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Natural Gas in the New Energy Order: Trends, Prices and Outlook

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Natural Gas in the New Energy Order: Trends, Prices and Outlook - Agenda

- Global Gas to 2035 – the medium-term outlook
- Europe short-term gas market outlook – Price benchmarks, supply and demand
- Global LNG short–term outlook – Tight balances easing
- Russian Gas Fundamentals and Export Strategy
- The role of gas in China's energy transition
- Discussion and Q&A – The Geopolitics of Gas

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Unless otherwise stated sources are:
IEA, Nexant World Gas Model, OIES Estimates

Global Gas to 2035: The Medium-Term Outlook

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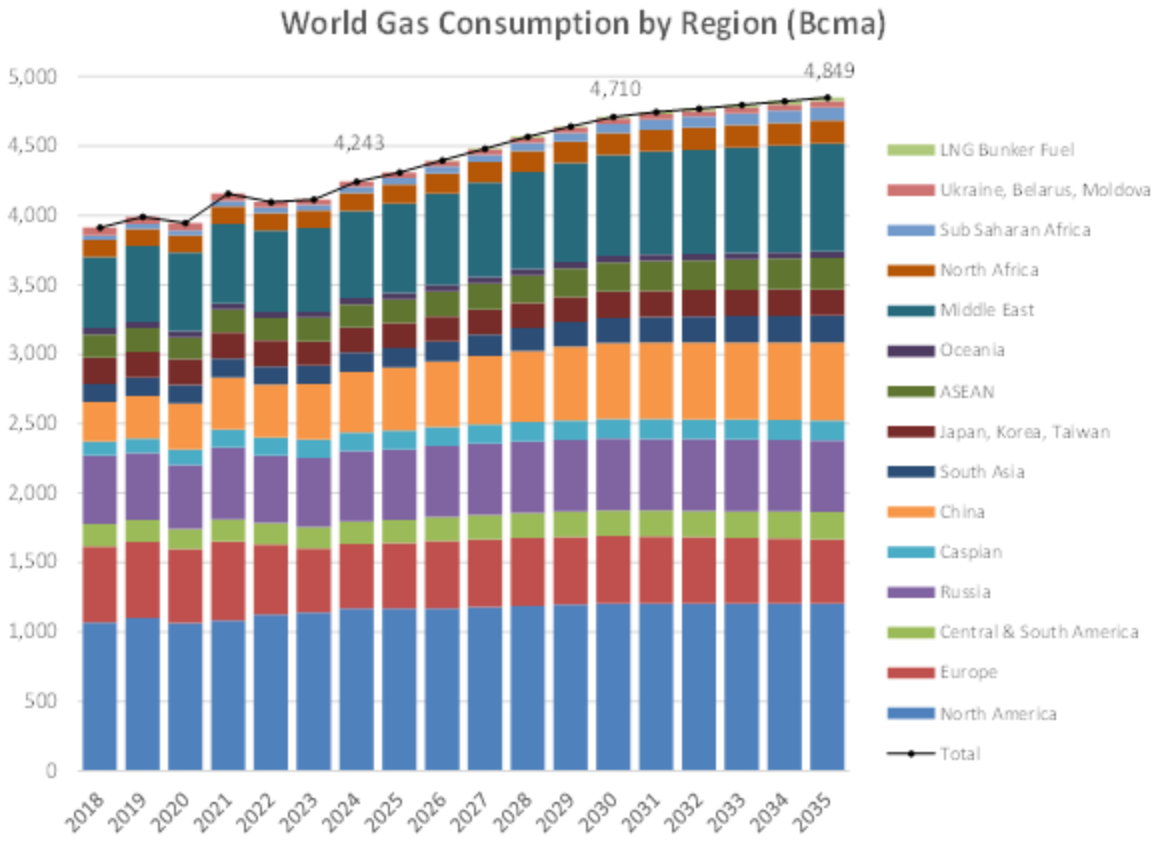
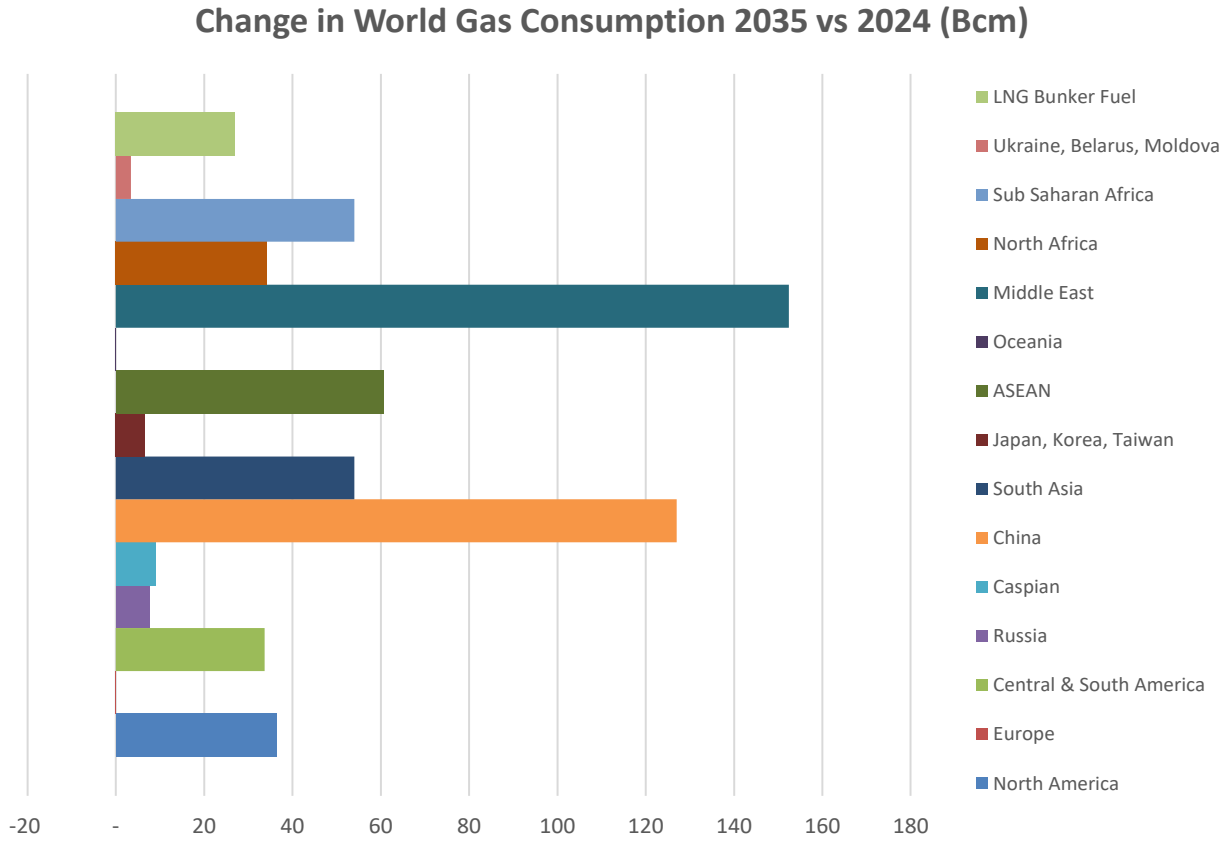
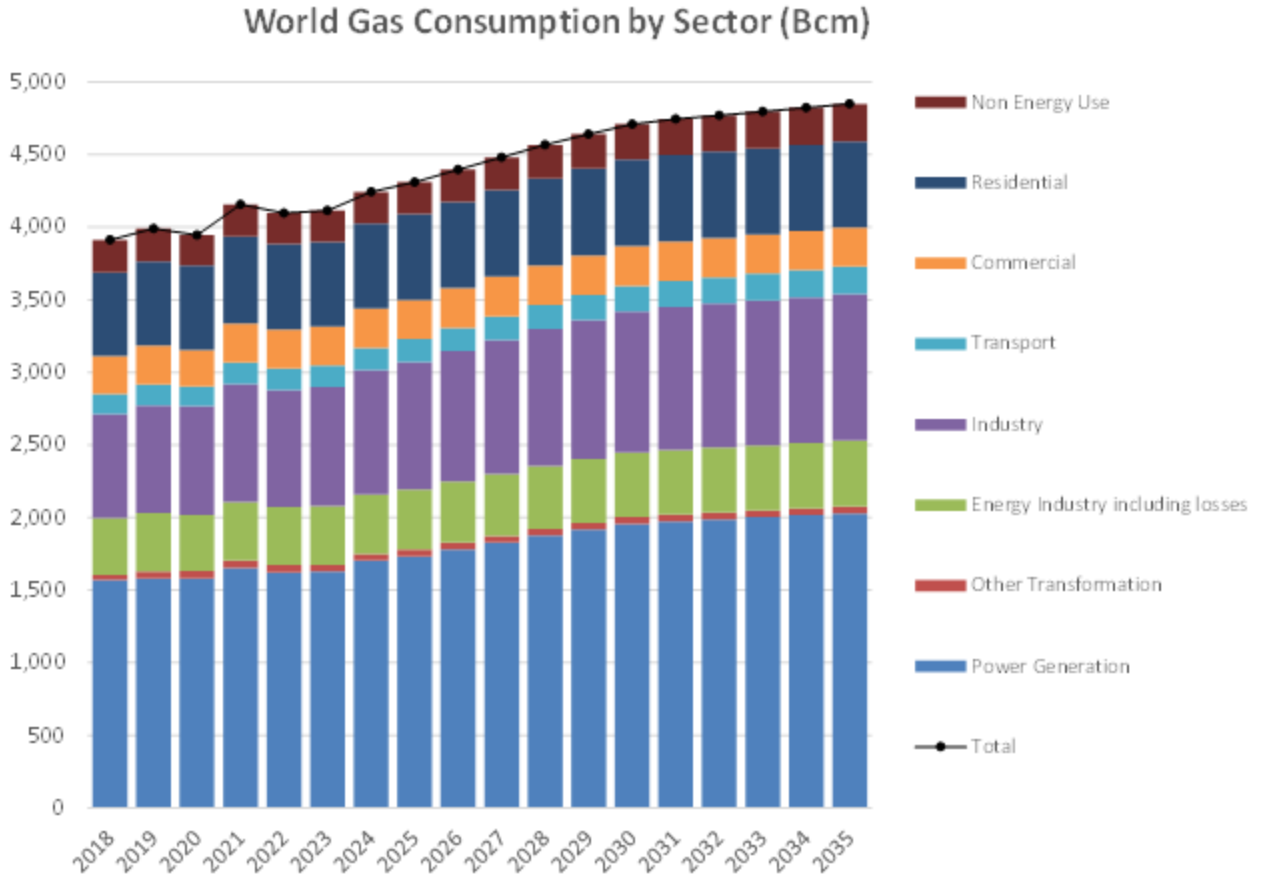
World Demand to 2035 by Region

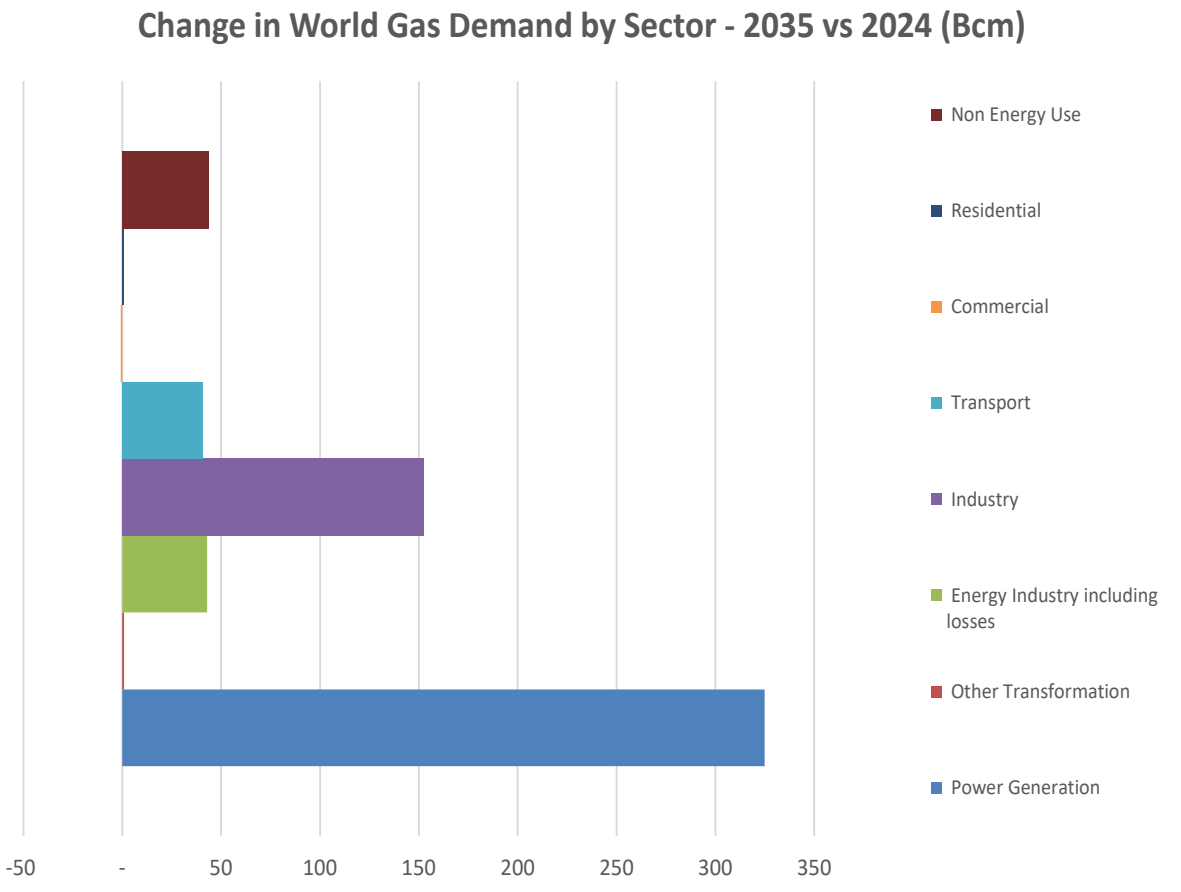




- Growth of 606 bcm (+15%) between 2024 and 2035, of which 45% is in Middle East (+152 bcm) & China (+127 bcm). Supply push & lower prices could spur consumption in ASEAN and South Asia, while Sub-Saharan Africa could see growth in domestic supply in parallel with development of LNG export projects
- European demand is unchanged between 2024-35, following a decline of 112 bcm since 2021. Partial recovery in 2026-2028 (peaking around 490 Bcm) driven by growing LNG supply but is not sufficient to rebound to 2022 level (504 Bcm), let alone pre-crisis 2021 level of 569 Bcm

