GECF

Gas Exporting Countries Forum

MONTHLY GAS MARKET REPORT

November 2024

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About GECF

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

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

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Highlights

Gas consumption: The projected growth of global gas consumption for the year 2024 has been revised up to 2.3%. In October 2024, the EU's gas consumption posted a second consecutive y-o-y increase, rising by 5.5% to reach 23.5 bcm, after seven months of continuous decline. This rise was primarily driven by industrial and residential sectors. Similarly, US gas consumption increased by 2.8% y-o-y to 70 bcm. In September 2024, China's apparent gas demand rose by 12% y-o-y to reach 35.8 bcm, with increased LNG demand for trucks and higher gas-fired power generation required for cooling due to prolonged hot weather, especially in eastern and south-eastern regions of China.

Gas production: The projected global gas production growth for 2024 has been revised up to 2.5%, driven by stronger than expected output in the Middle East. In October 2024, US gas production continued its downward trend to stand at 90.6 bcm, representing a 0.8% y-o-y reduction. This decline reflects the combined effect of the Hurricane Milton's impact on Gulf of Mexico operations and production cuts in response to low Henry Hub prices. In September 2024, Europe's gas production rose by 5.5% y-o-y to stand at 11.7 bcm, supported by higher Norwegian output and the production ramp up in Türkiye. In Asia Pacific, gas production was estimated to have risen by 5% y-o-y, driven mainly by the Chinese production remarkable 8% growth, as several new fields came on stream. In Iran, a GECF Member Country, Phase 1 of the Kish offshore gas field started production, with a target output of 10.3 bcma.

Gas trade: Global LNG imports rose by 2.4% y-o-y for the period January to October 2024, totalling 341.1 Mt, driven mainly by increased demand in Asia Pacific, which offset lower imports in Europe. In October 2024, imports climbed 8.6% y-o-y to 34.4 Mt, setting a record for the month, with strong demand in Asia Pacific and rising imports in LAC and MENA. Favourable price arbitrage from the Atlantic basin, particularly the US, along with rising gas demand and pre-winter LNG restocking, boosted LNG flows to Asia Pacific, led by China, India and South Korea. Meanwhile, Europe's imports fell due to high gas storage levels, open Asia-Europe price arbitrage, and robust pipeline gas imports, which increased by 3% y-o-y. Following maintenance-related restrictions in the previous month, the EU's PNG imports rebounded in October 2024 to reach 13.4 bcm.

In infrastructure developments, Greece's Alexandroupolis FSRU began commercial operations on October 1, 2024, and will supply gas to markets in Central and Eastern Europe.

Gas storage: By the start of the northern hemisphere winter season, the gas and LNG stocks in major regions are high. In October 2024, the monthly average volume of gas in storage in the EU increased to 99 bcm, which represents an average regional capacity of 96%. In the US, the average gas storage level increased to 106 bcm, or 79% of the country's capacity, while narrowing the delta to the five-year average. In Asia, the combined volume of LNG in storage in Japan and South Korea increased to an estimated 14 bcm.

Energy prices: In October, gas prices in Europe rose, while prices in Asia remained relatively stable. The TTF spot price averaged $12.78/MMBtu, reflecting a 9% m-o-m increase, while the average NEA spot LNG price held steady at $13.13/MMBtu. In the US, the Henry Hub spot price declined, averaging $2.20/MMBtu, a 3% m-o-m decrease. Looking ahead, spot prices are expected to gain support from rising European gas demand, driven by anticipated below-normal temperatures, along with increased LNG procurement from Asian buyers ahead of the winter season.

Feature article: LNG-powered trucks emerging as a potentially major driver of natural gas demand growth

The transport sector, once regarded as a niche market for natural gas, is rapidly emerging as one of the potential demand growth areas. The adoption of LNG as a fuel for heavy-duty trucks with a load capacity exceeding 15 tonnes has gained momentum this year, driven by both environmental and economic factors.

From an environmental perspective, natural gas offers a significantly lower carbon footprint compared to traditional oil-based fuels. LNG-powered engines emit around 15% less CO2 over their lifecycle than diesel engines. Additionally, natural gas combustion substantially reduces sulphur and nitrogen oxides, virtually eliminates emissions of carcinogenic compounds and particulate matter, contributing to improved air quality.

In the transport sector, heavy-duty vehicles account for a significant share of energy-related CO_2 emissions. To address this challenge, many countries are actively promoting LNG-powered trucks, leveraging the environmental advantages of natural gas as a strategic measure to reduce greenhouse gas emissions and align with their Nationally Determined Contributions (NDCs).

From an economic perspective, the cost-competitiveness of LNG is driving the growing adoption of LNG-powered trucks in the automotive industry. It is generally considered that if the price of LNG is about 20% lower than diesel, market participants are incentivised to transition to LNG-powered trucks. Over the last decade, global LNG prices have remained lower than oil prices, except during the period from Q3 2021 to Q1 2023, when record-high gas prices temporarily undermined the competitiveness of LNG-powered trucks. Despite the higher upfront costs of LNG trucks—mainly due to the cryogenic fuel storage system— these costs are offset by lower LNG fuel prices and reduced maintenance expenses, offering significant long-term savings. This results in a more favourable payback period, often at least one year shorter than that of conventional diesel trucks. Furthermore, LNG holds distinct advantages over alternative fuels. It is more efficient than electric trucks for long-distance hauling, as the limited range of electric batteries makes them less suitable for long-range travel. LNG also outperforms CNG, thanks to its higher energy density, which enables longer distances between refuelling.

China stands as the global leader in the natural gas vehicle (NGV) market by a significant margin, dominating both the LNG and CNG segments. Environmental concerns are central to the Chinese government's promotion of natural gas in the automotive sector. As the world's largest emitter of energy-related CO_2, with emissions reaching 11 Gt (representing 30% of global emissions), China has committed to achieving carbon neutrality by 2060 as part of its latest NDCs. In this context, NGVs are viewed as a critical component of China's decarbonization strategy, offering a more immediate solution compared to other sectors like power generation. Moreover, energy security considerations drive the promotion of NGVs, as China's oil import dependency stands at 73%, much higher than its gas import dependency of 42%.

China, home to the world's largest and most developed LNG-powered heavy-duty truck market, accounting for an estimated 80% share of the global market, introduced its first LNG-powered trucks in 2003. However, the number of LNG trucks remained modest in the first five years following their introduction.

Since 2008, energy policies driven by environmental concerns have played a key role in accelerating the growth of the LNG truck market. The 11th Five-Year Plan (2006-2010) for National Economic and Social Development in China emphasized "the development and use of energy-saving, environmentally friendly and new fuel vehicles". This policy paved the way for the real growth of the LNG truck market, with the fleet reaching 30,000 vehicles in 2008. These energy policies are implemented through various government support mechanisms, including subsidies for fuel, truck scrapping, and refuelling infrastructure.

Fuel subsidies are a notable feature, with natural gas fuels, including LNG, being exempt from various taxes. In contrast, diesel and gasoline are subject to high taxes, including consumption and value-added taxes, which together can account for up to 40% of the retail price. Additionally, the government runs a truck scrapping program that encourages the retirement of older, more polluting heavy-duty trucks. Under this program, fleet owners can receive up to $11,000 when replacing an old truck with one powered by low-emission fuels like LNG. Moreover, subsidies are also available for the construction of LNG refuelling infrastructure, which is crucial for expanding the market. As of now, there are more than 5,000 LNG refuelling stations across China supported mainly by over 80 domestic liquefaction plants, which are supplied by local gas fields. In this context, the lower, more stable production costs make LNG fuel in China less susceptible to global price fluctuations. A major part of these stations and plants are in the northern provinces. In the meantime, imported LNG is also used for truck refuelling, although in much smaller volumes, particularly in southern and eastern regions, where most of the 30 domestic LNG import terminals operate.

