GECF

Gas Exporting Countries Forum

MONTHLY GAS MARKET REPORT

October 2024

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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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Acknowledgements

We would like to highlight the important role of HE Secretary General Eng. Mohamed Hamel in developing this report and thank GaffneyCline for their editorial contributions.

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Highlights

Global economy: Global GDP growth for 2024 has been revised down to 3.1%. In the US, the GDP growth forecast remains steady at 2.7%, while projections for the Euro area and China hold firm 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 ease, with average rates forecasted at 4.4% for 2024 and 3.3% for 2025.

Gas consumption: The projected growth of global gas consumption for the year 2024 has been revised up to 2.2%. In September 2024, the EU gas consumption recorded a 3.3% y-o-y increase to reach 19 bcm, following seven consecutive months of decline. This rise was primarily driven by industrial and residential sectors. Similarly, US gas consumption increased by 1.6% y-o-y to 67.4 bcm. In August 2024, China's apparent gas demand rose by 9.6% y-o-y to reach 36.3 bcm, driven by increased consumption by LNG-fuelled trucks and gas-fired power generation for cooling amidst prolonged hot weather, especially in eastern and south-eastern regions of China.

Gas production: The projected growth of the global gas production in 2024 has been revised up to 2.4%. In September 2024, US gas production continued its downward trend to stand at 87.7 bcm, representing a 0.9% y-o-y decline, reflecting the combined effect of the Hurricane Helene on Gulf of Mexico production, along with production cuts in response to low Henry Hub prices. In August 2024, Europe's gas production rose by 2.5% y-o-y to stand at 15 bcm, mainly driven by the surge in the Norwegian output along with the production ramp up in Türkiye, which overcame the declines in respective British and Dutch outputs. In Asia Pacific, Chinese production y-o-y growth reached 10.6%, driven by multiple new fields coming on stream. In Argentina, the Fenix offshore gas field began production, with a target output of 3.7 bcma.

Gas trade: From January to September 2024, global LNG imports rose to 306.8 Mt, a 1.7% y-o-y gain, with the Asia Pacific region driving the momentum and offsetting Europe's decline. Specifically, in September 2024, global LNG imports soared by 8.9% y-o-y to reach 33.7 Mt, marking the strongest y-o-y growth since November 2022. This surge was fuelled by robust demand in the Asia Pacific region, which balanced out a decline in European imports, aided by a favourable price spread between the two markets. Northeast Asia, particularly China, saw a boost in LNG imports due to increased gas demand and pre-winter restocking. In contrast, Europe's LNG imports fell, pressured by high storage levels, strong pipeline gas supplies and the inter-basin arbitrage. On the infrastructure front, September witnessed Mexico's Fast FLNG 1 facility exporting its first full LNG cargo, while China's Chaozhou and Huizhou regasification terminals became operational.

Gas storage: Gas restocking continued in all major regions in September 2024, in anticipation of the upcoming winter season in the northern hemisphere. In the EU, the monthly average volume of gas in storage increased to 98 bcm, which represents an average regional capacity of 94%. In the US, despite a slowdown of gas injections, the average gas storage level increased to 98 bcm, or 73% of the country's capacity. In Asia, the combined volume of LNG in storage in Japan and South Korea was estimated at 14 bcm.

Energy prices: In September, natural gas prices in Europe and Asia experienced a decline, following a two-month rise. The TTF spot price monthly average was $11.75/MMBtu, reflecting a 4% m-o-m decrease, while the NEA average spot LNG price was $13.09/MMBtu, down by 1% m-o-m. Meanwhile, in the US, Henry Hub prices rose to average $2.26/MMBtu, marking a 14% m-o-m increase. Looking ahead, spot prices are expected to be supported by rising gas demand due to anticipated below-normal temperatures in Europe, and the replenishment of LNG inventories by Asian buyers ahead of the winter season.

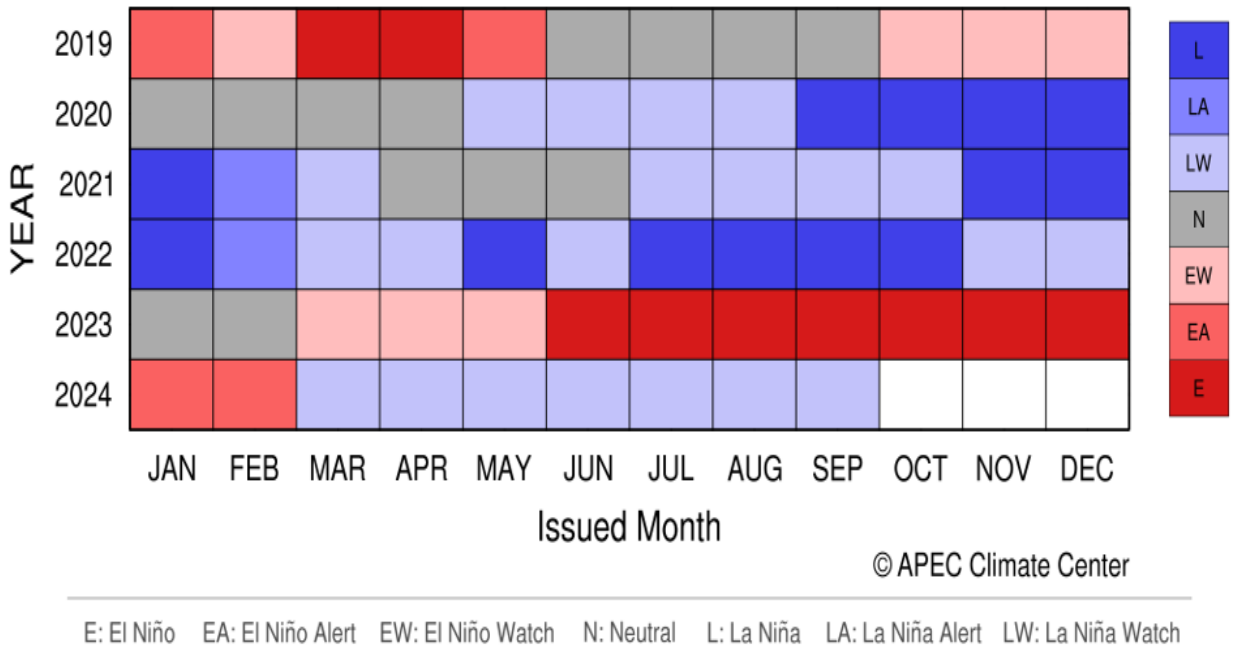
Feature article: Impact of the El Niño & La Niña phenomenon on the gas markets

The global gas market has become increasingly affected by shifting weather patterns driven by the El Niño Southern Oscillation (ENSO). The ENSO is a recurring climate phenomenon that impacts atmospheric circulation by altering water temperatures in the Pacific Ocean, leading to fluctuations in air temperatures worldwide.

El Niño and La Niña represent two opposite cycles of ENSO. El Niño is characterized by warmer-than-normal sea surface temperatures in the central and eastern Pacific and weakened trade winds. This phase typically results in droughts across the western Pacific, especially in East Asia, and increased rainfall in the eastern Pacific, particularly in the Americas. El Niño also often leads to warmer-than-average winter temperatures in northern regions. On the other hand, La Niña is characterized by cooler-than-normal sea surface temperatures in the central and eastern Pacific, along with strengthened trade winds. This phase leads to heavier rainfall in the western Pacific and drought conditions in the eastern Pacific. Additionally, La Niña can result in colder-than-normal winters in northern regions and increased hurricane activity in the Atlantic. ENSO phases can last several months to over a year, with varying intensity and duration, making their global climate impacts difficult to predict.

The ENSO Alert System is designed to monitor and forecast the phases of ENSO, providing regular updates on its status and issuing warnings based on current and predicted conditions. It features multiple alert levels, such as El Niño Event, El Niño Alert, El Niño Watch, Neutral, La Niña Watch, La Niña Alert, and La Niña Event, indicating varying degrees of likelihood and presence of ENSO conditions (Figure i).

Figure i: ENSO Alert System history



Source: APEC Climate Center

The gas industry is highly sensitive to weather-driven fluctuations in demand, and ENSO events significantly impact gas consumption, production, and trade across various regions and sectors.

With regard to **the residential / commercial sector**, El Niño typically leads to warmer-than-average winters in the Northern Hemisphere, reducing gas demand in major gas-consuming regions such as Europe and North America, where natural gas is actively used for residential and commercial heating. Conversely, La Niña often brings colder-than-usual winters to these areas, sharply increasing the need for natural gas fuelled heating. Recent trends in gas consumption in the residential sectors of the US and UK during winter seasons highlight the direct influence of El Niño and La Niña events on gas demand. The winter season of 2020/2021 (WS 20/21), characterized by a strong La Niña event, saw the highest gas consumption in the residential sectors of both countries over the past five winter seasons (Figures ii and iii). In contrast, the 2023/2024 winter season, notable for reaching "Super" El Niño status — the sixth occurrence since 1950 — recorded the lowest gas consumption in both countries' residential sectors.

Figure ii: Winter season gas counsumption in the residential sector in the US

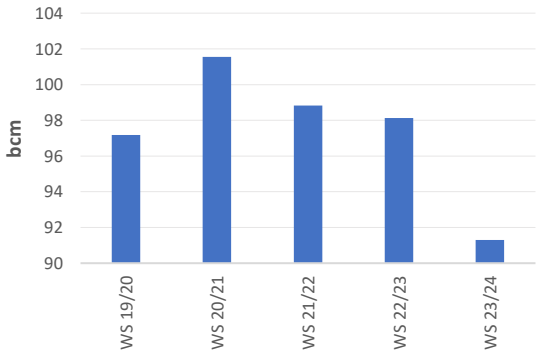
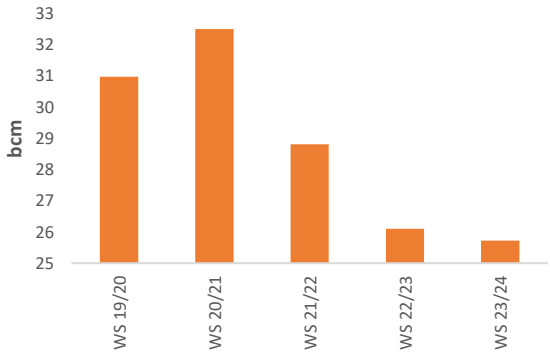


Figure iii: Winter season gas consumption in the residential sector in the UK



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

With regard to the **electricity generation sector**, both La Niña and El Niño have a significant impact on renewable energy output, particularly hydroelectric output, which is heavily reliant on precipitation levels. During El Niño, increased rainfall typically occurs across the Americas, while East Asia often experiences droughts. In contrast, La Niña usually brings droughts to the Americas and higher rainfall to East Asia. Drought conditions reduce hydroelectric generation, causing countries utilising significant hydro to rely more on natural gas for electricity, often turning to the spot LNG market to meet demand.

In the Americas, Brazil's hydropower output declined to 363 TWh in 2021 during the La Niña cycle, leading to widespread droughts, while gas-fired power generation rose to 87 TWh. In contrast, during the 2023 El Niño, heavier rainfall boosted hydropower output to 429 TWh, reducing gas-fired power generation to 38 TWh. As a result, Brazil's LNG imports dropped from 10.3 bcm in 2021 to 1.2 bcm in 2023. With La Niña intensifying in 2024, Brazil recorded its first year-on-year decline in monthly hydroelectric production in August, with output falling by 3.1 TWh y-o-y (Figure iv). This decrease was partially offset by a 1.5 TWh y-o-y rise in gas-fired power generation. Ongoing droughts and low rainfall are expected to continue until December, likely leading to an increase in LNG imports.

In East Asia, China's hydropower generation reached 1,300 TWh in 2021, the second-highest level on record, due to increased rainfall associated with La Niña. However, during 2023, hydropower output dropped to 1,226 TWh due to El Niño-induced droughts. This decline was offset by coal-fired and renewable generation, with growth in each segment exceeding 300 TWh, contributing to an overall electricity output increase of over 600 TWh. Gas-fired power generation also rose by 22 TWh that year. In 2024, with the return of La Niña and higher rainfall, China's hydroelectric output has risen steadily, adding 165 TWh y-o-y in the first eight months of the year (Figure v).

Figure iv: Trend in hydropower output in Brazil

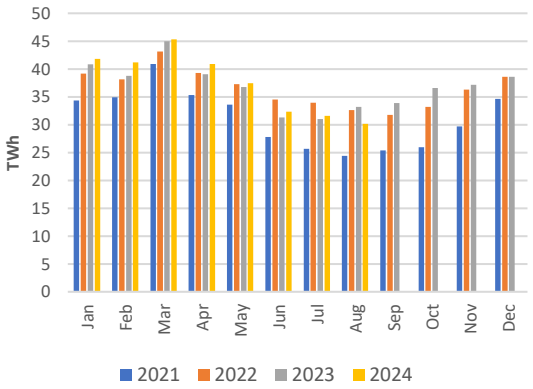
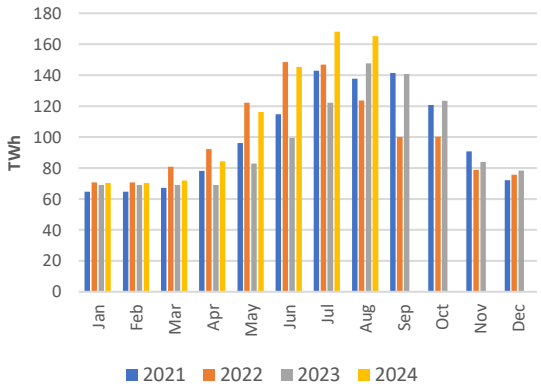


Figure v: Trend in hydropower output in China



Source: GECF Secretariat based on Ember data

The ENSO phenomenon also affects wind and solar power generation. El Niño typically reduces wind power output in many regions, while La Niña tends to enhance it, although the specific impacts depend on location and event intensity. ENSO phases also affect solar generation by altering cloud cover, sunlight intensity, and broader weather conditions.

Moreover, changes in global temperatures caused by El Niño and La Niña also affect gas-fired electricity generation. El Niño tends to increase air temperatures during summer in many regions, driving up cooling demand and, consequently, gas-fired power generation. For instance, in August 2023, the hottest August on record in many countries, including Brazil, China, Japan, Spain and the U.S., the prevailing El Niño significantly boosted gas-fired generation. However, with the shift to La Niña in Q2 2024, temperatures dropped across these regions through to August 2024.

On the **gas supply side**, La Niña's effect is primarily seen in the Atlantic basin, specifically in the Gulf of Mexico. With a high possibility of increased frequency and intensity of hurricanes in the event of La Niña, the gas production and LNG export infrastructure in the region are at risk of supply disruption due to outages and indirect impacts. For instance, operations at the Cameron and Sabine Pass LNG facilities were impacted by hurricanes in 2020, which was notable for a La Niña cycle, resulting in 3 Mt loss of LNG supply. In 2024, with the start of a La Niña cycle, the same LNG facilities have already been impacted by hurricanes, which led to the loss of almost 1 Mt of LNG supply (Table i). Moreover, amidst the reinforcing La Niña cycle, there is a risk of further disruptions to US LNG supply from intense hurricanes for the rest of the year.

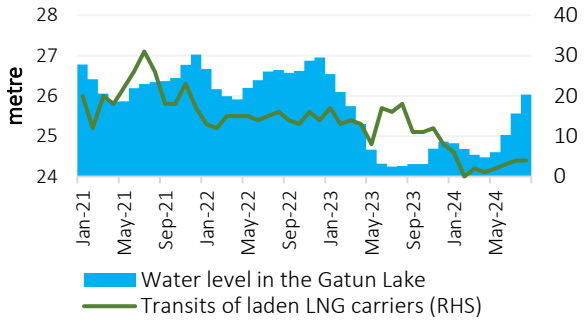
The ENSO phases also affect LNG shipping, particularly through the Panama Canal, where Gatun Lake provides water for the canal's water gates to permit the transit of vessels of certain sizes. During the 2023 El Niño, reduced rainfall lowered water levels in Gatun Lake, prompting the Panama Canal Authority (PCA) to limit transits from September 2023. By February 2024, there were zero instances of laden LNG carriers transiting the canal (Figure vi). As a result, America's LNG exporters had to reroute shipments to Asia via longer routes such as the Cape of Good Hope, increasing sailing times and costs. With weather patterns now shifting toward the La Niña cycle, rainfall has replenished Gatun Lake, allowing the PCA to ease transit restrictions and enabling a partial recovery of LNG carrier traffic.

Table i: US LNG supply lost due to the impact of hurricanes

Year	Cameron LNG	Freeport LNG	Sabine Pass LNG	Total
2017			0.5 Mt	**0.5 Mt**
2020	2.0 Mt		0.8 Mt	**2.8 Mt**
2021		0.1 Mt		**0.1 Mt**
2024	0.1 Mt	0.8 Mt		**0.9 Mt**

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

Figure vi: Correlation between water level and LNG carrier transits in the Panama Canal



Source: GECF Secretariat based on data from the Panama Canal Authority and ICIS

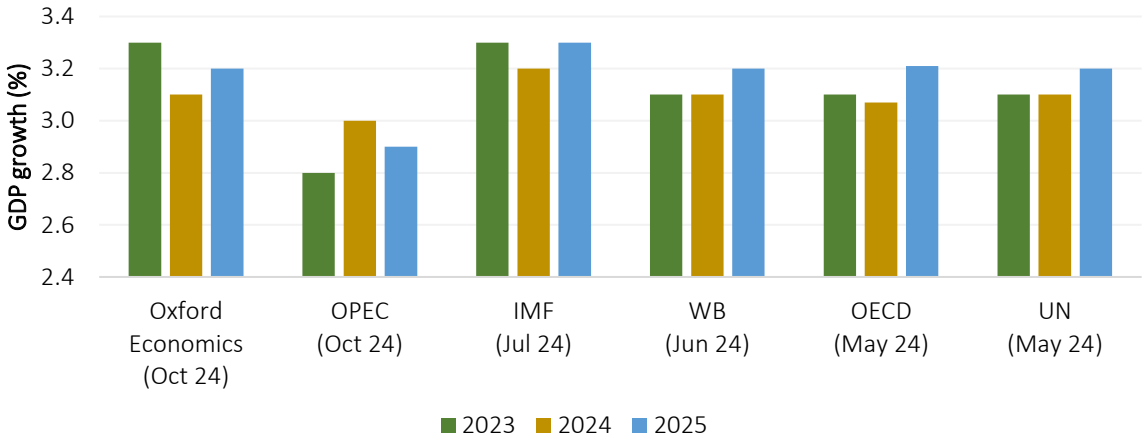
As of early October 2024, the ENSO Alert System indicated a La Niña Watch status, signalling a high likelihood (50% or greater) of a full La Niña event developing in the coming months. In the short term, this could lead to cooler-than-normal temperatures in the Northern Hemisphere during the upcoming winter season, increasing gas demand for heating. Simultaneously, drought conditions in the Americas, particularly in Brazil, may worsen, further diminishing hydroelectric generation and driving up the use of gas-fired electricity. In the long term, as the ENSO phenomenon continue to have an impact on weather patterns, natural gas is poised to maintain its role as a key fuel for heating in the residential and commercial sectors, and strengthen its position as a backup source for hydro, wind and solar electricity generation. To address the challenges posed by ENSO-related weather changes, it is crucial for governments and industries to develop effective strategies, prioritizing the security of gas supplies.

1 Global Perspectives

1.1 Global economy

As of October 2024, the global GDP growth forecast for 2024 has been adjusted downward by 0.1 percentage points to 3.1%, based on purchasing power parity. Looking ahead to 2025, the global GDP growth forecast has been maintained at 3.2%. The global economy remains vulnerable to potential downside risks, driven by ongoing geopolitical instability and its ripple effects on trade and energy markets. (Figure 1).

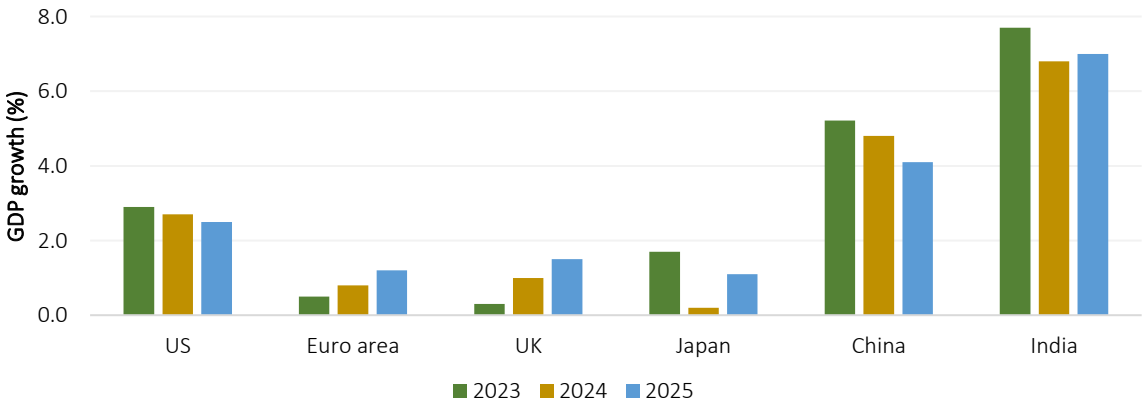
Figure 1: Global GDP growth



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 remains at 2.7%, reflecting steady labour market growth and the easing monetary policies. Similarly, the Euro area's forecast remains unchanged at 0.8%, with economic activity remaining subdued. China's growth projection holds at 4.8%, despite the stimulus package announced on 27 September 2024, as recent data indicated weaker-than-expected growth momentum in Q3 2024. India's forecast also remains steady at 6.8%. Looking ahead to 2025, the US GDP growth forecast has been revised upward to 2.5%, while in the Euro area, the forecast has been downgraded to 1.2%. Projections for China and India remain at 4.1% and 7.0%, respectively (Figure 2).

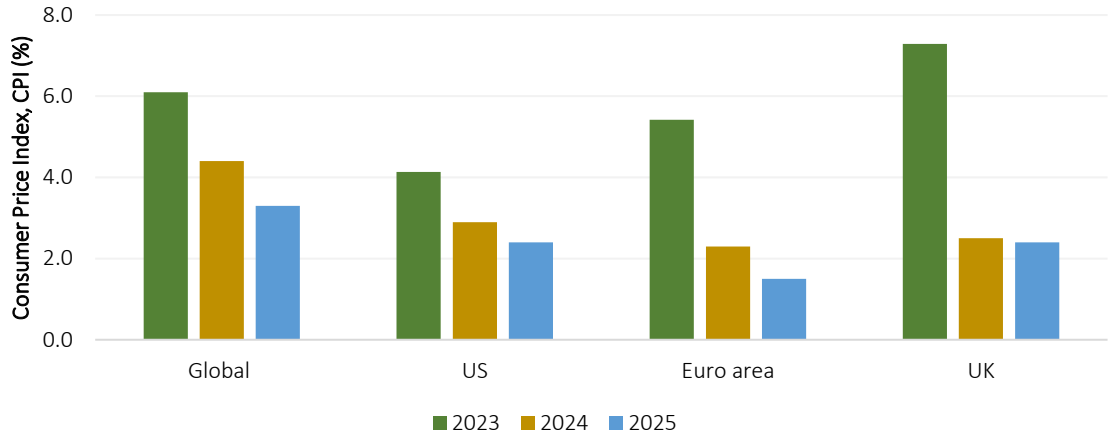
Figure 2: GDP growth in major economies



Source: GECF Secretariat based on data from Oxford Economics

Global inflation is expected to average 4.4% in 2024, declining from 6.1% in 2023, according to Oxford Economics. Furthermore, in 2025, global inflation is projected to fall to 3.3%. 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 2.5% in 2024 and 2.4% in 2025. In the US, inflation is expected to decline to 2.9% in 2024 and 2.4% in 2025 (Figure 3).

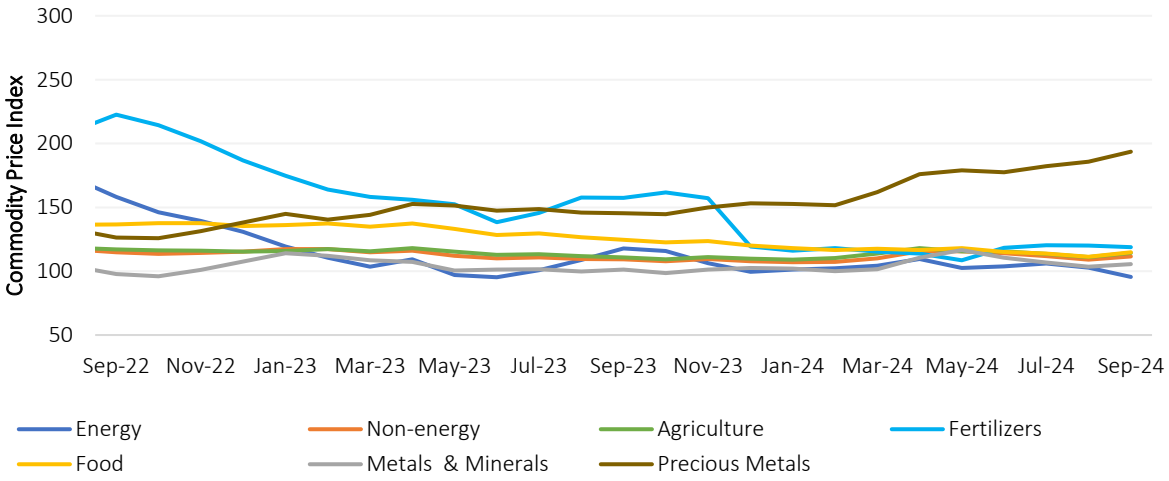
Figure 3: Inflation rates



Source: GECF Secretariat based on data from Oxford Economics

In September 2024, commodity prices in the energy sector decreased for the second consecutive month. The energy price index experienced decreases of 7% m-o-m and 19% y-o-y. This was mainly driven by a decline in oil and gas prices during the month. In contrast, the non-energy price index increased by 2% both m-o-m and y-o-y. Increases in agriculture, as well as metals and minerals indices contributed to the higher non-energy price index compared to the previous month. Meanwhile, the fertilizer price index declined by 1% m-o-m and 25% y-o-y (Figure 4).

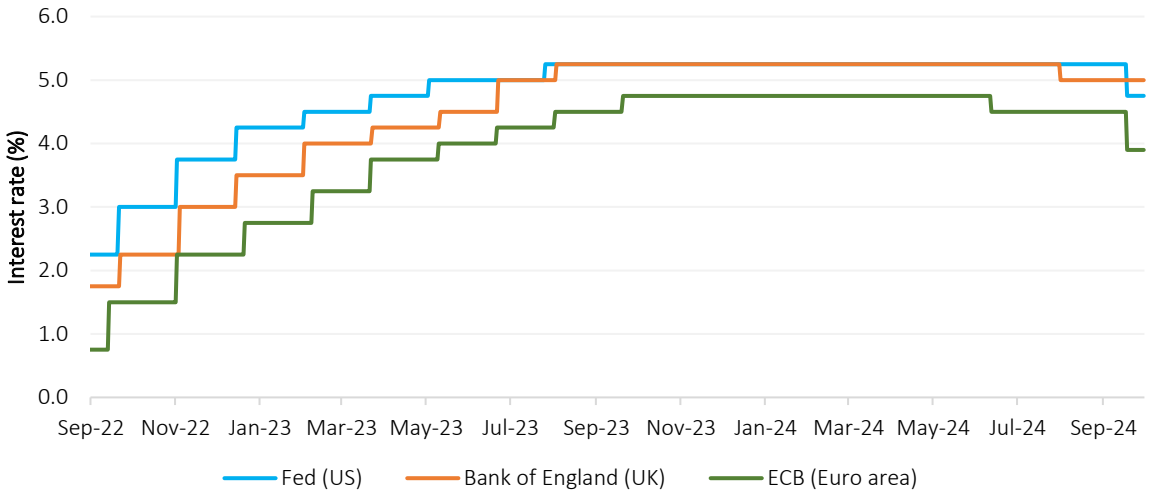
Figure 4: Monthly commodity price indices



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 September 2024, the US Federal Reserve (Fed) lowered its benchmark interest rate by 0.50 percentage points, marking its first interest rate cut, following a period of rate hikes starting from March 2022. This brought the US Fed's benchmark interest rate within the range of 4.75% to 5.00%, as of 18 September 2024 (Figure 5). The Bank of England (BOE) maintained its key interest rate at 5%, following an interest rate cut in August 2024. Additionally, on 18 September 2024, the European Central Bank (ECB) also lowered its key interest rates for main refinancing operations, marginal lending facility and deposit facility rates to 3.65%, 3.9% and 3.5%, respectively.

