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The Impact of Escalating Geopolitical Tensions
on European Natural Gas Markets:

A Focus on Southeast Europe

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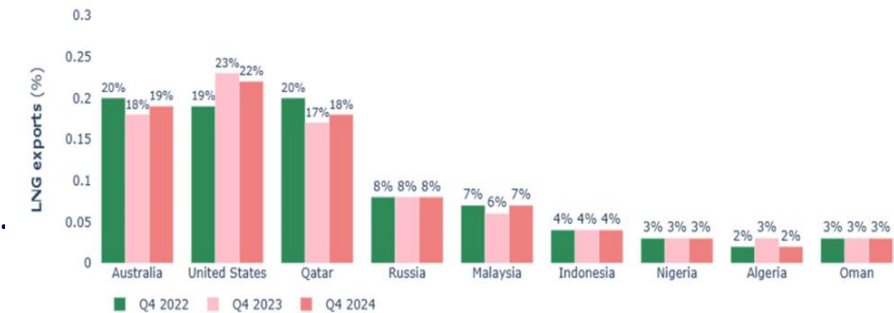


Global Natural Gas Market: Key Players and Infrastructure

The natural gas market is a **highly interconnected global system**, where producers, consumers, and infrastructure networks are shaped and affected by **economic, political, and geographical factors**.

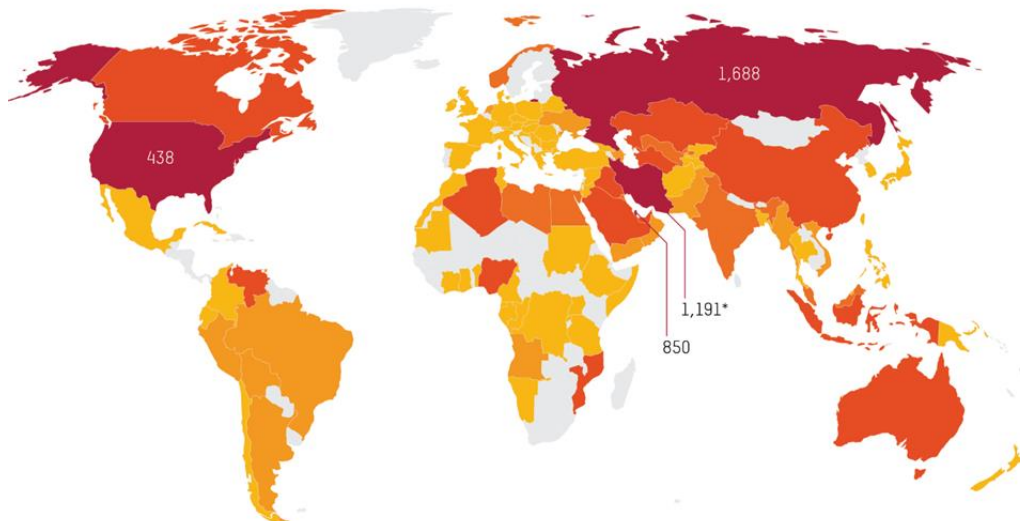
Major Natural Gas Producers and Exporters:

- **Russia:** Former top supplier to Europe; pivoting to China post-Ukraine war.
- **United States:** World's largest producer and LNG exporter, reshaping global supply.
- **Qatar:** LNG powerhouse, expanding North Field to increase capacity by 60% by 2027.
- **Iran*:** Vast reserves, limited exports due to sanctions and lack of LNG infrastructure.



Source: European Commission, DG Energy

THE NEW GLOBAL GAS MARKET:
ESTIMATED RESERVES BY COUNTRY



Gas Reserves (Tcf): Below 10 10 to 40 40 to 70 70 to 400 Above 400

Source: BP statistical Review 2023

Note:

1. Russia: **37** tcm proven reserves, 701 bcm/y gas production and 40 bcm/y LNG export capacity.
2. United States: 13 tcm natural reserves, **1040** bcm/y gas production and **125** bcm/y LNG export capacity. Additional 111 bcm LNG until 2027 and 99 bcm for FID in 2025.
3. Qatar: 25 tcm natural reserves, 177 bcm/y gas production and 106 bcm/y LNG export capacity.
4. Iran: 32 tcm natural reserves, 250 bcm/y gas production.

* Does not currently export LNG at scale

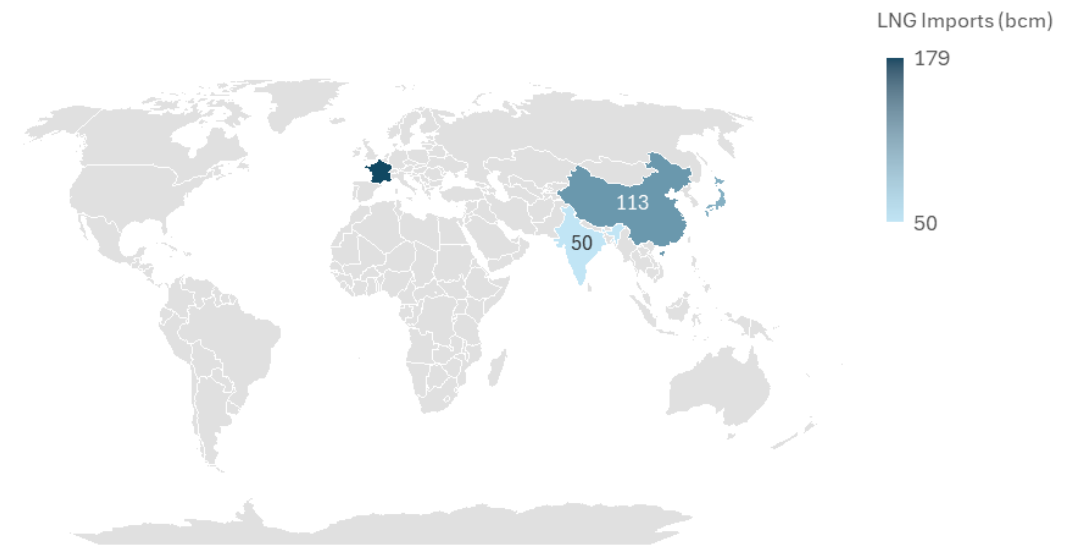
Global Natural Gas Market: Key Players and Infrastructure