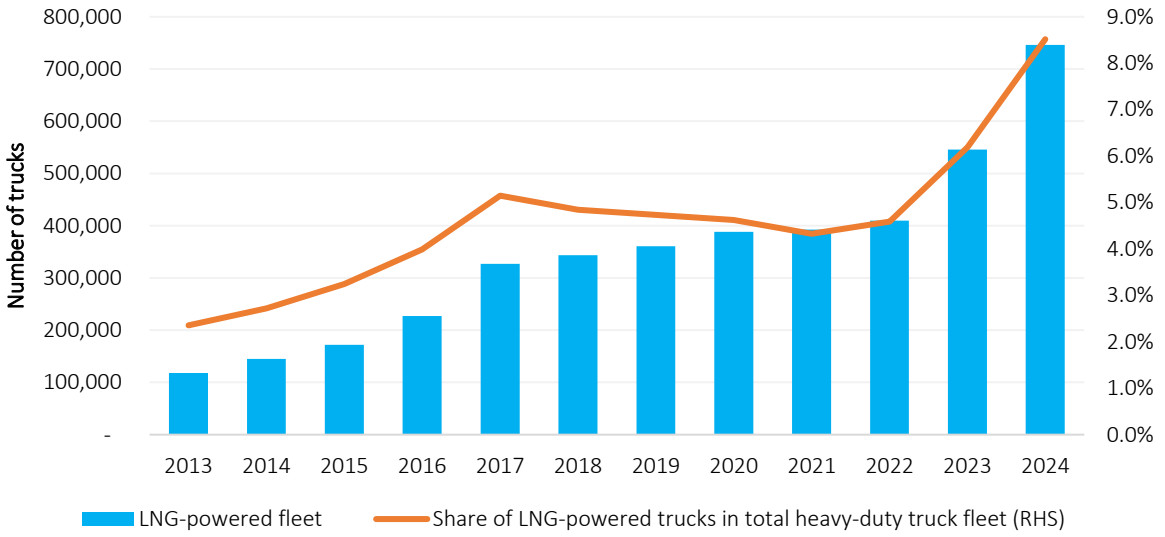
By 2022, China's LNG-powered truck fleet exceeded 450,000 vehicles. The market saw explosive growth following the introduction of updated automotive regulations in July 2023. These regulations, which included stricter limits on nitrogen oxide and particulate matter emissions from heavy-duty trucks, also required new trucks to install anti-tampering monitoring systems and remote diagnostics to ensure compliance with real-world emissions standards. This made LNG-powered trucks, which already meet these stringent requirements, more attractive to fleet operators.

Economic factors have also been a significant driver of market's growth. The price difference between diesel and LNG fuel has recently become again more favourable for LNG. By November 2024, the average diesel price for heavy-duty trucks in China was around 7.10 yuan/litre, while the average LNG fuel price was approximately 4.80 yuan/kg. Assuming that both diesel and LNG trucks consume roughly the same amount of fuel — around 40 litres of diesel and 40 kg of LNG fuel per 100 km — fleet operators can save around 140,000 yuan (up to $20,000) per year in fuel costs by switching from diesel to LNG.

With both favourable energy policies and economics, China has seen an unprecedented surge in LNG-powered truck sales, particularly since the second half of 2023. In the first three quarters of 2024 alone, approximately 150,000 LNG-powered trucks were sold, representing 35% of total heavy-duty truck sales, a sharp increase from just 4% in 2022. Since 2022, the sale of new trucks has largely been driven by the need to replace older vehicles, with more than 600,000 heavy-duty trucks being replaced annually. This trend has further boosted the adoption of LNG-powered trucks. As a result, the number of LNG-powered trucks in operation in China is now

estimated at around 750,000, with their share in the country's total heavy-duty truck fleet almost doubling from 4.6% in 2022 to 8.5% in 2024 (Figure i). If the current sales trajectory continues, China's LNG-powered truck fleet is expected to exceed one million vehicles by the end of 2025. With LNG rapidly gaining market share, it is set to become a dominant fuel alongside diesel in China's heavy-duty truck market.

Figure i: Trend in the heavy-duty truck market in China



Source: GECF Secretariat estimates based on data from China Association of Automobile Manufacturers, CIECData, McKinsey, Bloomberg and Energy Intelligence

Various countries around the world are looking to replicate China's success and follow suit in adopting LNG as a fuel for trucks.

India, for example, is actively promoting LNG in its truck market as part of its broader transition to a gas-based economy. The country aims to increase the share of natural gas in its primary energy mix from the current 6% to 15% by 2030. Although India currently has fewer than 1,000 LNG-powered trucks, which represent only a small fraction of its 7 million truck fleet, the government plans to have one-third of the truck fleet running on LNG within the next five to seven years. India's high oil import dependency, which exceeds that of China, provides an additional incentive for this shift. To support it, the government is focusing on expanding LNG refuelling infrastructure, which remains limited, and earmarking volumes of domestic gas — cheaper than imported LNG — for LNG-powered trucks.

In the EU and the US, which have been pioneers in adopting LNG as a fuel for trucks, significant progress has been made. The EU currently has around 30,000 LNG-powered trucks and 750 LNG refuelling stations, mainly supported by high-volume LNG import infrastructure. Germany, Italy, Spain, and France are the leading countries, accounting for three-quarters of the regional market. In the US, approximately 25,000 LNG-powered trucks are in operation, supported by 50 LNG refuelling stations. The market has considerable growth potential, particularly as LNG production projects continue to be developed.

GECF Member Countries, which hold vast natural gas reserves, are also well-positioned to increase the use of LNG fuel. Some of these countries already have established LNG truck markets, while others are planning to launch dedicated programs to expand LNG adoption.

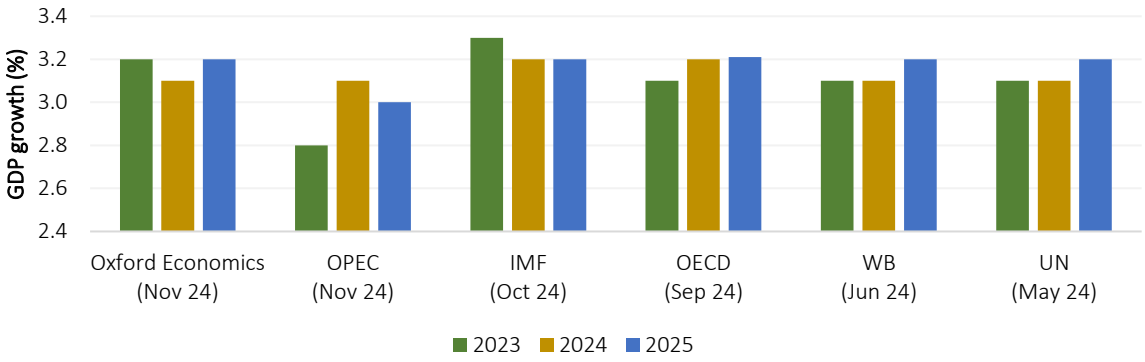
LNG offers a cleaner and more cost-effective alternative to traditional fuels, especially for heavy-duty trucks. China has solidified its position as the global leader in this sector, with government policies and economic incentives driving the growing adoption of LNG-powered trucks. Other countries are looking to replicate this model by addressing challenges such as limited refuelling infrastructure. The upcoming expansion of global LNG export capacity is expected to help stabilize prices and support further growth in the LNG-powered truck market, particularly in countries dependent on gas and LNG imports. In this context, GECF Member Countries are well-positioned to help drive the global expansion of LNG-powered trucks.

