

European gas scenarios for the upcoming winter

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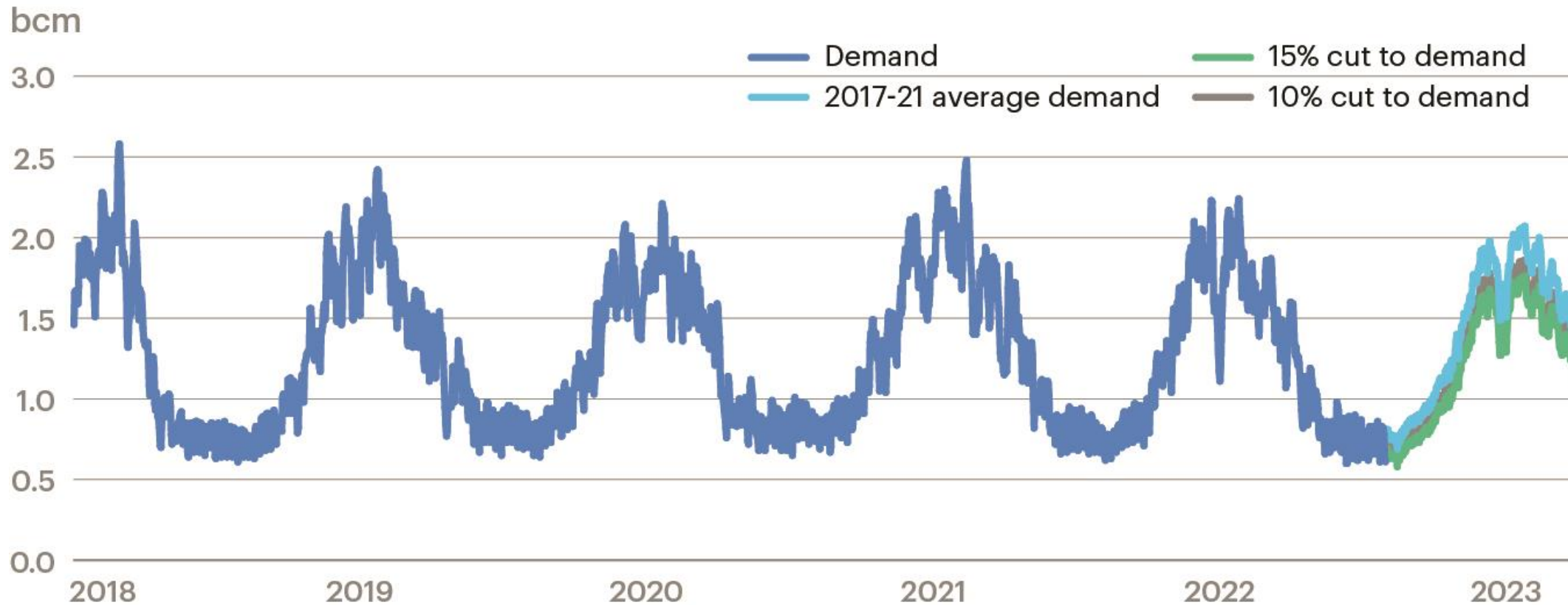