Major Natural Gas Consumers and Importers

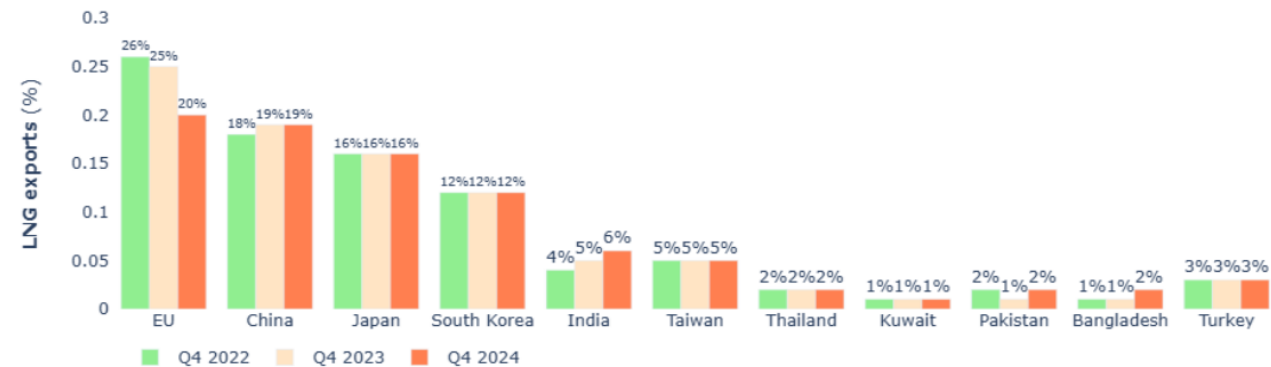
In 2024, global natural gas consumption reached approximately 4350 bcm, marking a 2.7% increase on 2023:

- **Europe:** Diversifying away from Russian gas via LNG imports and infrastructure buildout.
- **China:** World's largest gas importer; demand outpaces domestic supply.
- **Japan:** Fully import-dependent; highly developed LNG infrastructure.
- **India:** Fast-growing market; aiming to increase gas share in energy mix from 6% to 15% by 2030.

LNG Imports (bcm) in 2024



Source: European Commission, DG Energy



Source: European Commission, DG Energy

Europe's Natural Gas Consumption, Production and Imports

Consumption

- In 2024, the EU's total gas consumption was 332 bcm, a 7% decrease compared to 2022 (356 bcm). Compared to 2021 (pre-crisis), EU gas consumption has declined by 20% (412 bcm).
- The largest reductions have occurred in Finland (37%), Sweden (36%), Lithuania (28%) and the Netherlands (25%). The smallest reductions are noted in Slovenia (7%), Poland (8%) and Greece (9%).

Production

EU's gas production was 32 bcm in 2024:

- Down 15% from 2023 (38 bcm) and 32% less than 2022 (47 bcm).
- Top producers: Netherlands (9.7 bcm), Romania (9.4 bcm), Germany (3.9 bcm).

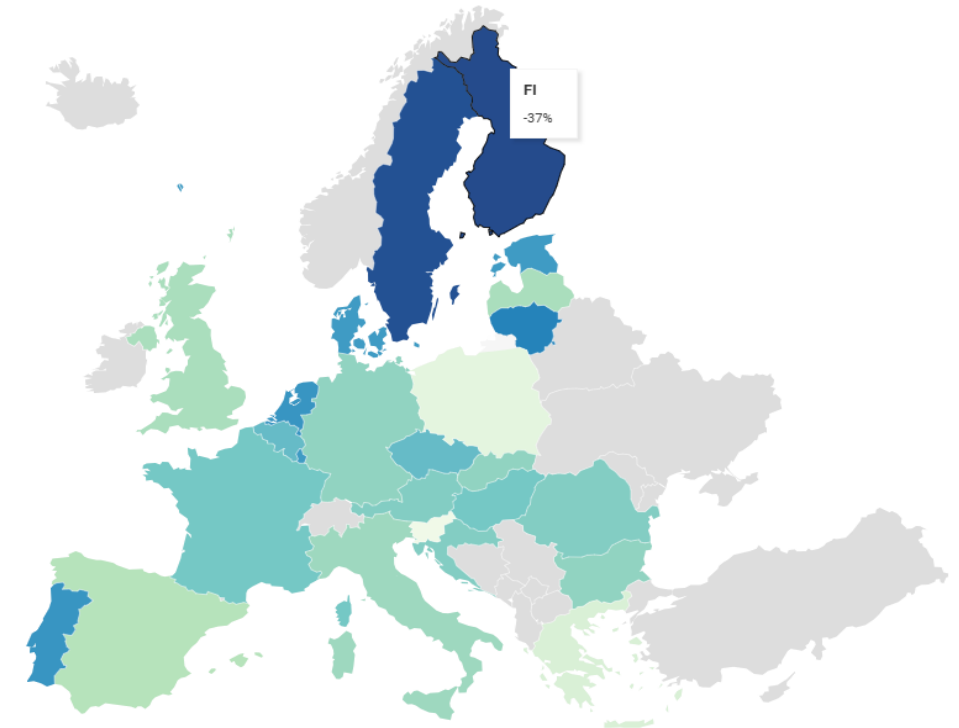
Imports

Total EU gas imports:

- **273 bcm**, down **6%** from 2023 (289 bcm),
- **18%** less than in 2022 (333 bcm).