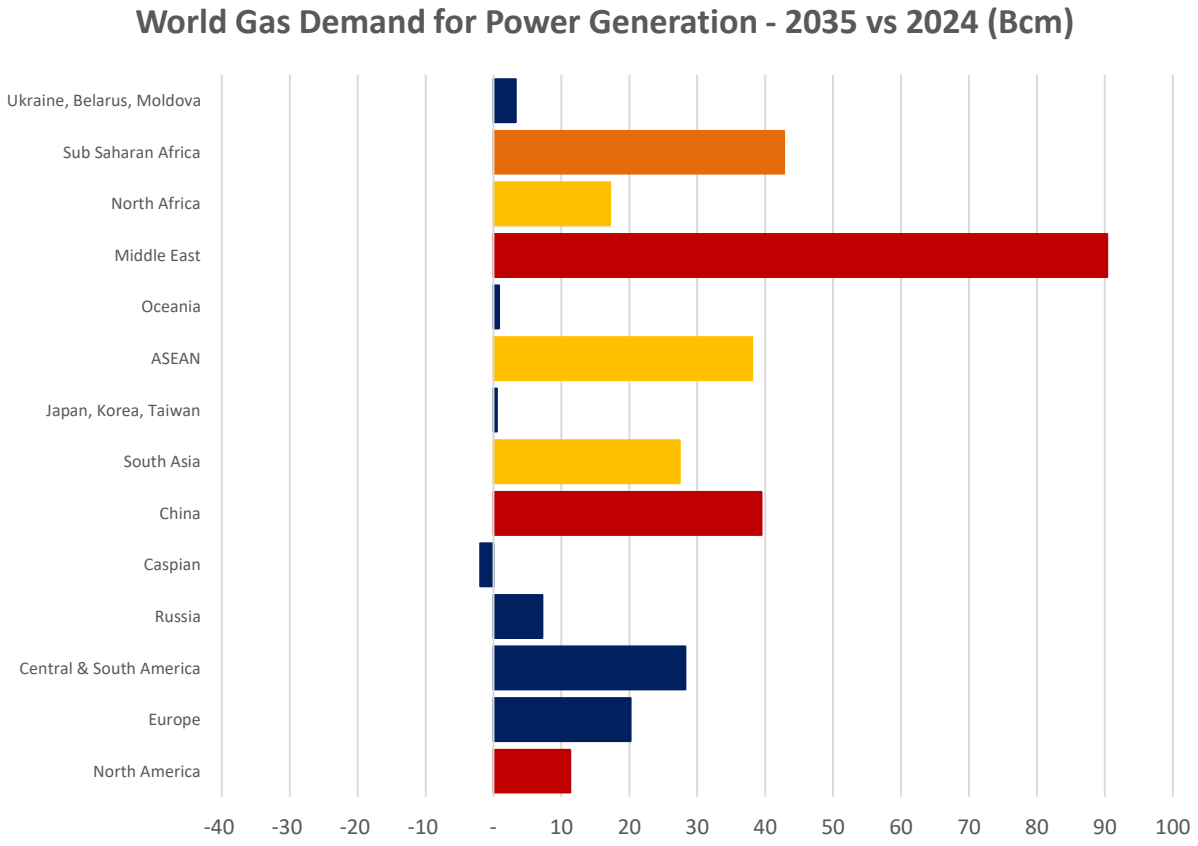
World Demand to 2035 by Sector

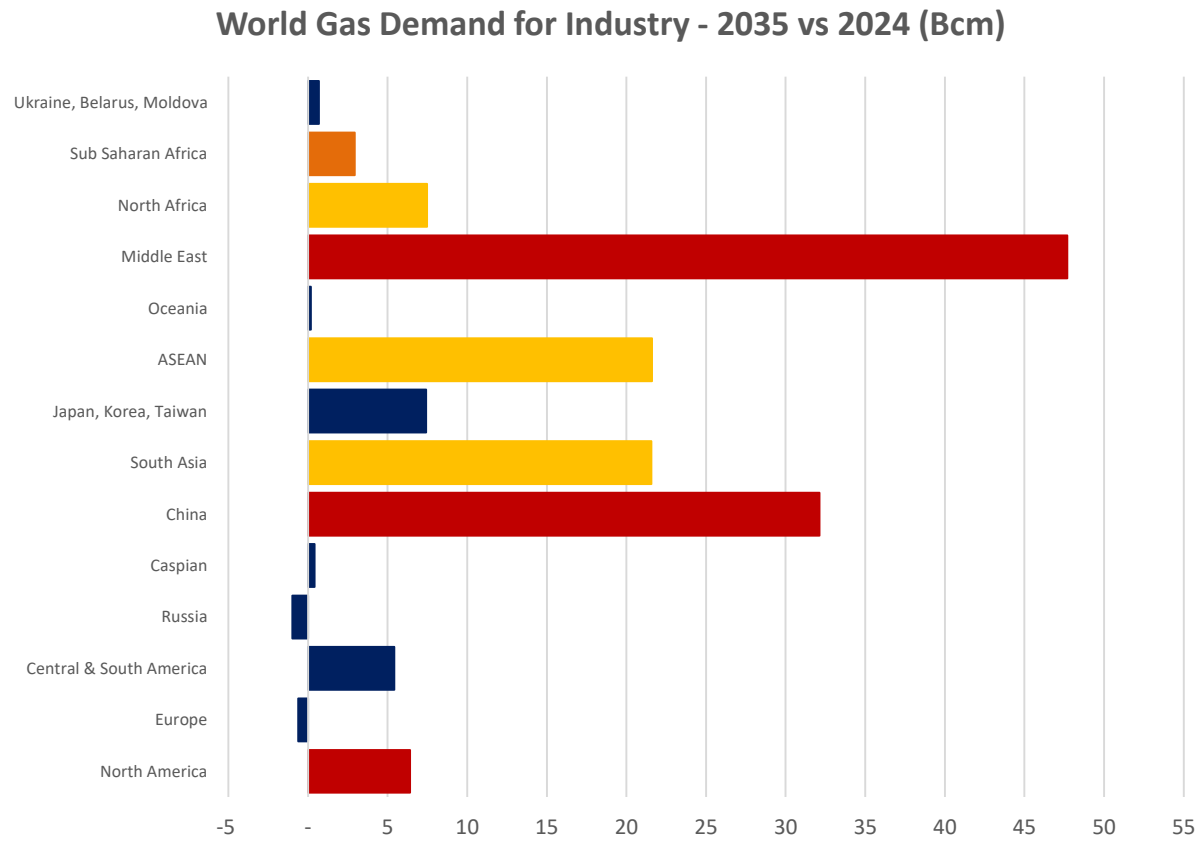




- Growth in demand in 2024 -2025 is concentrated in the power generation (+325 Bcm) and industrial (+152 Bcm) sectors, accounting for 80% of growth in 2023-35
- By contrast, virtually no growth in gas demand for residential & commercial (i.e., space heating) at a global level. Growth in Res-Comm demand in China is offset by decline in Res-Comm demand in Europe & North America in the same period.

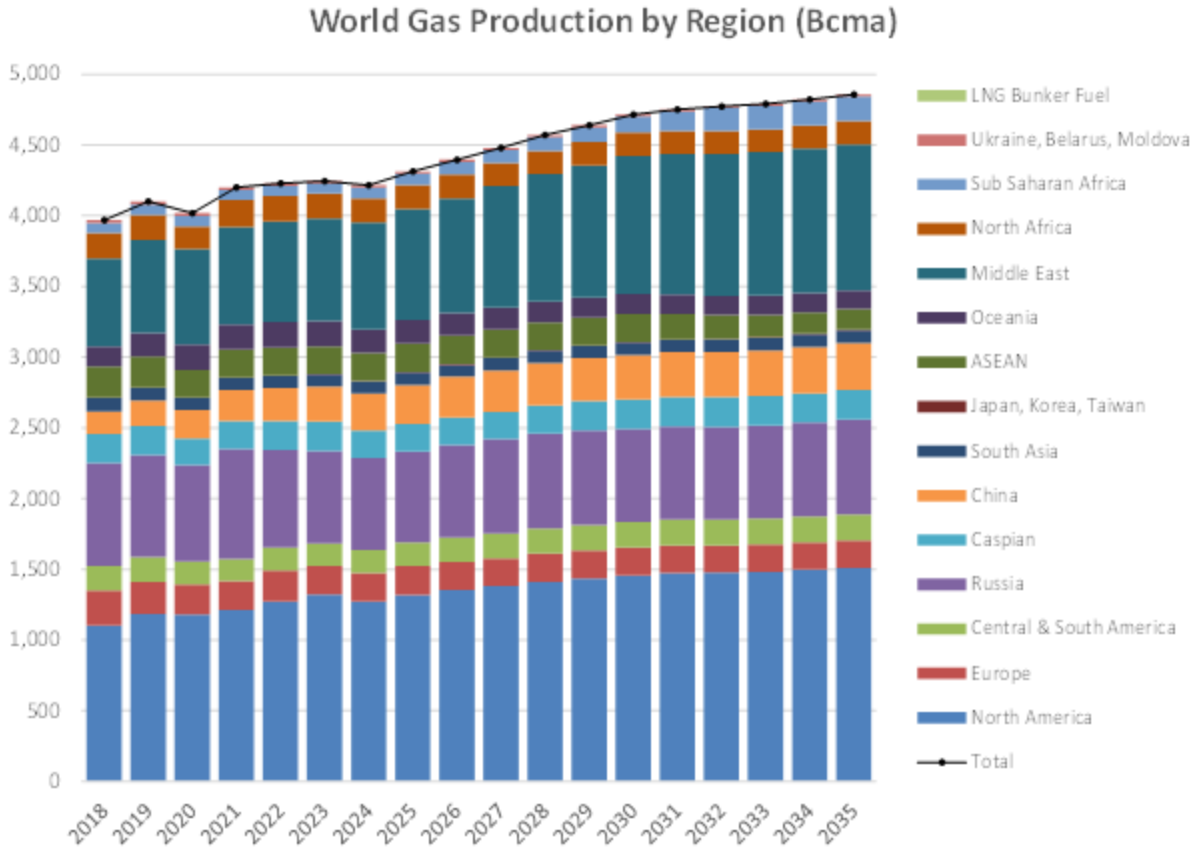
World Demand to 2035 by Sector

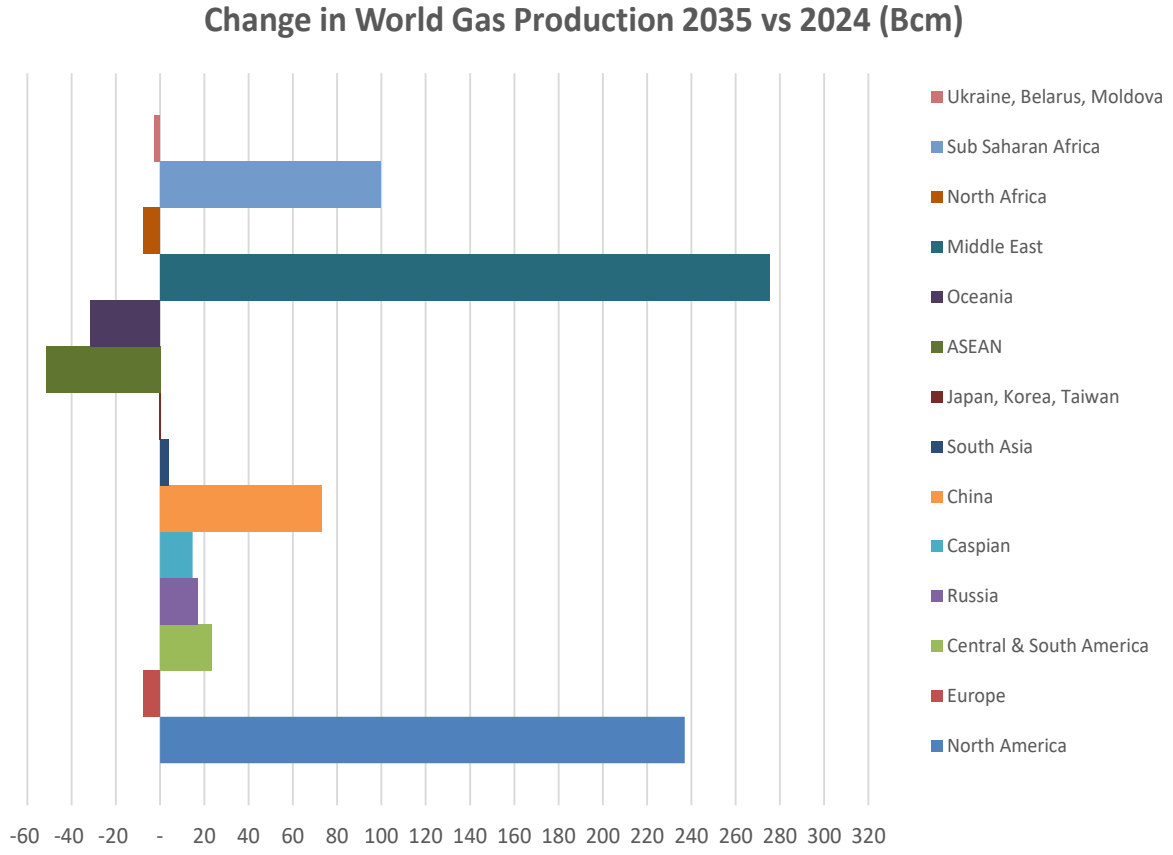




- Growth in gas demand for power generation is strongest in Sub-Saharan Africa, Middle East, and Asia. In Europe, the growth is concentrated in Cyprus, Germany, Italy, Netherlands, Poland, and Turkey. Replacement of fuel oil (Cyprus) and coal, and nuclear phase-out are key factors
- Industrial gas demand grows strongly in North America, Middle East, and Asia, but is lacking in Sub-Saharan Africa. In Europe, Turkey provides most of the growth.