1 Global Perspectives

1.1 Global economy

As of November 2024, the global GDP growth forecast for 2024 remains steady at 3.1%, based on purchasing power parity. The global GDP growth forecast for 2025 has also been maintained at 3.2%. Although the global economy demonstrates resilience, it faces continued challenges, with risks tilted to the downside due to escalating geopolitical tensions and increasing policy uncertainty (Figure 1).

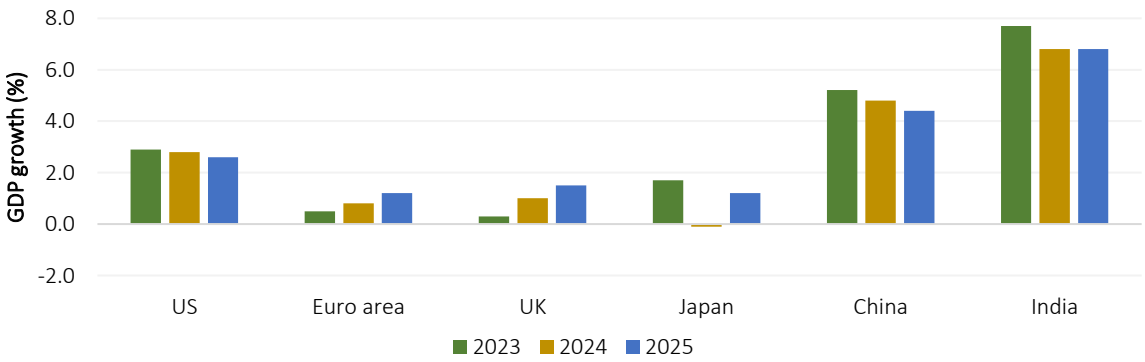
Figure 1: Global GDP growth



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

At a country level, the US GDP growth forecast for 2024 has been revised upward by 0.1 percentage points to 2.8%, driven by solid growth in Q3 2024, and expectations for moderate improvement in Q4 2024. Meanwhile, the Euro area's forecast holds at 0.8%, reflecting a better-than-expected performance in Q3 2024, though the economy remains fragile. China's growth projection remains at 4.8%, despite weaker-than-anticipated growth in Q3 2024. India's forecast also remains steady at 6.8%. Additionally, Japan's GDP growth projection has been lowered by 0.3 percentage points reflecting a 0.1% contraction due to weak domestic consumption. Looking ahead to 2025, the US GDP growth forecast has been raised to 2.6%, while in the Euro area, GDP growth forecast remains at 1.2%. China's GDP growth forecast has been revised upward by 0.3 percentage points to 4.4%. Meanwhile, India's GDP growth forecast has been adjusted downward by 0.2 percentage points to 6.8% (Figure 2).

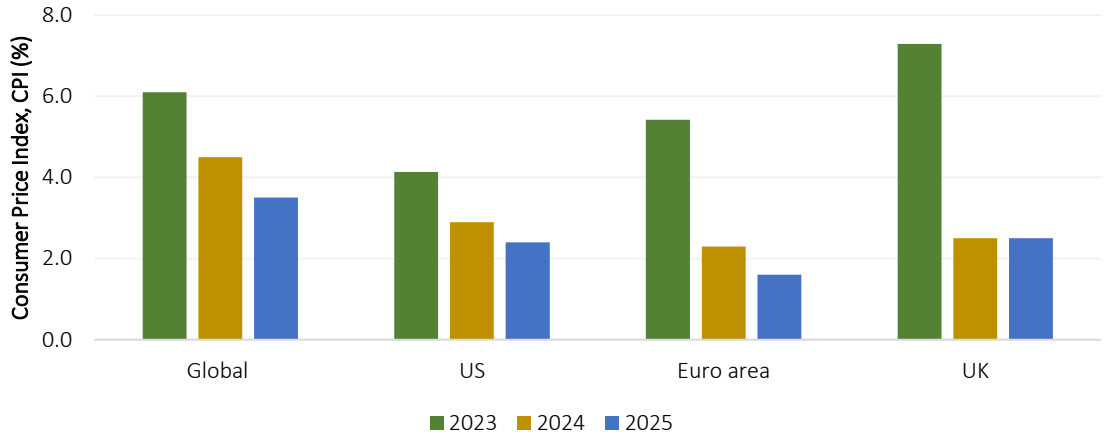
Figure 2: GDP growth in major economies



Source: GECF Secretariat based on data from Oxford Economics

Global inflation is expected to average 4.5% in 2024, declining from 6.1% in 2023, according to Oxford Economics. Furthermore, in 2025, global inflation is projected to fall to 3.5%. In the Euro area, inflation is projected to fall to 2.3% in 2024 and 1.6% in 2025. In the UK, inflation is expected to be 2.5% in both 2024 and 2025. In the US, inflation is expected to decline to 2.9% in 2024 and 2.4% in 2025 (Figure 3).

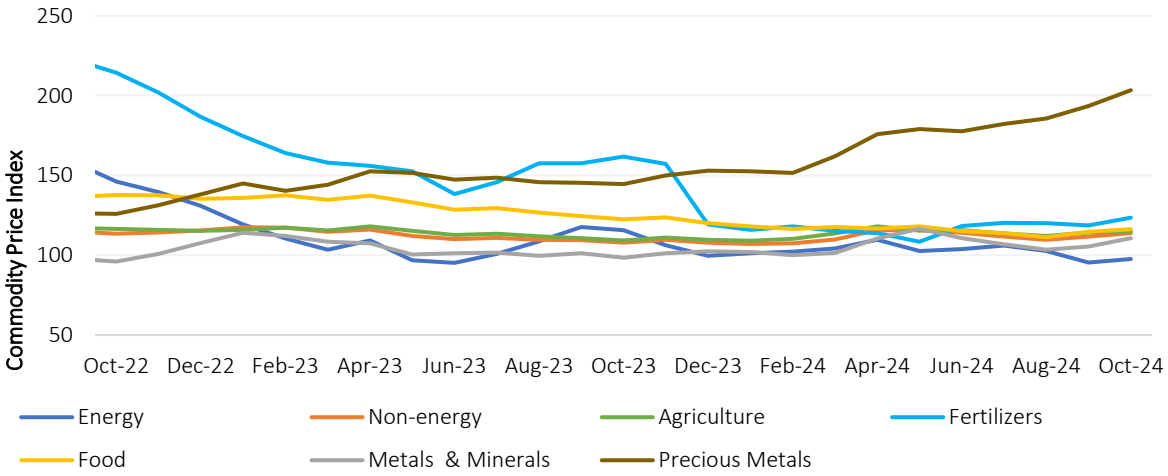
Figure 3: Inflation rates



Source: GECF Secretariat based on data from Oxford Economics

In October 2024, commodity prices in the energy sector reversed losses of the previous month. The energy price index experienced an increase of 2% m-o-m, however remained 16% lower y-o-y. This was mainly driven by rising oil and gas prices during the month. Similarly, the non-energy price index experienced increases of 2% m-o-m and 6% y-o-y. Increases in the metals and minerals, and precious metals prices were the major contributors to the higher non-energy price index compared to the previous month. Additionally, the fertilizer price index also increased by 4% m-o-m, but was 24% lower y-o-y (Figure 4).