Key suppliers: Norway 33%, Russia 19%, USA 17%, North Africa 14%, UK 4%, Qatar 4%, Azerbaijan 4%, Nigeria 2%, other 2%.

Percentage change, total 2022 to 2024 versus the average across 2019-2021
Percentage reduction
-37 -7

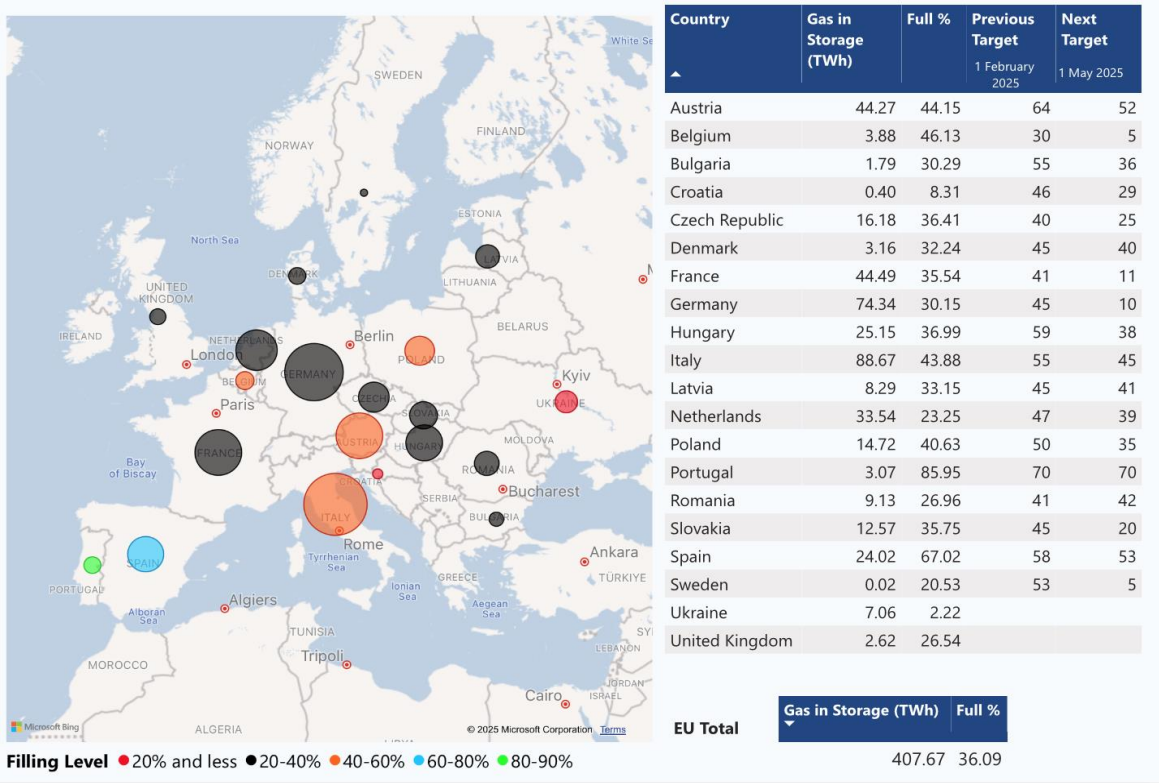


Source: Bruegel Datasets

Note: In 2025, LNG 41% (31.7bcm), pipeline 49% (38.1bcm), production 10% (7.6 Bcm)

EU Gas Storage Levels

- EU average fill is 36%, well below the 45% May target.
- Spain and Portugal are in excellent shape, already above target.
- Germany and Italy hold the most gas in volume, but their fill % is low.
- Ukraine shows critically low levels.
- Gas storage was particularly important last winter, covering more than 30% of the EU's gas consumption.
- Storages also helped to contain price volatility, as stored gas was generally cheaper than LNG imports during winter months.
- Overall, the EU needs to accelerate storage injections to meet targets.



Source: ENTSG

Map Insight:

Red circles signal countries furthest from target thresholds.

