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Natural gas market dynamics: price trends, contracting strategies and policy developments in 2023

Emin Akhundzade

Mirza İbrahimov 8, Baku, AZ1005, Azerbaijan

(+994 12) 596-82-39, (+994 12) 596-82-41

E-mail: www.aircenter.az, info@aircenter.az

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Following the gas supply shock of 2022, natural gas markets underwent a gradual rebalancing in 2023 driven by timely policy interventions, market forces, and favorable weather conditions. Despite significant decreases compared to their 2022 highs, gas prices in Asia and Europe remained well above historical averages. Enhanced hub liquidity across key markets accompanied higher trading activity. However, the market continued to grapple with tight supply conditions, contributing to sustained price volatility.

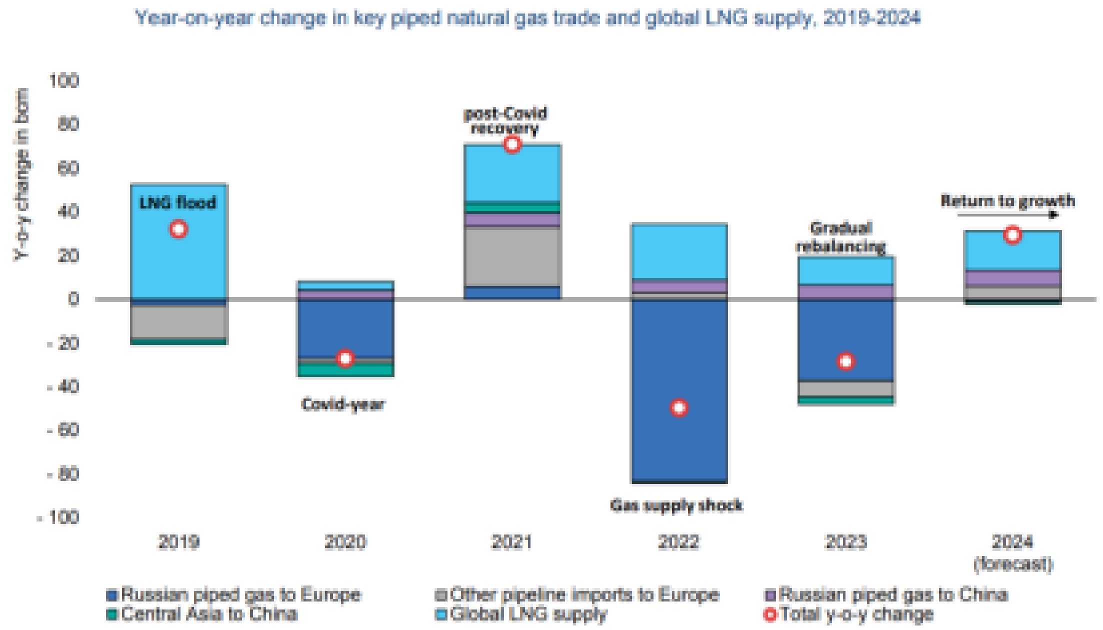
Projections indicate a return to growth for natural gas markets in 2024. Asian spot LNG and European hub prices have more than halved since 2022 but persist at more than double the averages observed between 2016-2020. Gas supplies remained constrained as global LNG production increased by 13 bcm yet failed to fully offset the ongoing decline in Russian piped gas deliveries to Europe, totaling -38 bcm. Hindered by project delays and feedgas supply issues, LNG production growth fell short of expectations, with the United States emerging as the dominant LNG exporter, accounting for 80% of additional supply.

