GECF

Gas Exporting Countries Forum

MONTHLY GAS MARKET REPORT

September 2024

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About GECF

The Gas Exporting Countries Forum (GECF) is an intergovernmental organisation gathering the world's leading gas producers and exporters, whose objective is to provide a framework for the exchange of views, experiences, information and data, while developing the cooperation and collaboration amongst its members in gas-related matters. The GECF gathers 20 countries, including 12 full members and 8 observer members (GECF Member Countries) from four continents. Algeria, Bolivia, Egypt, Equatorial Guinea, Iran, Libya, Nigeria, Qatar, Russia, Trinidad and Tobago, United Arab Emirates and Venezuela have the status of full members, while Angola, Azerbaijan, Iraq, Malaysia, Mauritania, Mozambique, Peru and Senegal have the status of observer members.

The GECF Monthly Gas Market Report (MGMR) is a monthly publication of the GECF focusing on short-term developments in the global gas market related to the global economy, gas consumption, gas production, gas trade (pipeline gas and LNG), gas storage and energy prices**.**

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Highlights

Global economy: Global GDP growth for 2024 has been revised upward to 3.2%. In the US, the GDP growth forecast has been raised to 2.7%. Meanwhile, GDP growth projections for the Euro area and China remain unchanged at 0.8% and 4.8%, respectively. Looking ahead, global economic growth is expected to hold steady at 3.2% in 2025. Additionally, global inflation continues to decline, with average rates forecasted at 4.5% for 2024 and 3.4% for 2025. However, the global economy may face headwinds in the upcoming months despite lower inflation and interest rates, and the risks are skewed to the downside.

Gas consumption: In August 2024, gas consumption in the EU recorded a y-o-y decrease of 4.6% to 17 bcm, which was mainly driven by higher nuclear and solar output in the power generation sector. The US gas consumption dropped by 2.3% y-o-y to 73 bcm, with the power generation sector leading the decline. In July 2024, China's apparent gas demand rose by 7.4% y-o-y to reach 35 bcm, driven by soaring temperatures, particularly in Shenzhen, a key region for gas-fired power generation. In 7M 2024, aggregated gas consumption in key gas consuming countries, which account for 60% of global gas demand, increased by 2.2% y-o-y to reach 1,390 bcm.

Gas production: In August 2024, US total gas production continued its downward trend to stand at 98 bcm, representing a 1% y-o-y decline, as a result of announced cuts in gas production amidst low Henry Hub gas prices. In July 2024, Europe's gas production witnessed a decline of 0.7% y-o-y in its monthly output to stand at 15 bcm, mainly driven by the remarkable declines in the UK and the Netherlands' output. In Asia, China maintained its sustained gas production growth, with a 9% y-o-y surge, driven by unconventional gas higher output. Moreover, in Malaysia, a GECF Member Country, Kasawari field was put on stream, with target output of 5.6 bcma. In 7M 2024, aggregated gas output in key gas producing countries, which account for 72% of global gas output, rose by 2.3% y-o-y to reach 1,815 bcm.

Gas trade: In August 2024, global LNG imports saw a slight y-o-y decline of 0.3% (0.1 Mt), totalling 33.5 Mt. This decrease was primarily due to reduced LNG imports in Europe, which outweighed the increases in the Asia Pacific and MENA regions. Europe's drop in LNG imports was linked to lower gas consumption, high storage levels, and strong pipeline gas imports, which amounted to 13.0 bcm, just 2% lower than the previous year's figure. On the supply side, an increase in global LNG exports was driven by stronger exports from Nigeria, Qatar, Russia and the US. Global LNG imports between January and August 2024 totalled 272.5 Mt, reflecting a 0.7% y-o-y increase (1.9 Mt). The Asia-Pacific region was the largest importer with 187.5 Mt, followed by Europe (67.4 Mt), Latin America and the Caribbean (9.2 Mt), the MENA region (2.3 Mt), and North America (1.1 Mt). For the full year 2024, global LNG trade is forecasted to rise by 1-1.5% driven by stronger demand in the Asia Pacific region.

Gas storage: In the EU, the monthly average volume of gas in storage increased to 93 bcm in August 2024, which represents an average regional capacity of 89%. In the US, the average gas storage level finally returned to the five-year range in this year, increasing to 93.5 bcm, or 70% of the country's capacity. In Asia, the combined volume of LNG in storage in Japan and South Korea was estimated at 13.5 bcm.

Energy prices: Gas and LNG spot prices in Europe and Asia surged, reaching their highest levels of the year. The August average TTF spot price was $12.21/MMBtu, reflecting a 19% m-o-m increase. Similarly, the average NEA spot LNG price experienced a 10% m-o-m increase to $13.20/MMBtu. Meanwhile, in the US, Henry Hub prices declined, averaging $1.99/MMBtu. Although market fundamentals appear balanced, the market remains highly sensitive to supply risks. Looking ahead, extensive maintenance at Norwegian gas facilities could sustain bullish sentiment, though price-sensitive buyers in Asia may remain cautious.

Feature article: China is reinforcing its positions in the global gas market

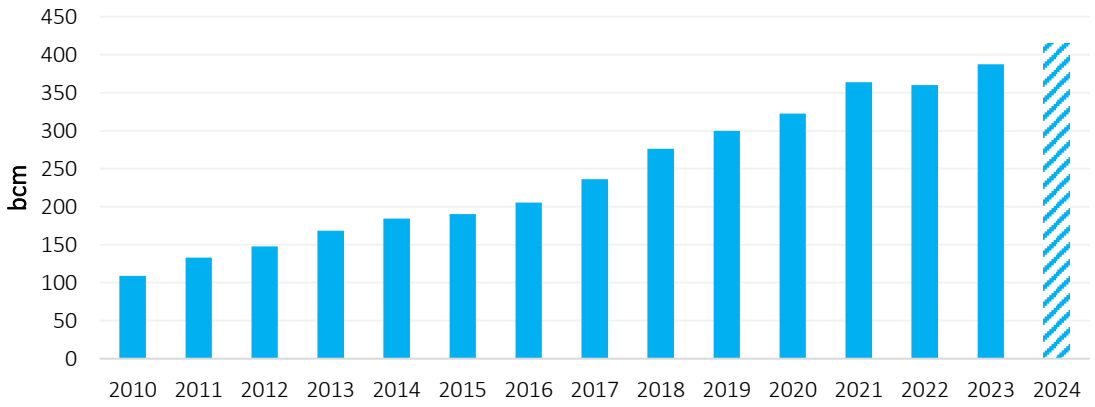
As a global economic powerhouse, the leading energy consumer, the biggest emitter of energy-related CO_2, the topmost renewables producer and the largest hydrocarbon importer, China increasingly influences the global energy markets, including the gas markets.

The energy development of China is currently carried out in line with the 14th Five-Year Plan, covering the period of 2021-2025. The Plan is built on four main pillars addressing energy security, energy efficiency, energy transition and innovation, and translates into ambitious targets of 18% reduction in CO_2 intensity and 13% reduction in energy intensity by 2025 compared to 2020 levels. Moreover, the Chinese natural gas industry is guided by the National Gas Utilisation Policy, initially adopted in 2007 and amended in 2012 and also 2024. Its latest edition, which came into force on 1 August 2024, is designed to regulate the utilisation of natural gas, optimize the consumption structure, and ensure a balanced supply-demand system by coordinating production, supply, storage, and sales. Additionally, it seeks to enhance the positive role of natural gas in advancing the development of a new energy system. According to the Policy document, the utilization of natural gas is divided into priority, permitted, restricted and prohibited categories. For priority gas use projects, local governments at all levels and relevant departments are encouraged to provide policy support in terms of planning, land use, financing, and taxation.

China is the global leader in primary energy consumption, holding a 27% share, which is equivalent to the combined share of the US and EU. Coal dominates China's energy mix with a 62% share, while natural gas ranks third, contributing 9%.

China became the third largest gas market in 2023, surpassing the EU and lagging behind only Russia and the US. Its gas consumption rose from 27 bcm in 2000 to 387 bcm in 2023, with the compounded annual growth rate reaching 12% over this period (Figure i). China's gas consumption growth is underpinned by intensive infrastructure development. In 2023, the total length of transmission gas pipelines reached 124,000 kilometers, with key projects enhancing the connectivity and reliability of gas supply across the nation. Furthermore, underground gas storage has become an integral part of China's gas market, with its working capacity standing at 21 bcm, and targeted to increase to 80 bcm by 2035.

Figure i: China's gas consumption evolution



Source: GECF Secretariat based on data from Cedigaz

From the sectoral perspective, the industrial sector is the leader in China's gas consumption, with 160 bcma. The country's industrial sector, highly represented by energy-intensive industries, accounts for 38% of the national GDP (compared to 25% in the EU and 18% in the US) and has final energy consumption two times higher than EU and the US combined. Natural gas has a potential to advance in the industrial sector, mainly through coal-to-gas switching and as a feedstock for specific industries, such as petrochemicals and fertilizers industries.

The electricity generation sector, consuming 80 bcma, is notable for the dominance of coal with a 62% share of total electricity output, followed by hydroelectricity (14%), wind (9%), solar (6%), nuclear (5%) and natural gas (4%). China's total electricity output is huge, representing one third of the global output. As such, even the relatively small share of China's gas-fired electricity generation translates into 300 TWh output, which makes the country the fifth in the world in terms of gas-fired electricity output, lagging behind Iran, Japan, Russia, and the US. Gas-fired electricity growth is supported by the expansion of the relevant infrastructure, with gas-fired electricity capacity having recorded an unprecedented growth from 3 GW two decades ago to 130 GW in 2023, which is still smaller compared to 205 GW in the EU and 540 GW in the US.

The demand for natural gas in power generation is anticipated to grow robustly, driven by two factors. Firstly, China's electricity sector, being one of the largest contributors to the country's energy-related CO2 emissions (12.6 Gt in 2023, or 33% of the global volume), drastically needs a shift away from the over-reliance on coal-fired electricity output to tackle air pollution and mitigate emissions, with coal-to-gas switching providing such an opportunity. Second, natural gas may be highly needed to serve as a backup for renewables, which represent one third of China's total electricity output and tend to expand their share. In particular, wind and solar need a backup power source because of their intermittency, while hydroelectric power needs a backup in case of lower hydro availability. Intermittency backup is envisaged by the Natural Gas Utilisation Policy, with "natural gas peak-shaving power station projects with a confirmed gas source and economic sustainability" included in the priority category for gas usage.

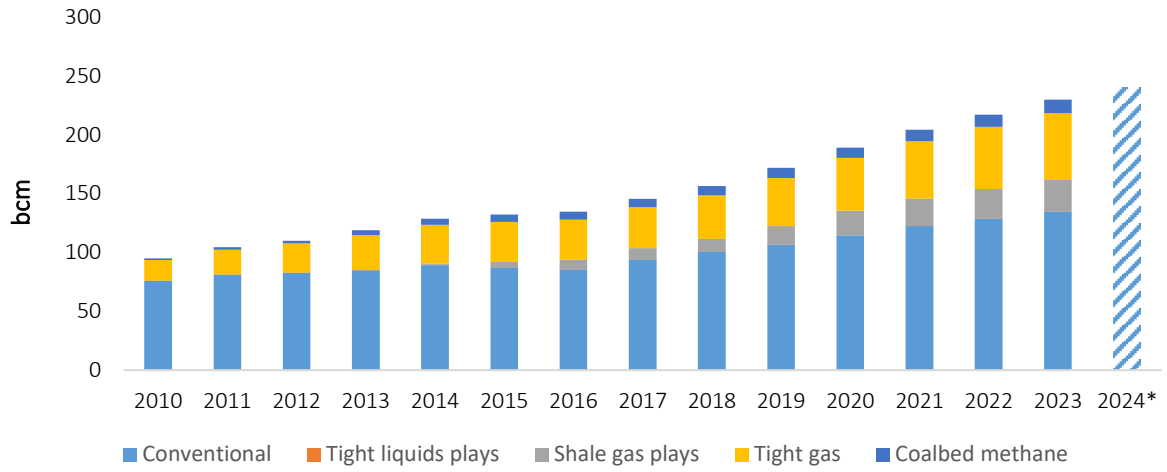
The residential sector, with 80 bcma of the domestic gas consumption, has been designated as the priority sector for gas usage by China's government in all editions of Natural Gas Utilisation Policy. In its last edition, the government kept intact the priority status of gas usage for cooking and domestic hot water for urban residents, as well as centralized heating. The number of new residential clients of city gas firms has expanded consistently, having reached an incremental 10 million in 2022 and a further 8 million in 2023. Taking into account the number of households in the country, which still use high-carbon energy sources, mainly coal, gas consumption is likely to expand in this sector, in particular through coal-to-gas switching.

The transport sector is also witnessing an increase in the utilisation of gas. The country has long been the global leader with respect to natural gas vehicles, with strong uptake of compressed natural gas (CNG) as a fuel for passenger vehicles and liquefied natural gas (LNG) as a fuel for buses and long-range trucks. Furthermore, in the maritime industry, China has developed an extensive LNG bunkering infrastructure, which serves the refuelling of both ocean-sailing vessels, as well as vessels which traverse its own internal river networks.

To meet the growing domestic gas demand, China relies on both domestic gas production and gas imports, in the form of LNG and pipeline gas supplies.

China's gas production has witnessed a sustainable increase over the last two decades to reach 230 bcm in 2023, which is compared to 27 bcm in 2000 (Figure ii). As a result, China has become the fourth largest gas producer globally, after the US, Russia and Iran. Unconventional gas production, in particular shale gas and coal bed methane, is the main driver of the output growth, while representing 40% of total gas output. In particular, shale gas production reached 25 bcm in 2023, driven by the continuing development of the Sichuan Basin in the southwestern part of the country and supported by the national government's incentives, in particular by reduced rates for resource tax valid from 2019 to 2027.

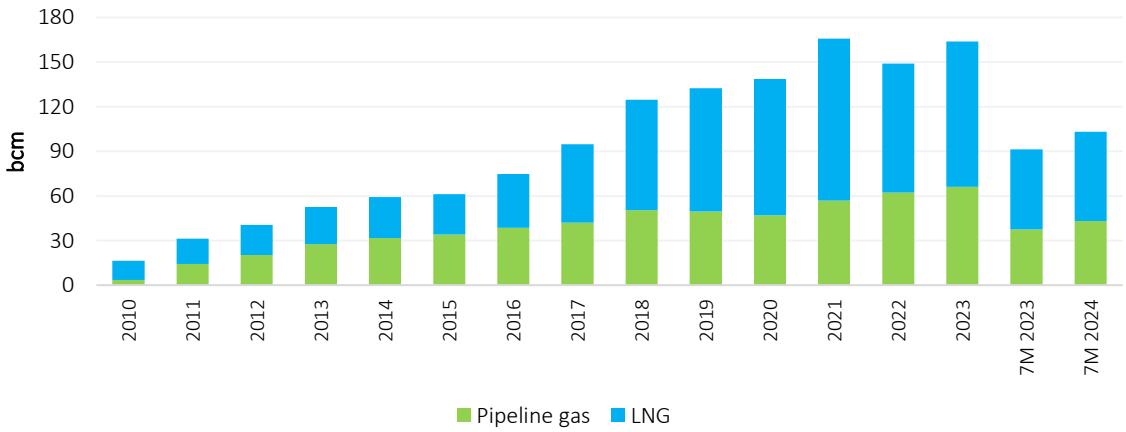
Figure ii: China's gas production evolution



Source: GECF Secretariat based on data from Cedigaz

That said, the domestic gas production is capable of meeting only 60% of the domestic gas demand. In this context, China relies heavily on gas imports, which expanded nine-fold from 2010 to reach 164 bcm in 2023. Meanwhile, both LNG and pipeline gas supplies, which started in 2006 and 2010 respectively, have consistently increased (Figure iii). As a result, China has become the global leader in gas imports accounting for 16% of the world's gas imports.

Figure iii: China's gas imports evolution



Source: GECF Secretariat based on data from Argus, General Administration of Customs China and Refinitiv

China has significantly increased LNG imports, which reached 72 Mt in 2023, with Australia, Qatar, Russia, Malaysia, and Indonesia being the leading LNG suppliers. China has become the largest LNG importer, accounting for 18% of global imports. In terms of regasification capacity, China also leads globally with over 140 Mtpa, with the average utilization rate of its 25 import terminals slightly above 50% and an additional 70 Mtpa of capacity expected to come online in the short term. It is worth noting recent changes in strategies of many global LNG exporters to the Chinese market, where some have increased the booking of LNG regasification capacity in China for the short, medium and long term, with a view to expanding their Chinese gas market access. Additionally, some global LNG exporters are signing long-term contracts not only with state-owned giants like CNPC, CNOOC and Sinopec, whom are increasingly interested in contractual-term LNG supply (inter alia, to expand their global LNG trading portfolio), but they are also signing contracts with smaller Chinese energy companies and end-consumers, with such agreements starting to dominate China's LNG sales and purchase agreements recently.

China is also steadily expanding pipeline gas imports. The major supply comes from Central Asian countries, namely Turkmenistan, Kazakhstan and Uzbekistan, through the triple-line Central Asia - China gas pipeline with a combined capacity of 55 bcma. Russia is another major pipeline gas supplier to China, with flows going via the 38 bcma Power of Siberia pipeline, and the 10 bcma Far Eastern Route coming online by 2027. Moreover, China is holding negotiations with Turkmenistan on Line D of the Central Asia – China gas pipeline for an additional capacity of 30 bcma, and with Russia on the Power of Siberia 2 pipeline with incremental capacity of 50 bcma, transiting via Mongolia.

Given China's commitment to its Nationally Determined Contributions (NDCs) and growing energy demand, driven by ambitious economic growth plans, natural gas has significant potential to increase its share in the domestic energy mix as a reliable complementary energy source to renewables and as a cost-effective replacement for coal. According to the GECF Global Gas Outlook 2050, natural gas demand in China is forecast to reach 530 bcm by 2030 and 670 bcm by 2050, securing one quarter of incremental global natural gas consumption. This growth will be supported by the country's economic expansion, urbanisation, wealthier households, coal-to-gas conversions, infrastructure buildout, and ongoing market reforms.

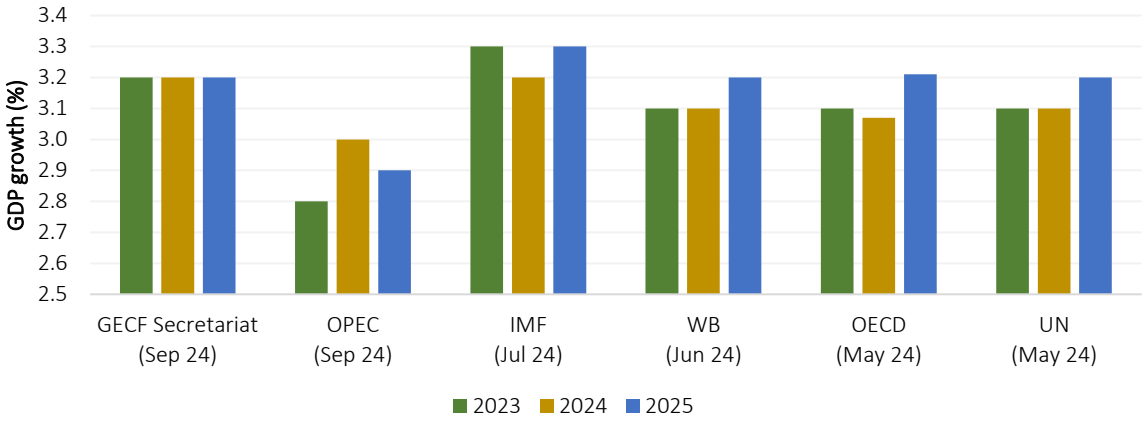
In the meantime, China will continue to depend on gas imports because of the limited perspectives for domestic gas production growth. As such, the above-mentioned gas import capacity build-out will support China's growing appetite for both LNG and pipeline gas imports, driven by its surging gas demand. China is expected to continue driving the growth in global gas imports in the short and medium term, which makes the country the priority market for many global gas exporters. In this context, it is worth mentioning that the GECF Member Countries together accounted for 42% of China's total gas imports in 2023, in particular 49% of its LNG imports and 38% of its pipeline gas imports, and therefore they are well-positioned to strengthen their role in China's gas market in the short and medium term.

1 Global Perspectives

1.1 Global economy

As of September 2024, the global GDP growth forecast for 2024 has been adjusted upwards by 0.1 percentage points to 3.2%, based on purchasing power parity. Looking ahead to 2025, the global GDP growth forecast has been maintained at 3.2%. However, the global economy may face headwinds in the upcoming months despite lower inflation and interest rates, and the risks are skewed to the downside (Figure 1).

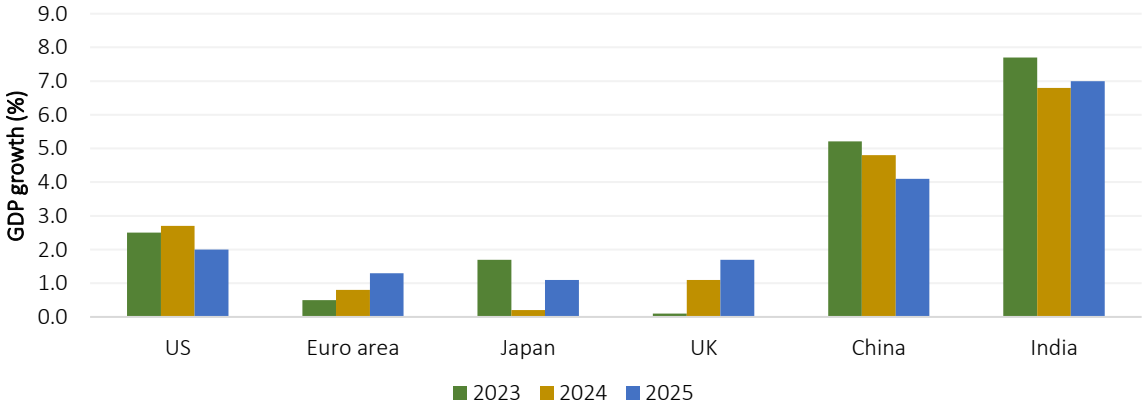
Figure 1: Global GDP growth



Source: GECF Secretariat based on data from Oxford Economics, OPEC, IMF, WB, OECD and UN
Note: Global GDP growth calculated based on purchasing power parity.

At a country level, the US GDP growth forecast for 2024 has been revised slightly upward to 2.7%, reflecting stronger-than-anticipated Q2 performance. In contrast, the Euro area's forecast remains unchanged at 0.8%, with growth momentum staying modest. China's growth projection holds at 4.8%, as the economy continues to face challenges, including weaker consumer demand and slower export growth. India's forecast also stays steady at 6.8%. Looking ahead to 2025, the US GDP growth forecast has been adjusted upward to 2.0%. In the Euro area, however, the forecast has been revised down to 1.3%. Growth forecasts for China and India remain at 4.1% and 7.0%, respectively (Figure 2).

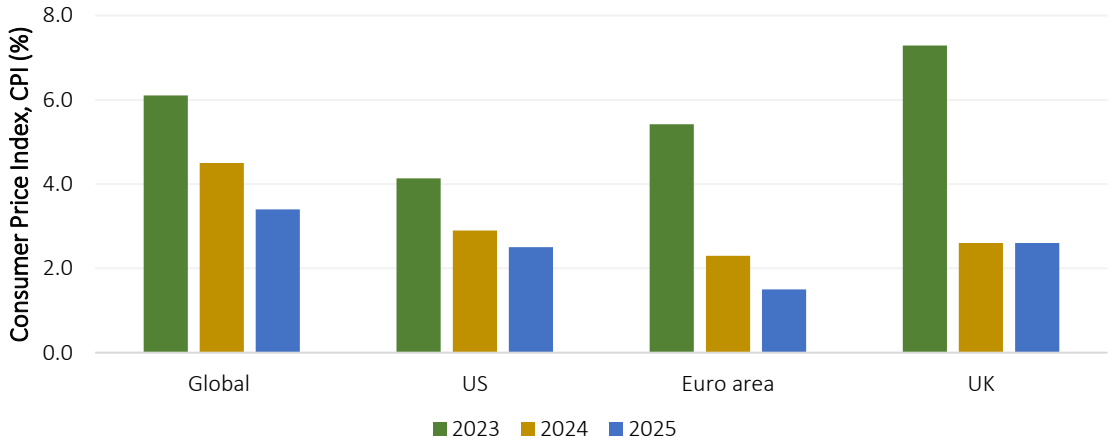
Figure 2: GDP growth in major economies



Source: GECF Secretariat based on data from Oxford Economics

Global inflation is expected to average 4.5% in 2024, declining from 6.1% in 2023, according to Oxford Economics. Furthermore, in 2025, global inflation is projected to fall to 3.4%. In the Euro area, inflation is projected to fall to 2.3% in 2024 and 1.5% in 2025. In the UK, inflation is expected to be 2.6% in both 2024 and 2025. In the US, inflation is expected to decline to 2.9% in 2024 and 2.5% in 2025 (Figure 3).

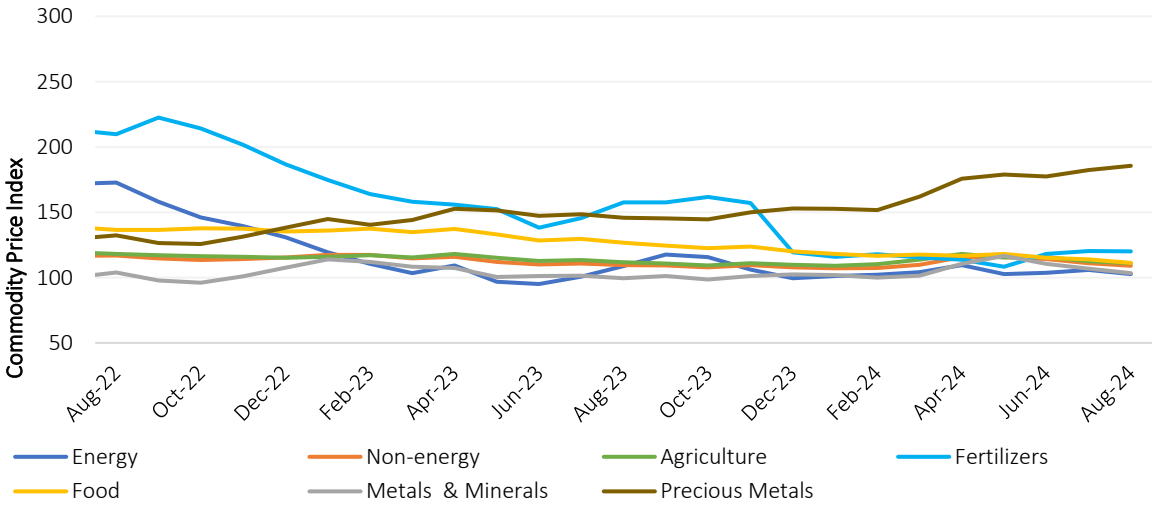
Figure 3: Inflation rates



Source: GECF Secretariat based on data from Oxford Economics

In August 2024, commodity prices in the energy sector decreased following two consecutive monthly increases. The energy price index experienced decreases of 3% m-o-m and 6% y-o-y. This was mainly driven by a decline in oil prices during the month. Additionally, the non-energy price index declined by 2% m-o-m and 1% y-o-y. Declines in agriculture, and metals and minerals indices contributed to the lower non-energy price index compared to the previous month. Meanwhile, the fertilizer price index was relatively stable compared to the previous month but remained 24% lower y-o-y (Figure 4).

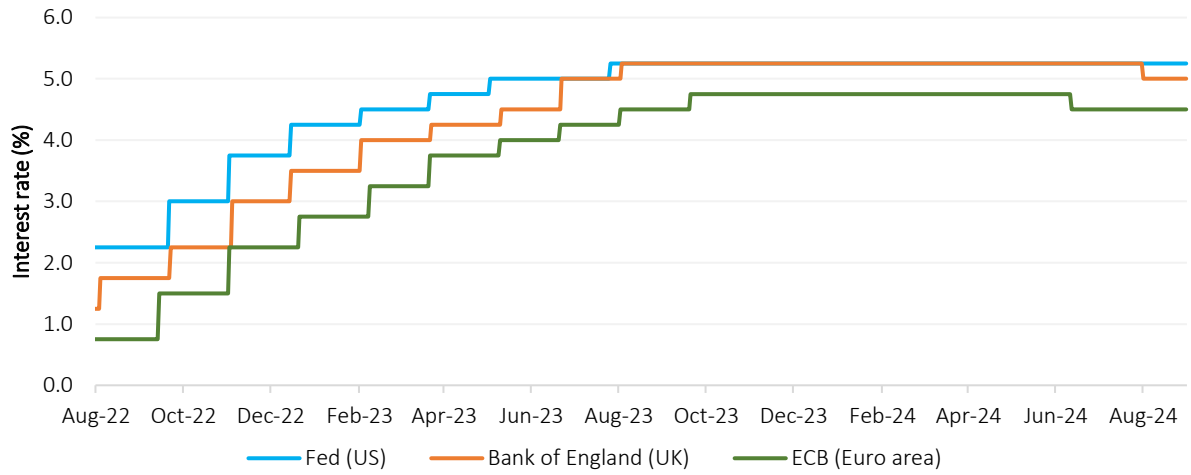
Figure 4: Monthly commodity price indices



Source: GECF Secretariat based on data from World Bank Commodity Price Data
Note: Monthly price indices based on nominal US dollars, 2010=100. The energy price index is calculated using a weighted average of global crude oil (84.6%), gas (10.8%) and coal (4.7%) prices. The non-energy price index is calculated using a weighted average of agriculture (64.9%), metals & minerals (31.6%) and fertilizers (3.6%).

