LNG demand growth hinges on Asia

LNG demand is expected to grow at a healthy pace, by as much as 35% by the end of the decade, according to our calculations. Asia is set to dominate that growth, but the strong demand we've seen from Europe in recent years will ease

Construction is underway on the LNG storage and distribution station in China's Lianyungang City

Asia to dominate demand growth

The supply side of the equation is relatively easy to forecast, given the visible pipeline of projects. However, demand is a lot more difficult to forecast. This is particularly due to the current energy transition, and the differing paths that countries may take to finally reach their ambitious targets. Similar to the pipeline of LNG export projects, we could look at the pipeline of projects for regasification units at destination.

Clearly, this is not a guarantee of strong demand. For example, in Europe, there has been significant investment in regasification capacity, but given the European Commission's climate goals, a lot of this capacity is at risk of being severely underutilised in the longer term.

Globally, we assume that demand will grow by around 35% by the end of the decade. Asia will dominate this growth, while flat to modest growth is expected in other regions. China and India will see the largest absolute growth in LNG demand through until 2030, and China should hold onto its position as the largest importer.

While the demand growth expected over the next 6 years is assumed to be lower than what was

achieved in the previous 6, it is important to remember there were significant shifts in the LNG market in recent years with Europe becoming a significant LNG buyer. While we see some upside in European LNG demand in the short term as the region continues to wean itself off Russian fossil fuels, the growth rates will be much more modest.

Europe and the risk of regasification overcapacity

Since Russia's invasion of Ukraine and the spillover effect it had on Russian gas flows to Europe, the region's dependence on LNG has grown significantly. In 2021, the EU imported 81 bcm of LNG; these volumes grew to around 139bcm in 2023, according to LSEG data, making up more than 40% of total EU imports. And with EU gas demand still 17% below the 2017-21 average, there is room for further growth in LNG demand as new supply comes to market, particularly if the EU is serious about ending all Russian fossil fuel imports by 2027.

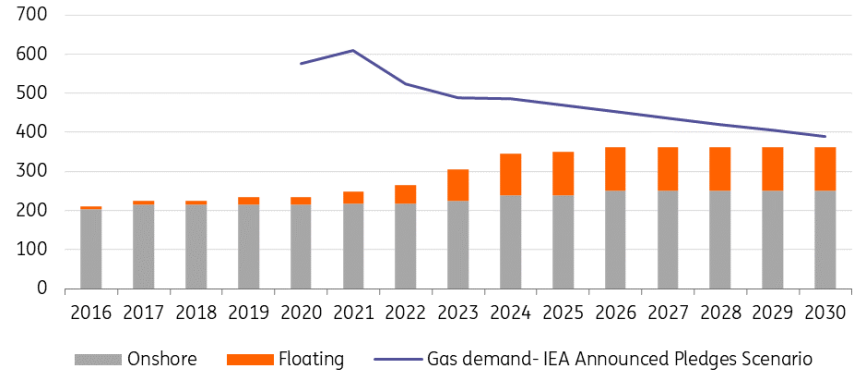
European gas demand has been in structural decline

However, European gas demand was in structural decline before the war. The war has only sped things up. While there is room for a recovery in industrial gas demand, the outlook is more negative from the power generation sector. The continued rollout of renewables will likely only weigh further on European gas demand. The investment in regasification capacity helped Europe manage the stoppage in Russian pipeline gas.

The increase in floating storage regasification unit (FSRU) capacity has particularly helped Europe. Since 2022, Europe has seen more than 113bcm of regasification either come online or set to come online. Interestingly, more than 70% of this regasification capacity is in the form of FSRU. The risk for Europe, where gas demand is in structural decline, is the potential for overcapacity on the regasification side. Therefore, it makes sense that we have seen Europe going largely down the FSRU route, where this capacity can be shifted to other markets if underutilised in Europe.

Regasification capacity in Europe is set to total at least 368bcm by the end of this decade, while the International Energy forecasts under its Announced Pledges scenario for European gas demand to total 390bcm by 2030. If realised, this would leave Europe in a situation of regasification overcapacity, given that the region still receives a large portion of pipeline gas from other sources.