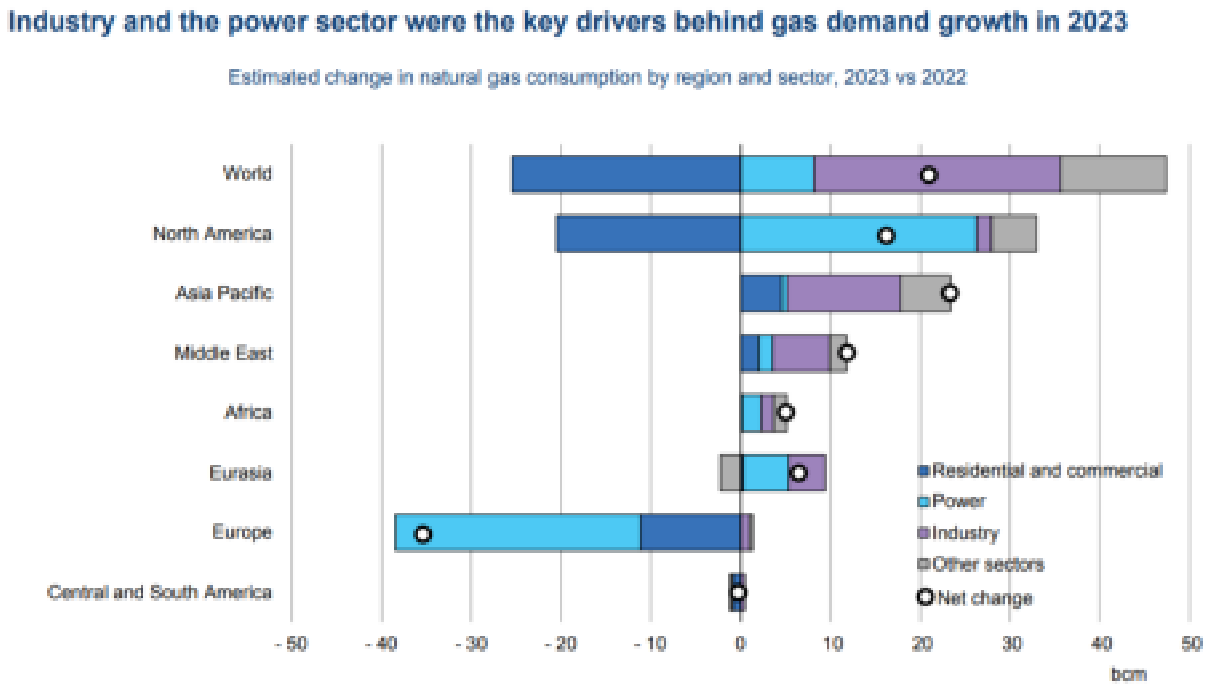
The softening of market conditions in 2023 stemmed primarily from the demand side, attributed to the rapid expansion of renewables, and improved nuclear availability, particularly impacting European and mature Asian markets. Mild winter weather conditions and gas-saving measures further curtailed gas consumption in residential and commercial sectors. Despite a modest estimated global gas demand growth of 0.5% in 2023, it failed to offset the losses of 2022 when demand dropped by 1.5%.

Notable demand growth was observed in China, North America, and gas-rich markets in Africa and the Middle East, with China reclaiming its position as the world's largest LNG importer. Conversely, natural gas consumption in Europe plummeted by 7%, reaching its lowest level since 1995. Global gas demand is anticipated to surge by 2.5% in 2024, primarily concentrated in rapidly expanding markets in Asia Pacific and gas-rich regions in Africa and the Middle East. This growth is expected to be bolstered by industrial activities, as well as residential and commercial sectors, contingent upon a return to
average winter weather conditions following the mild season of 2023. However, marginal growth is projected for gas-to-power demand, as increased gas burn in the Asia Pacific region, North America, and the Middle East is likely to be offset by ongoing reductions in Europe. In OECD Europe, natural gas demand plummeted by 7% (or 35 bcm) in 2023, reaching its lowest level since 1995.

