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Evolutions of the LNG market

Contents

I)	LNG Market Outlook	2
II)	LNG in Europe	2
III)	LNG terminals and the evolving LNG market	3
IV)	The road-transported LNG market	4
V)	LNG market trends	4
VI)	Q&As	5

Evolutions of the LNG Market

Roundtable moderated by Jean-Yves ROBIN, General Delegate, **GIIGNL**

Members of the panel :

François Brunero, Head of LNG, Primagaz ;

Pierre Cotin, VP Strategy, Development & Sales, Elengy ;

Jean-François Daubonne, Commercial Manager France, Gas Natural Europe ;

Frédéric Deybach, Vice-President Prospection, GDF SUEZ LNG ;

Bruno Seilhan, Vice-Président LNG Marketing, Total



Jean-Yves Robin – GIIGNL

The LNG industry is currently facing contrasting trends, with overall decreasing consumption in 2012 compared to the previous year, large uncertainties on gas prices – energy being regarded by European and Asian customers as costly – and however very encouraging prospects, in particular regarding LNG as a fuel.

I) LNG Market Outlook

Bruno Seilhan – Total

In 2012, despite a strong drop in European consumption (-4.8%), gas demand has continued to grow strongly (+2.2%).

LNG lost some ground, due to the lack of new liquefaction projects and to production issues. Whereas LNG demand decreased by 2.5%, demand fundamentals have evolved, based on Asian growth and a sharp decrease of deliveries to the EU.

However, the LNG market shows a few signs of hope: investments in regasification terminals in countries such as Indonesia, Mexico or China, and the launch of four new liquefaction projects in the United States, Australia and Malaysia. Besides, Total owns 30% of the Ichtys project (Australia), consisting in developing condensates in the Browse basin. LNG produced by Ichtys has been sold under long-term contracts, mainly with Asian buyers.

The year 2012 was marked by a displacement of Europe and North America's LNG demand to Asia. In terms of LNG supply, it is to be noted that historical exporters such as Indonesia or Malaysia have started to import LNG for their local markets.

By 2030, forecasts indicate that global gas demand will continue to grow (+2%/year). To cope with this demand, new LNG projects must emerge, especially in order to supply Asian and European LNG needs.

LNG supply projects amount to more than 278 mtpa by 2023. However, a large number of FIDs planned for 2013 may be delayed due to two main drivers: shale gas revolution in the United States and higher than expected costs of some LNG projects.

II) LNG in Europe

Frédéric Deybach – GDF SUEZ

According to forecasts, European gas demand will grow on average by 0.16%/year between 2010 and 2030, with two distinct phases: a decrease until 2012 (-60 Bcm), followed by an increase until 2030 (+76 Bcm). This demand growth is driven in particular by consumption increases in transportation, power generation and in the industrial sector.

On the contrary, indigenous European gas production should decrease. It should account for about 35% of the demand in 2030, vs 50% in 2010. To offset the decrease in domestic production, gas imports will first be secured through pipeline imports, mainly from Russia,



then from the Caspian Sea, and lastly, from North Africa. Pipeline imports will grow by 1.7%/year and will account for 40% of Europe's gas needs by 2030.

Looking at existing LNG and pipeline imports, one sees a growing gap between demand and supply. The gap of about 40 Bcm in 2010 reached 60 Bcm in 2030. A portion of this gap could be offset by an increase in pipeline import capacities. However, at this point, it is more likely to be compensated by additional LNG imports, given the importance of security of supply for European countries. This import requirement could push the development of new liquefaction projects in the United States, in Africa, in the Mediterranean basin and in the Arctic region.

The GDF SUEZ group regards LNG as a key element of its long term natural gas supplies. Indeed, LNG allows for secure and diverse supplies and is a guarantee of flexibility. GDF SUEZ currently handles a portfolio of up to 16 mtpa of LNG from diverse origin countries (six countries). In Europe, the group is the first LNG importer and the second largest operator of LNG regasification terminals. It holds the world's third largest LNG portfolio. GDF SUEZ has positions all around the globe, in particular through its shipping capacities and its fleet of 17 LNG tankers, including to regasification vessels.

Some new markets will also develop. The first market will be the use of LNG for transportation. By 2050, it is estimated that LNG required for marine transportation could reach 20 to 30 mtpa and 20 mtpa for ground transportation.

The second market will be the supply of remote customers (i.e remote from pipeline networks), which could reach volumes of 5 to 10 mtpa.