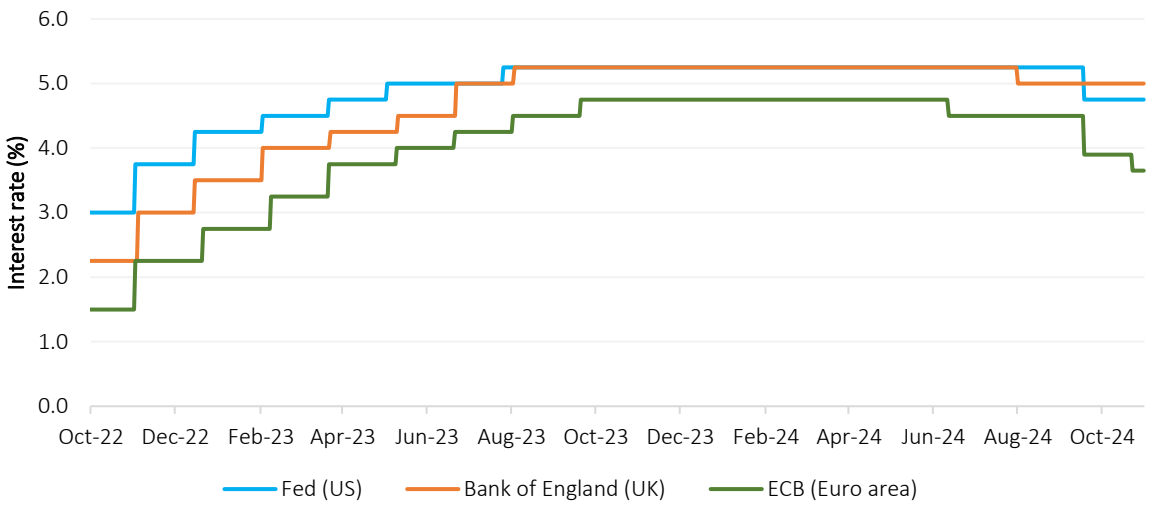
Figure 4: Monthly commodity price indices



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

In October 2024, the US Federal Reserve (Fed) maintained its benchmark interest rate within the range of 4.75% to 5.00%, following its previous interest rate cut in September 2024 (Figure 5). The European Central Bank (ECB) lowered its key interest rates by 0.25 percentage points for main refinancing operations, marginal lending facility and deposit facility rates to 3.40%, 3.65% and 3.25%, respectively on 23 October 2024. Notably, in November 2024, both the Bank of England (BOE) and the US Fed lowered their key interest rates.

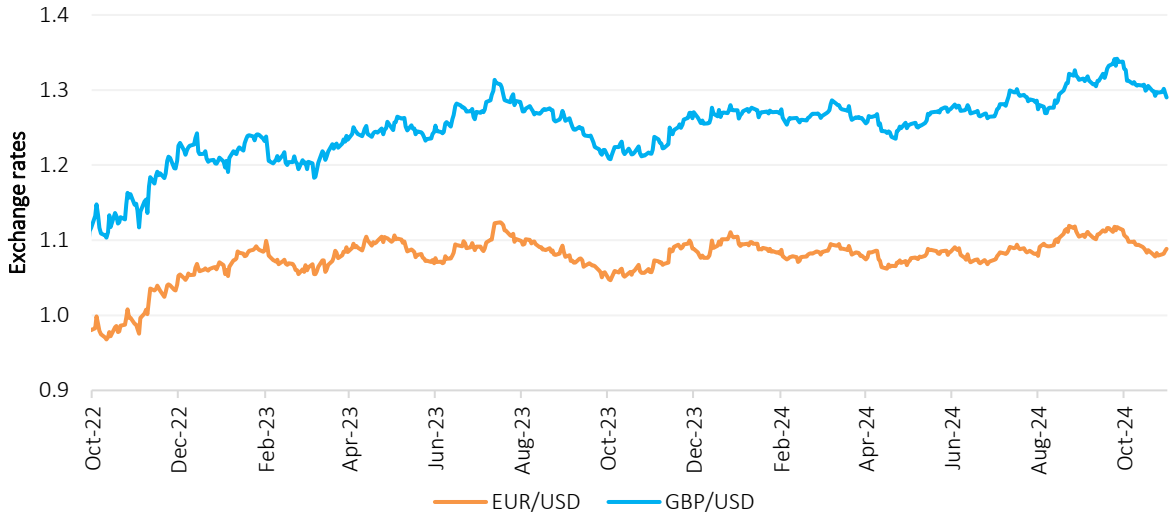
Figure 5: Interest rates in major central banks



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

In October 2024, the Euro depreciated slightly against the US dollar, resulting in an average exchange rate of $1.0898, representing a decrease of 2% m-o-m and an increase of 3% y-o-y. Similarly, the British pound depreciated against the US dollar, as the average exchange rate reached $1.3047, reflecting a decrease of 1% m-o-m and an increase of 7% y-o-y (Figure 6).

Figure 6: Exchange rates



Source: GECF Secretariat based on data from Refinitiv Eikon

1.2 Other developments

BRICS: The 16th BRICS Summit took place on 22-24 October 2024 in Kazan, Russia, under the theme of "Strengthening Multilateralism for Just Global Development and Security". In the Kazan Declaration, the leaders stated that "the efficient use of all energy sources is critical for just energy transitions towards more flexible, resilient and sustainable energy systems and in this regard we uphold the principle of technological neutrality, i.e. using all available fuels, energy sources and technologies to reduce greenhouse gas emissions which includes, but is not limited to fossil fuels with abatement and removal technologies, biofuels, natural gas and LPG, hydrogen and its derivatives, including ammonia, nuclear and renewable power, etc."

G20: The G20 Finance Ministers and Central Bank Governors' meeting took place on 23-24 October 2024. In the Communique, the ministers noted that "economic activity has proved to be more resilient than expected in many parts of the world. Still, growth has been highly uneven across countries, contributing to the risk of economic divergence. We are concerned that medium and long-term global growth prospects are below historical averages." Additionally, the leaders reaffirmed their commitment "to accelerate our efforts in advancing financial solutions to support the global fight against climate change, environmental degradation, and biodiversity loss, and fostering inclusive sustainable development, consistent with institutional mandates."

IMF & WBG: The 2024 Annual Meetings of the International Monetary Fund (IMF) and the World Bank Group (WBG) took place on 21-26 October 2024 in Washington DC, US. HE Ajay Banga, President of the World Bank Group, highlighted the goals to increase electricity access in Africa stating that "with the reforms we have implemented and others in motion, the World Bank Group is positioned to take on bigger, more ambitious projects, accelerating our mission to create a world free of poverty on a liveable planet. That is evident in M300, our goal to deliver electricity to 300 million Africans by 2030 with the African Development Bank."

World Bank: The World Bank Group published its Poverty, Prosperity and Planet Report 2024 on 15 October 2024, exploring different potential pathways out of the current polycrisis, where multiple and interconnected challenges, including slowed economic growth, increased fragility, climate risks, and heightened uncertainty, are affecting the world simultaneously. With regard to improving energy access while reducing greenhouse gas (GHG) emissions, the report highlighted that "petroleum (with other liquid fuels) and coal remain the largest sources of energy (32% each), although natural gas is catching up and accounted for one-quarter of energy production in 2022."

