRU, the supplier of the vessel may also take a leading role in the onshore installation. Clearly, suppliers of FSRUs have an interest in persuading governments to go ahead with LNG import projects so that they can find employment for their FSRU assets. This is especially so when an existing FSRU is seeking employment or where a commitment has been made to construct a vessel on a speculative basis.

Project developers need to be realistic about what is achievable in less-advanced markets and the balance between the efforts, costs and risks involved and the potential rewards. On the other hand, because procuring LNG flexibly is much easier than it used to be, developers need not necessarily be LNG suppliers themselves.

The LNG supplier perspective

The business rationale for LNG suppliers moving downstream along the value chain looked stronger when there were widespread expectations of an LNG supply glut than it does today. For a while there was a supply push on the part of sellers concerned about being long on LNG. Today sellers appear to be more comfortable that the market will be in balance. So countries seeking to import LNG need to demonstrate a compelling reason to pull in LNG supply.

That said, Total has been working on developing FRSU-based import projects, for example in Côte d'Ivoire, while Shell has been involved in a small LNG-to-power project in Gibraltar with a view to supplying LNG not just to the power station but also a new LNG bunkering business.

Big portfolio players such as Shell and Total, and traders such as Trafigura, Vitol and Gunvor, can play a crucial role – as "kingmakers" – in the facilitation of new markets, just as they are doing at the other end of the value chain in liquefaction. These players can offer LNG supply flexibility in respect of volumes, timings, price indexation and term of contract, strongly positioning them to meet the uncertain needs of emerging LNG markets.

However, a key question for LNG suppliers hoping to develop new markets in the future is whether they would be better off targeting

existing markets that are growing strongly, such as China and India, or even emerging markets that need more supply, such as Bangladesh, Pakistan and Thailand. The key question is where to place limited resources so to as maximise return on investment. Total's recent initiatives in India are a prime example of this.

The financier perspective

New projects employing FSRUs or FSUs are relatively easy to finance because the FSRU supplier will usually finance the cost of the vessel, leaving the project developer to cover only the onshore facilities. In such cases the importer, for example a state-owned utility, may well be able to self-finance the onshore component without recourse to project finance or non-commercial sources such as multilateral financial institutions or ECAs.

One issue is that arranging project finance is expensive and project scale matters; the smaller the financing package the more disproportionate the arrangement costs will be relative to total project cost. In addition, those working in the investment houses are rewarded on the scale of the deal. So, while project finance is common for liquefaction projects, it is less common for import and regasification projects. Those import projects that are project financed tend to be onshore facilities that require a lot more capital than FSRU/FSU-based terminals.

A second issue is that often with a liquefaction project financing there is diversified market risk. This is not usually the case with import projects, as most serve a single market.

A third issue is that the financing structures used for FSRU/FSU-based projects may introduce completion risk that is not sufficiently covered by the legal structures, which are often those used for ship finance.

This may cover the hull and perhaps also the topsides but may not cover hook-up and commissioning.

> "LNG-to-power has been identified as a global strategic aim for IFC in supporting countries to reduce carbon intensity of power grids, favour further penetration of renewables, and diversify generation."
>
> *Gabriel Goldschmidt, IFC's Infrastructure Head for Latin America and the Caribbean*

Multilateral financing institutions may get involved in supporting the financing of LNG import projects that meet their criteria, but these are likely to be in developing or emerging economies and will generally be linked in some way to electricity generation, directly in the case of integrated LNG-to-power projects, or otherwise indirectly. They can assist in three ways: by taking equity in a project, by lending directly to the project's sponsors, or by providing an umbrella facility under which commercial banks fund.

In the case of large integrated LNG-to-power schemes, the LNG import facilities costs are likely to be dwarfed by the power component of the project and the financing will be driven by the latter, especially if the import terminal is FSRU/FSU-based.

3 How should stakeholders go about successfully exploiting new opportunities?

The rapid development of new markets over the past decade has seen most of the best opportunities exploited. The perceived excess of LNG supply appears to have eased, reducing the drive for new market development on the part of sellers. Prices have been rising, impacting the competitiveness of LNG versus other fuels, especially coal. And most future opportunities are likely to be virgin markets in countries without existing gas industries or where such industries are still nascent, and where creditworthiness may be an issue, making development difficult and fraught with risk.

Does this mean that the commercial fundamentals of potential new markets are increasingly weak, and, therefore, that the window of opportunity has closed for those markets that have not yet succeeded in becoming importers?

The answer depends on several factors. What is not in doubt is that several of the countries listed as proposed/potential new markets in Section 2 urgently need more energy supply. However, in most cases that in itself will not be sufficient to attract project developers and LNG suppliers; they will only be attracted if they are reasonably sure they will make an appropriate return on their investment.

So, for such countries, the initiative for LNG market development will generally start with the government, which will need to determine the answers to three fundamental questions:

- Is LNG the best option, given the country's needs, capabilities and economic outlook?

