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Downstream Focus

By Ricardo Silva, Partner
Miranda & Associados¹

A FLOATING REVOLUTION IN TROUBLED WATERS

Technical, economic, legal and other challenges of FLNG

Over the years natural gas has gone from being an unavoidable consequence of oil production, often flared or reinjected back into the ground, to a feedstock for other industries and, in great measure due to the evolution in liquefaction technology, to a commodity in itself. However, the development of natural gas resources has always depended on numerous variables, all of which are powerful enough to make or break a natural gas project.

Thus, when Floating Liquefied Natural Gas (FLNG) technology crashed onto the world oil & gas scene a number of years ago, it was automatically touted as a game changer for the industry. According to its proponents, with this new technology, “stranded” natural gas fields could be brought into production without the need of building long and costly pipelines and FLNG vessels could be simply floated on top of the reservoirs and connected, and then floated away to a new location once production had ceased. Technology seemed, once again, to open up new possibilities for our industry, and services providers, including the big ship yards, were set to make significant revenue on the back of the FLNG revolution.

However, nothing is ever a given in our world and, despite the initial hype, very few FLNG projects have materialized or, indeed, look poised to materialize in the near future. Some planned projects have also been scrapped. There are a multitude of factors that can explain the apparent failure of FLNG to truly catch on and revolutionize the LNG industry.

Technical Challenges

One issue that has negatively impacted oil companies’ ambitions to move ahead with FLNG technology is the technical challenges that typically arise when new solutions are proposed. If this is true for most industries, it is even more so for the oil & gas industry, especially in the “post-Macondo” world.

Although the companies pushing for FLNG technology have invested significant amounts in research and development, and are certain that the technology will work with limited risk, it has been harder to convince other stakeholders. Uncertainty over reliability of the technology, concerns over maintenance issues and related delays, weather-related risk – including in areas prone to cyclones or hurricanes – are just some of the issues that are leaving stakeholders nervous. Although this is a “chicken and egg” situation, the truth is that host governments, financiers,

and insurers – just to mention some of the relevant stakeholders – are finding it difficult to commit to FLNG until it has been tried elsewhere.

Economic Challenges

The above-mentioned technical challenges are also giving rise to a number of additional setbacks, notably in financing and insuring FLNG vessels. Both financial institutions and insurance companies have been rumored to be having a tough time finding comfort in backing FLNG facilities.

Once again, although it may be argued that a floating facility may give operators (and consequently their financiers and insurers) more security in case of a crisis when compared to onshore facilities, the truth is that such facilities may also be more prone to extreme weather risk, piracy, and terrorism, just to name a few of the arguments that have been used against FLNG. Additionally, uncertainty as to the exact Capex and Opex of the facilities are also giving “number crunchers” the jitters. Curiously, these concerns have given rise to a number of alternative solutions for FLNG projects: self-insurance and self-financing, or the participation of services companies in the FLNG projects are just two such alternatives.

Legal Challenges

FLNG has also been raising a number of issues from a legal perspective, most of them related to the nature of the facilities, and not so much to their technical aspects.

First of all, there is one major question: what exactly is a FLNG facility? Is it a vessel? Is it a floating or artificial structure connected to the seabed? Is it a mix of the two, or perhaps something completely different? The legal concerns arising out of the answer to these questions

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can be significantly increased if we are dealing with facilities located outside the territorial waters of the host nation, where international law comes into play to a greater extent.

Due to its “floating” nature, FLNG can have implications in terms of licensing and approvals, taxation, foreign exchange regulations, customs, and registration of the facilities, among others. All these aspects, in turn, can influence crucial aspects of any such project, including jurisdiction of the local authorities, ability to litigate and type of litigation (including interim measures), immigration, employment rules, applicability and enforceability of local law, etc.