European regasification capacity vs. natural gas demand projections (bcm)



Source: IGU, GIE, IEA, ING Research

Japan & South Korea demand set to fall

Historically, Japan has been the largest LNG importer. However, in recent years it has competed with China for the top spot. Japanese LNG imports are in structural decline. Imports hit a high of 122bcm in 2014 and have fallen every year since, falling to 90bcm in 2023. A key driver behind this has been the return of nuclear capacity following the Fukushima disaster in 2011. Japanese nuclear power generation has grown 166% since 2017 to 77.5TWh in 2023.

Over the same period, wind and solar power generation has grown 78% to 107TWh. Japan aims to lower thermal power output as outlined in its 6th Strategic Energy Plan. The government wants to reduce greenhouse gas emissions by 46% in 2030 from 2013 levels. To achieve this, Japan aims to increase renewables in the power mix to 36-38% from 18% in FY19. Nuclear is expected to rise to 20-22% from 6%, while the target is for gas to fall to 20% from 37%.

South Korea is another key LNG importer, importing 61bcm in 2023, making it the third largest. However, South Korea also aims to reduce emissions with a target to cut them by 44% by 2030 from 2018 levels. As part of South Korea's 10th Basic Plan for long-term electricity supply and demand, the target is to reduce the share of LNG in the power mix from 27.5% in 2022 to 22.9% by 2030 and to 9.3% by 2036. It is envisaged that nuclear's share in the mix will increase from 29.6% in 2022 to 32.4% in 2030 and 34.6% in 2036. However, unsurprisingly, renewables are set to see the bulk of growth, increasing from 8.9% in 2022 to 21.6% in 2030 and 30.6% in 2036.

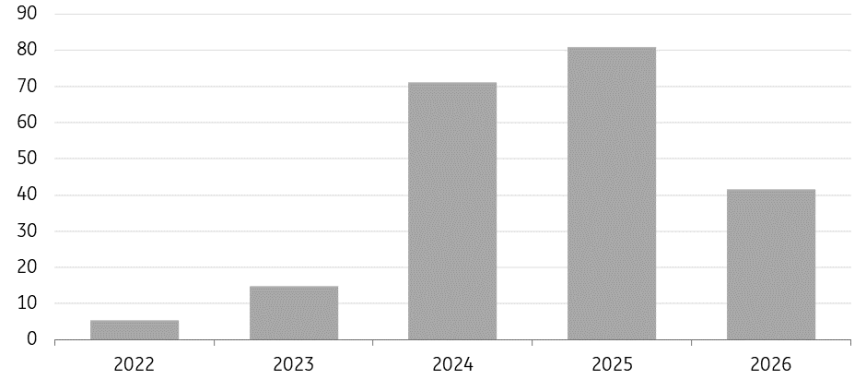
China regasification capacity continues to grow at strong pace

China is a key swing factor in the global LNG market. China can make all the difference between the global LNG market being tight or more manageable as we saw in 2022. In 2023, China regained its spot as the top LNG importer, with flows totalling 98 bcm, up 12% YoY, but still below the record 110bcm imported in 2021.

The compounded annual growth rate in LNG demand over the last 10 years comes in at almost 15%. And with many local players not expecting domestic gas demand to peak before 2040, demand is still expected to grow. This is also aligned with the large number of long-term contracts Chinese buyers have locked into over the last several years and the build-up in regasification

capacity. China has more than 190bcm of regasification capacity which is set to be built between 2024 and 2026.

China has a significant amount of regasification capacity additions coming online (bcm)