In August 2024, the US Federal Reserve (Fed) maintained its benchmark interest rate within the range of 5.25% to 5.50%. The Fed's last rate hike occurred in July 2023 (Figure 5). The Bank of England (BOE) implemented its first rate cut on 1 August, 2024, lowering its key interest rate by 0.25 percentage points to 5%, following its last increase in August 2023. Additionally, the European Central Bank (ECB) maintained its key interest rates for main refinancing operations, marginal lending facility and deposit facility rates at 4.25%, 4.5% and 3.75%, respectively, following its most recent rate cut in June 2024. The upcoming US Fed meeting in mid-September is highly anticipated, as it is expected to mark the beginning of interest rate cuts.

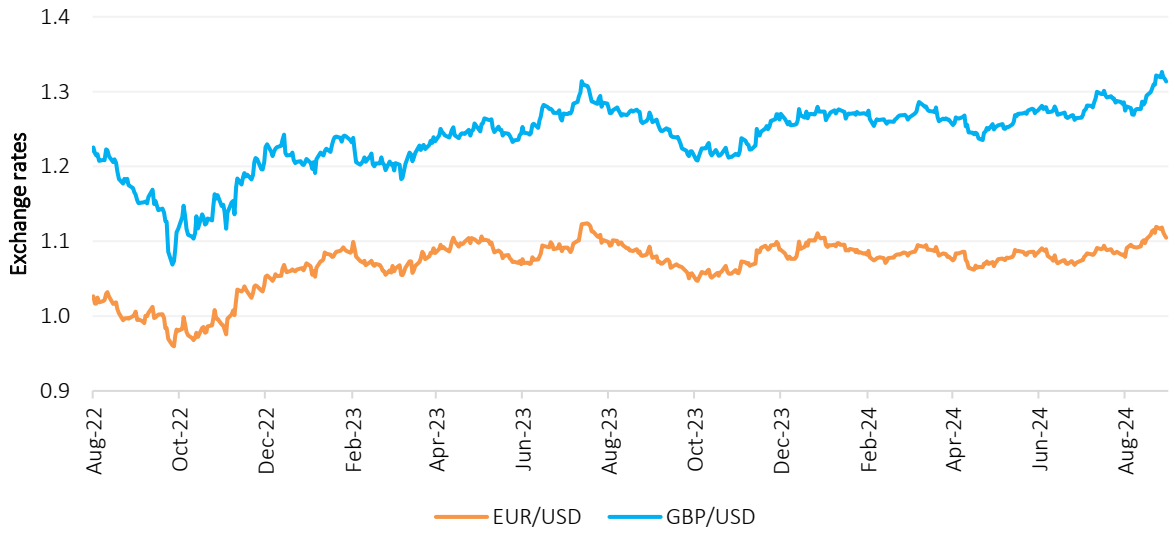
Figure 5: Interest rates in major central banks



Source: GECF Secretariat based on data from US Federal Reserve, European Central Bank and Bank of England

In August 2024, the Euro appreciated slightly against the US dollar, resulting in an average exchange rate of $1.0846. This represented an increase of 0.8% m-o-m and a decrease of 1.9% y-o-y. Similarly, the British pound appreciated against the US dollar, as the average exchange rate reached $1.2864, reflecting an increase of 1% m-o-m, and was at relatively the same level compared to last year (Figure 6).

Figure 6: Exchange rates



Source: GECF Secretariat based on data from Refinitiv Eikon

1.2 Other developments

APEC: The 14th Asia-Pacific Economic Cooperation (APEC) Energy Ministerial meeting took place on 15-16 August 2024 in Lima, Peru, under the overarching theme “Empower. Include. Grow.” and in support of APEC´s thematic priority "Sustainable Growth for Resilient Development". The ministers affirmed “the importance of ensuring energy security, resilience and access in the region, accelerating clean, sustainable, just, affordable, inclusive and sustainable energy transitions through various pathways, consistent with global net-zero greenhouse gas emissions/carbon neutrality by or around mid-century, taking into account the latest scientific developments and different domestic circumstances among economies, with a view to promote strong, balanced, secure, sustainable and inclusive economic growth.”

G20: The ‘G20 Dialogue – Energy Transitions’ event was held on 28 August 2024, in Brasilia, Brazil. During the event, Brazil’s Minister of Mines and Energy, Mr. Alexandre Silveira, announced the forthcoming launch of the National Clean Cooking Policy. This policy aims to replace firewood with cleaner alternatives and will be officially introduced at the G20 Energy Transition Working Group ministerial meeting in October 2024. Additionally, Ms. Luciana Costa, Director of Infrastructure, Energy Transition, and Climate Change at the Brazilian Development Bank (BNDES), underscored the necessity of involving the oil and gas sector in this transition. She remarked, “the energy transition is not a disruption, it is a transition. So, we will continue to live with fossil fuels and transition to a future of carbon neutrality, which is not net zero”.

Brazil: The National Energy Policy Council (CNPE) of Brazil approved the National Energy Transition Policy on 26 August 2024. This strategic document is designed to enhance the coordination and synergy of Brazil's energy transition efforts, aligning with existing government policies such as the National Climate Change Policy and the Ecological Transformation Plan. The policy aims to bolster the new global economy by generating jobs and income while ensuring a fair and inclusive transition. It outlines new guidelines for the marketing of oil and natural gas, focusing on boosting industrialization and securing national energy supplies. Additionally, the policy sets forth guidelines for the decarbonization of oil and natural gas exploration and production activities.

2 Gas Consumption

In 7M 2024, aggregated gas consumption in some of the major gas consuming countries, which account for 60% of global gas demand, increased by 2.2% y-o-y to reach 1,390 bcm. The growth was recorded in Asia and North America, while the EU and the UK continued to experience a decline. For the full year 2024, global gas consumption is forecast to reach 1.5%, influenced by the evolving market dynamics, such as shifts in energy demand, temperature anomalies, industrial recovery and the acceleration of renewable energy alternatives.

2.1 Europe

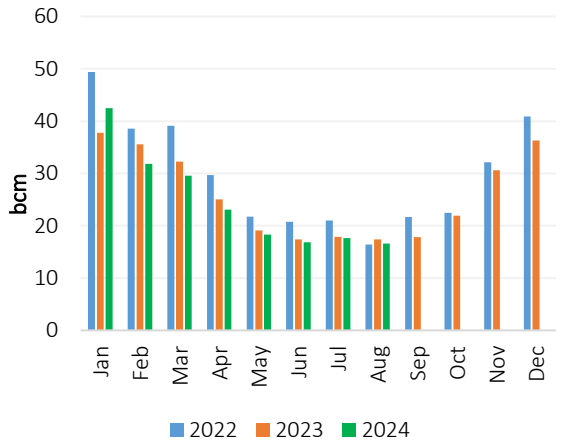
2.2.1 European Union

In August 2024, gas consumption in the EU recorded a 4.6% y-o-y decrease to total 17 bcm, which was mainly driven by the continuous implementation of the gas demand reduction measures and higher nuclear and solar output in the power generation sector (Figure 7).

In the industrial sector, gas consumption showed a recovery in major industrialized European countries, boosted by lower gas prices. In the power generation sector, gas consumption recorded a 4% y-o-y decline, while total electricity production rose by 5.2% y-o-y, reaching 198 TWh driven by cooling demand. In August 2024, the average temperature across Europe was 1.57°C above the 1991-2020 average, making it the second warmest August on record, following August 2022, which was 1.73°C above average. The significant decrease in gas consumption can be attributed to increased outputs from solar and nuclear. Conversely, electricity generated from coal, hydro and wind witnessed a decline (Figure 8). In the power mix, non-hydro renewables held the largest share of 36%, followed by nuclear at 26%, gas at 17%, hydro at 12%, and coal at 9%.

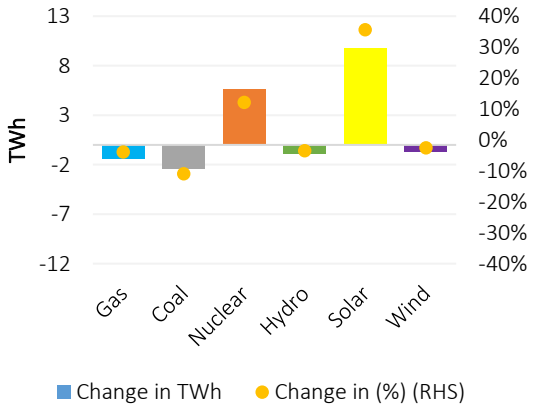
For the period Jan-Aug 2024, EU's gas consumption declined by 3% y-o-y to reach 196 bcm.

Figure 7: Gas consumption in the EU



Source: GECF Secretariat based on data from Entsog and Refinitiv

Figure 8: Trend in electricity production in the EU in August 2024 (y-o-y change)



Source: GECF Secretariat based on data from Ember

2.1.1.1 Germany

In August 2024, Germany witnessed a decline in gas consumption after two months of consecutive y-o-y growth. It dropped by 4.8% y-o-y to reach 3.4 bcm (Figure 9). The drop was observed across all gas consuming sectors, including the industrial sector (Figure 10).

For the period Jan-Aug 2024, Germany's gas consumption dropped by 1% y-o-y to 47 bcm.

Figure 9: Gas consumption in Germany

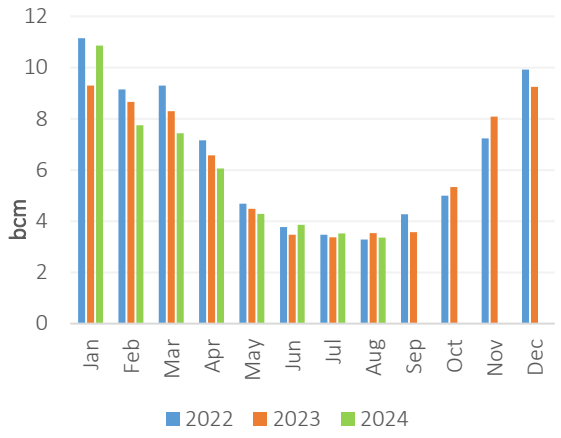
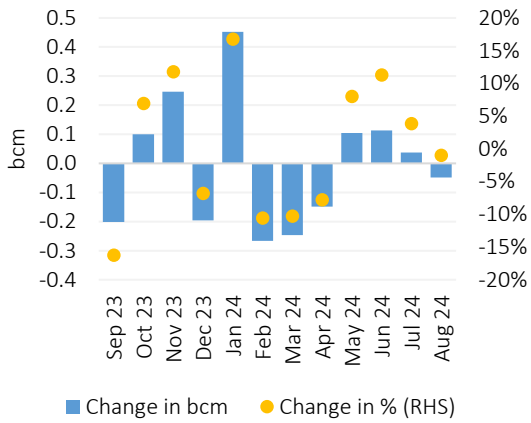


Figure 10: Trend in gas consumption in the industrial sector in Germany (y-o-y change)



Source: GECF Secretariat based on data from Refinitiv

Overall, electricity production rose by 8% y-o-y to total 34 TWh, driven by growing cooling demand, with Germany experiencing a temperature anomaly of +1.84°C above normal, while over the entire summer, the anomaly was +0.89°C. However, gas-fired power generation recorded a decrease of 2% y-o-y, while electricity production from hydro and solar experienced substantial increases, driven by favourable weather conditions (Figure 11). In the electricity mix, non-hydro renewables led with a 57% share, followed by coal and gas at 21% and 16% respectively and hydro at 6% (Figure 12).

Figure 11: Trend in electricity production in Germany in August 2024 (y-o-y change)

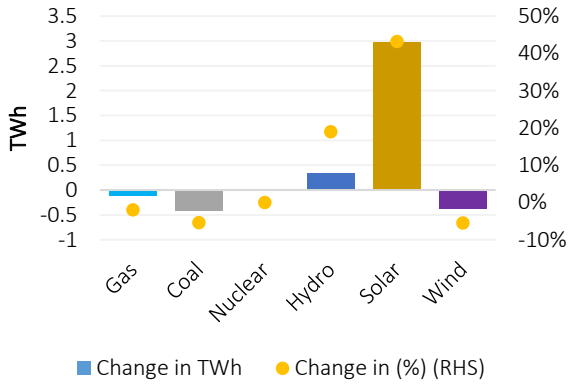
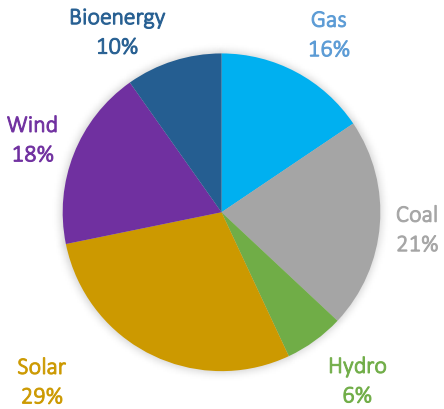


Figure 12: German electricity mix in August 2024



Source: GECF Secretariat based on data from Refinitiv and Ember

2.1.1.2 Italy

In August 2024, Italy's gas consumption decreased by 2.4% y-o-y to total 3.7 bcm (Figure 13). This decline was primarily due to reduced consumption in the residential sector, largely influenced by the holiday period in Italy. The residential sector dropped by 4.3% to 0.7 bcm. In the industrial sector, gas consumption recorded the third consecutive monthly growth, increasing by 1.3% y-o-y to reach 0.7 bcm (Figure 14).

For the period Jan-Aug 2024, Italy's gas consumption decreased by 6% y-o-y to reach 39 bcm.

Figure 13: Gas consumption in Italy

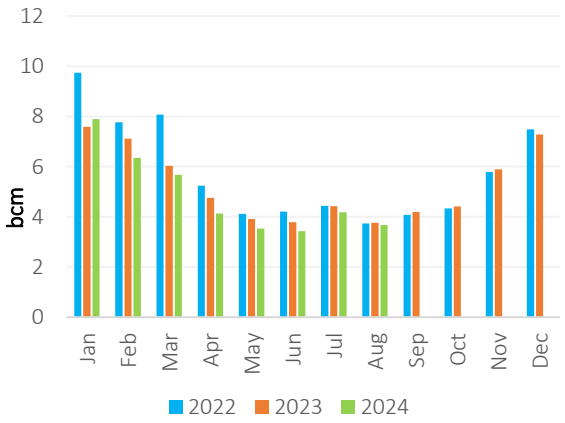
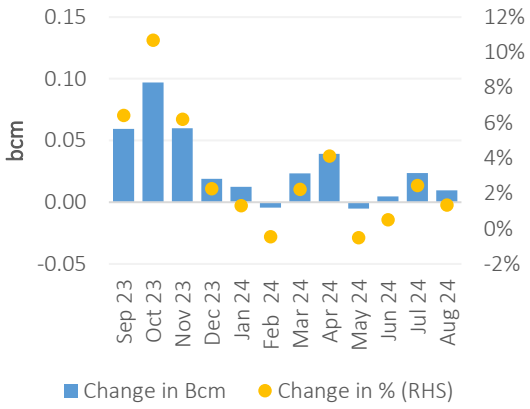


Figure 14: Trend in gas consumption in the industrial sector in Italy (y-o-y change)



Source: GECF Secretariat based on data from Snam

Total electricity production increased by 7.8% y-o-y to reach 21.5 TWh, driven by the increased cooling demand. Italy recorded an average temperature of 24.6°C, which was 2.6°C above normal, making it the second hottest August on record. Excluding March 2022, there has been a continuous series of positive monthly thermal anomalies for over three years. In this regard, gas-based electricity production rose by 23% y-o-y to 2 bcm, while there was also a significant y-o-y increase in energy generation from hydro and solar (Figure 15). Meanwhile, gas remained the dominant fuel in the power mix with 51% of the share followed by non-hydro renewables with 30% (Figure 16).

Figure 15: Trend in electricity production in Italy in August 2024 (y-o-y change)

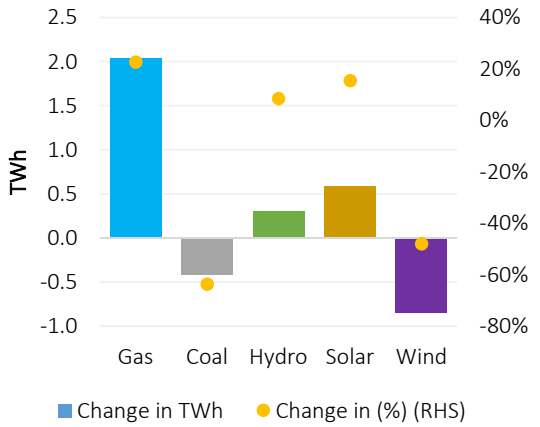
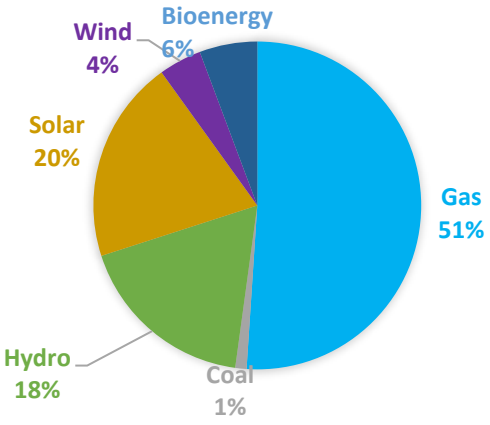


Figure 16: Italian electricity mix in August 2024



Source: GECF Secretariat based on data from Refinitiv and Ember

2.1.1.3 France

In August 2024, France experienced the seventh consecutive monthly decline in gas consumption, which dropped by 16% y-o-y to 1.1 bcm (Figure 17). The primary driver of this decline was the power generation sector. Similarly, gas consumption in the residential sector decreased by 4.7% y-o-y. The industrial sector recorded the first decline after four consecutive months of growth, showing 1% y-o-y decline, with consumption totalling 0.6 bcm (Figure 18).

For the period Jan-Aug 2024, France's gas consumption decreased by 9% y-o-y to reach 20 bcm.

Figure 17: Gas consumption in France

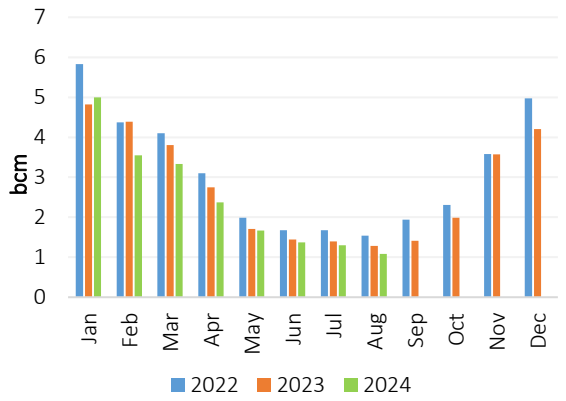
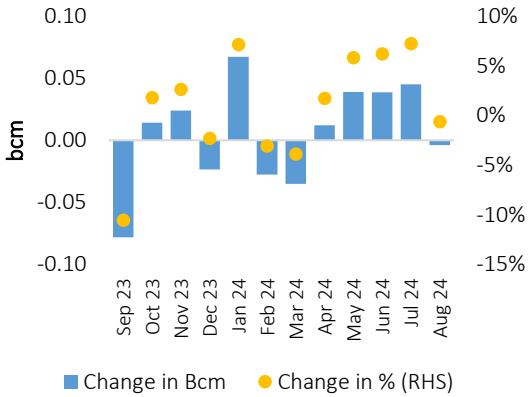


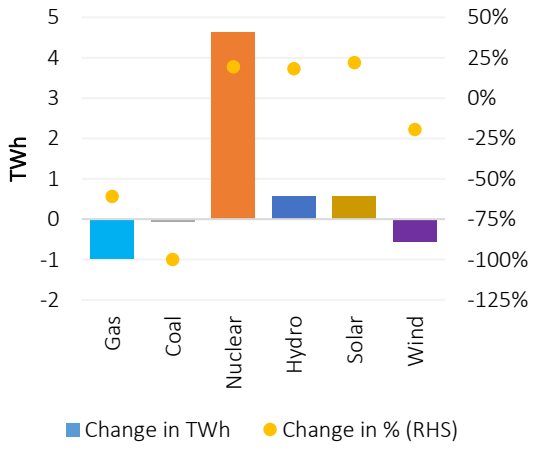
Figure 18: Trend in gas consumption in the industrial sector in France (y-o-y change)



Source: GECF Secretariat based on data from GRTgaz

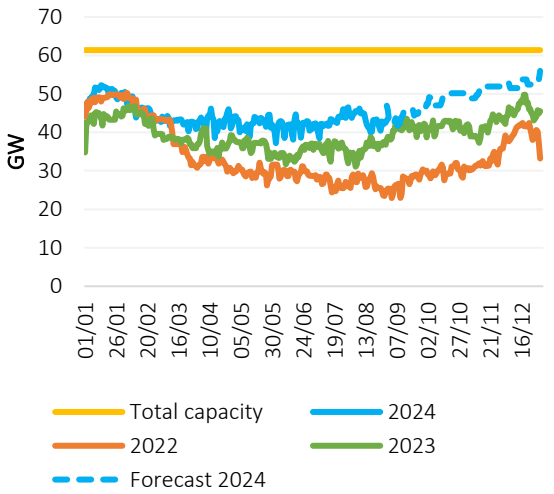
Total electricity production rose by 12% y-o-y to reach 38 TWh amidst the growing cooling demand. In August 2024, France experienced a temperature anomaly of +1.5°C above normal, while the entire summer was moderately warm with an anomaly of +0.7°C. However, electricity production from gas in France dropped by 61% y-o-y, while electricity production from hydro, solar and nuclear witnessed substantial increases (Figure 19). The availability of nuclear capacity increased by 21% y-o-y (Figure 20). In France's electricity mix, nuclear power continued to be the dominant source, accounting for a 74% share, followed by non-hydro renewables (15%), hydro (10%), and gas (1%).

Figure 19: Trend in electricity production in France in August 2024 (y-o-y change)



Source: GECF Secretariat based on data from Ember

Figure 20: French nuclear capacity availability



Source: GECF Secretariat based on Refinitiv and RTE

2.1.1.4 Spain

In August 2024, Spain's gas consumption decreased by 9.3% y-o-y to reach 2 bcm (Figure 21). The decrease was mainly driven by lower gas use in the power generation sector. By contrast, industrial sector consumption recorded a growth of 3% y-o-y, fuelled by higher gas usage across several industries such as textile, refineries, metallurgy and construction (Figure 22).

For the period Jan-Aug 2024, Spain's gas consumption decreased by 8% y-o-y to reach 18 bcm.

Figure 21: Gas consumption in Spain

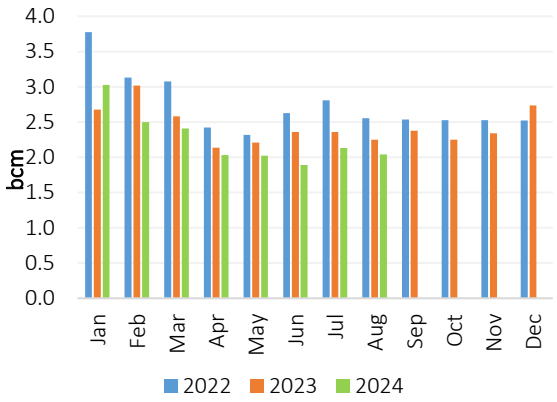
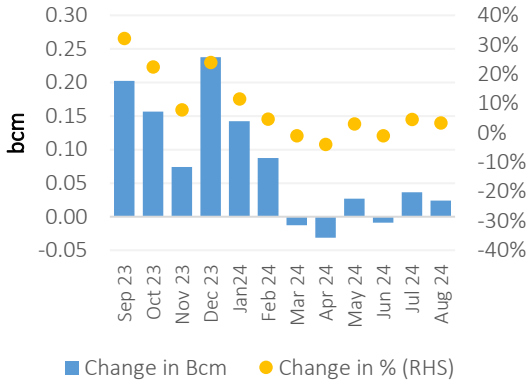


Figure 22: Trend in gas consumption in the industrial sector in Spain (y-o-y change)



Source: GECF Secretariat based on data from Enagas

Overall electricity production in the country declined by 2% y-o-y to 21 TWh, despite the fact that August 2024 was the hottest on record in Spain, with an average temperature of 25°C, surpassing the 1991-2020 average by 2°C and narrowly exceeding August 2023. Provisional data shows that 2024, with an average temperature of 15.8°C from January to August, is tied with 2022 as the warmest year on record. In addition, electricity generation from gas experienced a 26% y-o-y decrease, offset by a significant rise in hydro and solar production (Figure 23). Non-hydro renewables maintained the dominant position in the power mix, accounting for 48%, while natural gas represented 20% (Figure 24).

Figure 23: Trend in electricity production in Spain in August 2024 (y-o-y change)

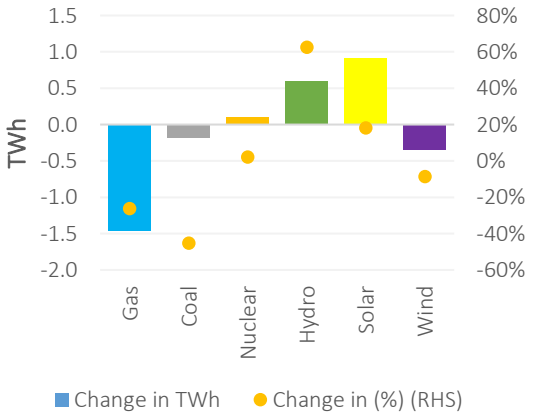
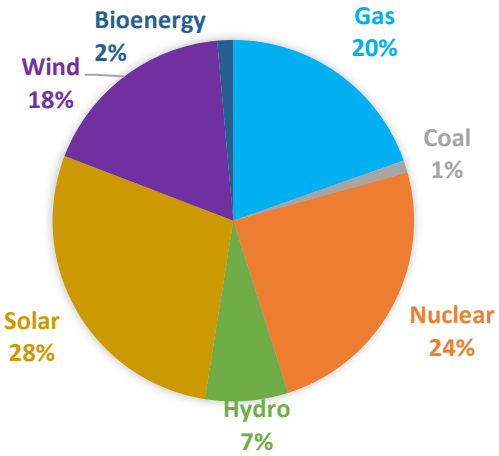


Figure 24: Spanish electricity mix in August 2024



Source: GECF Secretariat based on data from Ember and Ree

2.1.2 United Kingdom

In August 2024, the UK recorded its seventh consecutive month of declining gas consumption, which dropped by 23% y-o-y to 2.3 bcm (Figure 25). In particular, the industrial sector experienced a 30% decline amidst the holiday period (Figure 26). The residential sector witnessed an increase of 2.8%, influenced by colder weather on some days. The UK recorded an average temperature of 15.4°C, which was 0.3°C above normal. For the entire summer, the average temperature was 14.37°C, slightly below normal by 0.22°C. Electricity production from gas witnessed a 51% y-o-y decrease, driven by strong wind output, despite total electricity production rising by 1.7% y-o-y to 18.1 TWh. In the power mix, non-hydro renewables took the lead with 57% of the total electricity production, followed by nuclear at 22% and gas at 20%.

For the period Jan-Aug 2024, the UK gas consumption dropped by 6% y-o-y to 35.4 bcm.

