Baringa

Global Energy Perspectives

2040 Gas Market Outlook

June 2023

Key Takeaways

Falling production in Europe and lower Russian pipeline volumes increases Europe's dependency on LNG, and means fewer sources of supply flexibility. As a consequence, the region transforms from a price setter to a price taker, with China displacing Europe as the main balancing market with price setting powers.

LNG is set to increase its share in the global gas consumption mix by 2030, however, its rate of growth in emerging economies beyond then hinges on critical capital investment to meet projected demand, and the affordability of gas in those markets.

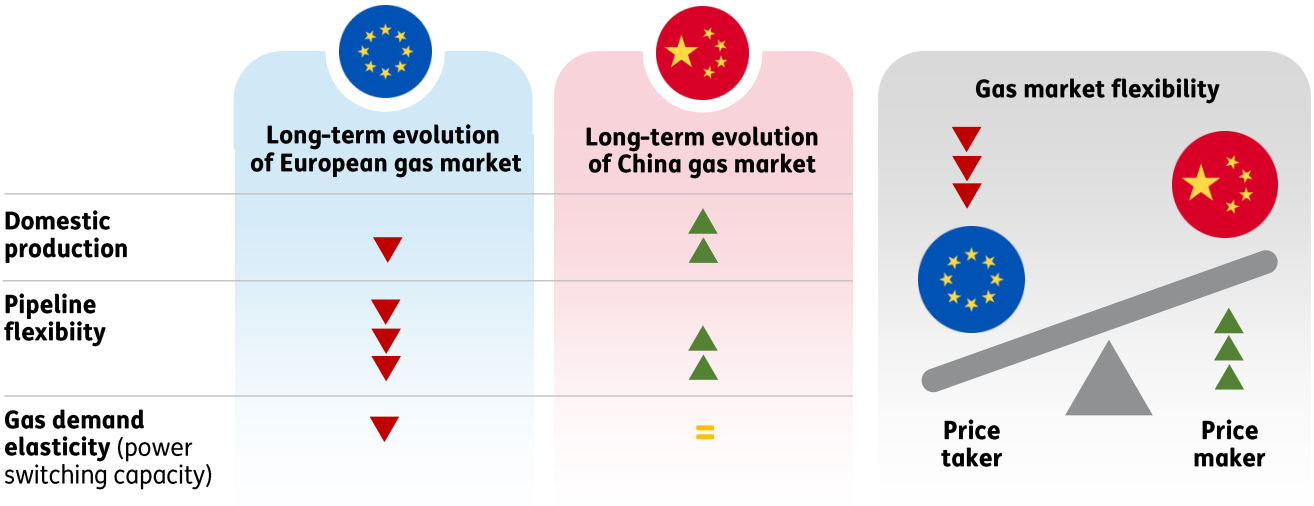
An expansion of LNG supply in the late 2020s risks moving the market from famine to feast. Significant new supply and becalmed demand in Asia could create a period of oversupply. As a consequence, whilst not Baringa's central outlook, there is a viable risk that the end of the decade could give rise to a prolonged period of excess supply and low prices.

Europe's accelerated pivot away from Russian gas is set to materially reduce the country's importance in the global gas market, allowing the US to solidify their spot as the world's largest gas exporter by 2030. China, rather than Europe, is set to become the key growth market for Russian gas.

China emerges as price-setting power as European LNG demand increases.

Prior to the invasion of Ukraine, flexible demand and access to Russian pipeline gas limited Europe's dependency on global LNG. As a consequence, its demand for LNG was relatively elastic, becoming the global balancing market for LNG. This dynamic is set to change with the removal of the vast majority of Russian pipeline gas and reduce flexibility in demand (driven by the phaseout of coal) increasing Europe's dependency on LNG imports for security of supply.

