A New Gas Procurement Paradigm to Protect Europe's Industrial Future

From volatility to stability: Why Europe needs price-secured long-term contracts now

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Executive Summary

Long-term gas contracts with secured prices can be a critical lever to ensure price stability, supply security, and industrial competitiveness in Germany and Europe during the energy transition. The current market environment—characterized by high short-term price volatility, uncertain geopolitical conditions, and increasing global LNG competition—underlines the urgency to act now

- Europe weathered the 2022 gas crisis by rapidly increasing LNG imports that were luckily available due to weak demand in China. But its gas supply is still not on solid ground, as 28% of current demand is not covered by (long-term) contracts and a substantial share of existing import contracts are based on volatile short-term prices and/or expiring by 2030.
- High and volatile gas prices are a major drag on industrial competitiveness. In Germany, industries representing ~3 million jobs face deteriorating margins in times of high gas prices – overall, one fifth of industrial value creation is at risk, largely driven by high energy costs.
- Long-term LNG import contracts from the US could be closed at ~25–30 €/MWh – higher than the ~15–20 €/MWh prices seen in Northwestern Europe precrisis, but providing certainty to industrial offtakers and avoiding exposure to gas price shocks of 60 €/MWh or more.
- Gas remains essential to back up renewables and hard-to-electrify processes until hydrogen and battery storages are at scale.
- Over the next three years, large new LNG capacities (100+ Mt) are moving toward Final Investment Decision (FID). This is a window of opportunity for buyers, as the most attractive volumes are typically sold before projects are formally approved and financed.
- Gas importers and industrial offtakers could unlock these benefits by shifting towards long-term gas purchasing strategies.

Context:
European industry is threatened by volatile and high gas prices

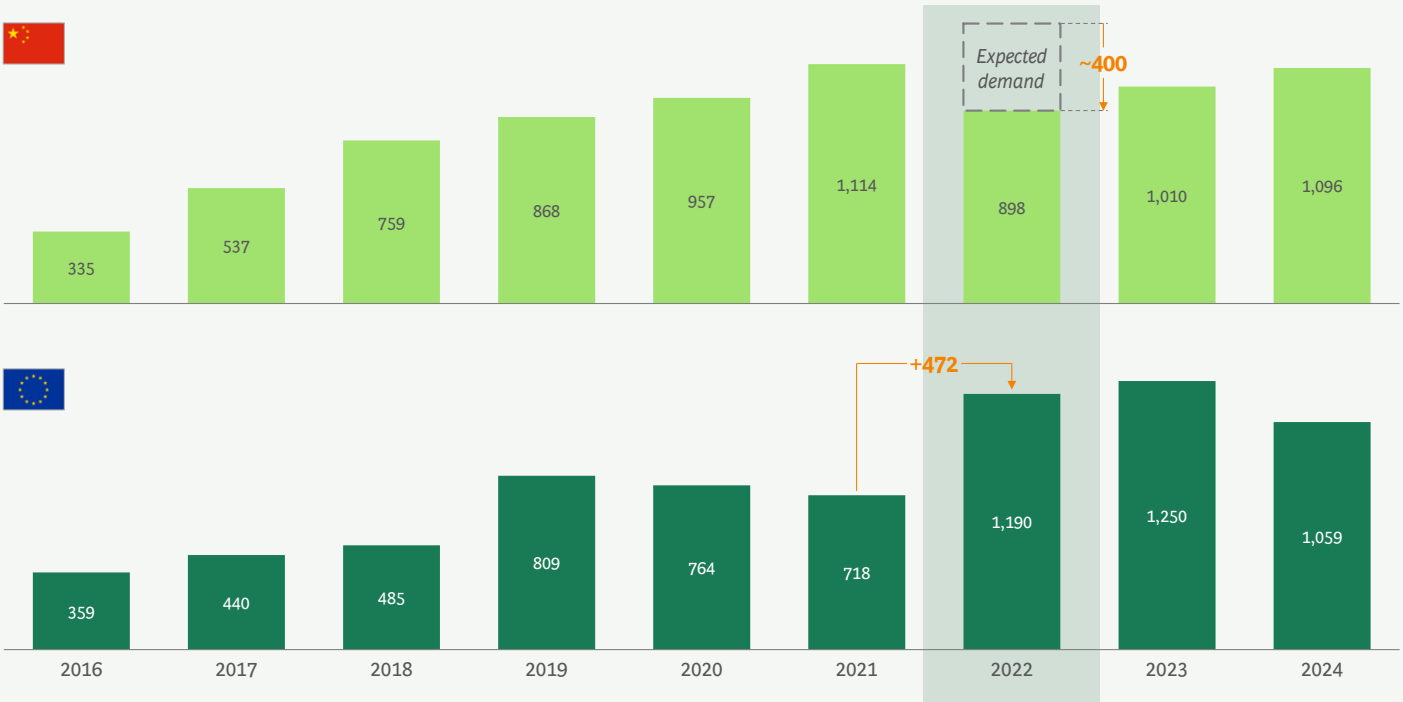
> Europe weathered the 2022 gas crisis largely by chance: Weak Chinese demand rerouted LNG to Europe, while a warm winter cut consumption. Luck won't do the job twice.