Figure 25: Gas consumption in the UK

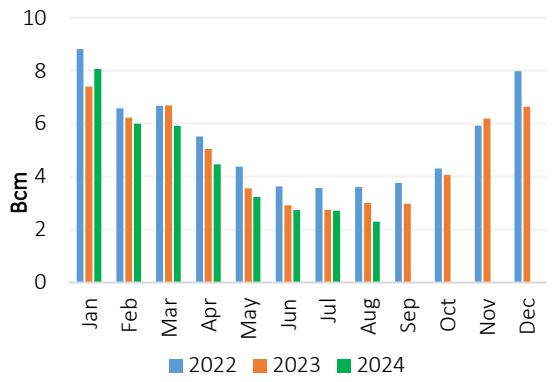
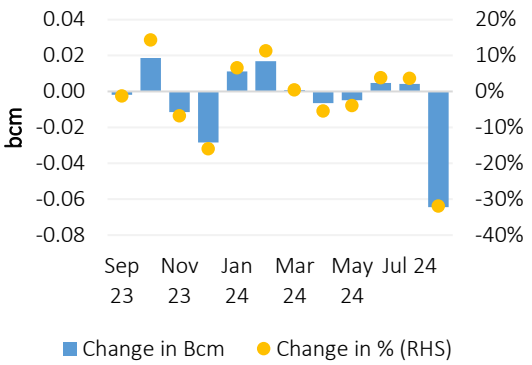


Figure 26: Trend in gas consumption in the industrial sector in the UK (y-o-y change)



Source: GECF Secretariat based on data from Refinitiv

From January to August 2024, aggregated gas consumption in the EU and UK decreased by 3% y-o-y (8 bcm) to reach 232 bcm (Figure 27). The EU was the main contributor to this decline, with a y-o-y reduction of 6 bcm. The region recorded the seventh consecutive month of y-o-y contraction (Figure 28).

Figure 27: YTD EU and UK gas consumption

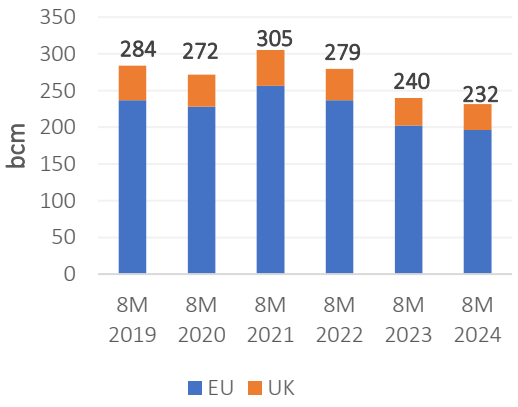
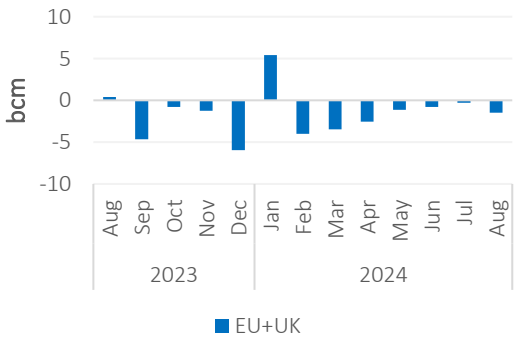


Figure 28: Y-o-y variation in EU and UK gas consumption



Source: GECF Secretariat based on data from Refinitiv

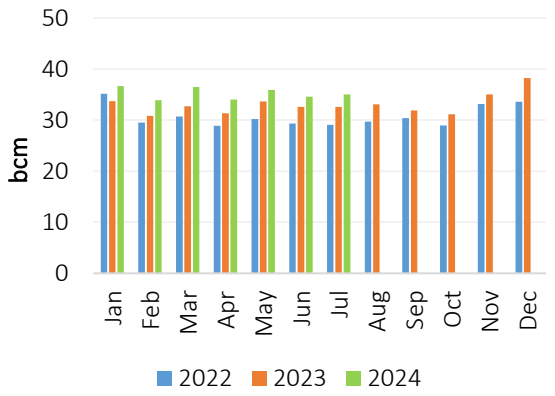
2.2 Asia

2.2.1 China

In July 2024, China's apparent gas demand, which is estimated as gas domestic production, and imports, rose by 7.4% y-o-y to reach 35 bcm (Figure 29). In particular, the industrial sector increased gas consumption, for instance, in the production of toughened and laminated glass, one of the most gas-intensive industries in the country. However, electricity production from gas decreased by 4% y-o-y, while total electricity production rose by 5% to reach 833 TWh driven by cooling demand amidst increasing temperatures (Figure 30).

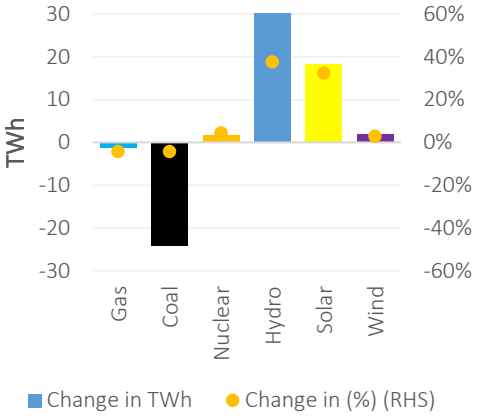
In the first 7 months of 2024, Chinese gas consumption increased by 8% y-o-y to 247 bcm.

Figure 29: Gas consumption in China



Source: GECF Secretariat based on data from Refinitiv

Figure 30: Y-o-y electricity production July 2024



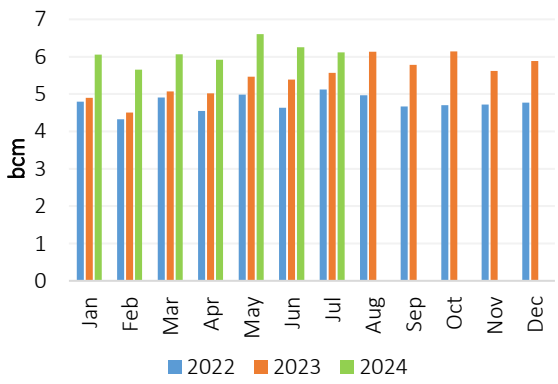
Source: GECF Secretariat based on data from Ember

2.2.2 India

In July 2024, India's gas consumption increased by 10% y-o-y to 6.1 bcm, marking its nineteenth consecutive month of y-o-y growth (Figure 31). In the sectoral breakdown, the fertilizer sector accounted for 29% of gas demand, followed by city gas distribution (21%), power generation (12%), refining (8%) and the petrochemical sector (5%) (Figure 32). Indian gas-based power utilities operated at full capacity following the power ministry's directive for them to increase generation during the extreme heatwave.

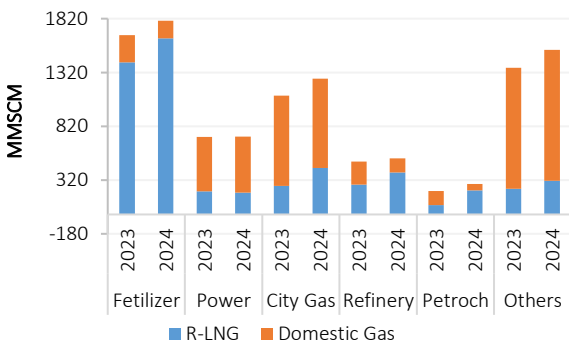
In the first 7 months of 2024, India's gas consumption increased by 19% y-o-y to 43 bcm.

Figure 31: Gas consumption in India



Source: GECF Secretariat based on data from PPAC

Figure 32: India's gas consumption by sector in July 2024

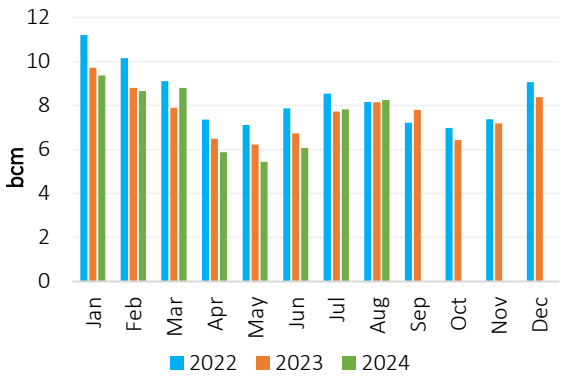


2.2.3 Japan

In August 2024, Japan's gas consumption rose by 1.2% y-o-y to 8.2 bcm (Figure 33). Japan experienced a temperature anomaly of +1.84°C, making it the second hottest on record, just behind 2023. That resulted in an increase in power demand for cooling, which boosted gas consumption in the power generation sector by 1.7% y-o-y, amidst the lower nuclear availability. Similarly, the city gas sector recorded a growth of 0.4% y-o-y.

In 8M 2024, Japan's gas consumption decreased by 2% y-o-y to 60 bcm.

Figure 33: Gas consumption in Japan



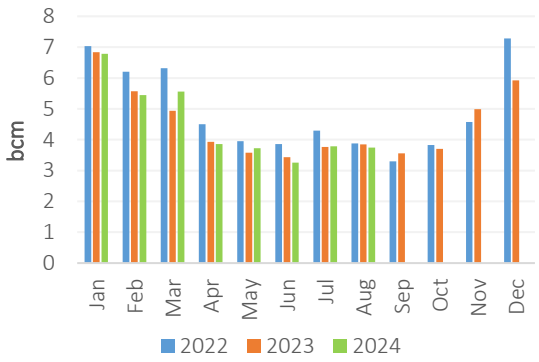
Source: GECF Secretariat based on data from Refinitiv

2.2.4 South Korea

In August 2024, South Korea's gas consumption increased by 6% y-o-y to 3.9 bcm (Figure 34). That was driven by a rise in the power generation sector, bolstered by cooling demand, with an average temperature of 27.9°C, which was 2.8°C above normal for August. The entire summer had temperature anomaly of +1.9°C, marking it the hottest summer in the country's history.

In 8M 2024, South Korea's gas consumption rose by 1% y-o-y to 36 bcm.

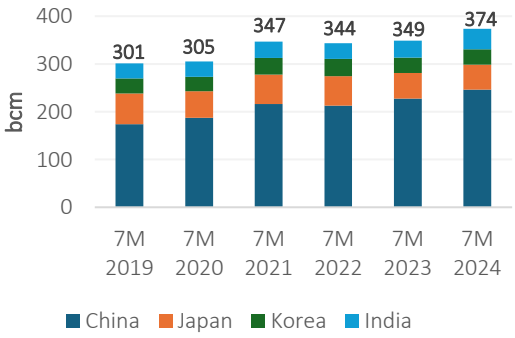
Figure 34: Gas consumption in South Korea



Source: GECF Secretariat based on data from Refinitiv

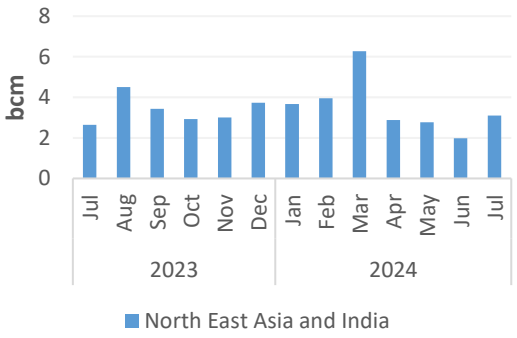
From January to July 2024, aggregated gas consumption in China, Japan, South Korea and India rose by 7% y-o-y (25 bcm) to reach 374 bcm (Figure 35). China was the leading contributor, with an additional 19 bcm, followed by India with an increase of 7 bcm. The region recorded the sixteenth consecutive month of y-o-y growth (Figure 36).

Figure 35: YTD aggregated gas consumption in major consuming countries in Asia



Source: GECF Secretariat based on data from PPCA, Refinitiv and Chinese custom

Figure 36: Y-o-y variation in major consuming countries in Asia



Source: GECF Secretariat based on data from PPCA, Refinitiv and Chinese custom

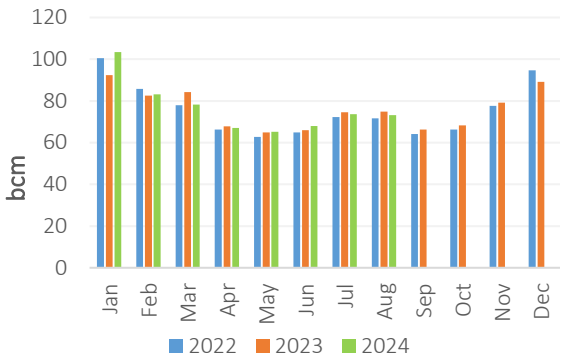
2.3 North America

2.3.1 US

In August 2024, the US gas consumption dropped by 2.3% y-o-y to 73.2 bcm (Figure 37). Gas-fired power generation witnessed a 1.3% y-o-y decrease, despite overall power output increasing by 3.8% y-o-y with solar leading the growth. In the power mix, gas continued to lead with a 48% share. Similarly, the industrial sector declined by 1.4% y-o-y. By contrast, the residential and commercial sectors rose by 5.5% y-o-y and 4.6% y-o-y respectively.

In 8M 2024, the US gas consumption increased by 1% y-o-y to reach 612 bcm.

Figure 37: Gas consumption in the US



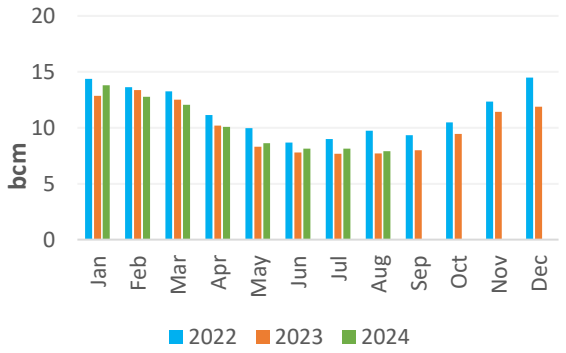
Source: GECF Secretariat based on data from EIA, Ember and Refinitiv

2.3.2 Canada

In August 2024, Canada's gas consumption rose by 2.6% y-o-y to reach 7.9 bcm (Figure 38). This rise was driven by power generation/industrial sector with an increase of 3.2% y-o-y. However, the residential and commercial sectors recorded a decline of 2% and 1.9% y-o-y respectively.

In 8M 2024, Canada's gas consumption rose by 1.4% y-o-y to reach 81.5 bcm.

Figure 38: Gas consumption in Canada



Source: GECF Secretariat based on data from Refinitiv

From January to August 2024, gas consumption in North America rose by 0.8% y-o-y (5.5 bcm) to reach 693 bcm (Figure 39). However, August marked the second consecutive month with a y-o-y decline, reflecting a slowdown in gas demand across the region (Figure 40).

Figure 39: YTD North American gas consumption

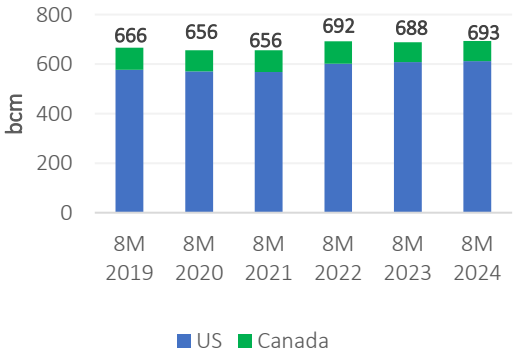
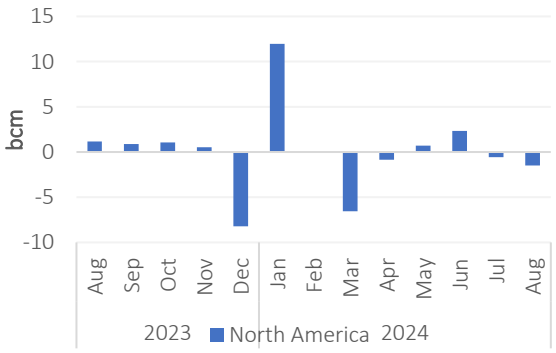


Figure 40: Y-o-y variation in North American gas consumption



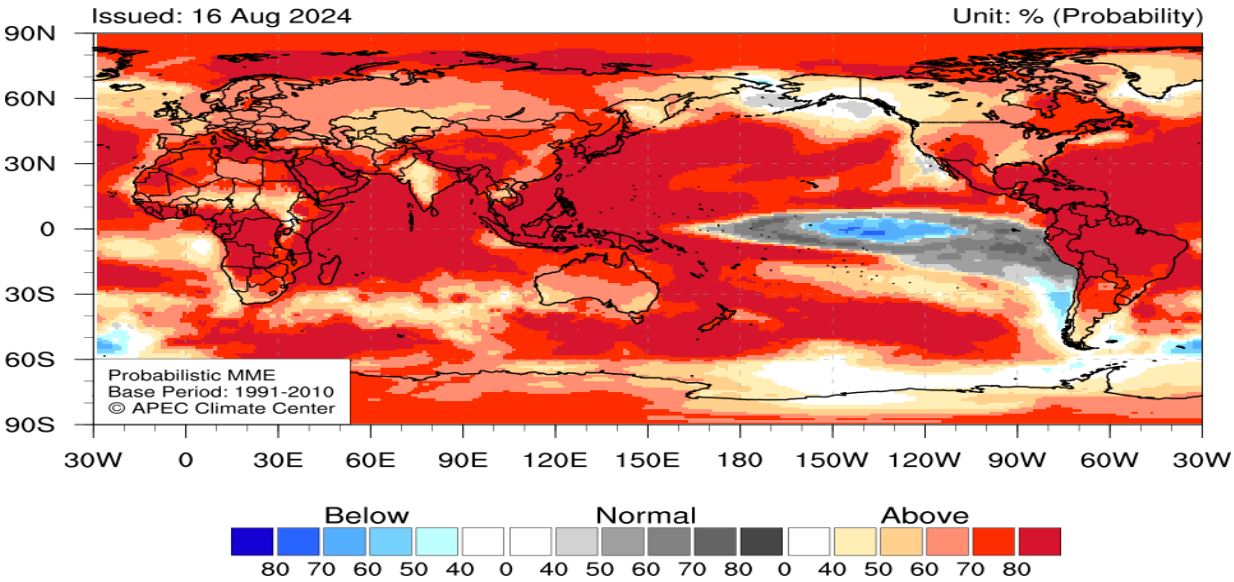
Source: GECF Secretariat based on data from EIA and Refinitiv

2.4 Weather forecast

2.4.1 Temperature

According to the APEC Climate Center, a pronounced likelihood of above normal temperatures is predicted for most of the globe (excluding the central and eastern tropical Pacific) for the period September to November 2024 (Figure 41).

Figure 41: Temperature forecast September to November 2024

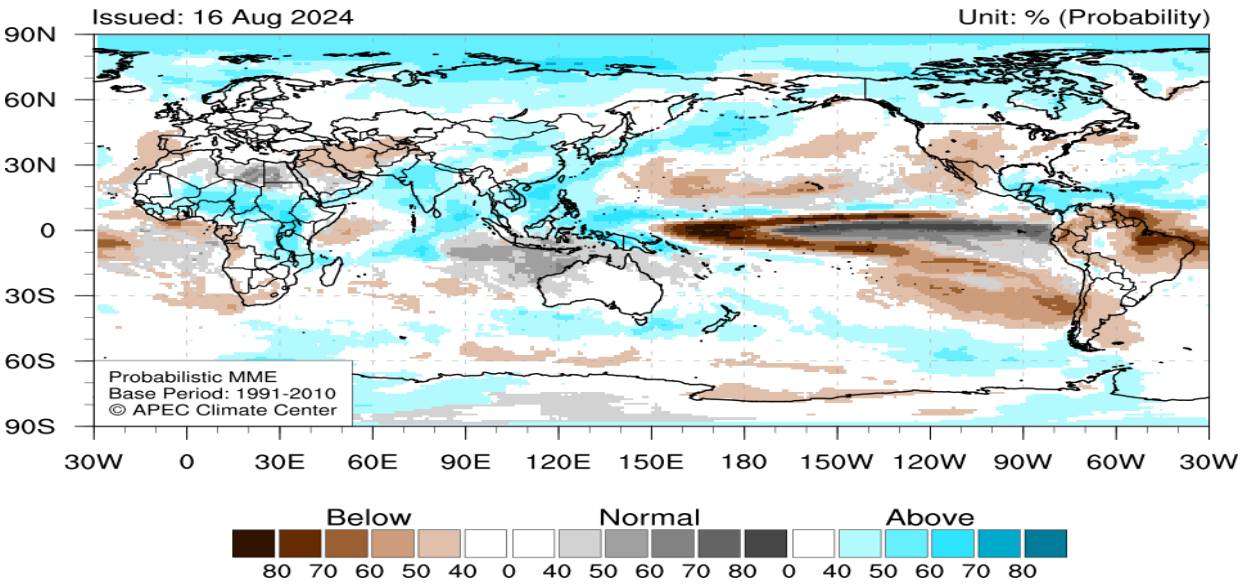


Source: APEC Climate Center

2.4.2 Precipitation

According to the same source, above normal precipitation is predicted for the region spanning central Africa, India, the Bay of Bengal, the South China Sea to the northern North Pacific, Papua New Guinea, and the western Pacific, the Caribbean, the Atlantic, Greenland, parts of East Asia, the Indochina Peninsula and northern Canada for the period September to November 2024 (Figure 42).

Figure 42: Precipitation forecast September to November 2024



Source: APEC Climate Center

3 Gas Production

In the first seven months of 2024, the major gas producing countries, which account for 72% of the global gas output, collectively increased gas production by 2.3% y-o-y to reach 1,815 bcm. This reflects a healthy response from the global gas supply to the rising global demand.

The current trend in gas production shows resilience across the main producing countries, with an annual anticipated production of 4.1 tcm. This growth is expected to be led by CIS and the Middle East. Russia leads the growth in global gas production, driven by the increased domestic consumption, increasing PNG exports to China, and recovering PNG exports to the EU, while in the Middle East, the development of multiple gas projects in Saudi Arabia is expected to lead the uptick. North America is expected to record a growth, however with a slower pace. This is mainly attributed to the significant growth in Canada's unconventional output, which will counterbalance the projected decrease in the US gas production. On the other hand, the African production is projected to decline in 2024, as a result of the decrease in gas output of some key African producers. GECF MCs are projected to account for 41% of global gas production in 2024, with a 3.3% rise.

3.1 Europe

In July 2024, Europe witnessed a slight decline in its monthly gas production of 0.7% y-o-y, resulting in a total output of 15.3 bcm (Figure 43). This decrease primarily originated from the significant decline in the UK's and the Netherlands' output, however the effect was counterbalanced by the significant rise in Norway's gas production. For the period Jan-Jul 2024, the cumulative gas production in Europe reached 112 bcm, representing a 3.8% y-o-y rise.

Figure 43: Europe's monthly gas production

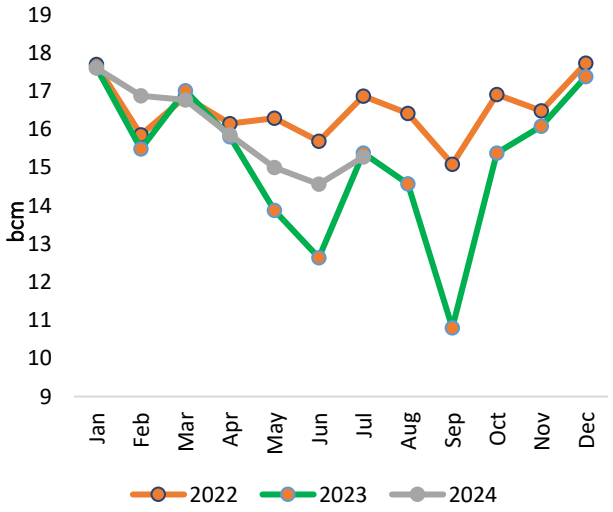
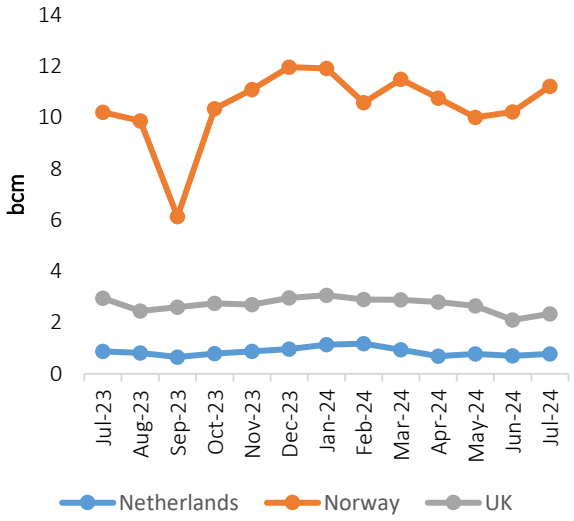


Figure 44: Gas production in key European countries



Source: GECF Secretariat based on data from Refinitiv and the Norwegian Offshore Directorate

3.1.1 Norway

Norway's gas production witnessed a 33% y-o-y surge to achieve 11.2 bcm (Figure 44). This high output was driven by elevated gas output from the giant Troll field, combined with the effect of a low maintenance period especially in the Kollsnes plant. Only the 16.4 mmcm/d Asgard gas field underwent a planned maintenance, which impacted its production for a period of days. For Jan-Jul 2024, cumulative gas production in Norway reached 75.9 bcm, representing a 9.2% rise.

3.1.2 UK

UK gas production declined by 20% y-o-y to 2.3 bcm. Unplanned outages in the 8.8 mmcm/d Bacton Perenco and the 9.7 mmcm/d Teesside gas terminals reduced their capacities for a period of 3 and 1 days, respectively. For the period Jan-Jul 2024, cumulative gas production in the UK reached 18.7 bcm, representing an 10.3% y-o-y reduction, mainly driven by the continuous decline in the gas output from mature UK fields and lower upstream investment.

3.1.3 Netherlands

The Netherlands underwent a 12% y-o-y reduction in its gas output, which stood at 0.77 bcm. For the period Jan-Jul 2024, cumulative gas production in the Netherlands reached 6.2 bcm, representing a 17% reduction compared to the same period in 2023. This reduction in gas production is mainly due to reduced output from ageing Dutch fields.

Additionally, from January to July 2024, the Europe's cumulative gas production reached 111.9 bcm, which represented an increase of 3.8%, when compared with the volume produced during the same period in 2023, and the second highest in the 5-year period (Figure 45). Norway was the main driver for the European gas production increase in this period, representing 68% of the aggregated European production. Furthermore, August was only the second month in 2024 to record a net negative y-o-y variation, which reflects the overall increase in the European gas supply in 2024 (Figure 46).

Figure 45: YTD Europe's gas production

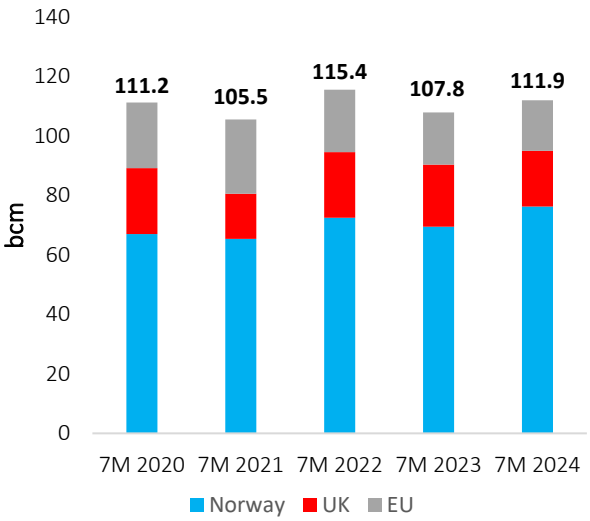
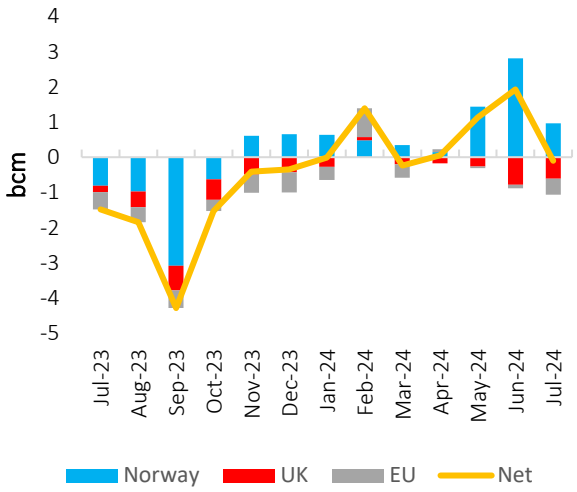


Figure 46: Y-o-y variation in European gas production



Source: GECF Secretariat based on data from Refinitiv and the Norwegian Offshore Directorate

3.2 Asia Pacific

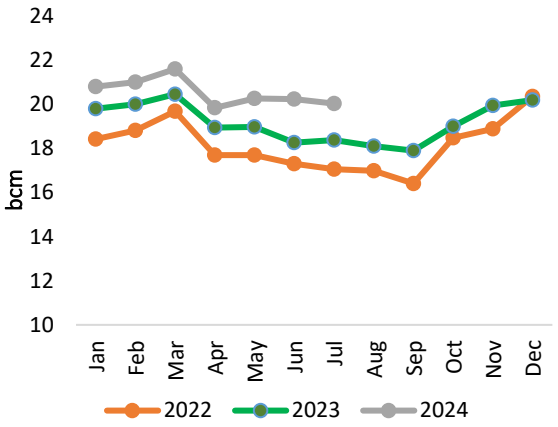
3.2.1 China

In July 2024, China's gas production surged by 9% y-o-y to reach 20 bcm (Figure 47). Coal bed methane output continued its growth to reach 1.5 bcm, with a 35% y-o-y rise.