This is set to make Europe's demand for LNG far more rigid. In contrast, China is expected to increase its non-LNG flexibility through higher volumes of Russian pipeline gas and greater domestic production. In addition, sustained coal fired power capacity provides alternatives in periods of high prices. China is also increasingly sustaining its gas demand growth through large volumes of long-term contracted supply that limits the exposure to volatile spot prices. Together, these dynamics are set to limit China's dependency on the spot LNG market for security of supply, making demand more elastic than in Europe. This is expected to progressively make China the global balancing market for LNG.



Key: ▲ Increasing ▼ Decreasing = Unchanged

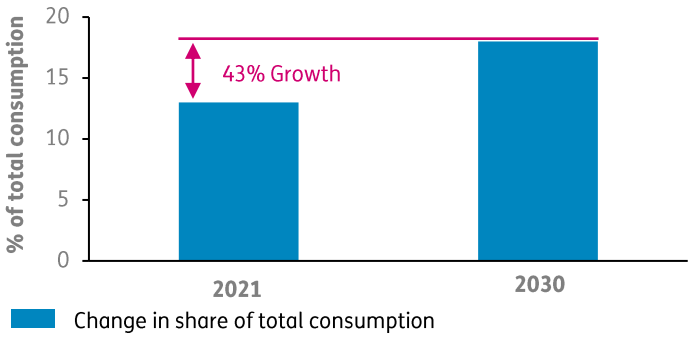
LNG share of gas consumption set to rise.

The share of global gas consumption supplied as LNG is set to increase to 18% by 2030, representing a 43% growth relative to 2021. This is being driven by two core dynamics:

- **Increased demand:** The invasion of Ukraine has prompted a dramatic reduction in consumption of Russian pipeline gas in Europe and a pivot towards LNG imports in order to bolster supply security.
- **Increased supply:** Biden's decarbonisation efforts for the domestic power system are set to reduce the domestic demand for natural gas in the US. In order to manage political opposition and safeguard domestic jobs, the industry is being encouraged to pivot to export with the development of more LNG infrastructure.

Region	Liquefaction capacity under construction (Bcm)
US	82
Qatar	44
Other North America	23
Russia	27
Africa	14
Australia	7
SE Asia	5

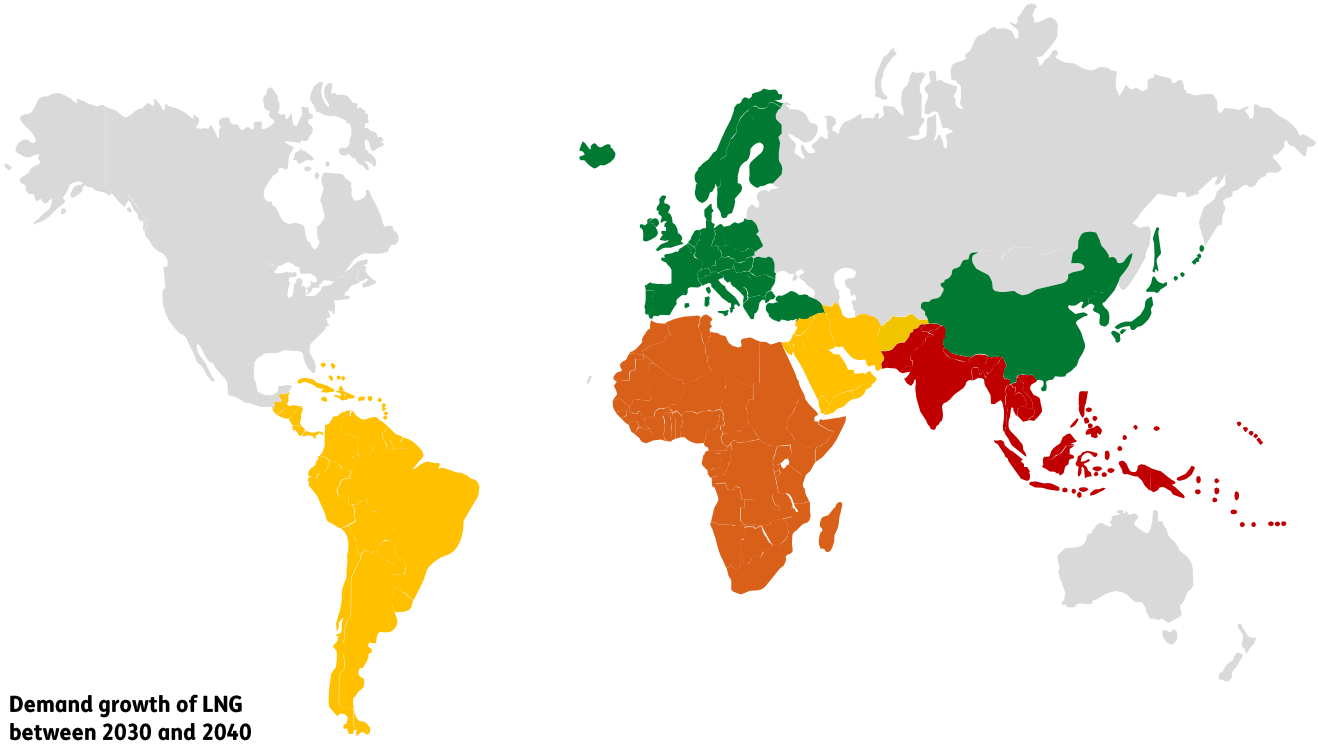
LNG as a share of global gas consumption