The 2022 gas crisis required a fast replacement of Russian gas. Despite fast and strong political action in Europe, this was possible mainly due to unusually low Chinese industrial demand in the wake of Chinese COVID policies. Chinese LNG purchases on the spot market in March 2022 declined by 80% year-on-year[1]. Total Chinese LNG demand in 2022 was ~400 TWh lower than expected, while EU LNG imports jumped by over 470 TWh, indicating a strong rerouting of LNG cargos from Asia to Europe. Moreover, a mild winter in Europe, e.g. ~1.5 °C above the average German temperature between 1991–2020[2], combined with political gas saving measures and weak industrial demand due to the high gas prices helped to reduce gas demand.

Low Chinese demand let Europe rapidly import more LNG

FIGURE 1 | LNG imports China & Europe

LNG imports in China and EU–27
(TWh)



Note: Expected 2022 demand for China based on March 2022 trajectory for end of year
Source: Kpler; BCG Analysis

1. Source: Kpler.
2. Source: Deutscher Wetterdienst.

Today and going forward, Europe cannot rely on such fortunate circumstances. As a first countermeasure, Europe diversified its gas imports to replace a large share of Russian imports. Piped gas imports could contribute only little, as pipeline infrastructure capacities cannot be expanded rapidly and alternative gas exporters are mostly far from Europe. Instead, mainly LNG imports from the US and Qatar closed the gap, enabled by a rapid expansion of LNG import terminal capacities. Germany had no terminals in early 2022, but installed three by winter 2022/23, enabling 70 TWh LNG imports in 2023. The EU also imposed regulatory measures to ensure sufficient levels of gas storage (albeit at high cost) and to reduce gas consumption with measures like an accelerated build-out of renewables.

Despite these first countermeasures, which have increased the resilience of the European gas market, **Europe is still suffering from high and volatile gas prices.** As a result, energy-intensive industry players are already falling behind their Chinese and American peers, who have access to cheaper input factors including energy.

