



## Plans for LNG terminal expansion in Germany align with the political mood and energy transition

### Brexit: implications for European gas interconnectors?

The natural gas supply dynamic in Europe may well be impacted if Brexit negotiations complicate, or add cost, to gas exchange between the UK and continental Europe. The UK has several large-scale LNG terminals with high capacity regasification units and the pipeline infrastructure between the UK and the continent is important to help balance gas demand requirements in the two locations. These uncertainties may be influencing plans for new LNG capacity on both sides of the channel in years to come.

### LNG offers energy density

In some applications, pipeline natural gas and re-gasified LNG are interchangeable. In others, such as the use of LNG as a fuel for ships and trucks, the energy density of liquefied natural gas sets it apart from a gaseous supply meaning that LNG terminals have a unique role to play in the energy mix of a nation. A litre of LNG is approximately equivalent to 3 litres of compressed natural gas (CNG) at 200 bar or 600 litres of natural gas at atmospheric pressure.

### Germany gets involved: Brunsbüttel LNG terminal on the cards

LNG terminals are an established feature of continental Europe's North Sea ports with operations at Zeebrugge, Dunkirk and Rotterdam. With an eye on the future, Germany is also making plans to get involved in LNG.

Partly due to the recently announced phase-out of hard coal and lignite fired power stations in Germany by the end of the 2030's, gas consumption is projected to increase. The Nordstream 2 pipeline which is currently under construction and will transfer natural gas from Russian sources to Germany will certainly help to satisfy this growth in demand. Additionally, the planned LNG terminal in Brunsbüttel will add to the supply diversity and enable up access to US, Middle East and emerging African LNG sources. Putting the scale of the planned terminal into some context, at 240,000 cubic metres, the land-based LNG storage tank will be the biggest in Europe.

Situated at the mouth of the river Elbe delta on Germany's North Sea coast, and with access to industrial clusters located north west of Hamburg, Brunsbüttel must be the ideal location for Germany's first land-based LNG terminal. During the initial planning phases, alternative locations at Wilhelmshaven, close to Bremen and Stade further upstream on the Elbe were also considered. Stade had the attraction that it was marginally closer to markets around Hamburg, but for the Q-Max LNG tankers that will have the potential to feed this mega-scale LNG terminal the mouth of the river was ultimately the more suitable location.

### **Moving off the drawing-board**

The German LNG terminal is still in the planning stage, with engineering proposals and regulatory approvals being worked through right now. Calls for EPC contractors to tender for the work to build the LNG terminal are likely to be placed later this year. Whilst the phase 1 scale of the operation will propel it into the major league, options for growth beyond that also exist. Beyond the initial LNG tank, there is space for two additional tanks of equal size. That would mean that the total capacity would rival the Gate terminal in Rotterdam, where the installed storage capacity today is 540,000 cubic metres.

The business case at Brunsbüttel is diverse. The plans would allow it to fill into small LNG vessels, road trucks and rail tankers. There are also ideas to use low grade heat from local industry to vaporise the LNG as it is re-gasified and injected into the natural gas grid. In exchange, the cold energy from the vaporisation of the cryogenic liquid can be used to provide chilled water to local businesses.

### **World gas supply and demand balance**

Having a clear understanding of LNG and piped natural gas flows around the world and how localised pricing is influenced (i.e. at a national or even *intra*-national level) is essential to making the right investment decisions in pipelines and LNG infrastructure. At [Nexant](#), we have been using and updating our comprehensive World Gas Model for more than 10 years.

It maps the supply, transit and consumption of natural gas in every form world-wide, and forecasts gas prices out to 2040. Scenarios can be run through this complex model to make predictions about future supply and demand imbalances that are likely to influence gas pricing which, in turn, will have a tremendous impact on business case assumptions.

For those who are involved in the gas industry on a long-term basis, the model its self is available for users to fully license or to engage in discrete bespoke scenario work. This enables industry participants to run multiple “what-if” scenarios based on Nexant’s up to date information about projects influencing gas availability and consumption patterns. Nexant also uses the World Gas Model to underpin its “off-the-shelf” gas markets and pricing reports which are readily available to purchase.

Contact [Stephen B. Harrison](#), Principal for Nexant in Germany to discuss in more detail.

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