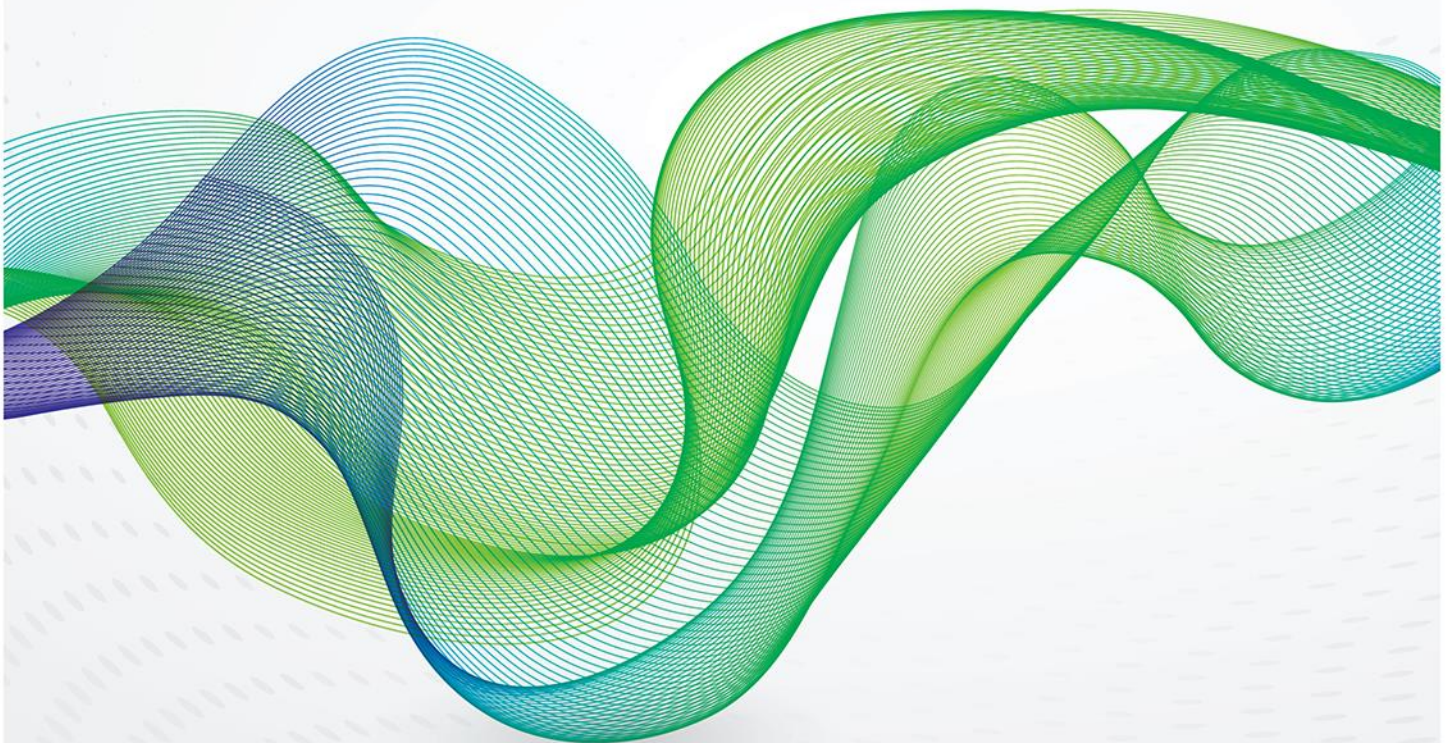




THE OXFORD
INSTITUTE
FOR ENERGY
STUDIES

March 2020

\$2 gas in Europe is here: who will blink first?



OXFORD ENERGY COMMENT

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Introduction

In October last year the Oxford Institute for Energy Studies (OIES) published an Energy Comment¹ which considered the possibility of \$2 gas in Europe during 2020. The definition of \$2 gas was that the average monthly price for TTF or NBP would start with \$2 at the beginning i.e. be below \$3 per MMBtu—either the average day-ahead price for the month or the month ahead index as used in the October paper. The possibility of this occurring, however, was seen as being most likely in the July to September period, as European storage approached full capacity and as LNG supply was ramping up. Broadly a price below \$3 per MMBtu would be the same as a price below €9 per MWh.