Key EU Gas Storage Targets for 2025:

May 1, 2025 → Minimum 45% full

July 1, 2025 → Minimum 65% full

September 1, 2025 → Minimum 85% full

November 1, 2025 → Minimum 90% full

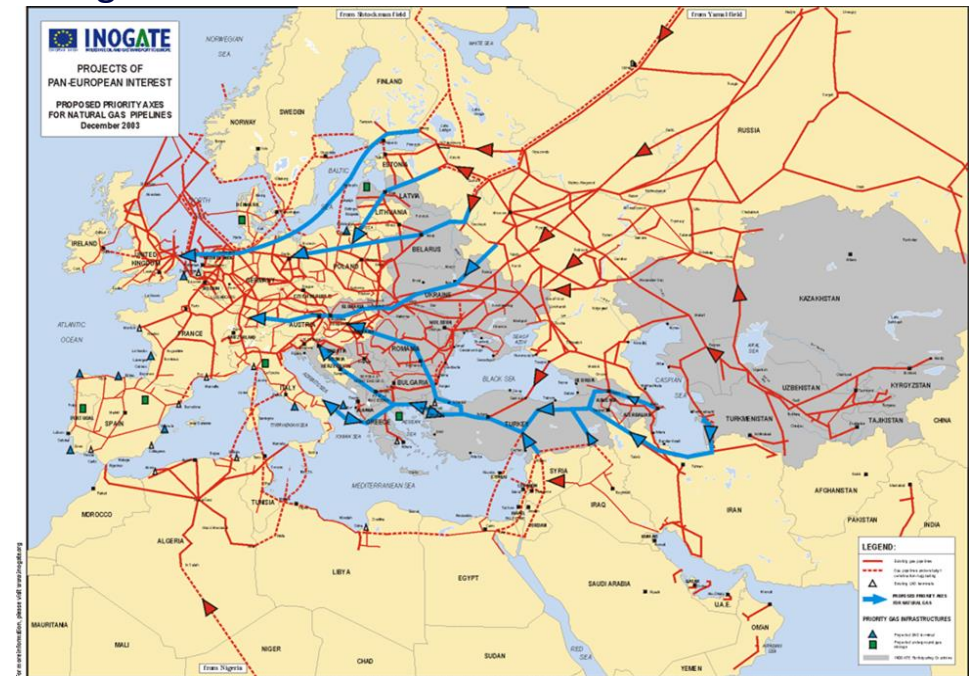
Critical Gas Infrastructure – Pipelines, LNG, and Regional Integration

Major Pipelines:

- **Nord Stream:** 55 bcm (inactive since 2022); triggered EU shift to LNG & renewables.
- **TurkStream:** 12 bcm in 2024; supplies Turkey, Bulgaria, Greece, others.
- **Power of Siberia:** 38 bcm/year to China; Power of Siberia 2 in planning.
- **Southern Gas Corridor:** Caspian gas via SCP → TANAP → TAP → EU market.
- **TAP:** Transports Azerbaijani gas to Italy, with 10 bcm/year capacity (expandable to 20), enhancing EU supply diversification.
- **IGB:** Connects Greece and Bulgaria, allowing 3 bcm/year (expandable to 5) of gas flow from TAP to Eastern Europe.

Key LNG Terminals:

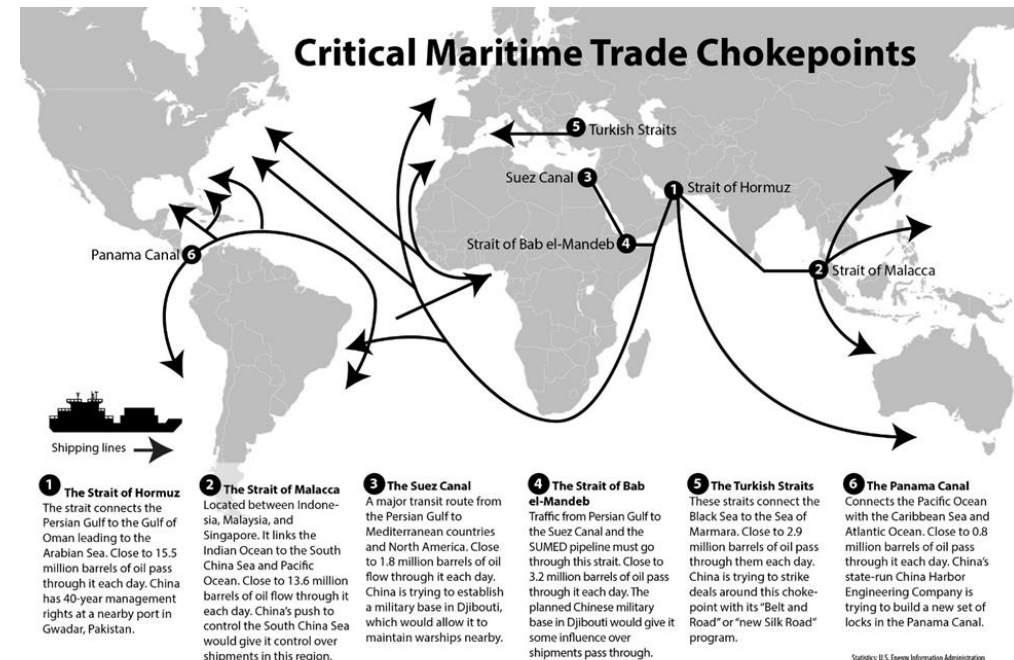
- **Krk (Croatia):** 2.9 bcm/year regasification capacity and 140,000 m³ storage, is a key entry point for non-Russian gas into Central and Southeastern Europe.
- **Alexandroupolis FSRU:** 5.5 bcm/year regasification and 153,500 m³ storage, strengthening supply routes to the Balkans.
- **Revithoussa Terminal:** Located near Athens, has a regasification capacity of 7 bcm/year and 225,000 m³ of storage.



