Europe's pivotal role in the global LNG market

Nina Howell and Adam Quigley, Bracewell, UK, evaluate Europe's place in the global LNG marketplace and consider what might be in store for European LNG in 2021.

The European LNG landscape

Europe's role in the global LNG market

Historically, Asia has been the world's dominant buyer of LNG, particularly under long-term LNG sale and purchase agreements (SPAs). In recent years, however, as the LNG sector has evolved, Europe has emerged as a market for absorbing excess LNG supply, and in 2019 was responsible for 24.2% of global LNG imports – essentially acting as a balancing market for global LNG supply.[1]

Europe's LNG infrastructure is primarily import focused and comprises 29 large scale regasification terminals – 23 large scale facilities located onshore, five FSRUs, and one combined floating storage unit and onshore regasification facility. In addition to this existing regasification capacity, approximately 20 proposed LNG import terminals (large and small scale) are under consideration within the European continent, mostly FSRUs.

Sources of LNG supply to Europe

Qatar remains the largest supplier of LNG to Europe, with 23.52 million t of imported LNG in 2019, followed by Russia with 15.07 million t.[1] The US has cemented its place as a crucial supplier of LNG to Europe – particularly on a

short-term and spot basis. In 2019, the US was the third largest source of LNG supply into Europe, accounting for 12.72 million t of LNG imports and 36% of all US LNG exports.[2] The US has also become the largest source of LNG supply for key European economies such as the UK (Europe's third biggest LNG importer in 2019), which imported more LNG cargoes from the US than any other nation globally in November 2020.[3]

Competition from pipeline gas

What sets Europe apart from the other major LNG importing regions (such as Asia) is the competition from pipeline gas; particularly from Russia, Norway, and Algeria. Whilst LNG has an effective monopoly over natural gas imports into Asia, primarily due to several of the major importing nations – Japan, South Korea, and Taiwan – lacking import pipeline infrastructure, Europe has both well-developed LNG regasification infrastructure and massive pipeline import capacity, creating competition between LNG supply and pipeline gas.

European pipeline capacity is also set to increase in the coming months. The Trans Adriatic Pipeline achieved first gas in December 2020, transporting gas from Azerbaijan's Shah Deniz field into Italy and providing an additional 10 billion m^3/y of pipeline capacity, with the potential to add an additional 10 billion m^3/y in the future. This capacity will only increase if Gazprom's controversial Nord Stream 2 pipeline, which has been dogged by issues relating to US sanctions, comes online in 2021. The project is reportedly 90% complete, however construction was paused in December 2019 as the Swiss pipeline contractor Allseas suspended operations due to concerns regarding US sanctions. Russian contractors recommenced pipelaying activities in January 2021, suggesting that the project will reach completion. Once commissioned, Nord Stream 2 will bring an additional 55 billion m^3/y of gas import capacity into Europe.

Nonetheless, while LNG might face this stiff competition from pipeline gas in Europe, it has the clear benefit of flexibility of destination, particularly with the advent of US LNG that is sold on a free on board (FOB) basis and with limited destination restrictions. This means that the LNG can be supplied to wherever there is demand, therefore allowing it to command a premium compared to pipeline gas.

Key players in the European LNG space

The traditional big players in the global LNG market – the majors, national oil companies (NOCs), and utilities – also largely dominate the European LNG market. Majors and NOCs provide much of Europe's LNG supply, and the key European utilities are responsible for much of the continent's LNG demand.

The growth of LNG exports and greater commoditisation of LNG globally has led to a liquid spot market for LNG. This has lowered the barriers to entry for new entrants, who are now able to acquire single or limited strips of cargo rather than entering into long-term LNG SPAs. Furthermore, major LNG commodity traders – such as Vitol, Trafigura, Gunvor, and Glencore – are now active in the European LNG market.

Private equity – a big feature in the US upstream and in the development of US liquefaction capacity – has also entered into the European LNG space. Indeed, in 2019, Ancala Partners acquired a 50% interest in the Dragon LNG terminal in Wales, UK. Private capital is expected to play a growing role in LNG projects given the image of natural gas as the cleanest of the fossil fuels and increasing environmental, social, and governance pressures on investors, which will cause a retreat from investment in more carbon-intensive projects.

European LNG demand

Before COVID-19

4Q18 and 1Q19 witnessed a fairly sharp fall in global delivered LNG prices due to a combination of oversupply of LNG – partly due to new supply from the US – and weaker demand in Asia. Whilst the trend towards an oversupply and low-price environment hit LNG exporters hard, Europe was able to benefit greatly from the abundant lower-cost LNG supply thanks to its significant underutilised storage (and regasification) capacity. The continued convergence of global gas and LNG hubs prices has allowed Europe's TTF and NBP markers to compete with Asia in attracting LNG volumes. Simultaneously, the decline in production of indigenous European gas production has caused a demand for gas imports to Europe.

Europe's increasing prominence in the global LNG market continued throughout 2018, 2019, and 1Q20. Every European country with an LNG import terminal increased its LNG imports in 2019 compared to 2018. The trend of increasing volumes of LNG being unloaded at Europe's regasification terminals looked set to continue through 2020.