However... demand uncertainty threatens the future role of gas.

Some uncertainties over the role of LNG remain. In particular, LNG faces two major risks:

- **A lack of investment in infrastructure due to price volatility and demand uncertainty.** Major markets, especially in South and South-East Asia, will need to invest considerably in regasification capacity and domestic infrastructure in order to meet the potential for a growth in demand of 130 Bcm between 2030 and 2040. Investment equivalent to ca. $250b is also estimated to be enable sufficient supply to meet this demand. Such capital-intensive projects are made increasingly challenging by the uncertainty on the long-term evolution of demand and decreasing availability of capital for fossil fuel infrastructure.
- **Price competitiveness due to accessible alternatives such as coal.** Should Europe continue to be dependent on LNG imports and new supply infrastructure face material headwinds, wholesale prices are likely to be higher than previously expected in the 2030s. This raises concerns of affordability in the regions with the highest forecast demand growth, driving them towards cheaper and more carbon emitting fuels instead. This is especially true given the markets which are expected to see the highest demand growth are also those markets which have historically been very price sensitive given the availability of cheap alternatives such as coal. A prolonged delay in the development of the required infrastructure may significantly compromise the role of gas as an affordable and cleaner alternative to support energy demand growth. In particular the role of gas as a bridging fuel may be side stepped by a direct switching to renewables from coal.



Demand growth of LNG between 2030 and 2040 (bcm):

Between 50 and 75	South East Asia
Between 25 and 50	Africa
Between 0 and 25	Central and South America; Middle East; South Asia
Between -25 and 0	
Between -50 and -25	Europe; East Asia

Risk of famine to feast by 2030

Committed increases in supply with uncertain demand growth creates a price risk.