Gas market scenarios for this winter

Uncertain whether EU achieves its 15% reduction targets



Pan-European daily gas demand

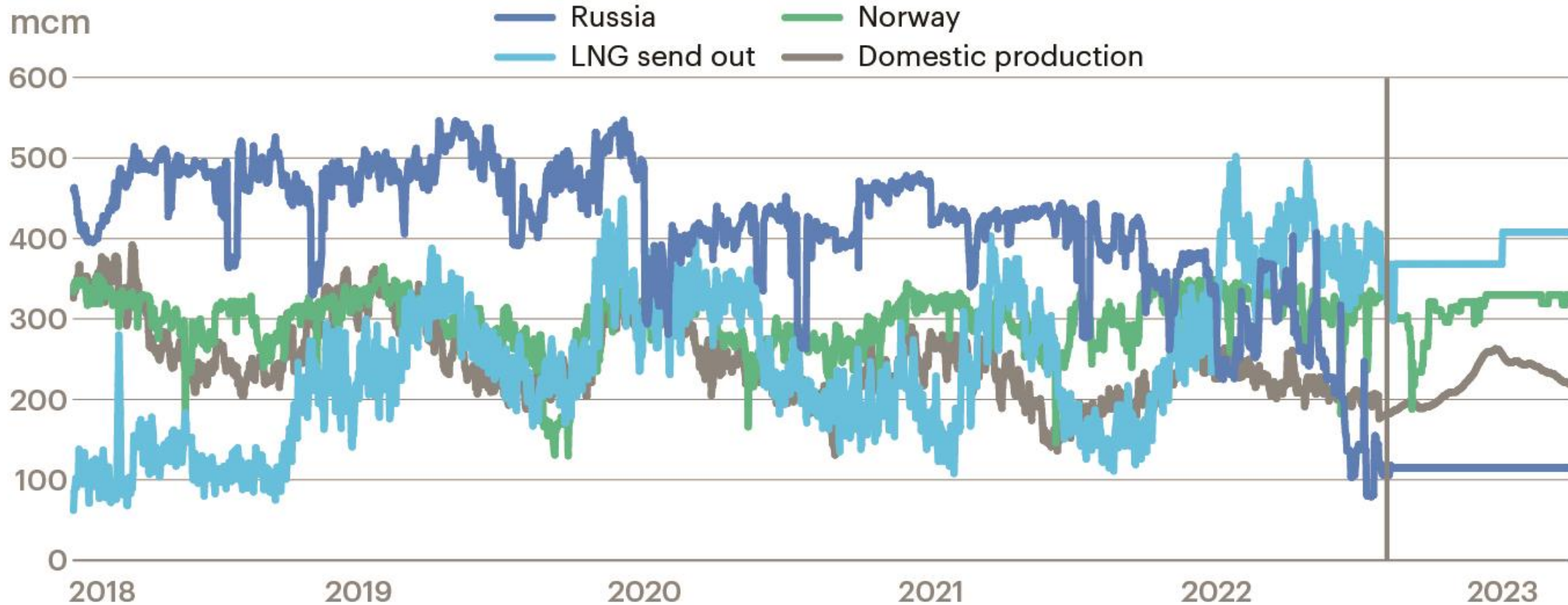


Source: ICIS

LNG's new role as top supplier over Russia & Norway is set to continue



Key European gas supply sources

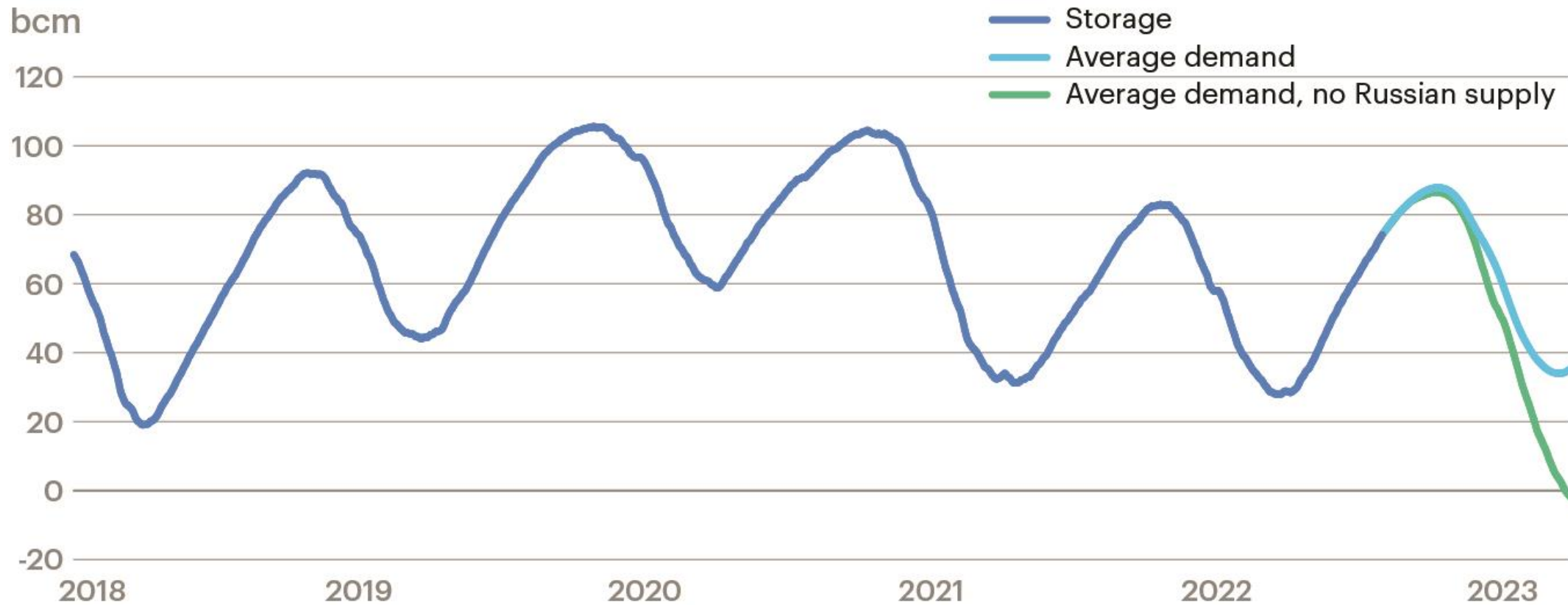


Source: ICIS



If Europe does not cut gas demand and Russian pipe stops storages will empty

Pan-European gas storage in average demand year

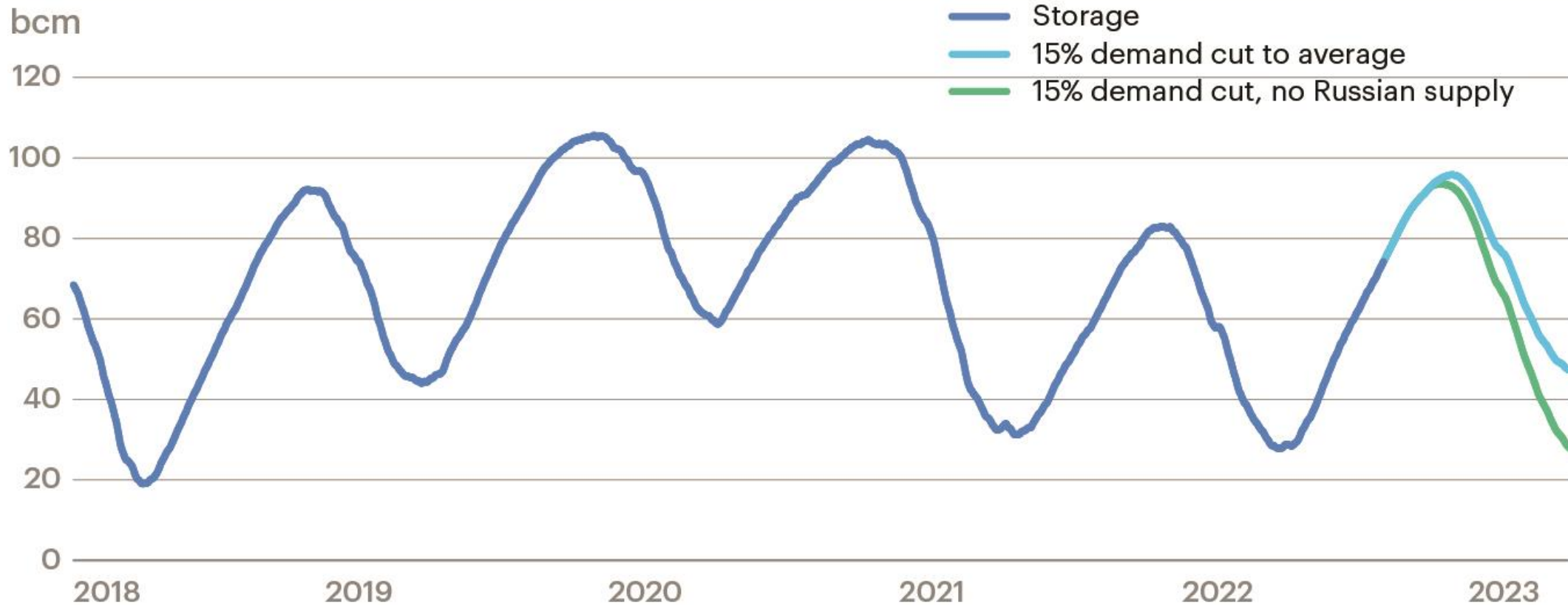