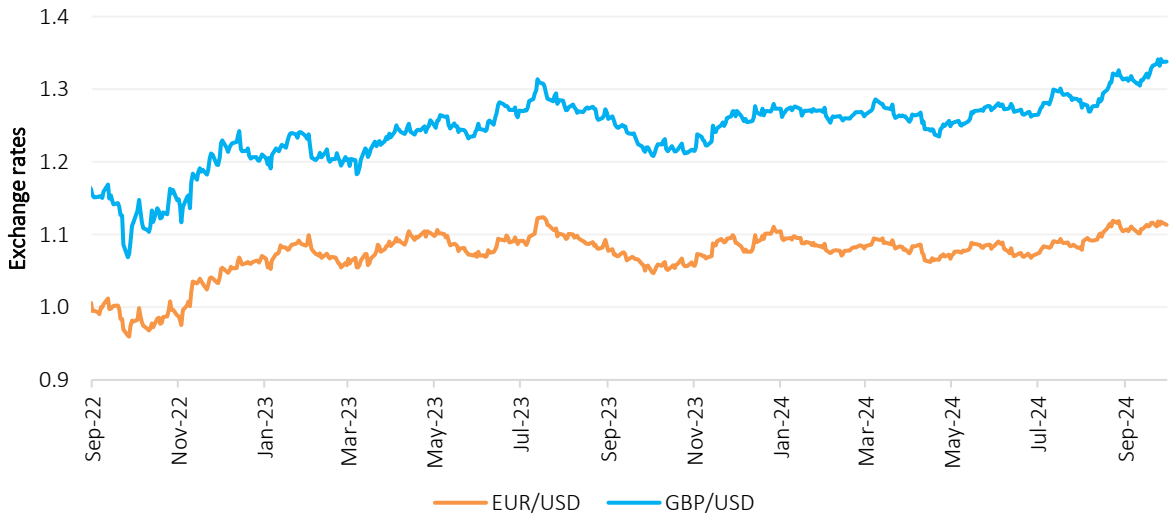
Figure 5: Interest rates in major central banks



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

In September 2024, the Euro appreciated slightly against the US dollar, resulting in an average exchange rate of $1.1105, representing increases of 1% m-o-m and 4% y-o-y. Similarly, the British pound appreciated against the US dollar, as the average exchange rate reached $1.3221, reflecting increases of 2% m-o-m and 7% y-o-y (Figure 6).

Figure 6: Exchange rates



Source: GECF Secretariat based on data from Refinitiv Eikon

1.2 Other developments

G20: The G20 Energy Transitions Ministerial Meeting (ETMM) took place on 4 October 2024 in Foz do Iguaçu, Brazil. In the Ministerial Outcome Statement, the G20 ministers emphasised "the importance of maintaining undisrupted flows of energy from various sources, suppliers, and routes exploring paths to enhanced energy security and markets stability, including through inclusive investments to meet the growing energy demand, in line with our sustainable development and climate goals, while promoting open, fair, competitive, non-discriminatory, and free international energy markets." During the ETMM ministerial plenary, HE Eng. Mohamed Hamel, Secretary General of the GECF, delivered a statement, emphasising that achieving the Sustainable Development Goals and the objectives of the Paris Agreement will require all energy sources and technologies. He underscored the pivotal role of natural gas as both a sustainable fuel and a key commodity to safeguard energy and food security while enabling a just, equitable, inclusive and orderly energy transitions. Moreover, Brazil launched its National Policy for the Promotion of Clean Cooking, marking the country's first integrated policy for universal access to clean cooking technologies in Brazil. This policy seeks to promote the gradual replacement of firewood, charcoal and other unsuitable materials for indoor cooking environments with cleaner alternatives.

UN: The United Nations' Summit of the Future took place on 22-23 September 2024 in New York, US. A landmark agreement entitled "Pact for the Future, Global Digital Compact, and Declaration on Future Generations" was adopted. The Pact encompasses five key focus areas: sustainable development, international peace and security, science and technology, youth and future generations, and transforming global governance. UN Member States committed to accelerating efforts towards achieving the Sustainable Development Goals (SDGs) and fulfilling the Paris Agreement on climate change. Additionally, the Global Digital Compact represents the first global agreement on the international regulation of artificial intelligence, outlining commitments to ensure that digital technologies contribute positively to sustainable development and human rights. The Declaration on Future Generations emphasizes the importance of securing the well-being of future generations and advocates for their interests to be included in decision-making processes. With regard energy, the Pact uses the agreed language of the first Global Stocktake outcome, specifically the whole paragraph 28.

COP29**:** The COP29 Presidency held a High-Level Dialogue on Climate Transparency on 3 September 2024 in Baku, Azerbaijan. The event was attended by high-level officials from over 120 countries and international organisations. The event featured ministers or deputy ministers from Türkiye, Uzbekistan, Japan, Georgia, Kazakhstan, Brazil and Kyrgyzstan, as well as the Executive Secretary of the UNFCCC, the Deputy to the US Special Presidential Envoy for Climate, chief negotiators on climate change, and representatives from the European Union, Australia, Norway, Switzerland, Germany, the United Kingdom, the UAE and Saudi Arabia. The dialogue aimed to enhance global cooperation on climate transparency, build trust among Parties to the UN Framework Convention on Climate Change (UNFCCC), and support them in preparing their Biennial Transparency Reports (BTRs). During the event, the COP29 Presidency launched the Baku Climate Global Transparency Platform (BTP), designed to foster collaboration on climate transparency among all stakeholders, strengthen confidence among Parties, and assist developing countries in producing their Biennial Transparency Reports.

Russian Energy Week: The 7th Russian Energy Week (REW) International Forum was held on 26-28 September 2024 in Moscow, Russia, under the theme of "Energy cooperation in a multipolar world". The forum gathered over 5,000 participants from more than 81 countries. Opening remarks were delivered by HE Vladimir Putin, President of the Russian Federation, and HE Teodoro Obiang Nguema Mbasogo, President of the Republic of Equatorial Guinea. President Putin highlighted Russia's key role in global energy markets stating that "Russia is fulfilling its obligations to supply energy resources to the world market and plays a stabilising role within it, participating in such authoritative formats as OPEC+ and the Gas Exporting Countries Forum." President Mbasogo highlighted that, "Equatorial Guinea does not possess the same kind of advanced technology supporting decarbonisation that more developed countries have access to. Therefore, we cannot accept or support the energy transition that leaves the least developed countries behind." Furthermore, during the plenary session titled "Global energy as the foundation of economic growth and well-being: In search of balance," HE Alexander Novak, Deputy Prime Minister of the Russian Federation, emphasized that "Gas consumption will grow even faster: by 2050, there will have been an increase of about 35% compared to today's levels. That is, we can state that, despite a small dip in the market share of hydrocarbons, they will still dominate in meeting the global demand for power." HE Eng. Mohamed Hamel, Secretary General of the GECF, contributed to the same plenary session and also delivered a keynote speech at the plenary session on "Hydrocarbons in the energy of the future: Using them without damaging the climate."

Gastech: The 52nd Gastech Exhibition and Conference took place on 17-20 September 2024 in Houston, US. The event was inaugurated by government ministers and officials from Egypt, India, Türkiye, Nigeria and the US, who stressed the necessity of diversifying energy sources and safeguarding supply chains amid ongoing geopolitical challenges. HE Karim Badawi, Minister of Petroleum & Mineral Resources of Egypt, highlighted the role of his country in energy security, stating, "I am a firm believer that Egypt plays a very important role, being a gateway for energy, in terms of gas or in terms of future hydrogen." However, he cautioned that finance would remain critical stating, "Today, the way forward for us is to see how we can provide an economic environment that is conducive to attraction of investment into the sector." Moreover, Rt. Hon. Ekperikpe Ekpo, Minister of State for Petroleum Resources (Gas) of Nigeria, emphasized his country's unique opportunities in the natural gas sector. He specifically mentioned the nearly completed OB3 pipeline, a key component of Nigeria's gas infrastructure, which connects the southern and northern regions of the country.

European Union: The report entitled "The future of European competitiveness", prepared by a group of experts from academic, business and government institutions, was published on the website of the European Commission (EC) on 9 September 2024. Its aim is to make recommendations to the EC on the ways to improve the regional competitiveness. The report states that "natural gas will remain part of the energy mix in Europe over the medium term." In this context, it recommends "reinforcing joint procurement, at least for LNG, to leverage Europe's market power and establishing long-term partnerships with reliable and diversified trade partners." Additionally, regarding natural gas pricing, the report advocates for reinforcing long-term contracts, while gradually moving away from reliance on the spot market. It further notes that "to reduce the EU's exposure to volatile spot markets and leverage potential downward pressure on prices, it would be beneficial for European companies to sign long-term contracts that incorporate pricing formulas with less spot indexation."

2 Gas Consumption

The projected growth of global gas consumption for the year 2024 has been revised up to 2.2%.

In the meantime, in the first 8 months of 2024, aggregated gas consumption in some of the major gas consuming countries, which account for 60% of global gas demand, increased by 2.4% y-o-y to reach 1,580 bcm. Growth was recorded in Asia and North America, while the EU and the UK showed declines.

2.1 Europe

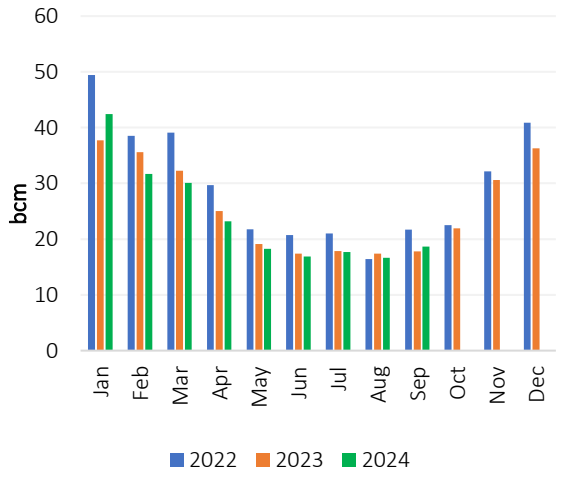
2.2.1 European Union

In September 2024, gas consumption in the EU recorded a 3.3% y-o-y increase to reach 19 bcm, following seven consecutive months of decline (Figure 7). This rise was primarily driven by the industrial and residential sectors. In particular, gas consumption in the industrial sector showed a recovery in major industrialized European countries, boosted by lower gas prices.

Further, despite total electricity production in the EU rising by 4.1% y-o-y to reach 192 TWh, gas consumption in the electricity generation sector recorded a 13% y-o-y decline. According to the EU climate-monitoring service Copernicus, last month was the second warmest September ever recorded, with temperatures 0.73°C above the 1991-2020 average, which boosted electricity demand for cooling. The significant decrease in gas consumption in the electricity generation sector, as well as in coal demand, can be attributed to increased outputs from wind, solar, hydro and nuclear (Figure 8). In the power mix, non-hydro renewables held the largest share of 37%, followed by nuclear at 25%, gas at 16%, hydro at 12%, and coal at 10%.

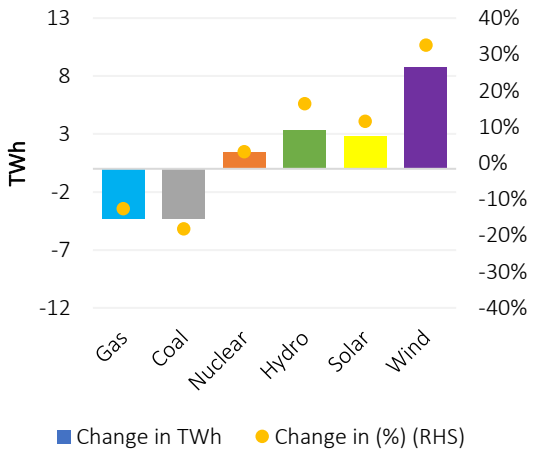
For the period Jan-Sep 2024, EU's gas consumption declined by 2.3% y-o-y to reach 215 bcm.

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 September 2024 (y-o-y change)



Source: GECF Secretariat based on data from Ember

2.1.1.1 Germany

In September 2024, Germany returned to a positive trend in gas consumption after experiencing a y-o-y decline in the previous month. Consumption increased by 12% y-o-y to reaching 4 bcm (Figure 9). This growth was primarily driven by the industrial and residential sectors, with the former seeing an increase of 12% y-o-y (Figure 10).

For the period Jan-Sep 2024, Germany's gas consumption dropped by 0.2% y-o-y to 51 bcm.

Figure 9: Gas consumption in Germany

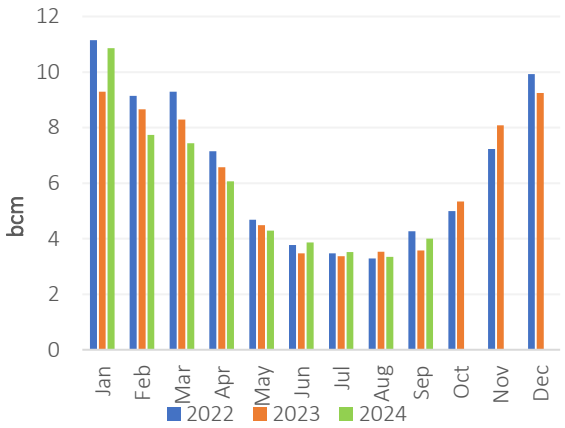
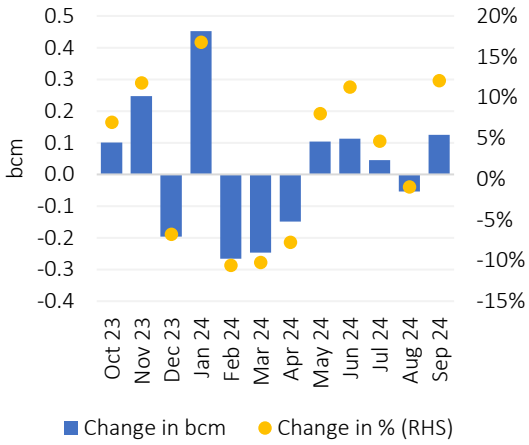


Figure 10: Trend in gas consumption in the industrial sector in Germany (y-o-y change)



Source: GECF Secretariat based on data from Refinitiv

Overall electricity production rose by 9% y-o-y to total 35 TWh. Germany experienced warm weather with an average temperature of 15.4°C and an anomaly of +1.43°C, particularly warm in the East/Northeast, while cooler conditions prevailed in the Alps. However, gas-fired power generation recorded a decrease of 1.6% y-o-y, while electricity production from hydro and wind experienced substantial increases, driven by favourable weather conditions (Figure 11). In the electricity mix, non-hydro renewables led with a 58% share, followed by coal and gas at 22% and 14% respectively with hydro at 6% (Figure 12).

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

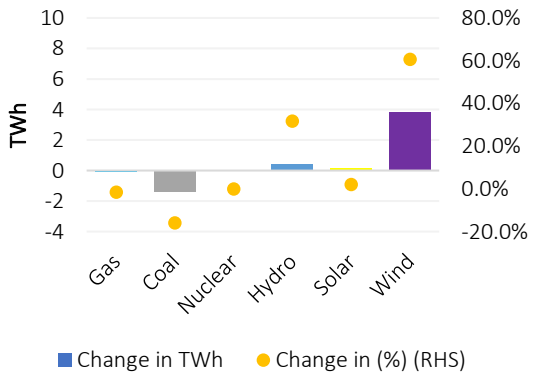
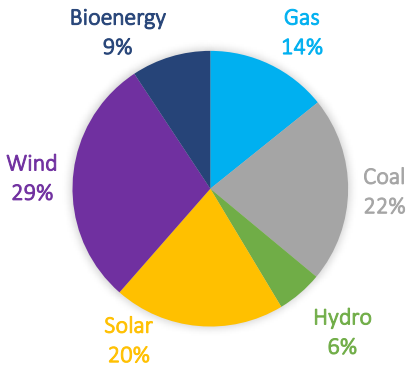


Figure 12: German electricity mix in September 2024



Source: GECF Secretariat based on data from Refinitiv and Ember

2.1.1.2 Italy

In September 2024, Italy's gas consumption increased by 1.3% y-o-y to total 4.2 bcm (Figure 13). This growth was primarily driven by higher consumption in the residential and industrial sectors. The residential sector recorded a 3.2% increase, with consumption reaching 1 bcm, due to colder temperatures in the northern region, where the average temperature was 18°C. Cooler conditions were prevalent in much of the Northwest, the Alps and Sardinia, while the Adriatic region and Sicily experienced warmer weather. In the industrial sector, gas consumption marked its fourth consecutive month of growth, rising by 0.7% y-o-y to reach 1 bcm (Figure 14).

For the period Jan-Sep 2024, Italy's gas consumption dropped by 5.4% y-o-y to reach 43 bcm.

Figure 13: Gas consumption in Italy

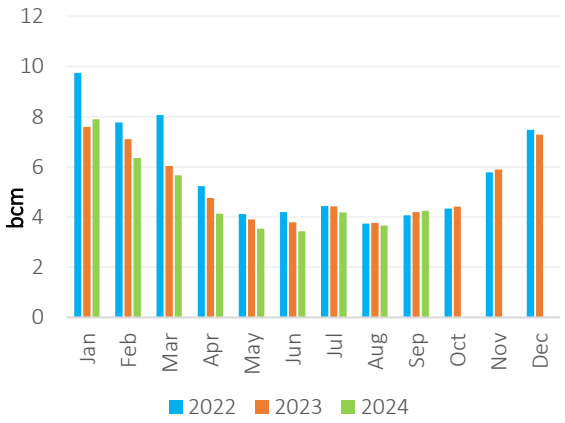
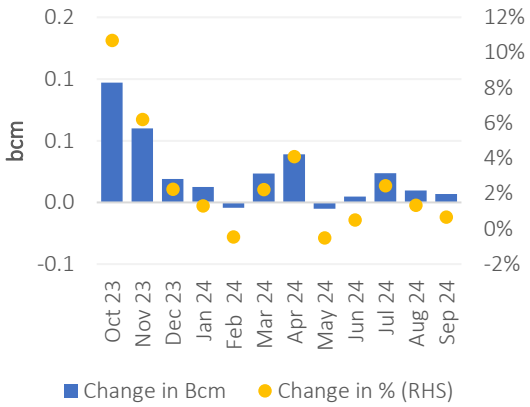


Figure 14: Trend in gas consumption in the industrial sector in Italy (y-o-y change)



Source: GECF Secretariat based on data from Snam

Total electricity production dropped by 2.6% y-o-y to reach 19.5 TWh, driven by the decreased cooling demand. Gas-based electricity production declined by 1.5% y-o-y to 1.9 bcm, while there was a significant y-o-y increase in electricity generation from hydro and solar (Figure 15). Meanwhile, gas remained the dominant fuel in the power mix with 50% of the share followed by non-hydro renewables with 31% (Figure 16).

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

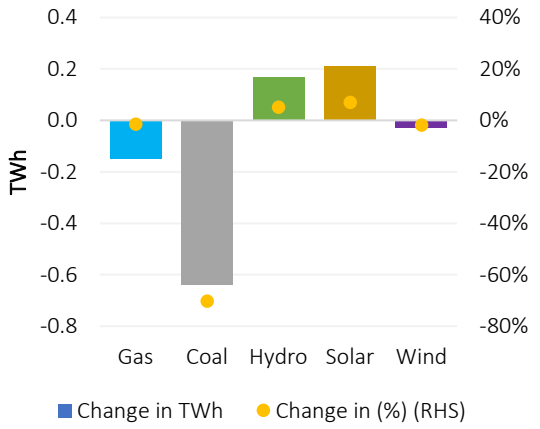
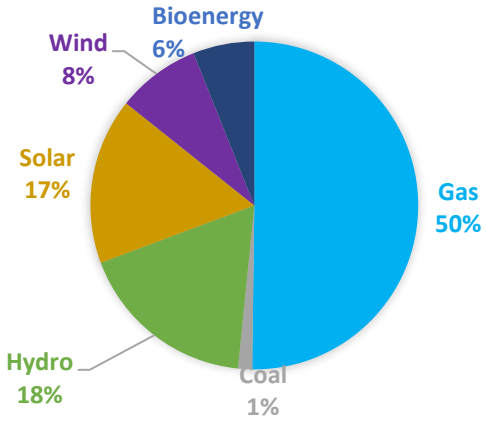


Figure 16: Italian electricity mix in September 2024



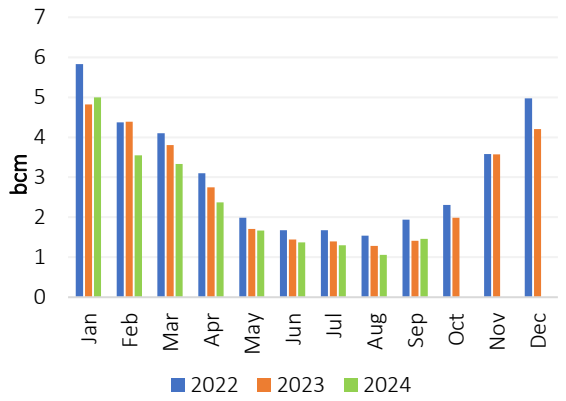
Source: GECF Secretariat based on data from Refinitiv and Ember

2.1.1.3 France

In September 2024, France experienced the first growth in gas consumption after seven consecutive months of decline in consumption. Total gas consumption rose by 4% y-o-y to 1.5 bcm (Figure 17). The primary driver of this growth was the industrial and residential sectors. The industrial sector recorded a growth of 7% y-o-y, with consumption totalling 0.7 bcm (Figure 18). Gas consumption in the residential sector increased by 22% y-o-y.

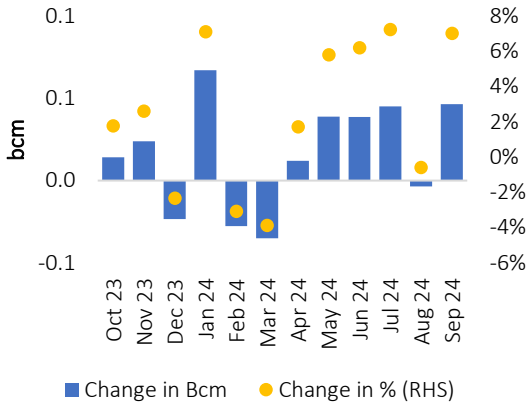
For the period Jan-Sep 2024, France's gas consumption decreased by 8% y-o-y to reach 21 bcm.

Figure 17: Gas consumption in France



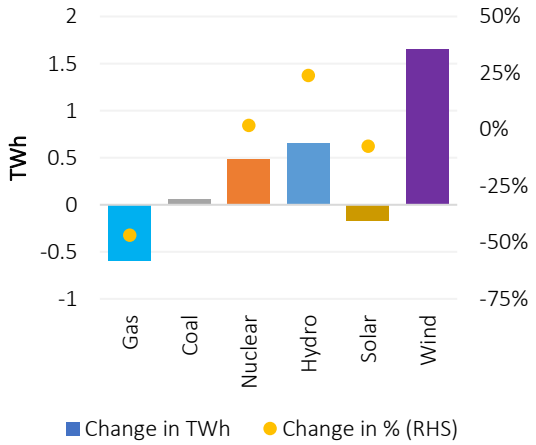
Source: GECF Secretariat based on data from GRTgaz

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



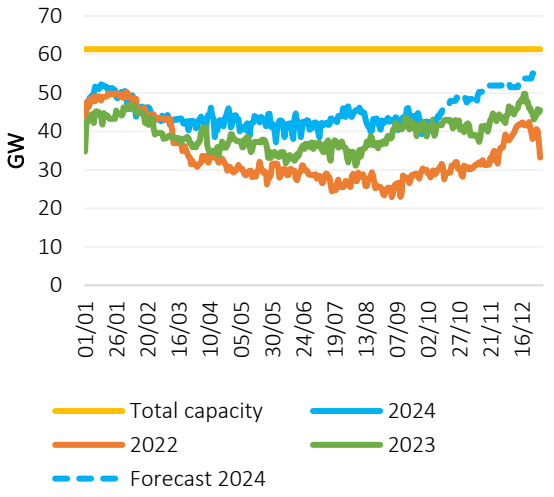
Total electricity production rose by 5.8% y-o-y to reach 38 TWh. The average temperature for September 2024 across the country was close to the normal. The month experienced two cool spells, one in the middle and the other at the very end of September, in stark contrast to September 2023, which was the hottest September ever recorded since measurements began in 1900. However, electricity production from gas in France dropped by 47% y-o-y, while electricity production from hydro, wind and nuclear witnessed increases (Figure 19). The availability of nuclear capacity increased by 4% y-o-y (Figure 20). In France's electricity mix, nuclear power continued to be the dominant source, accounting for a 72% share, followed by non-hydro renewables (17%), hydro (9%) and gas (2%).

Figure 19: Trend in electricity production in France in September 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 September 2024, Spain's gas consumption decreased by 14% y-o-y to reach 2 bcm (Figure 21), driven by lower gas use in the power generation sector. By contrast, the industrial sector recorded a third consecutive growth of 0.5% y-o-y, fuelled by higher gas usage across several industries such as agro-food, refineries, metallurgy and construction (Figure 22).

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

Figure 21: Gas consumption in Spain

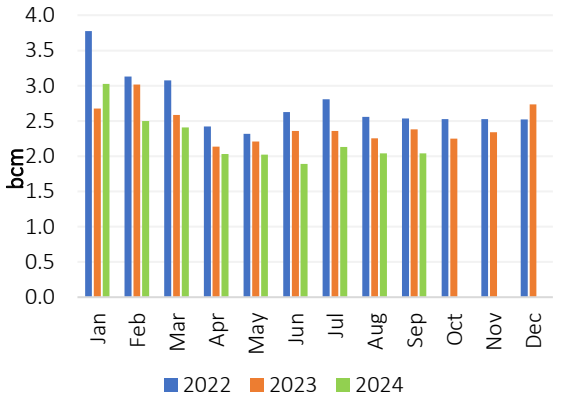
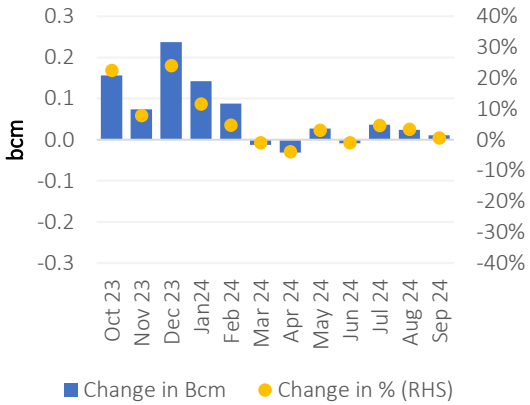


Figure 22: Trend in gas consumption in the industrial sector in Spain (y-o-y change)



Source: GECF Secretariat based on data from Enagas

Overall electricity production in the country increased by 3.9% y-o-y to 20 TWh. In September 2024, Spain experienced an average temperature of 18.6°C, which was 0.5°C below the norm. The only region that saw warmer conditions was the southeastern coast. The month was notably rainy in the northern regions. Electricity generation from gas experienced a 38% y-o-y decrease, offset by a significant rise in hydro, nuclear, wind and solar production (Figure 23). Non-hydro renewables maintained the dominant position in the power mix, accounting for 47%, while natural gas represented 17% (Figure 24).

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

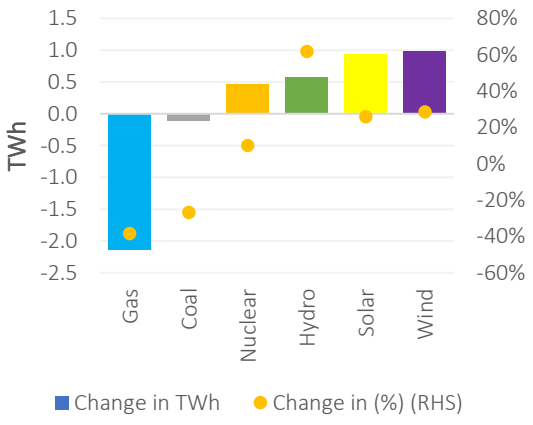
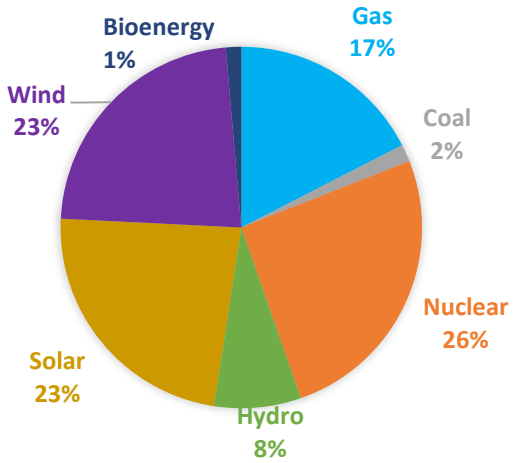


Figure 24: Spanish electricity mix in September 2024



Source: GECF Secretariat based on data from Ember and Ree

2.1.2 United Kingdom

In September 2024, the UK saw its first increase in gas consumption after seven consecutive months of decline, with consumption rising by 7.3% y-o-y to reach 3.2 bcm (Figure 25). In particular, the residential sector experienced a significant 31% y-o-y growth driven by higher heating demand amidst colder weather. The UK's average temperature was 12.7°C, which is 0.3°C below the norm. However, gas consumption in the industrial sector dropped by 36% y-o-y (Figure 26). Additionally, electricity production from gas decreased by 25% y-o-y due to strong hydro output, as rainfall averaged 114 mm, 25% above normal, while total electricity production dropped by 8.6% y-o-y to 18 TWh. In the power mix, non-hydro renewables led with 47%, followed by gas at 31% and nuclear at 20%.