CNOOC announced a major gas discovery in the South China Sea, with reported reserves of over 100 bcm. The Lingshui 36-1 gas field was described by CNOOC as the world's first large-size ultra-shallow gas field in ultra-deep water. The field is estimated to be able to produce a plateau level of 3.6 bcma.

For the period Jan-Jul 2024, Chinese gas production achieved a record high with a 143.8 bcm, and 6.7% y-o-y uptick.

Figure 47: Trend in gas production in China



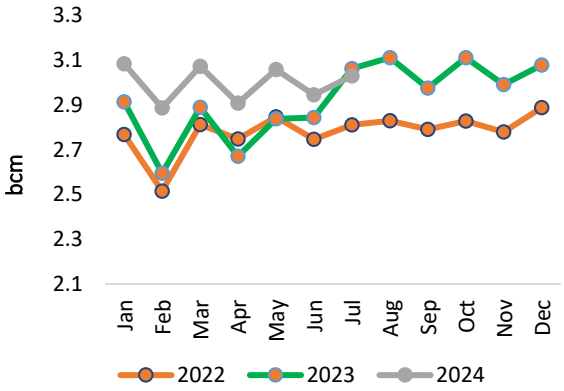
Source: GECF Secretariat based on data from the National Bureau of Statistics of China

3.2.2 India

In July 2024, India's gas production declined by 1.1% y-o-y to stand at 3.1 bcm (Figure 48). The offshore gas fields' output rose by 0.5% y-o-y to reach 2.2 bcm, with a 73% share of total production, while the largest decline was in the Rajasthan onshore field.

For the period Jan-Jul 2024, cumulative gas production reached 21 bcm, a 6% y-o-y rise, driven by the rejuvenation of some mature gas fields.

Figure 48: Trend in gas production in India



Source: GECF Secretariat based on data from the Ministry of Petroleum and Natural Gas (PPAC)

3.2.3 Australia

In June 2024, Australia's gas production reached 13.5 bcm, representing a 1% y-o-y decline (Figure 49). Gas production from CBM fields rose by 3.5% y-o-y to 3.5 bcm, representing 25% of the total domestic production (Figure 50). Notably, Shell along with its partner PetroChina announced the expansion of its gas project in Surat, East Coast of Australia. The expansion targets the construction of new 1.2 bcma production facility and its associated pipelines. It is worth noting that the second phase of the Surat field development is scheduled to get on stream in Q4 2024, with target production of 1.3 bcma.

In the first half of 2024, cumulative gas production increased by 1% y-oy to reach 81.1 bcm.

Figure 49: Trend in gas production in Australia

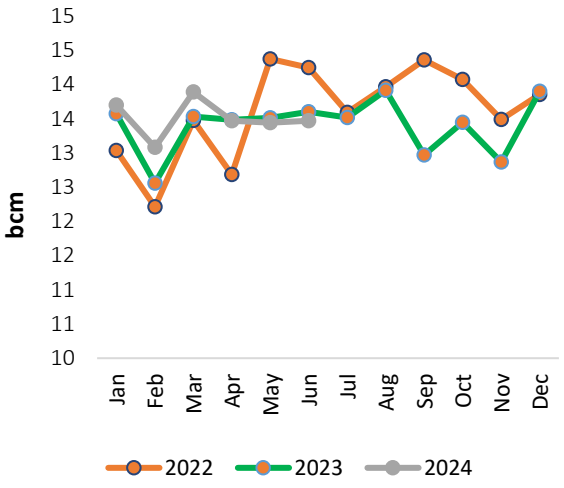


Figure 50: Trend in CBM production in Australia

Source: GECF Secretariat based on data from the Australian Department of Energy

Additionally, from January to July 2024, Asia Pacific main producing countries' cumulative gas production reached 259.3 bcm, which represented an increase of 4.3% y-o-y (Figure 51). China's consistent gas production growth translated into a positive annual variation in all the past 12 months of the Asia Pacific aggregated production, while for Australia the pace of its production growth has witnessed a slowdown (Figure 52).

Figure 51: YTD gas production in Asia Pacific

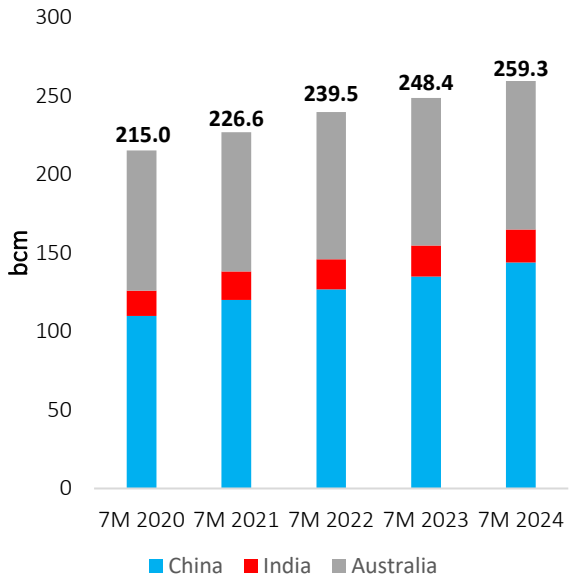
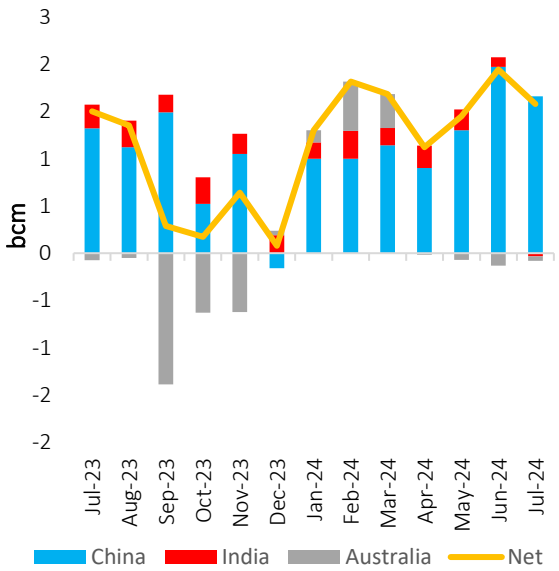


Figure 52: Y-o-y variation in Asia Pacific production



Source: GECF Secretariat based on data from PPCA, NBS and ADE

3.3 North America

3.3.1 US

In August 2024, US total gas production continued its downward trend with a 1% y-o-y decline, reaching a monthly output of 98 bcm (Figure 53), reflecting the effect of the announced cuts in gas production by some major producers, such as Chesapeake Energy (which will be the largest US gas producer upon its merge with Southwestern Energy), EQT and EGO Resources, reflecting low Henry Hub gas prices. In terms of distribution, shale gas production in the Appalachia region accounted for 31% of the total gas production, while the associated gas production from the Permian represented 22%. The dry gas production in the Haynesville shale basin recorded the largest decline in the main producing regions, followed by the dry gas production from the Gulf of Mexico region.

Additionally, from January to August 2024, the US cumulative gas production reached 710.7 bcm, which represented an increase of 0.4% y-o-y and the highest in the 5-year period (Figure 54). The US gas production has witnessed a consistent growth in the past months till February 2024, when the low HH prices hit the breakeven price sensitive shale gas production, driving the main producers to announce cuts in their daily gas production for the rest of 2024.

Figure 53: Trend in gas production in the US

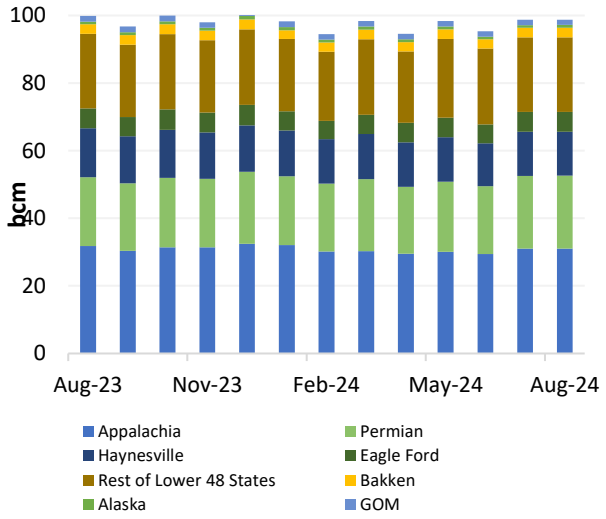
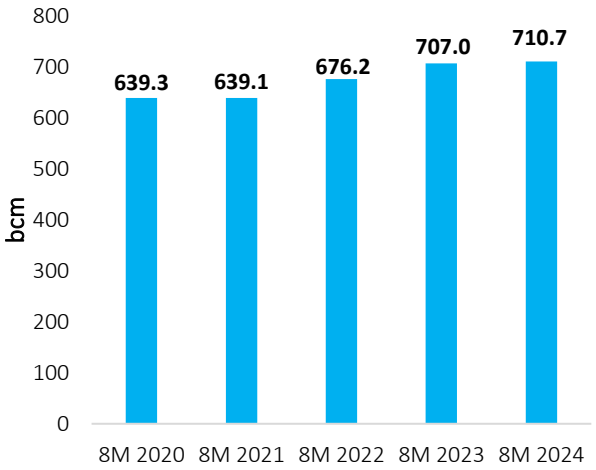


Figure 54: YTD gas production in the US



Source: GECF Secretariat based on data from the EIA

As of July 2024, the number of oil and gas drilling rigs operating in the seven key shale oil and gas regions in the US stood at 558, representing a reduction of 7 rigs compared to June 2024, driven by the reduction in number of rigs in the Permian basin (Figure 55). The Permian basin accounted for the major share of the current drilling rigs with more than 54%. Additionally, in July 2024, the total number of drilled but uncompleted (DUC) wells in the seven major regions amounted to 5,436, marking a 16-well m-o-m decrease (Figure 56). With the current low Henry Hub prices, private producers continued the slowdown of their drilling activity, and hence increased the reliance on their inventory of DUCs.

Figure 55: Shale gas rig count in the US

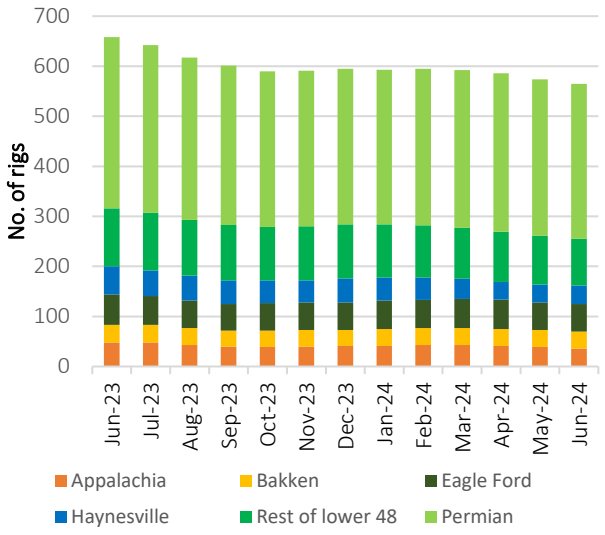
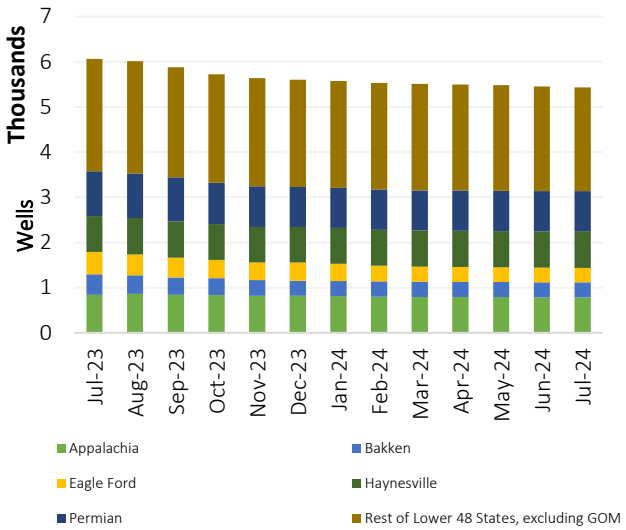


Figure 56: DUC wells count in the US



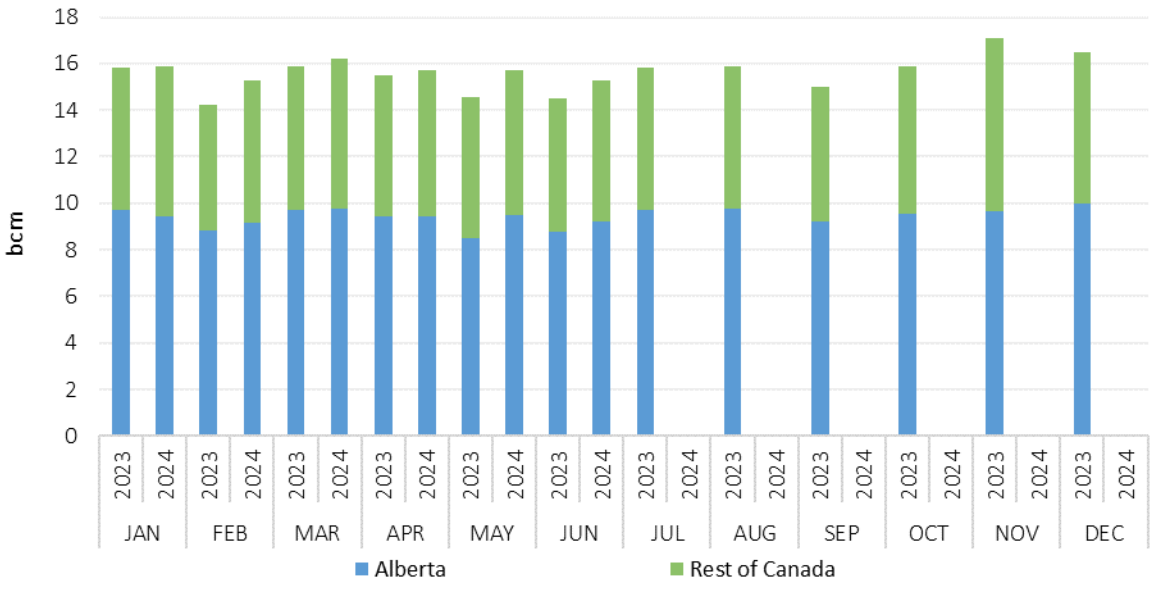
Source: GECF Secretariat based on data from the EIA

3.3.2. Canada

In June 2024, Canada's gas production reached 15.3 bcm, representing a 5.7% y-o-y rise (Figure 57), driven by the increased output from tight oil plays. The State of Alberta accounted for 9.2 bcm, representing 60% of the total Canadian gas production and 4.5% increase.

For the first half of 2024, cumulative gas production in Canada reached 94.1 bcm, a 4% y-o-y rise. It is worth noting that the projected rise in the Canadian gas production is considered one of the key drivers that positively affects the global gas supply.

Figure 57: Trend in gas production in Canada



Source: GECF Secretariat based on data from CER

3.4 Latin America and the Caribbean (LAC)

3.4.1 Brazil

In July 2024, Brazil's marketed gas production declined by 7.2% y-o-y to reach 1.55 bcm (Figure 58), driven by a 2.9% rise in gas reinjection. Notably, pre-salt fields were responsible for more than 78% of production, with the Tupi field in the Santos pre-salt basin emerging as the largest gas-producing field at 0.38 bcm. In addition, 55% of gross production was reinjected into reservoirs, while gas flaring witnessed a 21% decline compared to July 2023 (Figure 59). For Jan-Jul 2024, the cumulative output reached 10 bcm, representing a 7.3% y-o-y reduction.

Figure 58: Trend in gas production in Brazil

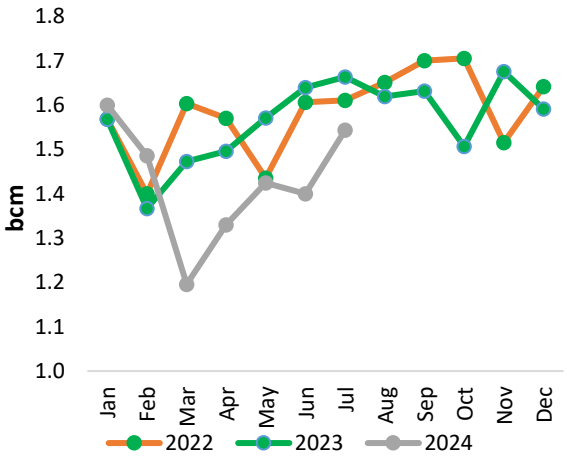
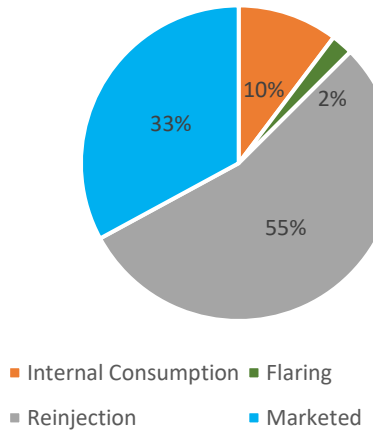


Figure 59: Distribution of gross gas production



Source: GECF Secretariat based on data from the Brazilian National Agency of petroleum (ANP)

3.4.2 Argentina

In July 2024, Argentina's gas production continued its growth to reach an output of 4.7 bcm, representing a 10% y-o-y rise (Figure 60). Shale gas production rose by a significant 29% y-o-y to reach 2.6 bcm, representing 54% of the total production, driven by increased output and the debottlenecking of the Vaca Muerta shale gas basin (Figure 61). In addition, tight gas reservoir production reached 0.58 bcm, representing a 13% share. For the period Jan-Jul 2024, the accumulated gas output reached 29.8 bcm, representing a 4.5% y-o-y rise.

Figure 60: Trend in gas production in Argentina

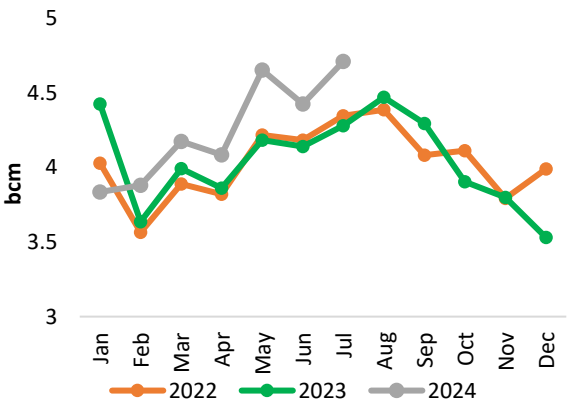
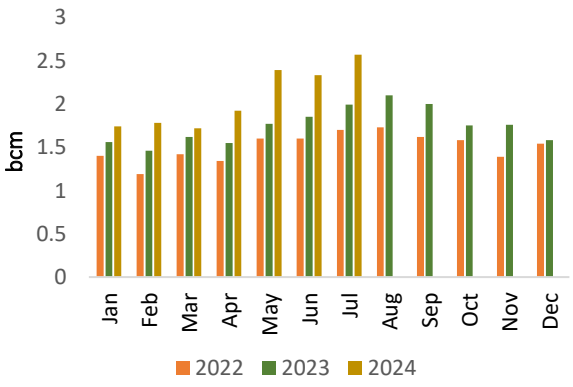


Figure 61: Trend in shale gas production in Argentina



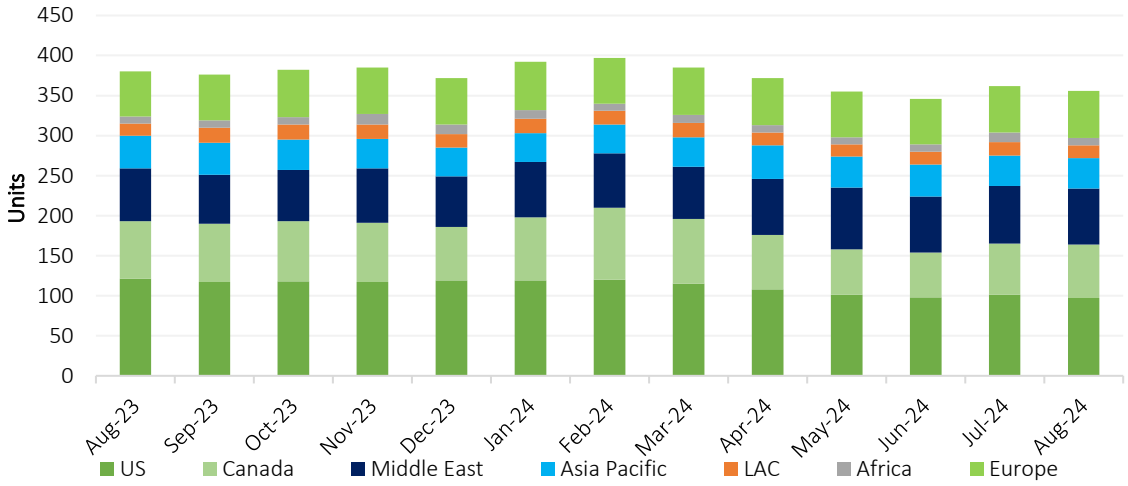
Source: GECF Secretariat based on data from Argentinian Ministry of Economy

3.5 Other developments

3.5.1 Upstream tracker

In August 2024, the global number of gas drilling rigs returned to a declining trend and decreased by 6 units m-o-m to reach 356 rigs (Figure 62). This market development was mainly driven by the decrease in the drilling activity in the US and Africa, although this effect was somewhat counterbalanced by the push of drilling activity for tight oil plays in Canada.

Figure 62: Trend in monthly global gas rig count



Source: GECF Secretariat based on data from Baker Hughes

In July 2024, the total volume of discovered gas and liquids amounted to 530 million barrels of oil equivalent (boe) (Figure 63). Of this, natural gas accounted for the majority with 68% (60 bcm), while liquid oil constituted 32% (170 million bbl). Twelve new discoveries were announced, 4 of them were offshore. In terms of regional distribution, the Middle East dominated the new discovered volumes with 42%, mainly in Kuwait and Saudi Arabia, where the Al-Nukhida field, located in east of the island of Failaka, offshore Kuwait, was the most significant announced gas discovery and represented a breakthrough in Kuwait's exploration offshore activities. The LAC region accounted for 24% of discovered volumes, driven by the Mayaya Centro discovery in Bolivia (Figure 64). Cumulative discovered volumes for the period Jan-Jul 2024 amounted to 3.1 billion boe.

Figure 63: Monthly gas and liquid discovered volumes

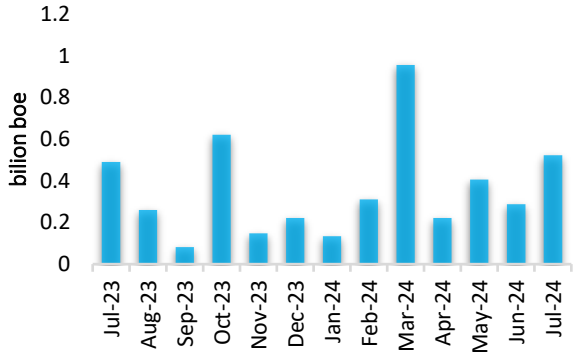
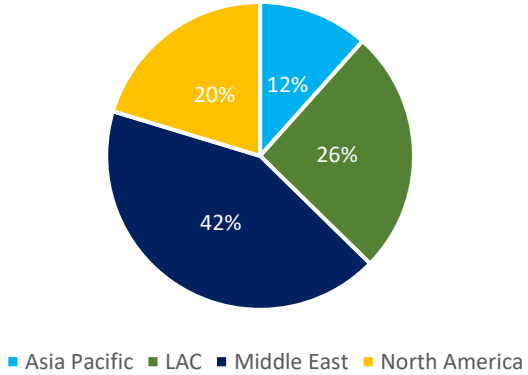


Figure 64: Discovered volumes in July 2024 by region



Source: GECF Secretariat based on Rystad Energy

3.5.2 Other regions

Malaysia's Petronas announced the first gas production from the Kasawari field: According to Petronas statement, the company started production from its giant Kasawari field, located in Block SK 316 offshore Sarawak, East Malaysia. The field has started initial production with a rate of 200 mcf/d, with a target output of 5.6 bcma. The field has an estimated recoverable reserve of 280 bcm and its production facilities include a central processing platform (CPP), a flare platform and wellhead platform that are both connected to the CPP. The produced gas is transported through an 81 km pipeline to an existing production hub, for further transportation to Bintulu, Sarawak. It is worth noting that the phase two of the Kasawari field development plan includes a comprehensive carbon capture and storage (CCS) project with an abatement capacity of 3.3 Mtpa of CO_2, thereby making it one of the largest offshore CCS projects in the world.

Egypt launched a new international natural gas and crude oil bid round in 2024: According to the Egyptian Ministry of Petroleum and Mineral Resources release, the Egyptian Natural Gas Holding Company (EGAS) launched a new international bid round for the exploration and development of natural gas and crude oil in 12 blocks in the Mediterranean and the Nile Delta, through the Egypt Upstream Gateway (EUG). This includes 10 offshore blocks and two onshore blocks. This bid round is part of the Ministry of Petroleum and Mineral Resources' efforts to attract new investments to Egypt, in line with its strategy to exploit promising opportunities in the field of gas and oil exploration, especially in the Mediterranean Sea, which holds significant potential as a promising basin for natural gas. It is worth noting that this is the eighth bid round of its kind to be launched using the latest digital tools through Egypt's EUG, which the ministry launched at the beginning of 2021.

Italy's Eni announced the production startup of the Argo Cassiopea field: According to Eni's press release, the company commenced gas production from the Argo Cassiopea field, located in the Strait of Sicily, offshore Italy. Argo Cassiopea field is considered the most important gas development project in Italy, with estimated reserves of 10 bcm and a peak annual production of 1.5 bcm. This is equivalent to half of Italy's domestic gas production in 2023 (3bcm). The produced gas is transported through a 60 km subsea pipeline to the Gela processing plant, where it is processed and later fed in the Italian national grid. Production is carried out entirely subsea, with no visual impact and near-zero emissions. A dedicated installation of 3.6 MW photovoltaic panels will ensure the project achieves carbon neutrality for Scope 1 and 2 emissions. It is worth noting that Argo Cassiopea plays a central role in Eni's strategy to increase the use of domestic natural gas for energy security and as a low-emission source.

4 Gas Trade

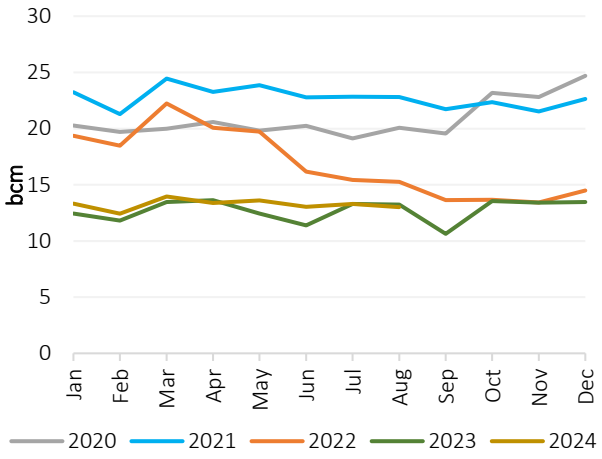
4.1 PNG trade

In the first eight months of 2024, total PNG imports on the global level were estimated to have increased by 4% y-o-y. The main drivers were a rise in imports in China and Europe on the demand side, as well as increased flows from Russia and Norway on the supply side. PNG flows may increase in the remaining months of 2024, in response to the anticipated northern hemisphere winter demand.

4.1.1 Europe

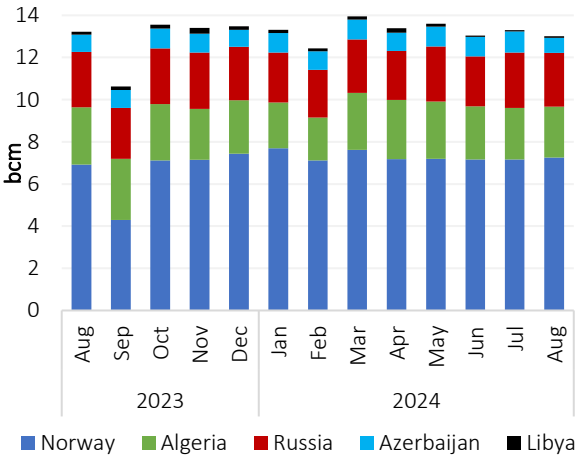
The EU countries imported 13.0 bcm of PNG in August 2024, which was 2% lower y-o-y, and also 2% lower m-o-m (Figure 65).There were m-o-m increases in PNG imports from Norway and Libya in August (Figure 66). Despite minor variations from each supplier, the average total volume of PNG imported by the EU in 2024 has remained fairly constant each month.