Source: ICIS



While a 15% cut in demand would be sufficient to cope with a Russian curtailment

Pan-European gas storage in a 15% demand-cut year

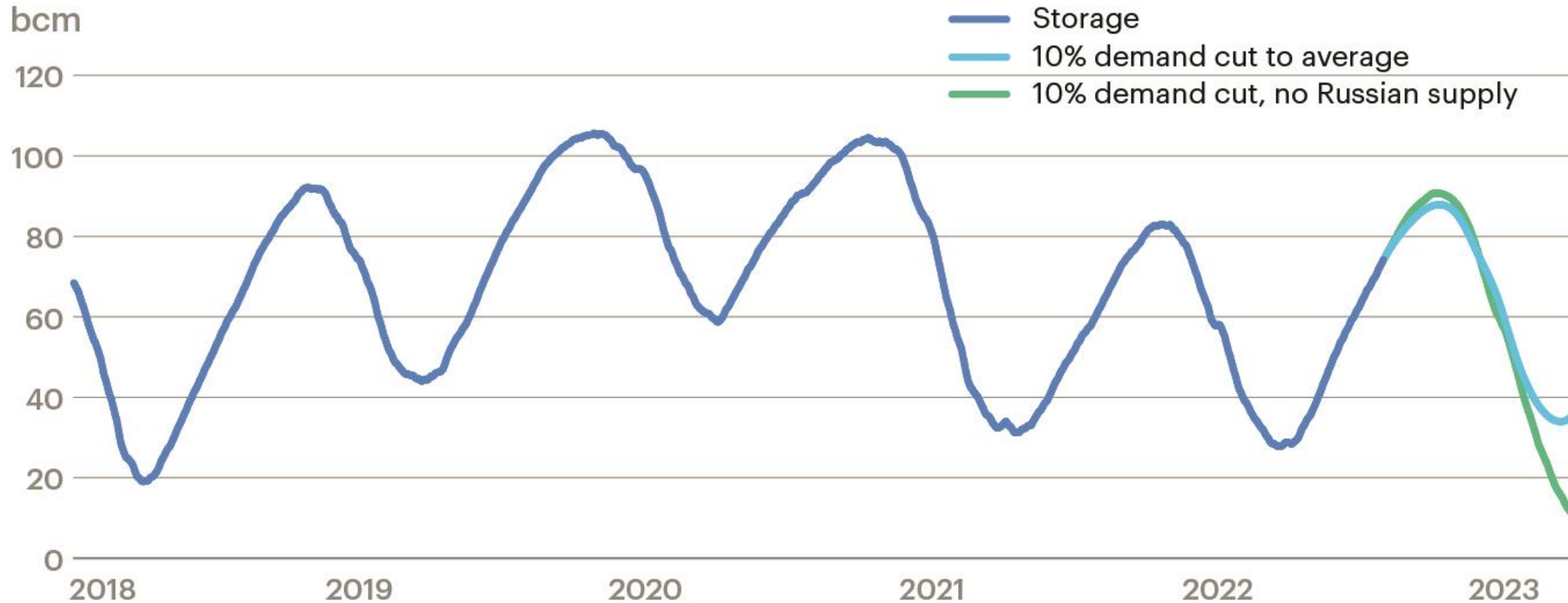


Source: ICIS



In case Russia stops supplies, a 10% cut in demand poses risks for storage levels

Pan-European gas storage in a 10% demand-cut year

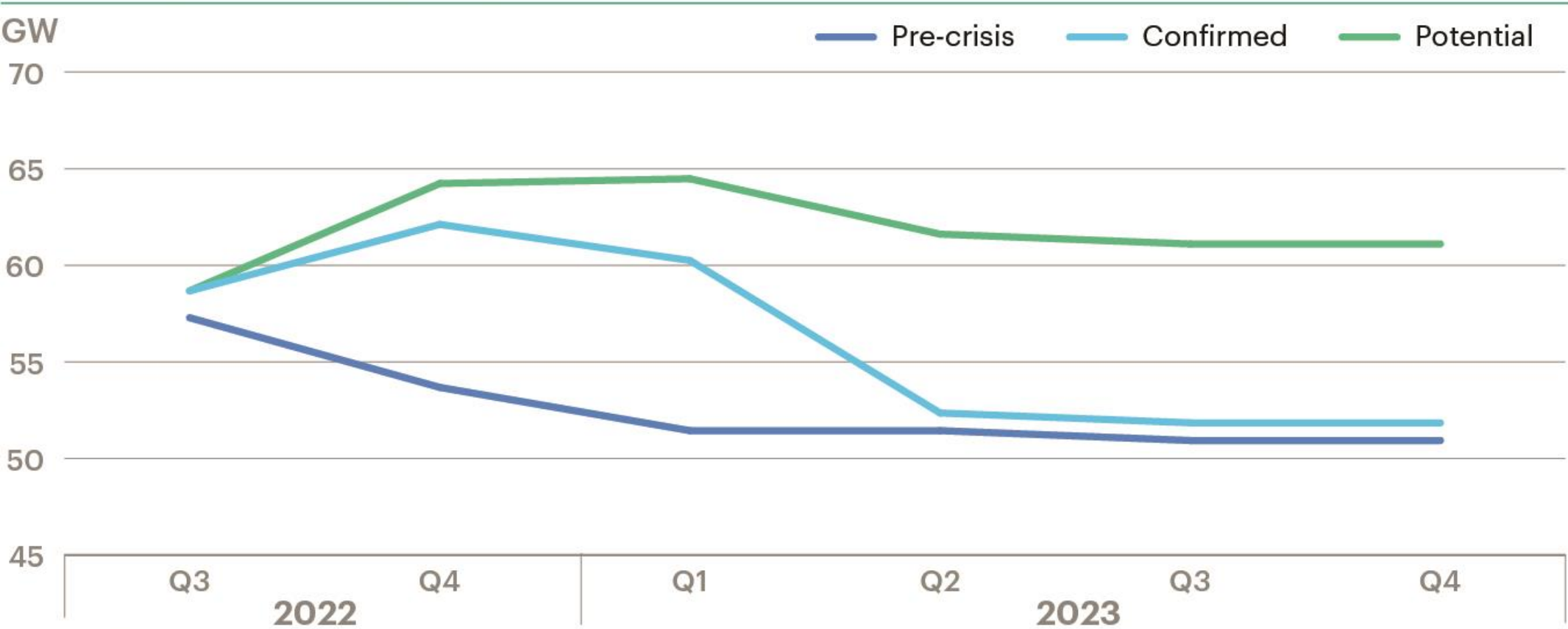


Source: ICIS



Coal power revival with reactivations from capacity reserves led by Germany & Britain