For the period Jan-Sep 2024, the UK gas consumption dropped by 5% y-o-y to 38.6 bcm.

Figure 25: Gas consumption in the UK

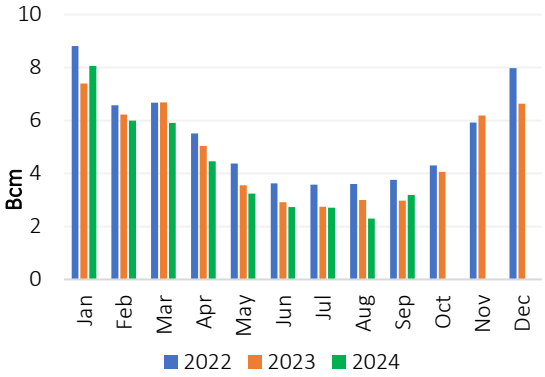
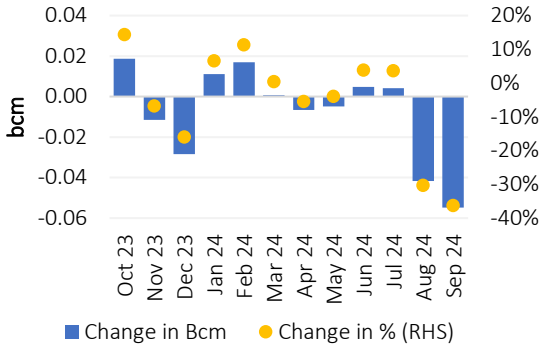


Figure 26: Trend in gas consumption in the industrial sector in the UK (y-o-y change)



Source: GECF Secretariat based on data from Refinitiv

From January to September 2024, aggregated gas consumption in the EU and UK decreased by 3% y-o-y (7.2 bcm) to reach 254 bcm (Figure 27). The EU was the main contributor to this decline, with a y-o-y reduction of 5.3 bcm. The region recorded its first month of gas consumption recovery after seven consecutive months of y-o-y contraction (Figure 28).

Figure 27: YTD EU and UK gas consumption

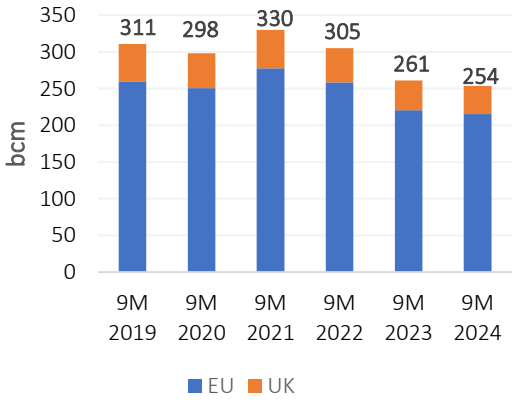
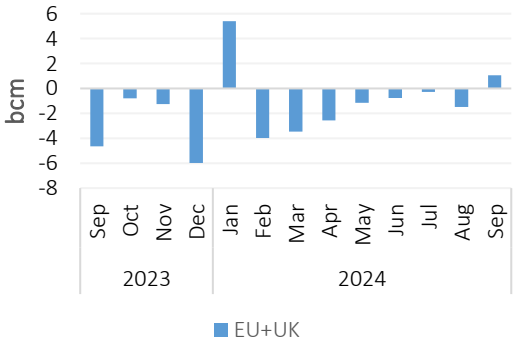


Figure 28: Y-o-y variation in EU and UK gas consumption



Source: GECF Secretariat based on data from Refinitiv

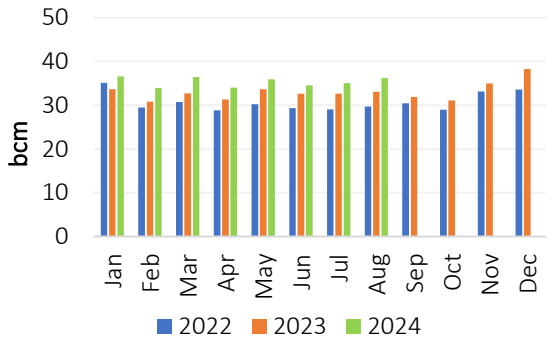
2.2 Asia

2.2.1 China

In August 2024, China's apparent gas demand, which is estimated as combined gas domestic production and imports, rose by 9.6% y-o-y to reach 36.3 bcm (Figure 29). Prolonged hot weather increased power demand for cooling, with gas-fired output rising by 4% y-o-y (Figure 30). CNPC's Economic and Technology Research Institute (ETRI) has revised up its gas demand forecast for 2024 to 422 bcm. This increase is primarily attributed to the demand surge from LNG-powered trucks, driven by the national subsidy program launched in June, to replace diesel trucks with low-emission alternatives, along with LNG's lower prices compared to diesel.

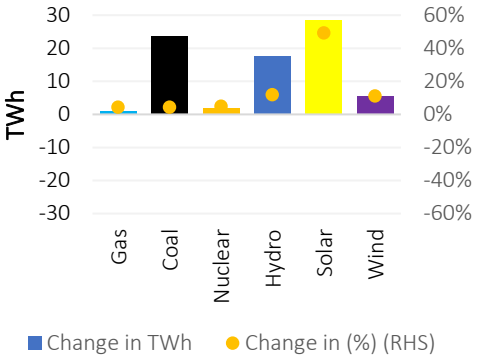
In the first 8 months of 2024, Chinese gas consumption increased by 8.8% y-o-y to 283 bcm.

Figure 29: Gas consumption in China



Source: GECF Secretariat based on data from Refinitiv

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



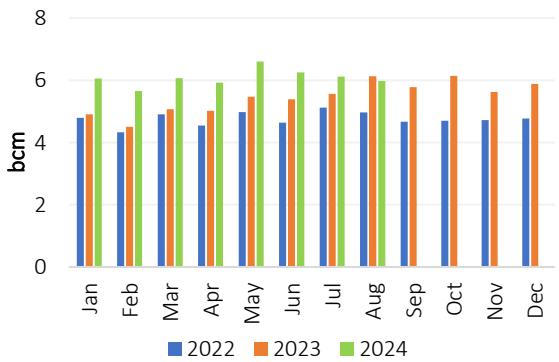
Source: GECF Secretariat based on data from Ember

2.2.2 India

In August 2024, India's gas consumption decreased by 2.7% y-o-y to 6 bcm, marking its first decline after more than one and a half years of consecutive month of y-o-y growth (Figure 31). The decline was driven by lower gas consumption in the power generation sector due to a decrease in cooling demand in India. 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 (4%) (Figure 32).

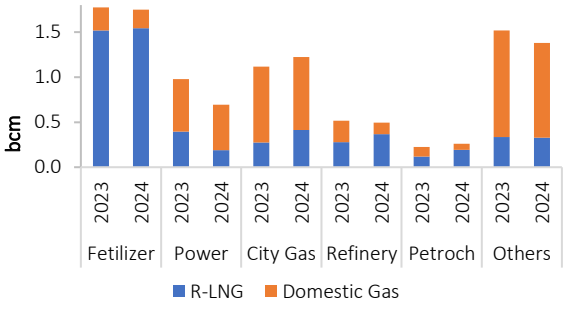
In the first 8 months of 2024, India's gas consumption increased by 16% y-o-y to 48 bcm.

Figure 31: Gas consumption in India



Source: GECF Secretariat based on data from PPAC

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

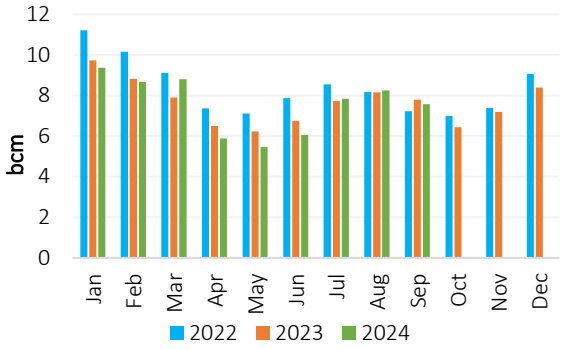


2.2.3 Japan

In September 2024, Japan's gas consumption decreased by 3% y-o-y to 7.6 bcm (Figure 33). Despite a temperature anomaly of +2.5°C, making it the second hottest September on record, just behind 2023, gas consumption in the power generation sector fell by 2% y-o-y due to high nuclear availability. Similarly, the city gas sector saw a decline of 4.6% y-o-y.

In the first 9 months of 2024, Japan's gas consumption decreased by 2% y-o-y to reach 68 bcm.

Figure 33: Gas consumption in Japan



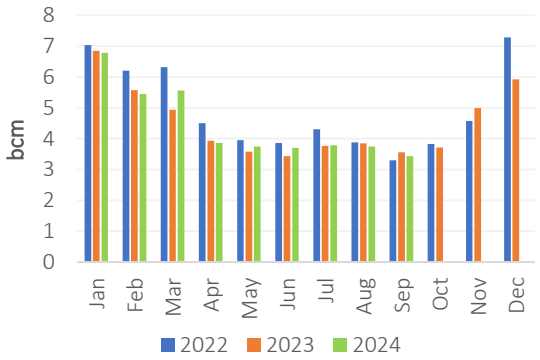
Source: GECF Secretariat based on data from Refinitiv

2.2.4 South Korea

In September 2024, South Korea's gas consumption decreased by 3.4% y-o-y to 3.4 bcm (Figure 34). That was driven by a decline in the power generation and residential/commercial sectors. The entire summer had temperature anomaly of +1.9°C, marking it the hottest summer in the country's history.

In the first 9 months of 2024, South Korea's gas consumption rose by 1.5% y-o-y to reach 40 bcm.

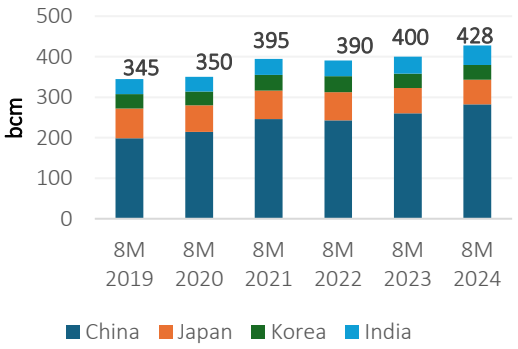
Figure 34: Gas consumption in South Korea



Source: GECF Secretariat based on data from Refinitiv

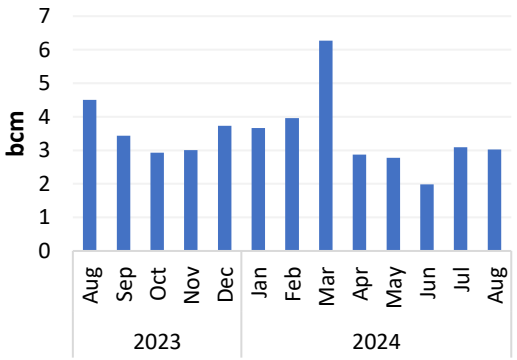
From January to August 2024, aggregated gas consumption in major Asian gas consuming countries, in particular China, Japan, South Korea and India, rose by 7% y-o-y (28 bcm) to reach 428 bcm (Figure 35). China was the leading contributor, with an additional 22 bcm, followed by India with an increase of 7 bcm. The region recorded the seventeenth consecutive month of y-o-y growth (Figure 36).

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



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

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



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

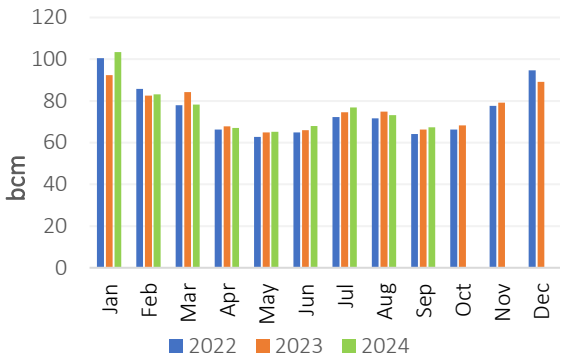
2.3 North America

2.3.1 US

In September 2024, the US gas consumption increased by 1.6% y-o-y to 67.4 bcm (Figure 37). Gas-fired power generation witnessed a 1.3% y-o-y increase, while overall power output rose by 0.2% y-o-y. In the power mix, gas continued to lead with a 48% share. Similarly, the industrial, residential and commercial sectors rose by 0.3%, 5.4% and 3.8% y-o-y, respectively.

In 9M 2024, the US gas consumption increased by 1.2% y-o-y to reach 683 bcm.

Figure 37: Gas consumption in the US



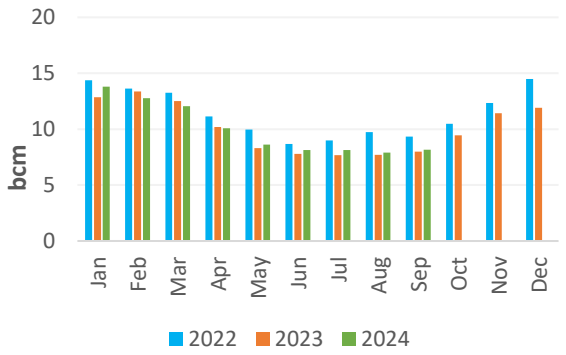
Source: GECF Secretariat based on data from EIA, Ember and Refinitiv

2.3.2 Canada

In September 2024, Canada's gas consumption rose by 2.1% y-o-y to reach 8.2 bcm (Figure 38). This rise was driven by the power generation/ industrial sectors. However, the residential and commercial sectors recorded a decline of 3.2% and 3.3% y-o-y, respectively.

In 9M 2024, Canada's gas consumption rose by 1.4% y-o-y to reach 89.7 bcm.

Figure 38: Gas consumption in Canada



Source: GECF Secretariat based on data from Refinitiv

From January to September 2024, gas consumption in North America rose by 1.3% y-o-y (10 bcm) to reach 772 bcm (Figure 39). September marked a recovery in gas consumption, following August, which saw a slowdown in gas demand across the region. (Figure 40).

Figure 39: YTD North American gas consumption

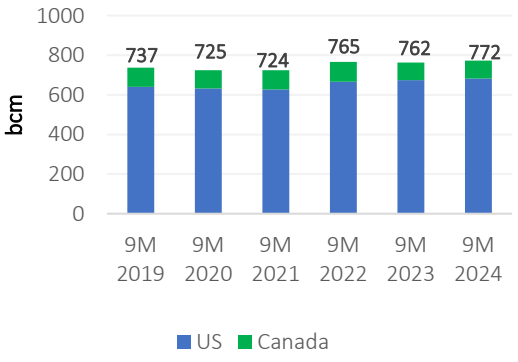
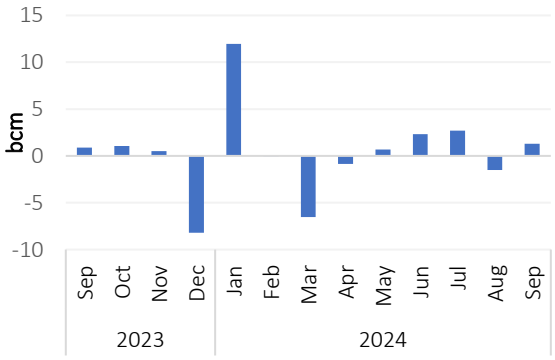


Figure 40: Y-o-y variation in North American gas consumption



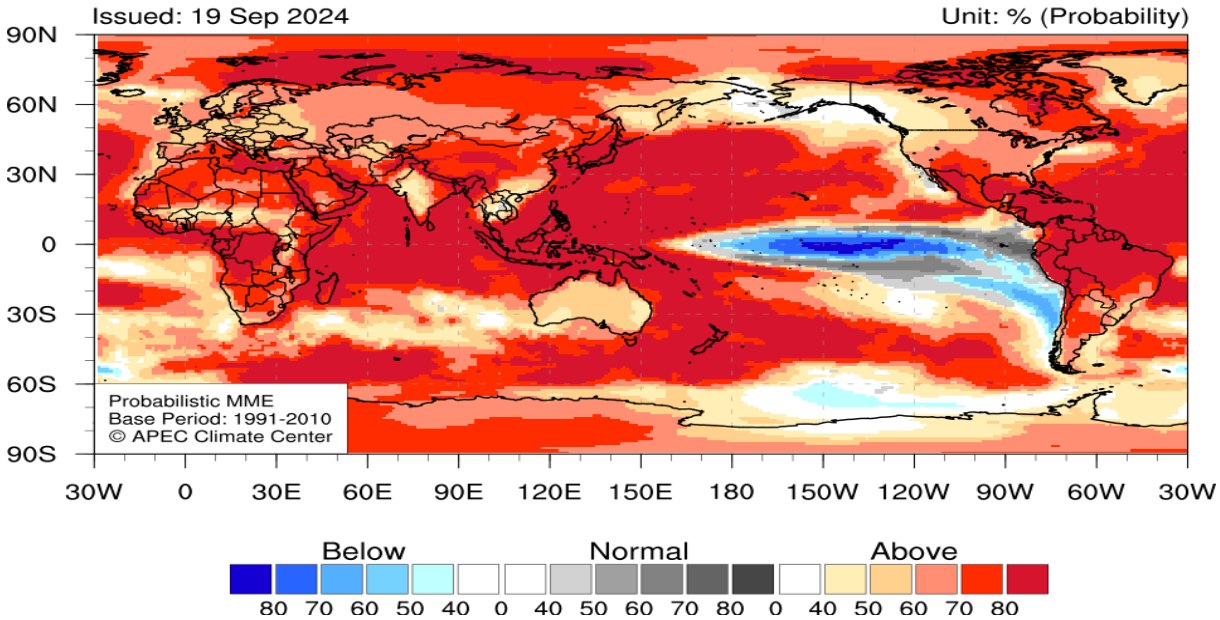
Source: GECF Secretariat based on data from EIA and Refinitiv

2.4 Other developments

2.4.1 Weather forecast

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 October to December 2024 (Figure 41).

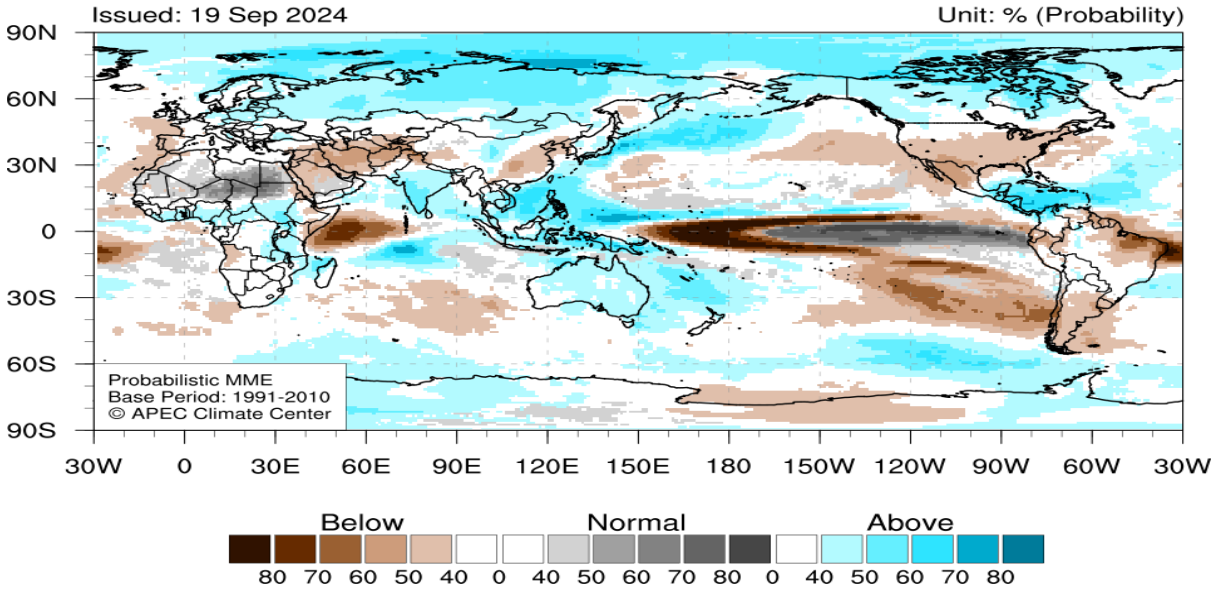
Figure 41: Temperature forecast October to December 2024



Source: APEC Climate Center

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, parts of East Asia, the Indochina Peninsula and northern Canada for the period October to December 2024 (Figure 42).

Figure 42: Precipitation forecast October to December 2024



Source: APEC Climate Center

2.4.2 Sectoral developments

Qatar will double its urea production: QatarEnergy has announced its decision to build a new, world-scale urea production complex that will more than double Qatar's urea production, playing a pivotal role in enhancing global food production and security. The new mega project entails building 3 ammonia production lines that will supply feedstock to 4 new world-scale urea production trains in the Mesaieed Industrial City. The facilities will more than double the State of Qatar's urea production from about 6 million tonnes per annum currently to 12.4 million tonnes per annum. Production from the project's first new urea train is expected before the end of this decade. The announcement was made by HE Saad Sherida Al-Kaabi, Minister of State for Energy Affairs, and President and CEO of QatarEnergy, who stated, "Today, we are expanding our experience and further solidifying our position by this unprecedented mega project that will make the State of Qatar the world's largest urea producer, playing a crucial role in ensuring food security for hundreds of millions of people around the globe, day after day."

Iraq expands gas-fired electricity generation: Iraq has initiated the construction of three combined-cycle gas turbine (CCGT) power plants, namely the Mansuriyah plant (362 MW) in Diyala Province, the South Baghdad plant (125 MW), and the Akkas plant (125 MW) in Anbar Province, to enhance the country's electricity capacity and production. These power plants will address the needs of areas with higher energy demand, while relying on flared gas recovery projects. This will contribute to reducing gas imports.

Indonesia promotes coal-to-gas switching in electricity generation: Wiluyo Kusdwiharto, Director of Project Management and Renewable Energy at state electricity company PT PLN, outlined the plans to retire coal-fired power plants in the country by 2060 as part of the commitment to achieving net zero emissions. These plants will be replaced with gas-fired power plants and biomass energy sources. The company has made notable progress in its decarbonization efforts by cancelling 13.3 gigawatts of coal-fired power projects originally included in the 2019-2028 Electricity Supply Business Plan and 1.2 gigawatts of projects that had already secured power purchase agreements.

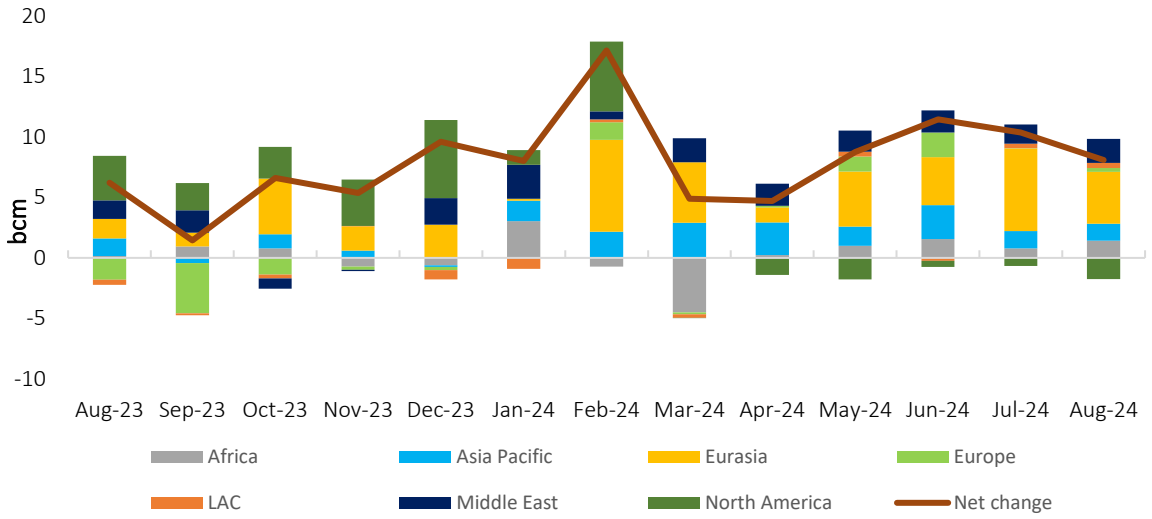
India advances LNG as a fuel for heavy-duty vehicles: The Indian government is drafting a proposal to convert one-third of the existing long-haul truck fleet to LNG fuel and require that a third of all new trucks run on LNG. This initiative is part of the broader effort to reduce air pollution and combat climate change by focusing on the transport sector. India is already promoting natural gas vehicles, with widespread use of CNG in buses, cars and rickshaws. Moreover, the country aims to increase the share of natural gas in its energy mix to 15% by 2030.

3 Gas Production

In August 2024, global gas production was estimated to have increased by 2.3% y-o-y to reach 344 bcm. All the main producing regions, especially Eurasia, showed a positive production trend, except for North America, which witnessed a decline of 1.7 bcm, driven by the reduction in the US gas output (Figure 43).

In terms of regional distribution, North American production accounted for 31% of global gas production in August 2024, followed by the Middle East and Eurasia at 19% each, and Asia Pacific with 16% (Figure 44).

Figure 43: Y-o-y variation in global gas production



Source: GECF Secretariat estimation

In the first eight months of 2024, global gas production was estimated to have increased by 2.6% y-o-y to stand at 2,780 bcm (Figure 45). This growth was primarily driven by the rise in Russia's production to meet the growing domestic consumption and the increased pipeline exports to China. In addition, the growth in Canada's production played an important role in reducing the effect of the US production cuts.

For the year 2024, the global gas supply is forecasted to rise by 2.4%.

Figure 44: Regional gas production in Aug 2024

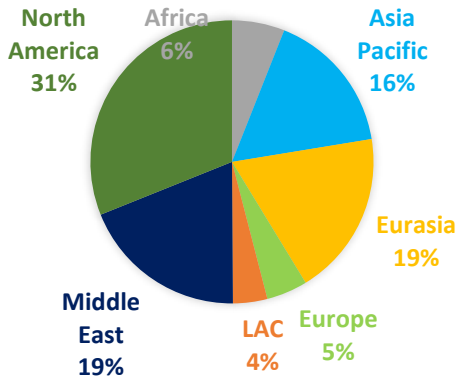
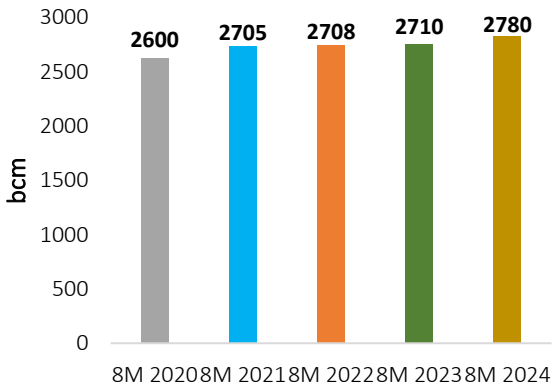


Figure 45: YTD global gas production



Source: GECF Secretariat estimation

3.1 Europe

In August 2024, Europe saw a 2.5% y-o-y rise, culminating in a total output of 15 bcm (Figure 46). This increase primarily originated from the continuous rise in Norway's gas production, along with the increase in Türkiye's gas output, specifically with the production ramp up of the Sakarya gas field in the Black Sea. On the other hand, the magnitude of the production rise slowed down due to a decline in the UK's and the EU's output levels, mainly in the Netherlands and Germany, while Romania and Poland kept the same levels as of August 2023 (Figure 47).

