International Energy Agency

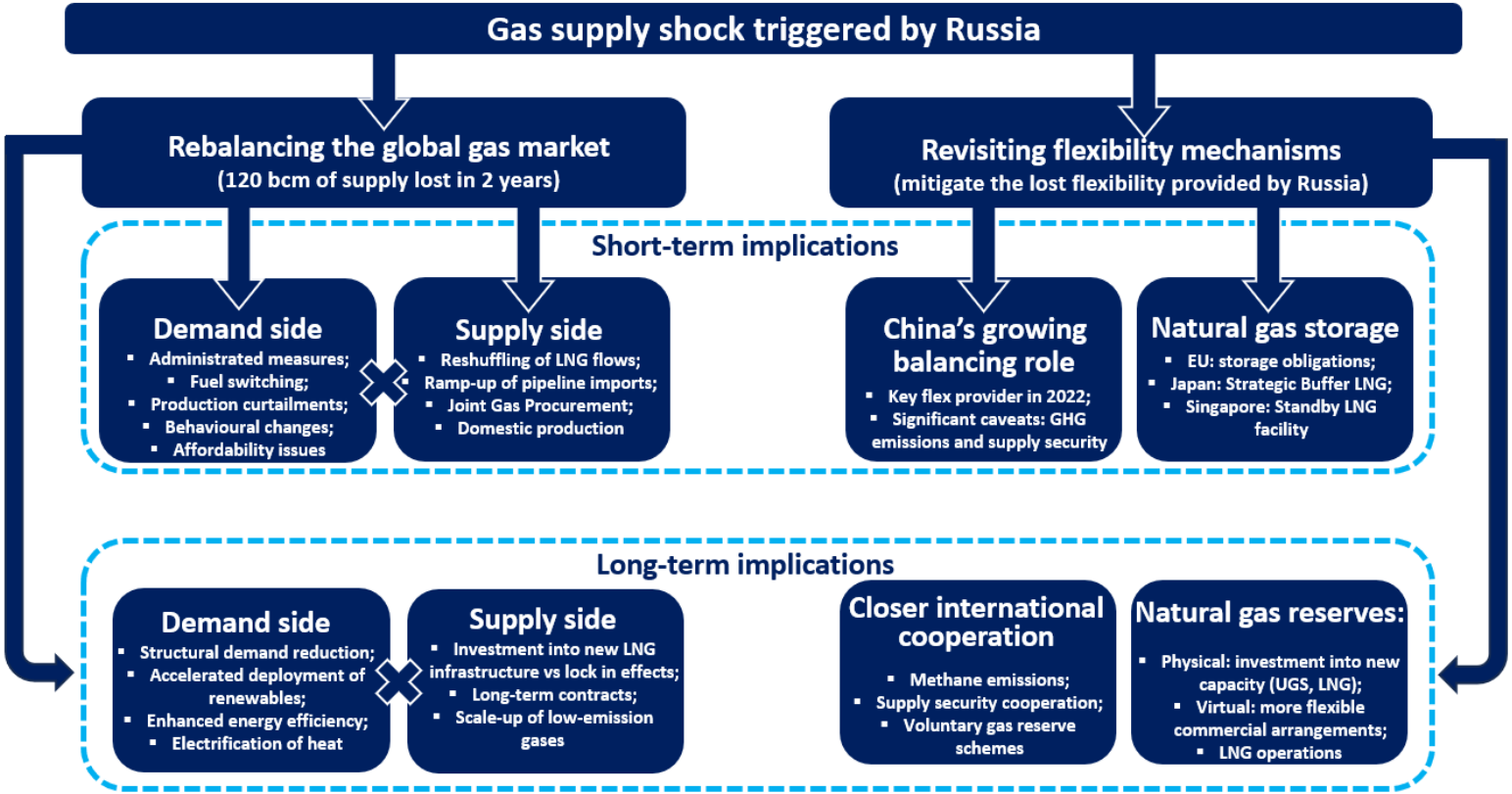
Towards a new global gas security architecture

Keisuke SADAMORI, Director, Energy Markets and Security Directorate

General Assembly of the GIIGNL, 7 October 2024

IEA 2024. All rights reserved.

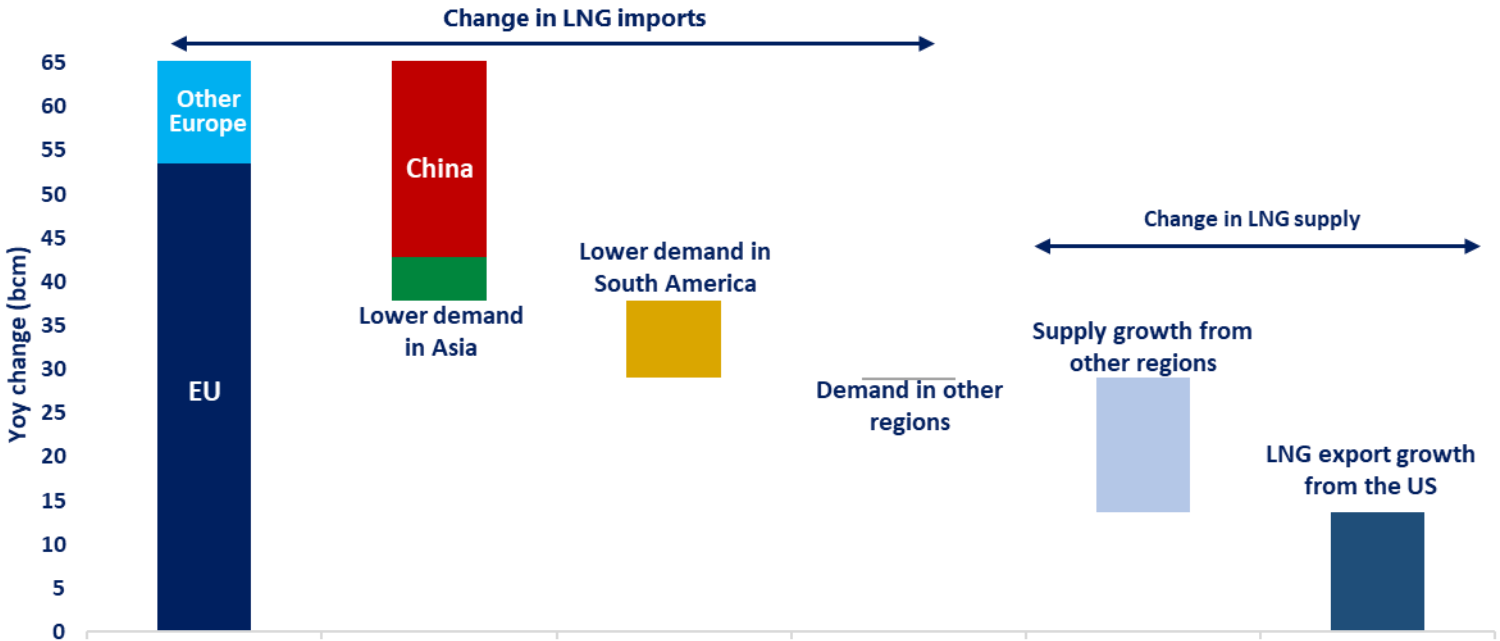
A New Global Gas Market is emerging



IEA 2024. All rights reserved.