Remarkably we now have \$2 gas before the winter has ended. The month ahead index for March for TTF is \$2.91 per MMBtu and for NBP was \$2.88 per MMBtu.² The average day-ahead price in February for TTF was just under \$3 per MMBtu and for NBP just over \$3 per MMBtu. Back in October, the key factors which were thought of as possibly triggering much lower prices were a Ukraine transit deal being agreed, a mild winter in Europe, lower Americas and Middle East LNG imports, pipeline imports into Europe remaining at 2019 levels and lower emerging Asian demand. The first two factors have come to pass but the accelerating factor has been the impact of the coronavirus on economic activity in China and the resultant decline in LNG imports. This has also resulted in Asian spot LNG prices falling below \$3, with the ANEA month ahead price for March averaging \$2.92 per MMBtu.³

This follow up Energy Comment will reassess the rising LNG supply coming onto the market this year, and the prospects for LNG imports outside Europe. In Europe the summer demand and indigenous production situation will be considered, together with the rising level of gas in storage, to assess the supply gap for pipeline and LNG imports. Possible outcomes will be discussed to see which of the suppliers to Europe—indigenous production from Norway, pipeline imports from Russia, Algeria and Azerbaijan or LNG imports—will blink first.

LNG Supply and Demand 2019 and 2020

LNG export capacity is still rising through 2020. OIES estimates that available LNG capacity⁴ in 2019 averaged around 510 bcm and will rise to just over 560 bcm in 2020. The rise in capacity is principally coming from the US as Freeport, Corpus Christi Train 2, Cameron, Sabine Pass Train 5 and Elba Island starting up and now being ramped up. Additional capacity is also coming from Yamal LNG Train 4, Rotan FLNG in Malaysia, the restart of Damietta in Egypt and the continued ramp up of Prelude FLNG.

Gas prices are generally lower in the summer period – April to September each year – when European gas storage is refilled, and our October note considered that \$2 gas might be reached in that period this year. It is during this time that the level of LNG availability and its ultimate destination is critical. In Summer 2019 the total available LNG export capacity was some 253 bcm, while total LNG loaded (imports plus boil off gas) was some 234 bcm. The unused surplus LNG export capacity was 19 bcm or 7.5% of total capacity.⁵ In Summer 2020, export capacity is expected to have risen to 281 bcm—a rise of 28 bcm. If it is assumed that the 7.5 per cent of export capacity remains surplus to balance the market in what might be termed the “Goldilocks” Case—then total LNG loaded would be expected to rise in line to around 260 bcm. This is shown in the figure below.

¹ <https://www.oxfordenergy.org/publications/could-we-see-2-gas-in-europe-in-2020/?v=79cba1185463>

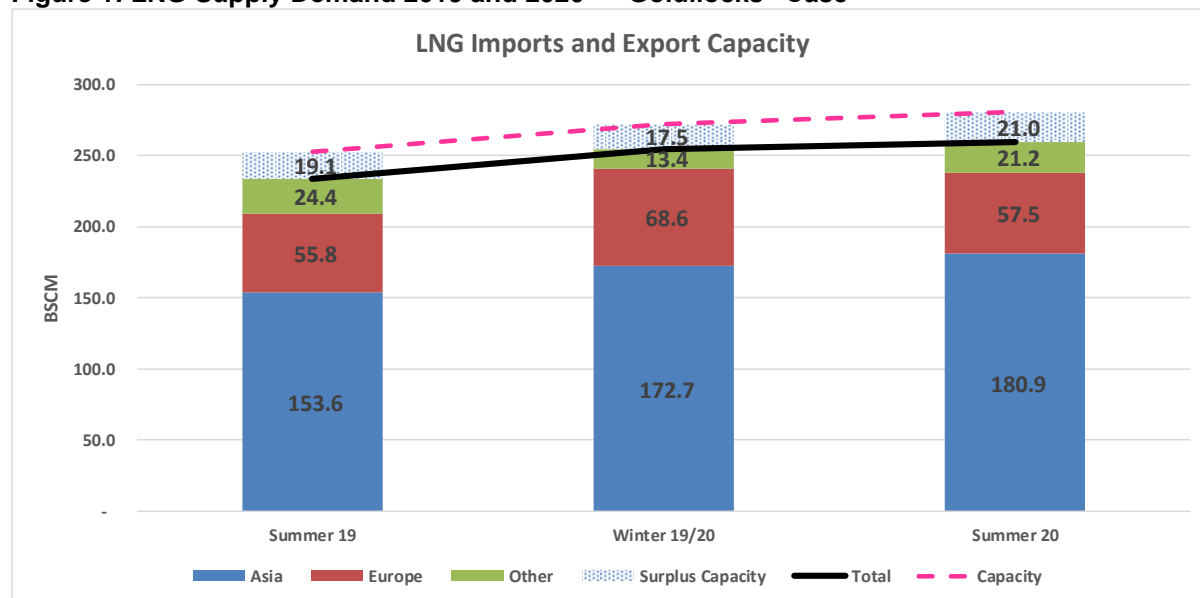
² Source: Argus Direct. The month-ahead index is the average daily midpoint price for March deliveries during February.