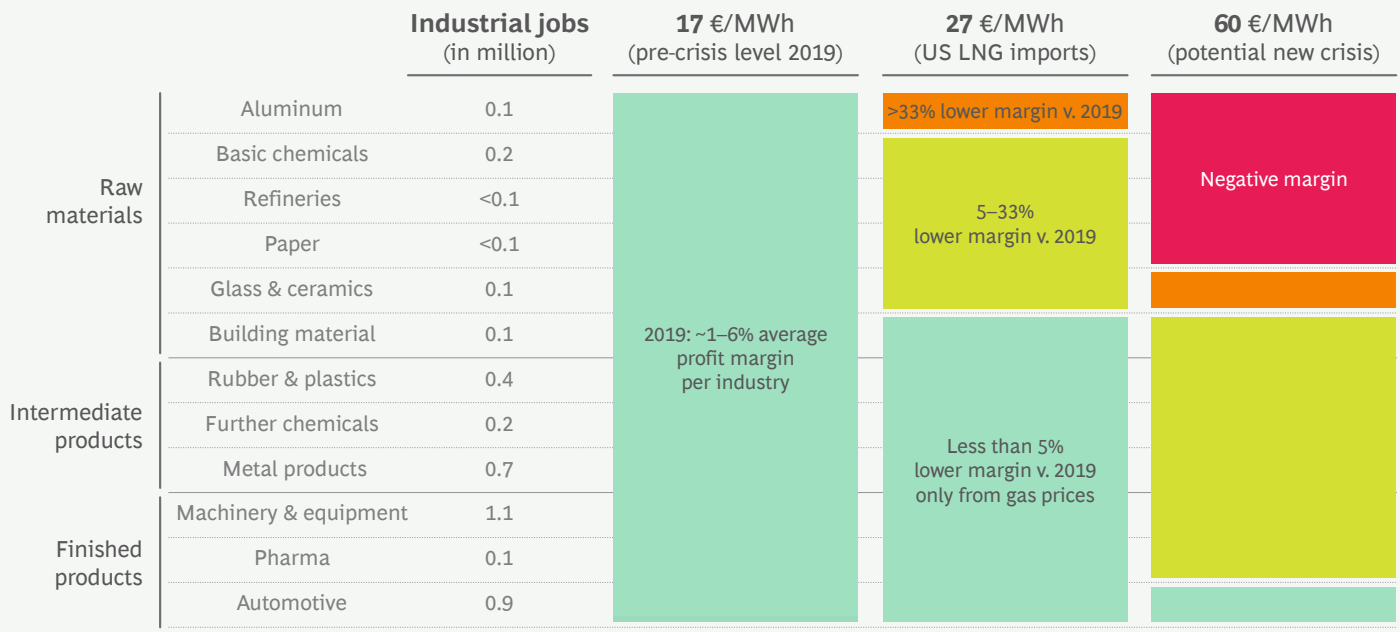
High gas prices are a major drag on industrial competitiveness. In Germany, as Europe's largest industrial player, one fifth of its industrial value creation is at risk, driven largely by high energy costs[3]. The industrial decline is also shown in the production development index in energy-intensive industries[4], which currently lies at 79.8 vs. 100 in 2021. Gas prices are a major contributor to this risk, as Figure 2 shows for Germany:

- In 2019 – when gas in Europe was cheap at ~17 €/MWh and carbon costs almost negligible due to low prices and free allocations – German industry was generally profitable[5].
- With gas prices of 27 €/MWh[6] – e.g., US LNG imports – intermediate and finished goods manufacturers would still operate at a profit comparable to 2019, assuming otherwise constant costs. Raw material manufacturing, in contrast, already sees substantial margin decreases at this price level[7].
- A gas price of 60 €/MWh would result in a substantial margin decrease or even losses for large parts of the industry, accounting for some 3 million jobs. Only sectors with a very low share of gas in their total costs (e.g. automotive manufacturing) would see no major margin declines from high gas prices alone.

Gas price peaks harm most industries

FIGURE 2 | German industries' gas price tolerance

Impact of natural gas prices on German industries' average profit margins
($€_{real2023}$/MWh)



Note: Steel & foundries not shown due to negative margin in 2019
Source: Federal Statistical Office (2024); Analysis BCG and IW

3. Source: BCG and IW 2024 (Transformation Paths for Germany as an Industrial Nation).
4. Source: Statistisches Bundesamt.
5. The steel industry was an exception, as it was not profitable due to weak automotive demand and overcapacities.
6. See Figure 5 — 27 €/MWh is based on historical cost break-down of US LNG long-term contracts (2021–25).
7. If gas prices in Europe stay at this level, raw materials industries would require additional measures to ensure competitiveness, such as subsidies to transition away from fossil fuels and as protection against high carbon prices, e.g. through an effective Carbon Border Adjustment Mechanism.

In times of volatile markets like today's, price scenarios of 60 €/MWh are not inconceivable. In most of the crisis year 2022, gas prices were above 100 €/MWh. In February 2025, the spot market still saw price peaks of 59 €/MWh. The recent threat of a closure of the Strait of Hormuz by Iran, which luckily never materialized, could have caused price hikes to 70-100 €/MWh according to a BCG analysis. Despite not materializing in this case, gas price shock scenarios like these could easily emerge again in the future. In times of diverse global tensions, this is a serious risk. Price-secured long-term contracts are the seatbelt that is still missing.