Flexibility options were key to tackle the 2022/23 gas supply shock

Y-o-y change in global LNG exports and imports by key region, 2021-2022

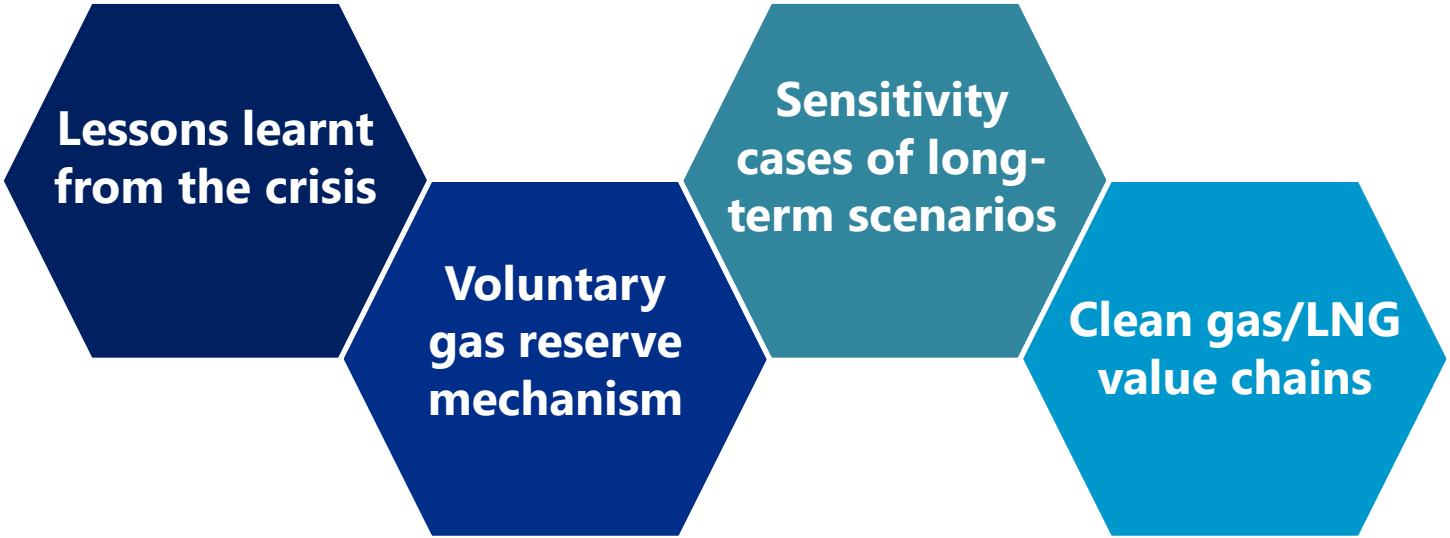


The 2022 gas supply shock led to a readjustment of global LNG flows: while European LNG imports increased by 60% in 2022, Asian LNG imports declined by 7%, primarily driven by lower inflows to China.

IEA 2024. All rights reserved.

IEA's gas supply security work was strengthened

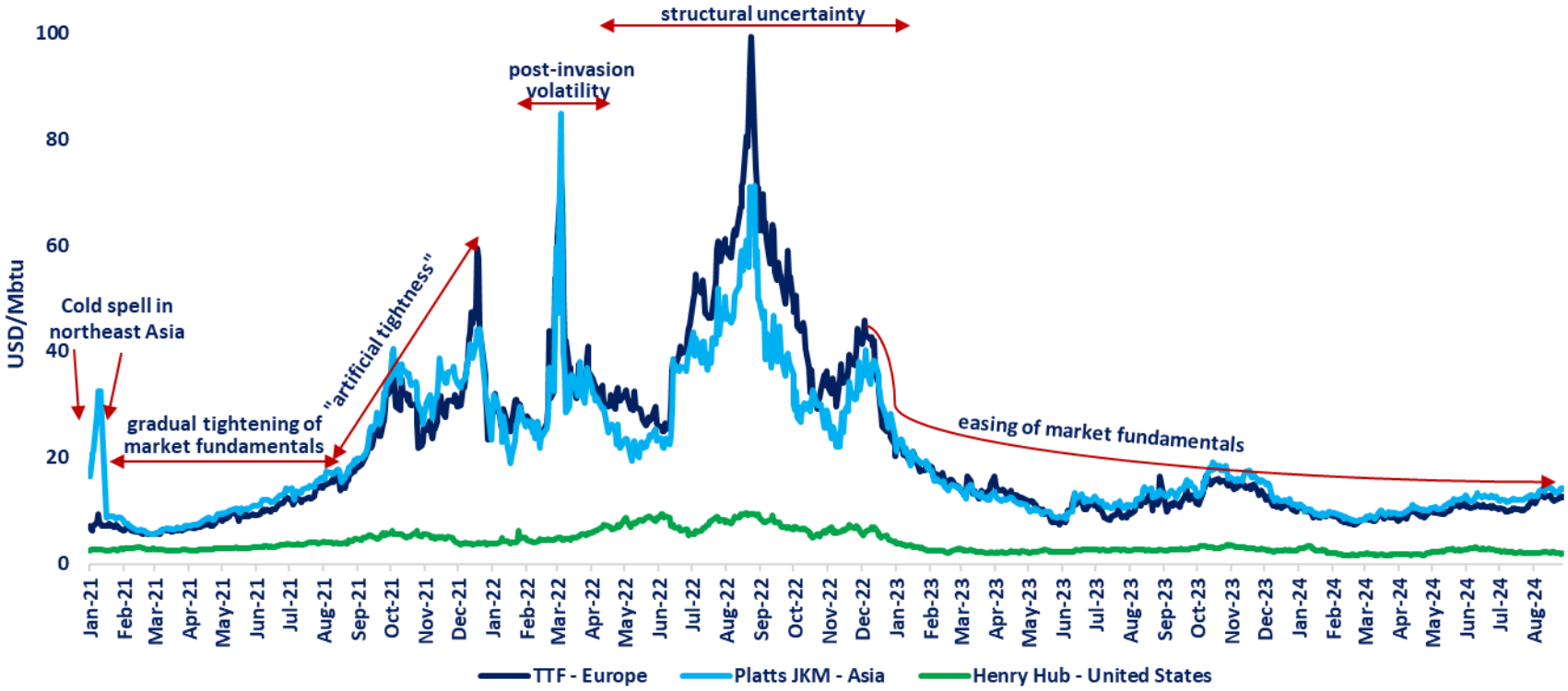
Key pillars of the IEA's enhanced work programme on gas supply security



IEA 2024. All rights reserved.