Figure 46: Europe's monthly gas production

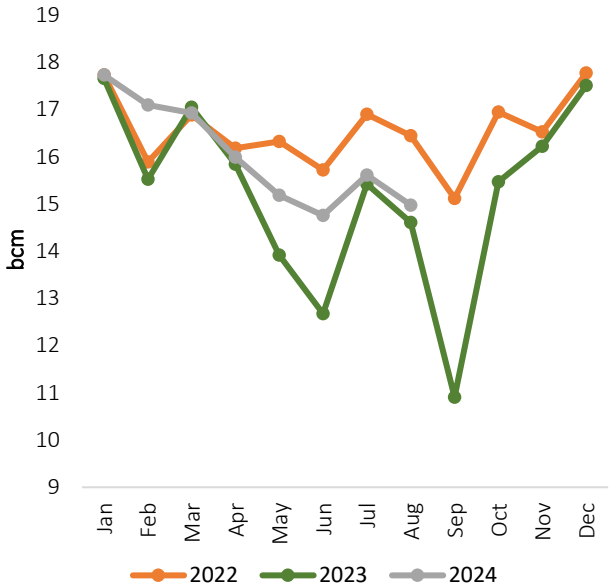
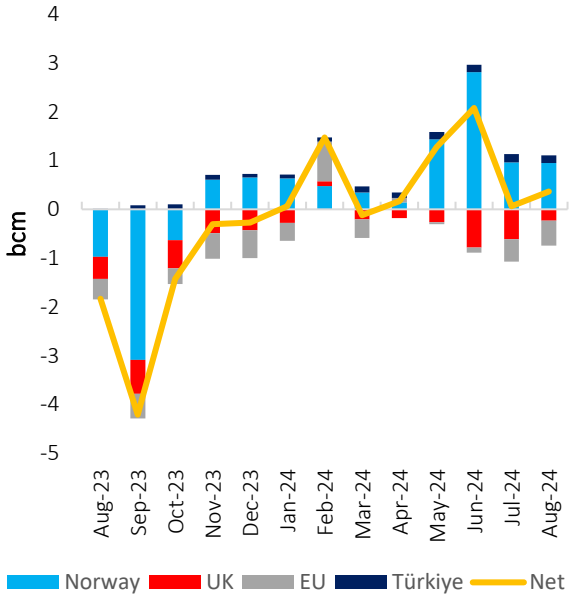


Figure 47: Y-o-y variation in European gas production

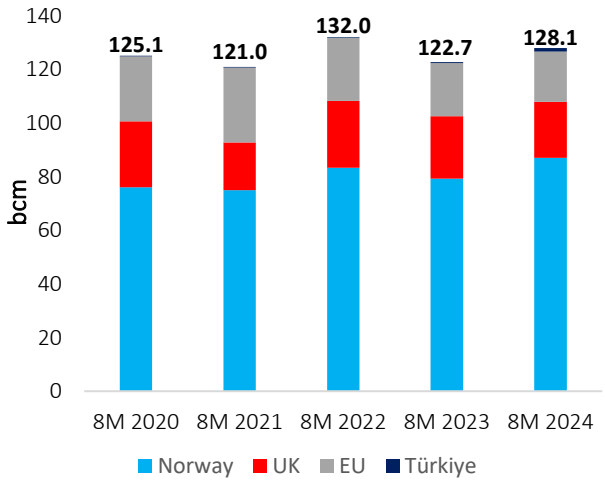


Source: GECF Secretariat based on data from Refinitiv, the Norwegian Offshore Directorate and JODI Gas
Note: EU countries include Austria, Denmark, German, Italy, Netherlands, Poland and Romania

Additionally, from January to August 2024, the cumulative gas production in Europe reached 128.1 bcm (Figure 48), which represented an increase of 4.4%, when compared with the volume produced during the same period in 2023, and the second highest output in the last 5-year period.

Norway was the main driver for the European gas production increase in this period, representing 68% of aggregated European production. Meanwhile, the UK, the second largest producer in Europe, was the main driver for the production decline, followed by Netherlands.

Figure 48: YTD Europe's gas production



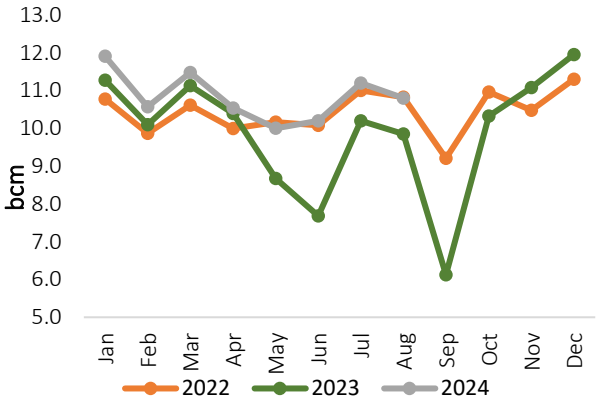
Source: GECF Secretariat based on data from Refinitiv, the Norwegian Offshore Directorate and JODI Gas

3.1.1 Norway

Norway's gas production witnessed a 9.8% y-o-y rise to record an output of 10.8 bcm (Figure 49). This increased output was driven by an elevated gas output from the giant Troll field, which witnessed a 16% increase in its production level, combined with the effect of a quiet maintenance period, especially in the Kollsnes plant. Only the 17.8 mcm/d Sleipner gas field underwent an unplanned maintenance, which slashed its production by 5 mcm/d for a one-day period.

For the period Jan - August 2024, cumulative gas production in Norway stood at 86.9 bcm, representing a 9.3% surge.

Figure 49: Trend in gas production in Norway



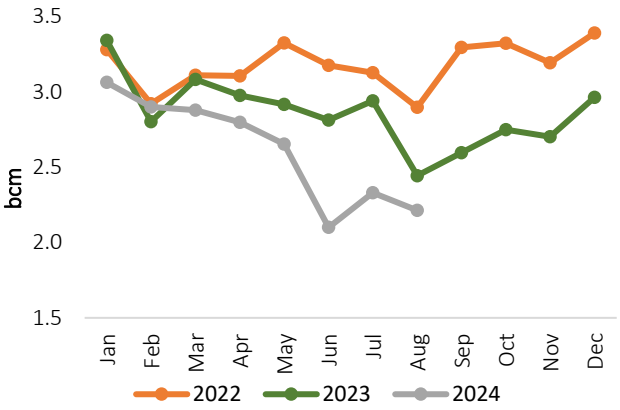
Source: GECF Secretariat based on data from the Norwegian Offshore Directorate

3.1.2 UK

The UK gas production continued its declining trend to stand at the level of 2.2 bcm, representing a 9.4% y-o-y reduction (Figure 50). Planned outages in the 6.2 mcm/d Cygnus field and the 5.5 mcm/d Bacton SEAL gas terminal reduced their production capacities for periods of 16 and 4 days, respectively, resulting in a total outage of 0.12 bcm.

For the period Jan - August 2024, cumulative gas production in the UK reached 21 bcm, representing a 10.2% annual decline, mainly driven by the continuous reduction in gas output from mature UK fields.

Figure 50: Trend in gas production in UK



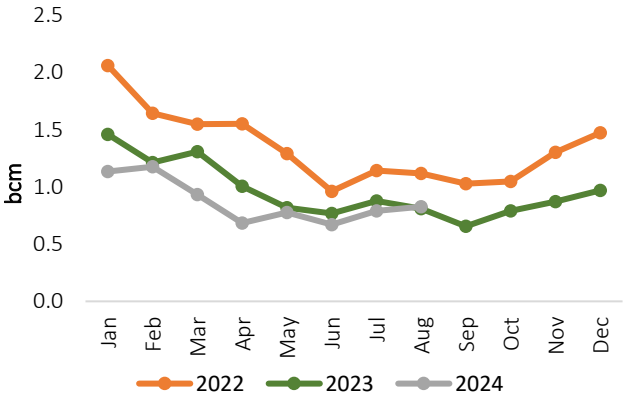
Source: GECF Secretariat based on data from Refinitiv

3.1.3 Netherlands

The Netherlands gas output nearly mirrored the same level as of August 2023, at the level of 0.83 bcm (Figure 51).

For the period Jan - August 2024, cumulative gas production in the Netherlands reached 7 bcm, representing a 15.3% reduction compared to the same period in 2023. This reduction is mainly attributed to the declined output from ageing Dutch fields and the lack of new project startups.

Figure 51: Trend in gas production in the Netherlands



Source: GECF Secretariat based on data from Refinitiv

3.2 Asia Pacific

In August 2024, gas production in Asia Pacific was estimated to stand at 57.5 bcm (2.5% y-o-y rise), with YTD gas output (Jan-August 2024) at the level of 467 bcm (3.7% y-o-y increase). This uptick was driven by a surge in China's gas production.

3.2.1 China

In August 2024, China's gas production surged by 10.6% y-o-y to reach 20 bcm (Figure 52). Coal bed methane output continued its growth to contribute an output of 1.4 bcm, with a 31% y-o-y rise. Notably, CNOOC announced a major gas exploration breakthrough in the South China Sea, with the drilling and testing of the first well in an ultradeep water carbonate reservoirs in China. The Liwan 4-1 gas field is located near the current production facilities of the Liwan 3-1 gas field, allowing for shared usage in further field development. For the first eight months of 2024, China's gas production rose by 7.1% y-o-y to reach a record high of 163.8 bcm (Figure 53).

Figure 52: Trend in gas production in China

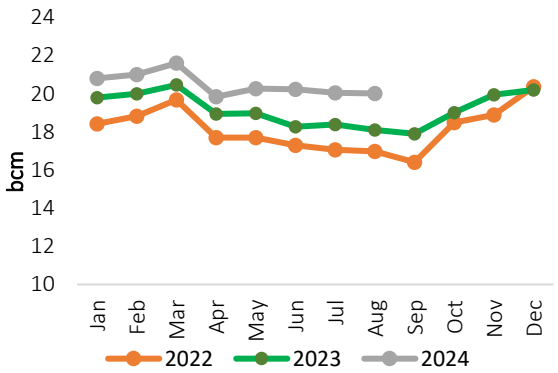
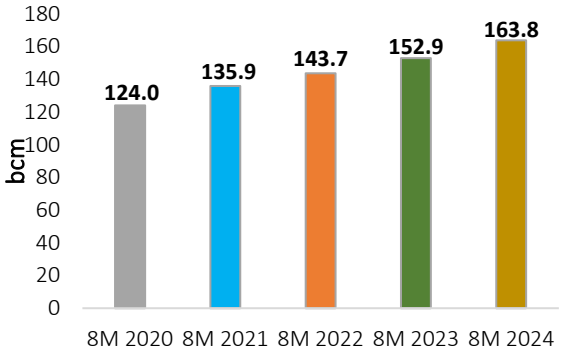


Figure 53: YTD China's gas production



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

3.2.2 India

In August 2024, India's gas production declined - for the second month in a row in 2024 - by 3.6% y-o-y, to stand at 3 bcm (Figure 54). The decline was mainly driven by the reduction of offshore gas fields' output, which decreased to 2.2 bcm and represented 72% of total gas production. On the other hand, the CBM gas fields recorded a 10% y-o-y rise, specifically the West Bengal field. For the first eight months of 2024, cumulative gas production rose by 4.6% y-o-y to reach 24 bcm, driven by the rejuvenation of some mature gas fields (Figure 55).

Figure 54: Trend in gas production in India

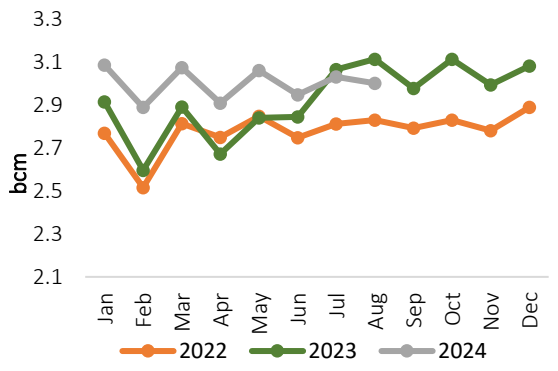
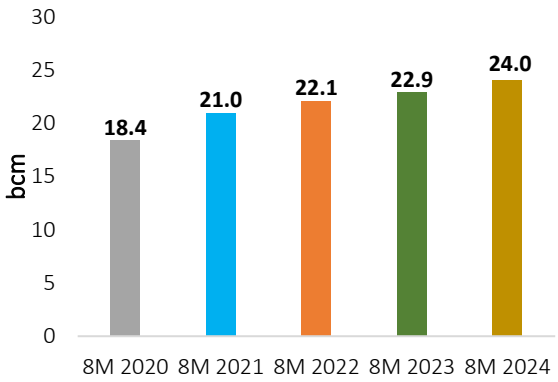


Figure 55: YTD India's gas production



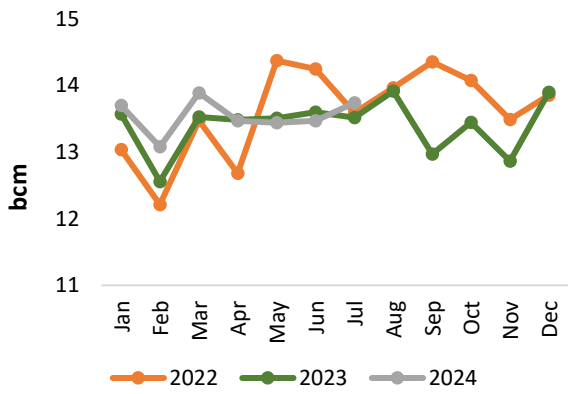
Source: GECF Secretariat based on data from the Ministry of Petroleum and Natural Gas (PPAC)

3.2.3 Australia

In July 2024, Australia's gas production reached 13.7 bcm, representing a 1.6% y-o-y rise (Figure 56). Gas production from CBM fields reached 3.5 bcm, representing 26% of the total domestic production. At this level of output, Australia kept this position as the leading CBM producer globally.

For the period Jan-July 2024, the cumulative gas production increased by 1.1% y-o-y to reach 94.8 bcm.

Figure 56: Trend in gas production in Australia



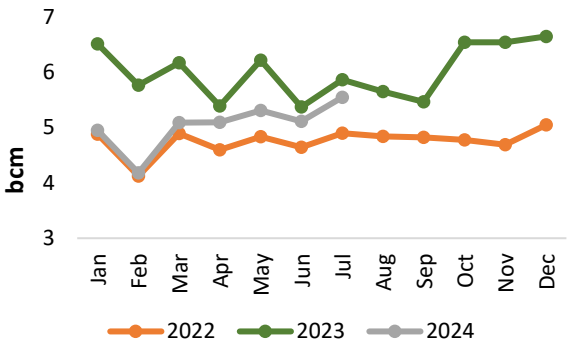
Source: GECF Secretariat based on data from the Australian Department of Energy

3.2.4 Indonesia

In July 2024, Indonesia's gas production reached 5.5 bcm, representing a 7% y-o-y decline (Figure 57).

For the period Jan-July 2024, cumulative gas production witnessed a substantial decline of 15% to stand at the level of 35.2 bcm. Indonesia's gas production has witnessed continuous decline through the past years, from its peak in 2010. However, this declining trend is projected to rebound starting from 2028, when the new gas field development projects come on stream.

Figure 57: Trend in gas production in Indonesia



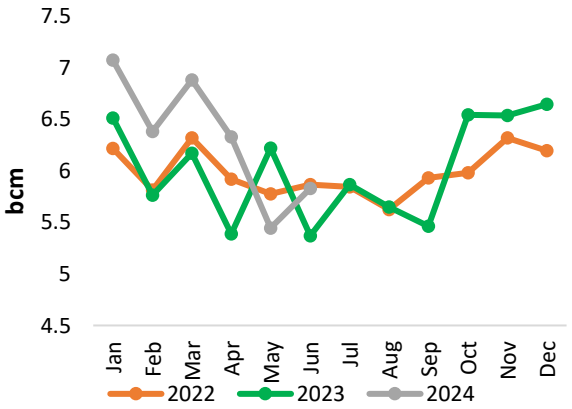
Source: GECF Secretariat based on data from the JODI Gas

3.2.5 Malaysia

In June 2024, Malaysia's gas production reached 5.8 bcm, representing an 8% y-o-y increase.

For the first half of 2024, the cumulative gas production increased by 7% y-o-y to reach 37.9 bcm. Notably, Petronas announced in its interim financial report, an increase in the output from Malaysian fields, sufficient to meet the growing demand from the power sector (Figure 58).

Figure 58: Trend in gas production in Malaysia



Source: GECF Secretariat based on data from the JODI Gas

3.3 North America

In August 2024, gas production in North America (including Mexico) reached 109.5 bcm, which represented a decrease of 1.6% y-o-y, driven by the reduced gas output in the US. On the other hand, the North American YTD gas production (Jan-August 2024) was estimated to stand at the level of 862 bcm, nearly mirroring the same level of 2023.

3.3.1 US

In September 2024, the US total gas production continued its downward trend with a 0.9% y-o-y decline, reaching a monthly output of 87.7 bcm (Figure 59). This reduction in the US output reflected the combined effect of the Hurricane Helene, which slashed around 15% of Gulf of Mexico daily gas production, along with the effect of production cuts by some major producers, such as Chesapeake Energy, EQT and EGO Resources, in response to low Henry Hub gas prices. In terms of supply distribution, the US shale gas production accounted for 80% of total US gas production. The Appalachia region accounted for 31% of total gas production, while the Permian region output, including associated gas, represented 22.6%. Dry gas production from the Gulf of Mexico region recorded the largest decline in the main producing regions, followed by the Eagle Ford and Appalachia shale basins.

Additionally, from January to September 2024, the US cumulative gas production increased by 0.3% y-o-y to reach 798.1 bcm, which represented the record highest level (Figure 60). US gas production witnessed a consistent growth until February 2024, when HH prices dropped below the average breakeven cost of shale gas production. Starting from March 2024, US gas production recorded negative monthly y-o-y variations, with the largest decline recorded in May 2024, at a magnitude of 1.8 bcm.

Figure 59: Trend in gas production in the US

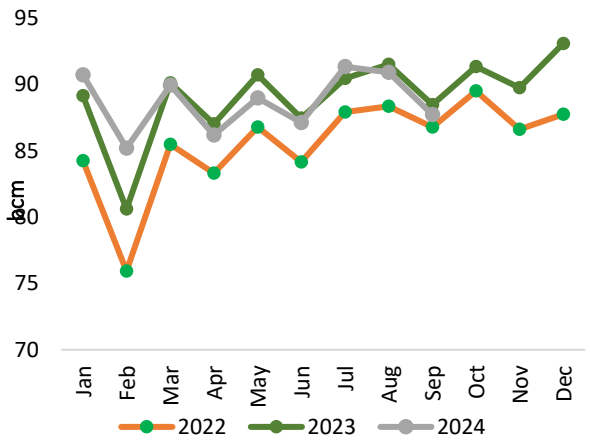
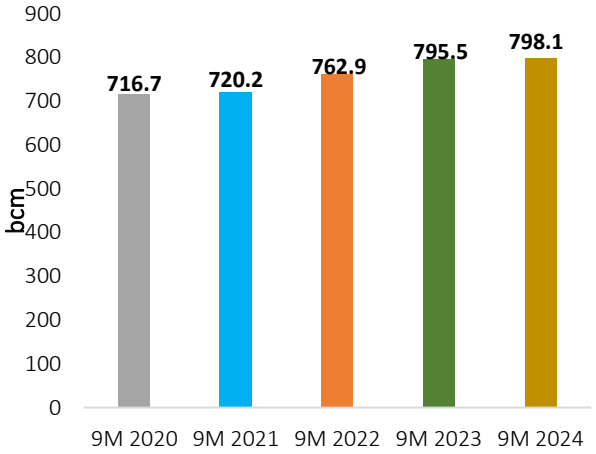


Figure 60: YTD gas production in the US



Source: GECF Secretariat based on data from the US EIA

As of August 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, mirroring the same figure for July 2024, driven by a reduction in number of rigs in the Appalachia basin, balanced by an increase in the rest of Lower 48 (Figure 61). The Permian basin accounted for the major share of the current drilling rigs with 55%. Additionally, in August 2024, the total number of drilled but uncompleted (DUC) wells in the seven major regions amounted to 5,335, marking a 14-well m-o-m decrease (Figure 62). With the current low Henry Hub prices, producers increased the reliance on their inventory of DUCs, which was reflected into a continuous reduction in the cumulative DUCs starting from February 2024.

Figure 61: Oil and gas rig count in the US

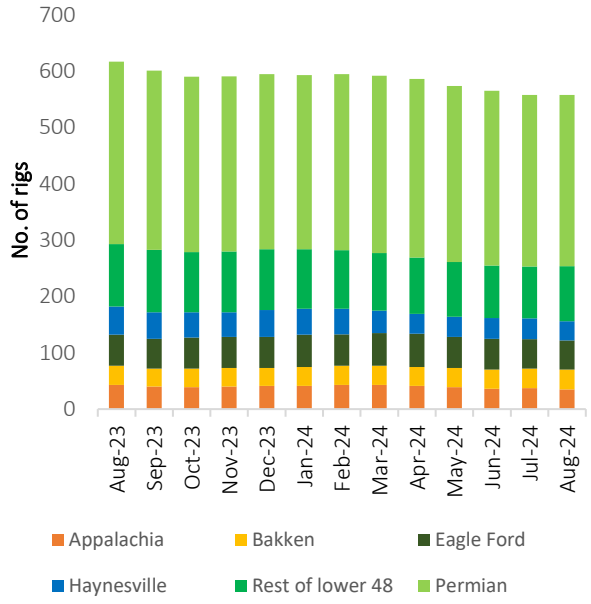
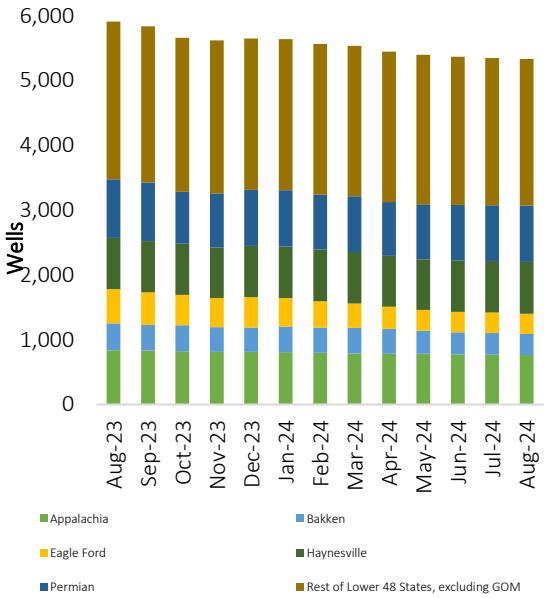


Figure 62: DUC wells count in the US

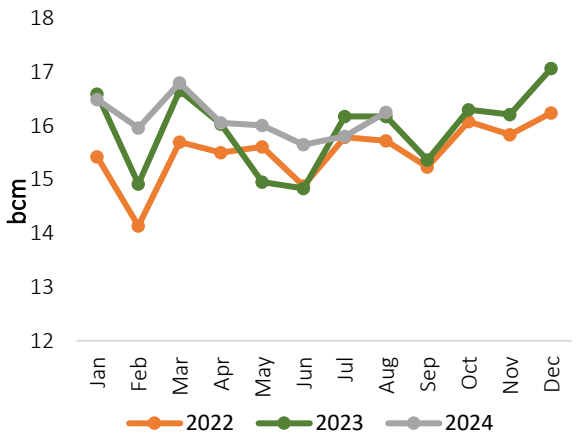


Source: GECF Secretariat based on data from the US EIA

3.3.2. Canada

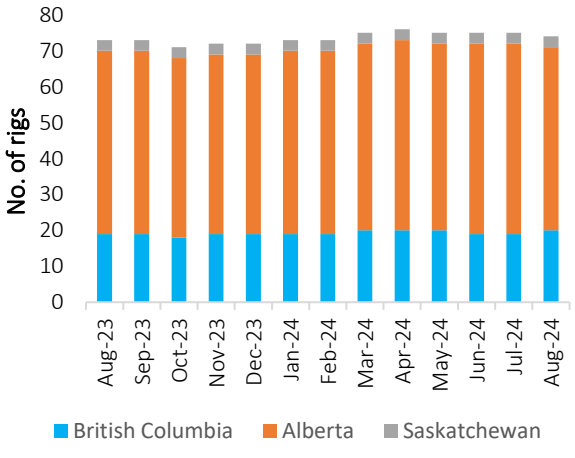
In August 2024, Canada's gas production reached 16.3 bcm, representing a 0.5% y-o-y increase (Figure 63), driven by growing associated gas output from tight oil plays. From a regional perspective, Alberta produced 9.8 bcm, mainly from an increase in the Bakken shale output, while British Columbia produced 6.1 bcm, dominated by the output from the Montney tight gas/tight oil production. For the first eight months of 2024, cumulative gas production in Canada reached 129 bcm, a 2.1% y-o-y rise. It is worth noting that the rise in the Canadian gas production is considered one of the key drivers of the growth in global gas supply. For the gas drilling activity, August 2024 witnessed an increase of 1 rig in BC, while Alberta and Saskatchewan kept the same level (Figure 64).

Figure 63: Trend in gas production in Canada



Source: GECF Secretariat based on data from CER, Alberta Energy Regulator and British Colombia Energy Regulator

Figure 64: Canada's gas rig count



Source: GECF Secretariat based on data from Refinitiv

3.4 Latin America and the Caribbean (LAC)

In August 2024, gas production in LAC was estimated at 13.8 bcm (3% y-o-y increase), mainly driven by a rise in gas output of Argentina and Venezuela. In addition, YTD gas production (Jan-August 2024) was estimated at 103.5 bcm, the same level as 2023.

3.4.1 Brazil

In August 2024, Brazil's marketed gas production increased by 4.1% y-o-y to stand at 1.7 bcm (Figure 65), driven by an 8% y-o-y rise in the gross gas production. Notably, offshore fields were responsible for more than 84% of production, with the Tupi field in the Santos pre-salt basin emerging as the largest gas-producing field at 0.45 bcm. In addition, 54% of gross production was reinjected into reservoirs, while gas flaring witnessed a 4% decline compared to August 2023 (Figure 66). For the period Jan - Aug 2024, cumulative Brazilian output reached 11.7 bcm, representing a 5.9% y-o-y reduction, driven by the increased gas reinjection volumes.

Figure 65: Trend in gas production in Brazil

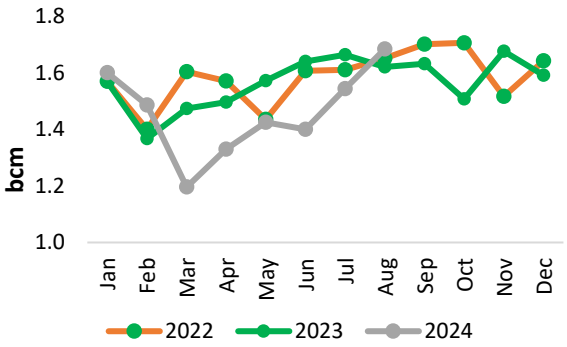
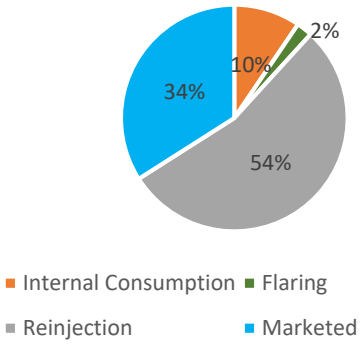


Figure 66: Distribution of gross gas production



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

3.4.2 Argentina

In August 2024, Argentina's gas production continued its growth to reach an output of 4.7 bcm, representing a 6.3% y-o-y surge (Figure 67). Shale gas production, representing 54% of total gas production, grew by 23% y-o-y to reach 2.6 bcm, driven by increased output from the Vaca Muerta shale gas basin (Figure 68). In addition, tight gas reservoir production reached 0.58 bcm, representing an 11% share. For the period Jan - Aug 2024, cumulative gas output reached 34.5 bcm, representing a 4.4% y-o-y rise.

Figure 67: Trend in gas production in Argentina

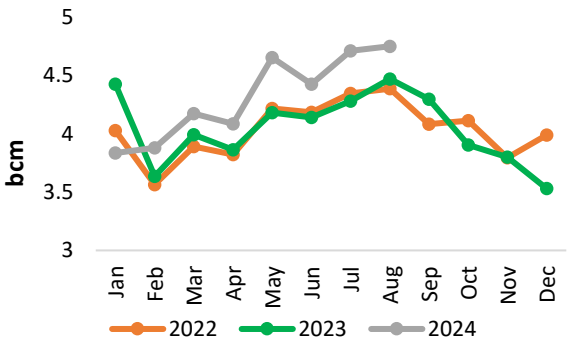
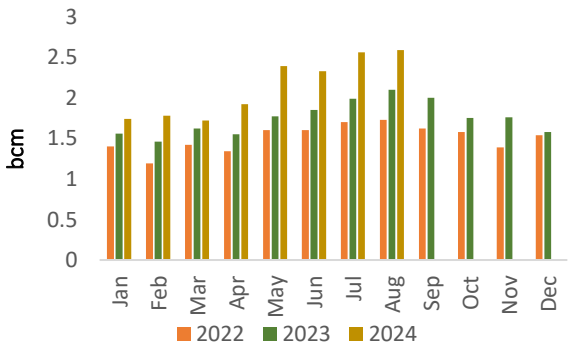


Figure 68: Trend in shale gas production in Argentina



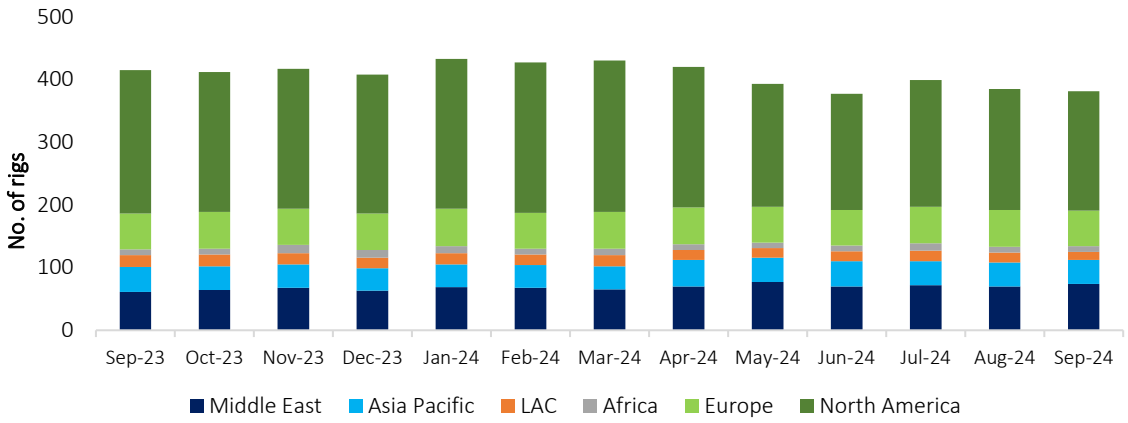
Source: GECF Secretariat based on data from Argentinian Ministry of Economy

3.5 Other developments

3.5.1 Upstream tracker

In September 2024, the global number of gas drilling rigs continued its declining trend, decreasing by 2 units m-o-m to reach 354 rigs (Figure 69). This was mainly driven by a decrease in the drilling activity in the LAC (Argentina) and Europe (Italy), although this effect was partially counterbalanced by the push of drilling activity in the Middle East, specifically by unconventional gas drilling in Saudi Arabia. Onshore drilling accounted for the majority with 329 units, while offshore accounted for 25 rigs.