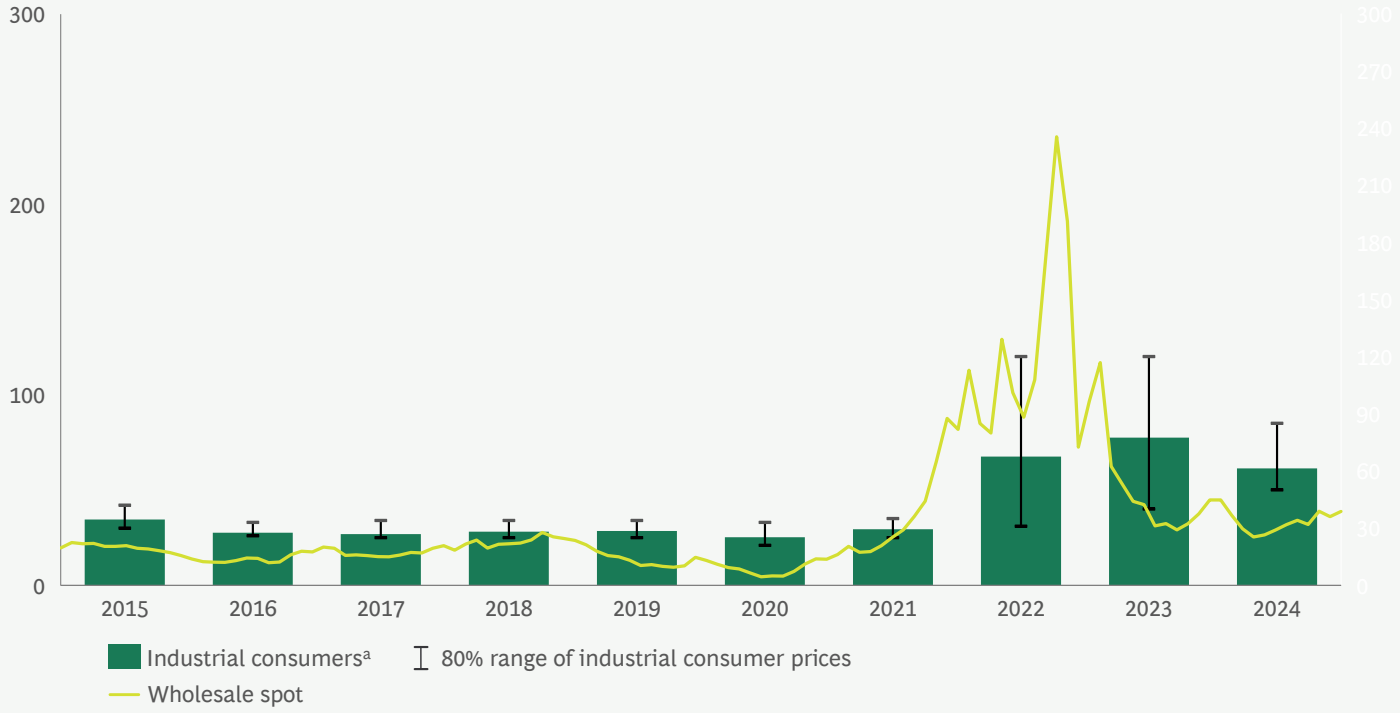
Industrial consumers currently purchase gas mainly short-term, exposing themselves to spot market price volatility, which reduces predictability and hampers investments. Industrial customers often only secure long-term supplies of strategic raw materials. However, due to a long period of well-functioning, stable gas markets, the industry has mainly focused on short-term gas procurement. Even if some industrial players seek long-term contracts at stable prices, many — especially smaller firms from the so-called "Mittelstand" — may be unable to enter such agreements due to their lack of (sufficient) credit ratings. Purchasing gas short-term gives industrial players a certain degree of protection against regulatory risks and supplier defaults, as well as flexibility for possible outsourcing of production to low-cost countries. Yet, this only works in stable market environments.

Amid today's high geopolitical uncertainty and volatile gas prices, this short-term gas sourcing strategy can deteriorate the profitability and thus the competitiveness of energy-intensive industries. When wholesale prices rise, industrial gas prices also rise soon after. During the gas crisis for example, the average industrial gas price in Germany increased from 30 €/MWh by over 160% between 2021 and 2023, before slightly recovering to 61 €/MWh in 2024 (see Figure 3). At the same time, industrial gas price volatility increased substantially compared to the pre-crisis level. In uncertain times such as these, market participants therefore often hesitate to commit to larger investments in their production facilities in Europe, or in the worst case, even consider shifting their production abroad.