In total, both segments will reach 60 mtpa, i.e 13% of global LNG consumption.

III) LNG terminals and the evolving LNG market

Pierre Cotin - Elengy

The -25% drop in European LNG imports in 2012 had an impact on all European countries. It entailed a significant decrease on the average utilization rate of regasification terminals in Europe, from 45% in 2011 to 33% in 2012. This evolution drove operators to manage their minimal output and to finetune their settings regarding boil-off gas captured and fed back into the system in order to reduce flaring.

Operators have also had to adapt to market conditions. Customers wish to send as much LNG as possible to high-priced markets such as Asia or Mexico. This is why reloading activities are flourishing in European terminals. Indeed, 3.9 Bcm have been reloaded in 2012, i.e three times the 2011 reloaded volumes. However, surprisingly, one third of these volumes stayed in Europe.

Regasification terminal operators are also looking closely at three outlets for retail LNG: the first market is the one of industrials which are not connected to the transportation network. To supply this market, the Montoir terminal will offer truck loading capacities starting on July 1st, 2013. The second market is the market of LNG bunkering, which could be supplied through micro-barges or fuelling barges. In this context studies are underway in order to adapt terminal jetties and allow small ships to stop over.

Finally, the third market is the market of road transportation, by which Elengy is less affected.



IV) The road-transported LNG market

François Brunero - Primagaz

Primagaz is a subsidiary of SHV Energy, a family-owned Dutch group which is a leader of LPG distribution. In France, Primagaz is a historical distribution company of propane and butane in 27 000 cities which are not connected to the gas network. In February 2013, the company was authorized to supply LNG by trucks in France.

LNG has several benefits. From an economical standpoint, it helps you save 15% to 25% on the energy invoice compared to fuel oil. In terms of environmental impact, CO₂ emissions from LNG are 27% lower than fuel oil CO₂ emissions and sulphur emissions are 70% lower.

Delivering LNG requires to efficiently manage the quality of customer relationship. You need to have sufficient knowledge of issues encountered by industrial customers which are not connected to the network and to be able to offer a mix of energy solutions in the installation phase. It is essential to guide customers, for whom LNG is a totally unexplored territory. Clients also expect operational excellence from their supplier (security of supply, technical advice, services, maintenance, etc...)

A typical LNG facility on a customer's site will include cryogenic storage, vaporization units (turning LNG into gas that can be used within the plant), an odorizing system, a control panel (in order to monitor the facility) and a heater.

V) LNG market trends

Jean-François Daubonne – Gas Natural Fenosa


Gas Natural Fenosa is the leading gas operator in Spain and the leading LNG operator in Europe. The group owns the second largest fleet of LNG tankers in the Atlantic and Mediterranean basins. Gas Natural Fenosa has been active in France since 2005 and has been one of the main alternative suppliers in terms of gas volumes.

LNG may be used in different ways : it may be used as a way to supply the pipeline network, as LNG as a fuel for land and marine transportation and as a stored fuel for industrials, or even for power generation.

Despite its « flight » to Asia, LNG remains a significant balancing factor in Europe. In France it still accounted for 20% of gas supplies in 2012, vs 30% in 2011. In Spain, where there are less natural storage capacities, LNG accounts for 61% of the country's consumption.

LNG for transportation offers numerous benefits, especially from an economical standpoint. A truck fuelled with gasoil will cost 32 euros of fuel for 100 kilometers, vs 20 to 24 euros if fuelled with LNG. Besides, natural gas improves acoustic emissions and reduces noise by up to 50%: heavy trucks which were banned in some cities because of their noise emissions can therefore be authorized at certain hours. In addition, LNG shows environmental benefits, since it makes it possible to reduce CO₂ emissions by about 25%.





Today, LNG for transportation can be used in two ways: either directly or under the form of LCNG (*liquefied-compressed natural gas*). Two European projects are aiming at developing the use of LNG as a fuel: the LNG Blue Corridor project and the GAR Net project. France is starting to develop in this area. Spain is a bit more advanced: in the country, 3300 vehicles are fuelled with NGV and out of the 27 public NGV stations, 10 are in the form of LCNG. In 2012, a hundred of trucks were fuelled with LNG.

Regarding LNG as a marine fuel, only 34 European ships are using LNG as a fuel (most of which in Norway). However, 31 additional ships are expected by 2015. Considering the ECA limitations, it is estimated that the number of units will be over 1000 in 2020, 40% of which in Europe.