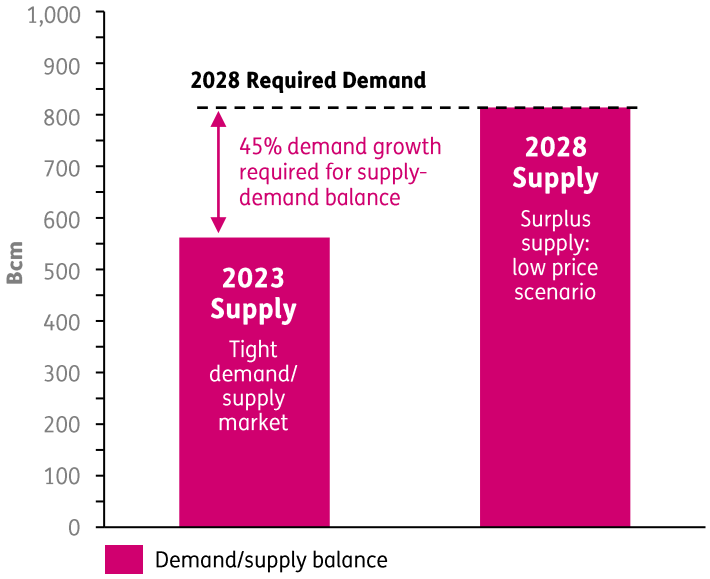
Reduced supply of Russian gas to Europe created a tight market with high wholesale prices as demand for LNG rose. A large number of liquefaction projects worldwide, however, are under construction, along with more projects likely to be sanctioned in the near future. At least an additional 200 Bcm is expected to enter the market by 2028.

This influx of additional supply, c. 41% increase out until 2028, is expected to alleviate the tightness in the market.

However, whilst the central outlook is for strong demand growth, especially in Asia, this remains uncertain. If demand growth lags or does not develop as expected, we may enter a period of low prices. Accelerated demand destruction in Europe caused by a combination of high prices and stronger investment in renewables may also contribute to pushing the market into a state of oversupply.

Of course, any such low price environment may ultimately act as a spur for natural gas demand in the longer term.

LNG supply growth 2023-2028



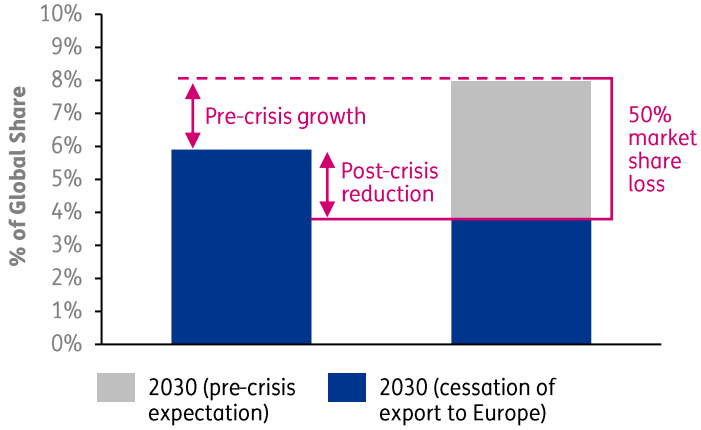
Russian bear tamed

Russia's importance in the global gas market set to decline.

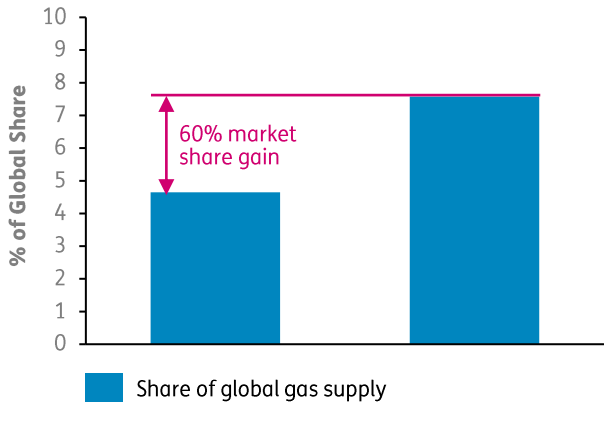
In 2021, Russia was forecasted to continue to be the world's largest gas exporter with its expansion of LNG exports to both Europe and China. However, the severe decline in Europe's consumption of Russian gas, as a result of the invasion of Ukraine, is expected to reduce Russia's gas share by 50% by 2030, relative to our pre-crisis outlook.

In contrast, the US is expected to increase its share with the arrival of large incremental volumes of US shale gas into the LNG market, thereby displacing Russia as the largest global gas exporter.

Russia exports



US exports



If you are interested in hearing more, please get in touch with our experts:

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