Industrial consumers are exposed to spot price volatility

FIGURE 3 | German industry's gas prices

Gas prices in Germany, wholesale and for industrial consumers
(€/MWh)



a) 116 GWh/year
Source: Bundesnetzagentur, Refinitiv

Gas imports are also exposed to short-term markets, as 28% of current European LNG demand is not secured through (longer-term) contracts. By 2030, ~200 TWh of contract volume in Europe will expire, increasing the full exposure to spot market to 47%, if no new or replacement contracts are signed. As the key counterparty and supplier to European and German industry, gas importers purchase gas in the interest of their customers and thus mainly with a shorter contract duration and indexation. This contrasts with Asian LNG importers, who have on average 92% of their gas demand secured in contracts (as of 2024)[8] — 20 percentage-points more than in Europe (see Figure 4). China and India are even expected to show further growth in long-term contracted positions until 2030. Countries that put more emphasis on long-term gas contracts benefit not only from resilience against fast-changing gas prices, but also from higher overall affordability and secure physical supply of gas.

Moreover, substantial parts of existing long-term supply portfolios in Europe are indexed to short-term gas prices, thus not contributing to price stability. Too many "long-term" deals are short-term in disguise — indexation that imports volatility instead of mitigating it. At the same time, importers are currently unable to enter into long-term commitments with binding prices with their upstream suppliers due to high-risk exposure of these contracts without long-term offtake on the downstream side.[9] This chicken-egg problem is one of the main factors hindering stronger gas price stability in Europe

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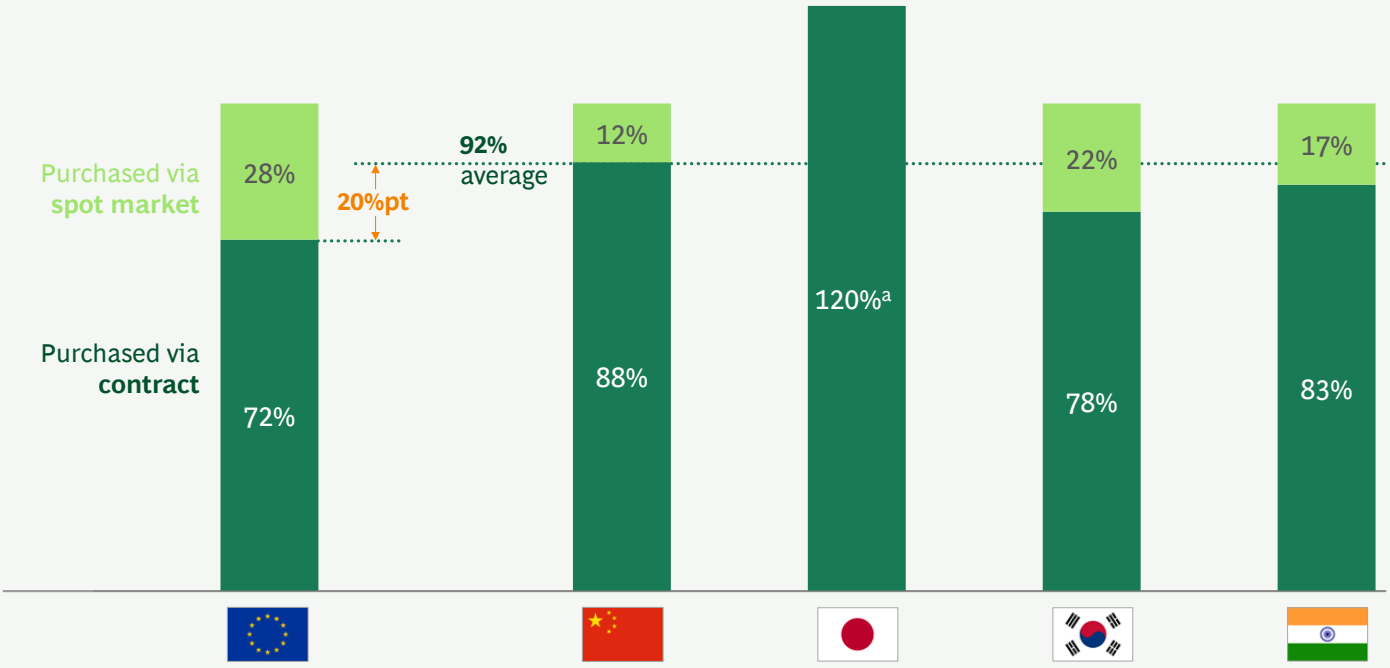
Europe has less LNG contracted than other importers