Additionally, the World Bank Group published the Commodity Markets Outlook 2024 on 29 October 2024. According to the report, commodity prices are expected to decline moderately over the next two years, with the energy price index dropping by 6% in 2024, with further declines in 2025 and 2026. European gas prices are projected to increase moderately to $11.5/MMBtu in 2025, before declining again to $10.5/MMBtu in 2026. In addition, the US gas prices are forecast to increase from $2.2/MMBtu in 2024 to $3.4/MMBtu in 2025 to $3.7/MMBtu in 2026. Meanwhile, coal prices are expected to fall over the next two years. The report also mentions escalating conflict in the Middle East as a substantial short-term upside risk to energy prices, with potential knock-on effects on other commodities.

UNEP: The United Nations Environment Programme (UNEP) published its Emissions Gap Report 2024 on 24 October 2024, focusing on the requirements of nationally determined contributions (NDCs) to maintain the possibility of achieving the long-term temperature goal of the Paris Agreement of limiting global warming to well-below 2°C, while pursuing 1.5°C relative to pre-industrial levels. The report highlighted that global GHG emissions in 2023 increased by 1.3% y-o-y, which is above the average rate in the decade preceding the COVID-19 pandemic (2010–2019), when GHG emissions had an average annual growth rate of 0.8%.

IMO: The 82nd Session of the Marine Environment Protection Committee (MEPC) took place on 30 September – 4 October 2024 at the International Maritime Organization (IMO) headquarters in London, UK. The session focused on critical environmental issues, including mid-term measures to reduce greenhouse gas (GHG) emissions from ships and improve energy efficiency in the shipping industry. Key topics included the development of a global marine fuel standard, which would regulate the phased reduction of GHG intensity in marine fuels, and the establishment of a maritime GHG emissions pricing mechanism.

IEEJ: The Institute of Energy Economics Japan (IEEJ) published its Outlook 2025 on 18 October 2024, presenting projections for global energy supply and demand through 2050. The report emphasized that fossil fuels will remain a dominant part of the global energy mix for decades ahead, projected to account for 73% of total energy demand by 2050. It also warns of the risks posed by underinvestment in fossil fuels, which threatens energy security and could lead to increased price volatility.

2 Gas Consumption

The projected growth in global gas consumption for 2024 has been revised upwards to 2.3%. This revision is primarily due to a faster-than-expected increase in gas consumption in key consuming countries, which together account for 60% of global gas demand. In the first nine months of 2024, gas consumption in these countries rose by 2.8% y-o-y, reaching 1,798 bcm. The growth was primarily driven by Asia and North America, while the EU and the UK experienced declines.

2.1 Europe

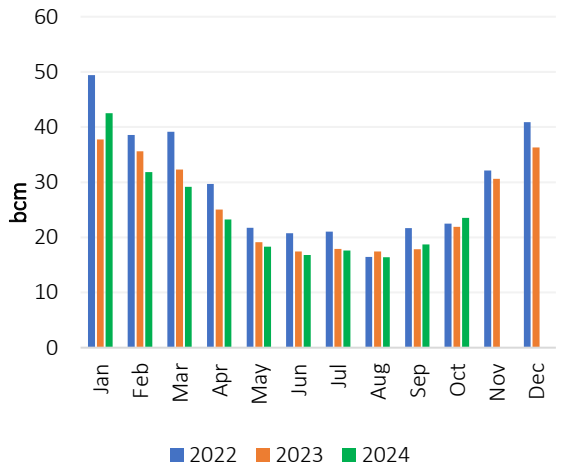
2.2.1 European Union

In October 2024, gas consumption in the EU saw a second consecutive year-on-year increase of 5.5%, reaching 23.5 bcm, following seven months of decline (Figure 7). This growth was mainly driven by the industrial sector, with a recovery in key industrialized European countries, supported by lower gas prices.

Total electricity production in the EU rose by 1% y-o-y, reaching 200 TWh, partly due to increased demand for cooling. According to the EU's climate-monitoring service Copernicus, October 2024 was the second-warmest October globally, with average surface temperatures 0.80°C above the 1991-2020 norm. Despite this, gas consumption in the electricity generation sector declined by 8% y-o-y, reflecting higher outputs from hydro, solar and nuclear power (Figure 8). The increase in hydro output was due to above-average rainfall in parts of the Iberian Peninsula, France and northern Europe. In the power generation mix, non-hydro renewables led with a 33% share, followed by nuclear at 26%, gas at 15%, hydro at 14% and coal at 12%.

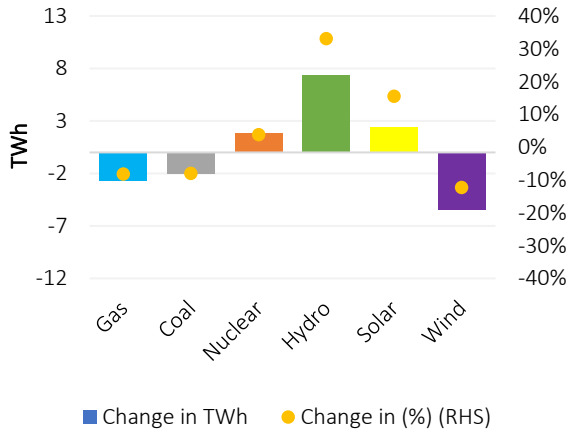
For the period Jan-Oct 2024, EU's gas consumption declined by 2% y-o-y to reach 238 bcm.

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 October 2024 (y-o-y change)



Source: GECF Secretariat based on data from Ember

2.1.1.1 Germany

In October 2024, Germany saw its second consecutive month of growth in gas consumption, signalling a return to an upward trend. Gas consumption rose by 7% y-o-y, reaching 5.7 bcm (Figure 9). This increase was largely driven by higher demand in both the industrial (Figure 10) and residential sectors.

Figure 9: Gas consumption in Germany

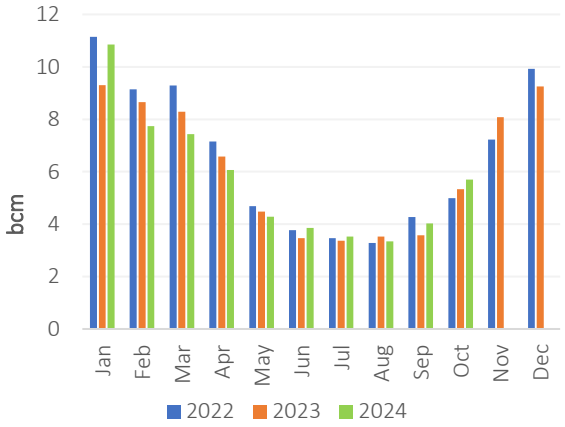
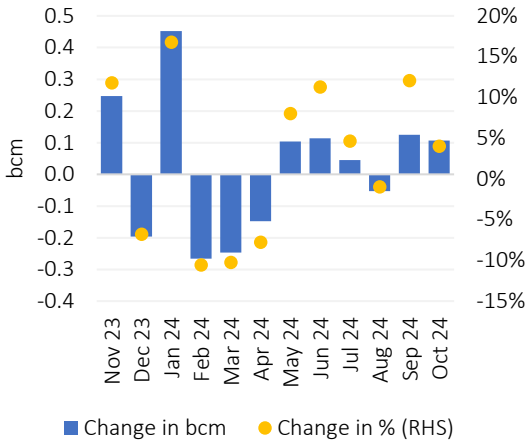


Figure 10: Trend in gas consumption in the industrial sector in Germany (y-o-y change)



Source: GECF Secretariat based on data from Refinitiv

Total electricity production declined by 8.3% y-o-y to reach 37 TWh. The average temperature in Germany was 11°C, with an anomaly of +1.53°C above the normal temperature. Gas-fired power generation saw a decrease of 1% y-o-y, reflecting higher outputs from hydro and solar power, driven by favourable weather conditions (Figure 11). In particular, certain regions of the country experienced significant precipitation, which boosted hydroelectric production. In the electricity mix, non-hydro renewables led with a 49% share, followed by coal and gas at 28% and 17%, respectively (Figure 12).