- If it is, is the government ready and able to meet the commitments required to make projects attractive to developers and LNG suppliers?

- And finally, is the government confident that it will be able to raise the necessary finance, perhaps with contributions from multilateral finance institutions and ECAs?

Is LNG the best option?

While LNG has many advantages as an energy source, it is generally more expensive than some competing fuels, notably coal, but also pipeline gas if it is available. There is no point in constructing LNG importation infrastructure if it is going to be underutilised because of price sensitivity. So there needs to be a strong rationale for choosing LNG. As we have seen there are several reasons that can make LNG a good choice:

- It can be cheaper than liquid fuels in electricity generation.

- It can help to provide energy supply diversity and flexibility – reducing dependence on a single gas supplier, supplementing pipeline gas supplies, or providing backup for variable renewables, as it has been doing seasonally in Brazil at times of low rainfall.

- Its carbon dioxide emissions are significantly lower than those of coal or oil, and it can also facilitate the growth of variable renewables, such as wind and solar power.

- It can improve local air quality, as it is doing in some of China's most polluted cities.

- It can be used to supply natural gas to locations where pipeline supplies are not available – in a remarkably short timeframe in the case of FSRU/FSU-based projects.

Whatever the rationale, it needs to be clear as it will impact how the project is developed commercially, technically and contractually.

Making projects attractive

To attract project developers and LNG sellers, a government needs to make a convincing commercially coherent case for a project, along with putting in place a suitable regulatory framework to create an enabling environment. This is particularly important in a virgin market, which will probably need to get under way as a exclusive franchise at least for a period of time to provide project developers with sufficient certainty to justify capital expenditure on infrastructure. Depending on the scope of the ambition and the rationale, it may also be necessary for the government to commit to investing in infrastructure rather than expecting "the market" to carry all of the risk.

If the intention is to build a new natural gas market that goes beyond an integrated LNG-to-power project, that will only be possible with strong commitment from a government with a long-term vision and a willingness to build the required institutional capacities. That will take time – years rather than months. On the plus side, such projects are likely to interest the multilateral financial institutions, especially those with a development agenda.

Projects are more likely to succeed if all the participants adopt a business mind-set rather than a project mind-set, taking account of

the wider opportunities that a venture may create and its long-term potential. Such opportunities could include the development of wider downstream gas distribution, either through traditional gas pipelines or "virtual pipelines" using LNG trucking services. LNG bunkering could also be an opportunity. Whatever the specific opportunity, the focus should be on long-term value creation.

Regarding LNG supply, the flexibilities that portfolio players and traders can bring are especially relevant for virgin markets where the pattern of demand can be highly uncertain – both in the short term, mainly driven by the power generation running regime, and in the longer term, as power demand evolves and non-power demand grows.

To be convincing to potential project participants, governments or state-owned entities trying to establish new LNG import markets should be well prepared before they make an approach or issue a tender. The technical feasibility of LNG projects is now largely a 'given': the challenge is now in institutional enablement and establishing realisability on a commercial basis. Bringing the right kinds of advisors on board at the right time during the preparation phase makes a big difference to the outcome.

Facilitating finance

Well-structured projects that have demonstrated a clear need for LNG imports and that have been made attractive to project developers and LNG sellers should not have too much trouble attracting finance, so long as the participants are inherently creditworthy. That said, as new market development extends to developing countries, creditworthiness is an increasing issue.

A project based on an FSRU/FSU will be less of a financing burden on the project developer than an onshore regasification terminal for the reasons already outlined in this ViewPoint. Large integrated LNG-

to-power projects still generally require finance to be underpinned by a long-term power purchase agreement (PPA) and lenders will not get comfortable unless a back-to-back long-term sale and purchase agreement (SPA) is in place for reliable fuel supply.

In developing and emerging economies it may be possible to involve multilateral financial institutions, especially in countries suffering severe energy poverty and wanting to take action to meet the UN's Sustainable Development Goals. In sub-Saharan Africa and parts of Asia hundreds of millions of people still lack access to electricity.

As a condition of getting involved, multilateral institutions may insist on the following of their required procedures in some aspects of the development.

On the other hand, they may bring credibility to a project without which it might not proceed, or help in aligning stakeholders, as the IFC has done in Bangladesh. It says it "played a critical role in reviving a substantive dialogue between the authorities and the [project development] company to find a mutually acceptable set of terms that are bankable as well as consistent with other LNG projects globally".

Above all, be realistic

The acceleration in new market opening that we have seen over the past decade is coming to an end. There is still a role for LNG in new markets but creating value will be much more challenging going forward. In the current market environment LNG sellers are looking to opportunities in fast-growing existing markets as the challenges of opening up new markets become increasingly apparent. More than ever, governments looking to LNG to meet the energy needs of their populations will need to demonstrate commitment and, to some extent, underwrite new developments.

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