Pan-European coal capacity scenarios

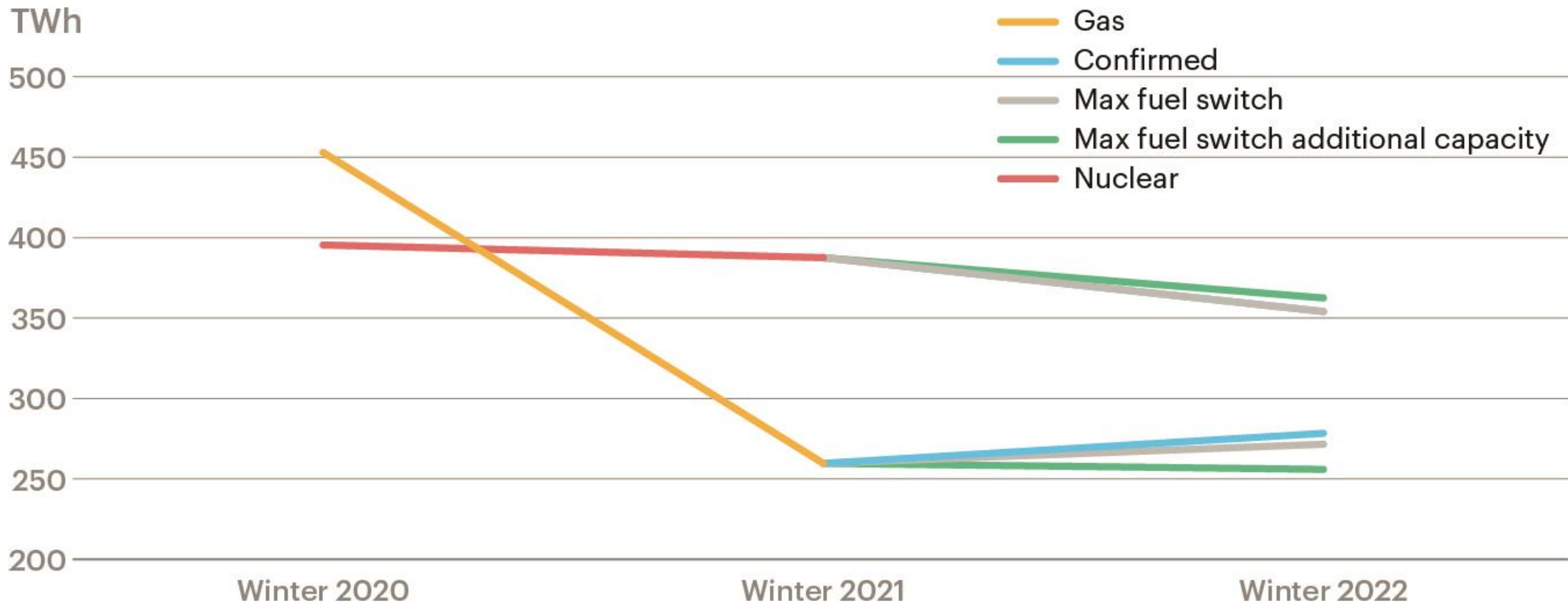


Source: ICIS

Gas-to-power generation is already low – its displacement potential is below 5 bcm



Pan-European power generation



Source: ICIS

Modelling conclusion



- The **EU's ambition to cut demand by 15% is appropriate**, should temperatures remain normal. The magnitude of the **consumption curtailment would be enough to absorb a full loss of Russian pipe supply from October onward**.
- However, the prospect of a **colder-than-normal winter** combined with a halt in Russian supply poses **threats to security of supply** in spring 2023.
- **European governments should strive to achieve more than 15%** in demand cuts to create a buffer, should Russia cut supply, or indeed unplanned supply events occur elsewhere.
- It would place Europe in a better position for summer 2023 and beyond. ICIS modelling shows there is **little additional power fuel switching** potential this winter. **Poor nuclear availability and low hydro stocks mean gas-fired generation is likely to need to continue**. This comes despite European governments reviving coal-fired power generation.

The Scramble to End Russian Reliance: Will planned gas demand cuts be enough?



In part two of an insight series, ICIS' team of cross-commodity analysts examine what factors need to be in place and adjust to ensure security of gas supply in Europe through March 2023. Read on to see what policy and market-based incentives need to be in play for gas demand cuts to be achieved. Check the QR [link](#).

ICIS uses advanced toolkit of numerical models to analyse market scenarios



Power dispatch model

The ICIS Power Horizon model is an hourly dispatch linear optimisation tool covering 28 European countries and 7475 power plants, with forecasts for prices, demand, generation, net flows, emissions, and the merit order in every hour through to 2050. Scenarios are developed around the return to the grid of coal and nuclear plants in the attempt to reduce gas consumption to a minimum. The model is fully integrated with the ICIS Agent-Based Carbon Model, which provides a detailed fundamental representation the EU ETS and its participants.

Gas supply-and-demand balance

The ICIS supply-demand model balances gas storage under given assumptions regarding supply and demand in daily resolution looking at the winter ahead. Scenarios are created with variants around consumption and Russian supply. Gas consumption forecasts for individual European countries are based on neural networks (multilayer perceptron) with historic weather data and calendar structure being reflected.

Thank you!