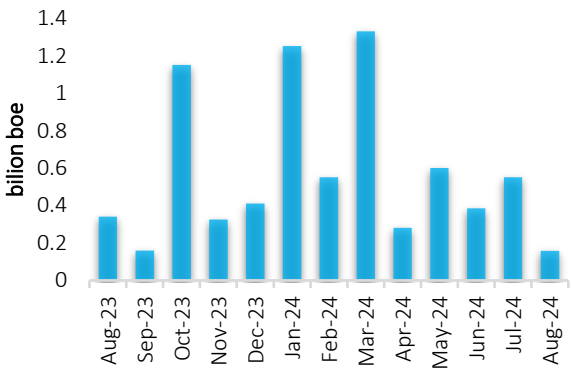
Figure 69: Trend in monthly global gas rig count



Source: GECF Secretariat based on data from Baker Hughes
Note: Figure excludes Eurasia and Iran

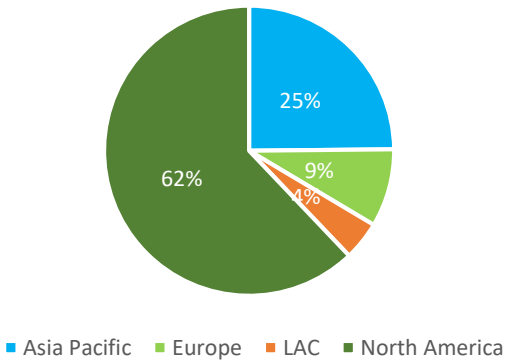
In August 2024, the total volume of discovered gas and liquids amounted to 160 million barrels of oil equivalent (boe) (Figure 70). Of this, liquid oil accounted for the majority with 65% (105 million bbl), while natural gas constituted 35% (10 bcm). Five new discoveries were announced, three of them were offshore. In terms of regional distribution, North America dominated the new discovered volumes with 62%, mainly in the US, followed by Asia Pacific (25%) (Figure 71). The Chola field, located in east coast Cauvery basin, offshore India, was the most significant announced gas discovery and represented a breakthrough in India's deepwater exploration activities. Cumulative discovered volumes for the period Jan-Aug 2024 amounted to 5.1 billion boe, with natural gas accounting for 40% (350 bcm).

Figure 70: Monthly oil and gas discovered volumes



Source: GECF Secretariat based on Rystad Energy

Figure 71: Discovered oil and gas volumes in August 2024 by region



3.5.2 Other developments

TotalEnergies announced first gas production from the Fenix field in Argentina: According to TotalEnergies statement, the company started production from its Fenix offshore gas field, located 60 km off the coast of Tierra del Fuego in Southern Argentina. The Fenix field is a part of the Cuenca Marina Austral 1 (CMA-1) concession, with TotalEnergies, Harbour Energy and Pan American Energy as shareholders. The field is estimated to have a production capacity of 3.7 bcma (7% of current annual Argentinian production) and its development incorporated a new unmanned platform connected to the existing CMA-1 facilities. The produced gas is transported via a 35-km subsea pipeline to the Véga Pléyade platform and is subsequently processed onshore at the Río Cullen and Cañadon Alfa facilities. It is worth noting that the Fenix field has an estimated carbon footprint of 9 kg CO_2e/boe and it is considered a low-emission development project.

Two major gas discoveries announced in Colombia: According to statements from the Brazilian Petrobras and the state-owned Colombian company Ecopetrol, two major offshore gas discoveries have been announced in Colombia. Petrobras estimated the original gas in place of the Sirius field in the Guajira Offshore basin at 170 bcm and could potentially double the nation's reserves. The development concept of this field includes drilling 4 offshore wells, with an estimated annual production of 4.9 bcm. The total investment for the Sirius field development project is estimated at 5 billion USD, with 2 billion USD allocated for exploration and the rest for development. In addition, Ecopetrol announced another major discovery at Papayuela offshore block, with production potential up to 8 bcma, however it is still in the early stages of evaluation. Ecopetrol expects that this discovery has the potential to meet 80% of the Colombia's current gas demand.

Azerbaijan to develop its Azeri-Chirag-Deepwater Gunashli (ACG) gas field: The state-owned Azerbaijani company (SOCAR), along its partners BP and MOL Group announced the commercial agreement for the development of gas reserves in the Azeri-Chirag-Deepwater Gunashli (ACG) field, where non-associated gas (NAG) reservoirs were identified beneath and above the oil producing reservoirs. This commercial agreement is intended to modify the current ACG production sharing agreement (PSA) framework and enables the development of the 112 bcm original gas in place located in the field. The first appraisal well is currently under drilling from the existing West Chirag Platform, with the gas production startup anticipated in 2025.

4 Gas Trade

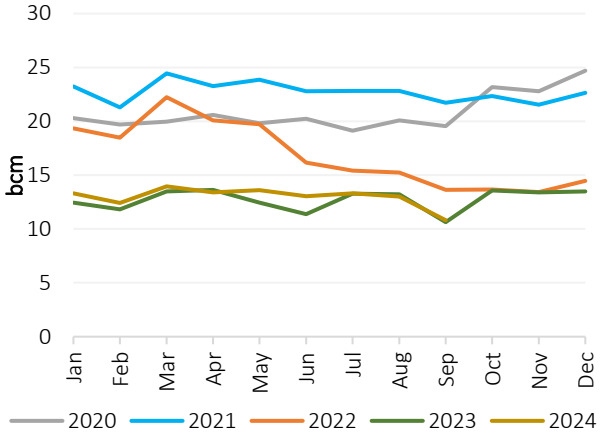
4.1 PNG trade

On a global level, PNG trade has been recording y-o-y expansion in 2024. During the period from January to September 2024, global PNG imports was estimated to have increased by 4% y-o-y to reach 444 bcm. This was driven primarily by the increase in PNG imports by China and Europe, supported by the rise in PNG exports from Russia and Norway.

4.1.1 Europe

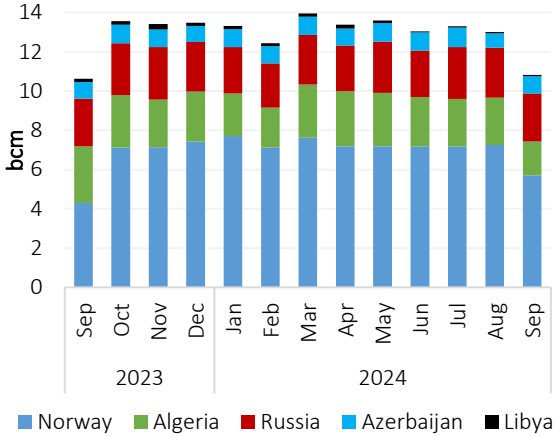
In September 2024, the EU imported 10.8 bcm of PNG, which was 2% higher y-o-y (Figure 72). However, this volume was 17% lower m-o-m due to maintenance activities. There was a 1.5 bcm m-o-m decrease in supply due to annual maintenance in Norway, scheduled for each September. In addition, compressor maintenance in the transit country of Tunisia impacted flows from Algeria to Italy, while maintenance on the Medgaz pipeline impacted flows from Algeria to Spain (Figure 73).

Figure 72: Monthly PNG imports to the EU



Source: GECF Secretariat based on data from Refinitiv

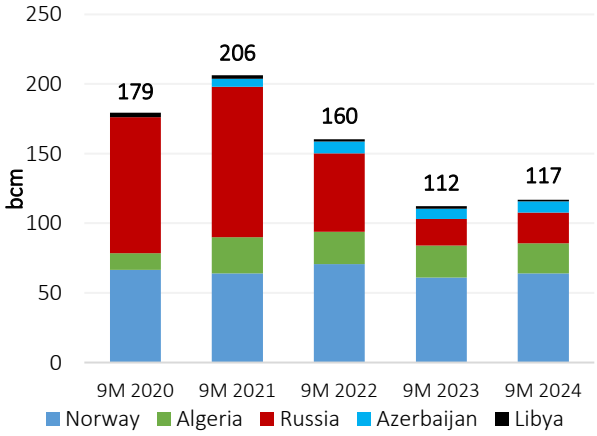
Figure 73: Monthly EU PNG imports by supplier



Source: GECF Secretariat based on data from Refinitiv

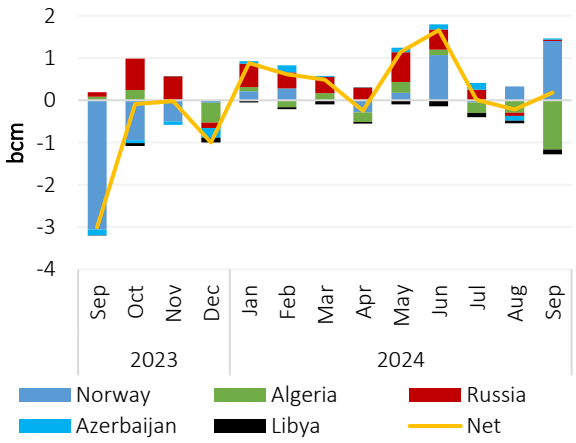
After three quarters of 2024, total PNG imports by the EU reached 117 bcm, which represented an increase of 4% or 5 bcm y-o-y (Figure 74). This increase was driven by Norway and Russia, which supplied 3.1 bcm and 3.0 bcm more respectively, compared with the same period in 2023. There was a net positive y-o-y variation in September 2024, despite the aforementioned supply constraints due to maintenance (Figure 75).

Figure 74: Year-to-date EU PNG imports by supplier



Source: GECF Secretariat based on data from Refinitiv

Figure 75: Y-o-y variation in EU PNG supply

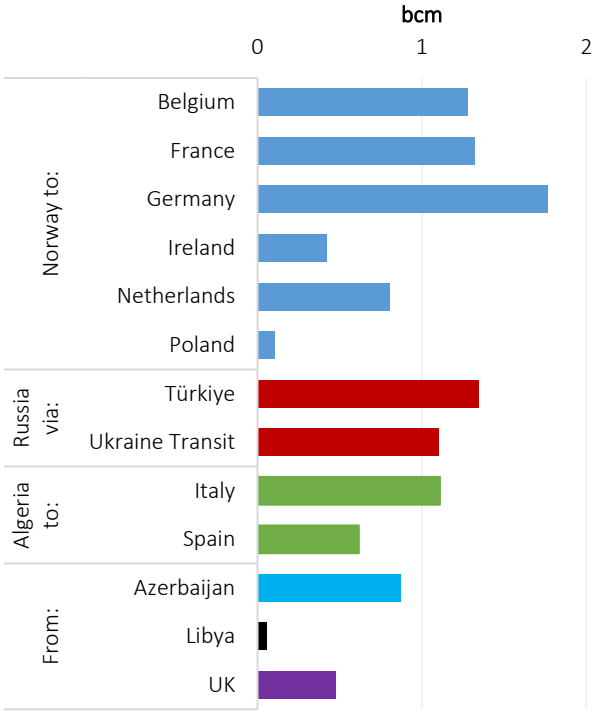


Source: GECF Secretariat based on data from Refinitiv

Figure 76 shows the PNG imports to the EU via the major supply routes in September 2024. Russian and Libyan flows remained almost unchanged m-o-m. Due to the supply constraints, Norwegian exports to Poland and Germany were cut by 84% and 26% m-o-m respectively. Maintenance also reduced Algeria's flows to Italy by 31% m-o-m. In addition, there was a decrease in net flows from the UK, by 71% m-o-m, to 0.5 bcm.

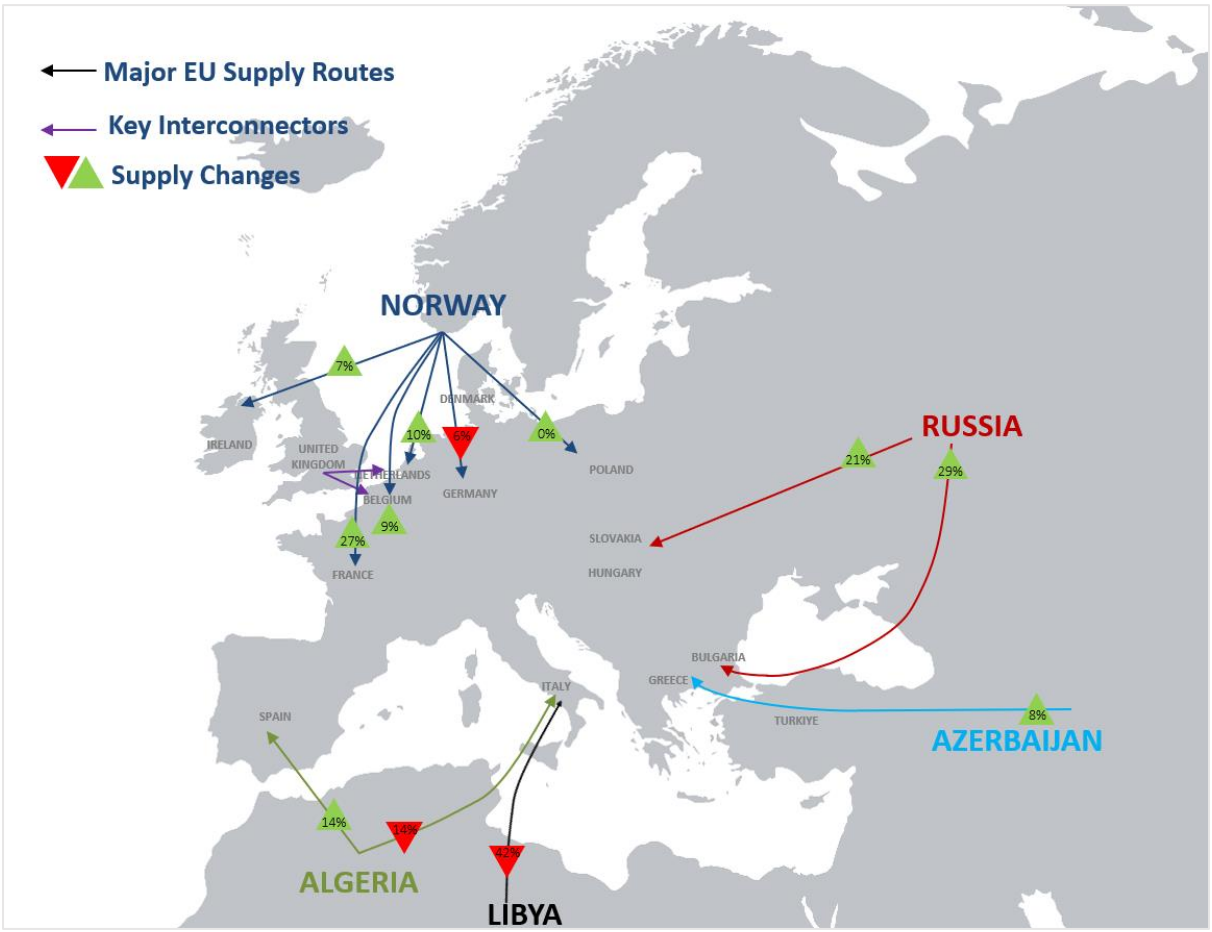
Figure 77 displays the PNG imports to the EU via the major supply routes during the period from January to September 2024, versus the same period in 2023. There were increased imports from Russia via both supply routes, particularly through Turkstream. Norwegian supply to France rose by 27% y-o-y, while flows to Germany decreased by 6% y-o-y. There was much less reliance on the import of regasified LNG from the UK, with these volumes having decreased by 42% y-o-y.

Figure 76: EU PNG imports by supply route, in September 2024



Source: GECF Secretariat based on data from Refinitiv

Figure 77: PNG imports to the EU by supply route (9M 2024 v 9M 2023)

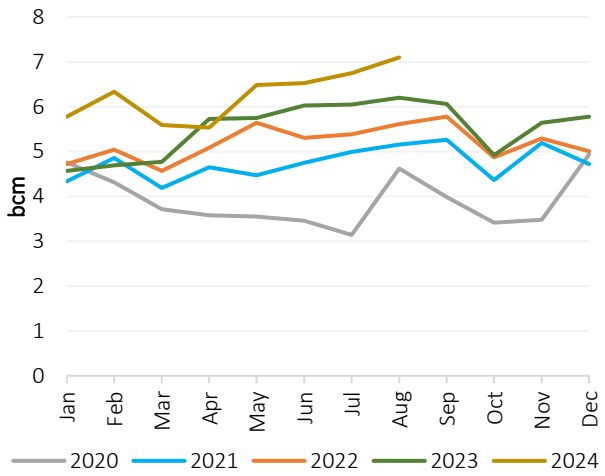


Source: GECF Secretariat based on data from Refinitiv

4.1.2 Asia

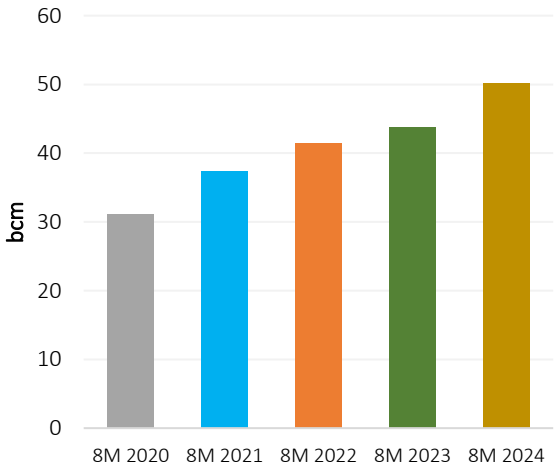
There were several instances in 2024 when China surpassed its record for monthly PNG imports, and this was repeated in August 2024, reaching 7.1 bcm (Figure 78). Compared with the volume imported one year ago, this represented an increase of 14%, and was also 5% higher m-o-m. During the month, the share of PNG in China's import mix fell slightly to 44%. In the period from January to August 2024, China imported a total of 50 bcm of PNG, which is an increase of 14% compared with the same period in 2023 (Figure 79).

Figure 78: Monthly PNG imports in China



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

Figure 79: Year-to-date PNG imports in China



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

In June 2024, Singapore imported 0.49 bcm of PNG from Indonesia and Malaysia. In continuation of the trend in 2024, this volume represented a 19% decrease from the level of one year ago, but was 5% higher compared to the previous month (Figure 80).

There was a similar reduction in Thailand, which imported 0.43 bcm of PNG from Myanmar in the same month (Figure 81). This volume represented a decrease of 14% y-o-y, as well as a 9% decrease compared with the previous month.

Figure 80: Monthly PNG imports in Singapore

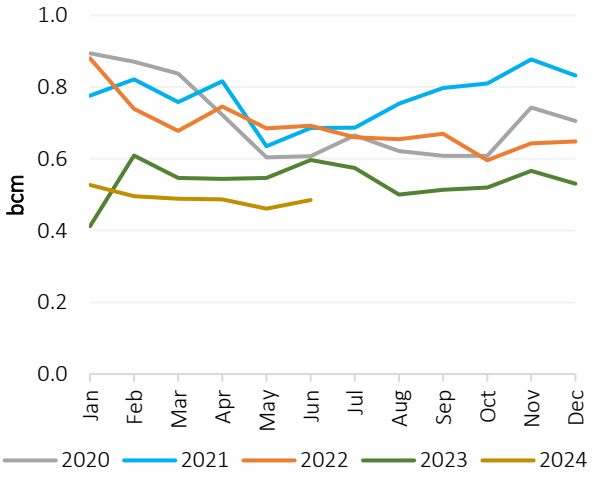
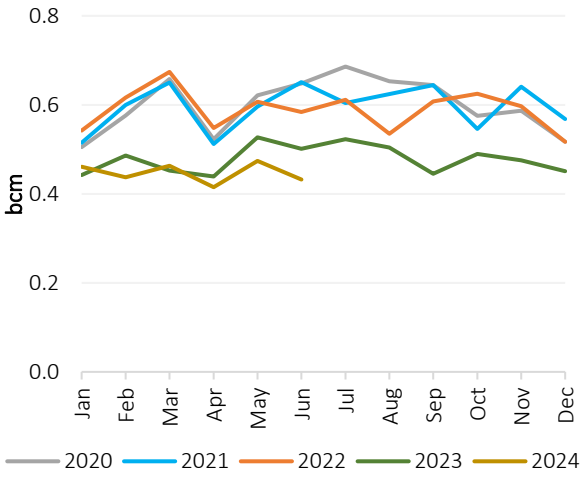


Figure 81: Monthly PNG imports in Thailand



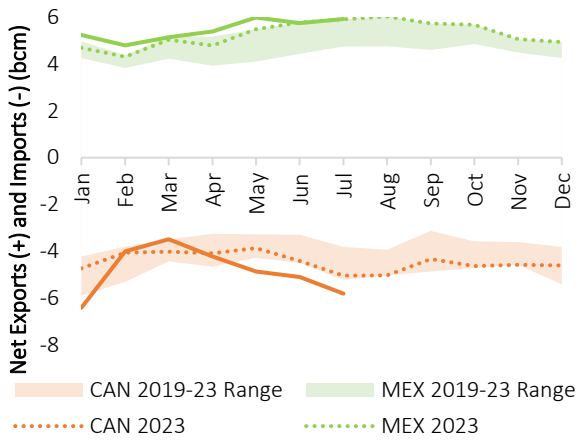
Source: GECF Secretariat based on data from JODI Gas

4.1.3 North America

Mexico increased its PNG imports from the US in July 2024, reaching 5.9 bcm (Figure 82). This was the same level as one year ago, but represented 3% increase from the level of the previous month.

At the same time, there were 5.8 bcm of net PNG flows from Canada to the US, which was 15% higher y-o-y, and 14% more than in the previous month. Of this net supply, flows from Canada to the US increased to 7.7 bcm, while flows from the US to Canada remained steady at 1.9 bcm.

Figure 82: Historical net PNG trade in the USA



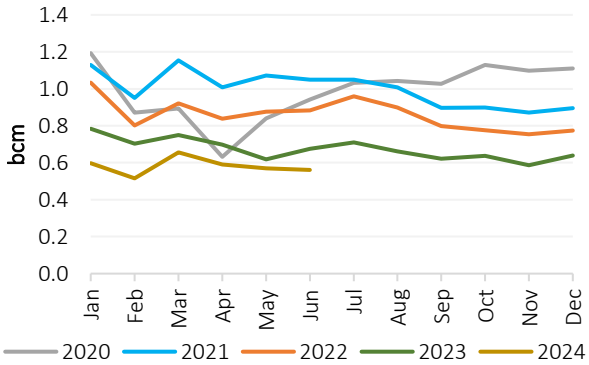
Source: GECF Secretariat based on data from US EIA

4.1.4 Latin America and the Caribbean

In June 2024, Bolivia exported 0.56 bcm of PNG to Brazil and Argentina, which was an 17% decrease from the level exported one year ago, and 1% lower compared with the previous month (Figure 83).

Furthermore, during the same month, Argentina exported 0.15 bcm of PNG to Chile, which was a 28% increase compared with the previous year, but which represented a 6% decrease m-o-m.

Figure 83: Monthly PNG exports from Bolivia



Source: GECF Secretariat based on data from JODI Gas

4.1.5 Other developments

Azerbaijan begins gas deliveries to Croatia: Starting from 1 September 2024, the State Oil Company of the Azerbaijan Republic (SOCAR) commenced delivery of pipeline gas to Croatia. With this arrangement, Croatia has become the tenth European country to import pipeline gas supply from Azerbaijan, following Türkiye, Georgia, Italy, Greece, Bulgaria, Romania, Hungary, Serbia and Slovenia. Azerbaijan delivers gas to European nations via the Trans Adriatic Pipeline, which is part of the Southern Gas Corridor.

Revival of the Trans-Sahara Gas Pipeline project: The Trans-Sahara Gas Pipeline (TGSP) project received a boost in September 2024, with the meeting between top officials from Algeria and Niger. The TGSP project is expected to transport gas supply from Nigeria, via Niger, and connect with Algeria's gas pipeline infrastructure, thus potentially providing a pathway for exports into Europe. Sections of the 4,200 km pipeline are already constructed in Nigeria and Algeria. At the meeting between Minister of Energy and Mines of the People's Democratic Republic of Algeria and Minister of Oil of the Republic of Niger, both parties emphasized the continuation of coordination meetings to study the various aspects of the project.

4.2 LNG trade

4.2.1 LNG imports

In September 2024, global LNG imports rose sharply by 8.9% (2.77 Mt) y-o-y to reach 33.75 Mt (Figure 84). This was the strongest monthly y-o-y growth since November 2022. The Asia Pacific region led the rise in global LNG imports, offsetting a decline in European LNG imports. Strong LNG demand in the Asia Pacific region supported the healthy price spread between spot LNG prices in Asia Pacific and Europe, which led to the influx of Asia Pacific's LNG imports and drop in European LNG imports. The LAC and MENA regions also recorded significant increases in their LNG imports.

From January to September 2024, global LNG imports reached 306.81 Mt, representing an increase of 1.7% (5.24 Mt) y-o-y. This increase was driven mainly by the Asia Pacific region, which offset a decline in Europe (Figure 85).

Figure 84: Trend in global monthly LNG imports

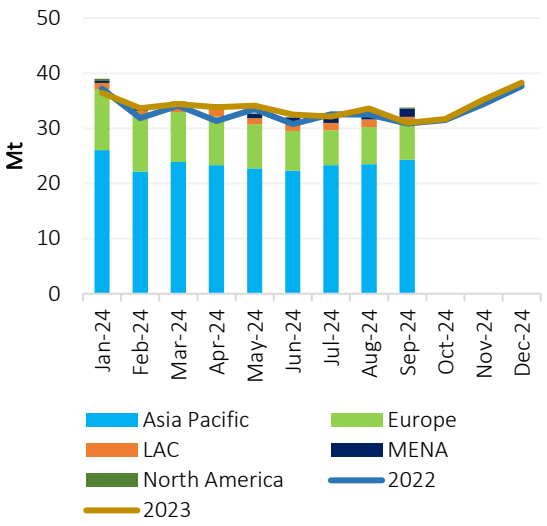
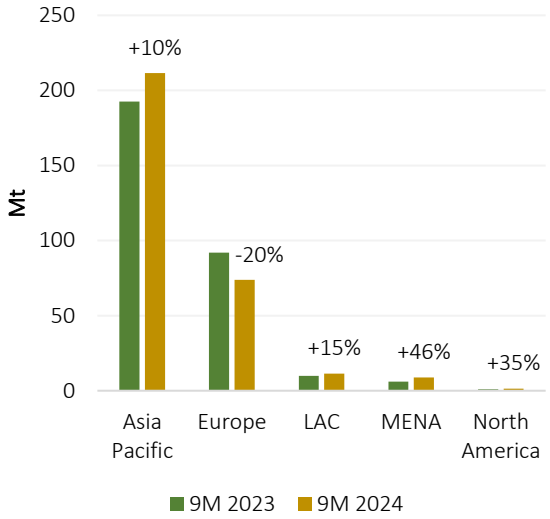


Figure 85: Trend in YTD regional LNG imports



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.1 Europe

In September 2024, Europe's LNG imports declined for the 15th consecutive month, falling by 15% (1.10 Mt) y-o-y to 6.42 Mt (Figure 86). This decrease was due to increased pipeline gas imports from Norway, high gas inventories, and a significant NEA spot LNG-TTF price spread. The decline was driven by Belgium, France, the Netherlands and Spain, while the UK saw an increase (Figure 87).

In Belgium and the Netherlands, the decline in LNG imports was driven by increased pipeline gas imports from Norway and the UK, along with high gas storage levels. Weaker gas consumption in the Netherlands further contributed to the drop. In France, despite rising gas consumption, higher pipeline imports from Norway and ample inventories reduced LNG imports. Spain's decline in LNG imports resulted from lower gas consumption. In Poland, stronger pipeline gas imports weakened LNG demand. Meanwhile, the UK's LNG imports increased due to higher gas consumption, reduced domestic gas production, and rising pipeline gas exports to mainland Europe.

