



## Over the *hedge*?

Germany put its own energy security needs first when supporting Nord Stream 2 notwithstanding the lack of EU enthusiasm. Will building an LNG terminal pay supply diversification dividends worth having?

German utility RWE in October announced its backing for the German LNG terminal project, after provisionally subscribing to capacity at the planned import facility.

German LNG Terminal is a consortium between Dutch infrastructure company Gasunie, and storage firms Netherlands' Vopak and German Oiltanking which plans to construct an LNG import and regasification facility with a capacity of 3.7mtpa. That facility would be constructed in Brunsbüttel, northern Germany and will entail one storage tank, a jetty and associated facilities and infrastructure.

If the project goes ahead, it will be the first of its kind in Germany – a country dominated by piped gas imports.

The German grid is connected to the Dutch gas network, which includes extensive LNG infrastructure at the Gate terminal, but does not boast its own LNG facility.

Given German shippers already have abundant access to supply infrastructure, and are able to access the global LNG market via Gate and other European terminals – most of which are currently underused – this begs the question: Is the terminal really needed?

RWE said its decision to invest in the German LNG project is focused on the long term growth in demand for LNG in Europe, enabling the firm to provide LNG to a range of customers in the future, including to gas consumers, as well as future users of LNG as a marine, truck and remote power station fuel.

European gas production is in terminal

decline and the region will be increasingly reliant on piped gas imports and LNG to meet its demand requirements in the decades ahead.

This point is echoed by fellow German utility Uniper, which is backing another German LNG project trying to get off the ground.

### Wilhelmshavn rival

That project involves an offshore floating storage and regasification unit (FSRU) planned for Wilhelmshavn in the deep water port of Jade Weser.

Uniper said it is in discussions with partners over the project and there is a high level of interest.

The utility backed the project as they see

LNG export plants, including in Angola, Qatar and Australia. Uniper also has an agreement with Japan's Osaka Gas for supply from the future Freeport liquefaction project in the US. Both German firms have significant exposure in European gas and power markets.

### German grid make-up

Germany's gas infrastructure is dominated by pipeline transportation, including Nord Stream that delivers gas from Russian producer Gazprom.

It also has direct piped gas connections to the Netherlands, delivering gas from Dutch upstream facilities like the Groningen gas field and the Gate LNG terminal. German

“ Total German pipeline import capacity stands at 241bcm in 2018, according to ICIS data ”

reduced supply from existing European gas fields, and are seeking to take advantage of the rising demand for reloads to the Asian market seen last winter. The Wilhelmshavn facility would be strategically located close to the Etzel gas storage facility, and have an LNG storage capacity of 265,000cbm.

Uniper said it expects future European import demand to be met by both pipeline gas and LNG.

Both RWE and Uniper are major players in the global LNG markets, holding active and future supply contracts with various global

shippers can import piped gas from Norway and via central Europe.

In 2017, domestic gas consumption in Germany totalled 92.01 billion cubic metres (bcm), an increase of 3.2% from 2016 according to research conducted by the Oxford Institute for Energy Studies. In contrast, total German pipeline import capacity stands at 241bcm in 2018, according to ICIS data.

When both domestic German consumption and export demand to other European gas markets are combined, there is still a large overhang in spare import capacity. ICIS »



data suggests may Germany have around 80-90bcm/year of spare import capacity if the 55bcm/year Nord Stream 2 project progresses as planned. Without Nord Stream 2, Germany may still have 30-45bcm/year of spare capacity.

It should be noted that imports are highly seasonal, with more gas being imported during the peak winter demand period. But even during the Beast from the East in March 2018 daily German imports still did not come close to their technical maximum. German gas imports peaked at 507mcm/day and have not exceeded 531mcm/day in the past decade, well shy of the technical import capacity of 659mcm/day.

It is not just Germany that seemingly has a surplus of supply-side infrastructure. Europe's LNG import terminals are underused.

European countries have a total of 168.92mtpa of LNG regasification capacity, with a utilisation rate of 25% over the last 12 months, according to LNG Edge. The Dutch Gate terminal which is closely connected with the German gas network with 9mtpa capacity has regasified just 1.35mtpa of LNG over 12 months – a utilisation rate of 15%.

This suggests little commercial supply-side need for a new LNG terminal in Germany itself. It is maybe simpler and cheaper to ramp up imports to nearby European LNG terminals rather than to build a multi-million pound brand-new facility.