The decline was concentrated primarily in Q1-Q3 2023, with gas consumption stabilizing just below 2022 levels in Q4. The power sector bore the brunt of the demand reduction, accounting for 75%, as lower electricity demand alongside the continued expansion of renewables and improved nuclear availability weighed on gas-fired power generation. Gas-to-power demand saw a steep decline of over 15% (or more than 25 bcm) in 2023, driven by various factors including a 3% decline in electricity consumption, energy efficiency gains, and behavioral changes. Increased renewable power output and improved nuclear availability further diminished reliance on gas-fired power plants. Despite marginal growth in natural gas consumption in the industry sector, driven by a second-half recovery in 2023, declines recorded in the first half of the year outweighed the overall increase. The continued decline in natural gas prices facilitated a moderate recovery in industrial sector gas demand.

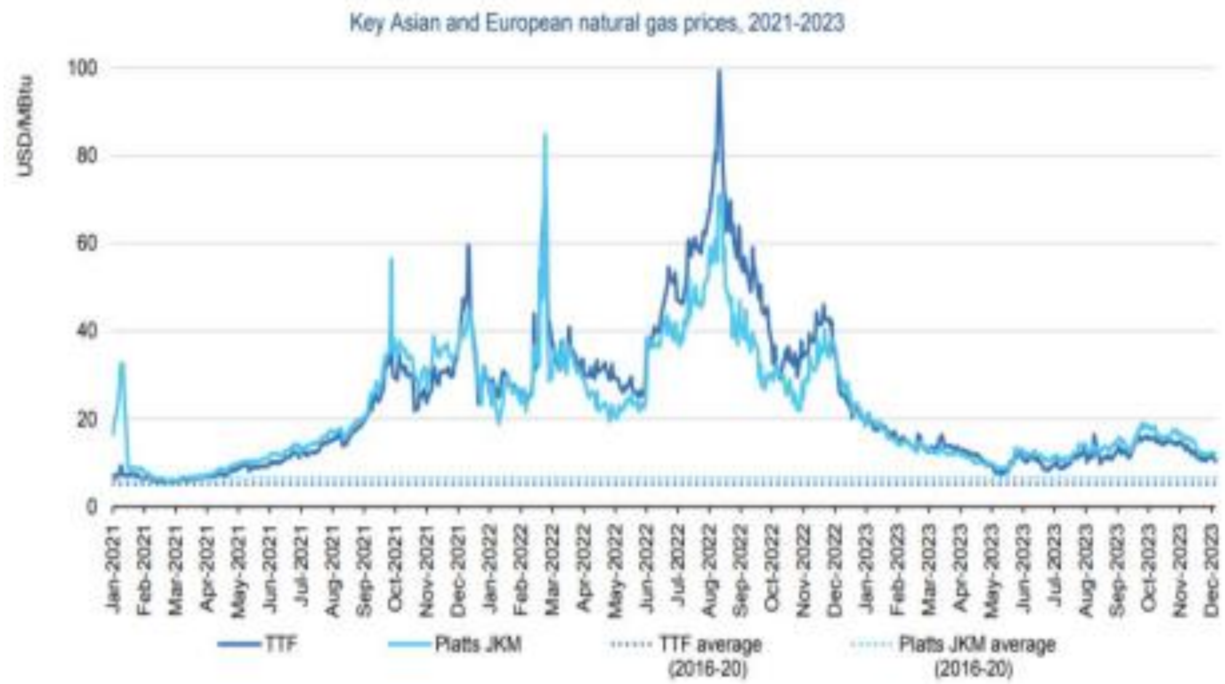
Global natural gas trade is expected to return to growth in 2024





Natural gas prices moderated significantly in 2023

In 2023, natural gas prices experienced a significant moderation following the all-time highs of 2022, across key markets. The decrease was mainly due to steep demand declines in Europe and mature Asian markets, which exerted downward pressure on prices. Despite a 60% decline in Russian piped gas deliveries to the European Union, TTF month-ahead prices in Europe averaged USD 13/MBtu, still considerably higher than their five-year average from 2016-2020. Similarly, Platts JKM prices for Asian spot LNG dropped by 60% compared to 2022, averaging USD 14/MBtu, more than double their five-year average. The moderation in prices was supported by factors such as lower gas storage injection needs, healthy LNG inflows, improved LNG supply availability, and reduced competition for LNG from Europe. Although price volatility decreased from the record high of 160% in 2022, it remained well above the average seen during 2016-2020, with an average of 75% in 2023.