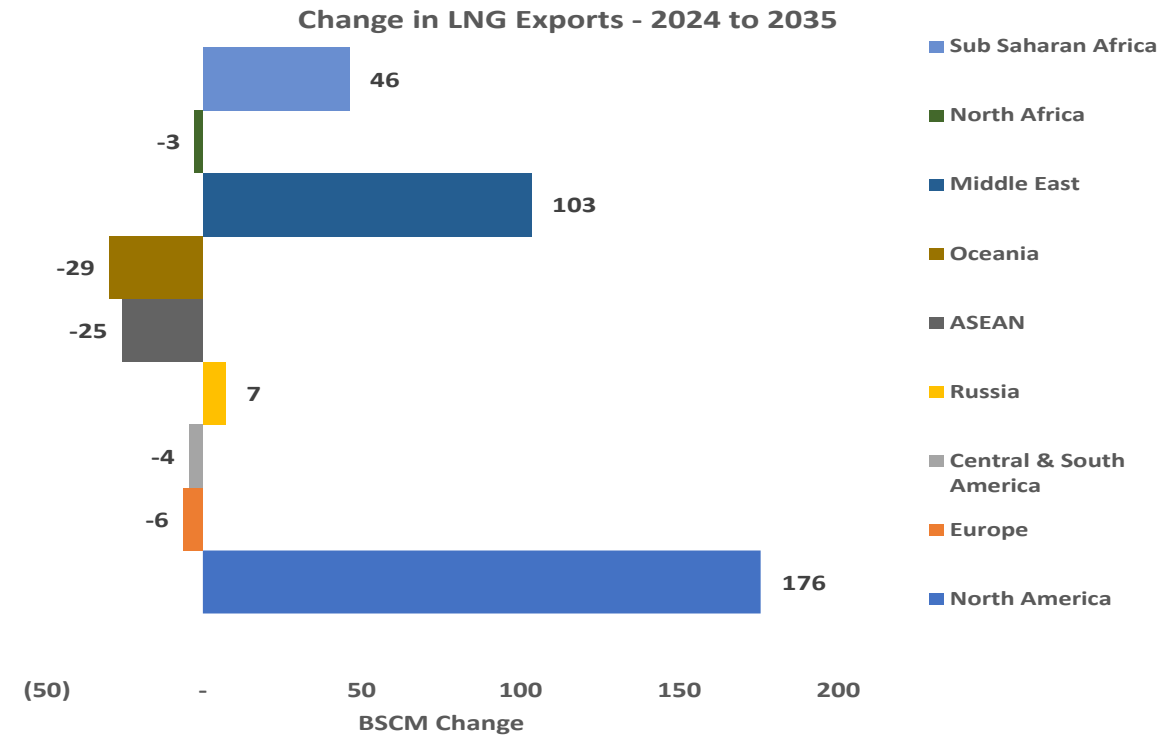
World Gas Production to 2035 by Region

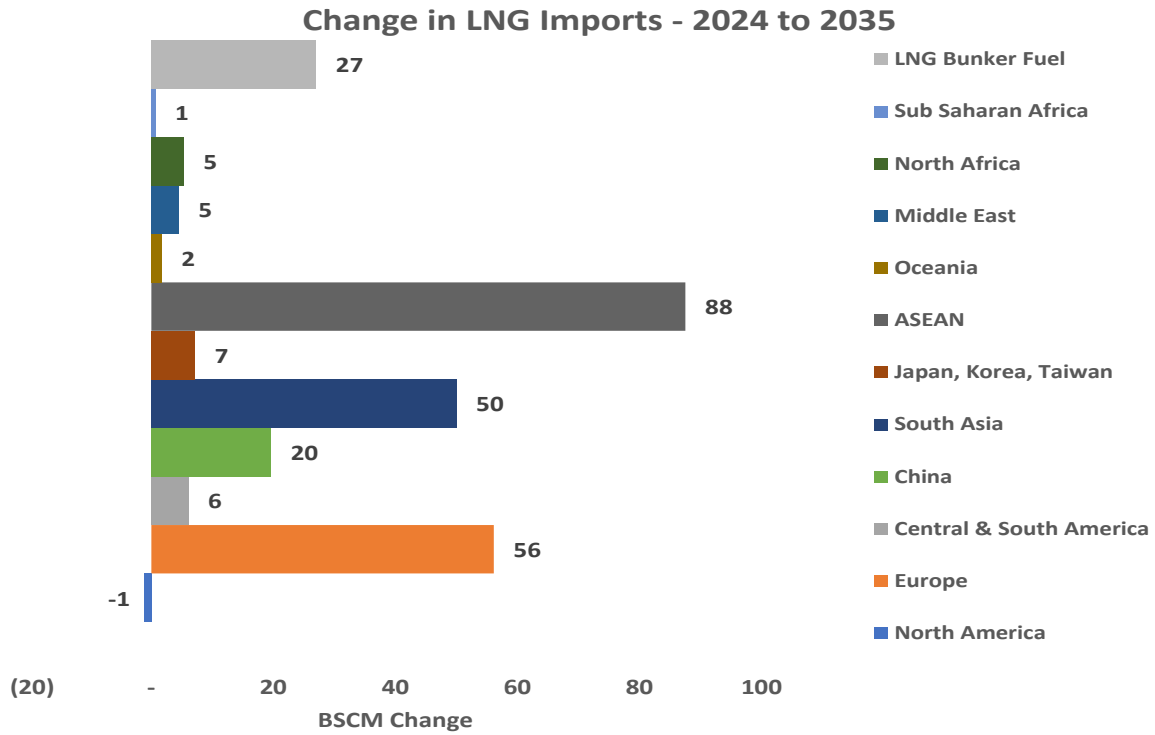




- The Middle East, China, North America, and Sub-Saharan Africa lead supply growth. Chinese production is consumed domestically. Middle Eastern production feeds domestic demand and Qatari LNG exports. North America and Sub-Saharan Africa support rising LNG exports (and power gen in Sub-Saharan Africa)
- Decline in ASEAN and Oceania production feeds into lower LNG exports, particularly post-2030
- Russia's modest growth in production reflects modest growth in domestic consumption & LNG exports

LNG Imports and Exports





- Total LNG import growth between 2024 and 2035 is some 264 bcm, of which 27 Bcm is growth in LNG as bunker fuel.
- LNG export growth follows the rise in export capacity, so North America tops the list, accounting for over half the rise in LNG exports, followed by the Middle East – Qatari expansions – and Sub-Saharan Africa – largely Mozambique, Nigeria, and Tanzania.
- Regarding imports, ASEAN has the most significant increase (76 bcm) as production declines and demand grows. China's growth peaks around 2030 at 132 bcm, declining to 126 bcm by 2035 (20 bcm growth in 2024-35), partly recovering from the 20 bcm decline in 2022 following weak economic activity and lockdowns.
- Europe sees a growth of 56 bcm as production and pipe imports decline. South Asia shows strong growth as prices stimulate demand

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Europe Short-Term Gas Market Outlook

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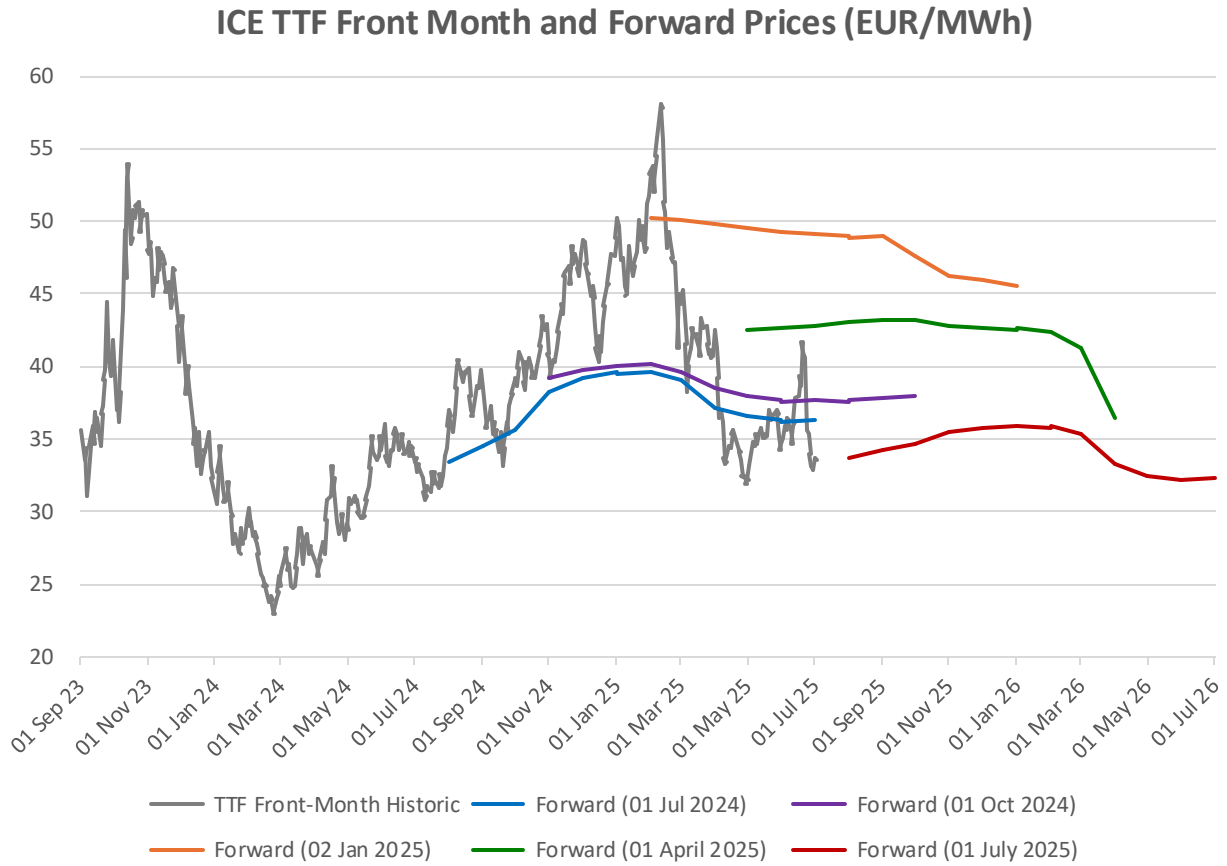
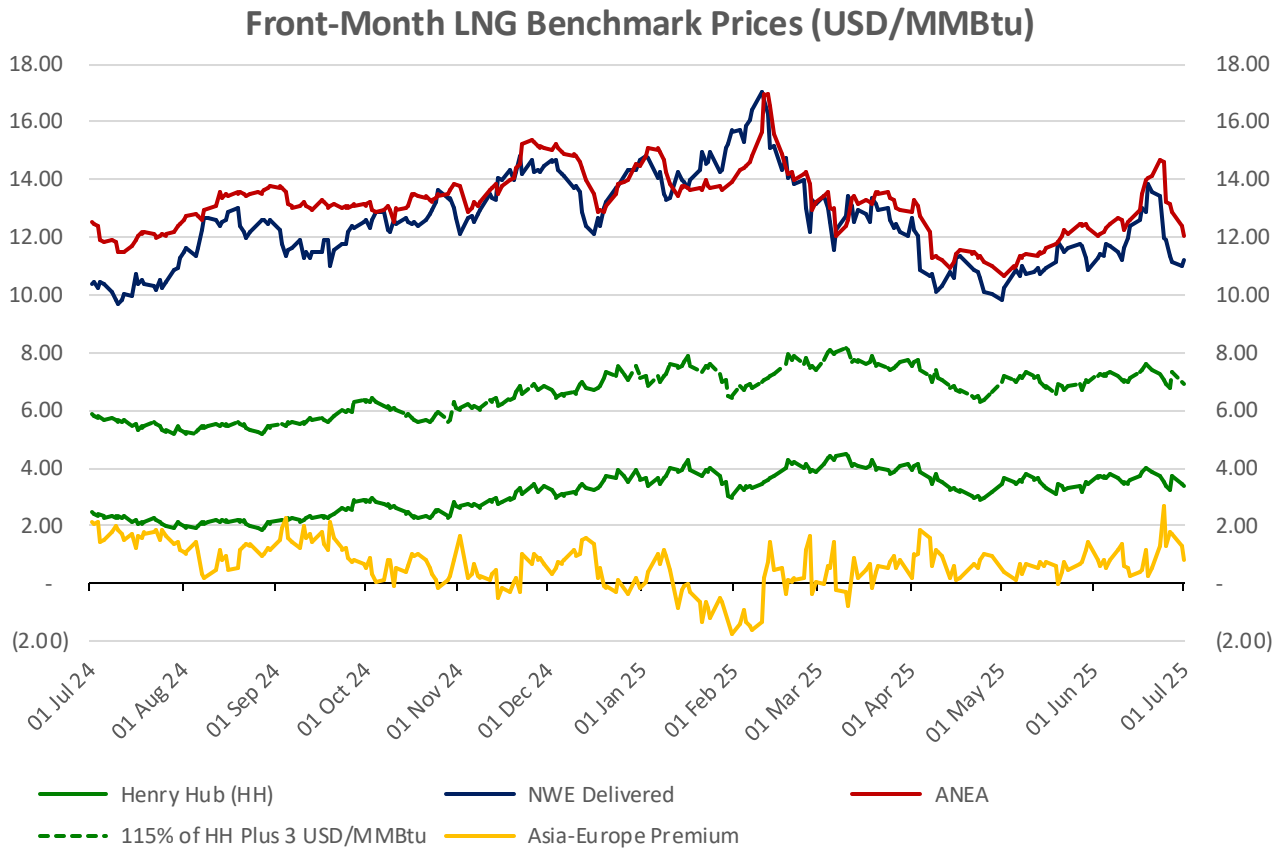
European Gas Prices

Data sources: Argus Direct [subscription required]