The proposed terminal at Brunsbuttel of 3.7mtpa is relatively small compared to some of the larger facilities in other parts of north-west Europe.

**Small-scale LNG ambitions**

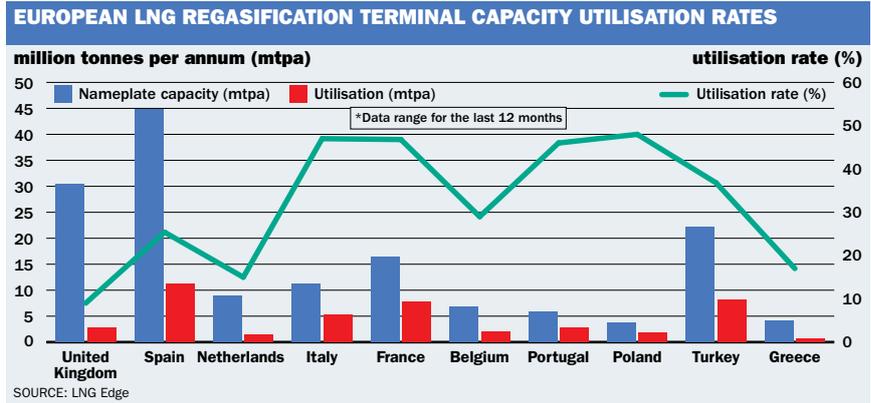
A key aspect of the project its small-scale LNG functions, as well as the large-scale LNG import and regasification capacity.

Small-scale facilities are used for loading LNG onto trucks for delivery to remote, off grid locations and in LNG bunkering for LNG-powered ships.

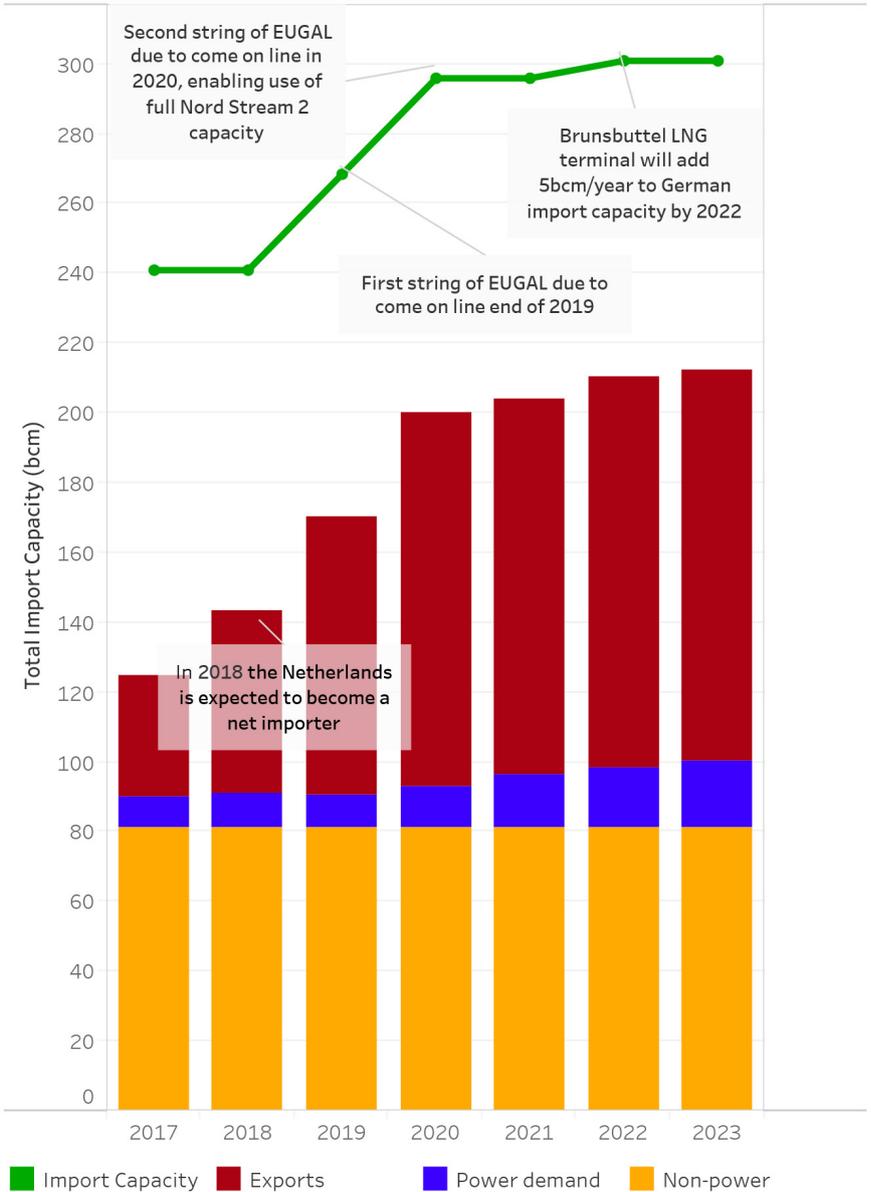
Wolfgang Peters at the Gas Value Chain Company said that the business case around the German LNG Terminal project should be focused around the demand for small-scale LNG. The plot for the project sits in close proximity to the North Sea entrance to the Kiel Canal. Ship traffic traversing the canal to and from the Baltic Sea save around 460km instead of going around the Jutland Peninsula.