FIGURE 4 | Top 5 LNG importing countries' contract positions

LNG imports 2024 by contract and spot market purchases
(% of LNG demand)



a) Japan with a contracted surplus in 2024, which is based on its long-standing risk-averse approach, focusing on security of supply and price stability
Source: ACER based on data from ICIS LNG Edge and S&P Global

8. Source: ACER 2025 (Analysis of the European LNG market developments. 2025 Monitoring Report).
9. Long-term import contracts with stable prices can be realized in different ways. The import contract itself could contain a fixed price - this is currently uncommon for LNG but well established for piped gas contracts. Using price corridors instead of a fixed price initially could help to transition LNG contracts to more secured prices. Alternatively, the import contract could be indexed as usual (e.g., to an oil or gas price) and prices could be secured through separate long-term oil or gas hedges at commodity exchanges.

Long-term LNG supply contracts can contribute to secure, affordable energy prices, help to increase competitiveness, and support the energy transition

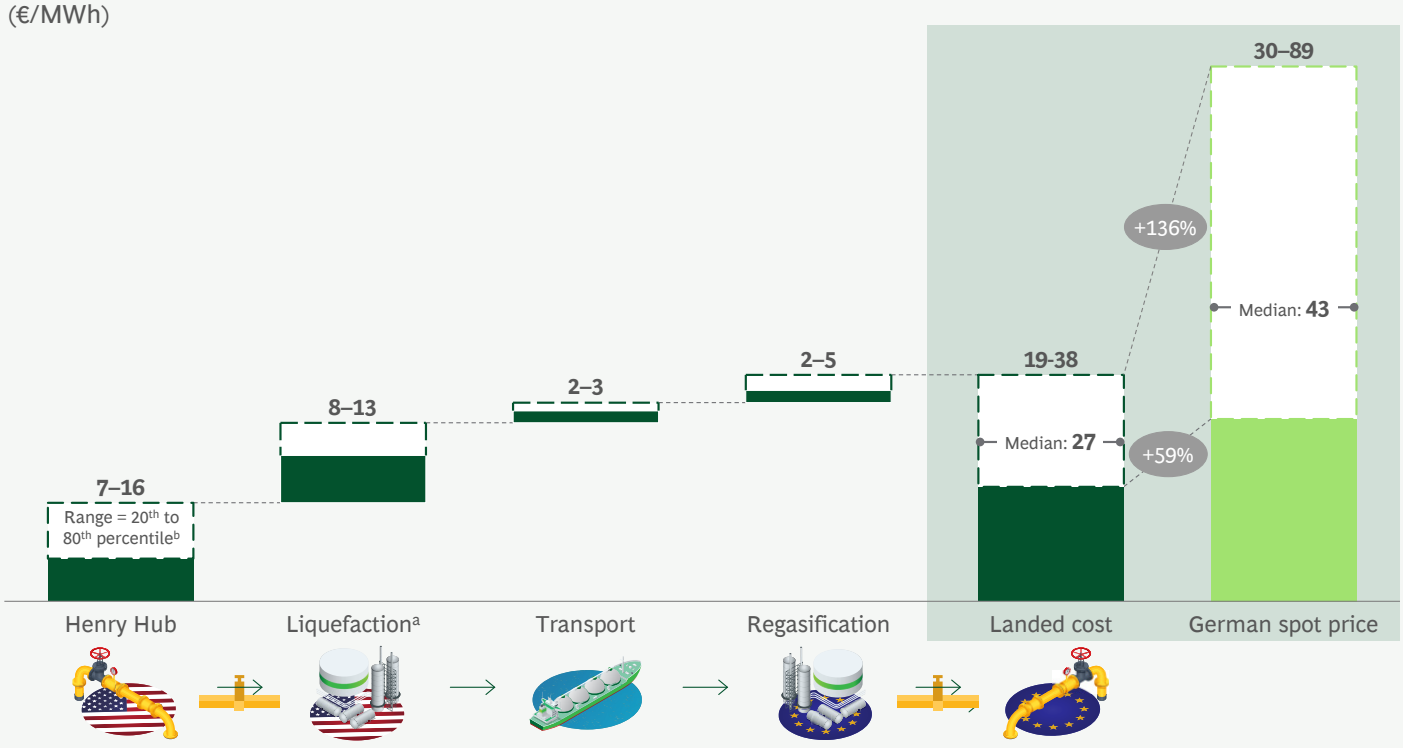
Long-term import contracts with stable prices at ~25–30 €/MWh (see Figure 5) **could make an important contribution to affordable, reliable energy in Germany and Europe.** Five-year historical monthly price data (2021–2025) of landed gas costs in Europe from the U.S. (Henry Hub) including sourcing, liquefaction, transport and regasification costs emphasize the economic benefits of long-term LNG contracts. While costs of landed gas volumes indexed to US gas prices (Henry Hub) in Europe range between 19 and 38 €/MWh, with the median lying at 27 €/MWh, the German spot market price range is substantially higher and more volatile ranging between 30 and 89 €/MWh. This already excludes 20% of the cheapest and 20% of the most expensive months (43 €/MWh as the 2021–2025 German spot market median).