Gas markets moved towards a gradual rebalancing since 2023

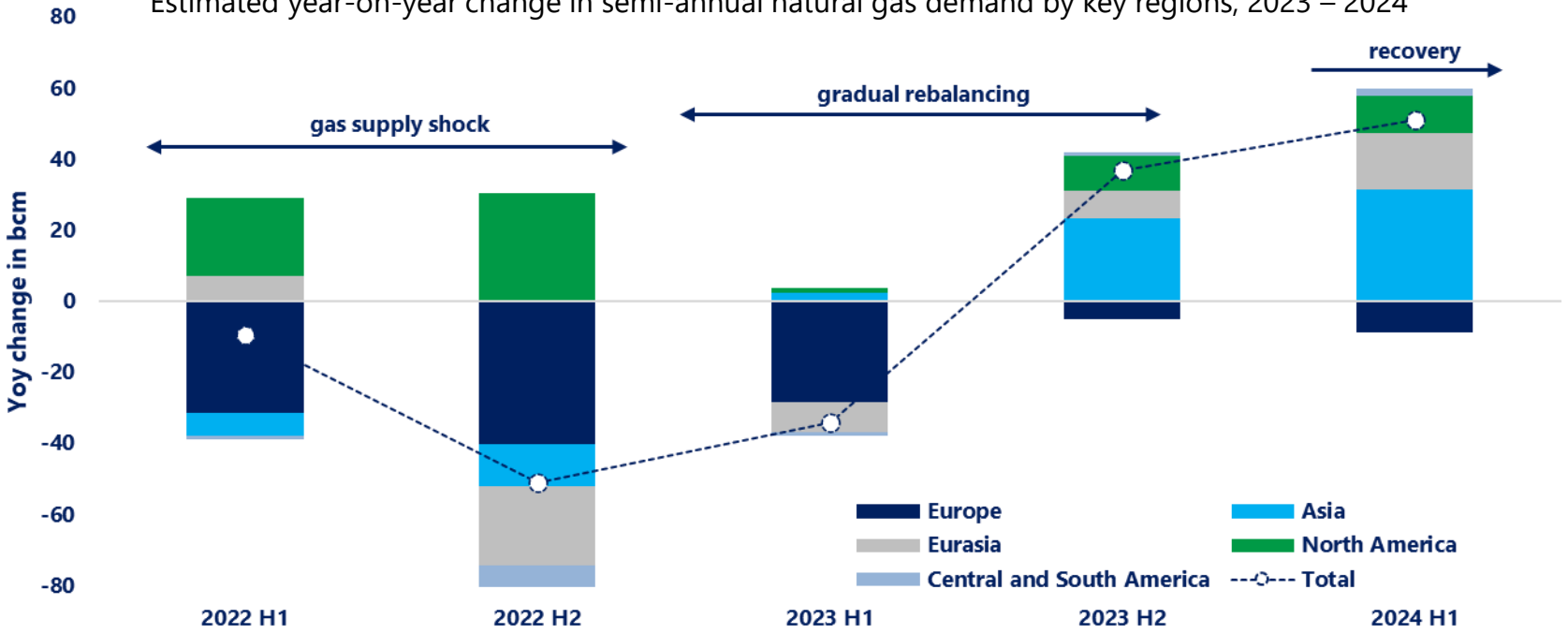
Evolution of key regional natural gas prices, 2021 – 2024



IEA 2024. All rights reserved.

Global gas demand returned to stronger growth in H1 2024…

Estimated year-on-year change in semi-annual natural gas demand by key regions, 2023 – 2024



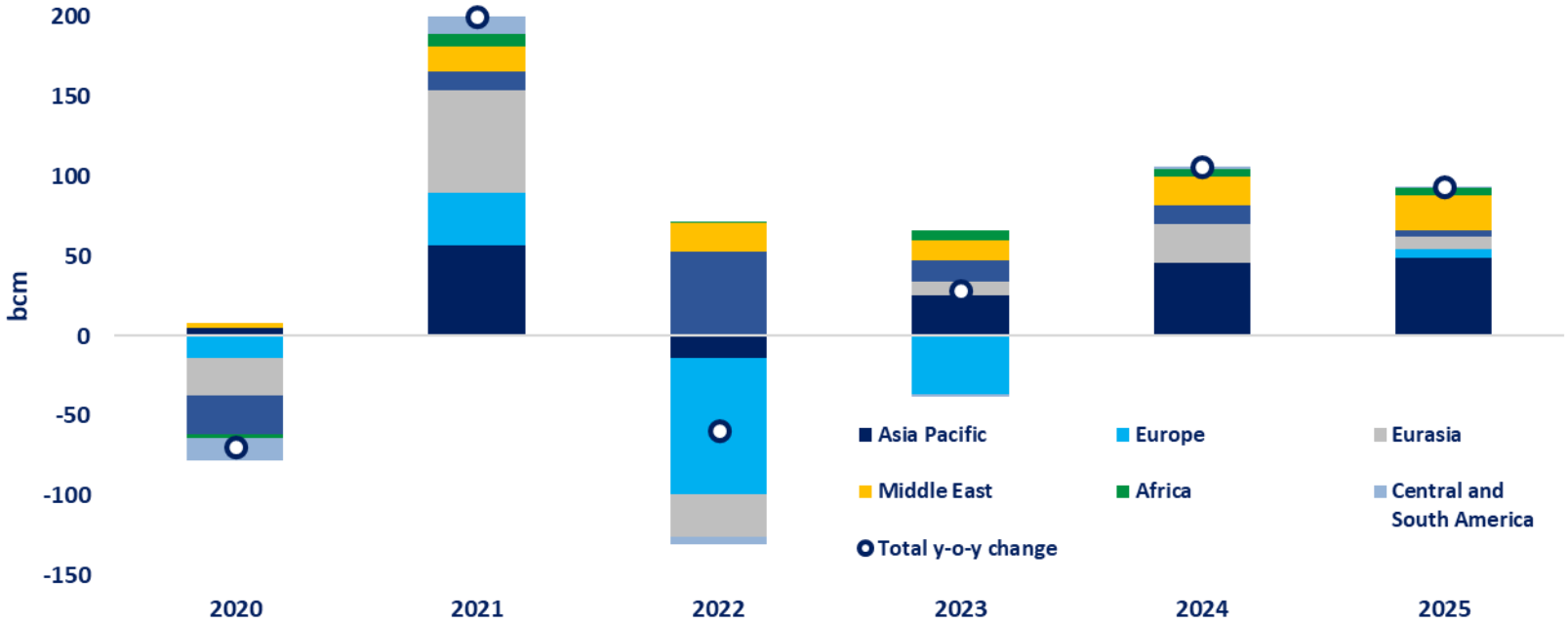
Global gas demand increased by 3% y-o-y in H1 2024, well above the historical 2% average growth rate between 2010 and 2020. Around 70% of this growth was concentrated in Q1 2024.