Proximal demand around the Brunsbuttel area adds to the local business case for LNG and regasification facilities, with approximately 1.5bcm/year of gas required for industrial use.

In 2020, the International Maritime Organisation's new cap on sulphur emissions for marine vessels will enter into force. Germany and most Baltic States are signatories. As with the global trend, many shippers are developing LNG powered tankers, cruise liners and the associated small-scale LNG send out and bunkering infrastructure required.



**GERMAN GAS: IMPORT CAPACITY VS DEMAND**



Source: ENTSOG capacity map, ICIS Power Horizon

[Click here for an interactive version of this graphic](#)



**» Political appetite**

Thierry Bros at the Oxford Institute for Energy Studies says that energy projects have both political and economic aspects.

Political pressure may be a driving factor in the German government's interest in developing LNG import infrastructure, enabling a more diversified gas supply mix for the country.

There is precedent for this in neighbouring Poland. Incumbent PGNiG has expressed interest in long term US LNG supply contracts as a means to diversify its reliance on pipeline gas supplied by Russian producers.

There is strong political support for this within Poland given its chequered history with Russia and its current reliance on Russian piped gas.

In addition to future agreements to procure US LNG, PGNiG has a 16 year supply contract with Qatargas for 2mtpa, and occasionally purchases spot LNG cargoes from Norwegian producer Equinor.

Concerns on overreliance on Russian gas is acute in the Baltic states but analysts have said that the issue may become more pressing at a European level if Russian gas market share in Europe gets much higher than the current 35-40%.

The European Commission and US government have both criticised the Nord Stream 2 pipeline project for this very reason.

**Nord Stream 2 positives**

Peters said there is a relative ease within Ger-

man political spheres about energy security. Russian gas delivered to Germany has been priced closely to Dutch TTF hub prices in recent years. Given the need to compete for market share with LNG and other gas supply sources, this trend should continue in the short-term.

for the end of 2022, will rest on two things. First, market fundamentals dictated by Nord Stream 2's progress. The project does not have the required Danish construction permits and may need to be rerouted, and other hurdles need to clear before a construction schedule is guaranteed. If the pipeline project does

## “The business case for the German LNG Terminal should be the demand for small-scale LNG

The construction of the Nord Stream 2 pipeline could also see Germany become the biggest transit hub for gas to Western European markets.

This, along with the planned merger of German gas hubs NCG and GASPOOL in 2022 may see German hub prices become more competitive versus the TTF.

It remains to be seen if these factors will be enough to make the German gas market a genuine rival for the TTF in terms of traded volume and encourage traders to shun the TTF in favour of Germany as a venue for hedging.

But the development of German LNG import infrastructure should certainly add further liquidity to the market.

**Diversification needs**

A final investment decision on the German LNG terminal project, expected towards the end of 2019 with operational start up set

not progress as planned, this may incentivise investment in additional capacity.

Second, a national and European political appetite for demonstrating the country's energy security be guaranteed by a diverse supply mix. As British and Dutch gas resources are exhausted, Germany's gas supply could be increasingly dominated by Russian and Norwegian gas suppliers.

Although this duopoly is not as politically unpopular in Germany as it is in other countries supplied with Russian gas, it may give the project additional impetus.

The relatively small size of the terminal means that it will not completely reshape Germany's energy supply. But it will give shippers an additional supply option and more trading flexibility, particularly in pursuing the small-scale market niche.

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