³ Source: Argus Direct. Argus Northeast Asia spot LNG price.

⁴ Available capacity adjusts nameplate capacity for regular maintenance, unscheduled maintenance, technical and operational issues, feed gas problems and, on the other side, the ability of a number of plants to produce above nameplate capacity.

⁵ Source: Platts LNG Service for imports, OIES calculations for export capacity and boil off.

Figure 1: LNG Supply Demand 2019 and 2020 – “Goldilocks” Case



Source: IEA, Platts LNG Service, OIES Analysis

The import markets are divided into Asia, Europe and Other—which covers the Americas and MENA (Middle East and North Africa). Asia is the key LNG market and if trade is going to rise in line with capacity, Asia will be the main driver. The Americas and MENA, if anything, are likely to stagnate at best. Egypt has stopped importing LNG, Jordan has drastically reduced volume as it imports pipeline gas, Argentina is reducing volumes as shale gas production picks up and is even exporting LNG, while Chile’s needs are reducing with more pipeline imports from Argentina. Brazil imports depend on the hydro situation and Mexican demand is weak and more pipeline gas is coming in from the US. Europe is then the residual balancing market as was illustrated in 2019.

Asia demand, therefore, is key. The table below shows a pre-coronavirus projection for the Asian markets, based on the need for import growth to match export capacity growth—the “Goldilocks” Case.

Table 1: Asia LNG Imports 2019 and 2020 – “Goldilocks” Case

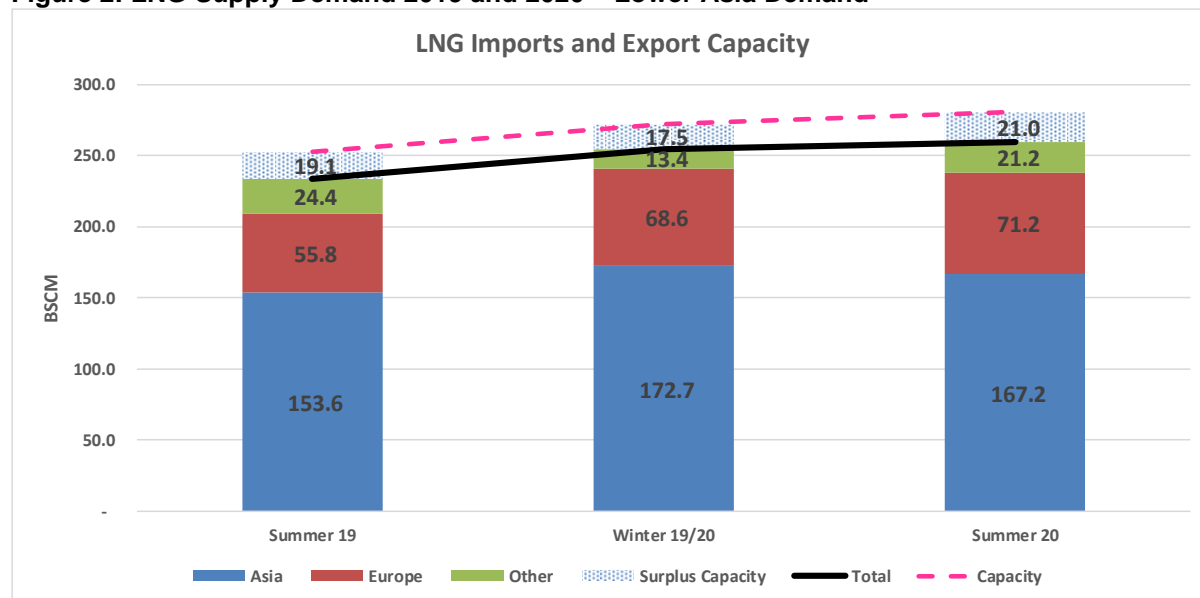
	BCM	Apr-19	Apr-20	% Change
		Sep-19	Sep-20	
JKT		81.8	90.0	10.0%
China		36.8	46.5	26.3%
South Asia		25.0	30.0	19.9%
ASEAN		9.9	14.4	45.0%
Total		153.6	180.9	17.8%