Regarding LNG for industrial customers, the French market only took off in 2005, whereas the Spanish market is already mature. In Spain, LNG has been marketed to industrial customers for the last 25 years. Spanish industrial customers use LNG where French customers use propane/butane or heavy fuel. The total volume of this market amounts to 13.8 TWh/year, i.e 920 000 tons. Gas Natural Fenosa supplies 5.9 TWh/year to 227 industrial facilities and cities, i.e 400 000 tons of LNG and about 20 000 trucks loaded per year. It is to be noted that the biggest customer supplied by Gas Natural Fenosa consumes 1 TWh/year, i.e 12 trucks per day.

Gas Natural Fenosa offers a ready-to-use LNG service, with full implementation, a metering system, preventive and corrective maintenance solutions which ensure full security of supply of the industrial process, regulatory guidance. Price may be fixed or indexed on oil products for a duration tailored to customers' needs. Gas Natural Fenosa gets its LNG supplies from the Barcelona terminal.

VI) Q&As

From the floor

What about the possible opening of a truck reloading service in Fos-sur-Mer? What will be the strategy of GDF SUEZ and Gas Natural regarding this terminal?

Pierre Cotin - Elengy

Indeed, we plan to start offering a reloading service in Fos-sur-Mer, probably in March or April of next year.

Frédéric Deybach – GDF SUEZ

Gas consumption being low, we may have to offer to supply LNG by truck. This is what we have had to do recently in Zeebrugge. We have been obliged to purchase LNG by truck in order to continue supplying our customers.

Jean-François Daubonne – GAS NATURAL FENOSA

The Fos-sur-Mer terminal does not currently offer any reloading service. We take the advantage of having capacities in a terminal in Barcelona, from where we are able to supply the region. Besides, we decided to focus our efforts on Montoir and on Northern Europe with Zeebrugge.

Currently, the South of France is somewhat lacking LNG. I am not sure that LNG brought to this region will essentially be used to supply trucks. In my opinion, it will rather be used to supply industrial customers through the regular natural gas transportation network.



From the floor

Lower crude oil prices are expected in the coming years. Given the fact that costs related to LNG liquefaction plants are also increasing, what will be the impact on LNG prices?

Bruno Seilhan - TOTAL

You probably noticed that a significant portion of the Ichtys project's economics is derived from liquids associated to gas, i.e oil and LNG. LNG will be sold in Asia (Taiwan, Japan) under long-term contracts. FID for Ichtys was taken in January 2012. From an economic standpoint, the project is viable. It will cost about 34 billion dollars.

It is my understanding that oil and gas companies must be able to manage crude oil price variations. That being said, when taking an FID, it is legitimate to examine the cost of a project (will it be possible to build the project at a lower cost in a few years?) as well as the related demand (is the market sufficient to sustain this kind of project on a 20 year basis?)

In this context, as I previously said, some projects for which FID was expected in 2013 will be delayed, sometimes for technical reasons, but also on economical grounds.

From the floor

I have not seen a successful development of LPG as a fuel for vehicles in France. Besides, within the current discussions on energy transition, oil remains predominant and alternative energy sources are very rarely addressed. According to you, which factors could contribute to the success of LNG for transportation?

Moreover, the TIPP (i.e. the French domestic tax on petroleum products) became TICPE, i.e. the domestic consumption tax on energy products. It is true that the tax rate for natural gas has not been defined yet. However, I have no doubt about the reactivity of public authorities in this domain.

François Brunero - Primagaz

According to you, is the success of LPG a limited success? Europe has now 33 000 LPG service stations. A little more than 7 million vehicles are fuelled with LPG in Europe, 250 000 of which in France alone. These figures are far from being insignificant.

Jean-François Daubonne – Gas Natural Fenosa

Concerning the development of LNG for transportation, two factors need to be considered: first of all, standards are evolving strongly. In the transportation sector, they are increasingly stringent and they may encourage the use of liquefied natural gas. Secondly, for local distribution, natural gas, whether compress or liquefied, seems to be a relevant solution because of its relatively low logistical costs. In any case, we regard LNG as a promising sector.

From the floor

The expected success of LNG for transportation implies that more and more trucks will be on our roads. Which type of trucks will you favour?


Jean-Yves Robin - GIIGNL

What is your answer to safety concerns in terms of road transportation?