Figure 65: Monthly PNG imports to the EU



Source: GECF Secretariat based on data from Refinitiv

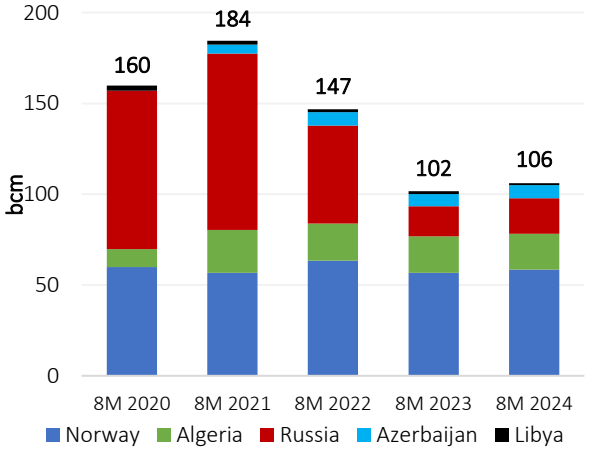
Figure 66: Monthly EU PNG imports by supplier



Source: GECF Secretariat based on data from Refinitiv

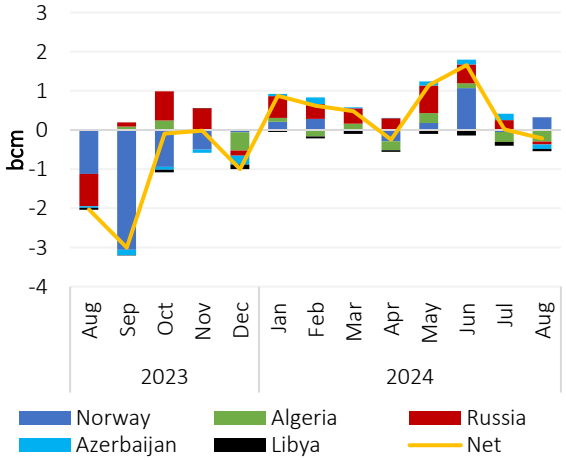
From January to August 2024, the EU's total PNG imports reached 106.0 bcm, which represented an increase of 4% or 4.3 bcm y-o-y (Figure 67). Russia and Norway were the drivers for this increase, having supplied 3.0 bcm and 1.7 bcm more respectively, compared with the same period in 2023. August was only the second month in 2024 to record a net negative y-o-y variation, which reflects the overall increase in PNG supply to the EU in 2024 (Figure 68).

Figure 67: Year-to-date EU PNG imports by supplier



Source: GECF Secretariat based on data from Refinitiv

Figure 68: Y-o-y variation in EU PNG supply

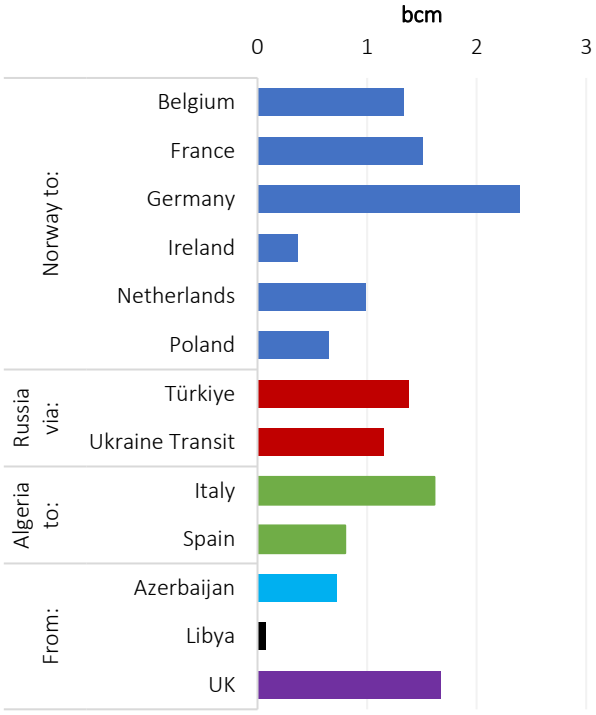


Source: GECF Secretariat based on data from Refinitiv

Figure 69 shows the PNG imports to the EU via the major supply routes in August 2024. PNG supplies from Libya increased by 18% during the month. Germany imported 3% more PNG from Norway m-o-m, and this was the largest supply route for the month. The second largest supply route was from the UK, for which net PNG imports via the interconnectors accounted for 1.7 bcm during the month, an increase of 14% m-o-m.

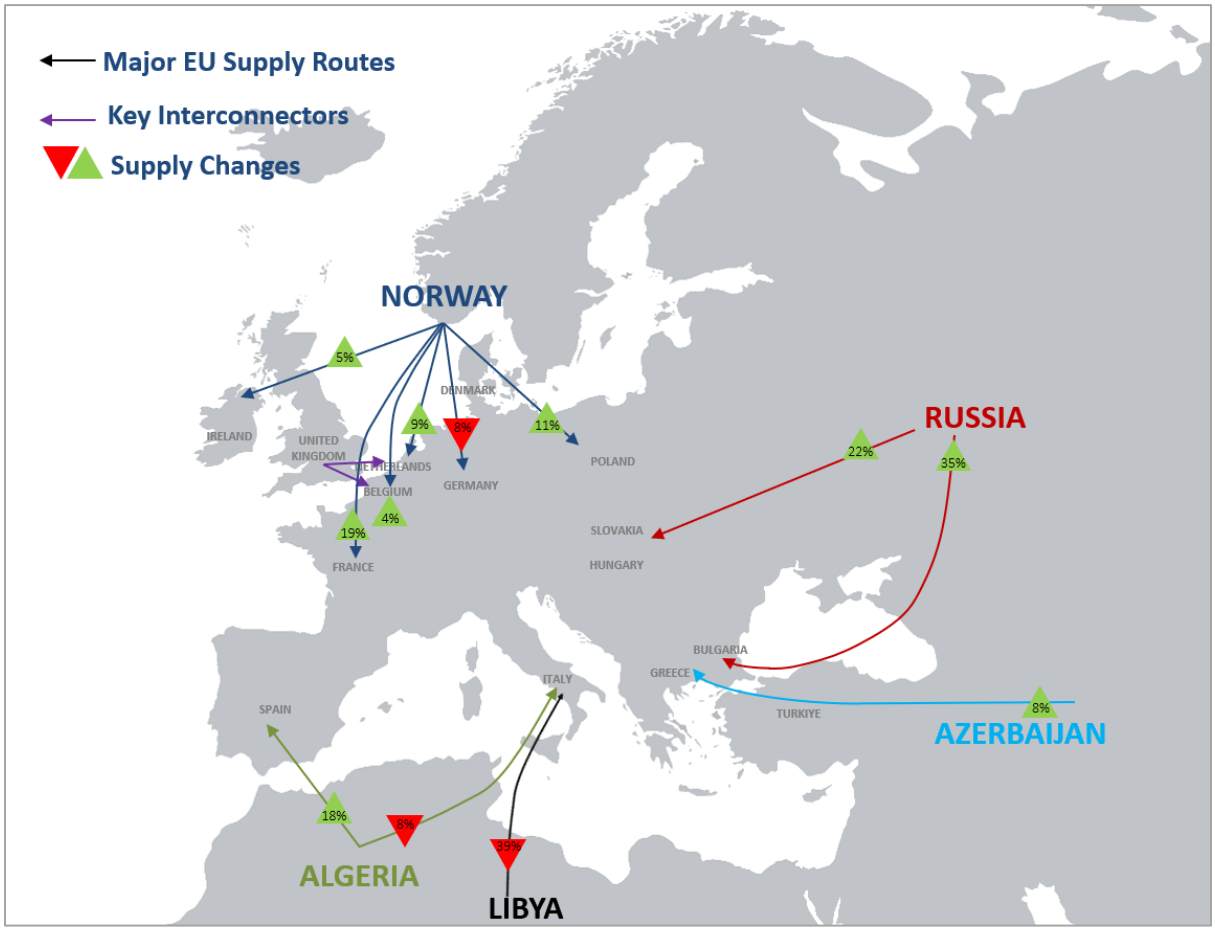
Figure 70 displays the PNG imports to the EU via the major supply routes during the period from January to August 2024, versus the same period in 2023. Norwegian supply to Germany decreased by 8% y-o-y, but flows via its other supply routes all recorded increases. Russia recorded y-o-y increases in PNG flows via both supply routes to the EU. Algeria's exports to Spain increased by 18% y-o-y. Furthermore, there was a 45% decrease in net PNG flows from the UK compared with 2023.

Figure 69: EU PNG imports by supply route, in August 2024



Source: GECF Secretariat based on data from Refinitiv

Figure 70: PNG imports to the EU by supply route (8M 2024 v 8M 2023)

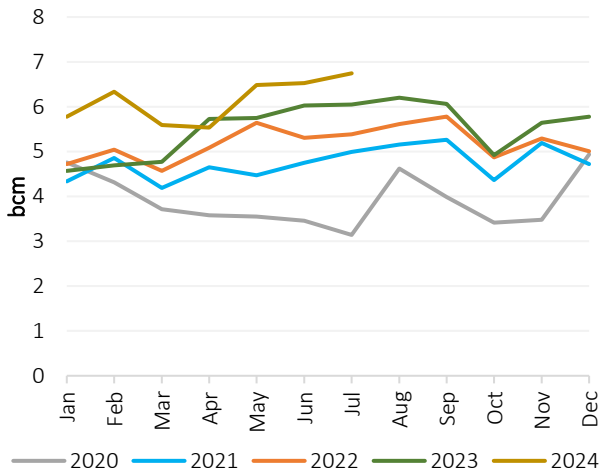


Source: GECF Secretariat based on data from Refinitiv

4.1.2 Asia

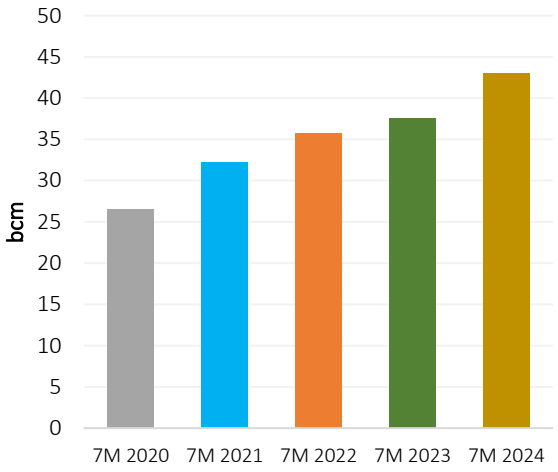
China surpassed its record for monthly PNG imports once more in July 2024, recording 6.7 bcm (Figure 71). This represented an increase of 11% when compared with the volume imported one year ago, and was 3% higher m-o-m. The share of PNG in China's supply mix in July 2024 was 46%, the same level as the previous month. After the first seven months of 2024, China imported a total of 43 bcm of PNG, an increase of 14% compared with the same period in 2023 (Figure 72).

Figure 71: Monthly PNG imports in China



Source: GECF Secretariat based on data from Refinitiv and General Administration of Customs China

Figure 72: Year-to-date PNG imports in China



Source: GECF Secretariat based on data from Refinitiv and General Administration of Customs China

In May 2024, Singapore imported 0.46 bcm of PNG from Indonesia and Malaysia, which represented a 16% decrease from the level of one year ago, as well as a 5% decline compared to the previous month (Figure 73).

In addition, Thailand imported 0.47 bcm of PNG from Myanmar in May 2024, which was a decrease of 10% y-o-y (Figure 74). However, this volume represented a 14% increase compared with the previous month.

Figure 73: Monthly PNG imports in Singapore

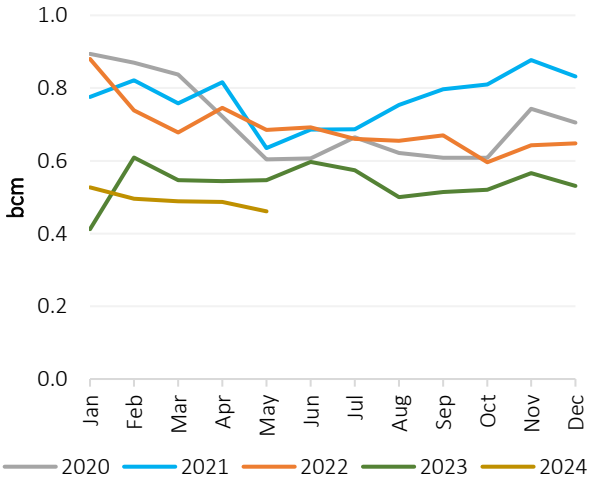
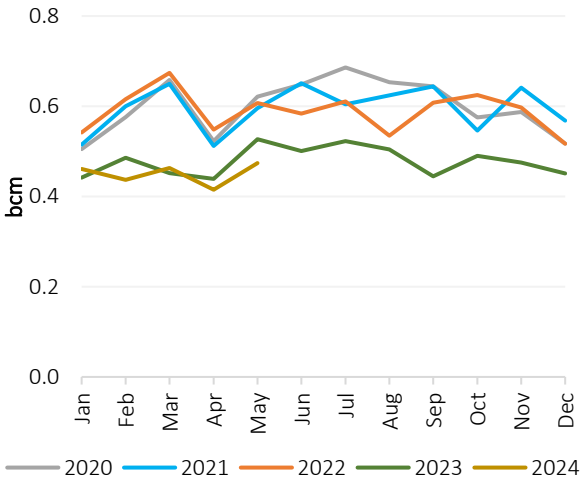


Figure 74: Monthly PNG imports in Thailand



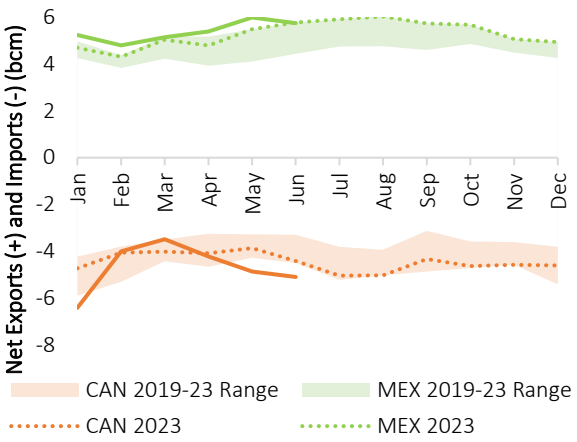
Source: GECF Secretariat based on data from JODI Gas

4.1.3 North America

In June 2024, there were 5.8 bcm of PNG exports from the US to Mexico, which was the same level as one year ago, but which was a 4% decrease from the level of the previous month (Figure 75).

In addition, there were also 5.1 bcm of net PNG flows from Canada to the US during the month, which was 16% higher y-o-y, and 5% more than in the previous month. Of this net supply, there were 7.0 bcm imported from Canada to the US, and 1.9 bcm exported from the US to Canada.

Figure 75: Historical net PNG trade in the USA



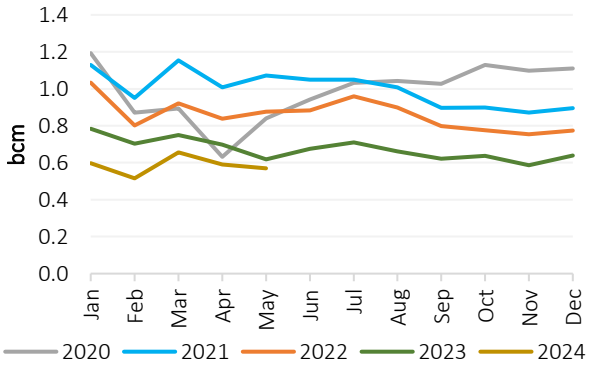
Source: GECF Secretariat based on data from US EIA

4.1.4 Latin America and the Caribbean

Bolivia exported 0.57 bcm of PNG to Brazil and Argentina in May 2024, which was an 8% decrease from the level exported one year ago, and 3% lower compared with the previous month (Figure 76).

Furthermore, Argentina exported 0.16 bcm of PNG to Chile during the same month, which represented a 7% decrease compared with the previous year, and a 35% decrease m-o-m.

Figure 76: Monthly PNG exports from Bolivia



Source: GECF Secretariat based on data from JODI Gas

4.1.5 Other developments

Azerbaijan commences gas exports to Slovenia: In July 2024, the State Oil Company of Azerbaijan Republic (SOCAR) signed a Memorandum of Understanding with Slovenian natural gas trading company Geoplin, for the supply of pipeline gas to the European nation. Although details regarding the volumes to be delivered were not disclosed, Slovenia now becomes the ninth country to receive pipeline gas supply from Azerbaijan, following Turkiye, Georgia, Italy, Greece, Bulgaria, Romania, Hungary and Serbia. Azerbaijan delivers gas to European nations via the Trans Adriatic Pipeline, which is part of the Southern Gas Corridor.

Argentina to expand pipeline gas exports: In July and August 2024, Argentina signed a number of export contracts for the supply of pipeline natural gas to Brazil. The agreements have been signed by gas suppliers including Argentinian companies Pan American Energy, Tecpetrol and Pluspetrol, along with foreign NOC TotalEnergies. In total, these contracts will cover the export of around 2.2 bcma across different periods. Moreover, the Brazilian customers will receive the gas supply via the existing pipeline infrastructure in Bolivia.

4.2 LNG trade

4.2.1 LNG imports

In August 2024, global LNG imports recorded a slight y-o-y decline of 0.3% (0.11 Mt) to 33.49 Mt (Figure 77). The decline was primarily driven by lower imports in Europe, although this was partially offset by increased imports in the Asia Pacific and MENA regions (Figure 78). The Asia Pacific region's spot LNG prices maintained a significant premium over those in Europe, attracting more cargoes. Furthermore, a decrease in US LNG exports in July 2024, due to the impact of Hurricane Beryl on its LNG exports, contributed to the overall reduction in imports.

Between January and August 2024, global LNG imports increased by 0.7% (1.89 Mt) y-o-y to 272.47 Mt, driven by strong growth in the Asia-Pacific region, offsetting a slump in Europe.

For the full year 2024, global LNG trade is forecasted to rise by 1-1.5% driven by stronger demand in the Asia Pacific region, particularly in China and South and South East Asia.

Figure 77: Trend in global monthly LNG imports

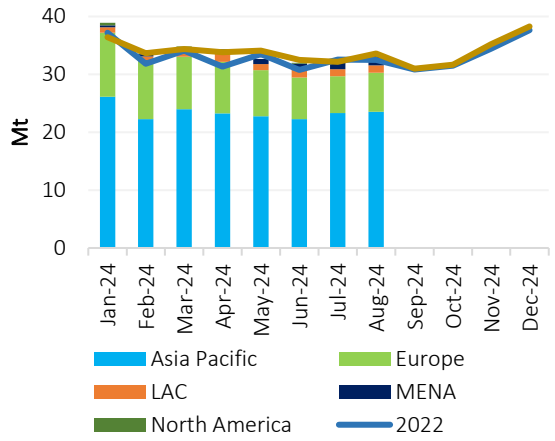
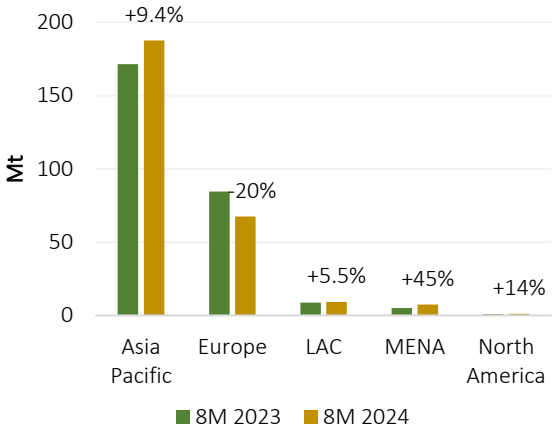


Figure 78: Trend in regional LNG imports



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.1 Europe

In August 2024, Europe's LNG imports dropped by 22% (1.85 Mt) y-o-y to 6.76 Mt, marking the 14th consecutive month of decline (Figure 79). This reduction was driven by lower gas consumption, strong pipeline gas imports, and high gas inventories across the region. Additionally, the significant price disparity between spot LNG in Asia Pacific and Europe limited LNG flows from the Atlantic basin into Europe. The decline in imports was significant in Belgium, France, the Netherlands, Spain, and the UK, while Poland experienced an increase (Figure 80).

From January to August 2024, Europe's LNG imports fell by 20% (17.14 Mt) y-o-y to 67.39 Mt.

The decline in LNG imports in Belgium was due to reduced gas consumption, high gas storage levels, and increased pipeline gas imports from Norway and the UK. Similarly, in the Netherlands, lower gas consumption, higher pipeline imports from Norway and the UK, and reduced pipeline gas exports to Germany contributed to the drop in LNG imports. In France, decreased gas consumption, increased pipeline imports from Norway, and extended maintenance at the Montoir regasification terminal led to lower LNG imports. Spain's imports were curbed by stronger pipeline gas imports from Algeria and reduced gas consumption. In the UK, a rise in pipeline imports from Norway and weaker gas demand drove the decline in LNG imports. Conversely, Poland saw an increase in LNG imports due to higher gas consumption.

Figure 79: Trend in Europe's monthly LNG imports

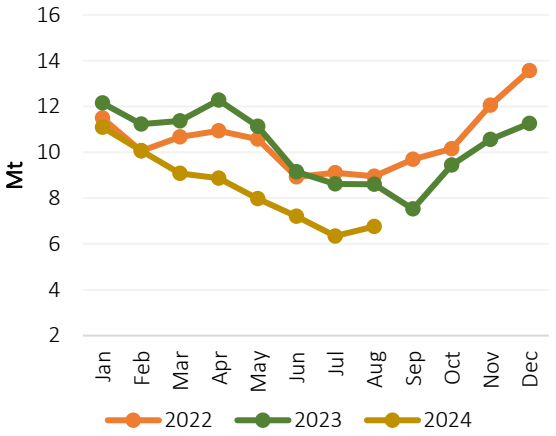
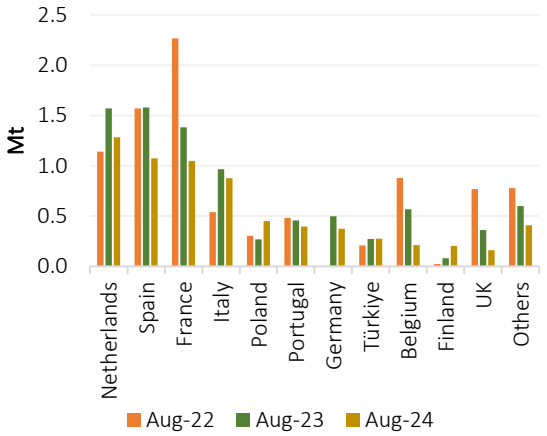


Figure 80: Top LNG importers in Europe



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.2 Asia Pacific

In August 2024, Asia Pacific's LNG imports continued to rise, increasing by 3.9% (0.88 Mt) y-o-y, which was the smallest incremental increase since February 2024 (Figure 81). China, Singapore, South Korea and Taiwan drove the growth in the region's LNG imports, offsetting weaker imports in Bangladesh, Japan and Thailand (Figure 82).

From January to August 2024, Asia Pacific's LNG imports grew by 9.4% (16.13 Mt) y-o-y to 187.48 Mt.

The increase in Chinese LNG imports was driven by stronger gas demand, supported by robust economic activity, cooling demand induced by hotter weather, and higher LNG demand for trucks. In Singapore, higher demand for LNG bunkering boosted imports. Meanwhile, rising gas demand for electricity generation in South Korea and Taiwan, due to reduced output from coal and nuclear power respectively, contributed to the uptick in LNG imports. In contrast, Bangladesh saw a decline in LNG imports as the Summit LNG FSRU remained offline due to damage to an underwater gas transmission pipeline. In Japan, reduced LNG imports from the US and weaker gas demand for electricity generation curbed overall imports. Finally, the surge in Asian spot LNG prices may have contributed to the drop in Thailand's LNG imports.

Figure 81: Trend in Asia's monthly LNG imports

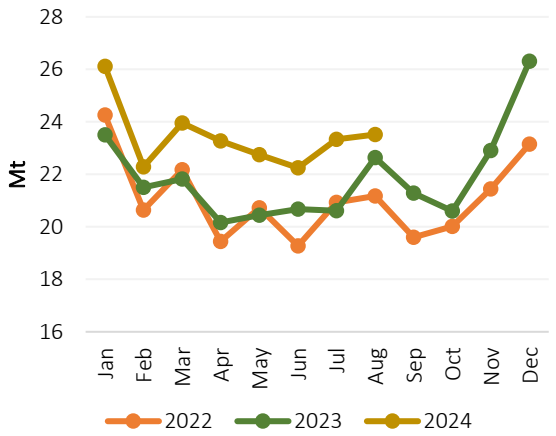
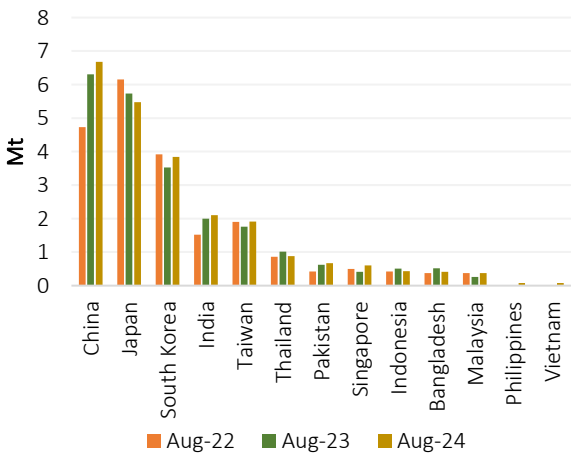


Figure 82: Top LNG importers in Asia Pacific



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.3 Latin America & the Caribbean (LAC)

In August 2024, LNG imports in the LAC region rose by 8.4% (0.10 Mt) y-o-y, reaching 1.29 Mt (Figure 83). The increase was primarily driven by higher imports in Brazil, Colombia, Jamaica and Panama, which offset lower imports in the Dominican Republic (Figure 84).

Between January and August 2024, LNG imports in the LAC region increased by 5.5% (0.48 Mt) y-o-y to 9.20 Mt.

Drought conditions in Brazil reduced hydroelectric output, increasing the demand for gas in electricity generation and driving up LNG imports. Similarly, higher gas demand for electricity generation contributed to the rise in Colombia's LNG imports. In contrast, the Dominican Republic saw a decline in LNG imports, likely due to higher storage levels following lower gas consumption in July after Hurricane Beryl's passage.

Figure 83: Trend in LAC's monthly LNG imports

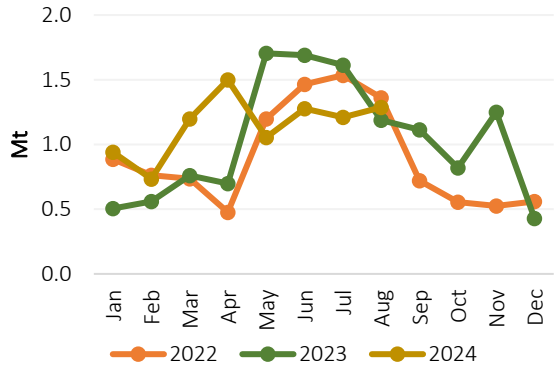
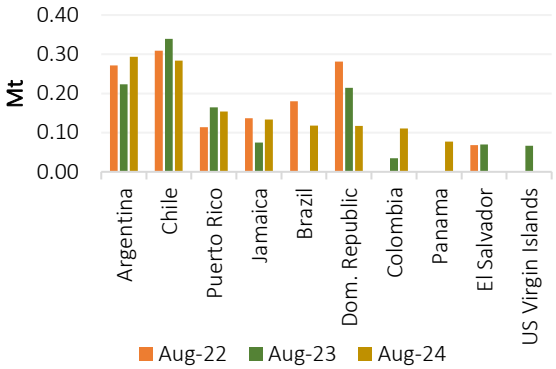


Figure 84: Top LNG importers in LAC



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.4 MENA

In August 2024, LNG imports in the MENA region surged for the second consecutive month, rising by 66% (0.74 Mt) y-o-y to 1.86 Mt (Figure 85), driven by Egypt and Jordan (Figure 86).