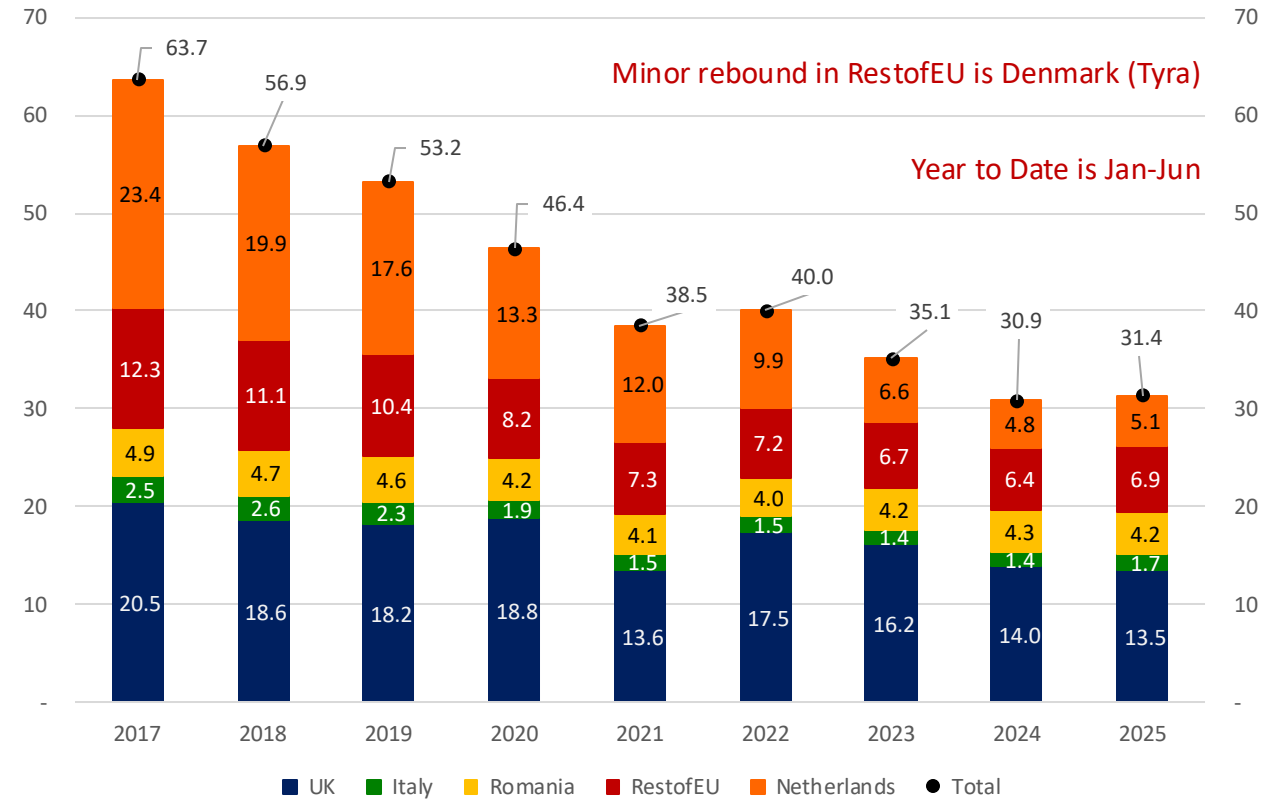


- 2024 price rally was underpinned by a tight global LNG market: limited supply growth and strong demand growth outside Europe
- Flat shape of TTF Summer 2025 forward curve reflects anticipation of need for substantial European storage replenishment, with additional supply sourced from a global LNG market that will not receive substantial new supply until second half of 2025 as new projects ramp up
- **Asian demand in Summer 2025 will influence extent to which European buyers will 'chase the Asian premium' upwards to secure LNG cargoes**

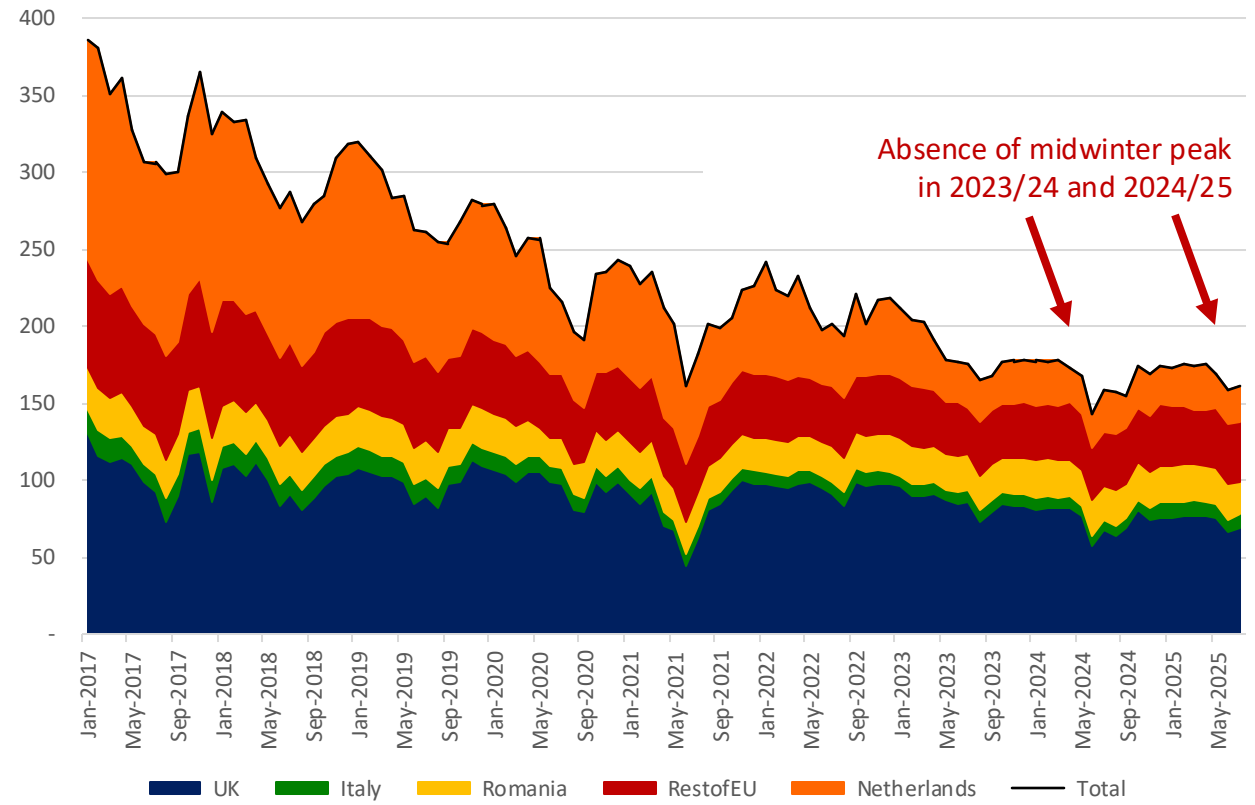
European Gas Production

Data sources: ENTSOG Transparency Platform; Eurostat; Gas Infrastructure Europe (AGSI & ALSI); National Gas Transmission (UK); Kpler LNG Platform

European Gas Production by Source in Year to Date (Bcm)



European Gas Production by Source (MMcm/d)



- Cessation of Groningen production in Oct 2023 means that decline in European production is slowing but not stopping altogether (especially in UK)
- Anticipated start of Neptun Deep (Romania) in 2027, will ramp to plateau of 8 Bcma for consumption in Romania and regional exports
- European gas production in winter 2023/24 lacked a midwinter peak, and production in calendar year 2024 was -9.4% (-6.3 Bcm) year-on-year
- **There is no upside flexibility from production to meet midwinter surge in demand**

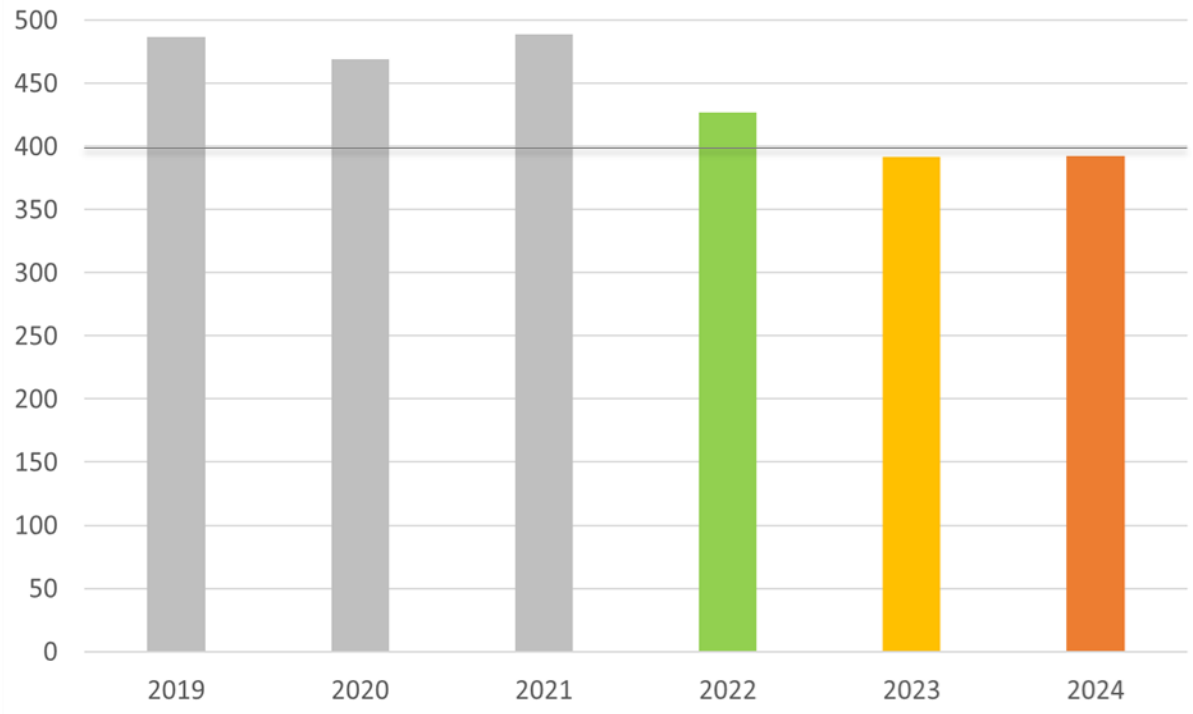
European Gas Market Supply-Side Short-Term Outlook

- **Summary of ongoing trends and near-term outlook:**
  - European production decline has slowed and new supply from Neptun (Romania) will have a regional SE European impact
  - Norwegian pipeline supply back to high winter plateau, and less impactful summer maintenance in 2025 (especially in September)
  - Azerbaijan also close to capacity (except August maintenance) – expansion of TAP possible only when underpinned by new LTCs
  - Uncertain near and mid-term future for North African pipeline supply (production vs domestic demand plus exports)
  - Russian pipeline supply now delivered only via Turkish Stream, which is limited by cross-border bottlenecks in SE Europe
  - Upside supply potential for LNG due to new FSRUs in near term, plus expansion of existing onshore terminals in 2024-2026 and new onshore terminals (Germany) in late 2020s. Global LNG supply growth from late 2025 could facilitate higher imports
  - Anticipate LNG global market tightness to continue through most of 2025 before first benefits of 'supply wave' begin to be felt
  - The 'Summer 2025 Trilateral' determining market tightness is likely to be LNG supply, total consumption, and storage replenishment
- **Key takeaways:**
  - Lack of prompt upside potential of supply from production and pipeline imports means that fluctuations in demand will be met by storage withdrawals & LNG sendout in very short-term and attraction of additional LNG supply by rising prices thereafter
  - European gas market appears balanced but is far from oversupply. Lower storage stocks (year-on-year) imply higher year-on-year LNG imports in summer 2025, in a market that is still waiting for the wave of new supply to be substantially felt
  - Europe is now far more exposed to global LNG trends than ever before, and will be impacted by the balance between global LNG supply growth and non-European LNG demand (primarily in Asia), and by price spreads between European and Asian markets

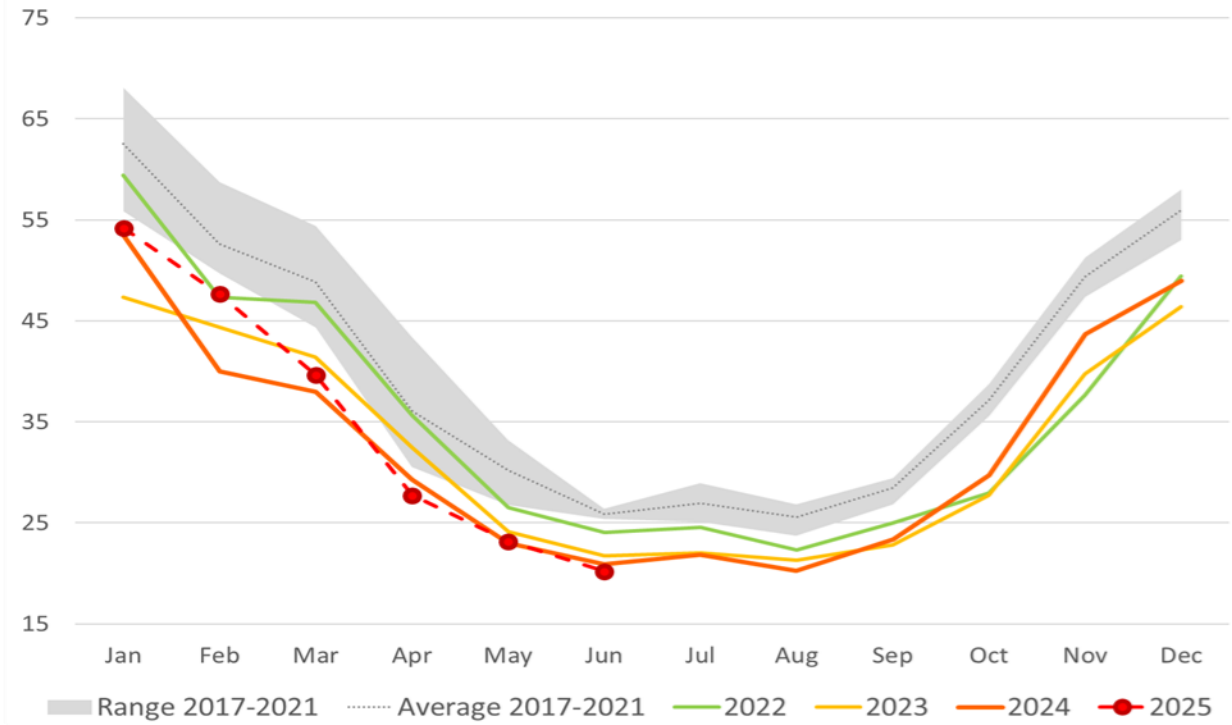
Three years on, gas demand remains well below pre-crisis levels

Sources: A. Honoré (OIES). Data calculated by this author using raw data from various sources, including data from IEA, Eurostat, ENTSOG Transparency Platform, and TSOs. Graph by the author.