**Asia, Central and South America, Eurasia, Europe and North America.*

IEA 2024. All rights reserved.

…and is set to reach new record highs in 2024 and 2025

Year-on-year change in natural gas demand in key regions, 2020-2025

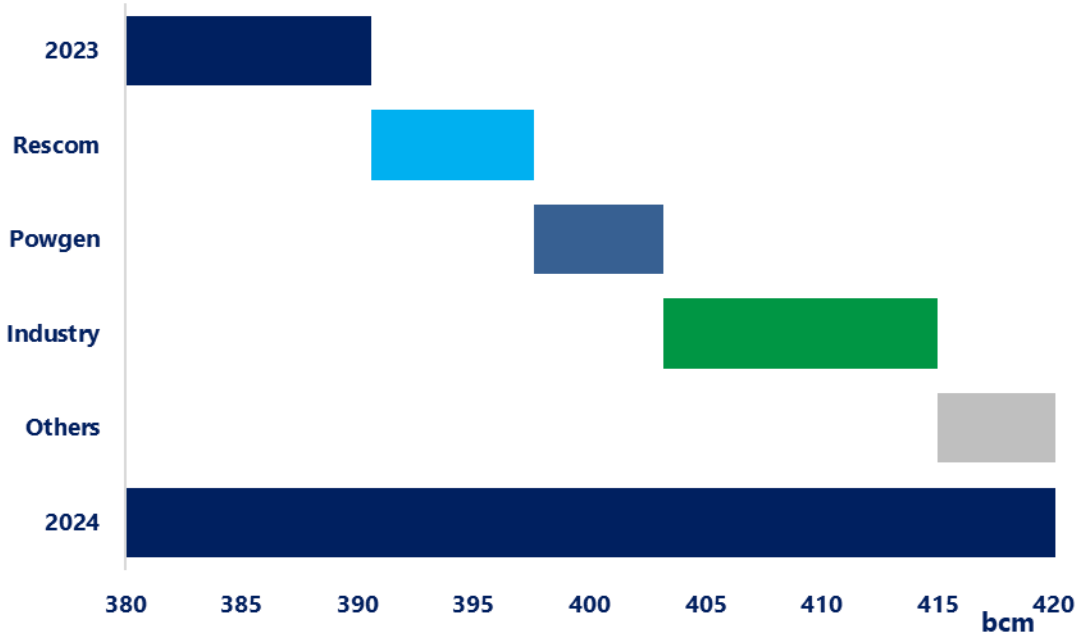


Global gas consumption is forecast to increase at an average rate of 2.4% in 2024 and 2025, with Asian markets expected to account for almost half of the incremental gas demand.

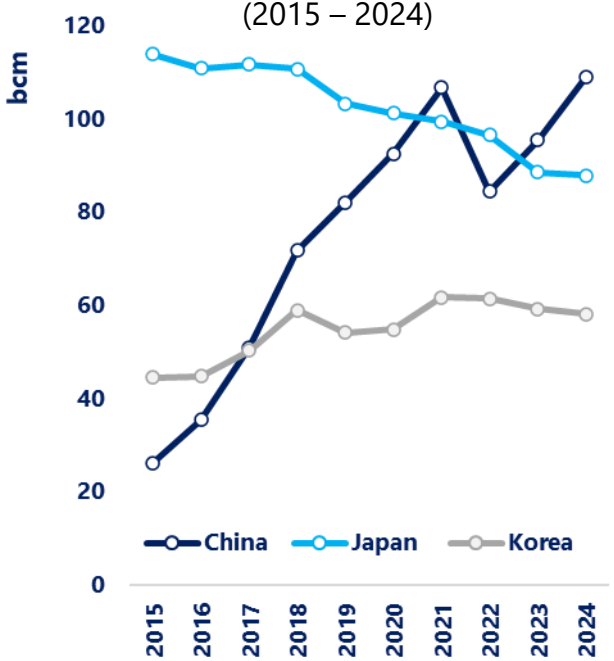
IEA 2024. All rights reserved.

Year of the Dragon: China is back with full strength

Forecast change in natural gas demand by sector



LNG imports of China, Japan, Korea (2015 – 2024)