Source: INOGATE

Current Geopolitical Pressures Reshaping Global and European Gas Markets

- **End of Russian Pipeline Gas to EU**
 - Russia-Ukraine transit deal expired January 1, 2025.
 - Russian pipeline exports to Europe near zero by 2027.
- **Geopolitical Conflicts Disrupting Supply**
 - Ongoing war in Ukraine creates long-term supply uncertainty.
 - Israel-Gaza conflict affects East Mediterranean energy exploration.
 - Houthi attacks in the Red Sea disrupt LNG shipping routes.
 - Instability in North Africa threatens infrastructure security.
- **U.S. LNG Dominance and Trade Tensions**
 - New U.S. tariffs spark friction.
 - EU considering joint gas purchasing to strengthen negotiating power.
- **EU Internal Energy Adjustments**
 - Proposed flexibility on 90% gas storage target.
 - Up to 10% deviation allowed during adverse market conditions.
- **Global Market Realignments**
 - Diversification reduces EU reliance on Russian gas.
 - Increased LNG competition with Asia, Latin America.
- **Volatility and Demand Reduction**
 - Prices surged to two-year highs in early 2025.
 - EU gas demand dropped 23% since 2021.



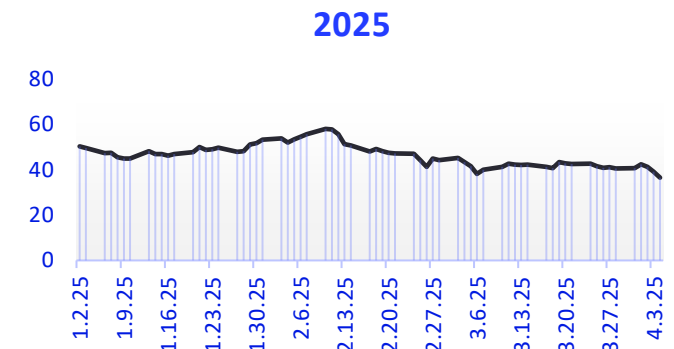
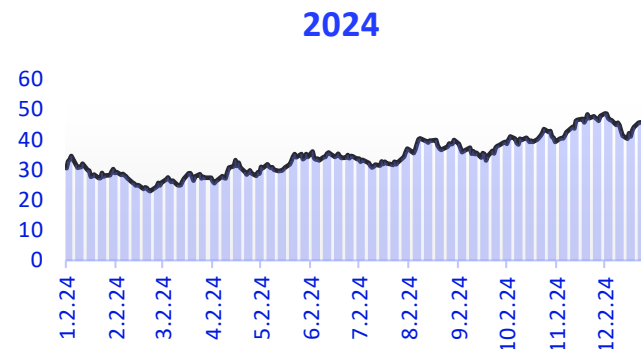
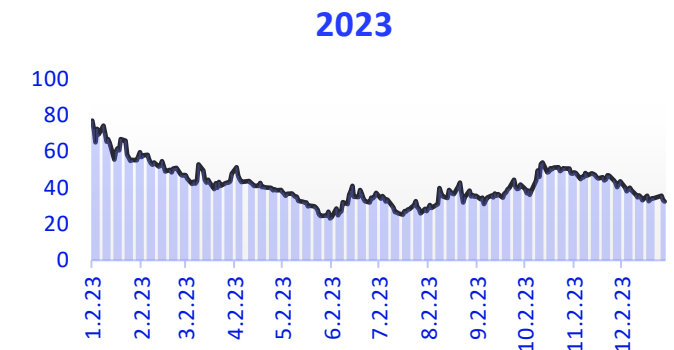
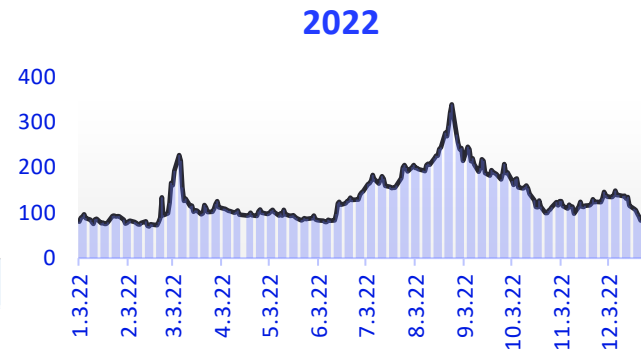
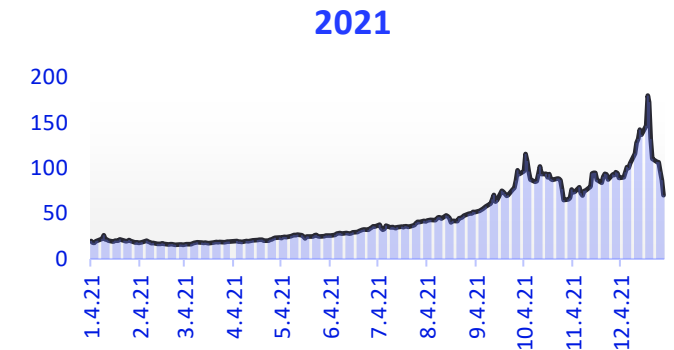
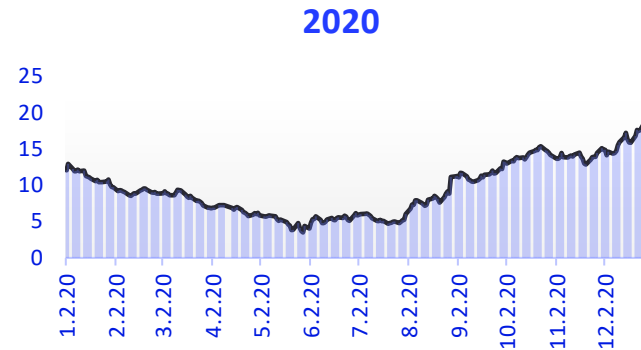
Natural Gas Price Volatility – Geopolitical Drivers & Market Dynamics

- High volatility in 2021 and 2022, significantly decreased in 2024.
- Lowest average prices in 2020, highest in 2022.
- Maximum prices were observed in 2021 (around 21/12/2021) and 2022 (around 26/08/2022) and the lowest in 2020 (28/05/2020).