Between January and September 2024, Europe's LNG imports dropped by 20% (18.29 Mt) y-o-y, totalling 73.77 Mt.

Figure 86: Trend in Europe's monthly LNG imports

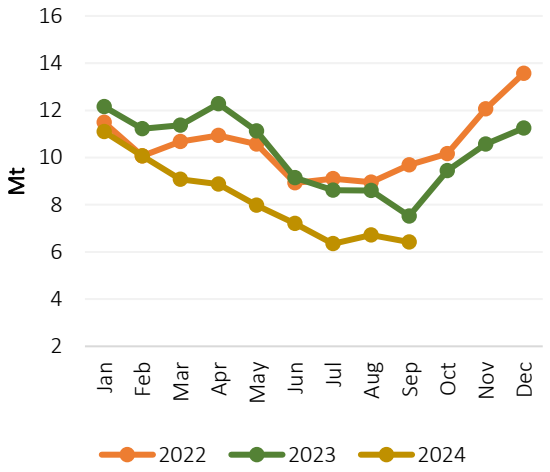
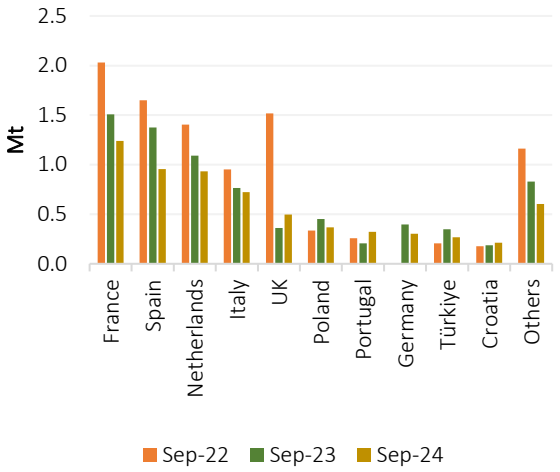


Figure 87: Top LNG importers in Europe



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.2 Asia Pacific

In September 2024, Asia Pacific's LNG imports surged by 14% (3.02 Mt) y-o-y, reaching 24.30 Mt—its third-highest monthly total ever (Figure 88). This growth was driven by stronger gas consumption, pre-winter LNG restocking, and the significant NEA spot LNG-TTF price spread. China, Indonesia, Japan, Malaysia, South Korea and Taiwan led the increase, offsetting a decline in Thailand (Figure 89).

China's increased LNG imports were attributed to higher gas consumption and pre-winter restocking, while Indonesia's LNG intra-country boosted its imports. Japan and South Korea ramped up imports ahead of winter, as LNG storage levels in August 2024 were lower compared to the previous year. Malaysia's increase was supported by higher LNG imports from the US, and Taiwan saw stronger imports due to rising gas consumption. In contrast, Thailand's higher hydro output during the monsoon season likely reduced its LNG imports.

From January to September 2024, LNG imports in the Asia Pacific's region jumped by 9.8% (18.91 Mt) y-o-y to 211.54 Mt.

Figure 88: Trend in Asia's monthly LNG imports

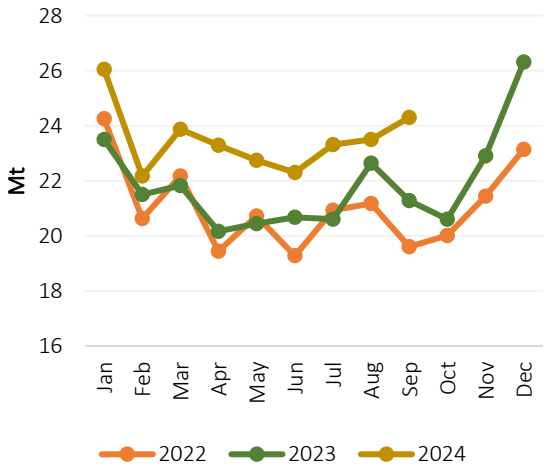
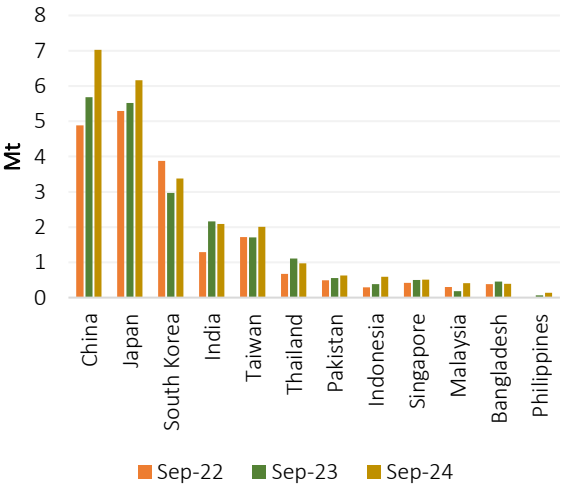


Figure 89: Top LNG importers in Asia Pacific



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.3 Latin America & the Caribbean (LAC)

In September 2024, LNG imports in the LAC region reached 1.36 Mt, marking a 22% (0.24 Mt) y-o-y increase (Figure 90). Brazil led this growth in LNG imports, offsetting weaker imports from Chile (Figure 91).

Brazil's LNG imports hit their highest monthly level since January 2022, driven by lower hydro output during one of its worst droughts on record, which increased reliance on gas-fired power plants. In contrast, Chile's LNG imports declined, likely due to lower gas consumption in the electricity sector as renewable energy output increased.

Between January and September 2024, the region's LNG imports rose significantly by 15% (1.50 Mt) y-o-y, totalling 11.34 Mt.

Figure 90: Trend in LAC's monthly LNG imports

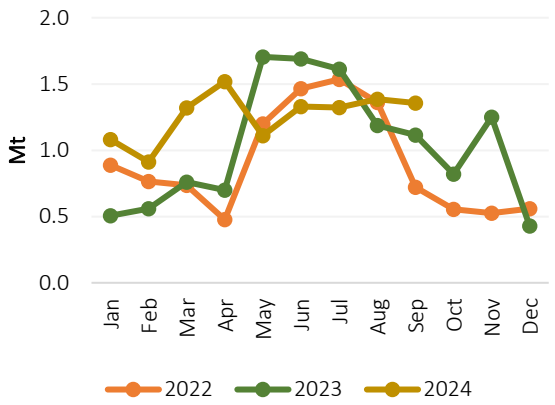
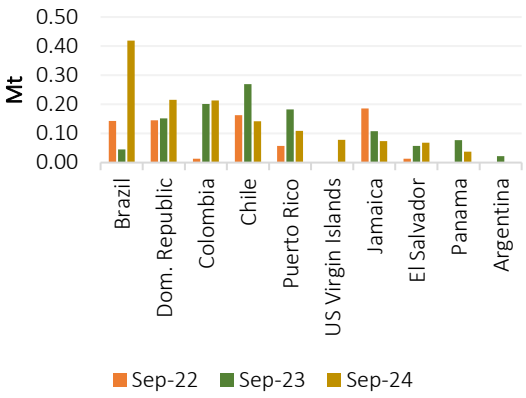


Figure 91: Top LNG importers in LAC



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.4 MENA

In September 2024, LNG imports in the MENA region surged by 49% (0.49 Mt) y-o-y, reaching 1.48 Mt (Figure 92), the highest level for the month since 2017. Egypt was the primary driver of this growth (Figure 93). The rise in Egypt's LNG imports was largely due to lower domestic gas production.

From January to September 2024, the region's LNG imports increased by 46% (2.77 Mt) y-o-y, totalling 8.83 Mt.

Figure 92: Trend in MENA's monthly LNG imports

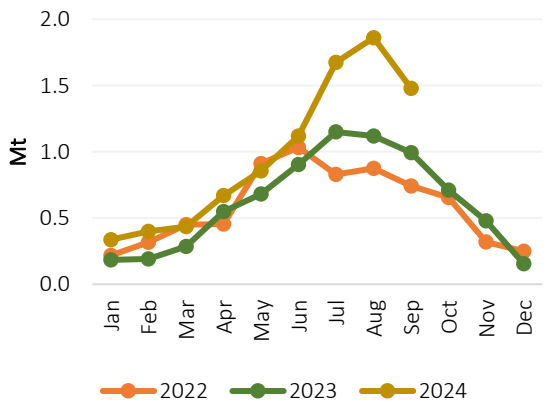
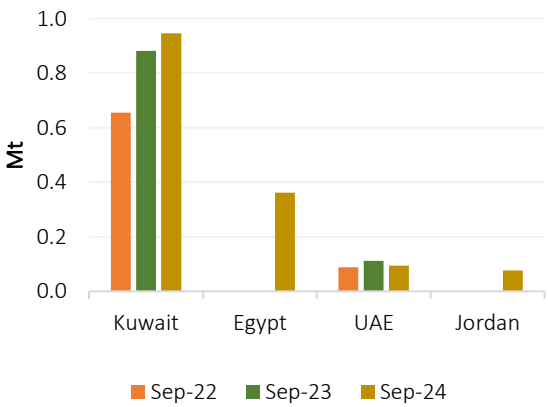


Figure 93: Top LNG importers in MENA



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2 LNG exports

In September 2024, global LNG exports reached 33.95 Mt, marking a 3.3% (1.08 Mt) y-o-y increase (Figure 94). For the second consecutive month, GECF Member Countries contributed the most to this rise, followed by non-GECF countries, while LNG re-exports decreased. GECF's share of global LNG exports grew from 47.4% from a year earlier to 49.0%, while the shares of non-GECF countries and LNG re-exports declined from 51.0% and 1.6% to 50.5% and 0.5% respectively.

In September 2024, the US, Qatar and Australia were the top three LNG exporters globally.

Between January and September 2024, global LNG exports grew by 1.6% (4.73 Mt) y-o-y, totalling 307.42 Mt, with higher exports from both GECF and non-GECF nations (Figure 95).

Figure 94: Trend in global monthly LNG exports

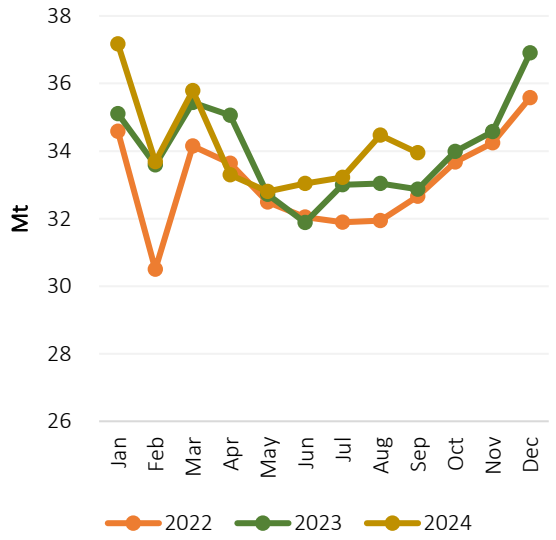
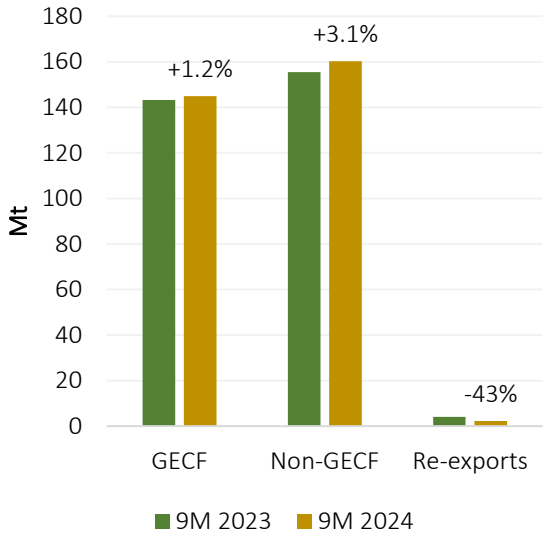


Figure 95: Trend in YTD LNG exports by supplier



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2.1 GECF

In September 2024, LNG exports from GECF Member and Observer Countries reached 16.65 Mt, representing an increase of 6.8% (1.06 Mt) y-o-y, the highest growth since July 2022 (Figure 96). This increase was primarily driven by stronger exports from Malaysia, Nigeria, Peru, Russia, as well as Trinidad and Tobago, which offset a decline in Qatar's exports (Figure 97).

Malaysia's LNG exports growth was supported by lower maintenance activities at the Bintulu LNG facility, while Nigeria and Peru benefitted from higher feedgas availability for LNG exports. Russia saw an export boost from all its liquefaction plants, especially the Yamal LNG facility, and Trinidad and Tobago increased exports due to reduced maintenance at the Atlantic LNG facility. Conversely, Qatar's exports dipped slightly due to slightly lower utilization rates at its LNG facilities.

The Asia Pacific region accounted for the majority of LNG exports from GECF Member Countries, receiving 69% of the total. Europe followed with 21%, while the MENA region received 7%, and the LAC region accounted for 2%.

From January to September 2024, GECF's LNG exports grew by 1.2% (1.66 Mt) y-o-y, totalling 144.88 Mt.

Figure 96: Trend in GECF monthly LNG exports

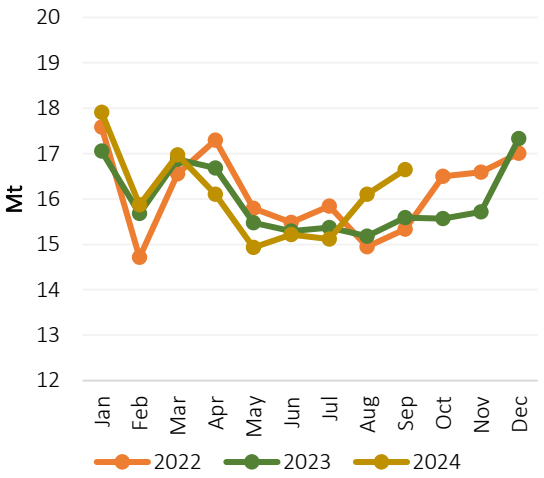
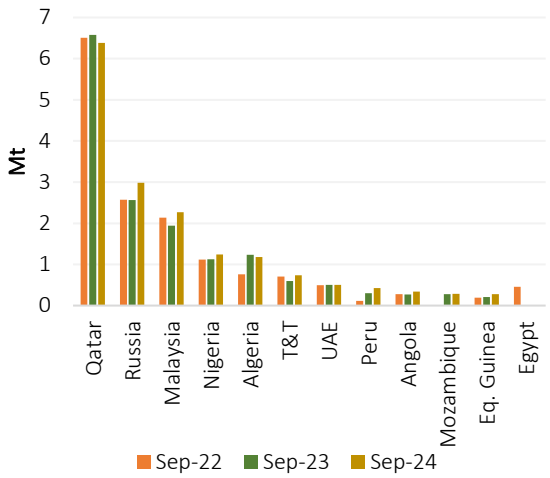


Figure 97: GECF's LNG exports by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2.2 Non-GECF

In September 2024, non-GECF's LNG exports moved slightly higher by 2.2% (0.38 Mt) y-o-y to stand at 17.13 Mt (Figure 98), which is the lowest monthly exports since April 2024. Australia, Indonesia and the US drove the increase, offsetting weaker LNG exports from Oman and Papua New Guinea (Figure 99).

The rise in Australia's LNG exports was driven by increased output from the North West Shelf and Prelude LNG facilities, due to reduced maintenance, which offset lower exports from the Ichthys LNG facility caused by an unplanned outage. In Indonesia, the ramp-up of Tangguh LNG train 3 and less maintenance at the Bontang facility boosted exports. Higher exports from Freeport LNG, following reduced maintenance, balanced out the impact of Hurricane Helene on Elba Island LNG operations, driving US LNG exports higher. However, LNG exports from Oman and Papua New Guinea declined due to increased planned maintenance at their facilities.

Between January and September 2024, non-GECF's LNG exports reached 160.26 Mt, representing a growth of 3.1% (4.80 Mt) y-o-y.

Figure 98: Trend in non-GECF monthly LNG exports

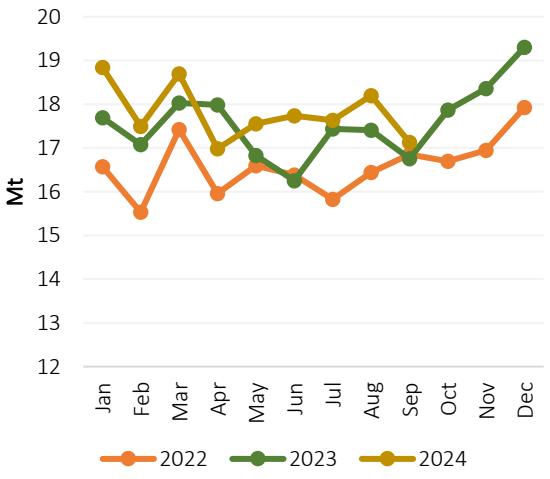
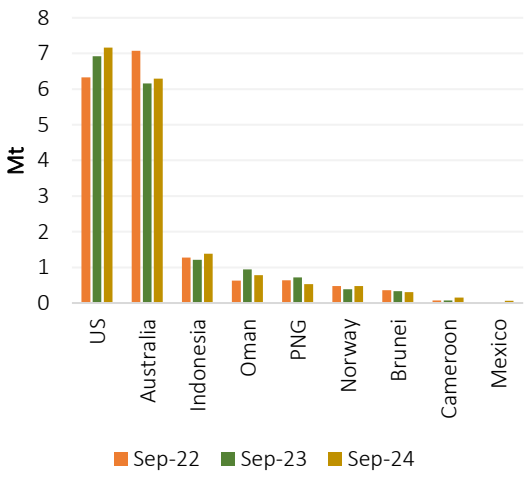


Figure 99: Non-GECF's LNG exports by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.3 Global LNG re-exports

In September 2024, global LNG re-exports dropped sharply by 64% (0.35 Mt) y-o-y to 0.17 Mt, which is the lowest level for the month of September since 2017 (Figure 100). China and Türkiye were the primary contributors to this decline.

The sharp drop in Chinese LNG re-exports was due to reduced intra-country trade and a significant fall in re-exports to other regional markets, driven by strong domestic LNG demand. Meanwhile, Türkiye did not conduct any LNG reloads, compared to one cargo re-exported to Japan in the previous year.

From January to September 2024, global LNG re-exports totalled 2.29 Mt, a 43% (1.73 Mt) decrease y-o-y, mainly due to reduced re-exports from China, Finland, Indonesia and Spain, which were partially offset by an increase from the US Virgin Islands (Figure 101).

Figure 100: Trend in global monthly LNG re-exports

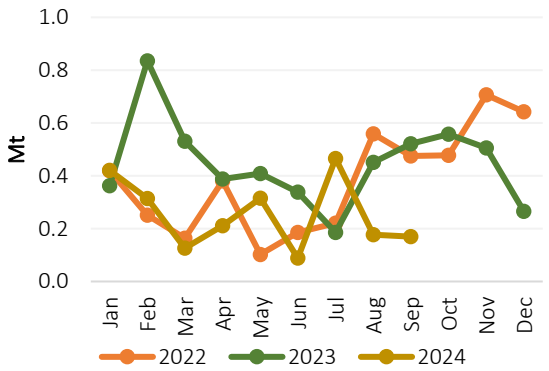
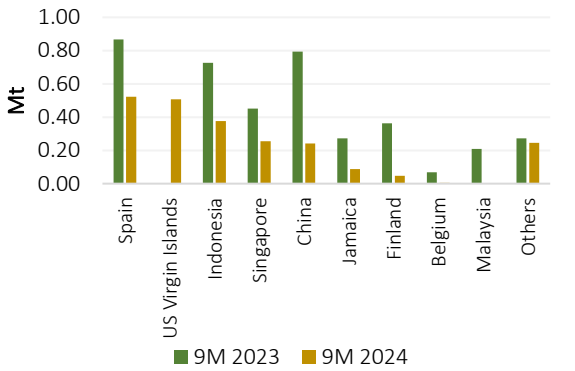


Figure 101: Trend in YTD LNG re-exports by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.4 Arbitrage opportunity

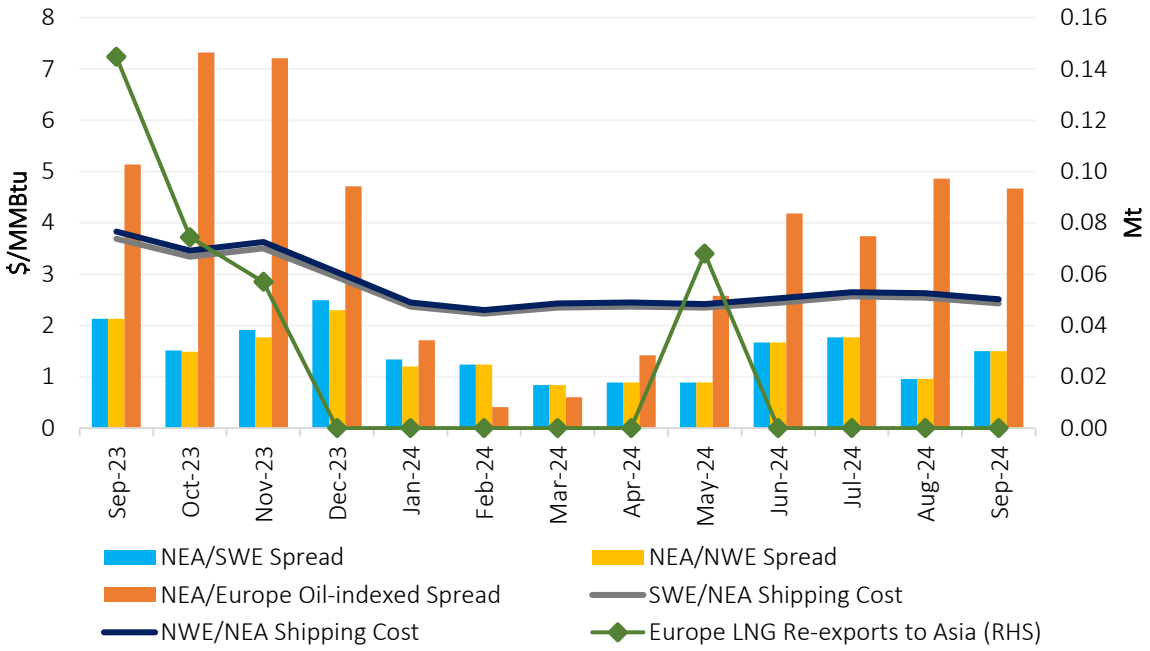
In September 2024, the arbitrage opportunity for LNG re-exports from Europe to Asia Pacific remained unprofitable, despite an increase in the spot LNG price spread between the two markets. Shipping costs from Europe to Asia Pacific were nearly double the spot LNG price spreads (Figure 102). However, the price spread between spot LNG in Asia Pacific and oil-indexed prices in Europe continued to exceed shipping costs.

The NEA/SWE and NEA/NWE price spreads rose by 56% ($0.54/MMBtu) m-o-m to $1.50/MMBtu, due to a sharper decline in European LNG prices compared to Asian prices. Meanwhile, the spread between Asia Pacific spot LNG and European oil-indexed prices dipped slightly by 3.9% ($0.19/MMBtu) m-o-m to $4.67/MMBtu.

Spot LNG shipping costs on the NEA/SWE and NEA/NWE routes fell marginally by 4.3% ($0.11/MMBtu) and 4.6% ($0.12/MMBtu) m-o-m to $2.43/MMBtu and $2.51/MMBtu, respectively. It's important to note that shipping costs can vary based on the vessels used, with medium- to long-term chartered vessels potentially offering lower rates than spot shipping. There were no LNG re-exports from Europe to Asia Pacific in September 2024.

On the other hand, the NEA/SWE and NEA/NWE price spreads, along with the spread between NEA spot LNG and European oil-indexed prices, fell by 30% ($0.63/MMBtu) and 9.1% ($0.47/MMBtu) y-o-y, respectively. Similarly, spot LNG shipping costs on the NEA/SWE and NEA/NWE routes dropped by 34% ($1.29/MMBtu) y-o-y.

Figure 102: Price spreads & shipping costs between Asia & Europe spot LNG markets

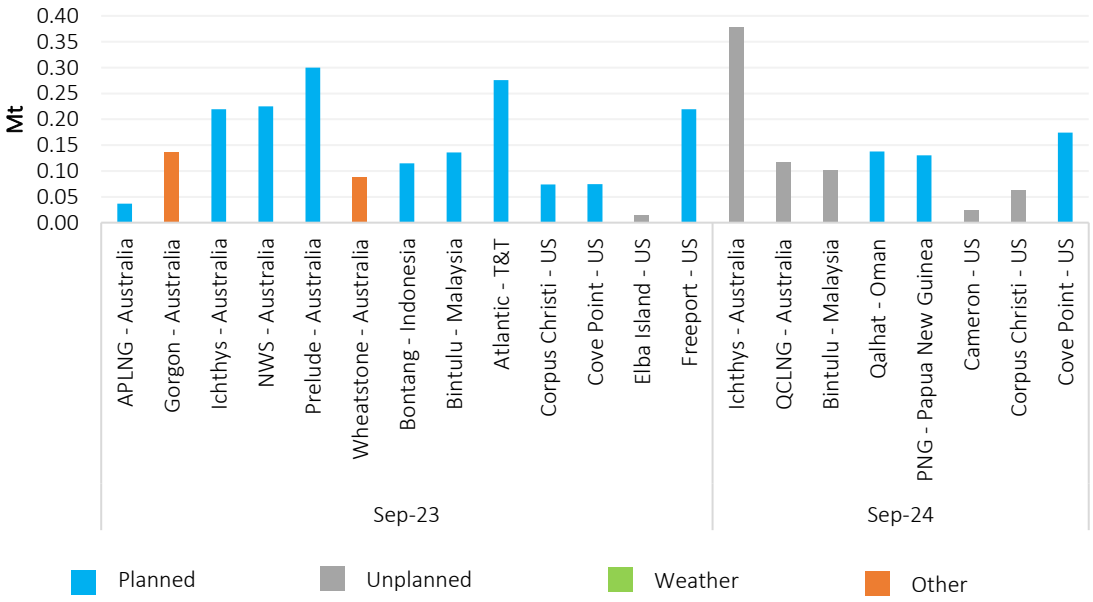


Source: GECF Secretariat based on data from GECF Shipping Model, Argus and ICIS LNG Edge

4.2.5 Maintenance activity at LNG liquefaction facilities

In September 2024, the cumulative impact of scheduled maintenance, unplanned outages, and other factors at liquefaction plants worldwide totalled 1.13 Mt, down from 1.91 Mt in September 2023 (Figure 103). Key activities included planned maintenance at the Qalhat, Papua New Guinea and Cove Point LNG facilities, along with unplanned outages at the Ichthys, QCLNG, Bintulu, Cameron and Corpus Christi LNG facilities.

Figure 103: Maintenance activity at LNG liquefaction facilities during September (2023 and 2024)



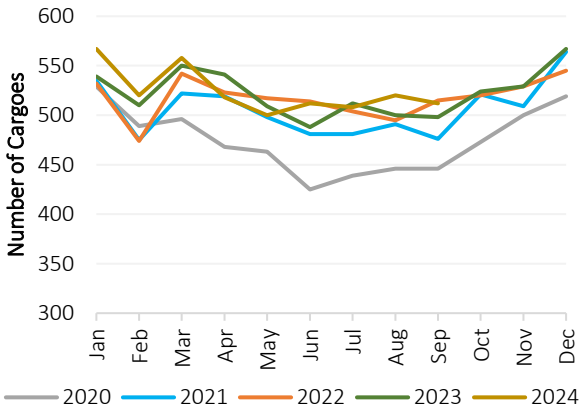
Source: GECF Secretariat based on information from Argus, ICIS LNG Edge and Refinitiv

4.2.6 LNG shipping

In September 2024, there were 512 LNG cargoes exported, which was an increase of 3% or 14 shipments, compared with one year ago (Figure 104). Compared with the total shipments in the previous month, this number represented a 2% decrease. From January to September 2024, the total number of cargoes reached 4,715, which was an increase of 68 shipments when compared with the same period in 2023.