Source: IEA, Platts LNG Service, OIES Analysis

The required Asian LNG import growth is some 18 per cent between Summer 2019 and Summer 2020. Japan/Korea/Taiwan (JKT) might be expected to rebound since 2019 volumes were significantly down on 2018 and Korea is shutting coal plants for extended periods. Similarly, growth in South Asia has been strong, with India taking advantage of low prices. The prospects for China and the ASEAN countries, however, are less rosy. China’s volumes are already being impacted by the coronavirus and the expected pickup in ASEAN demand, predicated in rising domestic demand and weaker production, may be slow to materialise. As a result, the required demand growth shown in Table 1 above seems unlikely to be achieved.

If the Asian markets grew at half the “Goldilocks” Case rate then a lot more LNG could be looking for a home in Europe, as Figure 2 shows.

Figure 2: LNG Supply Demand 2019 and 2020 – Lower Asia Demand



Source: IEA, Platts LNG Service, OIES Analysis

If the level of unused export capacity is to be maintained, at 7.5 per cent, then Europe might then be faced with over 70 bcm of LNG heading its way this summer. Even the “Goldilocks” Case suggested almost 58 bcm heading to Europe. However, the key question is how much LNG is Europe really capable of absorbing?

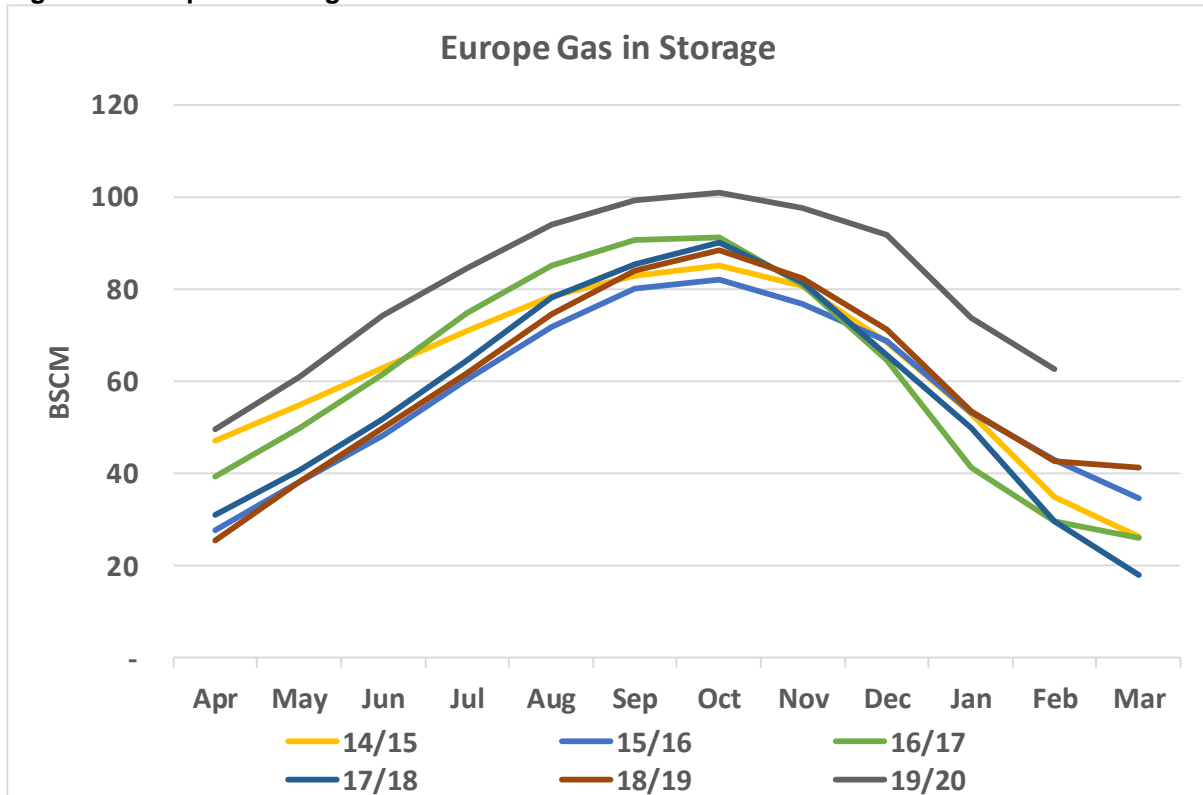
European Balance Summer 2020

The European gas storage situation is key to the ability of Europe to absorb LNG. At the end of October 2019 European gas storage was 98 per cent full. At the end of February gas in storage was some 62.8 bcm—20 bcm higher than in February 2019—see Figure 3.