Annual gas demand in Europe (bcm)



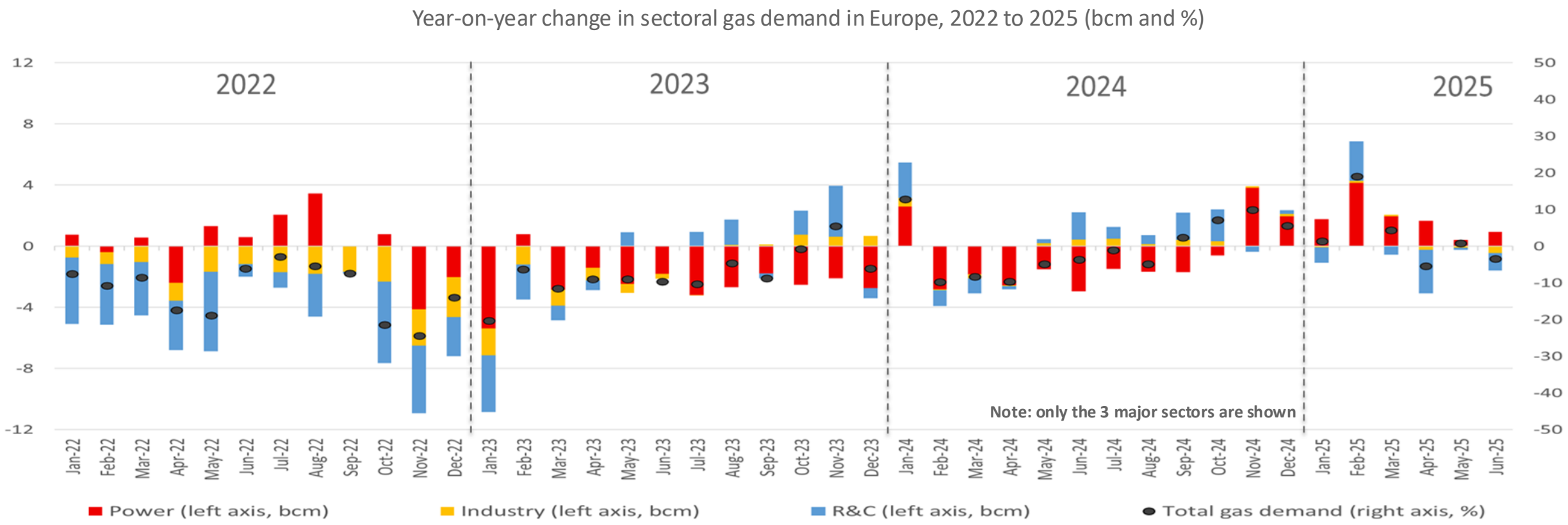
Monthly gas demand in Europe (bcm)



- Gas demand in Europe (EU-27 + UK) remains **well below pre-crisis level**: loss of about 88 bcm compared to 2021 (-18%)
- Gas demand this **winter was over 19 bcm higher** than last year (+8%)
- Gas demand up by almost **8 bcm in H1 2025** (+4%)

Up and downs: the power sector is now the main driver

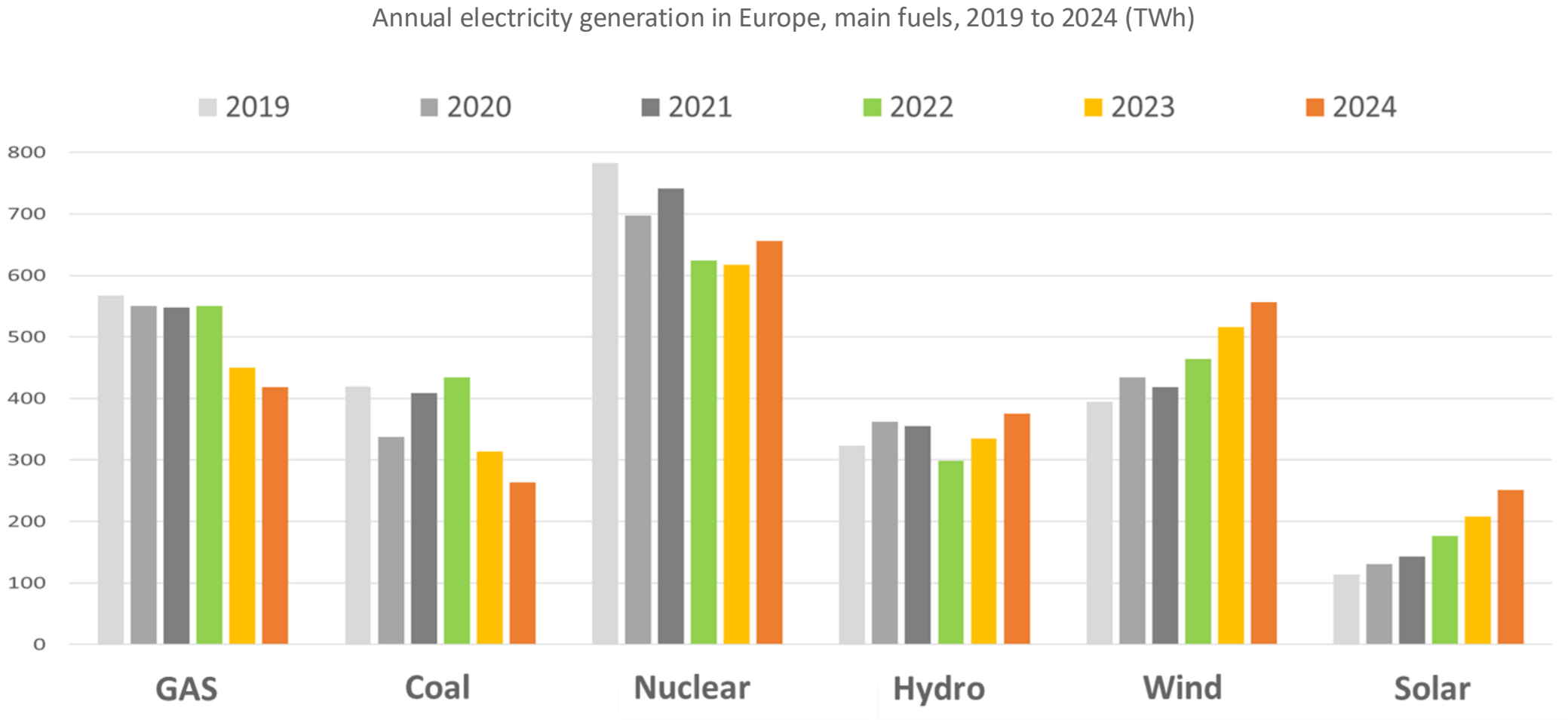
Sources: A. Honoré (OIES). Data calculated by this author using raw data from various sources, including data from IEA, Eurostat, ENTSOG Transparency Platform, and TSOs. Graph by the author.



- Industrial sector: decline in 2022, (very) limited rebound since then, muted this winter
- Residential and commercial: rebound in commercial, and impact of cold temperatures this winter (heating), but still below pre-crisis
- **Power sector is the most interesting sector**, going through important and rapid transformation

Major transformation of the European generation mix

Source: A. Honoré (OIES). Data calculated by this author using raw data from ENTSOE Transparency Platform, Gridwatch and NESO. Graph by the author.



- Changes in installed capacity amid energy transition => **Structural changes** in electricity mix

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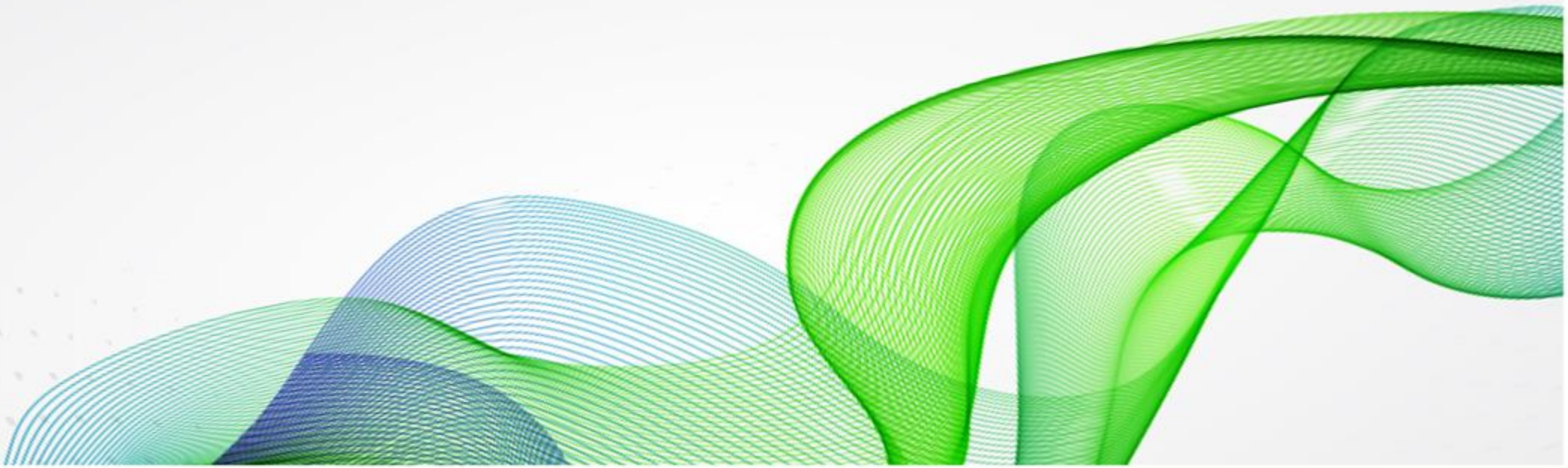
Global LNG Market Short-Term Outlook:

Tight Market Easing Amid Supply Growth and Weakening Asian Demand



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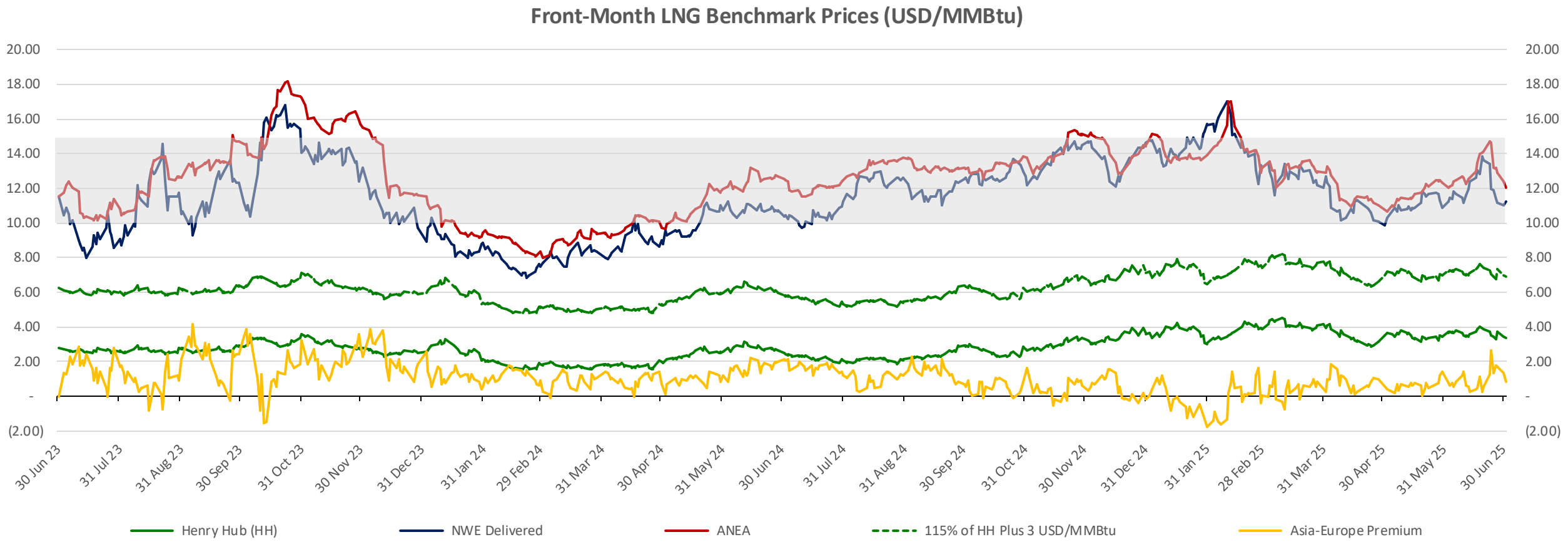
Global LNG Benchmark Prices (Daily)

Data Source: Argus

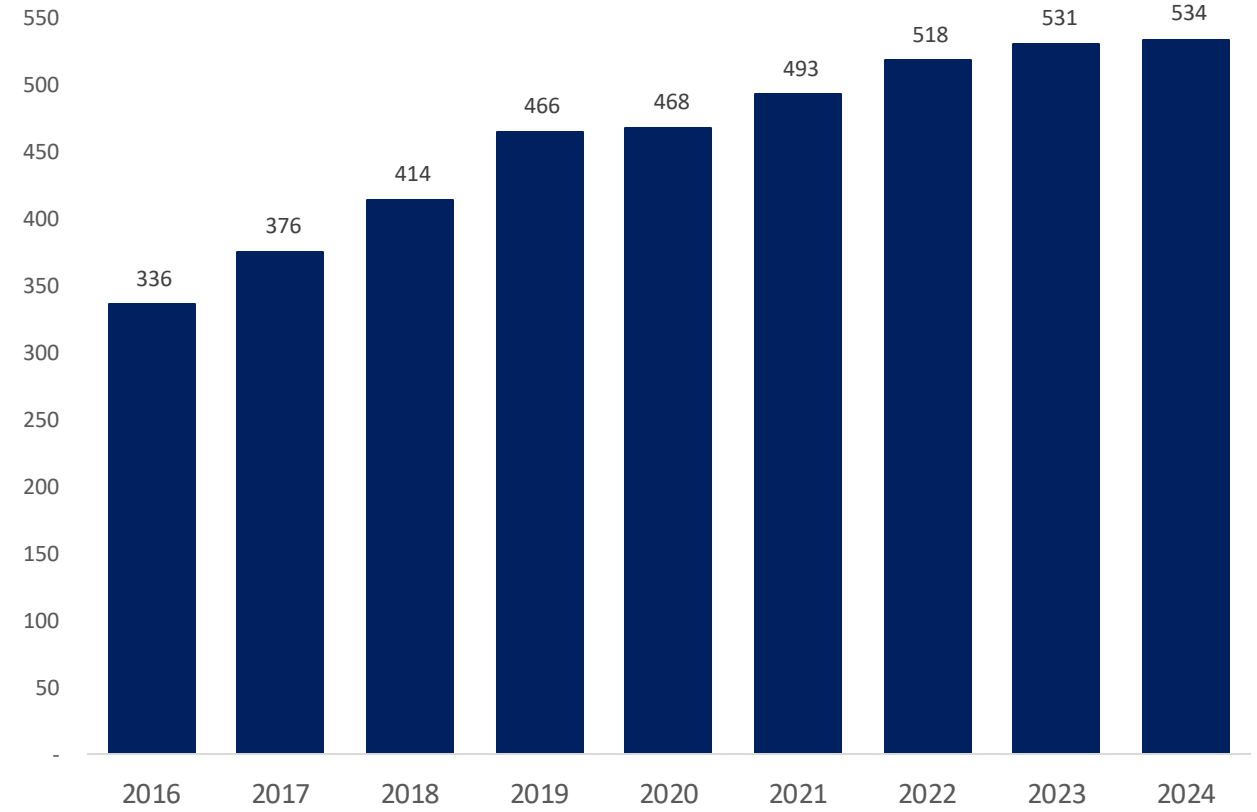


- Through Summer 2024, Asian premium was clear incentive for destination-flexible LNG to choose Asia over Europe
- Winter 2024/25 saw a closer convergence of LNG prices for Europe, and Asia, as Europe tightened and chased the Asian prices upwards
- Combination of y-o-y slump in Chinese demand since Nov-2024 and increase in supply since Jan-2025 brought the price rally to an end…
- … but robust European demand for LNG in Q1-2025 and into summer 2025 has helped put a floor under benchmark prices