Although some of these aspects can be seen as advantageous to the operator of the facilities and respective partners, they definitely give rise to complex challenges for the authorities, financiers, insurers, buyers of LNG, and other stakeholders that may have an interest in a given project. These concerns are increased significantly if the host nation does not have specific and detailed rules applicable to FLNG, or at least a framework that allows for the extension of existing rules to floating facilities. Although it may be argued that some of these issues already exist with, for instance, FPSOs, the truth is that upstream facilities are already extensively regulated in a significant number of jurisdictions, where the authorities have had ample time to learn how the industry works and regulate it accordingly. There are also a whole set of international standards and best practices that can be applied or used as inspiration, something that does not yet exist for FLNG.

Commercial and other Challenges

Adding to the foregoing, a number of commercial and “national interest” concerns have been raised by the local authorities and other stakeholders worldwide, from Canada to Western Australia, Timor-Leste to Australia, Indonesia to East and West Africa. As always, host nations look to capitalize on their natural resources to develop local economies. Not much changes in this respect, whether you are in an emerging economy or in the developed world: a project with the size and value of natural gas production and liquefaction can make a huge direct and indirect impact on the economy of the area where it is located. The direct impact is due, mainly, to the construction and operation of the facility, and the wide range of services related to the same that are rendered by subcontractor throughout the life of the project. As for the multiplier effect / indirect benefit, it can be as intense as the direct impact due to all the community-related services that the direct development brings along with it. One simply has to look at the geographical areas where LNG projects have flourished (and those surrounding them) to gauge the difference that the same can make in terms of infrastructure development, employment and growth of the local economy, new services, etc.

Due to these reasons, host governments and local stakeholders have typically objected to FLNG, which effectively brings less direct and indirect benefits to the host nation. Companies often challenge this understanding by claiming that FLNG may be cheaper (although there are, to-date, no certainties in this respect) and, thus, the State may receive greater taxation revenues, etc. from the project. The truth is, however, that tax revenue is almost “invisible” to the local populations. What people wish to see is “palpable development” on their doorstep:

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jobs being created directly as a consequence of the construction and operation of the facility, roads, schools and hospitals being built. There is a perception that when a facility is built offshore, those jobs and construction spending goes to another country specialized in ship building. If the State receives more tax revenue, there is no certainty that it will be spent locally. On the contrary, when an onshore facility is built things take place before the eyes of voters, who can see construction as it happens; roads are built; a real estate market develops; expats and locals employed at the facilities (or in support services) receive wages that are spent locally. All these are pressing arguments when you are a decision-maker that depends on keeping the local population happy for your political survival.

Conclusion

This does not necessarily mean that there is no future for FLNG development. As with everything that is new, a time will come where it will be more easily accepted. If the first projects are successful (notably Petronas’ PFLNG Satu, Ophir’s Fortuna FLNG, and ENI’s Coral project), we expect to see a lot more companies and countries following suit. Curiously, when we look at the three projects that are moving ahead despite the recent gas price crush, they are located in countries where onshore LNG is already present or is anticipated to be in the same timeframe and, thus, it may seem that the governments aren’t under as much pressure to deliver a “palpable solution.” This may be an indication that when local on-the-ground development has already occurred, it may be easier for the authorities to accept a FLNG solution, as in these cases there is already a local services industry that can be expanded to also cater for the new project.

Also, as the ongoing projects progress, the legal and regulatory frameworks will also be tested, new solutions will be implemented, and perhaps other governments and stakeholders will feel more comfortable with this revolutionary development model. The same way that human beings enjoy predictability and are averse to risk, it’s foreseeable that countries will wish to see their neighbors try out a new technology before fully embracing it. In this high-stakes game, some stand to benefit from a first-movers advantage if everything goes well, while others look to benefit from the maturity of the concept that only comes with time and trial. 

** Ricardo is a Partner at Miranda & Associados’ Lisbon headquarters, and is responsible for coordinating the Firm’s Timor-Leste and Houston offices. He is Co-Head of the Firm’s Energy and Natural Resources Practice Group and frequently advises energy companies in setting up and carrying out their operations in Africa and South East Asia. Ricardo may be contacted at Ricardo.Silva@Mirandalawfirm.com.*