In the last five years, withdrawals in March have ranged from a low of 1.5 bcm in 2019 (a warm winter) and a high of 11.7 bcm in 2018 (a cold winter). So far March is looking warm and we have a lot of LNG also heading to Europe—Winter 19/20 looks like being almost 20 bcm higher than Winter 18/19 in terms of LNG imports into Europe. Even if it was assumed that 6.5 bcm was withdrawn in March (average of the last 5 years), then this would leave gas in storage at some 56.2 bcm. Total European storage capacity is some 103.7 bcm leaving space of 47.5 bcm, if it was all to be filled in the summer.

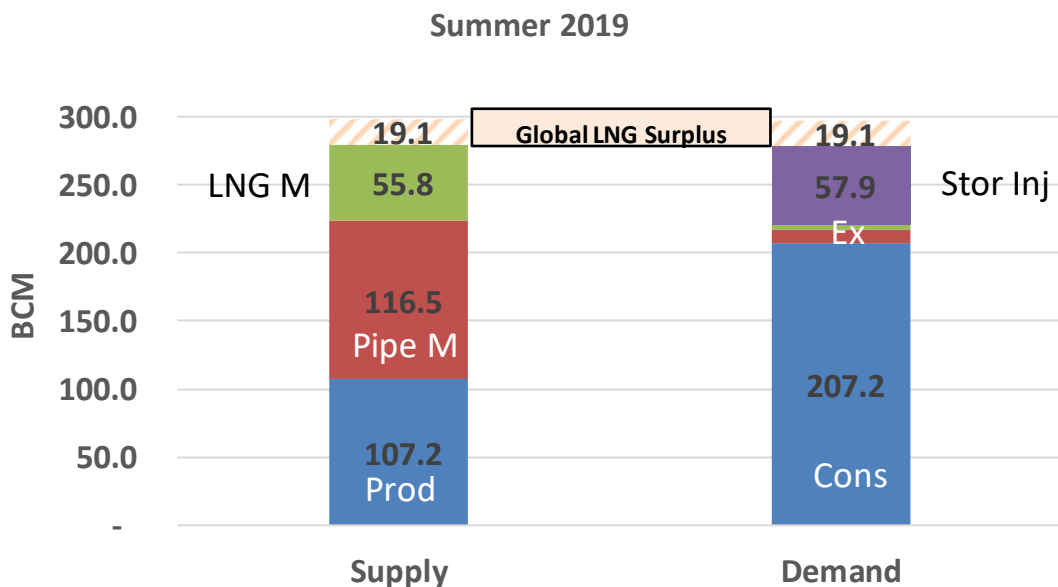
In Summer 2019, gas consumption in Europe was some 207 bcm, significantly higher than in 2018 as a result of coal to gas switching in the power sector. With small quantities of pipeline and LNG exports plus almost 58 bcm going into storage, total “demand” was some 278 bcm, supplied as shown in Figure 4.