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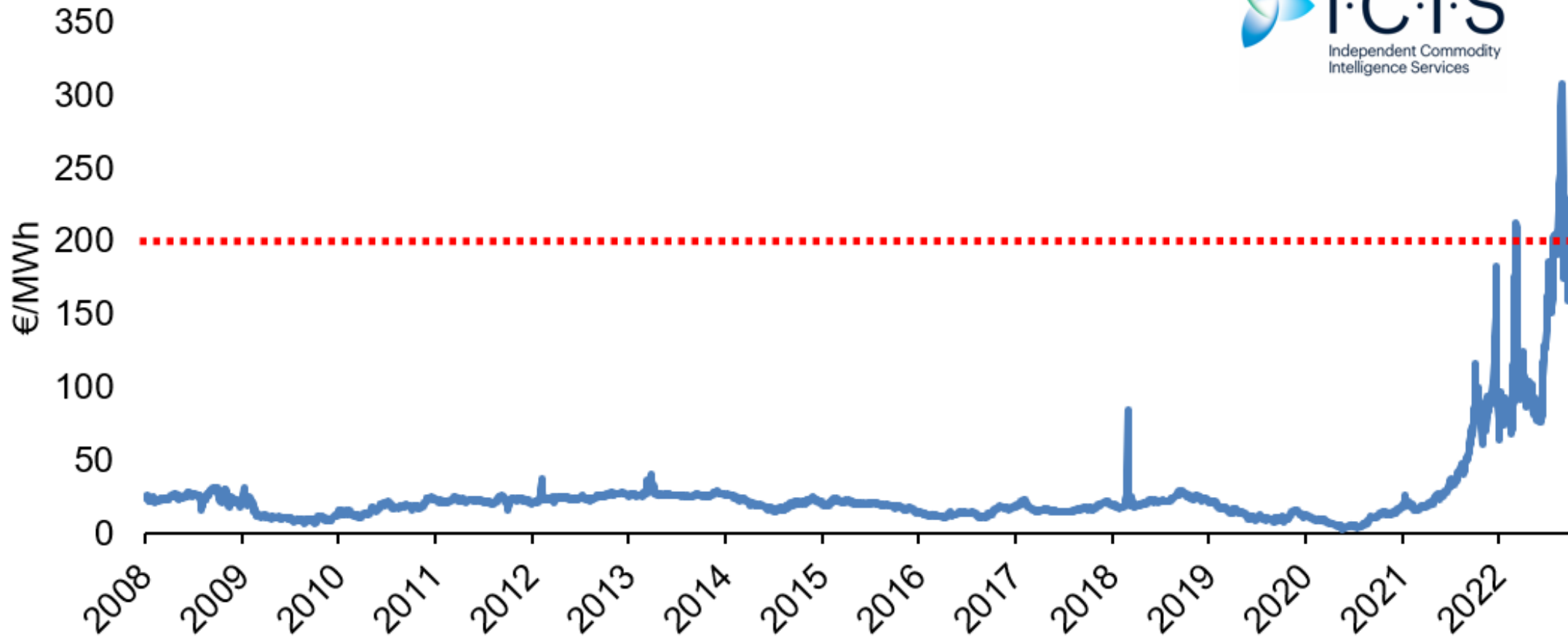
Current market development