While a contracted price of ~25–30 €/MWh locked-in over a longer period of time is still significantly above the ~15–20 €/MWh prices seen in Northwestern Europe before Russia curtailed gas supplies to Europe, it could provide certainty to industrial offtakers and mitigate the exposure to gas price shock events, which could see prices well above that level. This certainty is one prerequisite for industrial players to plan ahead and even invest in their production facilities in Germany and Europe. More measures are needed, though, for an overall positive investment climate, e.g., affordable electricity prices, digitalization, predictable carbon pricing, and accelerated permitting[10].

LNG contracts allow for cheaper gas than historical GER spot

FIGURE 5 | Historical wholesale gas prices in Germany (2021-2025)

Cost range of a US long-term gas contract with a stable price vs German spot price range
(€/MWh)



a) Including Sourcing and Transformation costs b) Of historical prices (excl. Transport and Regasification costs)
Source: Refinitiv; Rystad Energy; Thunder Said Energy; Local Regas & Network Operators; Spark Commodities; GIE; BCG

10. Source: BCG and IW 2024 (Transformation Paths for Germany as an Industrial Nation).

Natural gas is needed on a path to net-zero; be it for gas power plants backing up renewables or for industry until hydrogen is available. While natural gas must be phased out in the long run to achieve full decarbonization, it remains a critical energy carrier during the transition. According to the European Commission, 950-1.700 TWh gas will be needed EU-wide in 2040 (still 30-50% of current gas supply) depending on the decarbonization scenario assumed[11].

Two key areas that require gas during the transition are gas power generation as backup for renewables, and industrial processes.

- Gas-fired power plants provide flexible backup when renewables do not generate electricity due to a lack of sun and wind ("Dunkelflaute"). Alternatives to balance the resulting power shortfall such as batteries or hydrogen are not yet available at scale, making gas a key reliable backup option in the medium term.

- Secondly, in industrial processes, gas can act as a bridge until hydrogen supply and infrastructure are in place. Coal-based ironmaking in blast furnaces for example can be replaced by the direct reduction process. While this process must run on clean hydrogen to achieve net zero, it can use gas as a transition technology to allow for investments in direct reduction plants while already significantly reducing emissions compared to blast furnaces. While they should gradually switch to hydrogen, until supply and infrastructure are in place and price competitiveness is reachable, gas is the only feasible solution.