Figure 3: European Storage



Source: IEA, Platts LNG Service, OIES Analysis

Figure 4: European Supply Demand 2019

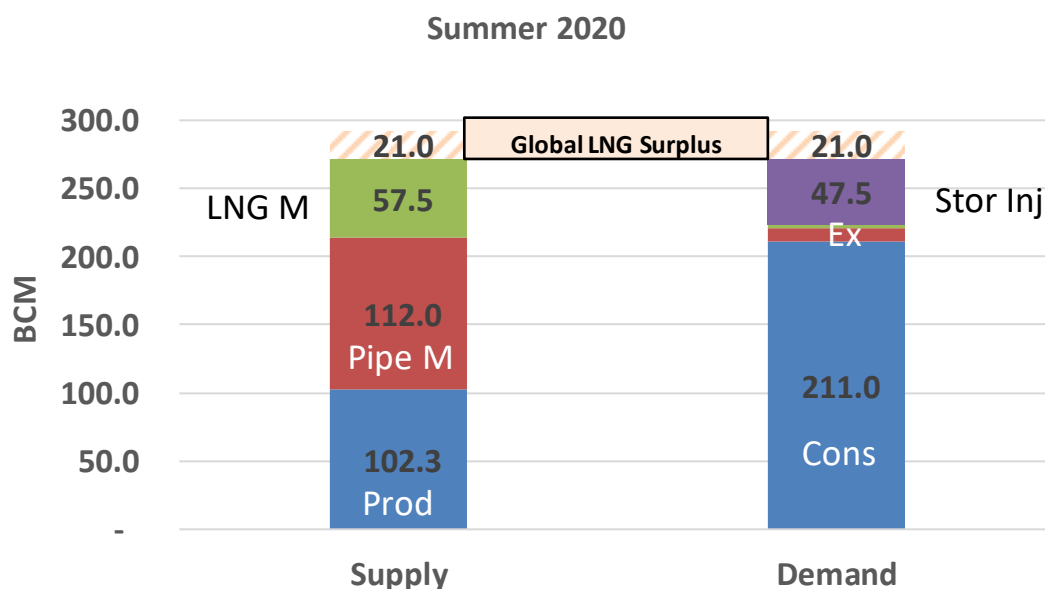


Source: IEA, Platts LNG Service, OIES Analysis

Summer 2019 saw LNG imports (LNG M) at around 56 bcm, which was a significant increase over the 30 bcm in Summer 2018. Production declined by some 10 bcm and pipeline imports (Pipe M) were slightly lower.

In Summer 2020, there might be some small scope for a further rise in consumption, if the remaining coal to gas switching can occur, but is unlikely to be significant unless prices are low enough to encourage lignite to gas switching. Pipeline imports could ease back again, while production is likely to be lower because of Groningen issues and also if the Norwegians hold back their supply a little. As a result, Europe could absorb 57.5 bcm of LNG—as assumed in the “Goldilocks” Case—with storage space of 47.5 bcm (assuming storage was fully filled). This would leave Summer 2020 as in the figure below.

Figure 5: European Supply Demand 2020 – “Goldilocks” Case

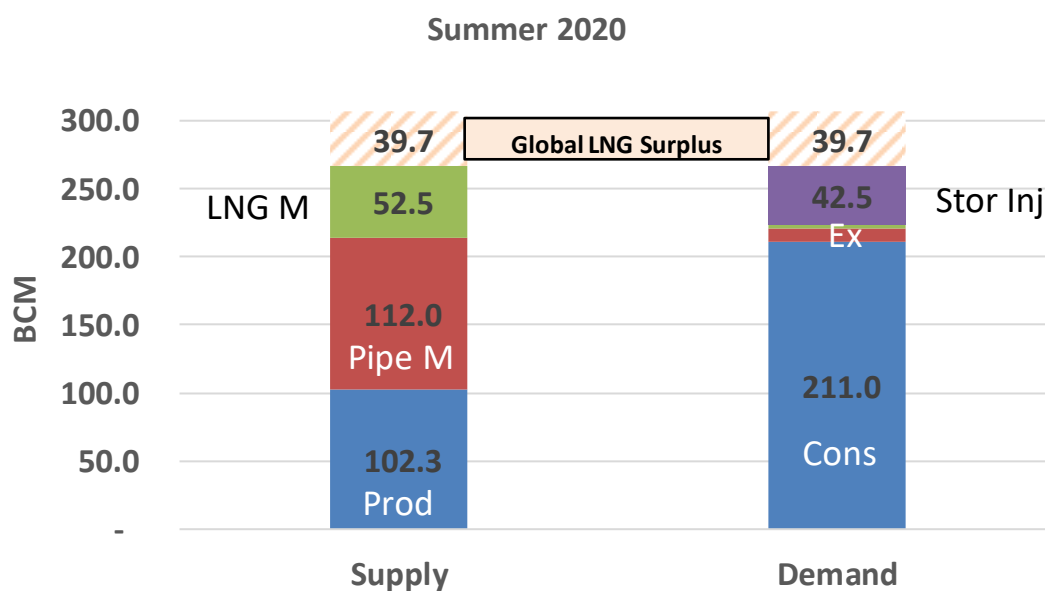


Source: IEA, Platts LNG Service, OIES Analysis

The global LNG market, therefore, might just about be able to balance – if that is defined as maintaining broadly 7.5 per cent surplus LNG export capacity – assuming, in Europe, consumption increases, pipeline imports are cut back, production declines and some 6.5 bcm is taken out of storage in March, before storage is completely filled by the end of September. This still relies, however, on there being strong Asian growth in LNG imports, as assumed in the pre-coronavirus “Goldilocks” Case.