Jean-François Daubonne – Gas Natural Fenosa

In Europe, the ADR standard defines the safety rules for the transport of hazardous substances. It defines standards for the transport of LNG in trucks and tanks. For many years now, trucks have been driven across Europe without the least incident.





In France, we implemented double layer tanks, with a void insulation system. This measure makes it possible to almost eliminate all risks related to LNG.

François Brunero - Primagaz

We are investing in new trucks which will abide by the highest safety standards. Moreover, we are carrying a supply chain optimization policy which makes it possible, among other things, to reduce distances. Besides, our customers embrace the same safety guidelines as ours. Finally, we have a know-how in terms of road safety.

Bruno Seilhan - Total

On other continents than Europe, LNG transportation by trucks is not unusual and does not set off any safety concerns.

From the floor

In the United States, tests of railway transportation with LNG have been performed. Is this kind of development also planned in Europe?

Pierre Cotin - Elengy

If the market was to develop in a very positive way, we could face the problem of having too many exiting our terminals. A European player, Gate Terminal in Rotterdam, started to study solutions in order to distribute LNG by train. This is the only example I can think of.

Bruno Seilhan - Total

Japan has already developed the transport of LNG by train.

Pierre Cotin - Elengy

Regarding LNG fuelled trains, I cannot think of any example in Europe. Technically, there are no obstacles. However, it would require significant investments on the supply chain and we would need to modify existing engines or build new ones.

From the floor

To my understanding, the competitiveness of American gas is due to the abundance of shale gas. Nevertheless, isn't it likely that the increase of exports from the United States will induce higher prices and therefore jeopardize this competitiveness?

Bruno Seilhan - Total

Forecasts indicate that even high volumes of LNG exports from the United States will only represent a small share of all gas consumed in the country. The impact of increased exports will not be insignificant, but they will remain relatively minor.

Frédéric Deybach – GDF SUEZ

The United States will export LNG under price formulae linked to US domestic gas prices. On the contrary, Asia, imports LNG under prices indexed on the cost of its oil products imports. In terms of competitiveness, both systems are not necessarily linked. Moreover, in the last two years, gas prices in the United States have been largely uncorrelated from oil prices, thanks to this shale gas revolution. For Asian buyers, it is not necessarily interesting to buy LNG from the US. In any case, Asian buyers must make choices according to the price risk they are willing to take.



Jean-François Daubonne – Gas Natural Fenosa

Natural gas is a strategic resource for the United States. Numerous liquefaction projects have been drafted, but the US government will not authorize massive exports of natural gas.

From the floor

LNG imports into Europe dropped sharply because of redirections to Asia. Does it mean that we reached a new equilibrium and that the market will no longer evolve? Or should we expect further substantial decreases in imports?

Bruno Seilhan - Total

Future is always difficult to predict. A few years ago, no one could have predicted the development of shale gas. No one could have predicted that a tsunami in Japan would shut down all nuclear plants and subsequently increase LNG imports needs significantly. This kind of turnaround could happen again, one way or the other. For instance, if strong political wills to increase the value of CO₂ arise in Europe, they could reinforce the role of gas for power generation.

From the floor

Are LNG-based propulsion systems – in particular for small ships- more economical than existing fuels, or even than fuel cells? Besides, what about the safety of facilities in the field of maritime transportation?

Jean-François Daubonne – Gas Natural Fenosa

Nowadays, most LNG-fuelled ships are located in the Norwegian waters and are small size ships. Large LNG-fuelled ships but also small LNG-fuelled ships have a bright future, especially if they are able to bunker in different locations around the world.

François Brunero - Primagaz

For small ships (with engines ranging from 5 to 200 KW), we can easily set up LPG chains, whether in the form of bottles or filling stations. On the contrary, for more powerful engines, significant investments are needed, as well as a regularity of functioning that we have not been able to reach in the past.

As far as LNG is concerned, the average amount of capital investment required for a facility is about three times higher than the investment needed for LPG. I can hardly imagine that one could easily set-up a supply chain for small ships.

Frédéric Deybach – GDF SUEZ

For small ships sailing on the North Sea, the Baltic Sea and the Channel, shippers have three options : installing scrubbers (for heavy oil combustion), burning diesel or LNG. LNG is the only effective solution because it is more competitive than gasoil.

Jean-Yves Robin - GIIGNL

Thank you to all members of the panel.

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