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

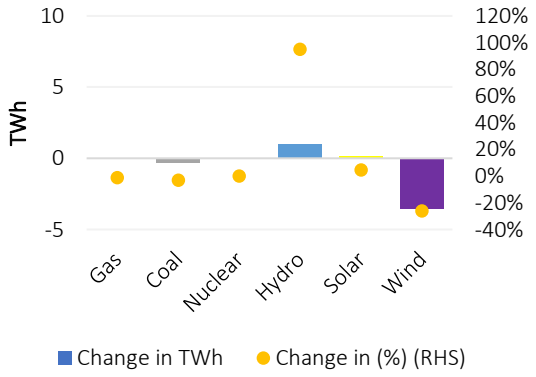
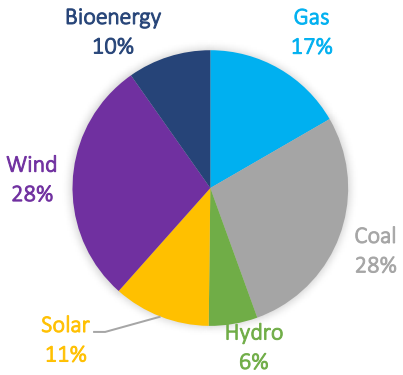


Figure 12: German electricity mix in October 2024



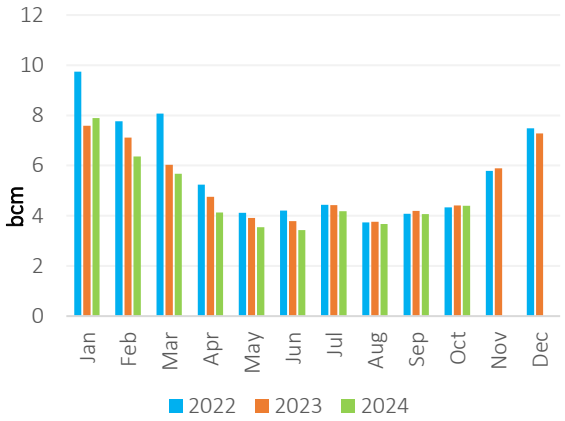
Source: GECF Secretariat based on data from Refinitiv and Ember

For the period Jan-Oct 2024, Germany's gas consumption rose by 0.5% y-o-y to 57 bcm.

2.1.1.2 Italy

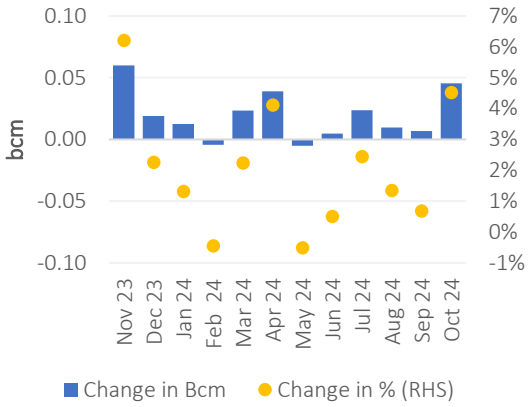
In October 2024, Italy's gas consumption remained unchanged compared with the previous year, with total consumption reaching 4.4 bcm (Figure 13). Higher consumption levels were recorded in the residential and industrial sectors. The residential sector saw a 9.4% y-o-y increase, with consumption reaching 1.4 bcm, driven by a cold spell in the northern region. In the industrial sector, gas consumption marked its fifth consecutive month of growth, rising by 4.5% y-o-y to reach 1.1 bcm (Figure 14).

Figure 13: Gas consumption in Italy



Source: GECF Secretariat based on data from Snam

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



Total electricity production dropped by 1.4% y-o-y to reach 18.5 TWh, driven by the decreased cooling demand. Gas-based electricity production declined by 11% y-o-y to 1.7 bcm, while there was a significant y-o-y increase in electricity generation from hydro (+51%) (Figure 15). Meanwhile, gas remained the dominant fuel in the power mix with 47% of the share followed by non-hydro renewables with 26% (Figure 16).

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

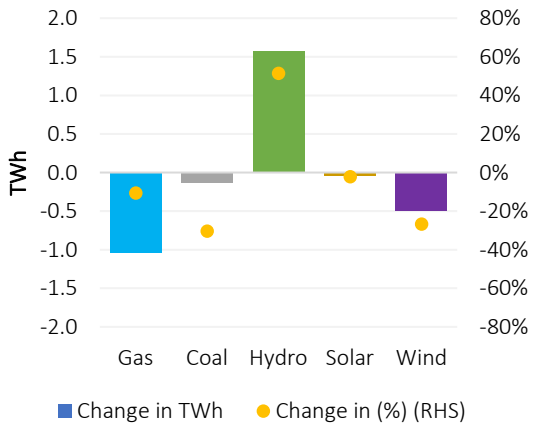
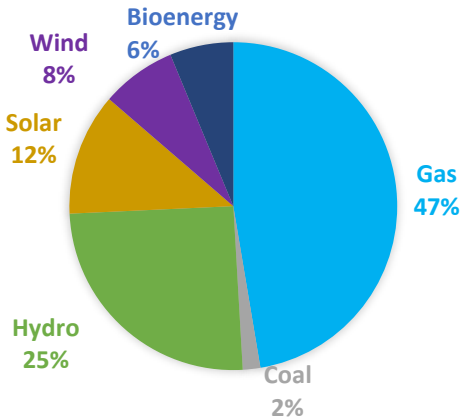


Figure 16: Italian electricity mix in October 2024



Source: GECF Secretariat based on data from Refinitiv and Ember

For the period Jan-Oct 2024, Italy's gas consumption dropped by 5.3% y-o-y to reach 47 bcm.

2.1.1.3 France

In October 2024, France experienced the second month of growth in a row for gas consumption after seven consecutive months of decline. Total gas consumption rose by 3% y-o-y to 2 bcm (Figure 17). The primary driver of this growth was the residential sector, where gas consumption increased by 18% y-o-y to reach 1.2 bcm. The industrial sector recorded a decline of 2% y-o-y, with consumption totalling 0.8 bcm (Figure 18).