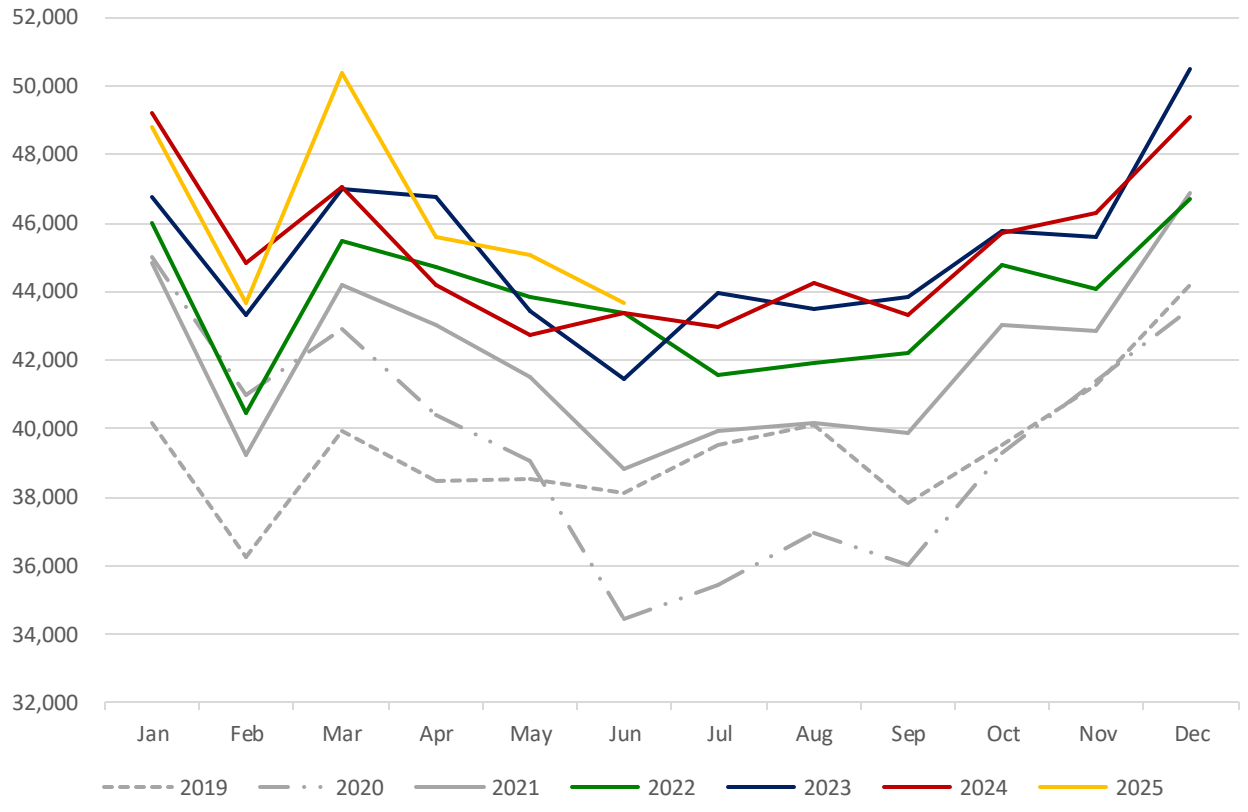
Global LNG Supply (Net Exports)

Data source: Kpler LNG Platform
For each country, monthly net exports are gross exports minus gross imports.
For every country, positive net exports contribute to a global monthly net export.
Global monthly net exports are then combined into an annual global net export figure.

Annual Global Net LNG Supply (Bcm)

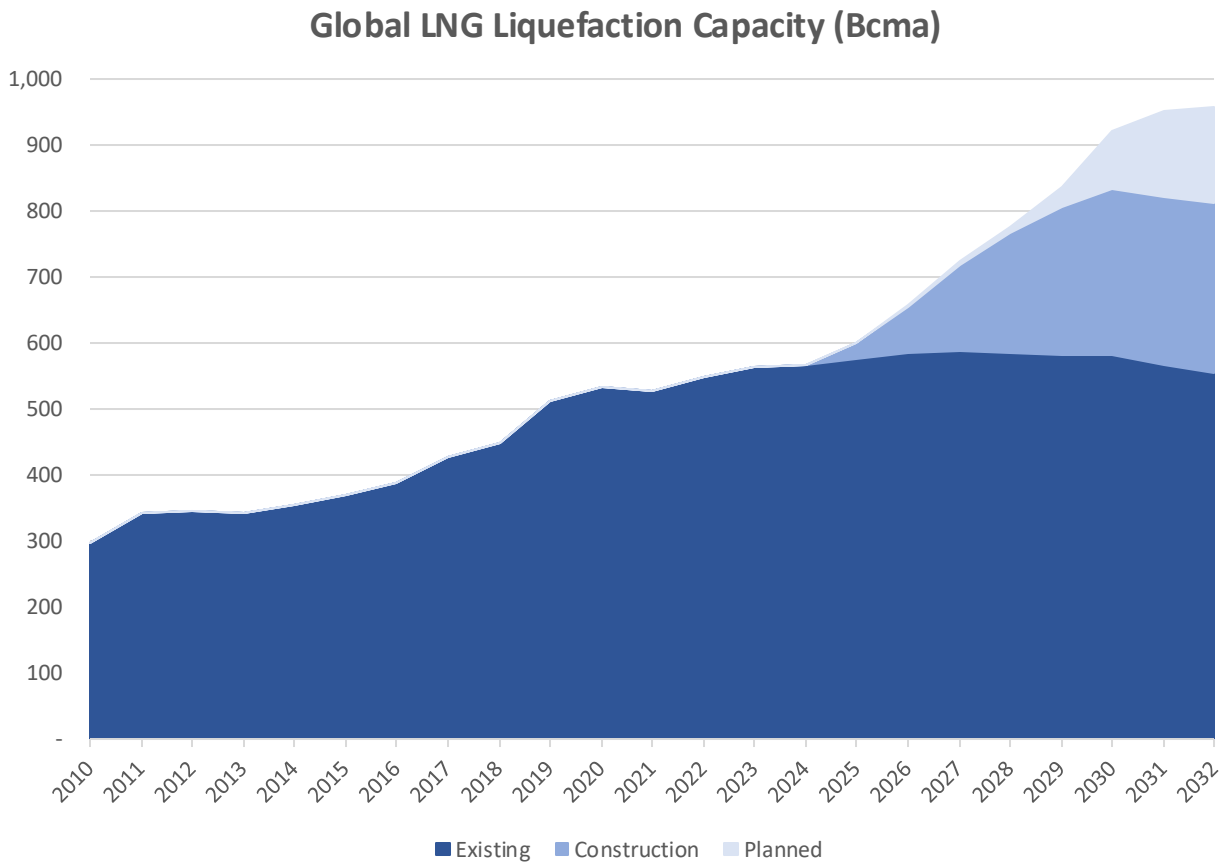


Monthly Global Net LNG Supply (MMcm)



- Net LNG Supply: Monthly net LNG exports (monthly gross exports minus gross imports), with re-exports from importers removed
- Year-on-year growth in net LNG supply of 10-12% (2017-2019), 0.3% (2020), 6% (2021), 4% (2022), 3% (2023), and 0.4% (2024)
- Global net LNG supply in January-February 2025 was virtually flat year-on-year, providing impetus to the price rally that peaked in Feb 2025
- **Higher y-o-y LNG supply since March helped European and Asian benchmark LNG prices fall back from their February 2025 peak**

LNG Export Projects to Watch: 2025-2031



- **2025:** Plaquemines Phase 1 (13.3), Corpus Christi Phase 3 T1-4 (6.0), Tortue FLNG (2.3), LNG Canada T1+2 (14.0)
- **2026:** Plaquemines Phase 2 (6.7), Corpus Christi Phase 3 T5-7 (4.5), Corpus Christi Phase 3 T8+9 (3.0), Corpus Christi Phase 3 Debottlenecking (2.0), Golden Pass T1+2 (12.0), Qatar NFE T1+2 (16.0), Energia Costa Azul (3.25), Pluto 2 (5.0), FLNG Congo Brazzaville (2.4), Cap Lopez Gabon (0.7)… and Arctic LNG 2 T1+2 (13.2)?
- **2027:** Qatar NFE T3+4 (16.0), Golden Pass T3 (6.0), Sabah ZLNG Malaysia (2.0), Kasuri FLNG Indonesia (1.2), Altamira FLNG 2 (1.4)
- **2028:** Qatar NFS T5+6 (16.0), Port Arthur T1+2, United States (13.0), Nigeria LNG T7 + debottlenecking T1-6 (7.6), Cedar FLNG, Canada (3.3), Woodfibre, Canada (2.0), FLNG Hilli Episeyo, Argentina (3.0)
- **2029:** Ruwais UAE (9.5), Woodside Louisiana Phase 1 (11.0), Marsa LNG, Oman (1.0), Rio Grande Phase 1 T1-3 (17.6), Calcasieu Pass Phase 2 (10.0), Oman Sur T4 (3.8)
- **2030:** Mozambique T1+2 (13.0), Qatar NFW T7+8 (16.0), Woodside Louisiana Phase 2 (T3) (5.5), Papua LNG, PNG (4.0) , Delfin FLNG (3.25), Rio Grade Phase 2 T4+5 (10.7)
- **2031:** Rovuma T1-2 (18.0), Tanzania T1+2 (10.0)

Note: Capacities in Mtpa per year given in brackets. Red indicates pre-FID.

- Global LNG liquefaction capacity is set to grow by 100 bcma from c.557 Bcma at the end of 2024 to 657 Bcma by the end of 2026
- This global LNG capacity is likely to reach at least 770 Bcma by the end of 2028, based on projects already under construction
- The potential range for 2030 is wider, as it include pre-FID projects (listed in red, above)
- Growth of 50% between end of 2024 and end of 2030 would be 850 Bcma of capacity – the midpoint between 'construction' and 'planned' in the graph above

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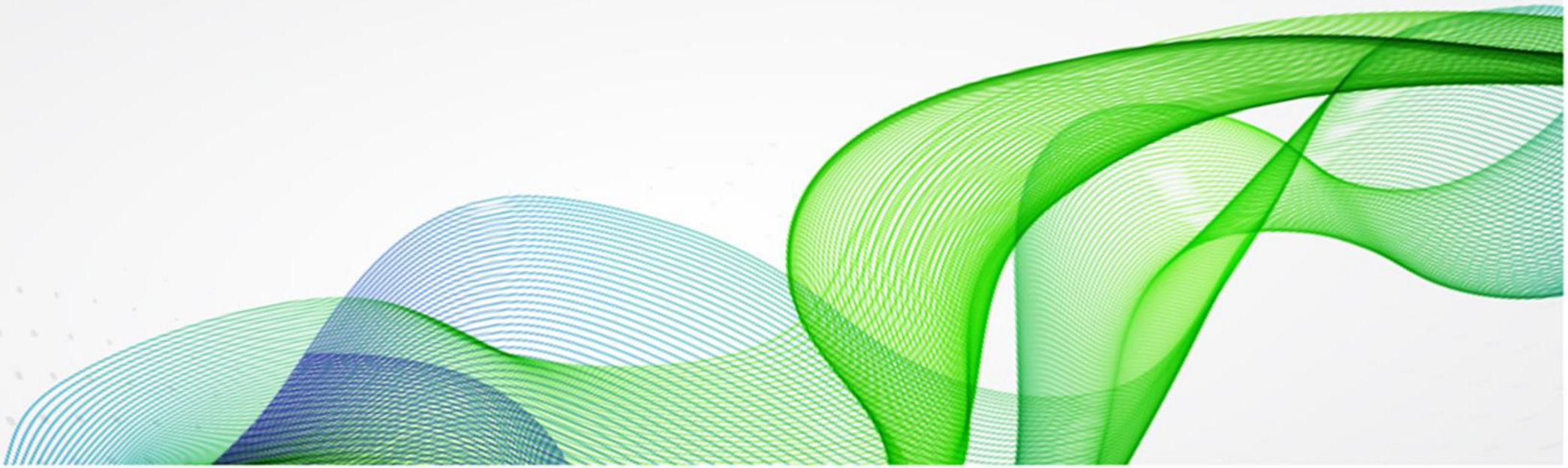
Russian Gas Fundamentals and Export Strategy