The impact of the pandemic

Like the rest of the energy world, the LNG sector has felt the repercussions of COVID-19 almost immediately. LNG demand in China, Japan, and South Korea plummeted as the pandemic and ensuing lockdowns resulted in greatly decreased economic activity. Asian LNG buyers sought to reduce their long-term LNG offtake commitments by rescheduling or diverting cargoes, or by exercising downward quantity mechanisms. A number of buyers across Asia even claimed force majeure as storage tanks reached 'tank-top', citing that they were physically unable to receive any more LNG.

Demand for LNG in Europe then fell significantly as the virus spread to the West, forcing down European delivered LNG prices. LNG prices in Europe were further suppressed as a result of Qatar redirecting LNG shipments due to be shipped to Asia instead to Europe, particularly the UK and Belgium. US LNG was the real casualty when European gas prices hit record lows. In May 2020, the TTF price fell below the US Henry Hub, leaving US suppliers facing negative value for LNG delivered into Europe. In that month, the US reportedly delivered just 14 LNG cargoes into Europe – half of what was imported in March 2020 before the pandemic took hold.

Buyer force majeure claims were rare in Europe, due to higher levels of unused storage capacity across Europe's import terminals as well as the ability of Europe's well connected and liquid gas hubs to absorb gas send-out.

Following the demand shock in March and April 2020, European LNG demand recovered from June onwards as

lockdown restrictions were lifted and economic activity picked up. The TTF front-month price increased sharply from lows of €3.50/MWh in May to over €15/MWh in October as a result. Notwithstanding the increase in wholesale gas prices in Europe, LNG exporters faced a difficult end to 2020.

Whilst Europe's gas consumption proved to be surprisingly resilient in 2020 – only down 6% year-on-year up to the end of November – gas prices are expected to be low over winter as Europe enters into further lockdowns in response to the second wave of the COVID-19 pandemic. At the same time, US export facilities are reportedly operating at near to capacity pumping out LNG, as other exporting nations (notably Qatar) are expected to maintain high export levels as a means of retaining market share.

The European LNG market in 2021

Against expectations, global LNG prices have increased to record highs over the course of the winter due to unusually cold weather in Asia and Europe, a shortage of tankers, and lower LNG supply. This price increase may not be sustained past the spring as the cold weather abates or if further restrictions or more severe lockdowns are placed on European economies – which appears to be the political consensus until infection rates drop to manageable levels. However, the LNG industry is hopeful that the prospect of mass vaccination across Europe over the course of 2021 will result in economic recovery (albeit slowly). As Europe reopens, LNG can be expected to continue to play an important role in meeting much of Europe's energy needs.

The long-term future of the European LNG market

The energy transition

Europe has committed to an ambitious strategy to reduce its carbon emissions. In particular, the European Green Deal, which was approved by the European Parliament in January 2020, creates a framework to net-zero greenhouse gas (GHG) emissions by 2050. If passed, the European Climate Law, will place binding commitments on EU member states to achieve this net-zero target by 2050. Whilst Europe continues to make advances in terms of large scale renewable power generation and has taken the first steps towards the development of a hydrogen economy with its Hydrogen Strategy, gas continues to be the transition fuel of choice, given its lower carbon density in comparison to other fossil fuels.

Gas (including regasified LNG) is expected to play an important role in Europe's energy supply mix in the short, mid, and long-term. Across the continent, gas-fired power generation is already replacing coal and lignite-fuelled power generation – resulting in a reduction in GHG emissions of up to 55% when producing electricity, as well as nuclear power generation (in the case of Germany).[4] In the short to mid-term, significant levels of LNG (and pipeline gas) supply to Europe will be essential until solutions to some of the issues associated with renewables are achieved. Even once those solutions are found, it is expected that LNG (and pipeline gas) will continue to play a major role in Europe's energy mix. Whilst pipeline gas will continue to supply the majority of Europe's gas imports, Europe will need to rely on LNG to ensure diversity of gas supply and energy security throughout the energy transition.

Small scale LNG and bunkering

One key development in the European LNG space is bunkering and other small scale services – services provided to complement large scale liquefaction, regasification, and reloading services.

LNG bunkering is seen as a major growth area in response to new environmental regulations imposed on the maritime sector, particularly the International Maritime Organization's (IMO) 0.5% sulfur cap. Many ships are now switching over to using LNG as fuel, given its negligible sulfur content and lower carbon intensity, reportedly reducing GHG emissions by 20 - 25% in comparison to burning heavy fuel oil (HFO).[5] This figure will no doubt improve further over time with the development of bioLNG (produced by blending methane from anaerobic digestion of organic matter with LNG or natural gas that is then liquefied), which could reduce shipping emissions by up to 34% using a 20% bioLNG mix.[6] LNG bunkering services are now available at a third of all European ports, according to the European Sea Ports Organisation's 2020 Environmental Report.

Other small scale services have developed significantly in recent years. LNG is now transported across Europe by trucks, allowing LNG to be delivered flexibly across Europe to areas without developed pipeline infrastructure. This service is now offered by many of Europe's LNG terminals and is likely to grow further, together with rail loading services that have been available at the Zeebrugge LNG terminal in Belgium since September 2020.

Conclusion

With the roll-out of vaccines and the optimistic start of the 'new normal' in 2021, LNG will no doubt play a key role in the European recovery. As governments start to build back better, the greater focus on cleaner technology will enable LNG to complement the European energy transition for the coming years to a net-zero economy by the middle of the 21st century. **LNG**

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