Figure 17: Gas consumption in France

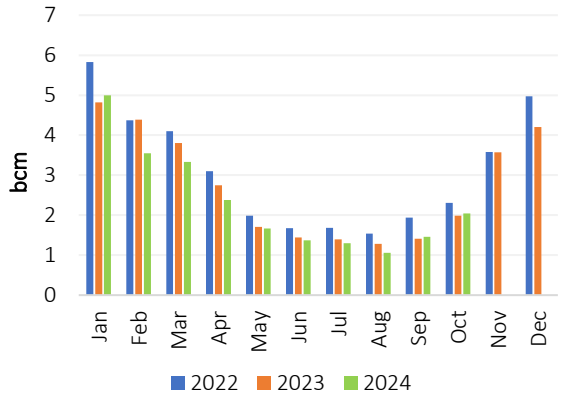
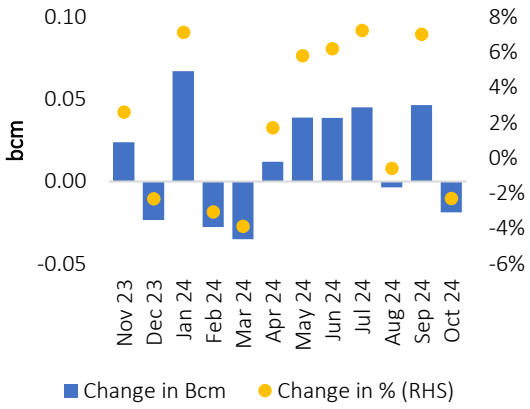


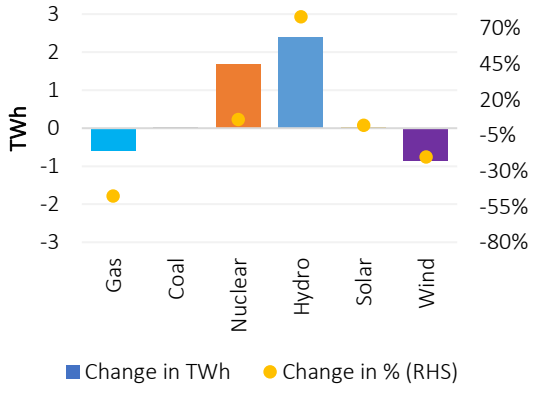
Figure 18: Trend in gas consumption in the industrial sector in France (y-o-y change)



Source: GECF Secretariat based on data from GRTgaz

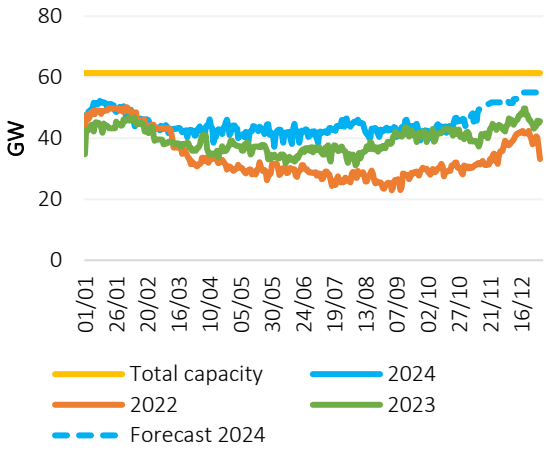
Total electricity production rose by 7% y-o-y to reach 41 TWh. October 2024 was marked by heavy rainfall, particularly in the southeast, with national precipitation levels exceeding the 1991-2020 average by 40%. Although there was a brief cold spell at the beginning of the month, temperatures generally remained mild. On average, the monthly temperature was 1.6°C above normal levels. In addition, electricity production from gas dropped by 48% y-o-y, while electricity production from hydro and nuclear witnessed increases (Figure 19). The availability of nuclear capacity increased by 2% y-o-y and 1.8% m-o-m (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 (13%), hydro (13%) and gas (2%).

Figure 19: Trend in electricity production in France in October 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

For the period Jan-Oct 2024, France's gas consumption decreased by 7% y-o-y to reach 23 bcm.

2.1.1.4 Spain

In October 2024, Spain's gas consumption decreased by 4% y-o-y to reach 2.2 bcm (Figure 21), driven by lower gas use in the power generation sector. By contrast, the industrial sector recorded a fourth month of consecutive growth at 7% y-o-y, fuelled by higher gas usage across several industries such as agro-food, refineries, metallurgy and construction (Figure 22).

Figure 21: Gas consumption in Spain

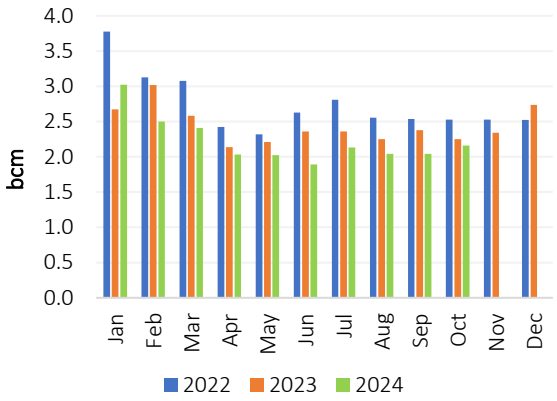
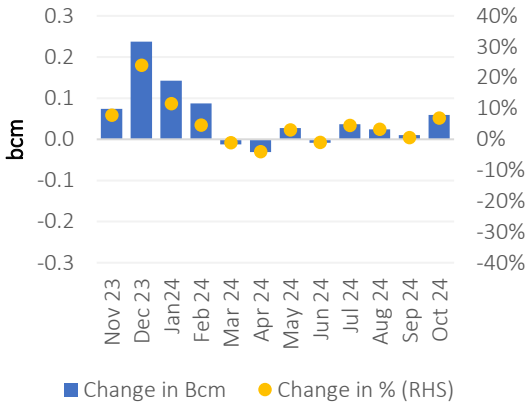


Figure 22: Trend in gas consumption in the industrial sector in Spain (y-o-y change)



Source: GECF Secretariat based on data from Enagas

Total electricity production in the country increased by 3.4% y-o-y to 19.5 TWh. Electricity generation from gas experienced a 30% y-o-y decrease, offset by a significant rise in hydro, nuclear and solar production (Figure 23). According to the national weather agency AEMET, Peninsular Spain experienced an average of 147 millimetres (mm) of rainfall this October, nearly double the typical amount for the month. This made October the wettest on record, leading to the most severe flooding the country has seen in decades, but boosting hydro output. Non-hydro renewables maintained the dominant position in the power mix, accounting for 43%, while natural gas represented 17% (Figure 24).

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

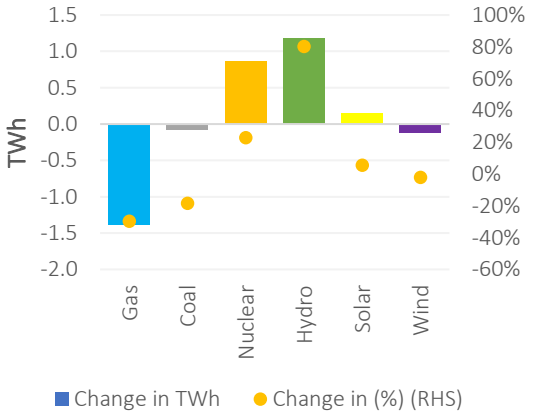
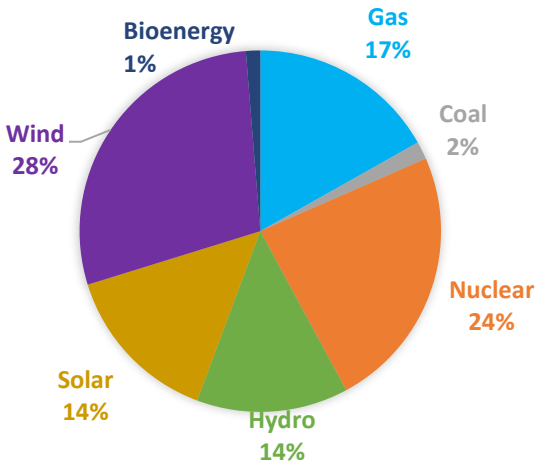


Figure 24: Spanish electricity mix in October 2024



Source: GECF Secretariat based on data from Ember and Ree

For the period Jan-Oct 2024, Spain's gas consumption decreased by 8% y-o-y to reach 22 bcm.