TTF MA prices (EUR/MWh) from January 2020 to March 2025

	2021	2022	2023	2024	2025
Mean	48	133	41	35	46
Min.	16	70	23	23	37
Max.	180	339	77	49	58
Variation (%)	71	39	25	19	11

Note: Prices for 2025 up to 04/04/2025

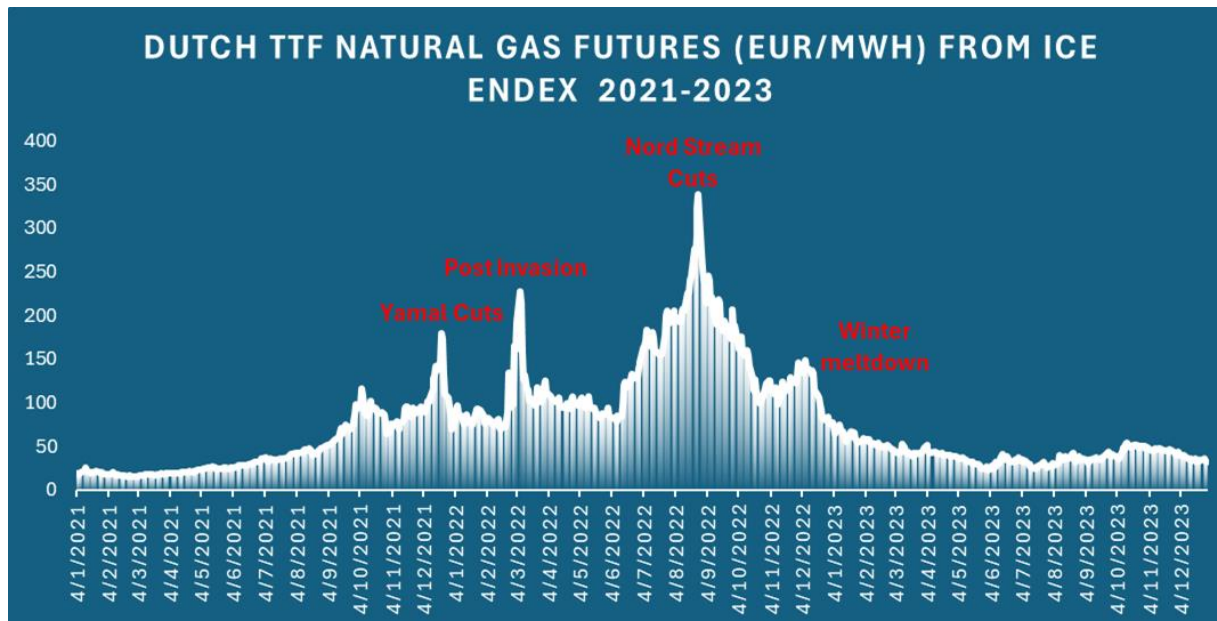


Source: ICE ENDEX

Natural Gas Price Volatility – Geopolitical Drivers & Market Dynamics

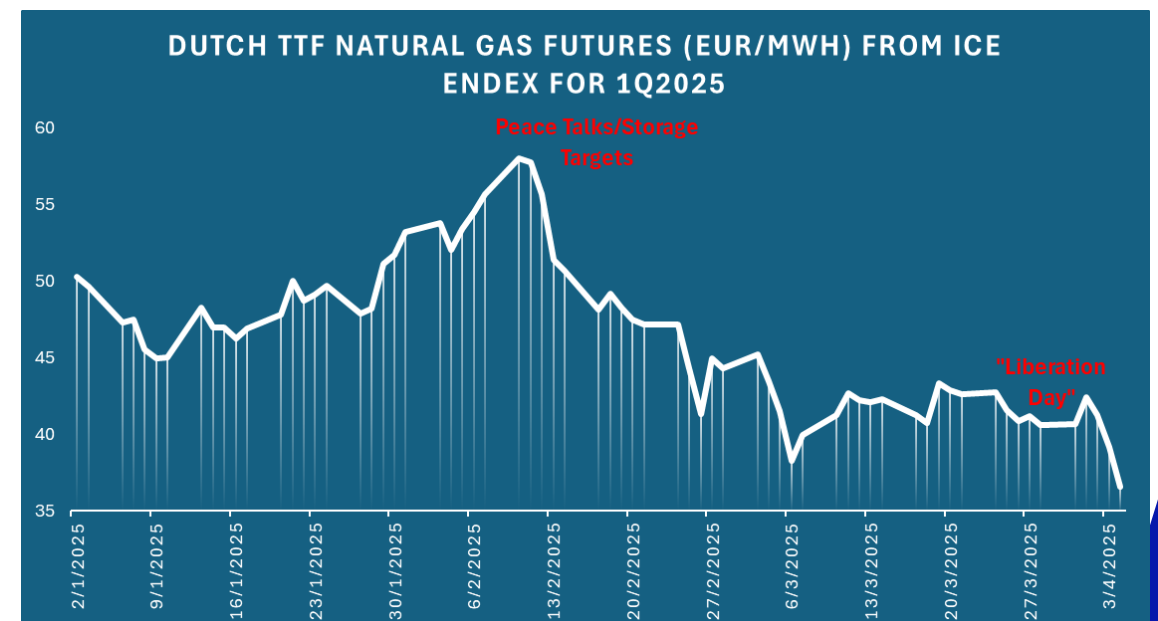
Dutch TTF Gas Futures (2021–2023) – Key Trends