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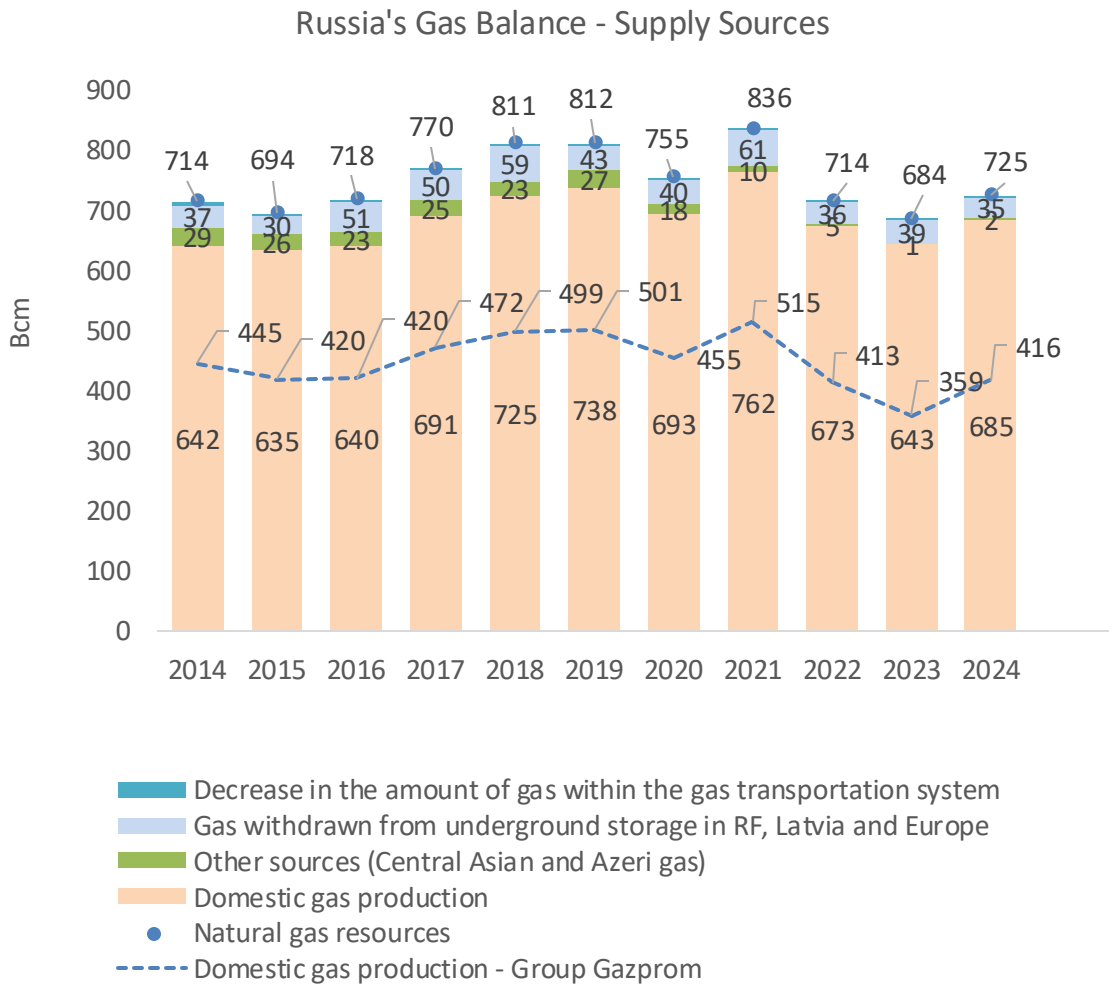
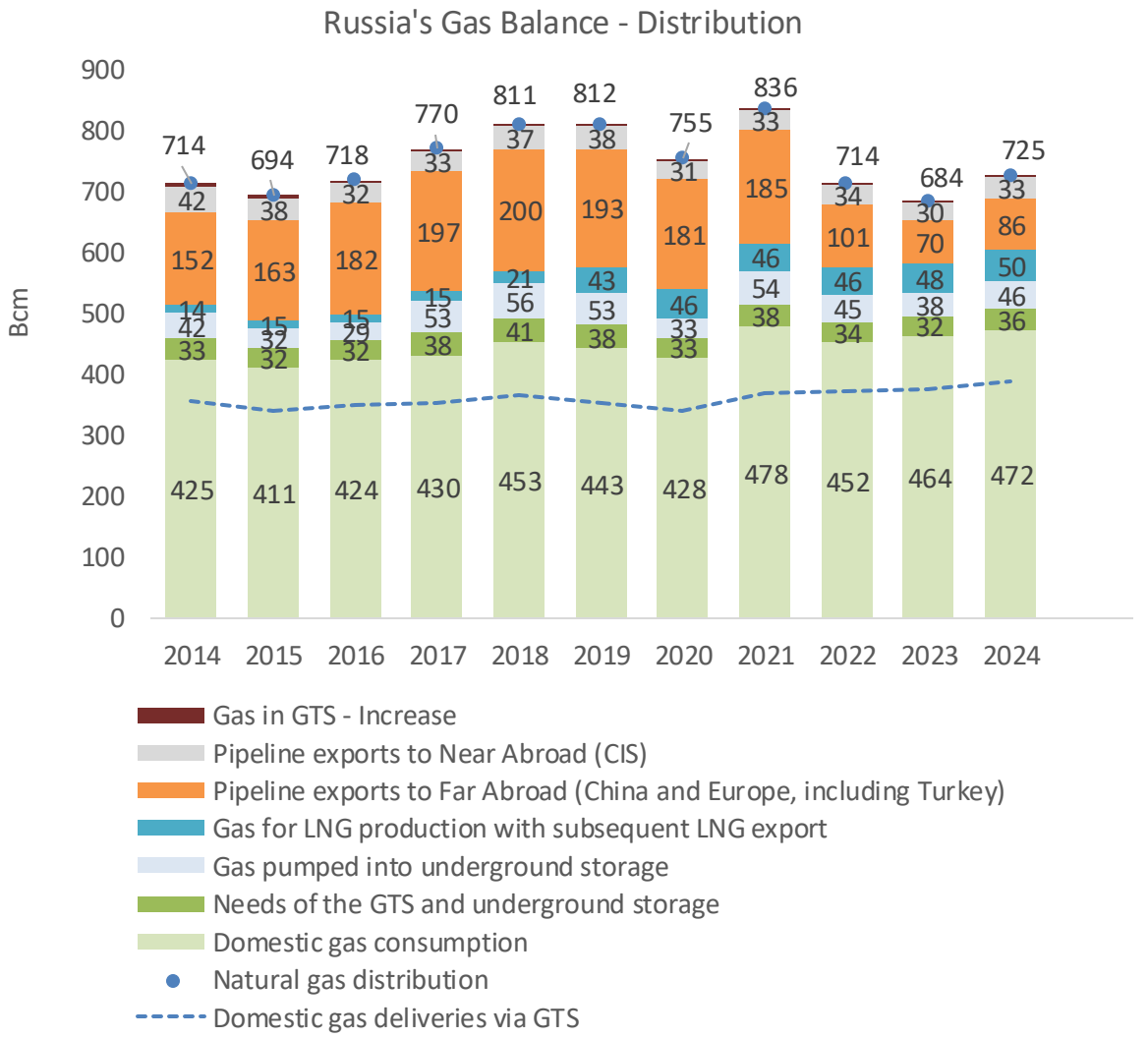
At the crossroads: political resolution of the Ukrainian conflict might unlock exports of Russian pipeline gas and LNG

- Constraints on Russia's near-term gas export strategy are primarily political
- Possible grand deal between Trump and Putin based on pragmatic geopolitical considerations could trigger multiple game-changing events and eventually allow for a bounce back in Russian pipeline gas and LNG exports
- Russia’s spare gas productive capacity in theory allows for significant immediate ramp up of pipeline exports to Europe which could drastically lower gas prices, but current EU political leaders oppose this
- Conversely, continued conflict and lack of the resolution may result in further escalation of the sanctions and lower short-run outlooks for Russian gas in Europe
- Even without formal removal of sanctions on Russian LNG, lack of strict enforcement of secondary sanctions by US on potential buyers might allow Arctic LNG 2 to increase sales to Asia
- Drivers for longer-term developments are economic fundamentals, Russia remaining one of the leading global gas producers and exporters, but firmly re-oriented towards Greater Eurasia instead of Europe.

Russia’s gas balance in 2014-2024

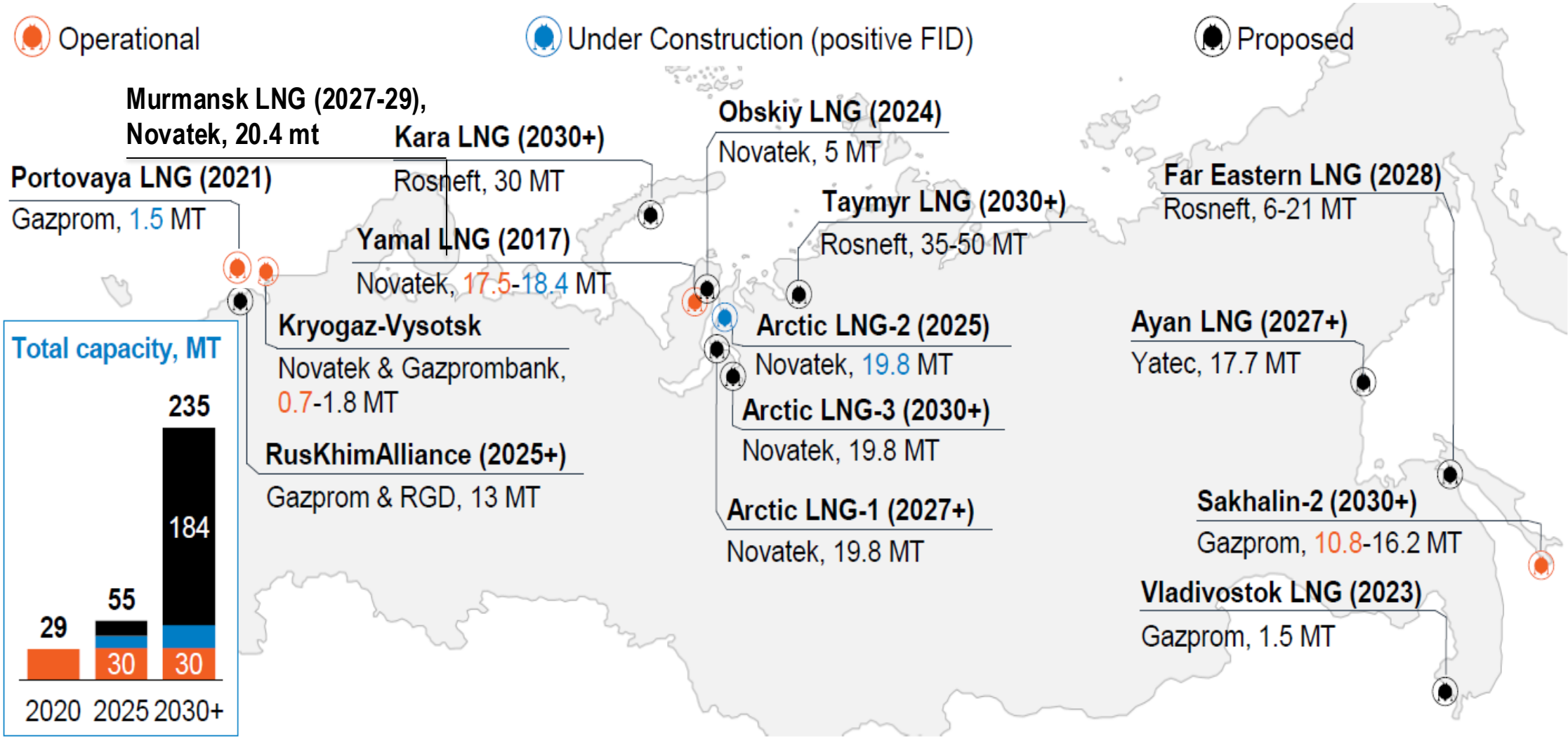




Source: OIES, data from various reports by CDU TEK, Gazprom, author’s estimates for 2024

Russian pipeline gas network and LNG plants: Pivot East will be neither easy nor fast

Russia's LNG strategy: delayed or derailed? Russia aims at 70+ mt of LNG capacity in the early 2030s but logistics is weak link and marketability of sanctioned cargos is main risk



Source: Vygon Consulting

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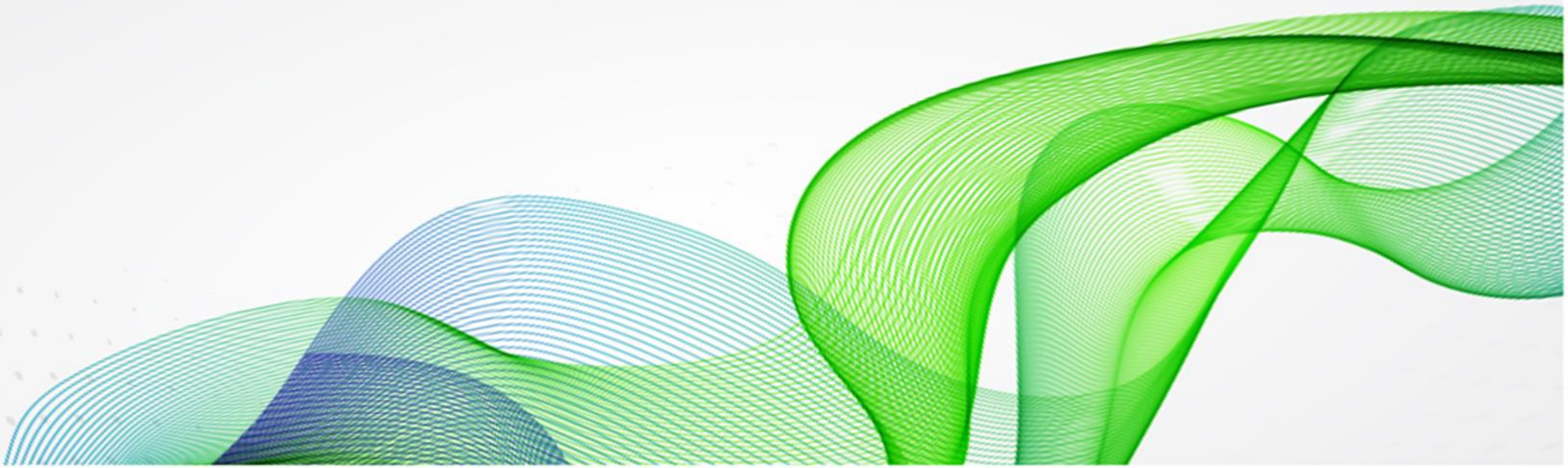
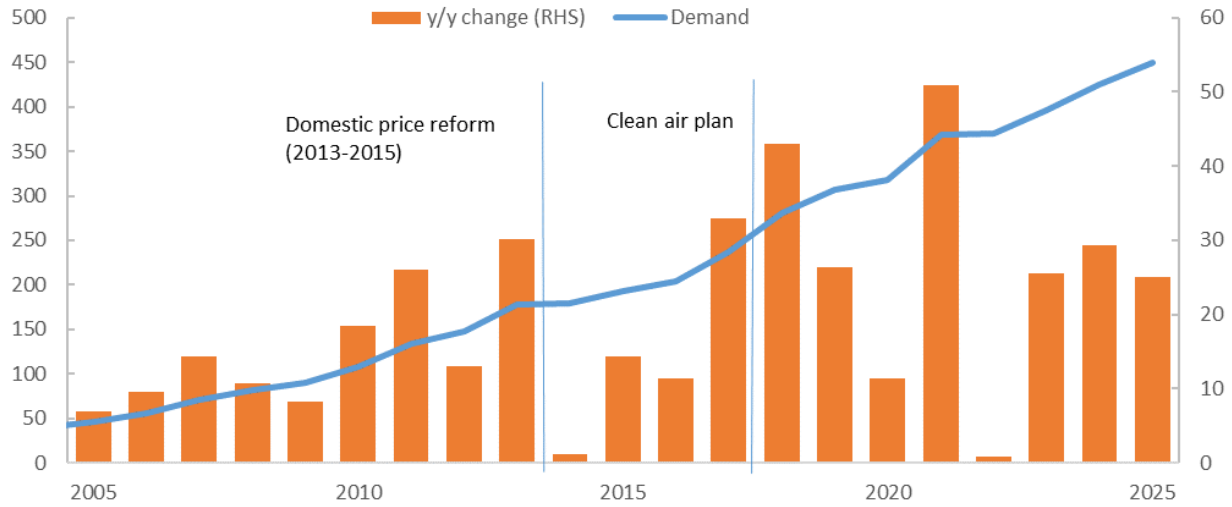
The role of gas in China's energy transition