A much worse case scenario, for the LNG market, could see less gas withdrawn from storage in March —1.5 bcm as in 2019—and slower Asian growth, even assuming European consumption grows again (which may be impacted by the potential impact of coronavirus on gas demand in Europe) and pipeline imports and production decline.

Figure 6: European Supply Demand 2020 – Downside



Source: IEA, Platts LNG Service, OIES Analysis

With storage injection capability some 5 bcm less this translates into 5 bcm lower LNG imports, and with lower Asian import demand the Global LNG Surplus rises to almost 40 bcm—representing 14 per cent of export capacity—i.e. it is not produced and in effect shut-in.

Will LNG get shut in?

Rising Asian demand for LNG, as assumed in the pre-coronavirus “Goldilocks” Case, could just about absorb the rising LNG supply. However, the longer the coronavirus outbreak/pandemic lasts the more the impact on LNG import demand could prove severe. Chinese companies have already tried to call force majeure on LNG contracts,⁶ although Shell and Total rejected the CNOOC move. PetroChina may not have any better luck in trying to do so.⁷ There have also been reports that Naturgy have cancelled April liftings⁸ from the Cheniere terminals in the US, based on the low European prices. The TTF—Henry Hub price differential for March was some \$1.09 per MMBtu (\$2.91 less \$1.82). With a 15 per cent uplift on Henry Hub amounting to \$0.27, that leaves just over \$0.80 to cover shipping and regas charges, which may not have been enough for Naturgy. However, other offtakers, who may regard at least part of their shipping costs as “sunk”, could accept even narrower spreads.

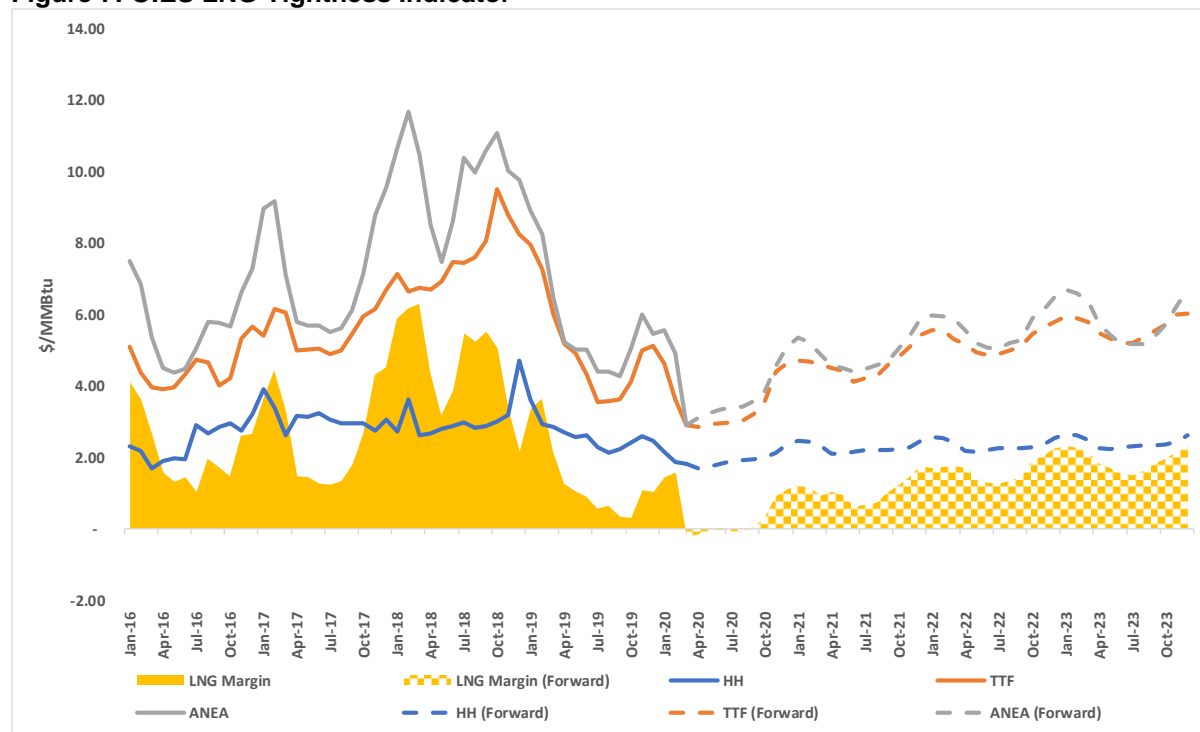
As outlined above, lower growth in Asia LNG imports could see a big surge in LNG trying to get into Europe, at a time when there is even less space in storage to absorb the LNG, than there was in 2019, and possibly not much scope for coal to gas switching to utilise the rising supply. The forward curves for prices suggest that there might be some shut ins of LNG—although this may not necessarily be from the US though.