Source: IGU, ING Research

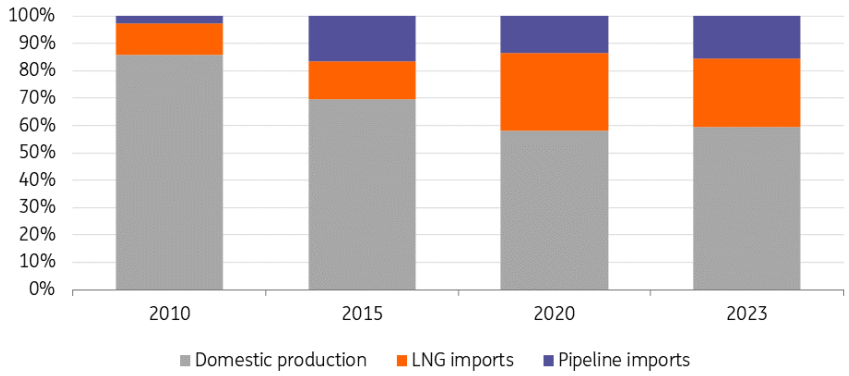
However, what makes it challenging to gauge how strong Chinese LNG demand will grow is, first, how much China will rely on natural gas as a transitory fuel in the power mix. The growth in natural gas's share of the electricity mix has been very modest over the last decade, growing from around 2% to 3.1%. This suggests that demand growth will likely continue to be driven by industry and the residential and commercial sectors.

The largest sector of natural gas consumption in China is industry, making up 34% of total demand. The power generation sector is only the third largest, holding a share of 23% and just behind residential and commercial demand. Secondly, China continues to grow domestic production in an attempt to limit its dependence on gas for imports. Domestic natural gas output has grown at a compounded annual growth rate of 6.8% over the last decade, reaching 234bcm in 2023, equivalent to 58% of total domestic consumption. The government will likely continue to target growing domestic supply. The deteriorating geopolitical environment and longer-term ambitions to transition away from coal support this trend.

Finally, pipeline gas flows are playing an increasingly important role for China. Pipeline imports have grown at a CAGR of 8.8% over the last 10 years. There are three sources of pipeline gas supplies for China: Central Asia, Russia, and Myanmar. There is a clear push from Russia to sign pipeline deals with China, given the loss of its key market, Europe. Russian flows from the Far East Sakhalin project are expected to start in 2026, providing 10bcm of additional pipeline supply. Russia is also pushing heavily for the Power of Siberia 2 pipeline, with a capacity of 50bcm.

However, if this project were to advance, flows would not start in the current decade. In addition, there are also intentions for the construction of the Central Asia Gas Pipeline Line D to resume, which will run from Turkmenistan to China and have a capacity of 30bcm. Therefore, the potential for further pipeline capacity into China also weighs on the growth potential for LNG in the longer term.

China natural gas supply mix (%)

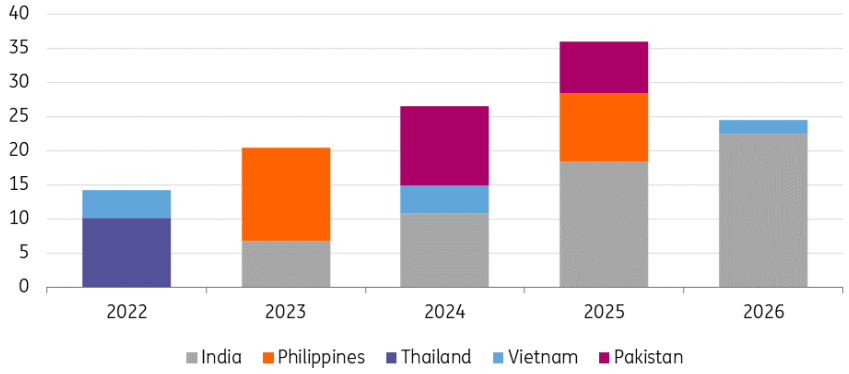


Source: Energy Institute, ING Research

Strong demand from South and Southeast Asia

South and Southeast Asia are key growth markets for LNG. However, buyers in these regions are also mostly price-sensitive. This was highlighted in 2022 during the European energy crisis, where buyers from the region took a step back from the market. Since then, imports have recovered as LNG prices have trended lower.

India dominates regasification capacity additions in South/Southeast Asia (bcm)



Source: IGU, ING Research

However, we are also seeing new buyers entering the market. In recent years, new regasification capacity in the Philippines and Vietnam have seen them starting to import LNG. There is also a large amount of regasification capacity in the region which is set to start over the next couple of years. This is largely driven by India, where the government has set a goal to increase the share of natural gas in its energy mix from around 6% to 15% by 2030.

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