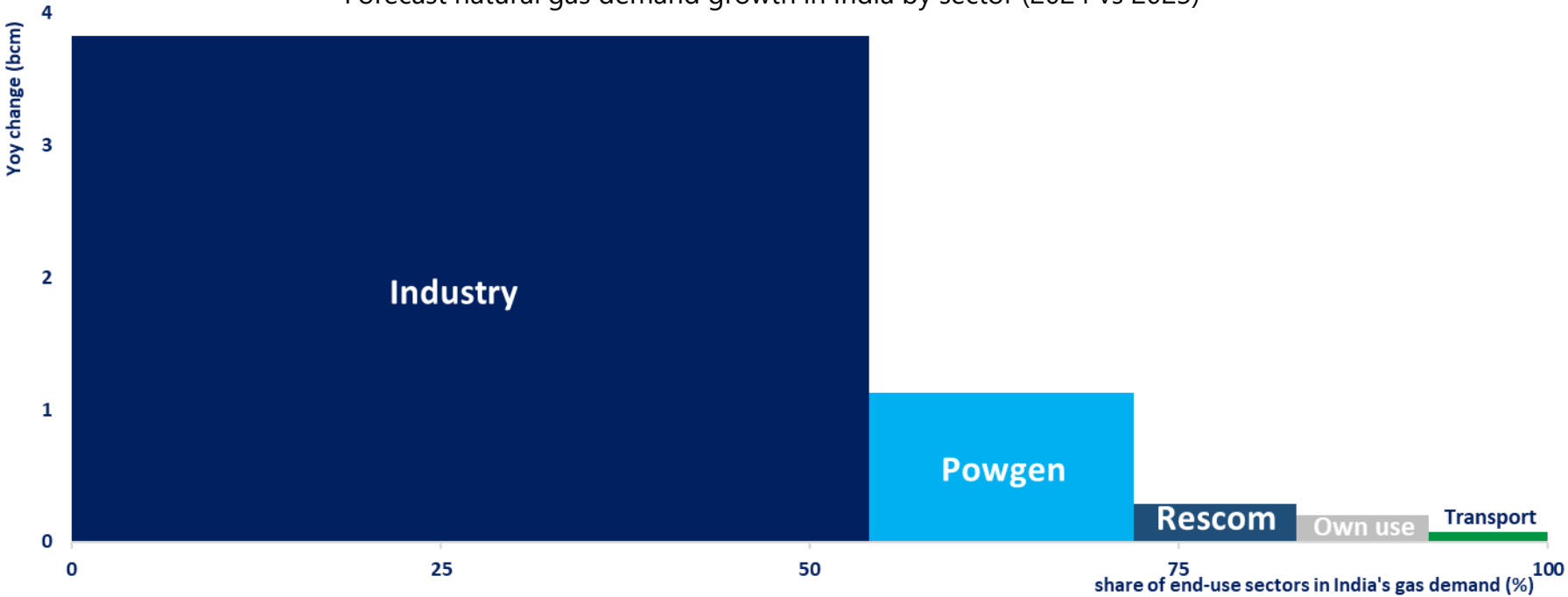


China's gas demand is forecast to grow by 8% in 2024, with all sectors maintaining strong momentum. Demand growth is expected to drive-up China's LNG imports just above their 2021 record levels.

IEA 2024. All rights reserved.

Healthy macroeconomic outlook drives India's gas demand

Forecast natural gas demand growth in India by sector (2024 vs 2023)

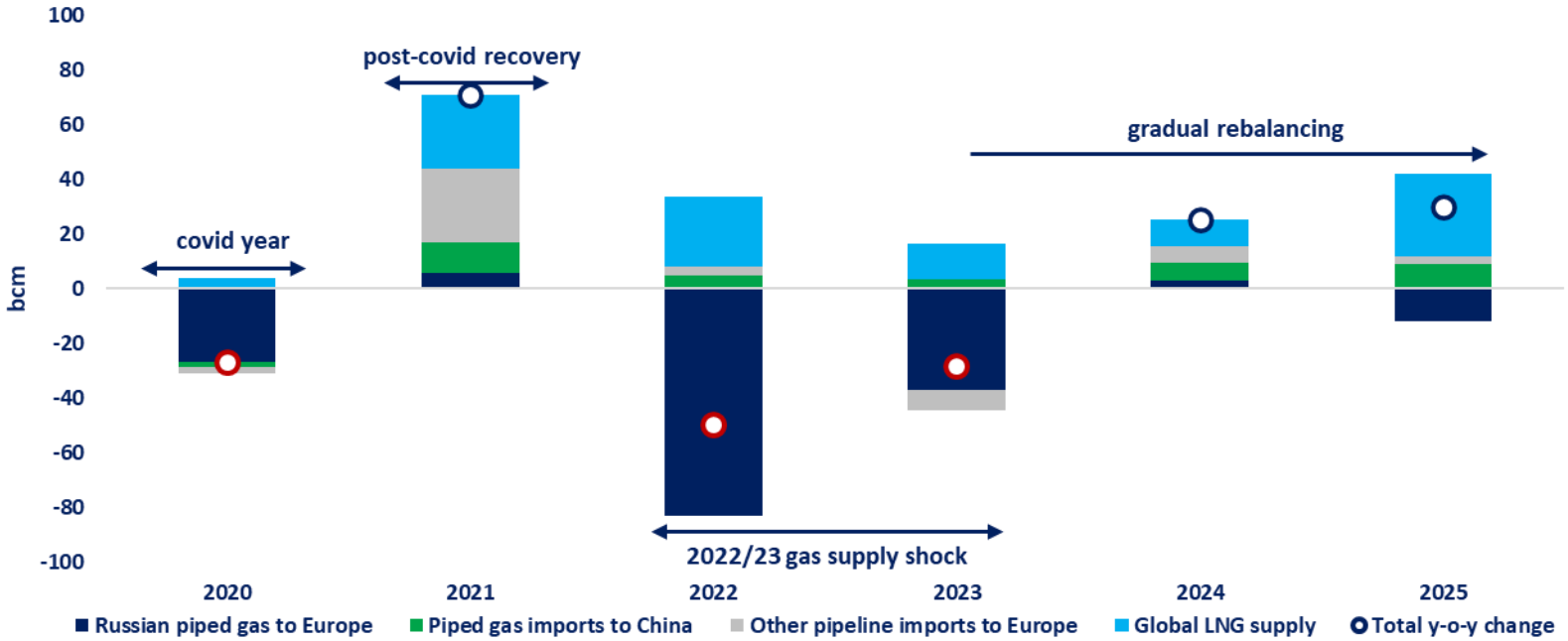


India's natural gas consumption is expected to grow by 9% in 2024, primarily driven by a strong expansion in gas used in the industrial and power sectors –as lower LNG prices foster demand growth.

IEA 2024. All rights reserved.