⁶ <https://www.worldoil.com/news/2020/2/7/shell-total-reject-china-s-force-majeure-on-lng-shipments>

⁷ <https://www.bloomberg.com/news/articles/2020-03-05/china-s-cnpc-issues-lng-force-majeure-amid-virus-slowdown>

⁸ <https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/022020-naturgy-said-to-have-canceled-april-lng-loading-from-sabine-pass-in-us-source>

Figure 7: OIES LNG Tightness Indicator



Source: Argus Media, CME

The OIES calculation of the LNG Margin⁹ suggests it has turned marginally negative this month, and will remain so, according to the forward curves,¹⁰ throughout the summer. The forward curve for TTF is below \$3 until the end of the summer, while for ANEA it is between \$3 and \$3.50.

It is not clear how much of this relatively benign forward price outlook fully takes into account the impact of much lower Asian LNG import growth. Such a scenario could see around 71 bcm (19 bcm of extra surplus supply plus 52 bcm which could be accommodated) of LNG trying to get into a European market which cannot absorb that volume. Something in the market may have to give:

- Prices in Europe could fall even lower—into the low \$2—which could increase consumption if there is lignite to gas switching;
- Norway could pull back on summer production;
- Pipeline imports, especially from Russia, could be held back particularly if the netbacks to Gazprom in Russia are no higher than the prices on their domestic gas sales of around \$2.00 per MMBtu;¹¹ or
- LNG in the US and elsewhere could be shut in in significant quantities.

Implications for Asian Markets

The forward curve also suggests that Asian prices will remain at current low levels through the summer, albeit slightly above European prices. Post 2020 prices are expected to rise again but, until the collapse in oil prices on March 9th, spot prices were still well below the levels of oil indexed contracts in Asia,

⁹ LNG Margin is the highest netback from TTF or ANEA to the outlet of a US Gulf Coast LNG terminal, less Henry Hub, and represents broadly the margin remaining to cover the liquefaction costs – capacity and variable.

¹⁰ Forward curves as at March 6th

¹¹ The rouble fell 10% against the US dollar on March 9th as the impact of the sharp fall in oil prices hit the Russian currency so the domestic gas sales price in Russia is now lower in US dollar terms.

which were at \$9 per MMBtu based on \$65 a barrel Brent at the end of 2019. If the current collapse in Brent oil prices is temporary—\$35 a barrel would translate into just under \$5 per MMBtu for long term contracts—then the prolonged disconnect between spot and contract LNG prices in Asia, would put more pressure on buyers to look at renegotiating the long-term oil indexed contracts and also move away from oil-linkage in new contracts.

Conclusions

\$2 gas in Europe has already been achieved in March, somewhat sooner than might have been expected in our Energy Comment back in October. The prospects are that the prices will stay at these levels for the summer months, although the forward curves may not yet have factored in how much LNG might be trying to come into the European market and how little room there might be to absorb it.

The amount of space available in European storage, at the end of the winter season, will be known at the end of this month, and it will be significantly less than in 2019. After that, the key factor will be the growth of LNG imports into Asia. China was expected to resume its rapid growth again this year, but that is looking less likely. If other Asian countries cannot take up the slack then we may be looking at a serious supply overhang in the European gas market this summer. This could be further exacerbated if the coronavirus effects in Europe are prolonged and this impacts on gas demand.

The question then is who will blink first—Russia, Norway, LNG suppliers—or might prices get driven so low that even lignite plants are turned off in favour of gas. The actions of Russia in the oil market, in refusing to cut production to support the oil price, suggests that they may not blink first. If nobody blinks, is it possible that spot prices in Europe could fall below \$2 per MMBtu?