- **2021–early 2022:** Prices began rising with **Yamal pipeline** cuts and tightening supply.
- **Feb 2022:** Prices spiked after **Russia's invasion** of **Ukraine**.
- **Mid-2022:** Sharp peak during **Nord Stream cuts**, nearing 350 EUR/MWh.
- **Late 2022:** Prices eased following demand drop and winter mitigation.
- **2023:** Market stabilized around 50–60 EUR/MWh, far below crisis peaks.

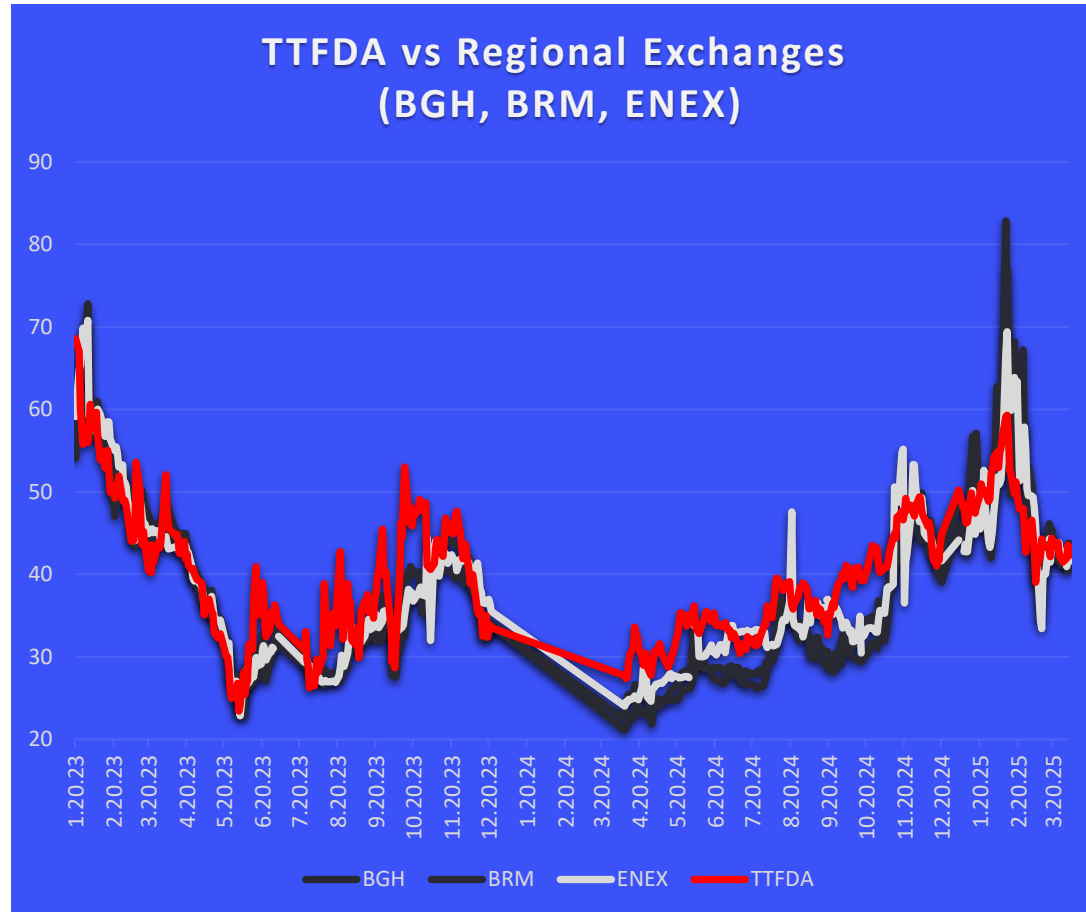


Dutch TTF Gas Futures – Q1 2025 Snapshot

- **Early Feb:** Prices hovered around 50 EUR/MWh, slightly elevated.
- **Mid-Feb:** Sharp decline, driven by peace talks.
- **Late Feb – March:** Steady decline as market sentiment improved.
- **End of Q1:** Prices dropped to ~36 EUR/MWh, especially after “Liberation Day”, signaling potential resolution or easing tensions.