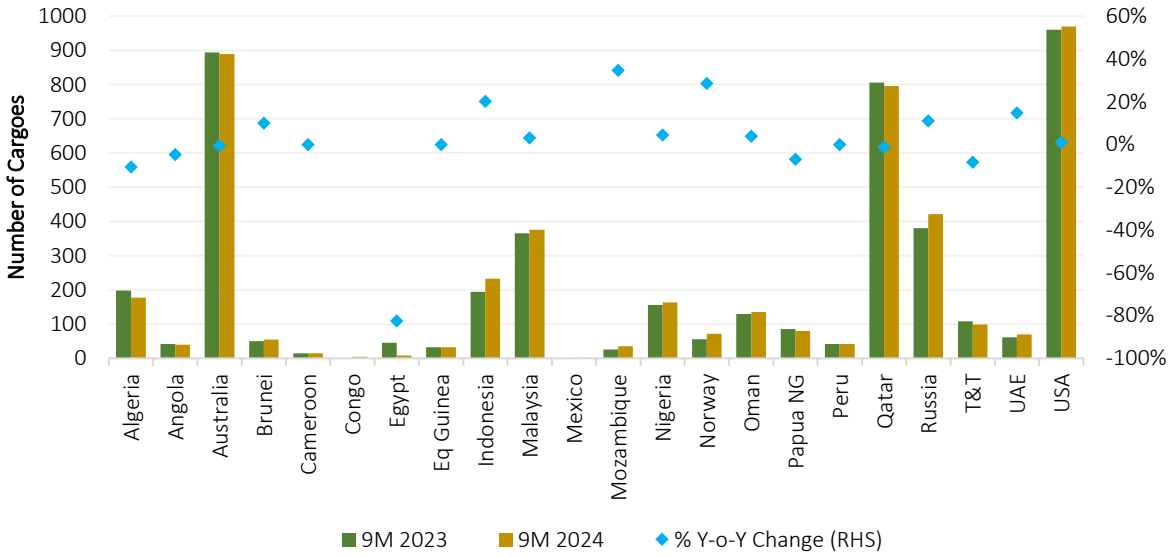
After nine months of 2024, the comparative number of cargoes exported by Mozambique increased by 35%, followed by Norway at 29%, and Indonesia at 20% (Figure 105).

Figure 104: Number of LNG export cargoes



Source: GECF Secretariat based on data from ICIS LNG Edge

Figure 105: Changes in LNG cargo exports



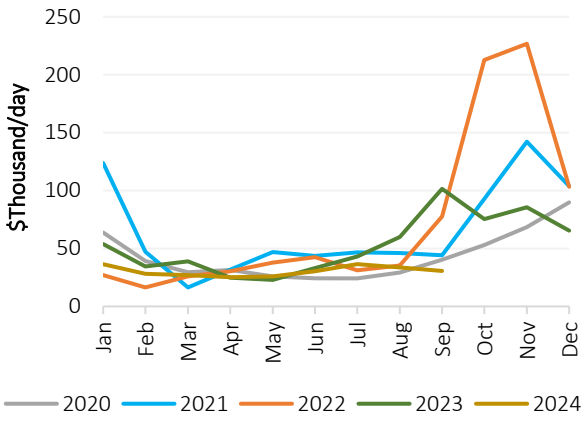
Source: GECF Secretariat based on data from ICIS LNG Edge

September 2024 recorded another decline in the monthly average spot charter rate for steam turbine LNG carriers, this time by 9% m-o-m, to reach $30,700 per day (Figure 106). This was the lowest average charter rate for this month during the past five years. Comparatively, this monthly average charter rate was also 70% lower y-o-y, and $31,600 per day lower than the five-year average price for the month. There was also a 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 16% m-o-m to reach $45,100 per day, while the average spot charter rate for two-stroke vessels fell by 13% m-o-m to reach $63,900 per day.

After reaching the high point for this year in July, the monthly average charter rate has steadily declined since. This trend is unusual since charter rates generally increase at this time of year in anticipation of winter demand. During September 2024 however, charter rates continued to slip, driven mainly by European dynamics. In this region, the lower demand, high storage levels and adequate pipeline gas supply has tempered the need for spot cargoes in this period, while currently providing little incentive for floating cargoes.

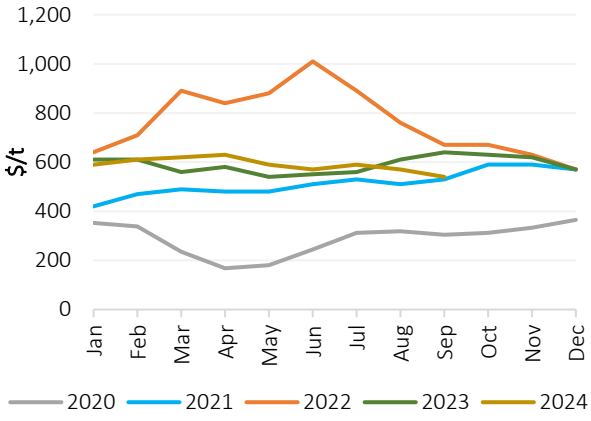
In September 2024, the average price of shipping fuels decreased by 5% m-o-m, to reach $540 per tonne (Figure 107). Furthermore, this average price was also 16% lower y-o-y, but 4% higher than the five-year average price for the month.

Figure 106: Average LNG spot charter rate



Source: GECF Secretariat based on data from Argus

Figure 107: Average price of shipping fuels

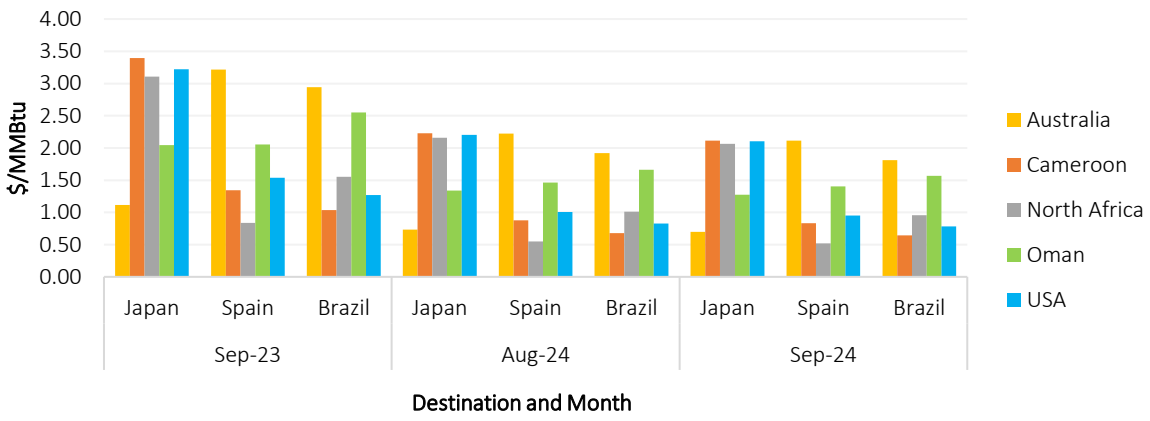


Source: GECF Secretariat based on data from Argus

Compared with the previous month, the average LNG carrier spot charter rate, the cost of LNG shipping fuels and the delivered spot LNG prices, all decreased in September 2024. The net effect, therefore, was a decrease in the LNG spot shipping costs for steam turbine carriers relative to the previous month, by up to $0.11/MMBtu on certain routes (Figure 108).

Moreover, when compared with one year ago, the monthly average spot charter rate and the cost of shipping fuels were both lower in September 2024, while delivered spot LNG prices were just slightly higher, which resulted in LNG shipping costs of up to $1.29/MMBtu lower than September 2023.

Figure 108: LNG spot shipping costs for steam turbine carriers



Source: GECF Shipping Cost Model

4.2.7 Other developments

Mexico's Fast FLNG facility exports its first full LNG cargo – On 30 September 2024, New Fortress Energy successfully exported the first full LNG cargo from its Fast FLNG facility in Altamira, Mexico. This 1.4 Mtpa facility had commenced exports in August 2024 with a partial cargo before undergoing planned maintenance. At the end of August, the US Department of Energy authorized the facility to export LNG to non-free trade agreement countries, as the gas used originates from the US. The LNG was loaded onto the Energos Princess LNG carrier, likely destined for Europe.

China's Huizhou regasification terminal receives its first LNG cargo – On 30 August 2024, the Huizhou regasification terminal in Guangdong province received its inaugural LNG cargo, commencing commercial operations by the end of September. Developed by Guangdong Energy, the terminal has a capacity of 4 Mtpa. The LNG was delivered by the Maran Gas Coronis carrier, loaded at the Das Island LNG facility in the United Arab Emirates.

China's Chaozhou regasification terminal commences LNG imports – China's Chaozhou regasification terminal has officially began receiving LNG imports, with its first cargo delivered on 8 September 2024. This 6 Mtpa terminal, a joint venture between Sinopec and Huaying Group, is located in the Guangdong province and marks a significant addition to China's growing LNG infrastructure. The LNG shipment arrived via the CESI Beihai carrier, which had loaded the cargo at the Australia Pacific LNG (APLNG) facility.

QatarEnergy increases its order with CSSC: As part of the ongoing expansion of its LNG carrier fleet, QatarEnergy has placed an order for six additional vessels with China's State Shipbuilding Corporation (CSSC), to be constructed at its Hudong-Zhonghua shipyard. This follows a recent order for 18 LNG carriers placed between both parties, with the total order of 24 vessels being worth $8 billion. These LNG carriers will be built using the new QC-Max design, which has a new record capacity of 271,000 m3. The vessels are expected to be delivered between 2028 and 2031.

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

Table 1: New LNG sale agreements signed in September 2024

Contract Type	Exporting Country	Project	Seller	Importing Country	Buyer	Volume (Mtpa)	Duration (Years)
SPA	Portfolio	Portfolio	Shell	Türkiye	Botas	2.95	10
SPA	Portfolio	Portfolio	Santos	Portfolio	Glencore	0.5	3.25
HoA	Portfolio	Portfolio	TotalEnergies	Türkiye	Botas	1.2	10
SPA	Oman	Qalhat LNG	Oman LNG	Thailand	PTT	0.3	5
SPA	Portfolio	Portfolio	TotalEnergies	China	CNOOC	1.25	5
SPA	Portfolio	Portfolio	Woodside Energy	Japan	JERA	0.4	10

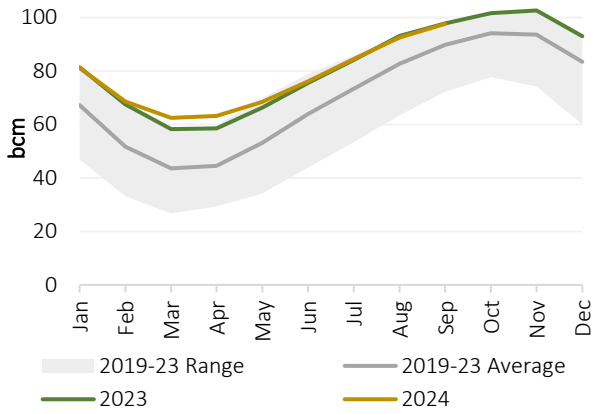
Source: GECF Secretariat based on Project Updates and News

5 Gas Storage

5.1 Europe

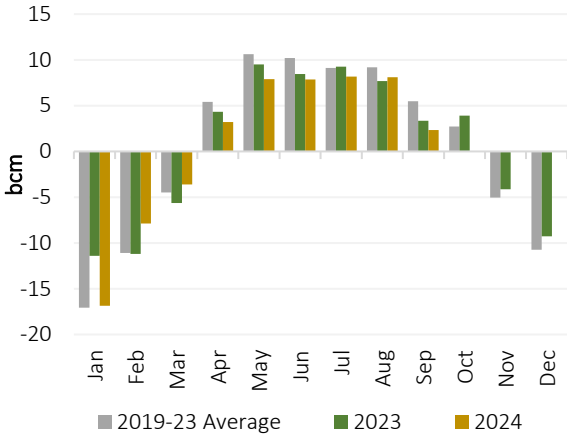
In the EU, the average daily volume of gas in underground storage increased to 97.6 bcm in September 2024, up from 92.6 bcm in the previous month (Figure 109). With a total regional capacity of 104 bcm, this put the EU's average capacity at 94%. The average storage level in September 2024 was the second highest on record for that month, standing just 0.6 bcm behind the average monthly storage level of one year ago. Moreover, there was 7.9 bcm more gas in storage in September 2024 than the five-year average for the month.

Figure 109: Monthly average UGS level in the EU



Source: GECF Secretariat based on data from AGSI+

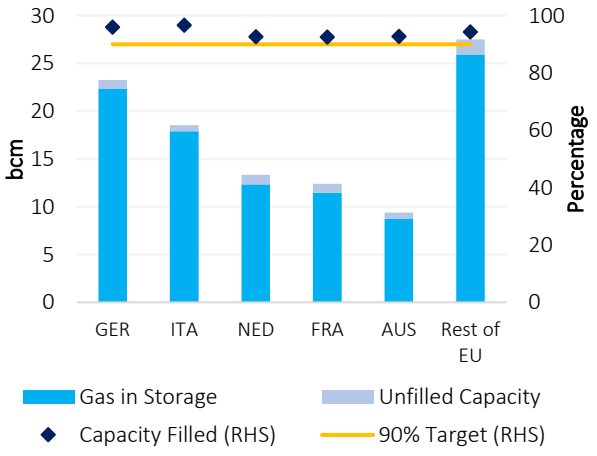
Figure 110: Net gas injections in the EU



Source: GECF Secretariat based on data from AGSI+

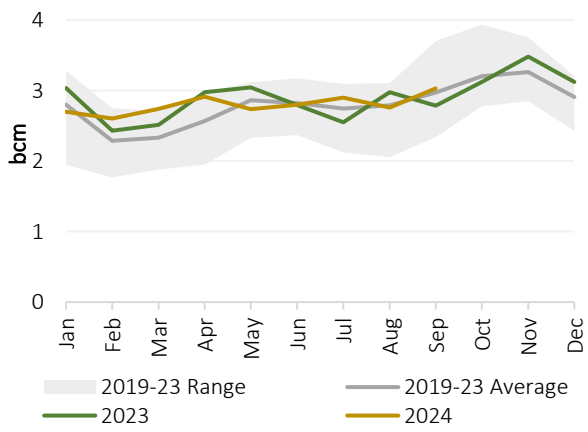
The EU's target of achieving 90% filled capacity by November 1 was attained well in advance, by mid-August 2024. As expected, with the storage sites in the region approaching total filled capacity, the rate of net gas injections has now slowed. In September 2024, there were just 2.3 bcm of net gas injections in storage sites across the EU, which was lower than the 3.4 bcm of net injection one year ago, and the five-year average for the month of 5.5 bcm (Figure 110). The September 2024 net gas injections comprised 4.0 bcm of gas injections and 1.7 bcm of gas withdrawals. Over the gas restocking season in 2024, the EU countries have injected 38.0 bcm of gas into UGS sites in the region. In each of the top five EU countries for UGS capacity, the average storage level is above 92% (Figure 111). In September 2024, the combined amount of LNG stored in the EU countries reached 3.0 bcm, an increase of 9% y-o-y, and 2% higher than the five-year historical average for that month (Figure 112).

Figure 111: UGS in EU countries as of Sep 30, 2024



Source: GECF Secretariat based on data from AGSI+

Figure 112: Total LNG storage in the EU



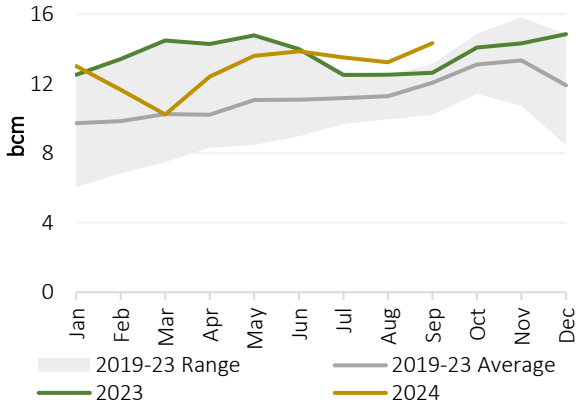
Source: GECF Secretariat based on data from ALSI

5.2 Asia Pacific

In the Asia Pacific region, LNG storage levels are higher than both the previous year, as well as the five-year average. In September 2024, the combined volume of LNG in storage in Japan and South Korea increased to an estimated 14.3 bcm (Figure 113). This volume was 14% higher y-o-y, and 2.3 bcm greater than the five-year average for the month.

Moreover, this combined LNG storage level increased by 8% m-o-m, with individual stocks in Japan and South Korea reaching 7.4 bcm and 6.9 bcm respectively.

Figure 113: LNG in storage in Japan and South Korea



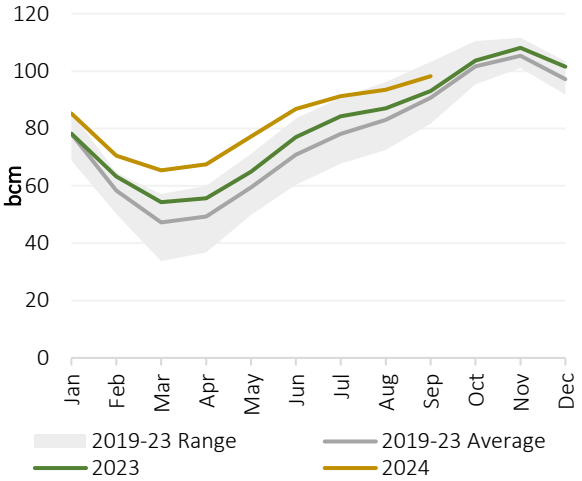
Source: GECF Secretariat based on data from Refinitiv

5.3 North America

In the US, the volume of gas in underground storage in 2024 has consistently remained higher y-o-y. In September 2024, the average daily volume of gas in storage increased to 98.2 bcm, up from 93.5 bcm in the previous month (Figure 114). The average capacity utilisation of the UGS sites in the US rose to 73%.

There was a slowdown in the rate of gas injections in recent months, in part due to reduced production since May 2024. Nevertheless, by September 2024, there was still 5.2 bcm more gas in storage than one year ago, and 7.5 bcm more than the five-year average. The total gas stored during the 2024 restocking season in the US reached 36.5 bcm.

Figure 114: Monthly average UGS level in the US



Source: GECF Secretariat based on data from US EIA

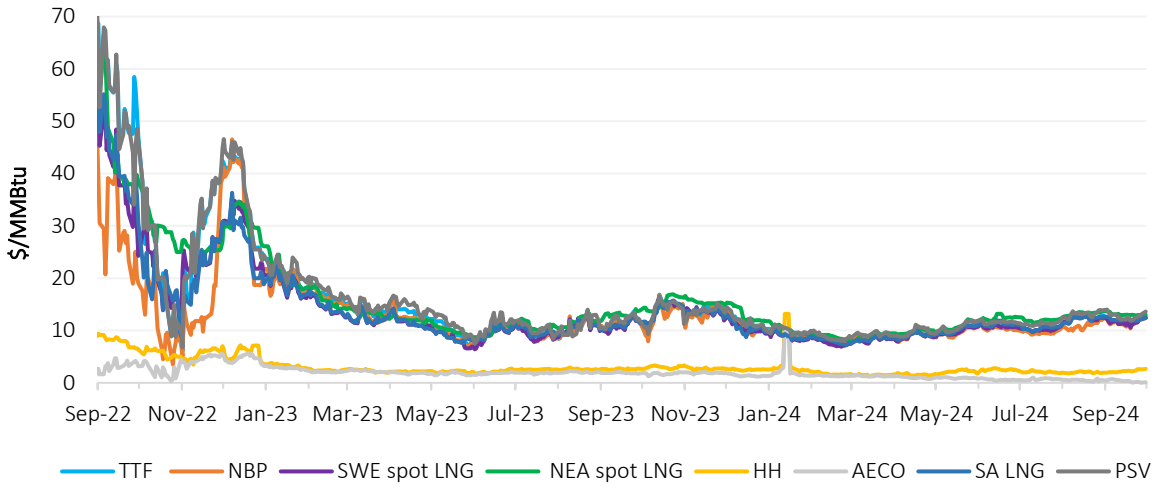
6 Energy Prices

6.1 Gas prices

6.1.1 Gas & LNG spot prices

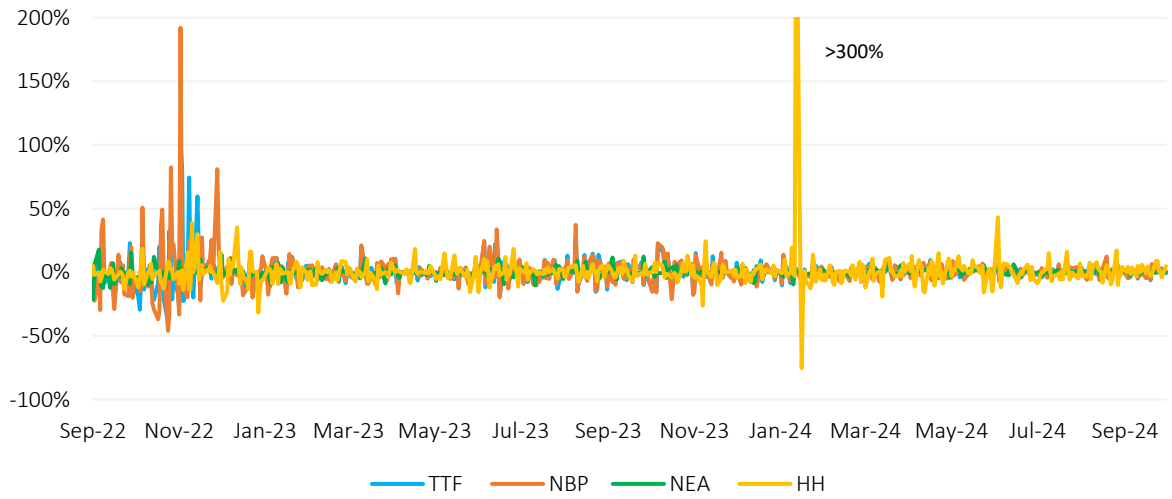
In September 2024, gas and LNG spot prices in Europe and Asia declined after a two-month rise, with volatility remaining low (Figure 115 and Figure 116). This was driven by easing supply concerns and subdued demand, despite ongoing bullish factors including escalating tensions in the Middle East, extended maintenance at several Norwegian facilities, and ongoing outages at LNG facilities in Australia and Malaysia. Looking ahead, spot prices will be supported by increasing gas demand from anticipated below-normal temperatures in Europe, and the replenishment of LNG inventories by Asian buyers ahead of the winter season.

Figure 115: 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 116: Daily variation of spot prices

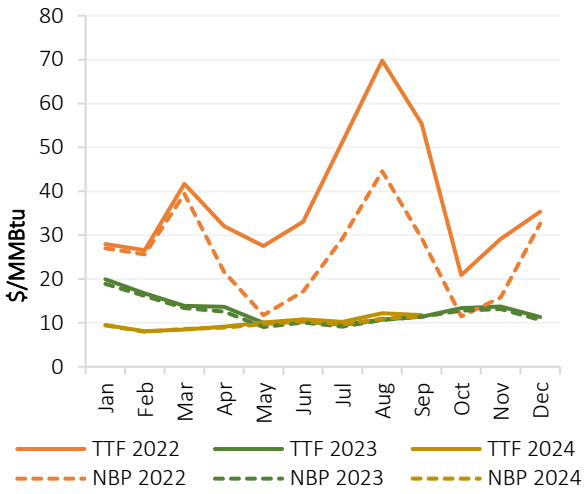


Source: GECF Secretariat based on data from Argus and Refinitiv Eikon

6.1.1.1 European spot gas and LNG prices

In September 2024, TTF spot gas prices averaged $11.75/MMBtu, reflecting a 4% decrease m-o-m and a 3% increase y-o-y. In addition, NBP spot prices averaged $11.45/MMBtu, reflecting a 5% increase m-o-m, but was at the same level as the previous year (Figure 117). The SWE spot LNG prices averaged $11.59/MMBtu in September 2024 (5% decrease m-o-m and 6% increase y-o-y). In addition, the PSV spot price averaged $12.72/MMBtu (3% decrease m-o-m and 7% increase y-o-y).

Figure 117: Monthly European spot gas prices



Source: GECF Secretariat based on data from Refinitiv Eikon

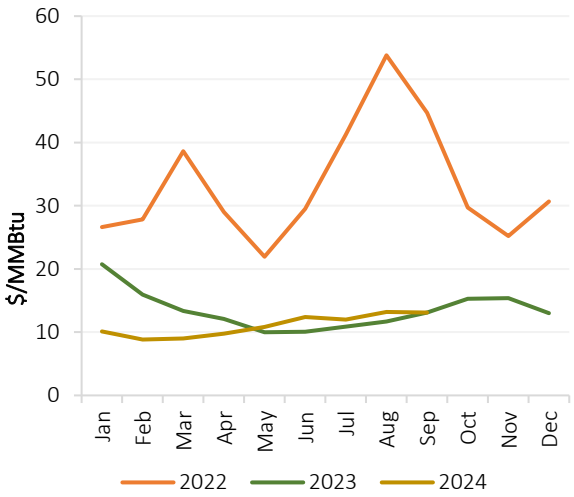
European gas and LNG spot prices declined, primarily due to easing supply-side concerns and persistently weak demand. However, bullish pressures remained, driven by escalating tensions in the Middle East, extended planned maintenance at several Norwegian facilities, reduced pipeline gas flows from the UK to Northwest Europe following the shutdown of the BBL pipeline, and increasing heating demand due to colder weather. Despite the overall decline, daily TTF spot prices surged above $12/MMBtu during the month.

For the period January to September 2024, TTF and NBP averaged $10.05/MMBtu and $9.69/MMBtu, respectively, both declining by 22% y-o-y.

6.1.1.2 Asian spot LNG prices

In September 2024, the average Northeast Asia (NEA) spot LNG price experienced a 1% decrease m-o-m, reaching an average of $13.09/MMBtu. This was at the same level of the previous year (Figure 118).

Figure 118: Monthly Asian spot LNG prices



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

Asian LNG prices saw a slight decline, despite supply concerns stemming from ongoing outages at LNG facilities in Australia and Malaysia, as well as the potential disruption of US LNG exports due to Hurricane Helene. However, demand in the region remained relatively weak, tempering price increases. Still, daily NEA spot LNG prices surged above $13/MMBtu during the month.

For the period January to September 2024, the average NEA spot LNG price stood at $11.03/MMBtu, representing a decline of 16% y-o-y.

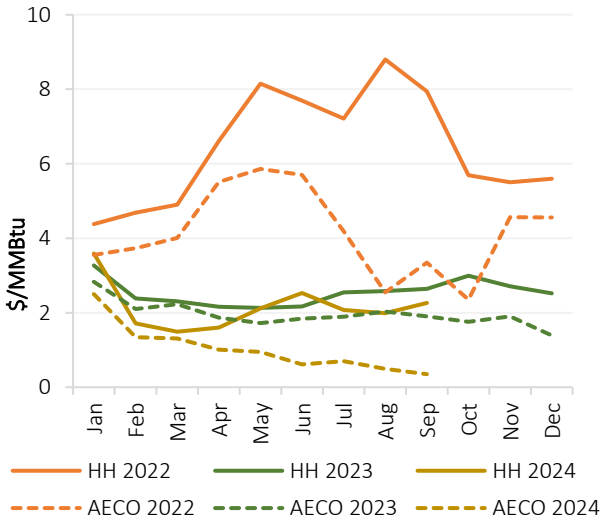
6.1.1.3 North American spot gas prices

In September 2024, the HH spot gas price averaged $2.26/MMBtu, reflecting a significant increase of 14% m-o-m. Additionally, it was 14% lower than the average price of $2.64/MMBtu observed in September 2023 (Figure 119).

Henry Hub prices rebounded, reversing the declines of the previous two months, primarily due to the shut-in of some US gas production due to the passing of Hurricane Helene. As a result, daily HH spot prices climbed, reaching a 3-month high of $2.65/MMBtu.

Meanwhile, in Canada, the AECO spot price averaged $0.35/MMBtu in September 2024, reflecting sharp declines of 29% m-o-m and 82% y-o-y. Daily AECO spot prices remained below $1/MMBtu.

Figure 119: Monthly North American spot gas prices



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

For the period January to September 2024, the HH spot price averaged $2.15/MMBtu, representing a 13% decline y-o-y. Meanwhile, the AECO spot price averaged $1.03/MMBtu, marking a 50% decrease y-o-y.

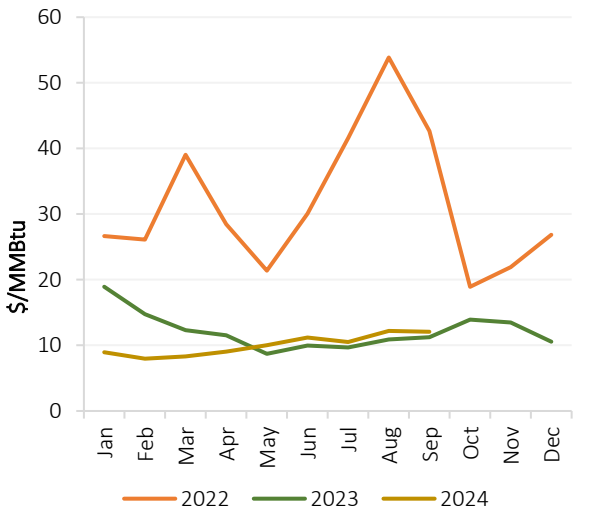
6.1.1.4 South American spot LNG prices

In September 2024, the South American (SA) LNG price experienced a 1% m-o-m decrease, averaging $12.09/MMBtu. Additionally, the SA LNG price was 8% higher compared to the average price of $11.23/MMBtu observed in September 2023 (Figure 120).

LNG spot prices in South America continued to align with the trends observed in European and Asian spot prices. The average LNG delivered prices in Argentina, Brazil and Chile was $12.04/MMBtu, $11.92/MMBtu and $12.30/MMBtu, respectively.