Between January and August 2024, MENA region's LNG imports increased by 45% (2.29 Mt) y-o-y to 7.35 Mt.

Egypt resumed LNG imports in June 2024 due to lower gas availability and has utilised LNG regasification terminals in the country as well as the Aqaba LNG import terminal in Jordan.

Figure 85: Trend in MENA's monthly LNG imports

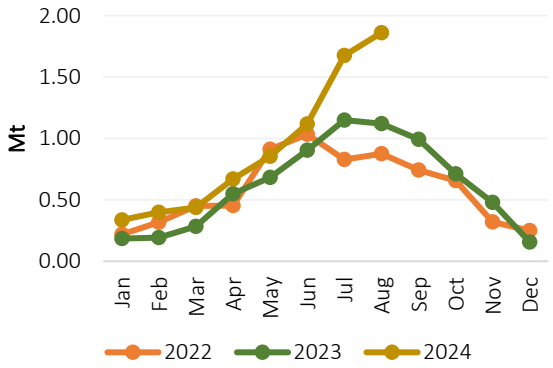
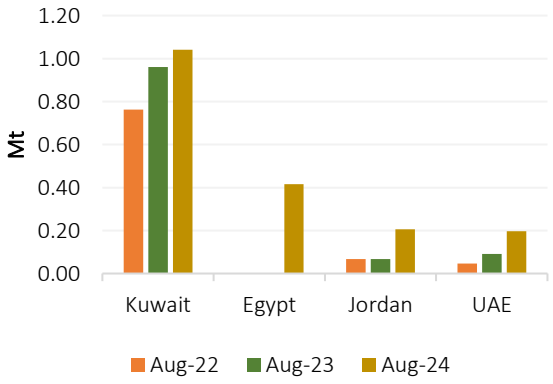


Figure 86: Top LNG importers in MENA



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2 LNG exports

In August 2024, global LNG exports grew by 3.6% (1.20 Mt) y-o-y, reaching 34.24 Mt, the highest level since March 2024 and a record for the month of August (Figure 87). The increase was driven by exports in both GECF and non-GECF countries, offsetting a decline in LNG re-exports. The GECF and non-GECF shares of global LNG exports rose from 45.9% and 52.7% respectively in August 2023 to 46.6% and 53.1% in August 2024, respectively. In contrast, the share of LNG re-exports dropped from 1.4% to 0.3% during the same period.

From January to August 2024, global LNG exports increased by 1.1% (2.99 Mt) y-o-y, totalling 272.82 Mt.

The US, Qatar and Australia remained the top three LNG exporters globally in August 2024 (Figure 88).

Figure 87: Trend in global monthly LNG exports

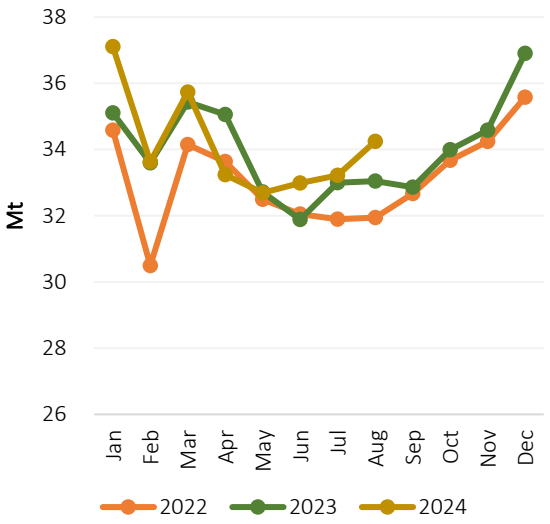
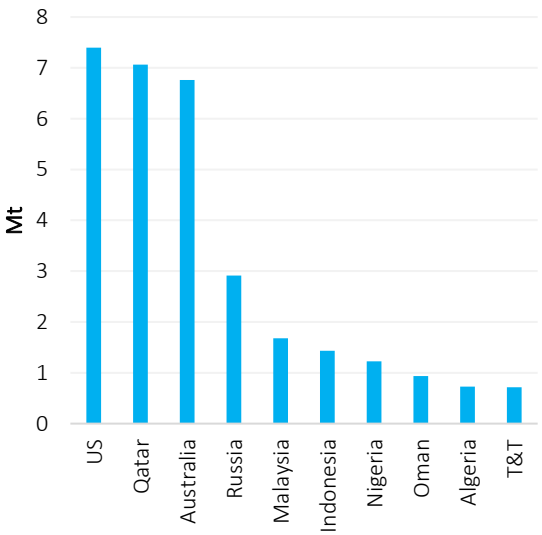


Figure 88: Top 10 LNG exporters in August 2024



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2.1 GECF

In August 2024, LNG exports from GECF Member and Observer Countries rose by 5.1% (0.78 Mt) year-on-year to 15.96 Mt, marking the first monthly increase since March 2024 (Figure 89). This growth was driven by higher exports from Nigeria, Peru, Qatar, Russia and the United Arab Emirates, which offset declines in Algeria and Malaysia (Figure 90).

From January to August 2024, cumulative LNG exports from GECF Member Countries saw a modest increase of 0.4% (0.57 Mt) y-o-y, reaching 128.19 Mt.

The increase in Nigeria's LNG exports was driven by reduced planned maintenance at the Bonny LNG facility. Similarly, decreased maintenance activities at Russia's Portovaya, Sakhalin 2 and Yamal LNG facilities boosted its LNG exports. In Peru and the United Arab Emirates, there was higher LNG production compared to the previous year when the Peru and Das Island LNG facilities were affected by unplanned outages, leading to increased exports from both countries. Additionally, production above nameplate capacity at Qatar's Ras Laffan LNG facility contributed to its export growth. On the other hand, Algeria's LNG exports declined due to lower production at the Arzew LNG facility, while an unplanned outage at one train of Malaysia's Bintulu LNG facility caused a drop in the country's exports.

Figure 89: Trend in GECF monthly LNG exports

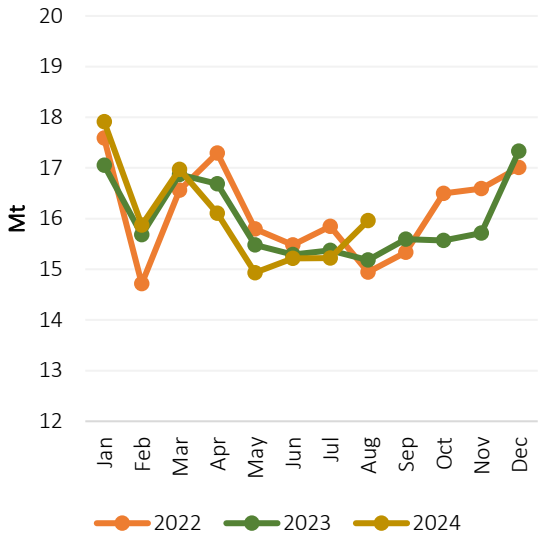
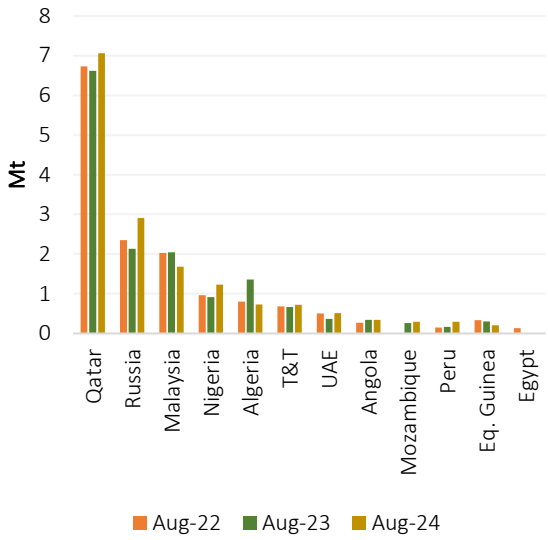


Figure 90: GECF's LNG exports by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2.2 Non-GECF

In August 2024, non-GECF's LNG exports rose by 4.4% (0.76 Mt) y-o-y to 18.17 Mt, which is the highest level since March 2024 (Figure 91). The stronger LNG exports was driven by Australia, Indonesia and the US (Figure 92). Between January and August 2024, non-GECF's LNG exports increased by 3.1% (4.30 Mt) y-o-y to 143.00 Mt.

The rise in Australia's LNG exports was driven by increased output from the APLNG and Prelude LNG facilities, both of which experienced less maintenance activity compared to the previous year. In contrast, exports from the Gorgon LNG facility were affected by planned maintenance. In Indonesia, the production ramp-up at the Tangguh LNG Train 3 contributed to the country's export growth. Additionally, higher US LNG exports were supported by reduced unplanned maintenance at the Elba Island LNG facility and increased production from the Freeport and Sabine Pass LNG facilities.

Figure 91: Trend in non-GECF monthly LNG exports

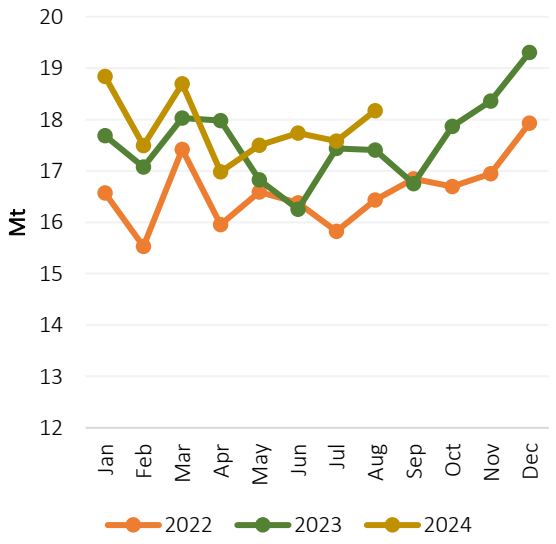
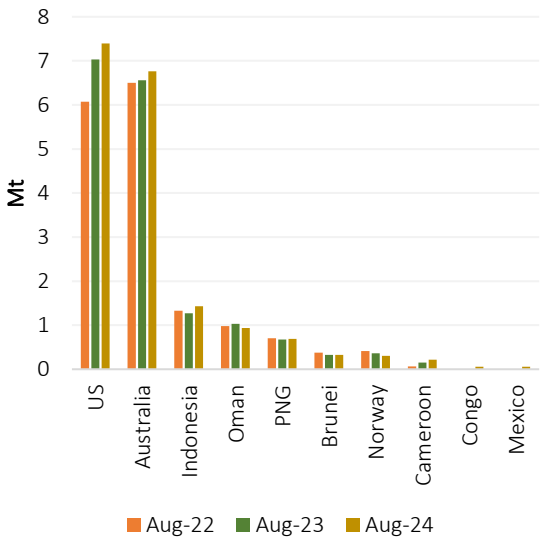


Figure 92: Non-GECF's LNG exports by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.3 Global LNG re-exports

In August 2024, global LNG re-exports plummeted by 77% (0.35 Mt) year-on-year to just 0.10 Mt, marking a record low for the month (Figure 93). The decline was primarily driven by reduced activity in Indonesia and Spain (Figure 94). From January to August 2024, global LNG re-exports dropped by 54% (1.88 Mt) year-on-year, totalling 1.63 Mt.

Neither Indonesia nor Spain re-exported any LNG cargo in August 2024, a significant decrease compared to the same period last year. In August 2023, Indonesia re-exported three small-scale LNG cargoes for intra-country trade and two standard-sized cargoes to Japan. Spain, during the same time, had re-exported one small-scale LNG cargo to Italy and two standard-sized cargoes, one each to Puerto Rico and South Korea.

Figure 93: Trend in global monthly LNG re-exports

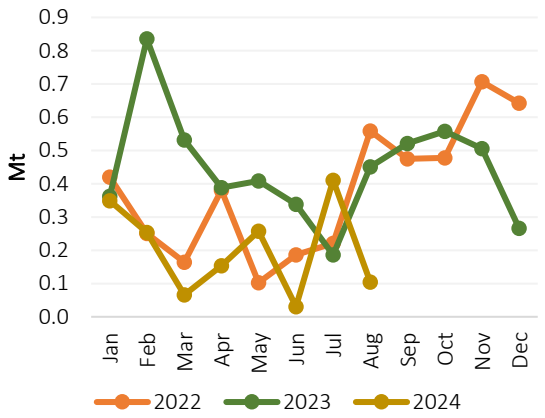
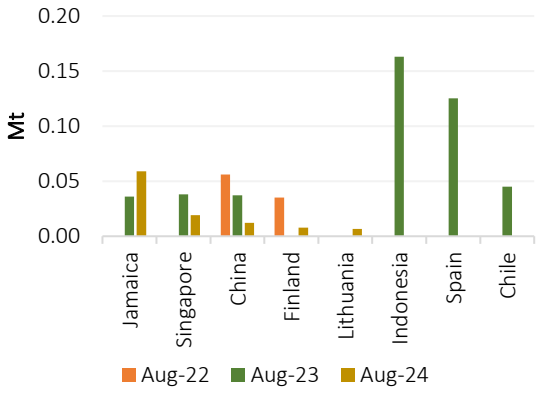


Figure 94: Global LNG re-exports by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.4 Arbitrage opportunity

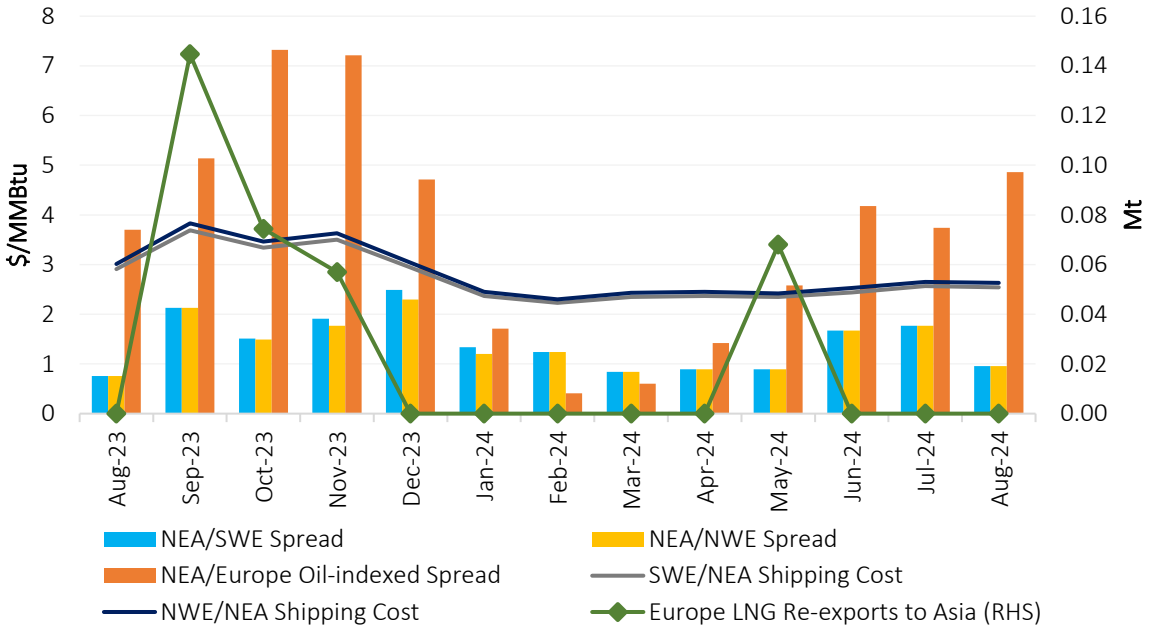
In August 2024, there was no arbitrage opportunity for LNG re-exports from Europe to Asia Pacific, due to the convergence of spot LNG price spreads between both markets. The shipping costs for LNG from Europe to Asia Pacific remained significantly higher than the price spreads (Figure 95). In contrast, the price spread between spot LNG prices in Asia Pacific and oil-indexed prices in Europe increased from the previous month, maintaining a premium over the spot LNG shipping costs.

The NEA/SWE and NEA/NWE price spreads slumped by 46% ($0.81/MMBtu) m-o-m to $0.96/MMBtu, due to the sharper increase in European spot LNG prices compared to the Asian spot LNG price. Conversely, the spread between Asia Pacific spot LNG and oil-indexed prices in Europe increased by 30% ($1.12/MMBtu) m-o-m to $4.86/MMBtu.

Spot LNG shipping costs for the NEA/SWE and NEA/NWE routes moved slightly lower by 1.2% ($0.03/MMBtu) and 0.8% ($0.02/MMBtu) m-o-m to $2.54/MMBtu and $2.63/MMBtu, respectively. It's worth noting that shipping costs can vary depending on the vessels used, with medium to long-term chartered vessels potentially offering lower rates than spot shipping. No LNG re-exports occurred from Europe to Asia Pacific in August 2024.

On a y-o-y comparison, the NEA/SWE and NEA/NWE price spreads, as well as the difference between NEA spot LNG and European oil-indexed gas prices, increased by 26% ($0.20/MMBtu), 26% ($0.20/MMBtu), and 31% ($1.16/MMBtu), respectively. Meanwhile, shipping costs for the NEA/SWE and NEA/NWE routes decline by 13% ($0.38/MMBtu) y-o-y.

Figure 95: Price spreads & shipping costs between Asia & Europe spot LNG markets

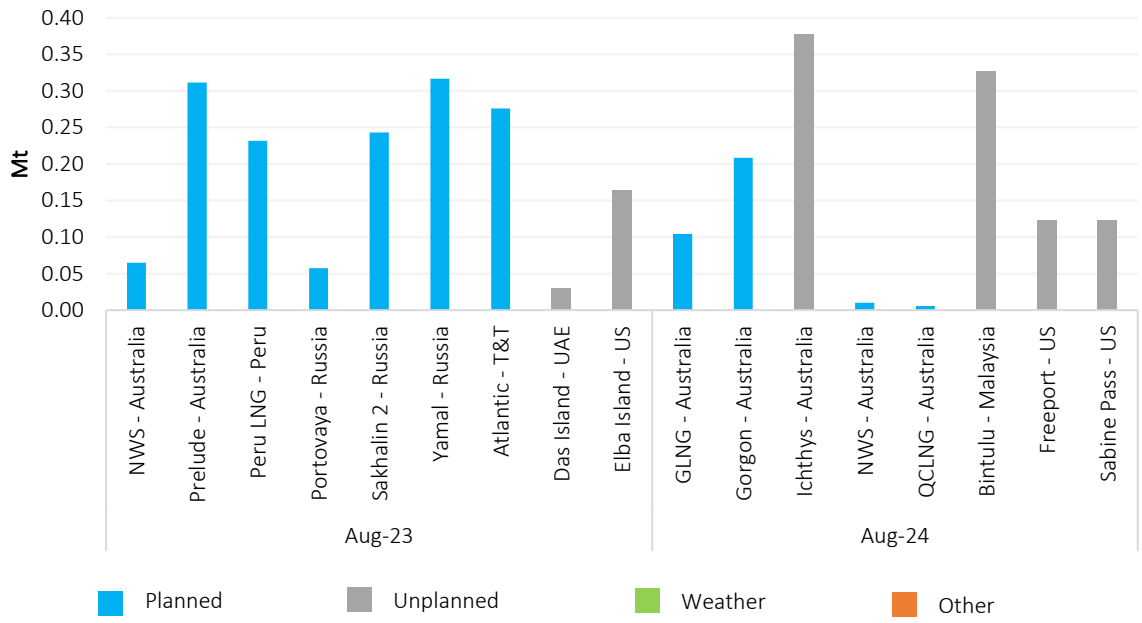


Source: GECF Secretariat based on data from GECF Shipping Model, Argus and ICIS LNG Edge

4.2.5 Maintenance activity at LNG liquefaction facilities

In August 2024, the cumulative impact of scheduled maintenance, unplanned outages and other factors at liquefaction plants globally fell to 1.28 Mt, down from 1.69 Mt a year earlier (Figure 96). The major activities included planned maintenance at the GLNG, Gorgon, NWS and QCLNG facilities as well as unplanned outages at the Bintulu, Freeport and Sabine Pass LNG facilities.

Figure 96: Maintenance activity at LNG liquefaction facilities during July (2023 and 2024)



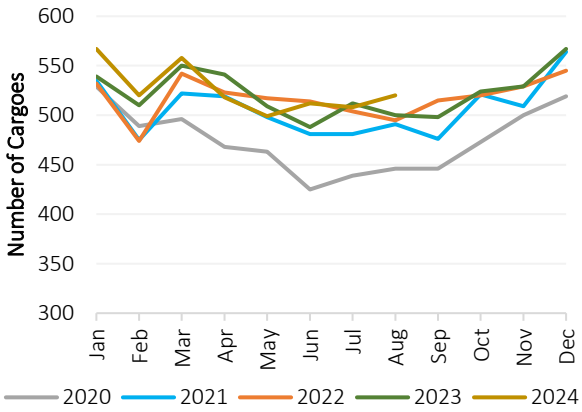
Source: GECF Secretariat based on information from Argus, ICIS LNG Edge and Refinitiv

4.2.6 LNG shipping

There were 520 LNG cargoes exported in August 2024, which was an increase of 4% or 20 shipments, compared with one year ago (Figure 97). Moreover, this total represented a 2% increase compared with the number of shipments in the previous month. From January to August 2024, the total number of cargoes reached 4,202, which was an increase of 53 shipments when compared with the same period in 2023.

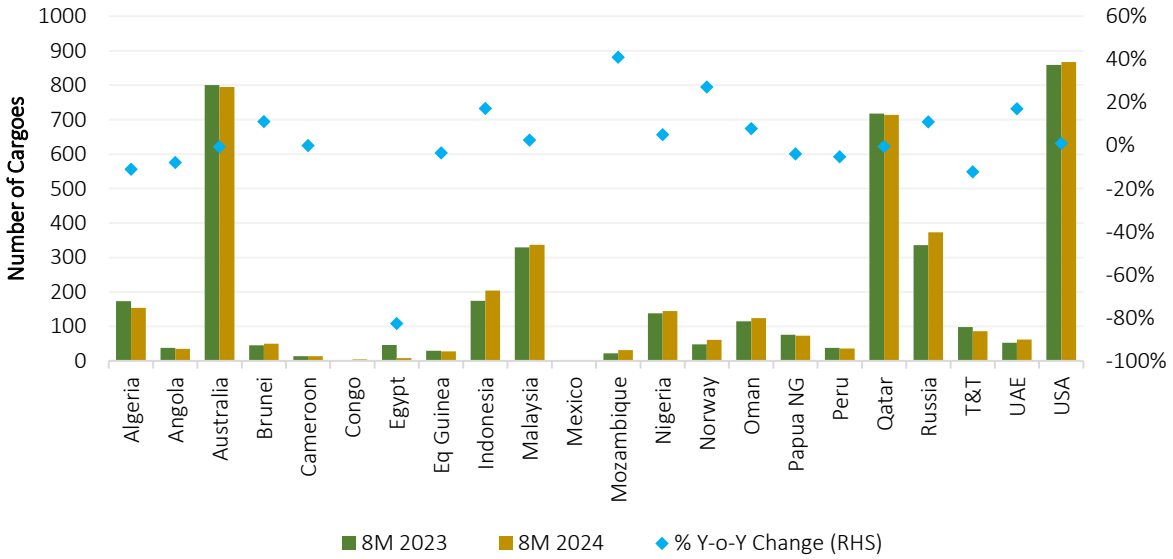
In this period, Mozambique's exports increased by 41%, followed by Norway at 27% and Indonesia and the UAE at 17% each (Figure 98).

Figure 97: Number of LNG export cargoes



Source: GECF Secretariat based on data from ICIS LNG Edge

Figure 98: Changes in LNG cargo exports



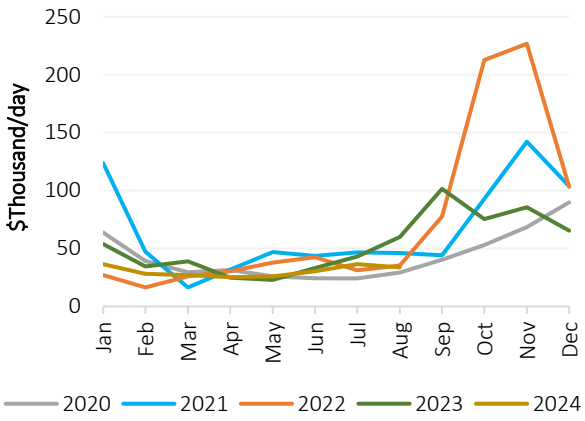
Source: GECF Secretariat based on data from ICIS LNG Edge

In August 2024, there was an 8% m-o-m decrease in the monthly average spot charter rate for steam turbine LNG carriers, to reach $33,600 per day (Figure 99). In addition, this monthly average charter rate was 44% lower y-o-y, as well as $8,700 per day lower than the five-year average price for the month. Moreover, there was also decline in the charter rates for the other segments of the global LNG carrier fleet during the month. The average spot charter rate for TDFE vessels fell by 10% m-o-m to reach $53,600 per day, while the average spot charter rate for two-stroke vessels fell by 7% m-o-m to reach $73,500 per day.

The monthly average charter rate is uncharacteristically low for this time of year. Usually, following a limited demand period at the beginning of the northern hemisphere summer, LNG carrier demand picks up slowly throughout the gas restocking season, and then increases significantly leading up to the start of winter. However, this month, there has been a continual slide in charter rates, supported by high vessel availability, with shipping capacity in both basins being sufficient to satisfy demand.

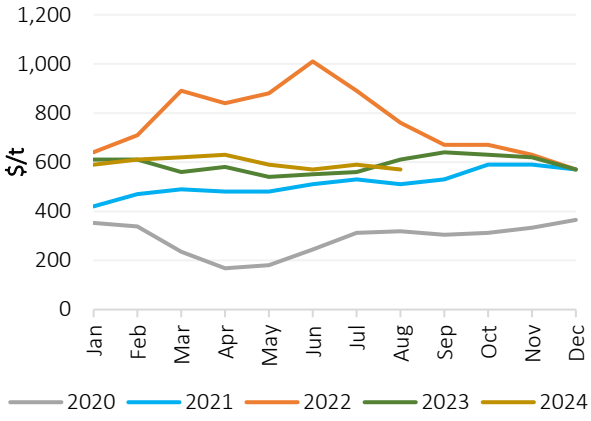
In August 2024, the average price of shipping fuels decreased by 3% m-o-m, to reach $570 per tonne (Figure 100). Furthermore, this average price was also 7% lower y-o-y, and 11% higher than the five-year average price for the month.

Figure 99: Average LNG spot charter rate



Source: GECF Secretariat based on data from Argus

Figure 100: Average price of shipping fuels

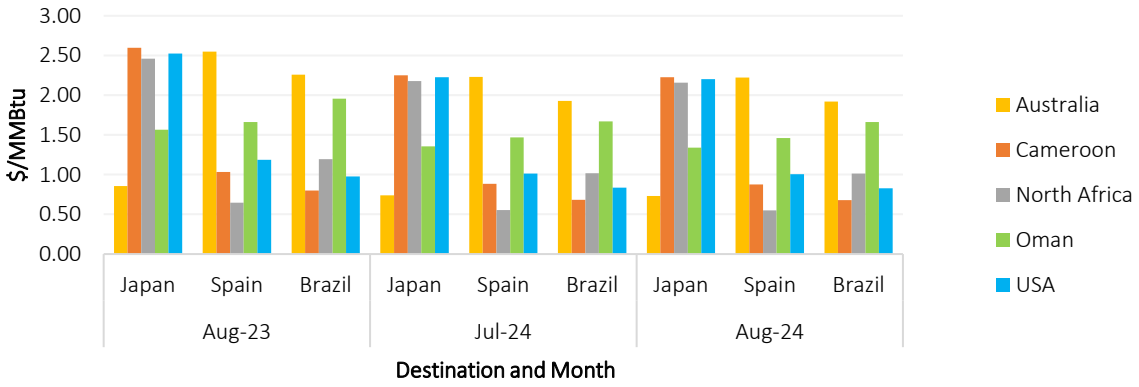


Source: GECF Secretariat based on data from Argus

In August 2024, the average LNG carrier spot charter rate and the cost of LNG shipping fuels both decreased compared with the previous month, while there was an increase in the delivered spot LNG prices. The net effect, therefore, was a small decrease in the LNG spot shipping costs for steam turbine carriers relative to the previous month, by up to $0.03/MMBtu on certain routes (Figure 101).

Additionally, when compared with one year ago, the monthly average spot charter rate and the cost of shipping fuels were both lower in August 2024, while delivered spot LNG prices were slightly higher, which resulted in LNG shipping costs of up to $0.37/MMBtu lower than August 2023.