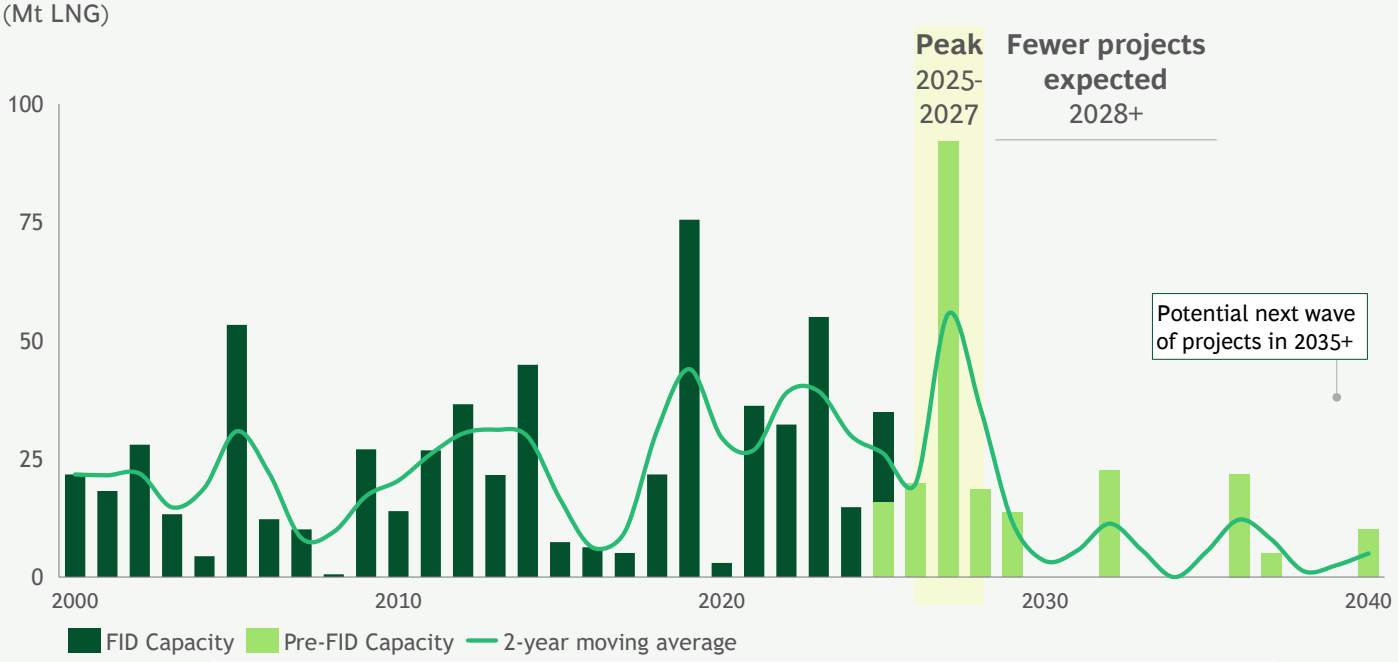
Long-term gas contracts at stable prices can bridge the gap without threatening the ultimate net-zero goal that is in reach for Germany towards 2045 as they are normally sold with a maximum duration that is in line with the decarbonization path. Furthermore, residual LNG volumes can be sold on to countries with a slower decarbonization roadmap if needed (e.g., to emerging economies as replacement for coal).

Over the next three years, large LNG capacities could become available to potential buyers. Most large LNG projects in the planning phase are moving toward Final Investment Decision (FID) within this timeframe (see Figure 6) and the most attractive volumes are typically sold before FID is reached. At this stage, suppliers generally offer better conditions to secure large long-term buyers and de-risk their projects before investing. Players who can purchase larger volumes are particularly well positioned to secure such attractive contracts from suppliers. In 2026 and 2027, more than 100 Mt LNG liquefaction capacity is expected to reach FID, driven by more than 50 Mt new capacity from the United States.

A large wave of new LNG projects is coming up

FIGURE 6 | Announced LNG capacities

Announced natural gas liquefaction capacity by year of planned final investment decision (FID)
(Mt LNG)



Source: Rystad Energy, BCG

11. Source: European Commission 2024 (Securing our future - Europe's 2040 climate target and path to climate neutrality by 2050 building a sustainable, just and prosperous society).

Urgent action needed from importers, offtakers and policymakers to ensure affordable energy for Europe

European importers need to act now to secure long-term volumes. In 2028 and 2029 only 30 Mt of new liquefaction capacity is expected to reach FID with a similar outlook until 2035. This decrease in new capacity could reduce pre-FID supply, thereby increasing prices. European buyers who wait too long may miss the opportunity to access attractive volumes currently available and therefore the chance to lock in large volumes of long-term contracts at a lower price. Importers who act now can secure stable, affordable gas for the next decade, reducing their exposure to future volatility and supporting the resilience of European industry.

Yet, appetite for long-term contracts from industrial offtakers is also necessary to match supply and demand. As referred to earlier to in the "chicken-egg-problem", gas importers alone won't be able to secure long-term volumes with secured prices from upstream gas producers without downstream commitments from offtakers. Consequently, European industrial players who want stable and affordable gas prices also need to do their part by sourcing their gas volumes at a secured price from gas importers through long-term contract agreements. European governments can actively support solving this problem by incentivizing their industries and gas importers to procure greater volumes of energy with a longer time horizon at secured prices.

> Long-term gas contracts for industrial offtakers could make energy costs more affordable and predictable — contributing to a more competitive European industry with a stronger investment confidence for the next 10–15 years to come.

Europe cannot afford another energy crisis.

Gas importers, industry and governments need to act now to secure stable gas prices via long-term contracts to protect industrial competitiveness.

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