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Europe's LNG Challenge

With North Sea oil reserves depleting, nuclear energy out of favour following the Fukushima disaster and the fear of dependence on Russian gas increasing daily since the Ukrainian crisis erupted, it is no surprise that Europe's leaders are keen to develop their exposure to LNG in order to ensure future domestic energy demand is satisfied.

While many rightly note that European demand for gas has been waning of late and that Europe faces a number of challenges when it comes to LNG imports, this article examines the consistently important role played by Europe in the worldwide LNG market.

Growth: the global context

According to a report by ExxonMobil, commercial energy demand is expected to increase by 50% globally by 2040. Fuelled essentially by huge demand for electricity in Asia both as a result of urban population growth and commercial developments, worldwide consumption of natural gas is anticipated by the Energy Information Administration to reach 507 billion cubic feet per day (Bcf/d) by 2040.

While the current share of the global liquefied gas market stands at approximately 10%, that demand is widely expected to grow – to approximately 500 million tonnes per year (mtpa) according to EY – almost double its 2012 level. The number of LNG terminals being developed worldwide supports that: in Australia alone, approximately 60mt of capacity is under construction, with Papua New Guinea adding a further 7mt. The United States – once an importer – expects to increase its liquefaction capacity to over 11bcf/d by 2019, while Nigeria plans to almost quadruple its capacity along the same timeline. Both countries could therefore overtake Qatar's position as the leading supplier of LNG worldwide.

On the demand side, the number of countries with import terminals could grow to more than 50 by 2020 – a sharp increase on the 29 existing today. If we bring the focus back down to Europe, there are 14 existing and operational LNG terminals in Europe – mainly in the UK, Spain and France. Six more are already under construction, while a further 27 are planned, and not only for the existing importers. Cyprus, Ireland, Germany, the Netherlands and Poland all have plans underway, some even supported by upstream companies looking to secure their downstream positions on the continent. While it is highly unlikely that every project will actually materialize, the scale of interest and investment in LNG markets cannot be denied.

The challenges facing Europe

That said, imports of LNG across Europe have been declining steadily over past years, due mainly to the economic crisis in the Eurozone and strong competition with Asian buyers. Existing regional price differences and the continuing prevalence of oil-indexed contracts has meant that Asian buyers have traditionally been forced to pay more than European ones – sometimes even four times as much. Japan's huge trade post-Fukushima combined with China's wish to reduce air pollution from coal have kept prices high, while Europe has benefited from availability, primarily from Norwegian and Russian pipelines.

However, two key developments have begun to work against Europe's importers recently. With Russia's flexing of political muscle in the Ukraine having given European leaders a continuing headache, the realization that reliance on Russia for its energy could be dangerous has suddenly dawned on politicians and the voting public alike. As Russia currently supplies approximately 30% of European gas



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and almost half of that is delivered via pipelines crossing Ukraine, other solutions to energy supply are being sought with urgency.

Furthermore, the United States' bounty of cheap domestic gas produced from underground shale formations, the lower prices paid for it have meant that exporters in the U.S. have sent cargoes to Asia instead, taking advantages of higher prices there. The negative effect of this on European terminals is likely to increase as the incumbent U.S. government softens towards allowing exports. Only last month, the Obama administration granted a Houston-based terminal the rights to cool domestically produced gas to -164 degrees and export it to countries around the world. There are currently 26 more requests for an export license on the Department of Energy (DOE)'s desk, which, if authorized, would enable the export of approximately 50% of domestically produced LNG.

If the forecast demand growth for LNG in China alone is correct, Europe's LNG importers will need to develop some impressive diplomatic footwork.

A continuing core

Even in light of the above geopolitical dynamics, there are however a number of reasons why Europe, if it plays its cards right, can stay afloat in the LNG market.

Firstly, while a large amount of natural gas is supplied by Russia, Qatar and Norway also supply significant quantities of LNG to Europe. Considering the relative proximity of both countries to Europe and positive trade relations, there is no reason why increasing import volumes could not occur. Given that a dominant part of LNG cost is transport, even if Europe were to diversify its supply to increase volumes from Nigeria and North Africa, the continent remains at the positive end of the transport cost curve. If the proposed pipeline from the Leviathan field in Cyprus to Greece goes ahead, reliance on non-EMEA LNG could be reduced and drastically change economic growth in the area.

The cost of building LNG re-gasification terminals has traditionally acted as a brake on growth worldwide, not just in Europe. However, LNG infrastructure projects typically depend on private rather than public investment and create local employment, thus making them extremely attractive to Eurozone governments which are struggling with high unemployment and public funding issues. Furthermore, they tend to take far less time to build than a cross-border pipeline, which can take many years just to approve. According to Gas LNG Europe, a non-profit organization representing gas operators across Europe, the investment in European LNG projects stood at over €20bn in 2011, and represents an increase in total LNG capacity from 193 billion cubic metres per year (bcm/y) in 2012 to 369bcm/y by 2022.

The recent deal announced by Vladimir Putin for Russia's Gazprom to deliver gas to the China National Petroleum Corporation (CNPC) for the next 30 years is valued by industry sources to be worth approximately \$350-\$380 per thousand cubic meters, similar to what Europe has been paying under long-term contracts. The deal signifies an important shift in global trade dynamics: as European growth has weakened, Russia has needed a new Europe to deliver to, so has looked to the fastest growing consumers in the East. It has diversified its buyer portfolio while simultaneously enabling China to put downward pressure on gas prices, eroding the differential within and beyond Asia.

Though some in Europe have reacted to this with concern, the deal could work in Europe's favour. A more globalized pricing structure will mean that the advantage American exporters enjoy in shipping LNG to Asia could decrease, having a balancing effect on worldwide LNG prices and the market as a whole. This would certainly be positive for Europe on a number of levels, as not only LNG importers but the downstream operators they deliver to have suffered from fierce global competition.

Finally, the talent shortage that the United States and China are experiencing in particular - where the average working population is aging - means that companies there are under extreme pressure to find and keep young talent. In the U.S., where plants are widely spread out, persuading talent that can be found to move to extremely remote places is difficult and costly. In China, the sudden growth explosion has meant that huge responsibilities are given to under-experienced workers who are not equipped with the skills to manage large teams and operations properly.

By contrast, while Europe's workforce is also aging, its energy sector benefits significantly from an established stream of trained young engineers and traditional apprenticeship programs. Due to the continent's relatively small size and existing infrastructure, relocating across Eurozone borders does not always require the same level of persuasion or competition. As long as European operators ensure that skills are consistently and effectively passed on from senior managers to junior entrants, that experience can be used to significant benefit.

Flexibility is key

Given the above shifts, diversification and flexibility of supply are vital to all importers, regardless of location. The advantages European companies enjoy in terms of geographical location, existing and planned infrastructure, relative political stability as well as an experienced workforce should be leveraged as much as possible to ensure survival. Even while China, Russia and the U.S. continue to dominate the LNG stage, relations between them fluctuate frequently between open and positively strained. By contrast, Europe

represents a relatively stable market, unlikely to be dogged by too much political unrest, or at least, not enough to warrant the sabotage of terminals or sanctions between its member states. If Europe can ensure it remains flexible in terms of its energy supply and continue its slow but steady economic recovery, it can continue to play an important role in a soaring global LNG market.