Figure 101: LNG spot shipping costs for steam turbine carriers



Source: GECF Shipping Cost Model

4.2.7 Other developments

Mozambique's Coral Sul FLNG hits 5 Mt production milestone – In August 2024, Mozambique's 3.4 Mtpa Coral Sul FLNG facility reached a key milestone, producing 5 Mt of LNG since its start-up. The facility began operations in October 2022 and has since exported 70 LNG cargoes and 10 condensate cargoes. Nearly 90% of these LNG exports were shipped to the Asia Pacific region, with destinations including China, Thailand, India, Singapore and South Korea. Coral Sul is Mozambique's first and only operational LNG export facility. The project is operated by Eni in partnership with ExxonMobil, CNPC, GALP, KOGAS and ENH.

Woodside to shut down one LNG train at the NWS LNG facility in Australia – Woodside has announced plans to shut down production from one LNG train at the North West Shelf (NWS) LNG facility in Australia between late 2024 and mid-2025. This decision is due to declining feedgas supply from maturing natural gas fields. The NWS facility, which comprises five liquefaction trains with a total capacity of 17 Mtpa, began operations in 1989. The LNG exports from the facility is primarily destined for the Asia Pacific region.

Mexico's Fast LNG Altamira 1 facility exported its first LNG cargo – On August 10, 2024, New Fortress Energy (NFW) exported its first LNG cargo from the Fast LNG Altamira 1 facility in Mexico. This is the first LNG export project in Mexico, which joined the club of LNG exporters in August. The 1.4 Mtpa utilises feedgas from the US for export to the international markets. The first LNG cargo was loaded aboard the Energos Princess vessel and exported to the Pichilingue LNG import terminal in La Paz, Mexico. NFE is planning to develop additional FLNG facilities to be deployed in Altamira.

Solution to the Panama Canal water level problem: The Panama Canal Authority (PCA) has announced an investment into a new water reservoir, which is aimed at alleviating the impact of drought conditions on transits through the waterway. In late 2023 through early 2024, the Gatun Lake, which is the primary source of water for the Panama Canal's lock systems, experienced decreasing water levels because of low rainfall. Consequently, the PCA was forced to limit the sizes and number of daily vessel transits through the canal. The new $1.2 billion Indio River reservoir is therefore being built to provide another source of water to mitigate future drought conditions in the region. The project is expected to be completed in four years' time.

In terms of LNG agreements, seven contracts were signed in August 2024 (Table 1).

Table 1: New LNG sale agreements signed in August 2024

Contract Type	Exporting Country	Project	Seller	Importing Country	Buyer	Volume (Mtpa)	Duration (Years)
SPA	US	Sabine Pass Expansion	Cheniere	Portfolio	Galp	0.5	20
SPA	US		Shell	Portfolio	MET Group	0.8	10
HOA	UAE	Ruwais LNG	ADNOC	Japan	Osaka Gas	0.8	N/A
SPA	Mexico	Amigo LNG	Amigo LNG	Malaysia	E&H Energy	3.6	20
SPA	Qatar	Ras Laffan	QatarEnergy	Kuwait	KPC	3	15
SPA	Mexico	Saguaro Energia LNG	Mexico Pacific LNG	South Korea	POSCO	0.7	20
HOA	Mexico	Amigo LNG	Amigo LNG	Portfolio	OQ Trading	N/A	N/A

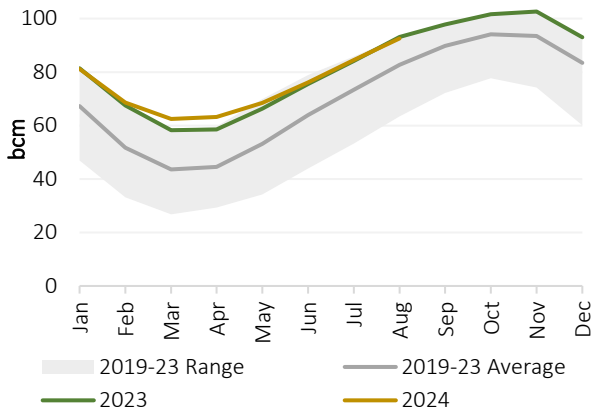
Source: GECF Secretariat based on Project Updates and News
Note: N/A – not available

5 Gas Storage

5.1 Europe

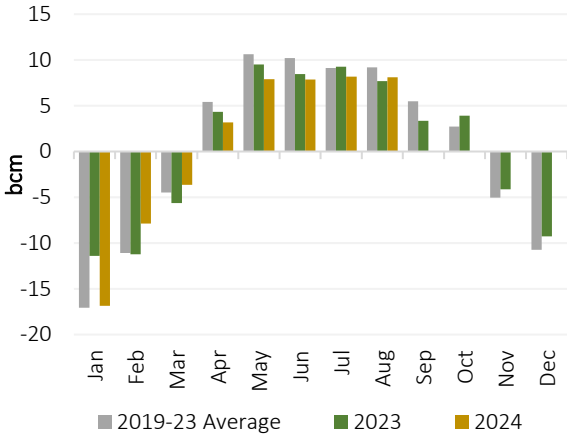
In August 2024, the average daily volume of gas in underground storage in the EU increased to 92.6 bcm, up from 84.5 bcm in the previous month (Figure 102). As a result, the average capacity utilisation of UGS sites in the region reached 89%. Furthermore, the average storage level in August 2024 was the second highest recorded level for that month, just behind that of one year ago. In this context, the average monthly storage level in August 2024 was 0.6 bcm less than that of August 2023. Additionally, there was 9.9 bcm more gas in storage in August 2024 than the five-year average for the month.

Figure 102: Monthly average UGS level in the EU



Source: GECF Secretariat based on data from AGSI+

Figure 103: Net gas injections in the EU

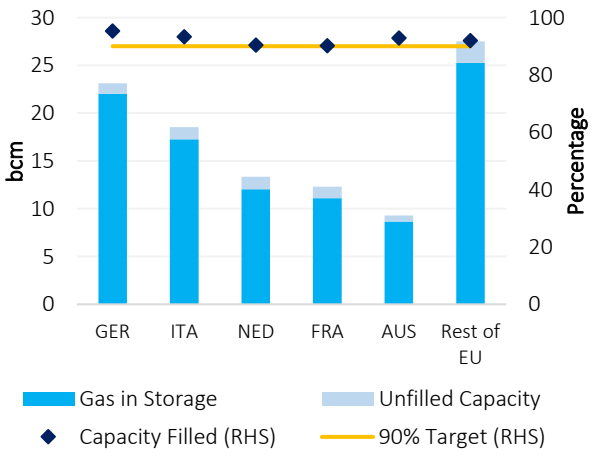


Source: GECF Secretariat based on data from AGSI+

During August 2024, there were 8.1 bcm of net gas injections in storage sites across the EU, which was the similar to the level of monthly net gas injections since May 2024 (Figure 103). The August net gas injections comprised 8.7 bcm of gas injections, along with just 0.6 bcm of gas withdrawals. Since the net gas restocking season commenced in April 2024, the EU countries have injected 35.6 bcm of gas into UGS sites in the region.

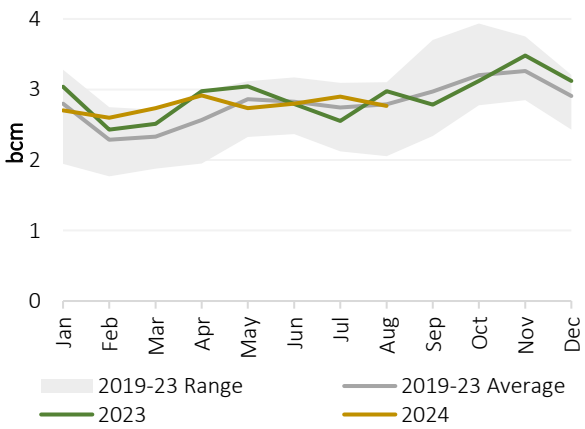
The average storage level in the top five EU countries for UGS capacity, all exceeded 90% by the end of August 2024 (Figure 104). Furthermore, the combined amount of LNG stored in the EU countries stood at 2.8 bcm in August 2024, which represented an decrease of 7% y-o-y, as well as being 1% lower than the five-year historical average for that month (Figure 105).

Figure 104: UGS in EU countries as of Aug 31, 2024



Source: GECF Secretariat based on data from AGSI+

Figure 105: Total LNG storage in the EU



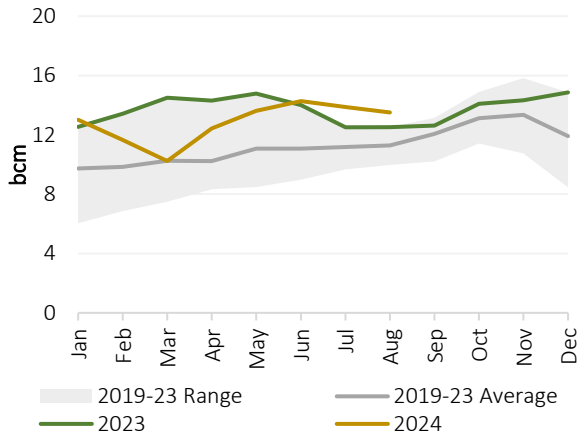
Source: GECF Secretariat based on data from ALSI

5.2 Asia Pacific

In the Asia Pacific region, LNG storage levels are higher than the five-year range. The combined volume of LNG in storage in Japan and South Korea reached an estimated 13.5 bcm in August 2024, which was 8% higher y-o-y, and 2.2 bcm greater than the five-year average for the month (Figure 106).

However, this combined LNG storage level decreased by 3% m-o-m. The storage in Japan and South Korea stood at 6.6 bcm and 6.9 bcm respectively.

Figure 106: LNG in storage in Japan and South Korea



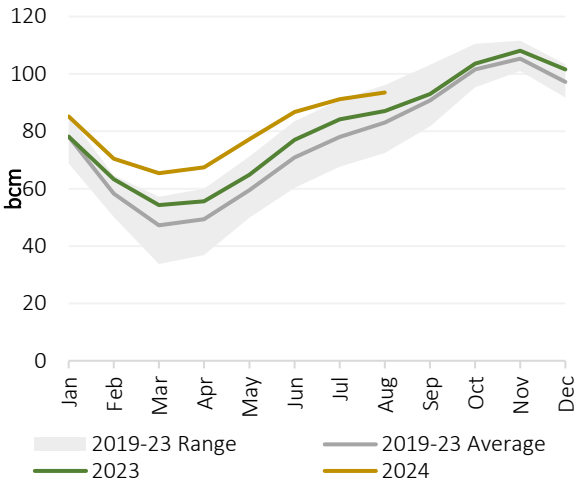
Source: GECF Secretariat based on data from Refinitiv

5.3 North America

There was a slowdown in the rate of gas restocking in the US, and in August 2024, the total level of gas in storage returned to within the five-year range for the first time for this year (Figure 107). The average daily volume of gas in storage in August 2024 increased to 93.5 bcm, up from 91.2 bcm in the previous month. Consequently, the average capacity utilisation of the UGS sites in the US rose to 70%.

In addition, there was 6.5 bcm more gas in storage than one year ago, and 10.5 bcm more than the five-year average. The total gas stored during the 2024 restocking season in the US reached 31 bcm.

Figure 107: Monthly average UGS level in the US



Source: GECF Secretariat based on data from US EIA

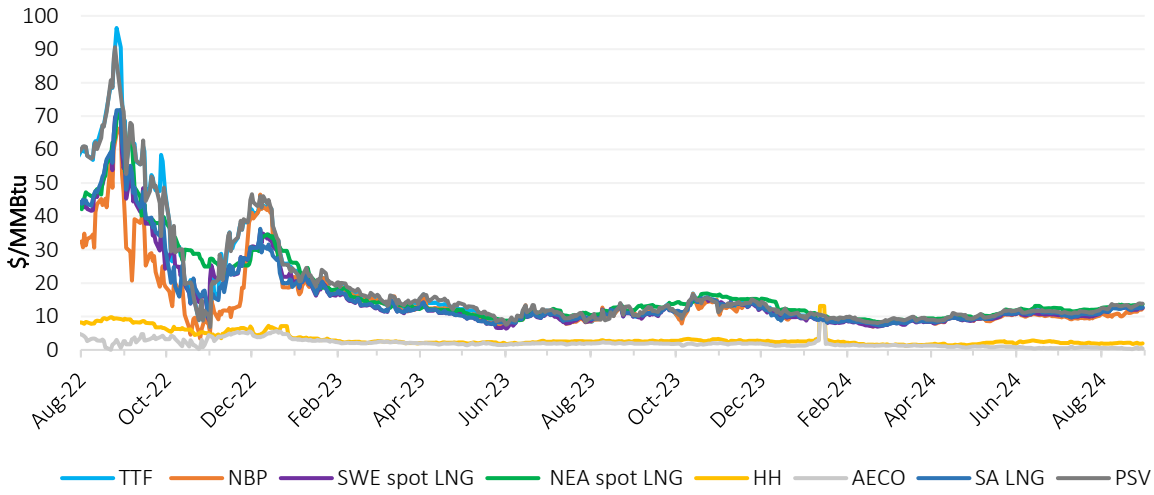
6 Energy Prices

6.1 Gas prices

6.1.1 Gas & LNG spot prices

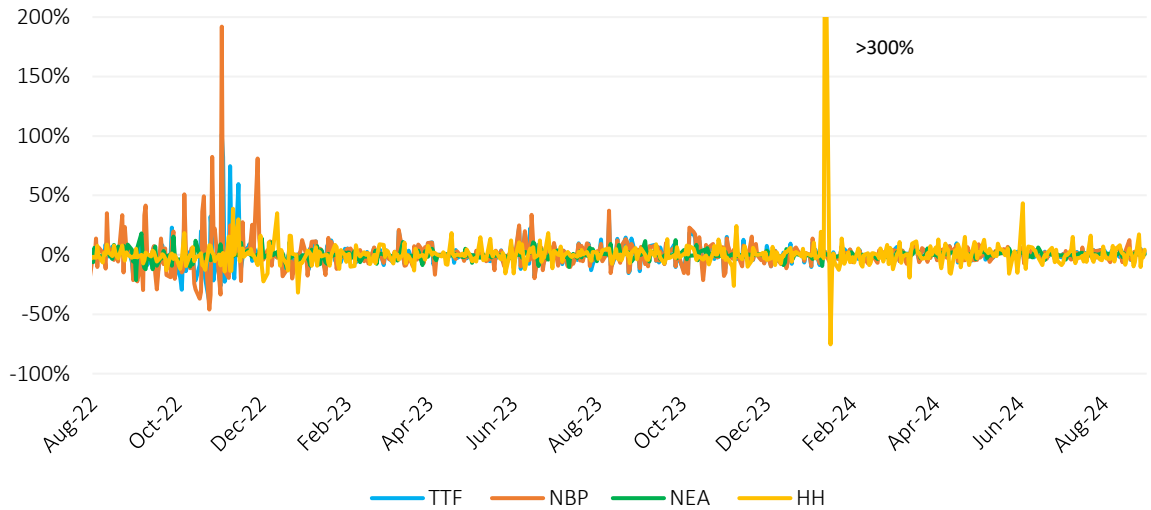
In August 2024, gas and LNG spot prices in Europe and Asia surged, reaching their highest levels of the year, and in addition, volatility remained low (Figure 108 and Figure 109). The bullish trend was driven by supply concerns due to escalating geopolitical tensions and increasing cooling demand in both regions. However, high gas storage levels and strong LNG supply curbed further price increases. While market fundamentals appear balanced, the market remains highly sensitive to supply risks. Looking ahead, extensive maintenance at Norwegian gas facilities could sustain bullish sentiment, though price-sensitive buyers in Asia may stay cautious.

Figure 108: Daily gas & LNG spot prices



Source: GECF Secretariat based on data from Argus and Refinitiv Eikon
Note: SA LNG price is an average of the LNG delivered prices for Argentina, Brazil and Chile based on Argus assessment.

Figure 109: Daily variation of spot prices

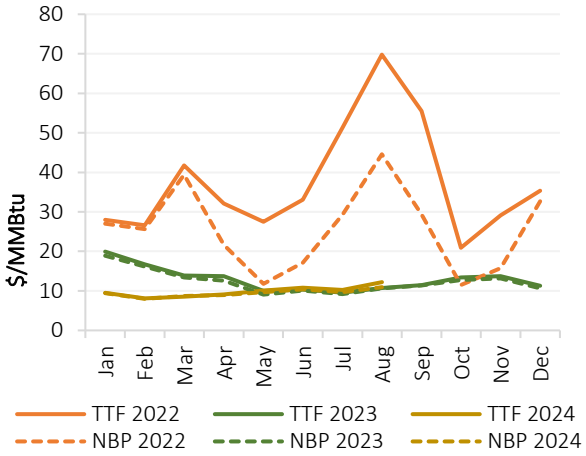


Source: GECF Secretariat based on data from Argus and Refinitiv Eikon

6.1.1.1 European spot gas and LNG prices

In August 2024, TTF spot gas prices averaged $12.21/MMBtu, reflecting a 19% increase m-o-m and a 14% increase y-o-y. In addition, NBP spot prices averaged $10.94/MMBtu, reflecting a 13% increase m-o-m and a 3% increase y-o-y (Figure 110). The SWE spot LNG prices averaged $12.24/MMBtu in August 2024 (20% increase m-o-m and 12% increase y-o-y). In addition, the PSV spot price averaged $13.17/MMBtu (16% increase m-o-m and 20% increase y-o-y).

Figure 110: Monthly European spot gas prices



Source: GECF Secretariat based on data from Refinitiv Eikon

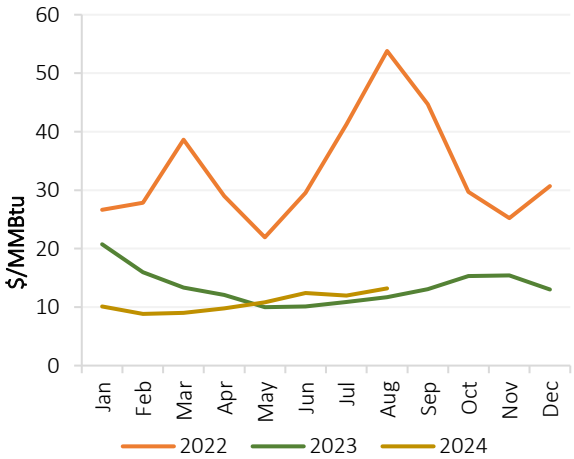
European gas and LNG spot prices surged, driven by supply-side risks stemming from escalating geopolitical tensions, as well as the annual maintenance of gas facilities on the Norwegian Continental Shelf (NCS), which began in late August 2024. Heatwaves in Spain and Italy also boosted gas demand for cooling. However, strong EU gas storage levels and subdued overall demand limited further gains. Daily TTF spot prices hit an 8-month high, exceeding $12/MMBtu.

For the period January to August 2024, TTF and NBP averaged $9.83/MMBtu and $9.48/MMBtu, respectively, representing substantial declines of 25% and 24% y-o-y, respectively.

6.1.1.2 Asian spot LNG prices

In August 2024, the average Northeast Asia (NEA) spot LNG price experienced a 10% increase m-o-m, reaching an average of $13.20/MMBtu. This represented a 13% increase y-o-y (Figure 111).

Figure 111: Monthly Asian spot LNG prices



Source: GECF Secretariat based on data from Argus and Refinitiv Eikon

Asian LNG prices rebounded from the previous month's losses, driven by supply concerns amid escalating geopolitical tensions and outages at LNG facilities in Australia and Malaysia. Additionally, elevated cooling demand due to above-normal temperatures in Japan and South Korea further supported prices. Daily NEA spot LNG prices rose to an 8-month high, surpassing $13/MMBtu.

For the period January to August 2024, the average NEA spot LNG price stood at $10.77/MMBtu, representing a decline of 18% y-o-y.

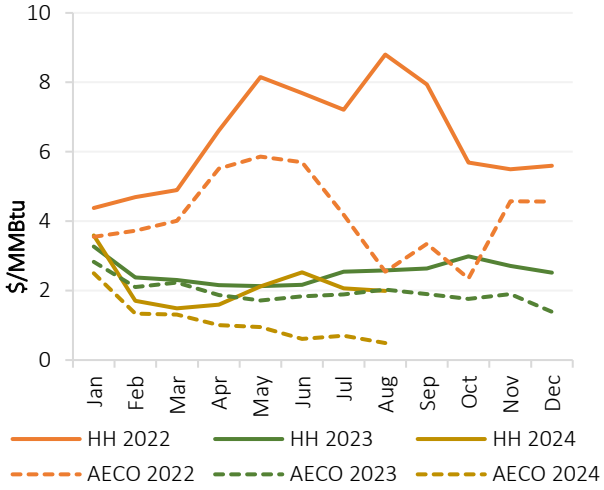
6.1.1.3 North American spot gas prices

In August 2024, the HH spot gas price averaged $1.99/MMBtu, reflecting a decline of 4% m-o-m. Additionally, it was 23% lower than the average price of $2.58/MMBtu observed in August 2023 (Figure 112).

Henry Hub prices declined for the second consecutive month, primarily due to strong gas production particularly in the Permian basin. As a result, daily HH spot prices fell below $2/MMBtu during this period.

Meanwhile, in Canada, the AECO spot price averaged $0.49/MMBtu in August 2024, reflecting sharp declines of 30% m-o-m and 76% y-o-y. Daily AECO spot prices remained below $1/MMBtu.

Figure 112: Monthly North American spot gas prices



Source: GECF Secretariat based on data from Argus and Refinitiv Eikon

For the period January to August 2024, the HH spot price averaged $2.14/MMBtu, representing a 13% decline y-o-y. Meanwhile, the AECO spot price averaged $1.11/MMBtu, marking a 46% decrease y-o-y.

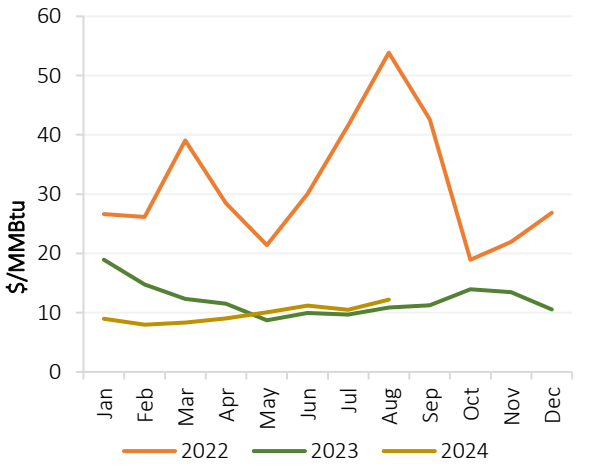
6.1.1.4 South American spot LNG prices

In August 2024, the South American (SA) LNG price experienced a 16% m-o-m increase, averaging $12.20/MMBtu. Additionally, the SA LNG price was 12% higher compared to the average price of $10.88/MMBtu observed in August 2023 (Figure 113).

LNG spot prices in South America continued to align with the trends observed in European and Asian spot prices. The average delivered prices for LNG in Argentina, Brazil and Chile averaged $12.30/MMBtu, $11.93/MMBtu and $12.36/MMBtu, respectively.

For the period January to August 2024, the SA LNG spot price averaged $9.77/MMBtu, representing a decline of 19% y-o-y.

Figure 113: Monthly South American spot LNG prices



Source: GECF Secretariat based on data from Argus
Note: SA LNG price is an average of the LNG delivered prices for Argentina, Brazil and Chile based on Argus assessment

6.1.2 Spot and oil-indexed long-term LNG price spreads

In August 2024, the average Oil-indexed I LNG price was $12.99/MMBtu, remaining relatively stable m-o-m and 6% increase y-o-y. Similarly, the Oil-indexed II LNG price averaged $9.91/MMBtu, reflecting a 2% decrease m-o-m and a 10% increase y-o-y (Figure 114). Furthermore, Oil-indexed I prices traded at a marginal discount of less than $1/MMBtu over NEA spot LNG prices, for the first time this year. Additionally, Oil-indexed II prices showed a discount of $3/MMBtu over the NEA spot LNG prices.

In Europe, the Oil-indexed III price averaged $8.34/MMBtu in August 2024, remaining at the same level as the previous month, but representing a 3% increase y-o-y (Figure 115). Moreover, the average Oil-indexed III price held a discount of $4/MMBtu over the average SWE LNG price.

From January to August 2024, the Oil-indexed I LNG price exhibited a 1% decrease y-o-y, while the Oil-indexed II LNG price showed a 4% increase y-o-y. Additionally, the Oil-indexed III LNG price for the same period reflected a 5% decrease y-o-y.

Figure 114: Asia: Spot and oil-indexed price spread

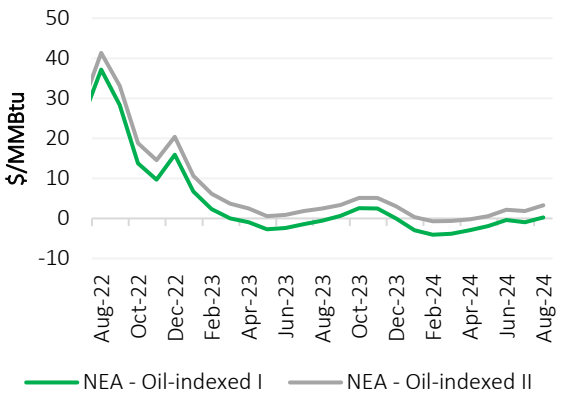
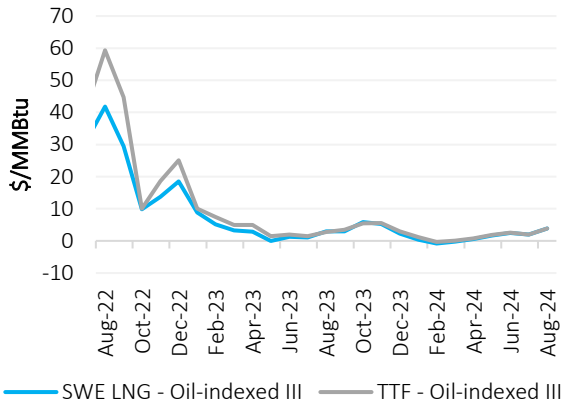


Figure 115: Europe: Spot and oil-indexed price spread



Source: GECF Secretariat based on data from Argus and Refinitiv Eikon
Note: Oil-indexed I LNG prices are calculated using the traditional LTC slope (14.9%) and 6-month historical average of Brent. Oil-indexed II LNG prices are calculated using the 5-year historical average LTC slope (11.4% for 2024) and 3-month historical average of Brent. Oil-indexed III LNG prices are based on Argus' assessment for European oil-indexed long-term LNG prices.

6.1.3 Regional spot gas & LNG price spreads

In August 2024, the NEA-TTF price spread remained positive, but narrowed compared to the previous month. The average premium of NEA LNG spot price over the average TTF spot price was $0.99/MMBtu (Figure 116).

NBP continued to trade at a discount to TTF, averaging $1.27/MMBtu in August 2024 (Figure 117). The negative NBP-TTF spread reflected continued loosening of the UK gas market, with increasing pipeline gas flows from the UK into Northwest Europe.

Furthermore, the spread between NWE LNG and TTF was negligible, indicating increasingly lower utilisation at regasification terminals in the region (Figure 118). The NWE LNG-SA LNG price spread turned slightly positive, averaging less than $1/MMBtu (Figure 119). Meanwhile, the NEA-HH and TTF-HH spreads both widened to $11.21/MMBtu and $10.22/MMBtu, respectively (Figure 120 and Figure 121). The premium of both Asian and European spot prices over North American spot prices increased compared to the previous month.