Natural gas supply remains fundamentally tight

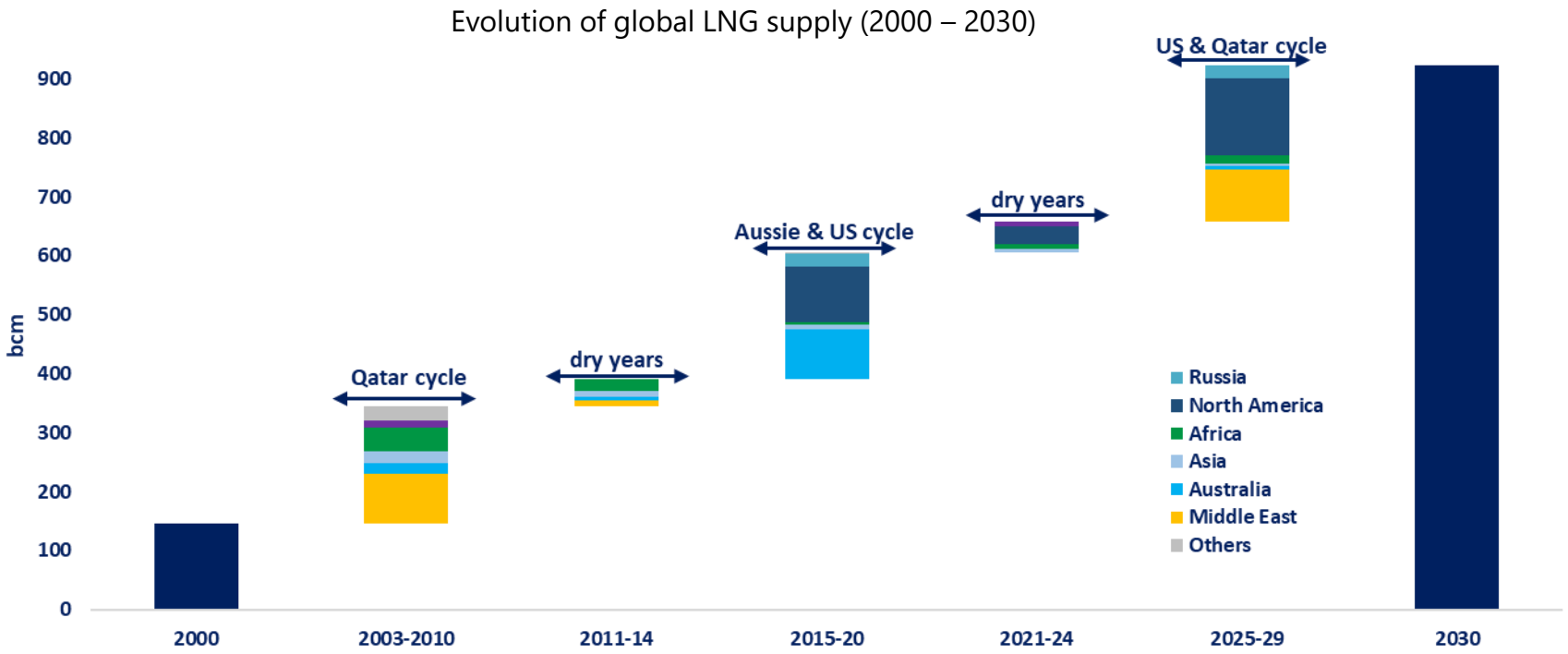
Estimated year-on-year change in key piped natural gas trade and global LNG supply, 2019 – 2025



LNG supply growth is set to accelerate in 2025, supported by the start-up of projects in North America. The future of Russian gas transit via Ukraine is a key uncertainty for the near-term outlook.

IEA 2024. All rights reserved.

Strong LNG supply growth could ease market fundamentals

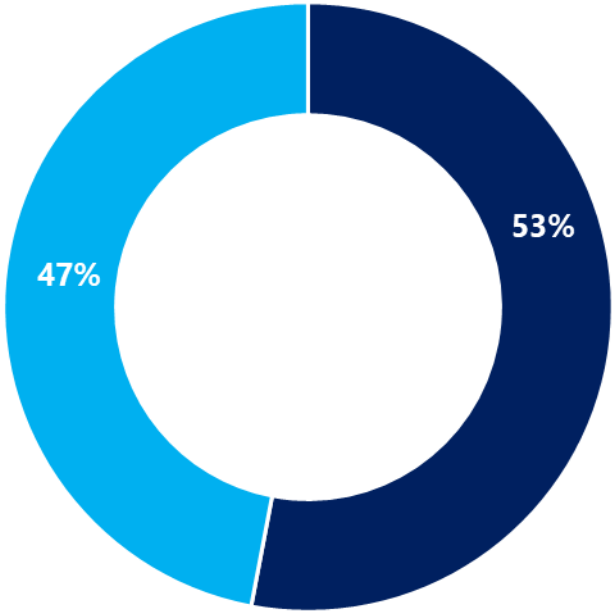


Global LNG capacity is expected to expand by over 270 bcm by 2030 –primarily driven by Qatar and the United States. This strong growth could ease market fundamentals in the second half of the decade.

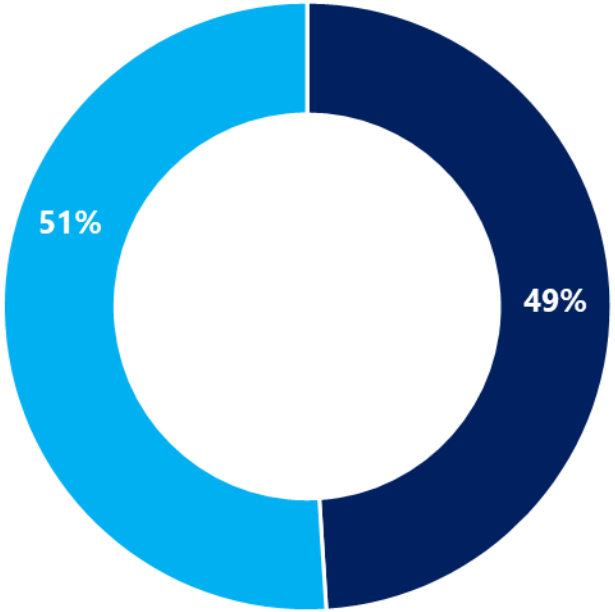
IEA 2024. All rights reserved.

The global LNG market is set to gain in terms of flexibility

LNG contracts by destination flexibility in 2023



LNG contracts by destination flexibility in 2027

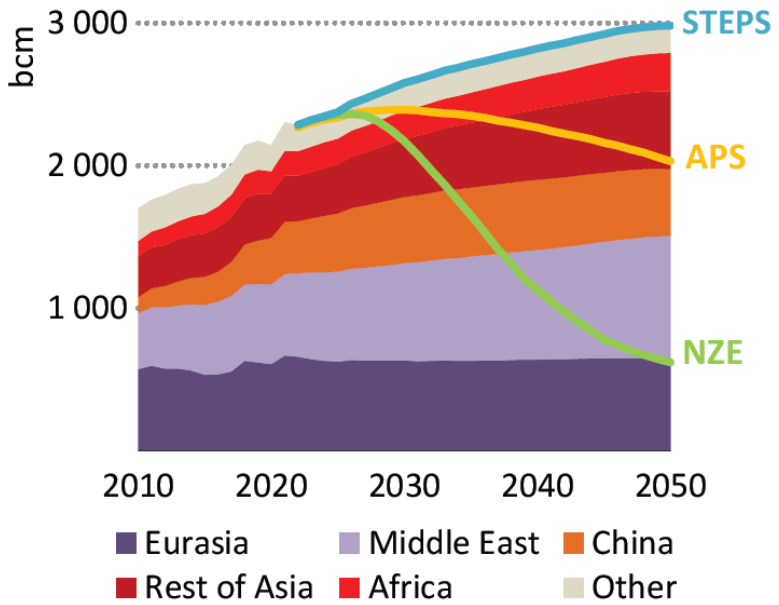


The global LNG market is expected to gain in terms of depth and liquidity over the medium-term. The share of destination-free contracts is expected to increase from 47% in 2023 to 51% by 2027.