Natural Gas Price Volatility – Geopolitical Drivers & Market Dynamics

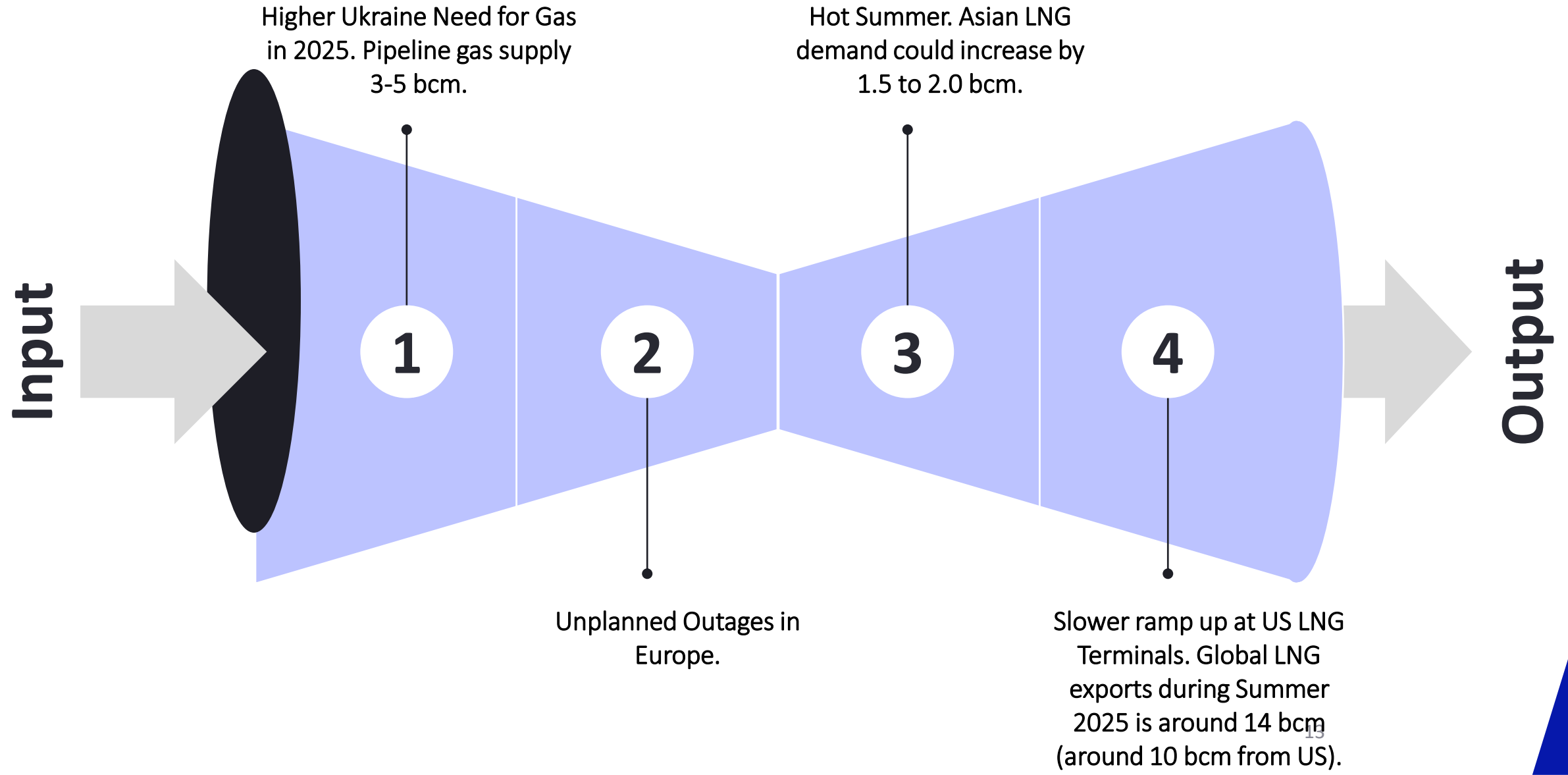


TTFDA vs Regional Gas Exchanges (BGH, BRM, ENEX)

Period: 2023 – March 2025

- **General trend:**
All exchanges closely tracked TTFDA movements, reflecting some correlation.
- **Early 2024:**
Prices fell to 25–30 EUR/MWh across all hubs, showing prices trend alignment.
- **Mid to late 2024:**
Gradual price divergence began, especially with BGH and BRM showing brief regional volatility spikes.
- **Early 2025:**
A sharp price spike in BGH (Bulgaria) and BRM (Romania) in January suggests localized supply stress.
- **End of Q1 2025:**
Prices realigned across all hubs, settling around 40 EUR/MWh, indicating a return to regional balance.

Major Risks to Market Balance in 2025



Challenges and Opportunities

Challenges

- Storage levels at their lowest in 3 years
- EU receives less Russian gas
- EU storage requirements
- High energy prices (throughout most of 2024/25 heating season, gas prices remained above 2 years) and EU's competitiveness
- EU became more dependent on global gas market
- Competition from buyers in other parts of the world



Opportunities

- EU leaders called EU to intensify efforts to find workable solution taking into account serious concerns from member states
- EU survived a 3rd winter without major disruptions
- Potential lift of US sanctions on Russian LNG, activation of NS2, onshore gas pipelines (Yamal, Ukraine)
- Faster ramp up to US LNG Projects
- Sustainable minimisation of Russian Flows



Natural Gas and LNG Future Outlook - Focus on Southeast Europe

- **Geopolitics:** Unpredictable and not stable geopolitical environment.
- **Demand:** SEE gas demand may decline more slowly than EU average due to delayed coal phase-out and industrial reliance.
- **Volatility:** SEE is more vulnerable to geopolitical shocks and price swings due to limited diversification. Prices are expected to remain volatile. However, price spikes like 2022 are less likely due to diversified supply and strategic storage.
- **Infrastructure Bottlenecks:** Limited interconnectivity, reliance on single entry points + Delayed infrastructure projects may strain seasonal supply.
- **Supply Realignment:** SEE shifting from Russian pipeline flows to LNG as well (low response time, low flexibility) + LNG competition could tighten supply during high-demand periods.
- **Regional LNG Reliance:** Increased dependency on U.S.

Limited upside flexibility for pipeline gas imports + No upside flexibility of indigenous production + Increased Demand

➤ *LNG imports will be the main non-storage source of supply flexibility.*

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