In the second half of 2023, Platts JKM regained its premium over TTF, driven by high European inventory levels and continued demand reductions, resulting in TTF prices falling below Platts JKM. This shift incentivized stronger LNG flows towards Asian markets ahead of the 2023/24 winter season. Despite volatility in both Asian and European markets, the correlation between TTF and Platts JKM remained strong, averaging close to 0.9, reflecting the interconnected nature of regional import markets amid the growing share of destination-flexible LNG supplies.

In the United States, Henry Hub month-ahead prices fell by 60% compared to 2022, averaging USD 2.7/MBtu, in line with their five-year average from 2016-2020. Strong domestic production and milder winter temperatures contributed to this moderation in natural gas prices, although price volatility remained above average due to the higher share of natural gas in power generation. The increase in LNG contracts in 2023 was led by North America and the Middle East, with total contracted volumes reaching around 90 bcm, 10% above their three-year average from 2020-2022. Post-FID projects accounted for 70% of the total volumes contracted in 2023, with an average contract duration of around 15 years, emphasizing the importance of long-term contracts in spreading investment risk between sellers and buyers. Pricing mechanisms for long-term LNG
contracts are becoming more diverse and complex, with an increasing number of contracts indexed to gas-to-gas agreements, particularly tied to US-based LNG projects and indexed to Henry Hub.

Contracts signed in 2023 also included agreements indexed to TTF and JKM, as well as hybrid mechanisms, indicating a trend towards greater pricing mechanism diversification. However, traditional oil-linked contracts remain favored by Middle Eastern suppliers. In December 2022, the European Union adopted a regulation to enhance solidarity through better coordination of gas purchases, launching the Joint Gas Purchasing mechanism in April 2023. This mechanism aims to leverage the EU's collective market power to negotiate better prices with international suppliers, with nearly 60 bcm of gas demand aggregated from European companies in the first four rounds, matched with close to 70 bcm of gas supply via the AggregateEU platform.

Looking ahead to 2024, natural gas markets are expected to see strong growth, driven by the industrial and power sectors in fast-growing economies in Asia and gas-rich countries in Africa and the Middle East. Expected return to average winter weather conditions, after an exceptionally mild 2023, is anticipated to support higher demand for space heating in the Northern Hemisphere. However, the continued expansion of renewables and improving nuclear availability are likely to temper requirements for gas fired power generation in mature markets. Platts JKM regained its premium over TTF in the second half of 2023.

High European inventory levels and continued demand reductions drove TTF prices below Platts JKM, with the northeast Asian marker displaying a premium of USD 1.5/MBtu over European hub prices in the second half of 2023. This incentivized stronger LNG flows towards Asian markets ahead of the 2023/24 winter season. Despite the strong volatility displayed both on the Asian and European markets, the correlation between TTF and Platts JKM remained strong and averaged close to 0.9. This reflects the interconnected nature of regional import markets amid the growing share of destination flexible LNG supplies. In the United States, Henry Hub month-ahead prices fell by 60% compared with 2022 to average USD 2.7/MBtu – aligned with their five-year average during 2016-2020. Strong domestic production together with milder winter temperatures moderated natural gas prices. Price volatility remained above average, supported by the higher share of natural gas in power generation.

In conclusion, natural gas markets are expected to see a return to strong growth in 2024, primarily driven by the industrial and power sectors in fast growing economies in Asia and gas-rich countries in Africa and the Middle East. An expected return to average winter weather conditions, after an exceptionally mild 2023, is expected to support higher demand for space heating in the Northern Hemisphere. However, the continued expansion of renewables and improving nuclear availability are likely to temper requirements for gas-fired power generation in mature markets.