IEA 2024. All rights reserved.

Natural gas use is sensitive to policy, technology and market forces

Natural gas demand in emerging market and developing economies – WEO 2023



Key uncertainties impacting the future of natural gas demand:

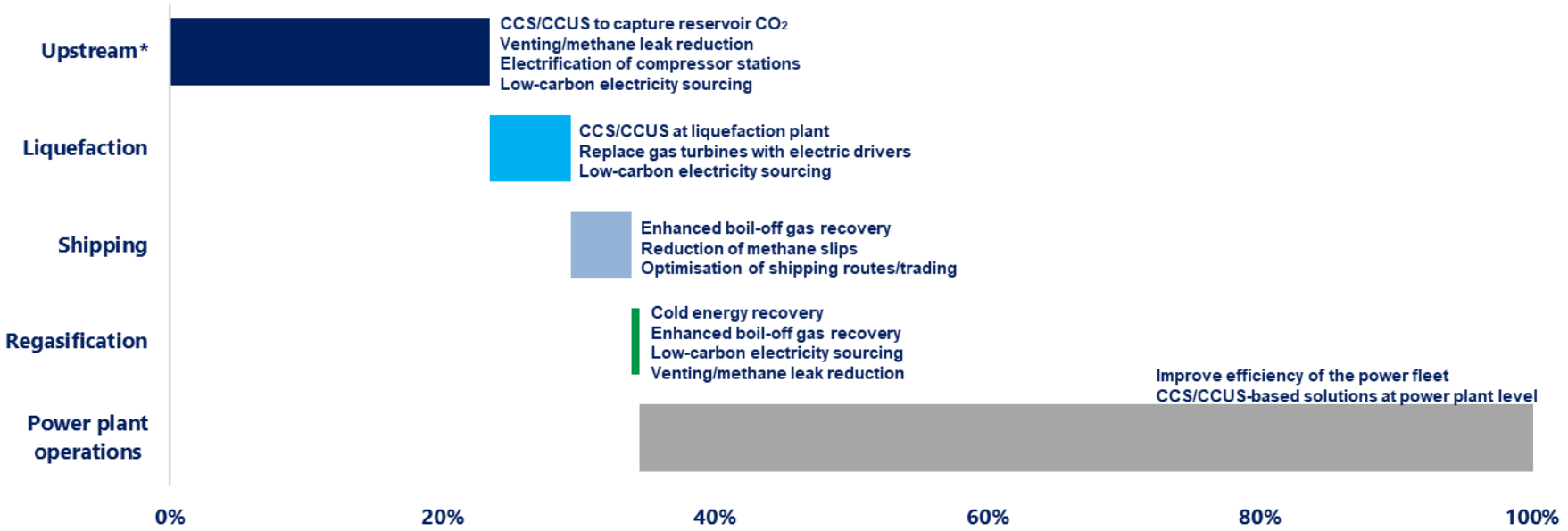
- **Government policies**: natural gas demand under Stated Policies is much higher than the pathway to fulfil all Announced Pledges or to move towards Net Zero Emissions by 2050
- **Market prices**: well-supplied markets can put downward pressure on gas prices, which could spur additional demand
- **Energy efficiency**: a slower implementation of energy efficiency measures could lead to higher electricity and natural gas demand;
- **Industry**: possible where electrification is slower or there is additional coal-to-gas switching;
- **Buildings**: a delayed deployment of heat pumps and/or slower retrofit rates could raise natural gas demand in buildings.
- **Wind and solar**: a slower expansion of wind and solar, for example due to permitting issues, supply chain challenges and tight financials could increase gas demand in the power sector.

Natural gas faces an uncertain outlook, especially in emerging economies. The forthcoming World Energy Outlook will explore the impact of potential uncertainties on the outlook for natural gas and other fuels.

IEA 2024. All rights reserved.

Reducing emissions requires efforts along the entire LNG value chain

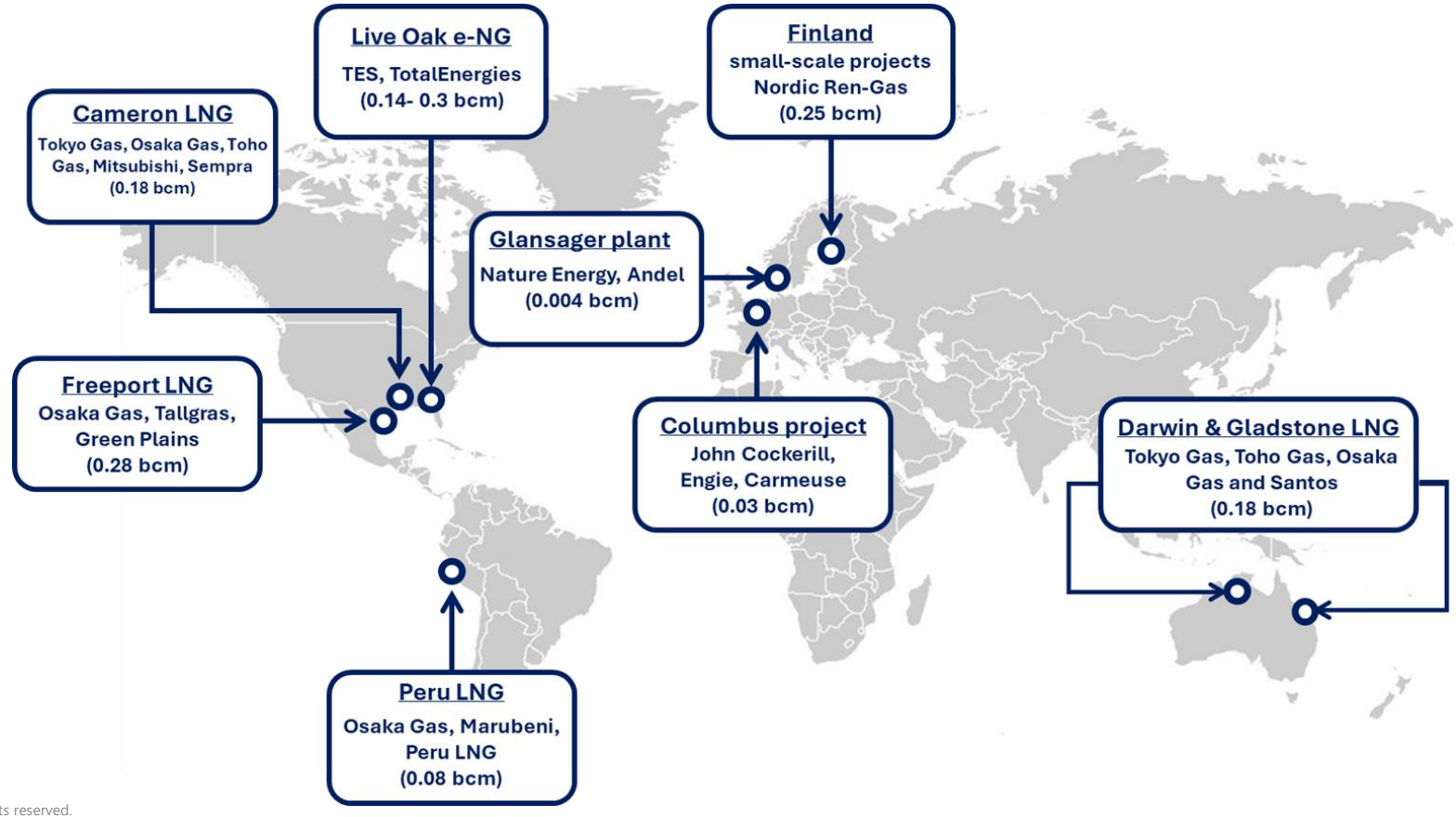
Indicative breakdown of life-cycle GHG emissions for US LNG shipped to Europe, showing carbon reduction options