Nervous markets over-reacted to Nord Stream downtime



Gas price ICIS TTF dayahead price again below 200 €/MWh

Reaction to Nord Stream pipeline supply cut fades



Source: ICIS. Updated 29 September 2022

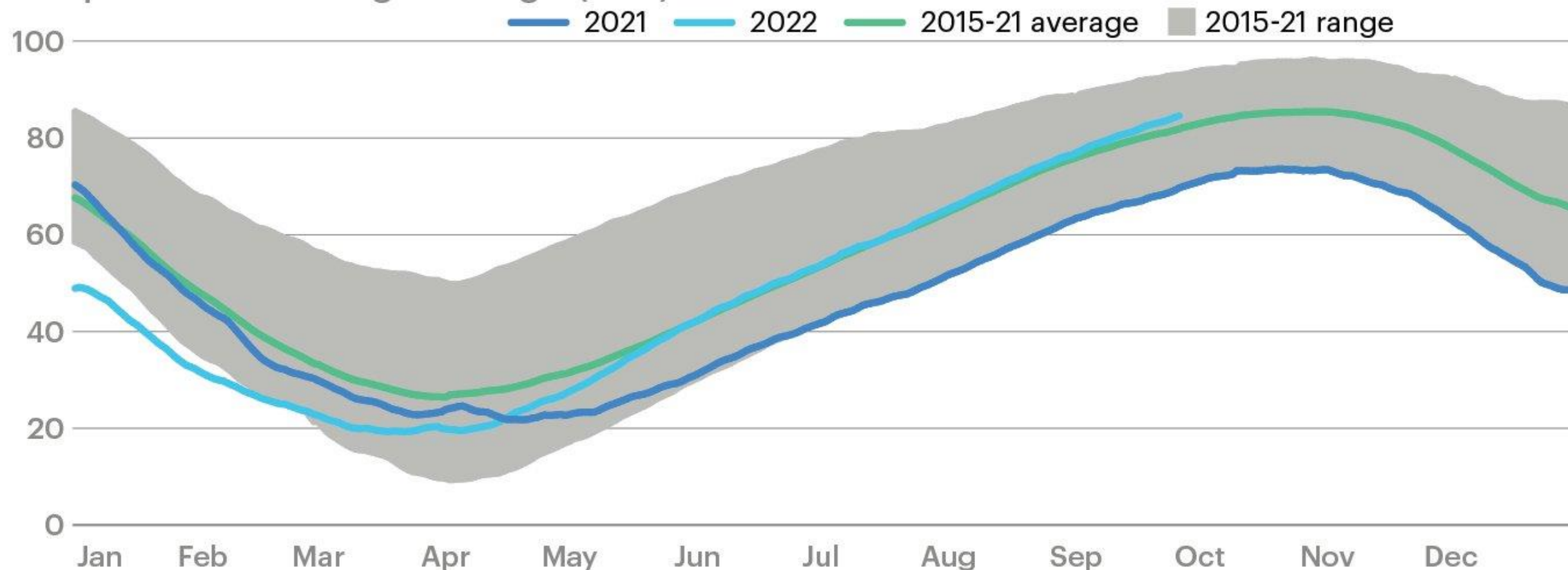
European Supply & Demand

Healthy storage stocks after subsidized summer injection



Stocks less than 1bcm off average annual peak

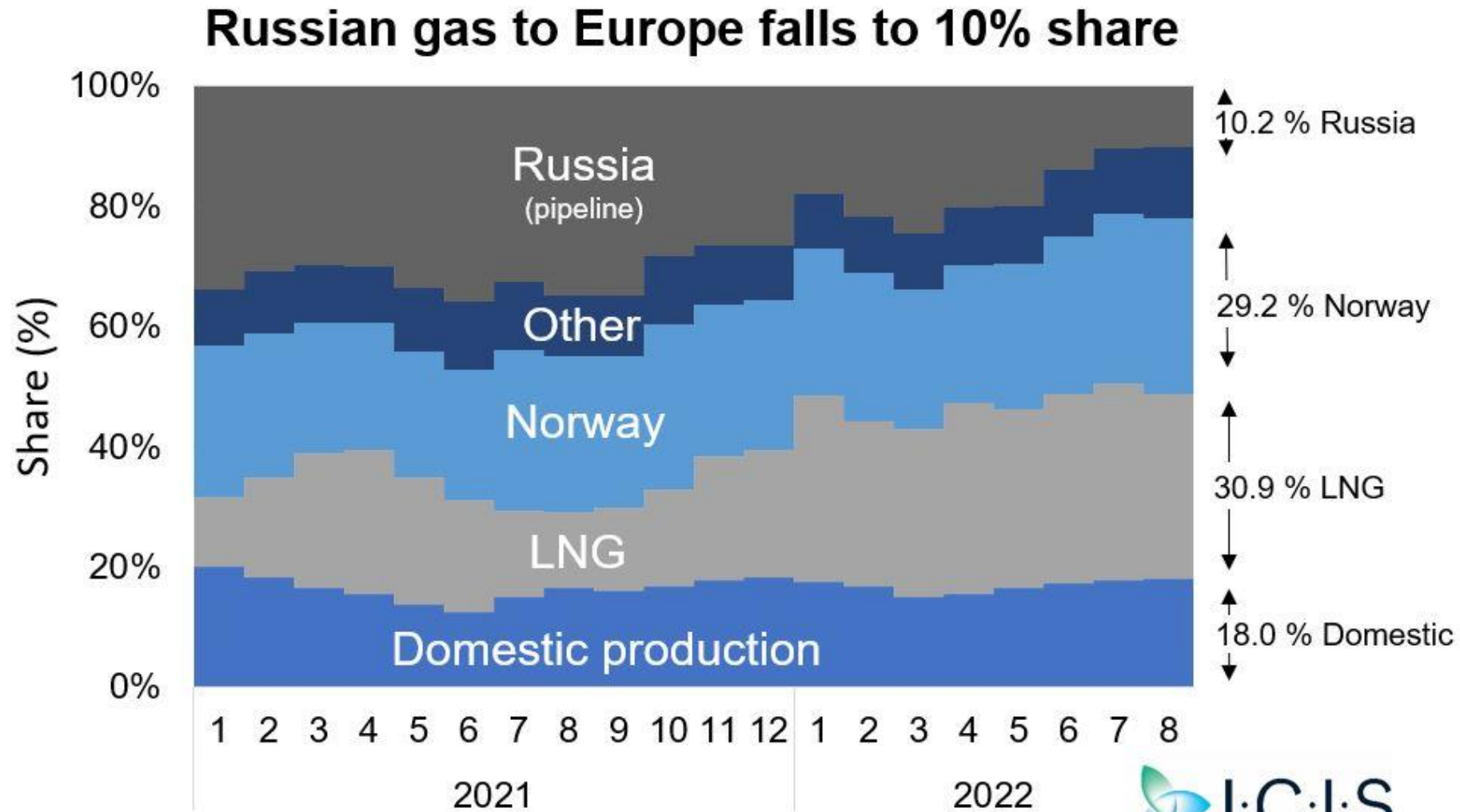
European commercial gas storage (bcm)