For the period January to September 2024, the SA LNG spot price averaged $10.03/MMBtu, representing a decline of 16% y-o-y.

Figure 120: 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 September 2024, the average Oil-indexed I LNG price was $12.81/MMBtu, reflecting a 1% decline m-o-m and 3% increase y-o-y. Similarly, the Oil-indexed II LNG price averaged $9.69/MMBtu, reflecting a 2% decrease m-o-m and a 5% increase y-o-y (Figure 121). Furthermore, Oil-indexed I prices traded at a marginal discount of less than $1/MMBtu over NEA spot LNG prices. 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 $8.42/MMBtu in September 2024, reflecting a 1% increase m-o-m and a 5% increase y-o-y (Figure 122). Moreover, the average Oil-indexed III price held a discount of $3/MMBtu over the average SWE LNG price.

From January to September 2024, the Oil-indexed I LNG price was at relatively the same level 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 4% decrease y-o-y.

Figure 121: Asia: Spot and oil-indexed price spread

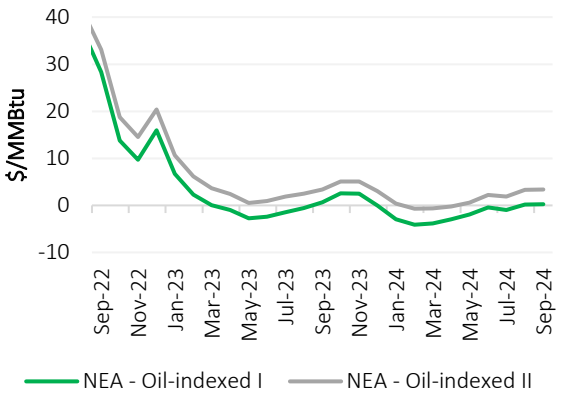
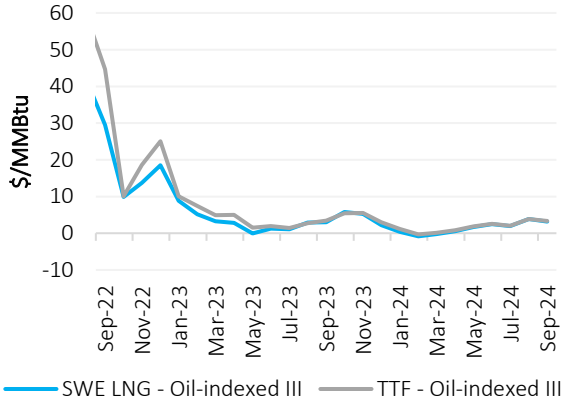


Figure 122: Europe: Spot and oil-indexed price spread



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 September 2024, the NEA-TTF price spread remained positive, and widened compared to the previous month. The average premium of NEA LNG spot price over the average TTF spot price was $1.34/MMBtu (Figure 123).

NBP continued to trade at a discount to TTF, averaging $0.30/MMBtu in September 2024 (Figure 124). The negative NBP-TTF spread reflected reduced flows from the UK into Northwest Europe due to a shutdown of the BBL interconnector.

Furthermore, the spread between NWE LNG and TTF was slightly negative, indicating that utilisation at regasification terminals was marginally higher (Figure 125). The NWE LNG-SA LNG price spread was slightly negative, averaging less than $1/MMBtu (Figure 126). Meanwhile, the NEA-HH and TTF-HH spreads both narrowed to $10.83/MMBtu and $9.49/MMBtu, respectively (Figure 127 and Figure 128). The premium of both Asian and European spot prices over North American spot prices decreased compared to the previous month.

Figure 123: NEA-TTF price spread

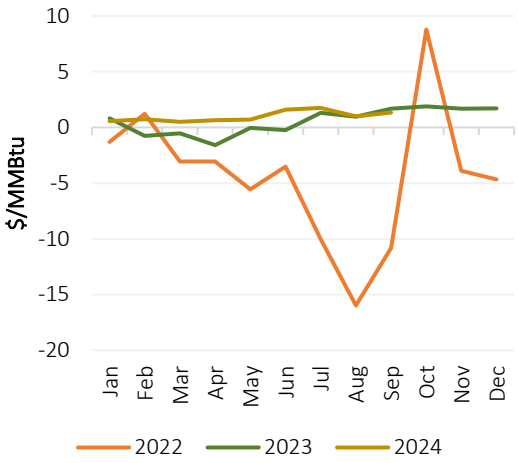


Figure 124: NBP-TTF price spread

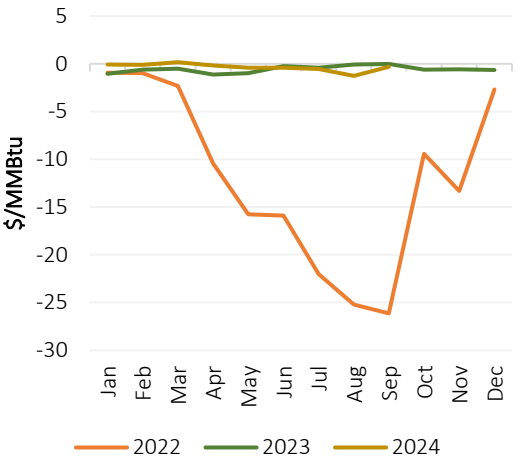


Figure 125: NWE LNG-TTF price spread

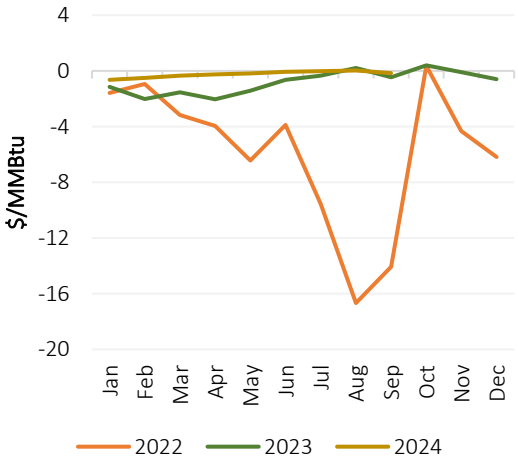


Figure 126: NWE LNG – SA LNG price spread

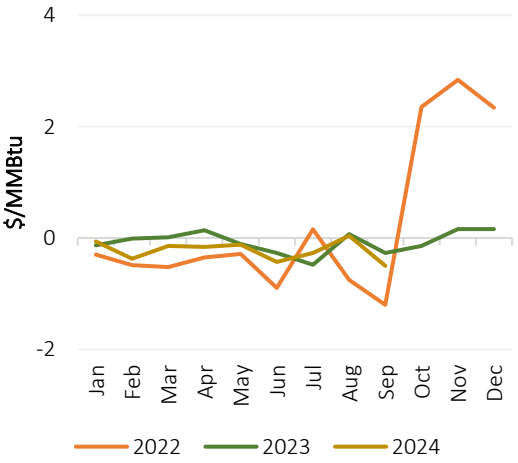


Figure 127: NEA-HH price spread

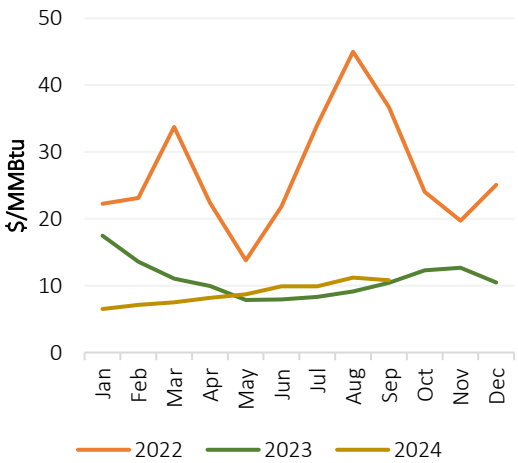
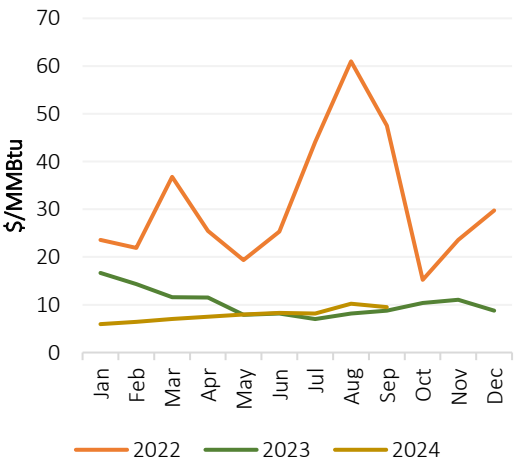


Figure 128: TTF-HH price spread



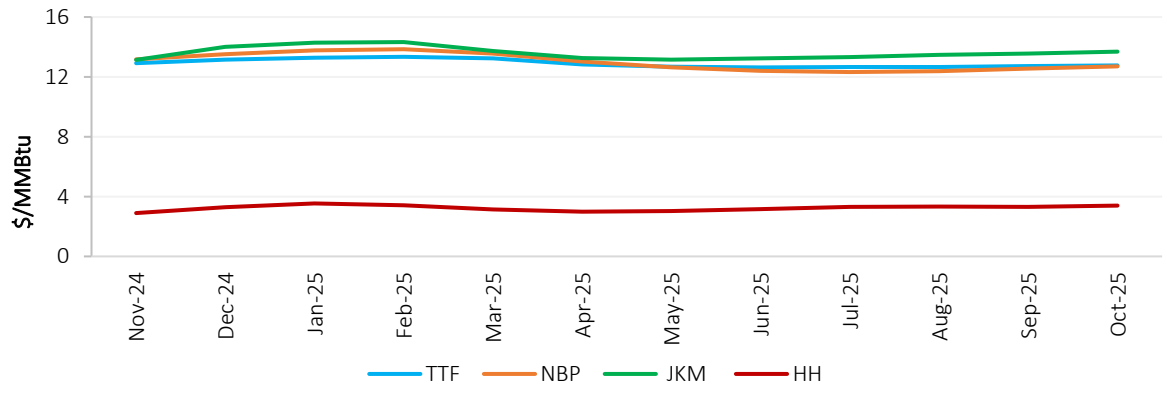
Source: GECF Secretariat based on data from Argus and Refinitiv Eikon

6.1.4 Gas & LNG futures prices

For the six-month period spanning November 2024 to April 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 an average premium of less than $1/MMBtu compared to TTF. Additionally, the NBP-TTF spread is expected to be slightly positive, with TTF expected to maintain an average discount of less than $1/MMBtu compared to NBP (Figure 129).

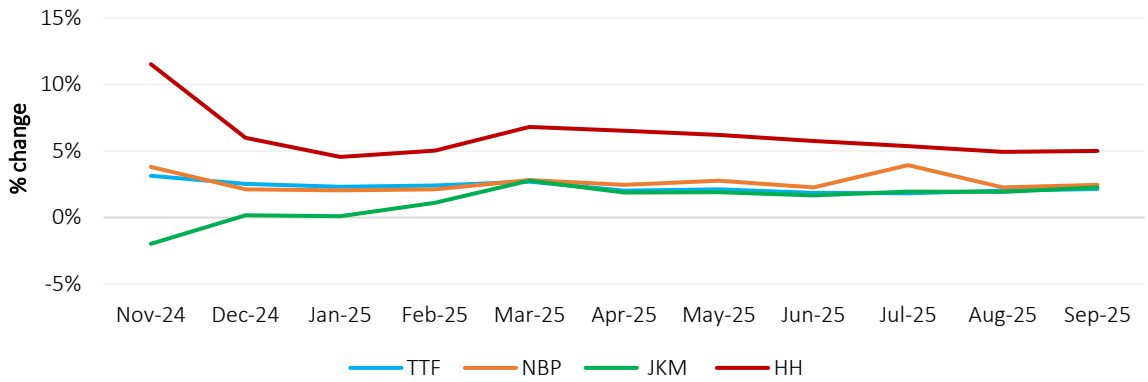
Moreover, as of October 8, 2024, the average futures prices for TTF, NBP and JKM during the same six-month period are $13.13/MMBtu, $13.47/MMBtu and $13.79/MMBtu, respectively. Furthermore, gas and LNG futures prices for TTF, NBP and JKM for the six-month period from November 2024 to April 2025 (as of October 8, 2024) are higher than the futures prices expectations considered on September 9, 2024 (as reported in the GECF MGMR September 2024). Additionally, the average Henry Hub futures price is $3.21/MMBtu, which is also higher than previous expectations (Figure 130).

Figure 129: Gas & LNG futures prices



Source: GECF Secretariat based on data from Refinitiv Eikon
Note: Futures prices as of October 8, 2024.

Figure 130: Variation in gas & LNG futures prices



Source: GECF Secretariat based on data from Refinitiv Eikon
Note: Comparison with the futures prices as of September 9, 2024, as reported in GECF MGMR September 2024.

6.2 Cross commodity prices

6.2.1 Oil prices

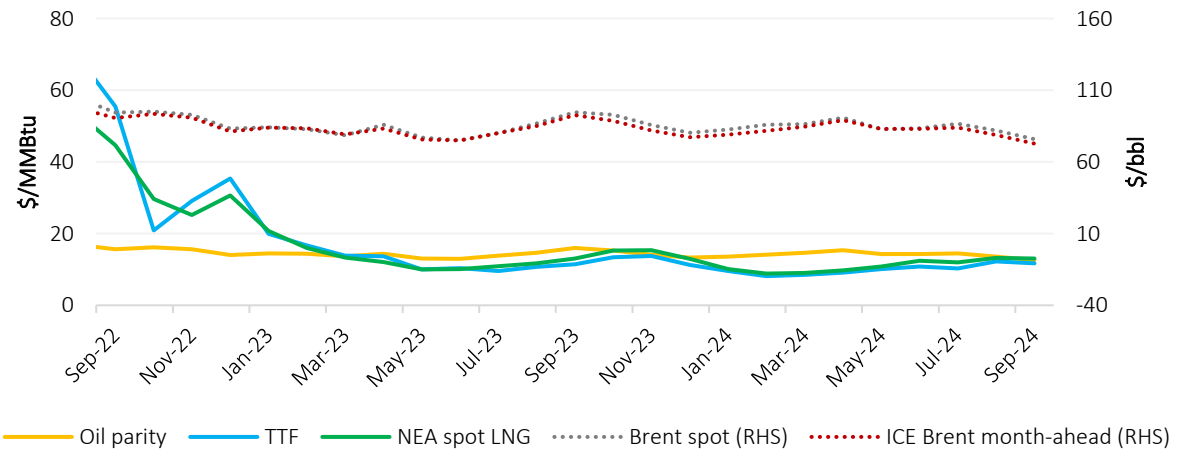
In September 2024, the average Brent spot price was $75.93/bbl, reflecting decreases of 7% m-o-m and 20% y-o-y (Figure 131). The Brent month-ahead price averaged $72.87/bbl, reflecting decreases of 8% m-o-m and 21% y-o-y.

Oil prices declined over the month, despite supply concerns fuelled by escalating geopolitical tensions in the Middle East and the shut-in of some US oil production due to the passing of Hurricane Helene. The drop in prices was largely attributed to persistent expectations of slower oil demand growth. However, market sentiment received a potential boost from the US Fed's interest rate cut on 18 September 2024, which may have provided some support for prices.

Furthermore, in September 2024, TTF spot prices traded at a reduced discount of less than $1/MMBtu to the oil parity price. However, NEA LNG spot prices traded at a slight premium of less than $1/MMBtu to the oil parity price.

From January to September 2024, the average Brent spot price was $84.07/bbl, representing a 2% increase y-o-y. Similarly, the average Brent month-ahead price was $81.80/bbl, reflecting relatively the same levels as the previous year.

Figure 131: 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

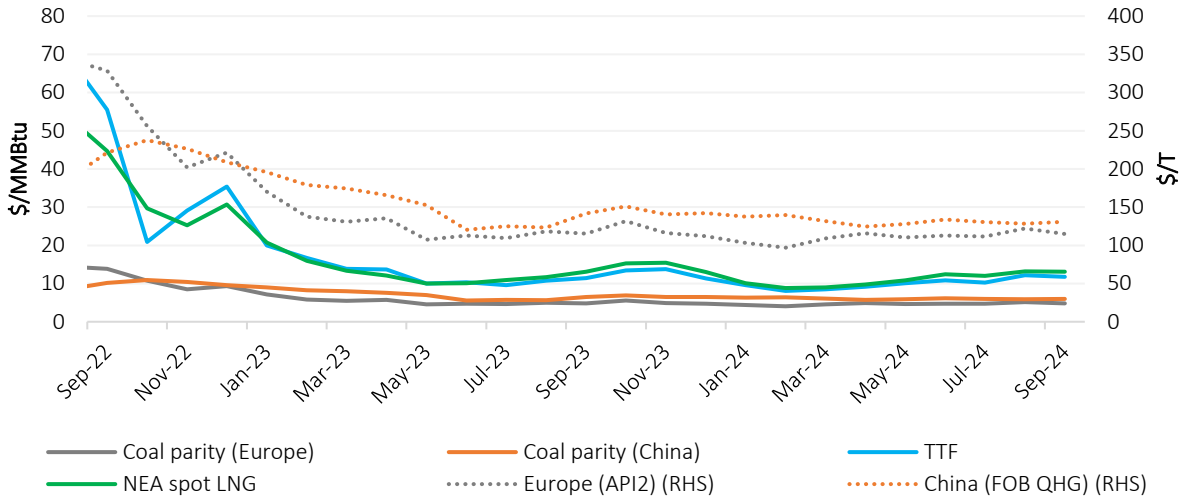
In September 2024, the European coal price (API2) averaged $114.84/T, reflecting a 6% decrease m-o-m, but was relatively stable compared to the previous year. Meanwhile, in China, the QHG coal price averaged $130.82/T, reflecting a 2% increase m-o-m and an 8% decrease y-o-y (Figure 132).

European coal prices declined, mirroring the drop in TTF gas prices. In contrast, coal prices in China saw a slight uptick, driven by rising demand amid increasing energy needs.

The premium of TTF spot price over the API2 parity price was relatively stable at $7/MMBtu in September 2024. Additionally, the premium of NEA spot LNG price over the QHG parity price remained at $7/MMBtu.

From January to September 2024, the European API2 averaged $110.76/T, representing a 12% decrease y-o-y. Meanwhile, the Chinese QHG price averaged $131.63/T, reflecting an 8% decline y-o-y.

Figure 132: 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.

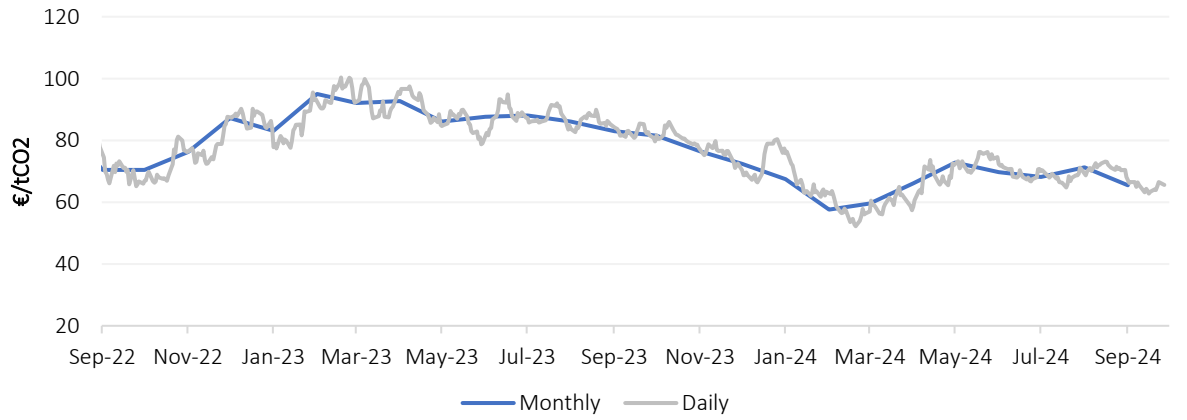
6.2.3 Carbon prices

In September 2024, EU carbon prices averaged €65.51/tCO_2, reflecting decreases of 8% m-o-m and 21% y-o-y (Figure 133).

EU carbon prices fell to a 5-month low of €62.82/tCO_2. The completion of EU ETS compliance for 2023 at the end of September 2024 likely reduced demand for EU allowances (EUAs), contributing to the bearish pressure on carbon prices.

For the period January to September 2024, EU carbon prices averaged €66.47/tCO2, representing a decline of 25% y-o-y.

Figure 133: EU carbon prices

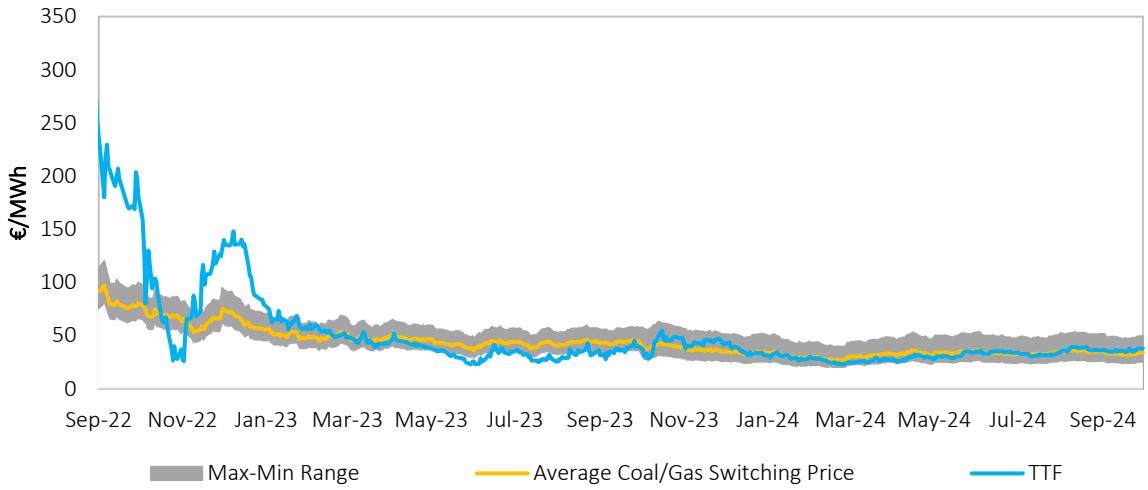


Source: GECF Secretariat based on data from Refinitiv Eikon

6.2.4 Fuel switching

In September 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 a decrease of 7% m-o-m to reach €32.98/MWh. Notably, the average monthly spread between the TTF spot price and the coal-to-gas switching price was positive, averaging €3/MWh (Figure 134). Looking ahead to November 2024, the TTF spot price is likely to remain within the coal-to-gas switching range.

Figure 134: 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%.

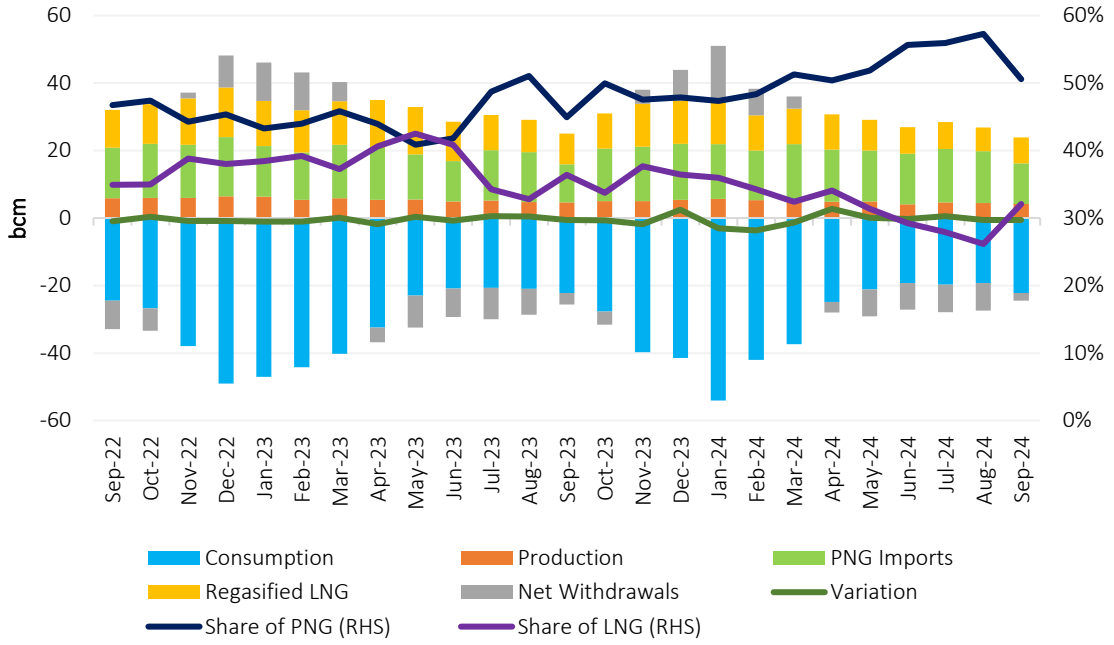
Annexes

Gas Balance

1) EU + UK

In September 2024, the share of regasified LNG in the EU and UK gas supply rose to 32%, up from 26% in August, but down from 36% in September 2023. Meanwhile, the share of pipeline gas imports fell sharply from 57% in August but increased from 45% a year earlier (Figure 135). The m-o-m rebound in regasified LNG's share and the decline in the share of pipeline gas imports was driven by higher LNG send-out and a reduction in pipeline imports. However, compared to the previous year, the lower regasified LNG and higher pipeline imports resulted in a larger proportion of pipeline gas in the overall supply mix.

Figure 135: 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 September 2024.

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

	2023	Sep-23	Sep-24	9M 2023	9M 2024	Change* y-o-y	Change** 2024/2023
(a) Gas Consumption	380.85	22.24	22.20	271.84	260.05	0%	-4%
(b) Gas Production	63.46	4.66	4.15	47.99	43.21	-11%	-10%
Difference (a) - (b)	317.39	17.58	18.05	223.85	216.84	3%	-3%
PNG Imports	174.88	11.23	12.08	126.67	136.51	8%	8%
Regasified LNG	143.59	9.10	7.66	107.71	83.35	-16%	-23%
Net Withdrawals	-4.86	-3.35	-2.32	-14.36	-9.21	-31%	-36%
Variation	3.78	0.59	0.63	3.83	6.19		

Source: GECF Secretariat based on data from AGSI+, JODI Gas and Refinitiv
(*): y-o-y change for September 2024 compared to September 2023
(**): y-o-y change for 9M 2024 compared to 9M 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 July 2024.

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

	2023	Jul-23	Jul-24	7M 2023	7M 2024	Change* y-o-y	Change** 2024/2023
(a) OECD Gas Consumption	1770.0	132.5	135.4	1041.6	1042.2	2.1%	0.1%
(b) OECD Gas Production	1700.0	143.7	143.7	984.6	990.6	0.0%	0.6%
Difference (a) - (b)	70.0	-11.1	-8.3	57.0	51.7	-25.3%	-9.4%
OECD LNG Imports	329.9	22.9	21.1	196.7	176.7	-7.8%	-10.2%
LNG Imports from GECF	140.8	10.2	8.6	85.7	74.6	-15.4%	-13.0%
LNG Imports from Non-GECF	189.1	12.7	12.5	111.0	102.1	-1.7%	-8.1%
OECD LNG Exports	238.4	19.4	19.3	136.9	139.7	-0.7%	2.1%
Intra-OECD LNG Trade	154.9	10.6	9.8	90.5	83.0	-7.5%	-8.3%
OECD Pipeline Gas Imports	499.0	41.5	44.4	300.0	288.7	7.1%	-3.8%
OECD Pipeline Gas Exports	479.8	40.4	41.3	290.1	273.8	2.2%	-5.6%
Stock Changes and losses	40.7	15.7	13.3	12.7	0.2		

Source: GECF Secretariat based on data from ICIS LNG Edge and IEA Monthly Gas Statistics
(*): y-o-y change for July 2024 compared to July 2023
(**): y-o-y change for 7M 2024 compared to 7M 2023

3) India

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

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

	2023	Aug-23	Aug-24	8M 2023	8M 2024	Change* y-o-y	Change** 2024/2023
(a) India Gas Consumption	62.15	5.84	5.79	42.05	44.84	-0.8%	6.6%
(b) India Gas Production	35.09	3.11	3.00	22.92	23.97	-3.6%	4.6%
Difference (a) - (b)	27.06	2.73	2.79	19.13	20.87	2.4%	9.1%
India LNG Imports	30.27	2.71	2.86	19.48	24.79	5.2%	27.2%
LNG Imports from GECF	23.57	1.89	1.95	15.13	17.84	3.6%	17.9%
LNG Imports from Non-GECF	6.70	0.83	0.90	4.35	6.95	9.0%	59.7%
Stock Changes and losses	3.21	-0.01	0.06	0.36	3.91		

Source: GECF Secretariat based on data from ICIS LNG Edge and India's PPAC
(*): y-o-y change for August 2024 compared to August 2023
(**): y-o-y change for 8M 2024 compared to 8M 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
mcm	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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