Figure 116: NEA-TTF price spread

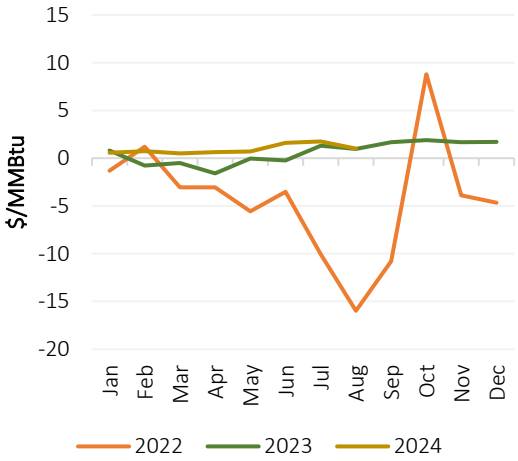


Figure 117: NBP-TTF price spread

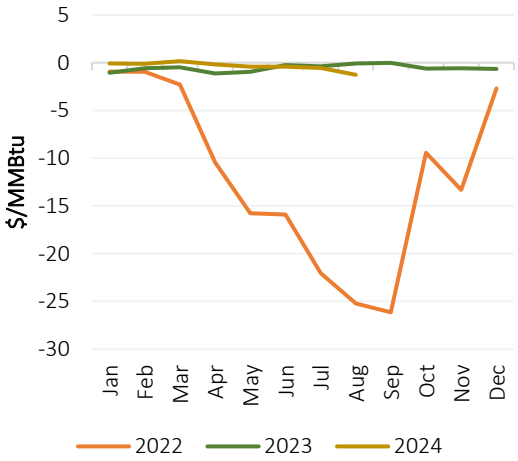


Figure 118: NWE LNG-TTF price spread

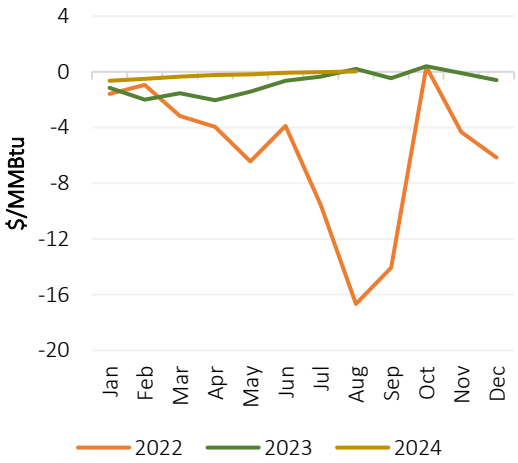


Figure 119: NWE LNG – SA LNG price spread

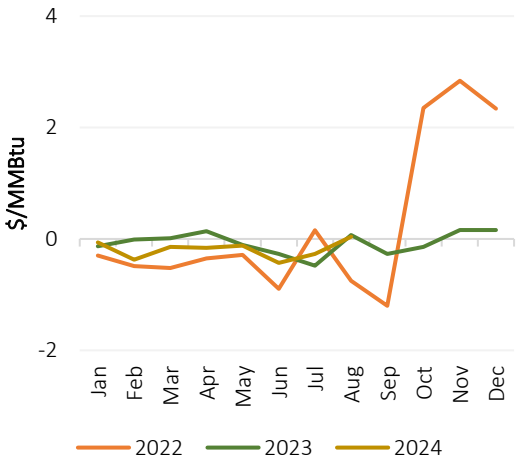


Figure 120: NEA-HH price spread

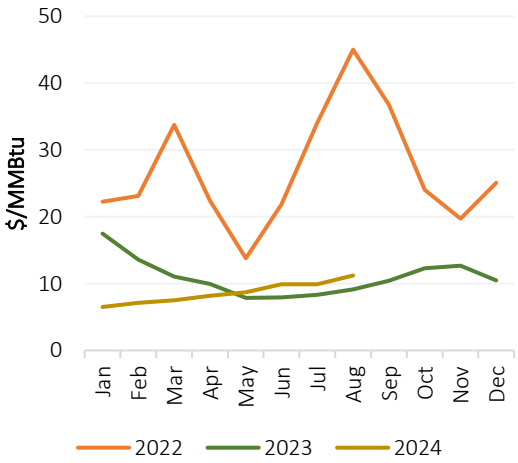
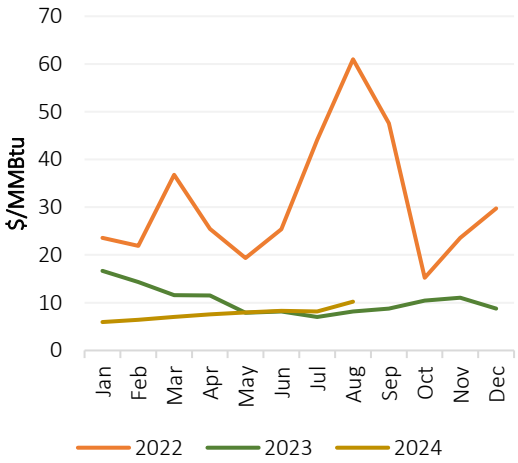


Figure 121: TTF-HH price spread



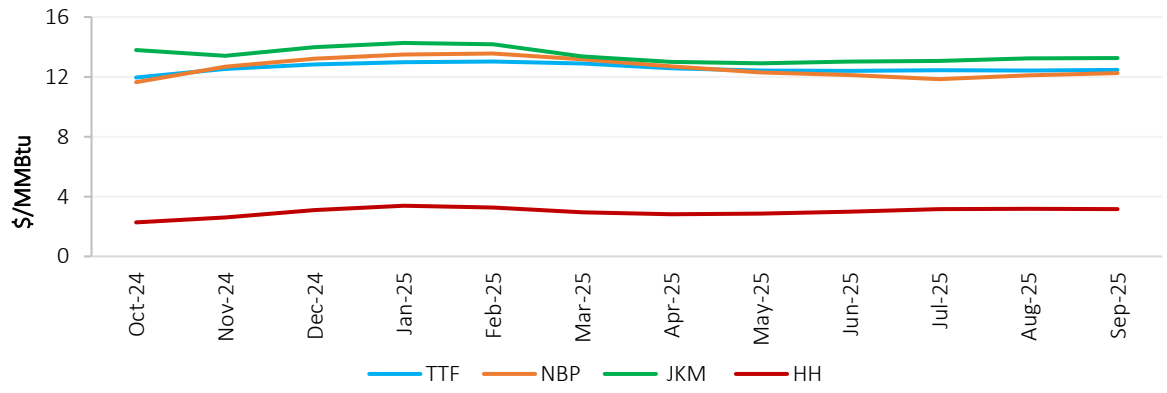
Source: GECF Secretariat based on data from Argus and Refinitiv Eikon

6.1.4 Gas & LNG futures prices

For the six-month period spanning October 2024 to March 2025, the JKM-TTF futures price spread is expected to be positive, indicating that Asian LNG prices are likely to maintain a premium over European spot prices. During this period, JKM is expected to trade at a premium of over $1/MMBtu compared to TTF. Additionally, the NBP-TTF spread is expected to be slightly negative in October 2024, with TTF expected to maintain an average premium of $0.3/MMBtu over NBP spot prices (Figure 122).

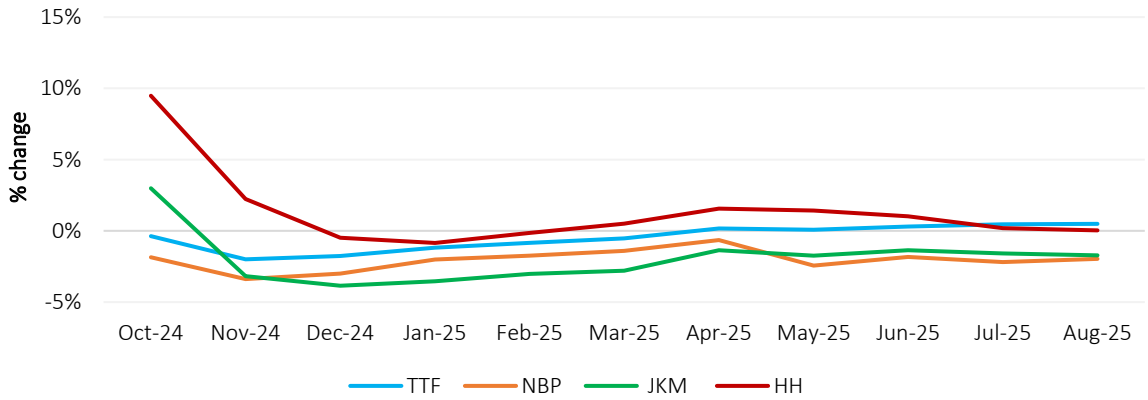
Moreover, as of September 9, 2024, the average futures prices for TTF, NBP and JKM during the same six-month period are $12.70/MMBtu, $12.96/MMBtu and $13.83/MMBtu, respectively. Furthermore, gas and LNG futures prices for TTF, NBP and JKM for the six-month period from October 2024 to March 2025 (as of September 9, 2024) are slightly lower than the futures prices expectations considered on August 4, 2024 (as reported in the GECF MGMR August 2024). Additionally, the average Henry Hub futures price is $2.93/MMBtu, which is higher than previous expectations (Figure 123).

Figure 122: Gas & LNG futures prices



Source: GECF Secretariat based on data from Refinitiv Eikon
Note: Futures prices as of September 9, 2024.

Figure 123: Variation in gas & LNG futures prices



Source: GECF Secretariat based on data from Refinitiv Eikon
Note: Comparison with the futures prices as of August 4, 2024, as reported in GECF MGMR August 2024.

6.2 Cross commodity prices

6.2.1 Oil prices

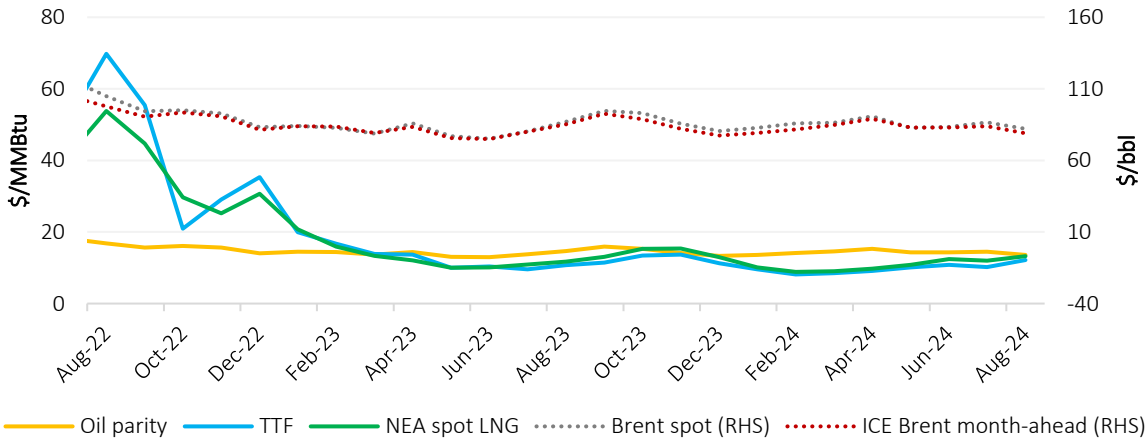
In August 2024, the average Brent spot price was $81.98/bbl, reflecting decreases of 5% m-o-m and 6% y-o-y (Figure 124). The Brent month-ahead price averaged $78.88/bbl, reflecting decreases of 6% m-o-m and 7% y-o-y.

Despite escalating geopolitical tensions and supply concerns, oil prices experienced a decline, driven by expectations of slower oil demand growth and rising US crude oil inventories. Weaker industrial activity in China also contributed to the downward trend. However, the prospect of the US Fed easing monetary policy at its September meeting provided positive market sentiment.

Furthermore, in August 2024, TTF spot prices traded at a reduced discount of $1/MMBtu to the oil parity price. Similarly, NEA LNG spot prices maintained a discount of less than $1/MMBtu to the oil parity price.

From January to August 2024, the average Brent spot price was $85.09/bbl, representing a 5% increase y-o-y. Similarly, the average Brent month-ahead price was $82.91/bbl, representing a 3% increase y-o-y.

Figure 124: Monthly crude oil prices



Source: GECF Secretariat based on data from Argus and Refinitiv Eikon
Note: Conversion factor of 5.8 was used to calculate the oil parity price in $/MMBtu based on the ICE Brent month-ahead price.

6.2.2 Coal prices

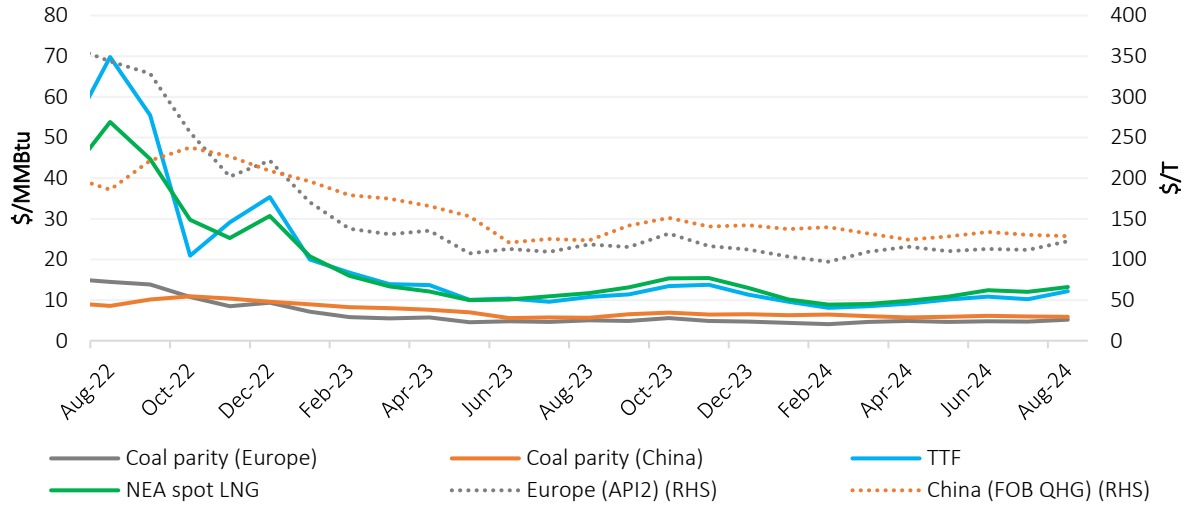
In August 2024, the European coal price (API2) averaged $122.20/T, reflecting a 10% increase m-o-m and a 3% increase y-o-y. Meanwhile, in China, the QHG coal price averaged $128.48/T, reflecting a 1% decrease m-o-m and a 4% increase y-o-y (Figure 125).

European coal prices rose, likely supported by gas-to-coal switching due to higher TTF spot prices, boosting regional coal demand. In contrast, coal prices in China edged down, reflecting softening demand.

The premium of TTF spot price over the API2 parity price increased to $7/MMBtu in August 2024. Additionally, the premium of NEA spot LNG price over the QHG parity price increased to $7/MMBtu.

From January to August 2024, the European API2 averaged $110.25/T, representing a 14% decrease y-o-y. Meanwhile, the Chinese QHG price averaged $131.73/T, reflecting a 15% decline y-o-y.

Figure 125: Monthly coal parity prices



Source: GECF Secretariat based on data from Argus and Refinitiv Eikon
Note: Conversion factors of 23.79 and 21.81 were used to calculate the coal prices in $/MMBtu for Europe (API2) and China (QHG) respectively.

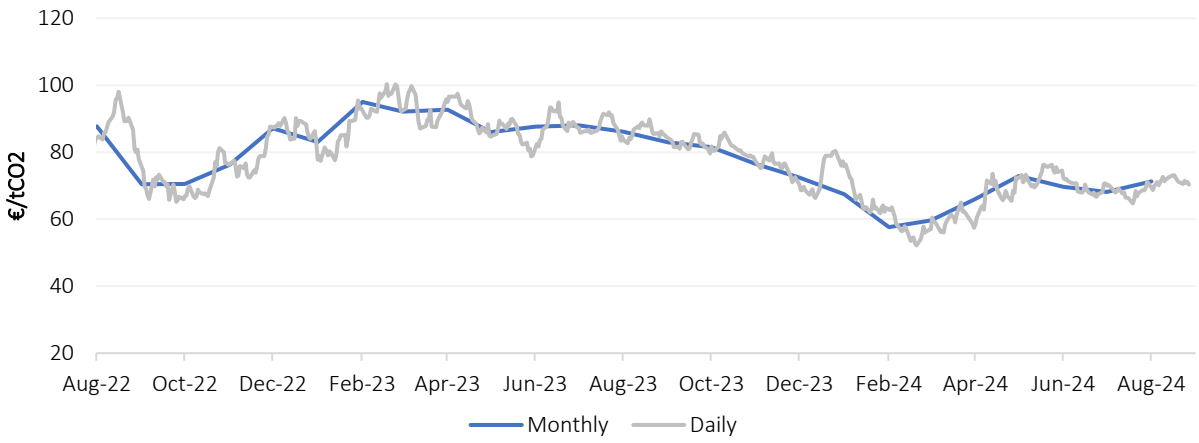
6.2.3 Carbon prices

In August 2024, EU carbon prices averaged €71.26/tCO_2, reflecting an increase of 5% m-o-m and a decline of 17% y-o-y (Figure 126).

EU carbon prices rebounded after two months of decline. This was driven by increased demand for EU allowances as rising gas and coal consumption for cooling pushed up demand in the region.

For the period January to August 2024, EU carbon prices averaged €66.59/tCO2, representing a decline of 25% y-o-y.

Figure 126: EU carbon prices

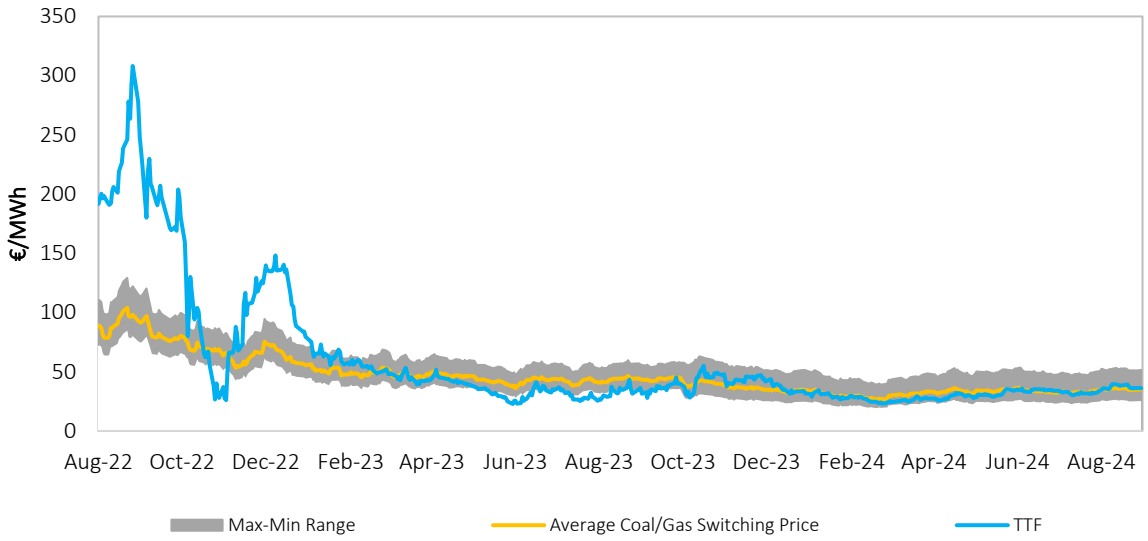


Source: GECF Secretariat based on data from Refinitiv Eikon

6.2.4 Fuel switching

In August 2024, daily TTF spot prices remained within the range that is favourable for coal-to-gas switching. The average coal-to-gas switching price experienced an increase of 8% m-o-m to reach €35.44/MWh. Notably, the average monthly spread between the TTF spot price and the coal-to-gas switching price turned positive, averaging €2/MWh (Figure 127). This may have supported some gas-to-coal switching in the region. Looking ahead to October 2024, the TTF spot price is likely to remain within the coal-to-gas switching range.

Figure 127: Daily TTF vs coal-to-gas switching prices



Source: GECF Secretariat based on data from Refinitiv Eikon
Note: Coal-to-gas switching price is the price of gas at which generating electricity with coal or gas is equal. The estimate takes into consideration coal prices, CO_2 emissions prices, operation costs and power plant efficiencies. The efficiencies considered for gas plants are max: 56%, min: 46%, avg: 49.13%. The efficiencies considered for coal plants are max: 40%, min: 34%, avg: 36%.

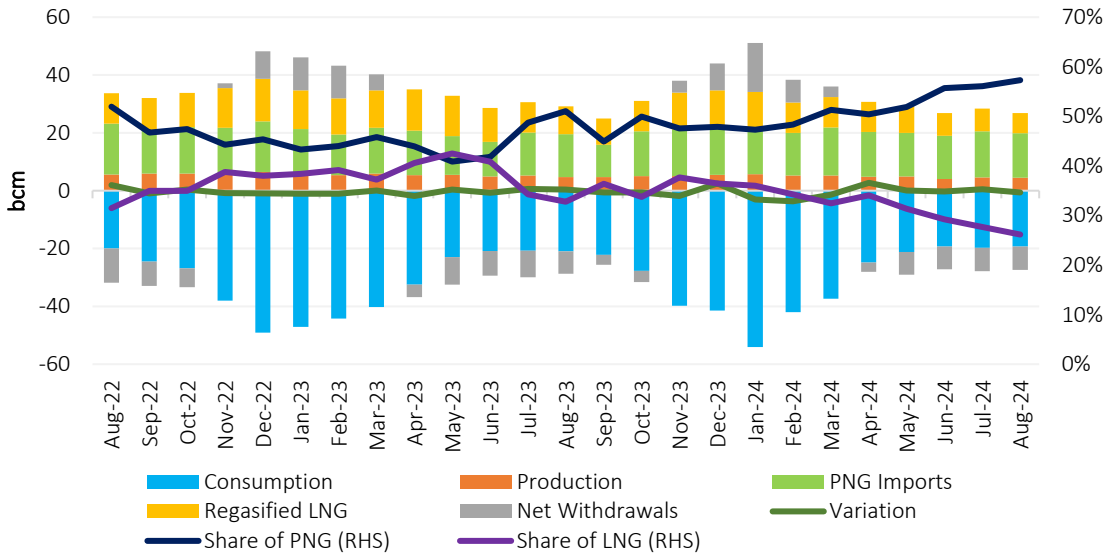
Annexes

Gas Balance

1) EU + UK

In August 2024, the share of regasified LNG in the EU and UK sub-region's gas supply continued to decline, falling from 28% in July to 26%, and down significantly from 33% in August 2023. In contrast, the share of pipeline gas imports rose from 51% in August 2023 and 56% in July 2024 to 57% in August 2024 (Figure 128). The m-o-m decrease in regasified LNG's share, alongside the increase in the share of pipeline gas imports, was due to a sharper drop in regasified LNG compared to pipeline gas imports. Meanwhile, the significant y-o-y decline in regasified LNG and the rise in pipeline gas imports contributed to the higher share of pipeline gas and the reduced share of regasified LNG compared to the previous year.

Figure 128: EU + UK monthly gas balance



Note: Variation refers to losses and statistical differences
Source: GECF Secretariat based on data from AGSI+, JODI Gas and Refinitiv

Table 2 below provides data on the gas supply and demand balance for the EU + UK for the month of August 2024.

Table 2: EU + UK gas supply/demand balance for August 2024 (bcm)

	2023	Aug-23	Aug-24	YTD 2023	YTD 2024	Change* y-o-y	Change** 2024/2023
(a) Gas Consumption	380.85	21.00	19.30	249.60	237.85	-8%	-5%
(b) Gas Production	63.46	4.71	4.45	43.33	39.07	-6%	-10%
Difference (a) - (b)	317.39	16.29	14.85	206.27	198.78	-9%	-4%
PNG Imports	174.88	14.86	15.39	115.43	124.43	4%	8%
Regasified LNG	143.59	9.55	7.03	98.61	75.59	-26%	-23%
Net Withdrawals	-4.86	-9.27	-8.17	-3.32	1.23	-12%	-137%
Variation	3.78	1.15	0.61	-4.45	-2.47		

Source: GECF Secretariat based on data from AGSI+, JODI Gas and Refinitiv
(*): y-o-y change for August 2024 compared to August 2023
(**): y-o-y change for YTD 2024 compared to YTD 2023

2) OECD

Table 3 below provides data on the gas supply and demand balance for all OECD countries, including OECD Americas, OECD Asia Oceania and OECD Europe for the month of June 2024.

Table 3: OECD's gas supply/demand balance for June 2024 (bcm)

	2023	Jun-23	Jun-24	H1 2023	H1 2024	Change* y-o-y	Change** 2024/2023
(a) OECD Gas Consumption	1770.0	121.1	121.1	909.0	906.6	0.0%	-0.3%
(b) OECD Gas Production	1700.0	136.6	137.7	840.9	847.1	0.8%	0.7%
Difference (a) - (b)	70.0	-15.5	-16.6	68.1	59.5	7.2%	-12.6%
OECD LNG Imports	329.9	23.8	21.8	173.8	155.6	-8.6%	-10.5%
LNG Imports from GECF	140.8	10.7	9.1	75.5	66.0	-15.5%	-12.6%
LNG Imports from Non-GECF	189.1	13.1	12.7	98.3	89.6	-2.8%	-8.9%
OECD LNG Exports	238.4	18.7	19.6	117.5	120.5	5.2%	2.5%
Intra-OECD LNG Trade	154.9	11.0	10.2	79.9	73.2	-7.1%	-8.4%
OECD Pipeline Gas Imports	499.0	35.5	39.3	258.5	244.6	10.5%	-5.4%
OECD Pipeline Gas Exports	479.8	36.0	39.3	249.7	232.8	9.1%	-6.8%
Stock Changes and losses	40.7	20.1	18.7	-3.0	-12.7		

Source: GECF Secretariat based on data from ICIS LNG Edge and IEA Monthly Gas Statistics
(*): y-o-y change for June 2024 compared to June 2023
(**): y-o-y change for H1 2024 compared to H1 2023

3) India

Table 4 below provides data on the gas supply and demand balance for India for the month of July 2024.

Table 4: India's gas supply/demand balance for July 2024 (bcm)

	2023	Jul-23	Jul-24	YTD 2023	YTD 2024	Change* y-o-y	Change** 2024/2023
(a) India Gas Consumption	62.15	5.42	5.81	36.21	39.05	7.3%	7.8%
(b) India Gas Production	35.09	3.06	3.02	19.81	20.97	-1.4%	5.9%
Difference (a) - (b)	27.06	2.36	2.79	16.40	18.08	18.6%	10.3%
India LNG Imports	30.27	2.51	3.52	16.77	21.93	40.7%	30.8%
LNG Imports from GECF	23.57	1.72	2.57	13.24	15.88	49.1%	19.9%
LNG Imports from Non-GECF	6.70	0.78	0.96	3.52	6.05	22.2%	71.6%
Stock Changes and losses	3.21	0.15	0.73	0.37	3.85		

Source: GECF Secretariat based on data from ICIS LNG Edge and India's PPAC
(*): y-o-y change for July 2024 compared to July 2023
(**): y-o-y change for YTD 2024 compared toYTD 2023

Abbreviations

Abbreviation	Explanation
AE	Advanced Economies
AECO	Alberta Energy Company
bcm	Billion cubic metres
bcma	Billion cubic metres per annum
bcm/yr	Billion cubic metres per year
CBAM	Carbon Border Adjustment Mechanism
CBM	Coal bed methane
CCS	Carbon, Capture and Storage
CCUS	Carbon Capture, Utilization and Storage
CDD	Cooling Degree Days
CNG	Compressed Natural Gas
CO_2	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CPI	Consumer Price Index
DOE	Department of Energy
EC	European Commission
ECB	European Central Bank
EEXI	Energy Efficiency Existing Ship Index
EMDE	Emerging Markets and Developing Economies
EU	European Union
EU ETS	European Union Emissions Trading Scheme
EUA	European Union Allowance
Fed	Federal Reserve
FID	Final Investment Decision
FSU	Floating Storage Unit
FSRU	Floating Storage Regasification Unit

G7	Group of Seven
GDP	Gross Domestic Product
GECF	Gas Exporting Countries Forum
GHG	Greenhouse Gas
HDD	Heating Degree Days
HH	Henry Hub
IEA	International Energy Agency
IMF	International Monetary Fund
IMO	International Maritime Organization
JKM	Japan Korea Marker
LNG	Liquefied Natural Gas
LAC	Latin America and the Caribbean
LT	Long-term
MMBtu	Million British thermal units
mmcm	Million cubic metres
MENA	Middle East and North Africa
METI	Ministry of Trade and Industry in Japan
m-o-m	month-on-month
Mt	Million tonnes
Mtpa	Million tonnes per annum
MWh	Megawatt hour
NEA	North East Asia
NBP	National Balancing Point
NDC	Nationally Determined Contribution
NGV	Natural Gas Vehicle
NZBA	Net-Zero Banking Alliance
OECD	Organization for Economic Co-operation and Development
PNG	Pipeline Natural Gas

PPAC	Petroleum Planning & Analysis Cell
PSV	Punto di Scambio Virtuale (Virtual Trading Point in Italy)
QHG	Qinhuangdao
R-LNG	Regasified LNG
SA	South America
SPA	Sales and Purchase Agreement
SWE	South West Europe
T&T	Trinidad and Tobago
TANAP	Trans-Anatolian Natural Gas Pipeline
TCFD	Task Force on Climate-Related Financial Disclosure
Tcm	Trillion cubic metres
tCO2	Tonne of carbon dioxide
TTF	Title Transfer Facility
TWh	Terawatt hour
UGS	Underground Gas Storage
UAE	United Arab Emirates
UK	United Kingdom
UQT	Upward Quantity Tolerance
US	United States
y-o-y	year-on-year

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