Source: ICIS

Note: excludes Ukraine

European supply moves to a new balance

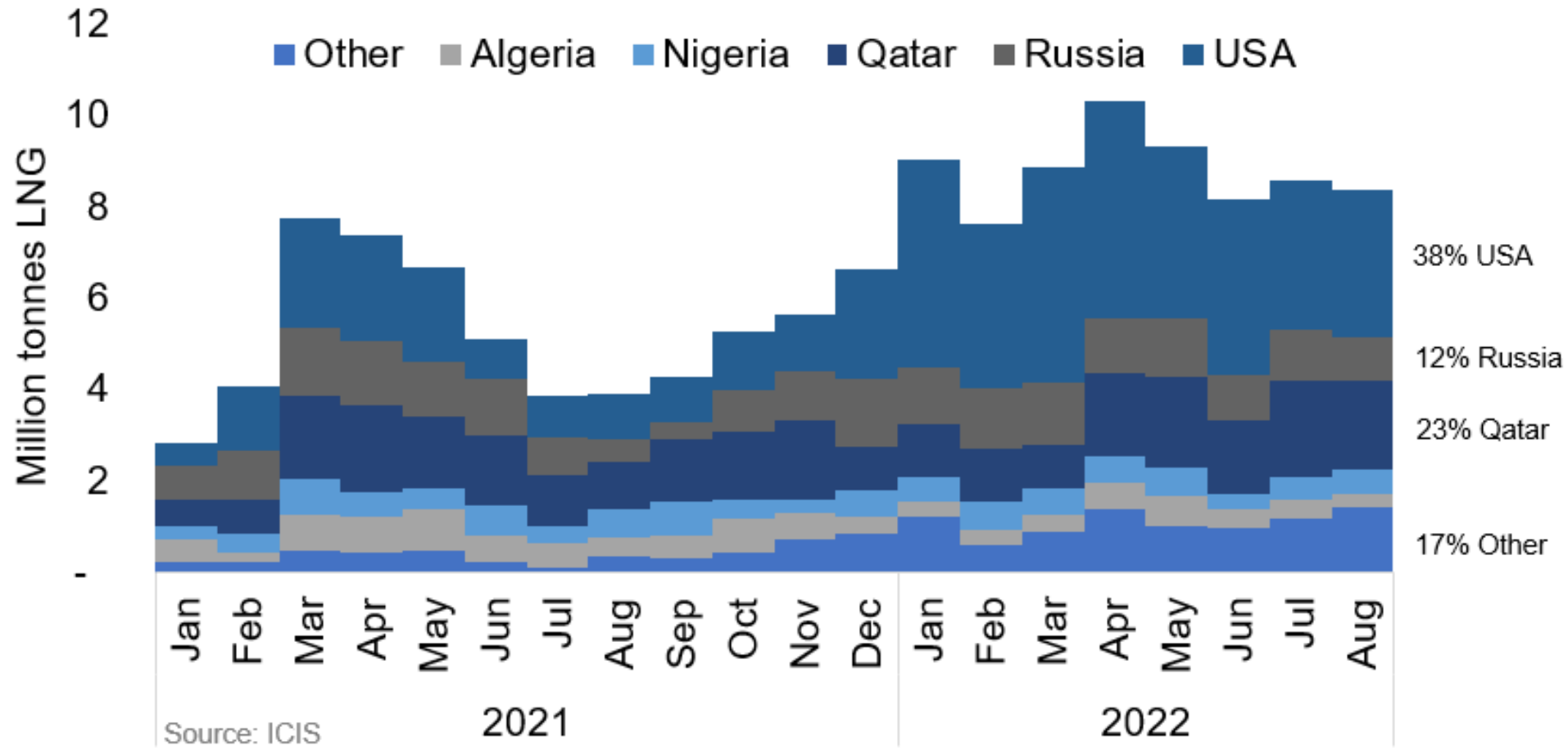


EU-27 plus United Kingdom. Source: ICIS via transmission system operators

USA and Qatar deliver half of European LNG imports

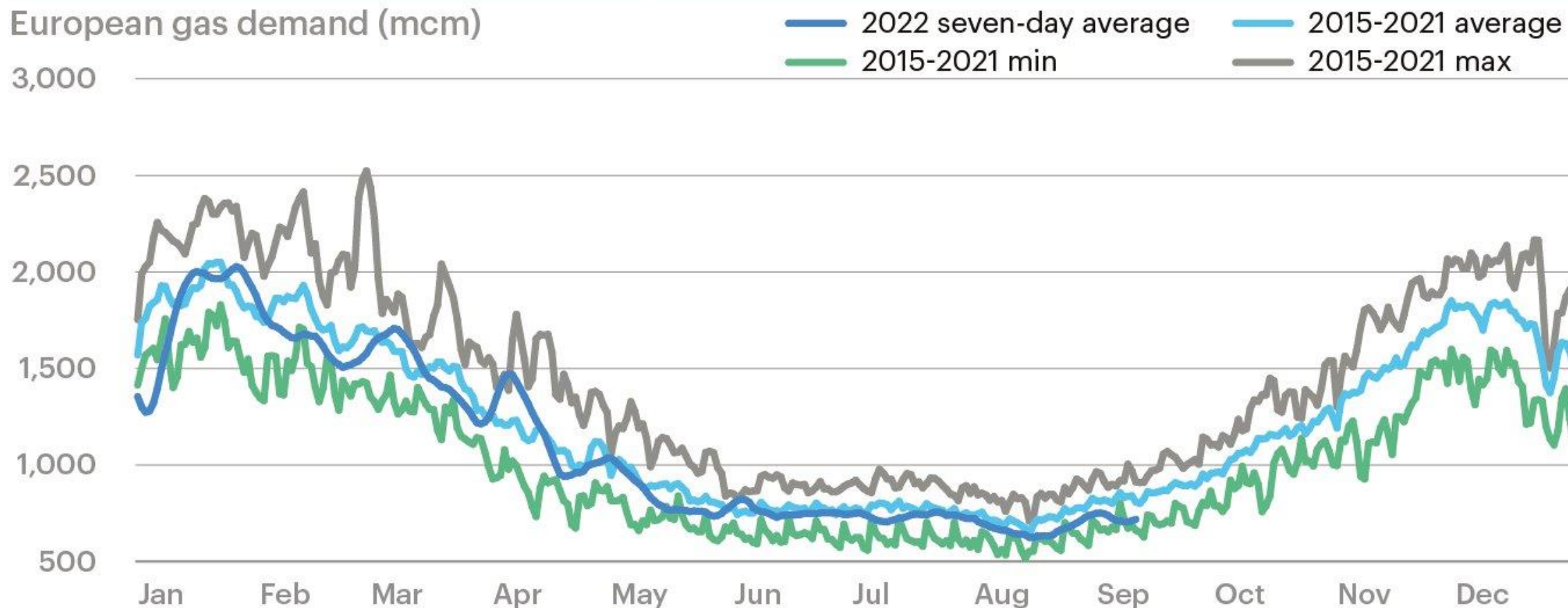


LNG Imports to EU and UK by source



European gas demand savings of 13.5 bcm cumulated in 2022

Consumption remains below average into September

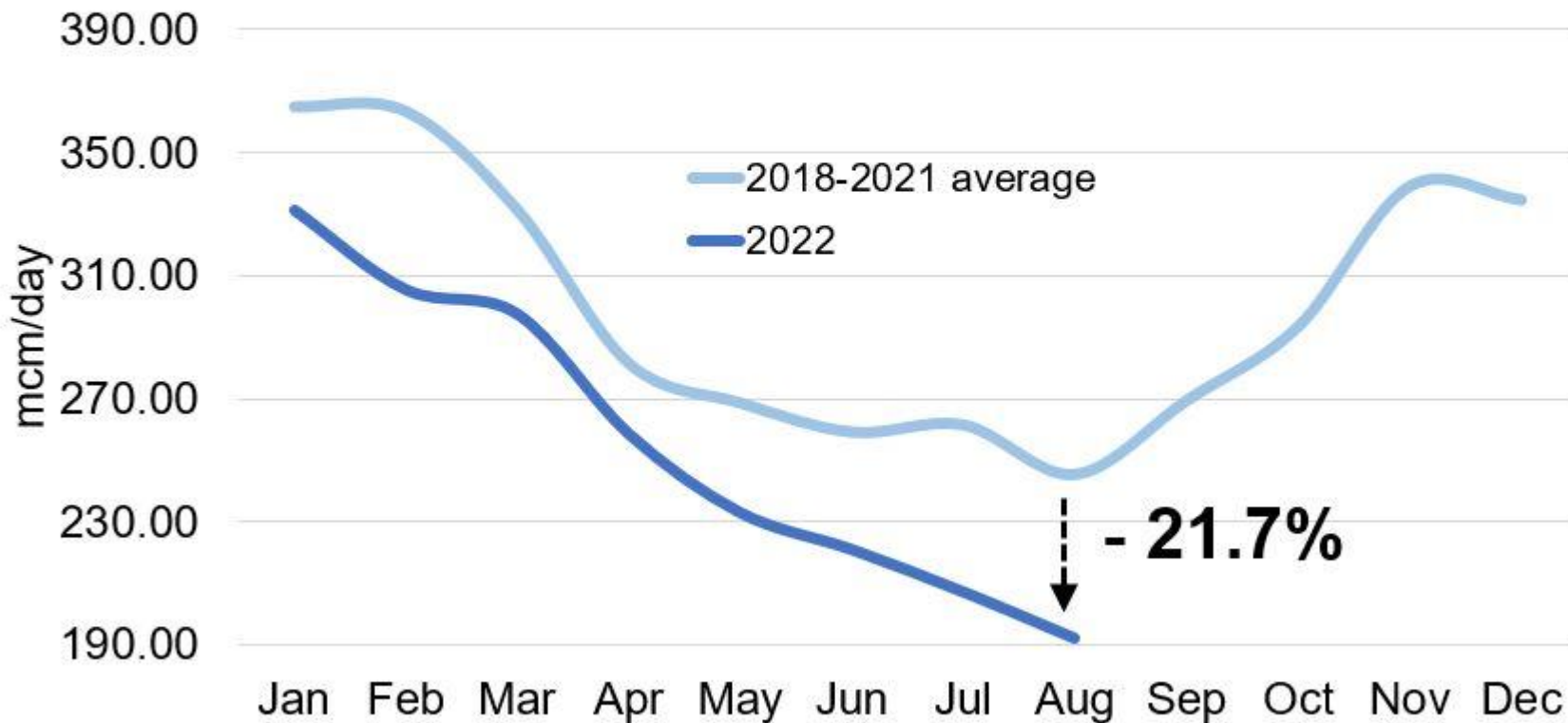


Source: ICIS

Industrial demand is most price-responsive



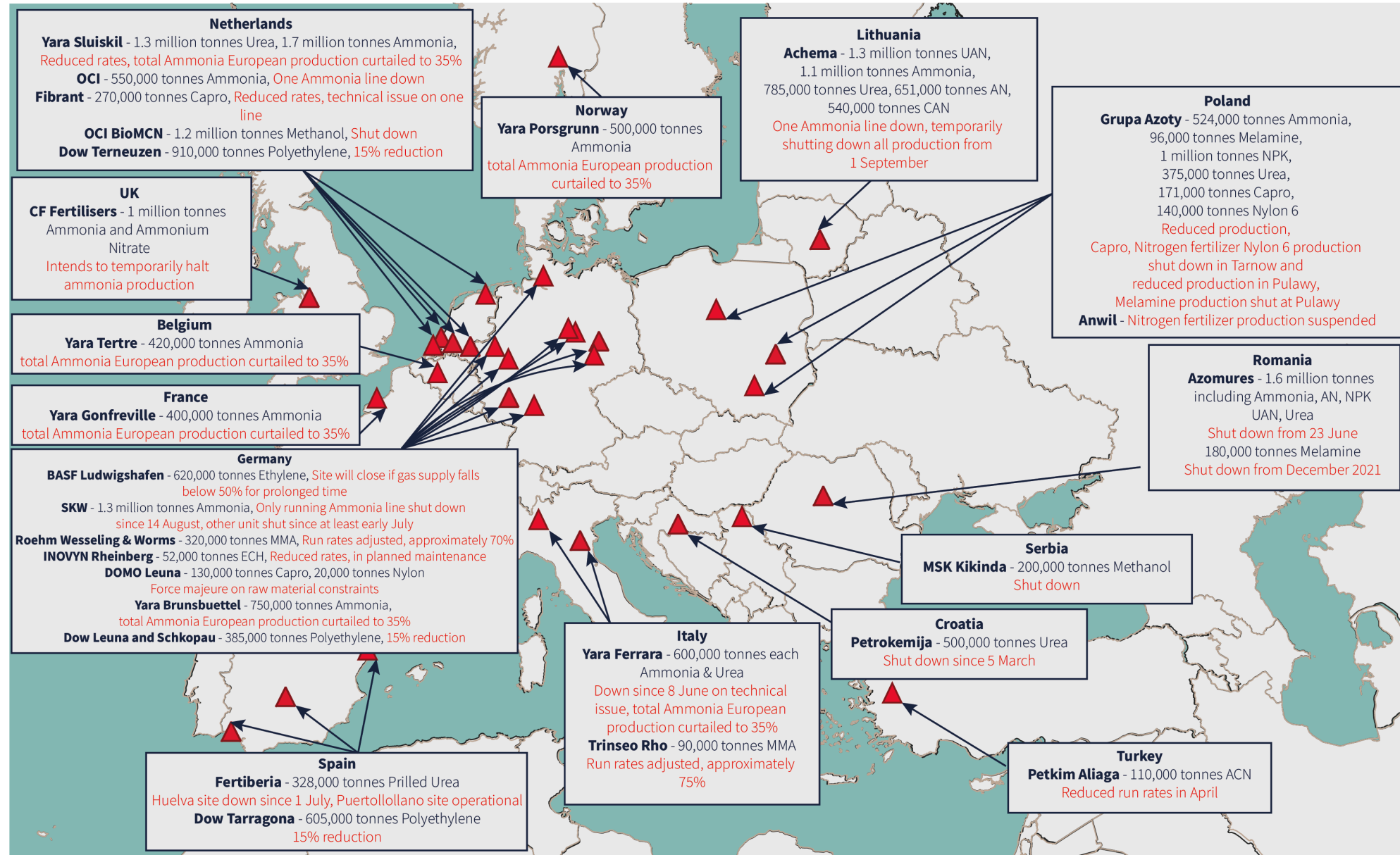
Industrial gas demand in Western Europe* responds to gas price hike



Source: ICIS based on grid operator and market operator data. * West Europe: GB, NED, GER*, IT, BEL, FRA.

Soaring gas prices hit Europe fertilizers, chemicals

Updated on 25 August 2022



SOURCE: ICIS, Natural Earth

Europe's race to develop new LNG and to break Russian dependency



European LNG imports have hit record highs in 2022, with a number of terminals running at full capacity. Russia's invasion of Ukraine has triggered a rush to develop new infrastructure, primarily through FSRUs, alongside existing onshore terminal expansions. This could lead to a 15% rise in European regasification capacity by the end of 2023.

Germany looks set to lead the way with eight new LNG import projects in progress but there is renewed activity across Europe.

Europe's main issue is the lack of new global LNG production over the next three-to-four years. This means the region will be in greater competition with other LNG buyers, especially in Asia, for existing volume as the market waits for new production to be developed.

Note: The terminals shown do not represent an exhaustive list. ICIS has included those considered more likely to be developed. Start-up dates represent provided estimates and may change by project developers in the future.



Hover over the map points for more details on each project



Germany, Netherlands, Belgium

The existing Zeebrugge terminal will expand capacity by 6mtpa by 2026 with the Gate terminal to expand by 1.1mtpa by 2024. Germany's Uniper will install an FSRU by the end of 2022, after previously cancelling plans for an onshore terminal, with other new German terminals to follow.

Note: 2 additional FSRUs planned for Germany, location to be confirmed





Poland, Lithuania, Latvia, Estonia, Finland

Two Finnish energy companies have secured the FSRU Exemplar, which will operate at Inkoo port in Finland. A press release from the companies said imports could cover both Estonian and Finnish LNG demand. Latvia has been planning an LNG terminal at Skulte for several years.