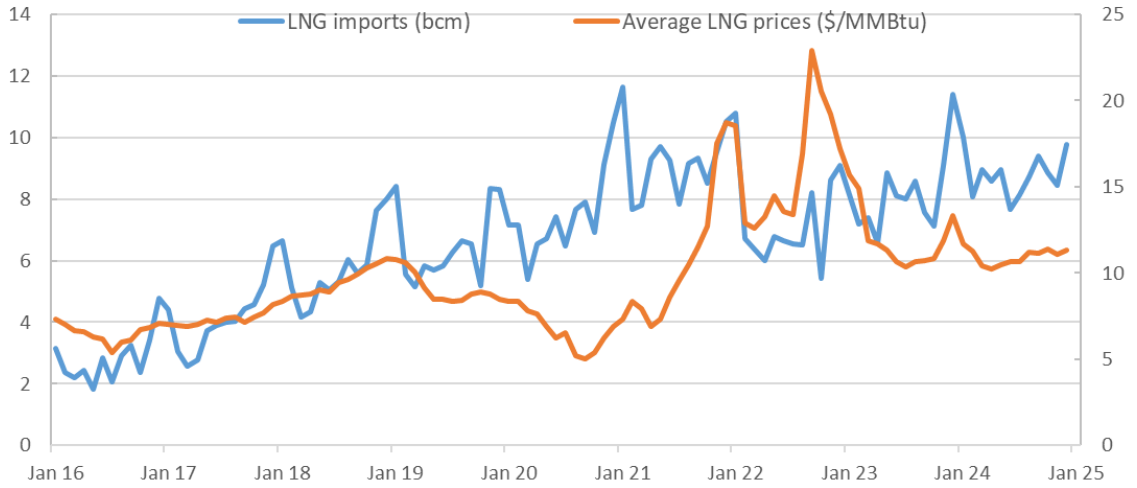
OIES CHINA ENERGY PROGRAMME

The drivers of China's gas demand

China gas demand and y/y change, bcm



China LNG imports (bcm) and LNG delivered price ($/MMBtu)

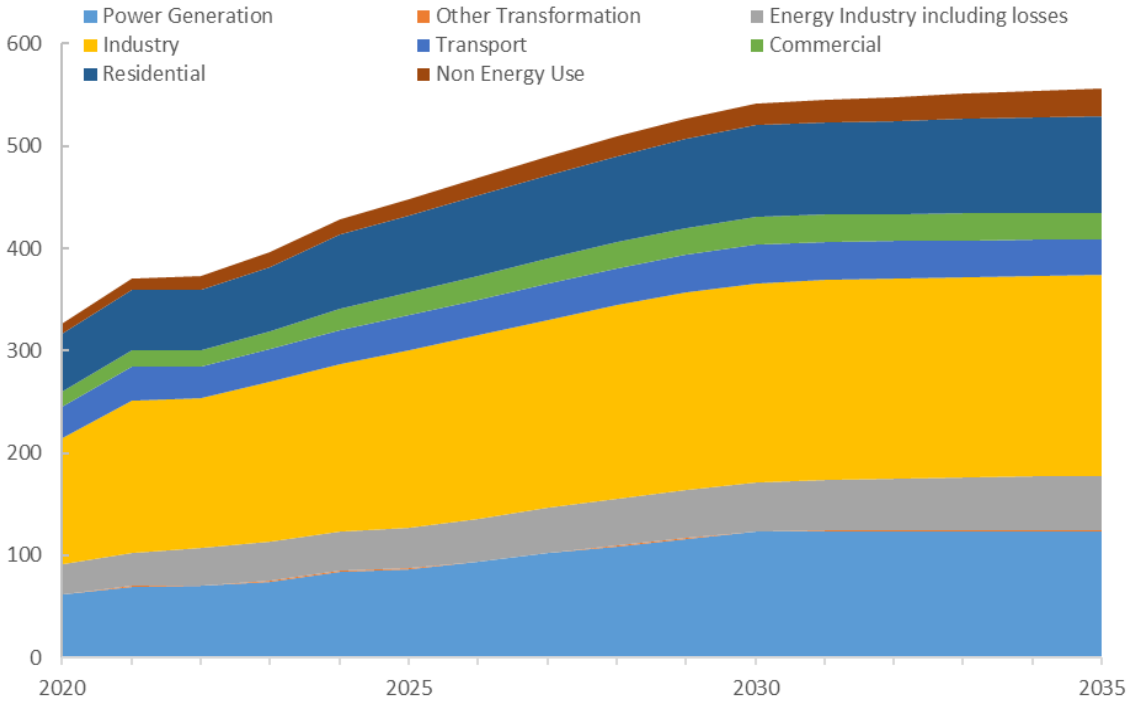


Source: NBS, NDRC, OIES

- Is China's gas demand policy driven or price driven?
- The 2017-2018 Clean Air Plan led to a surge in gas consumption even as prices spiked because there was a coal-to-gas fuel switching policy mandate.
- Was the diesel to LNG fuel switching in trucking in 2024 policy driven or price-driven?
- LNG imports and prices are inversely correlated, with the exception of winter
- Policies that play a key role: macroeconomic policies and policies in support of gas (13th FYP)
- Fuel-switching away from coal, oil – favours gas when supply and prices are right

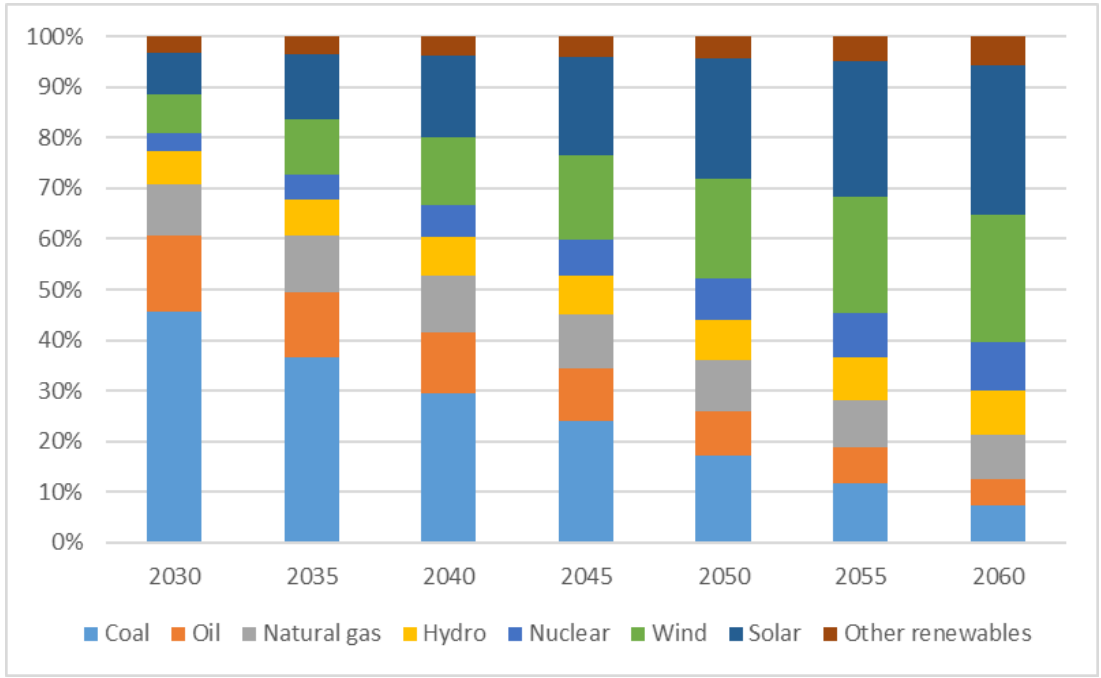
Gas demand continues to grow

China gas demand outlook, bcm



Source: IEA, NBS, NDRC, Nexant WGM, OIES

China's future energy mix

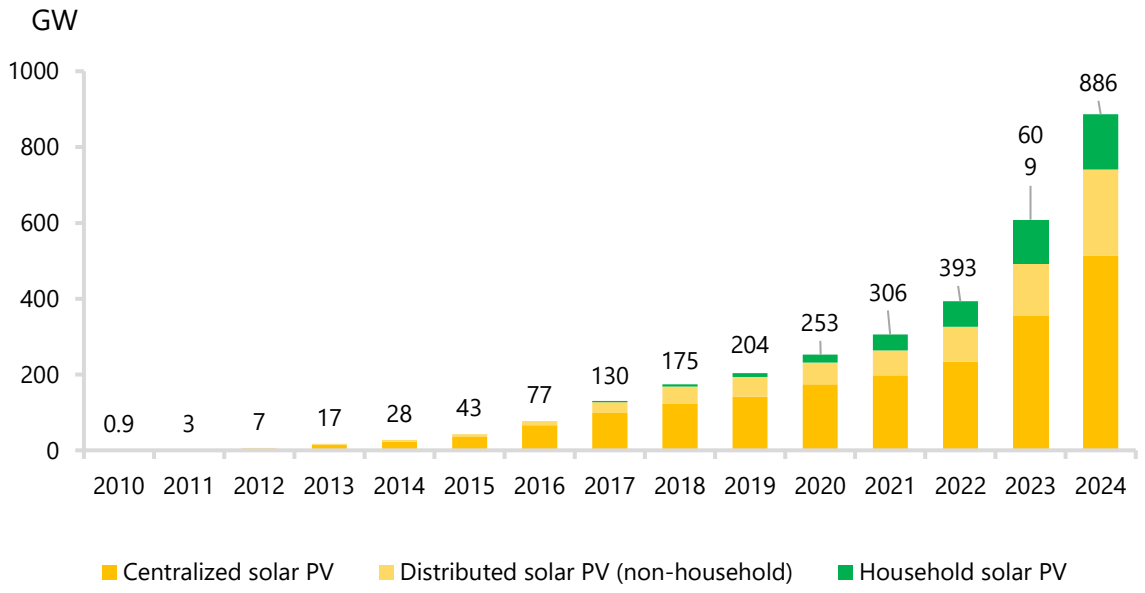


Source: CNPC ETRI, OIES

- While demand growth is set to grow from its current 10% of the energy mix, it is unclear if it will peak at 12-13% or 15% as the government had once planned.
- Gas is considered a clean fuel and therefore part of the energy transition, but there are currently few policies that actively encourage gas use, only if supplies are available at competitive prices

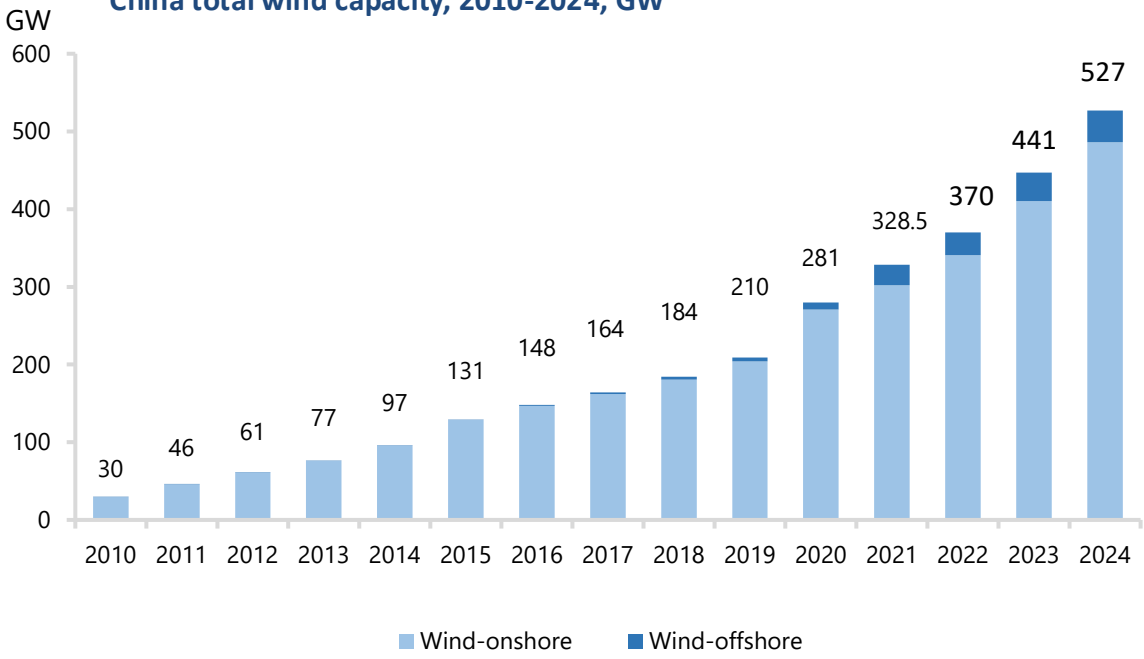
Wind and Solar additions likely to remain strong

China total solar PV capacity, 2010-2024, GW



Source: OIES 2025, based on NEA data, various years

China total wind capacity, 2010-2024, GW



Source: OIES 2025, based on NEA data, various years

- 277 GW solar additions in 2024, 80 GW wind additions in 2024
- 1H already seeing a rush of both wind and solar in anticipation of cliff in 2H
- High manufacturing capacity and reliance on Three New industries for growth makes it unlikely the industry will collapse
- Government likely targeting stable installations, which is aligned with carbon peaking and carbon neutrality

Key messages

- China's gas market is likely to remain volatile: Demand is closely linked to the broader economic picture, but policies matter too
- China's economic growth could be impacted by tariffs, creating considerable uncertainty for growth and industrial demand.
- In the absence of direct support policies, prices are significant
- CNPC is optimistic about domestic resource potential – watch for 15th FYP targets
- Since gas is seen as a partner fuel for the energy transition, demand will continue to grow but will power or industry be the biggest drivers?
- Liberalisation efforts and increased third party access, as well as more unregulated gas suggest more market oriented prices.
- Like demand side uncertainties, there are also many moving parts on the supply side
- Domestic production rising – but how long can it keep this momentum going?
- Can the Chinese government balance its supply sources and cap imports at 50%?

Discussion and Q&A – The Geopolitics of Gas

Key Questions:

- **Gas as a foreign policy lever for producers and consumers?**
- **Does geopolitical risk damage long-term market size?**
- **How significant is price for market development?**
- **Is energy transition an opportunity or a headwind for global gas?**

Thank you!

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