Reducing GHG emissions associated with gas/LNG supply will require effort through the entire value chain and a close cooperation between producers and consumers.

IEA 2024. All rights reserved.

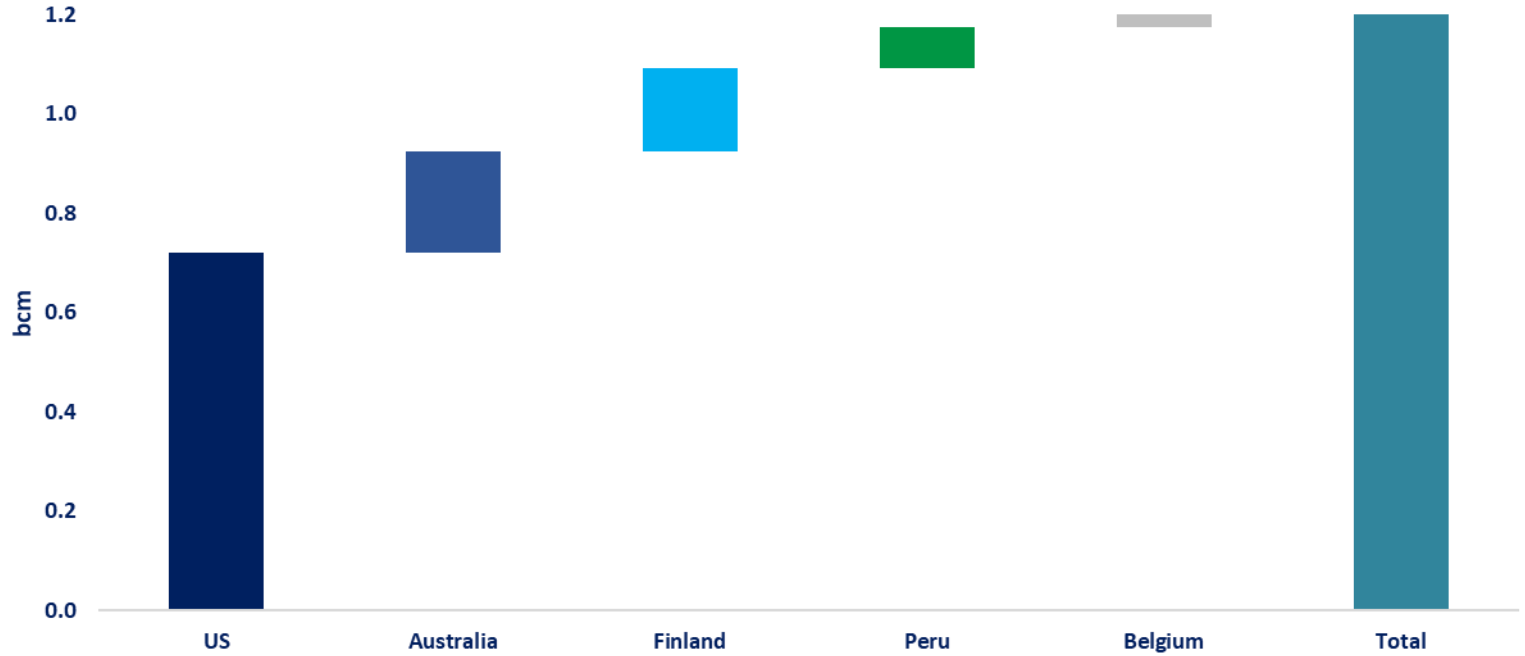
International partnerships drive e-methane projects…



IEA 2024. All rights reserved.

…potentially delivering over 1 bcm by 2030

Potential output volumes of e-methane projects by country by 2030



Global e-methane production could reach just over 1 bcm by 2030, albeit their development is pending on project partners successfully reaching final investment decisions in the coming years.

IEA 2024. All rights reserved.

Key messages

- The **new global gas market**, requires a careful reassessment of the **architecture of global gas supply security**. The **IEA's work programme** was enhanced accordingly.
- The **growing liquidity of the global LNG market**, together with demand-side flexibility, was crucial in the response to the gas supply shock of 2022/23.
- **Global gas demand returned to a more pronounced growth** in 2024, led by Asian markets.
- While **gas markets could ease** in the second half of the decade, there is a clear need to enhance **gas supply flexibility mechanisms**, via physical gas reserves and enhanced international cooperation.
- **Natural gas faces an uncertain outlook**, especially in emerging economies. The forthcoming World Energy Outlook will include **sensitivity cases** on the outlook for natural gas and other fuels.
- **Reducing GHG emissions** associated with gas/LNG supply will require effort through the entire value chain and a close cooperation between producers and consumers.

IEA 2024. All rights reserved.

IEA 2024. All rights reserved.