2.1.2 United Kingdom

In October 2024, the UK recorded its second consecutive monthly increase in gas consumption after seven months of decline, with consumption rising by 12% y-o-y to 4.6 bcm (Figure 25). The residential sector, in particular, saw significant growth of 15% y-o-y, driven by increased heating demand due to colder weather in some parts of the country. Total electricity production fell by 3.9% y-o-y to 19 TWh. In addition, electricity production from gas rose by 11% y-o-y due to weak hydro output, with the UK experiencing a drier month than usual. In the power mix, non-hydro renewables led with a 48% share, followed by gas at 35% and nuclear at 16%. Meanwhile, gas consumption in the industrial sector dropped by 30% y-o-y (Figure 26).

For the period Jan-Oct 2024, the UK gas consumption dropped by 3% y-o-y to 41 bcm.

Figure 25: Gas consumption in the UK

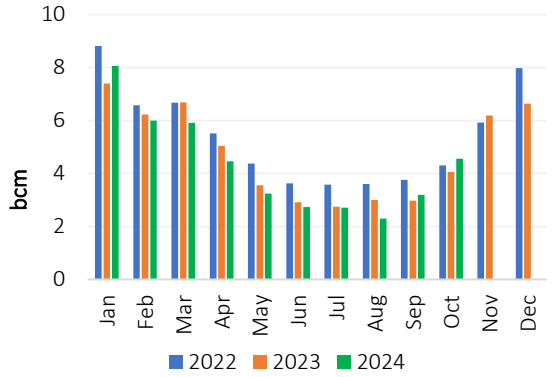
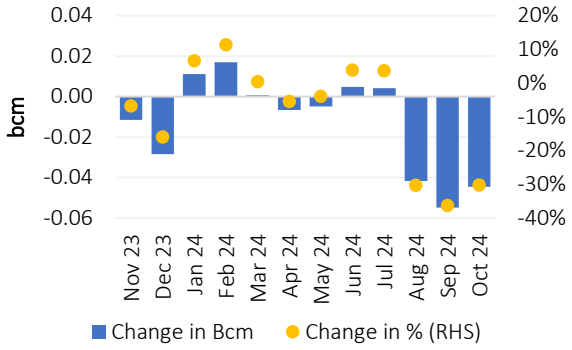


Figure 26: Trend in gas consumption in the industrial sector in the UK (y-o-y change)



Source: GECF Secretariat based on data from Refinitiv

For the period January to October 2024, aggregated gas consumption in the EU and UK decreased by 2% y-o-y (5.2 bcm) to reach 282 bcm (Figure 27). The EU was the main contributor to this decline, with a y-o-y reduction of 3.7 bcm. In addition, the region (EU+UK) recorded its second consecutive month of recovery in gas consumption following seven months of y-o-y decline (Figure 28).

Figure 27: YTD EU and UK gas consumption

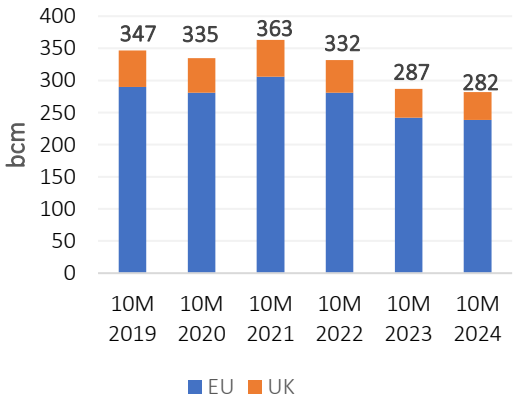
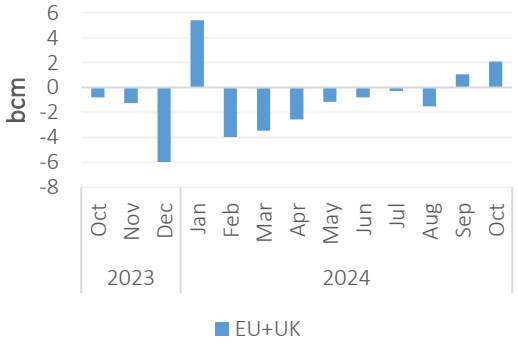


Figure 28: Y-o-y variation in EU and UK gas consumption



Source: GECF Secretariat based on data from Refinitiv

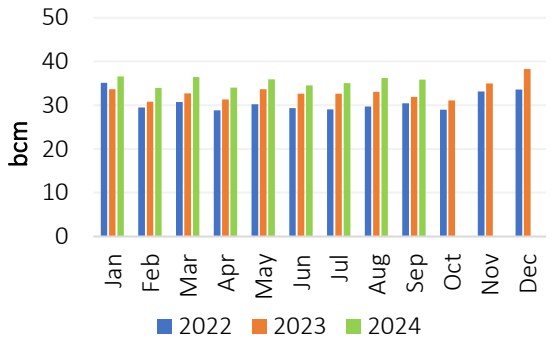
2.2 Asia

2.2.1 China

In September 2024, China's apparent gas demand, which is estimated as combined gas domestic production and imports, rose by 12% y-o-y to reach 35.8 bcm (Figure 29). This increase is primarily attributed to the surge in demand from LNG-powered trucks, which was 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. Gas-fired power output rose by 10% y-o-y, with prolonged hot weather in the southwest region increasing power demand for cooling (Figure 30).

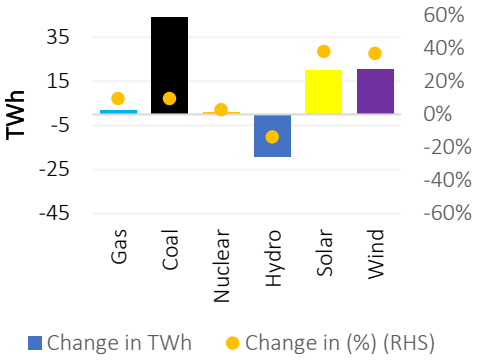
In the first 9 months of 2024, Chinese gas consumption increased by 9% y-o-y to 319 bcm.

Figure 29: Gas consumption in China



Source: GECF Secretariat based on data from Refinitiv

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



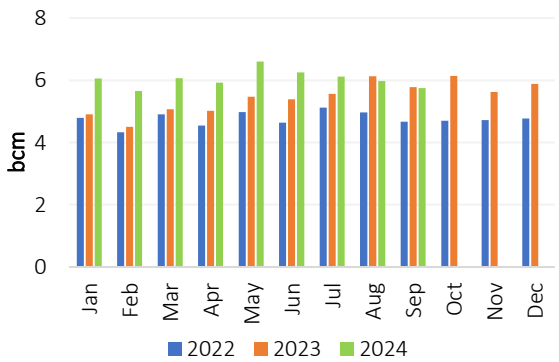
Source: GECF Secretariat based on data from Ember

2.2.2 India

In September 2024, India's gas consumption fell by 0.5% y-o-y to 5.8 bcm, marking its second decline after over a year and a half of consecutive 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 (22%), power generation (12%), refining (8.6%) and the petrochemical sector (4%) (Figure 32).

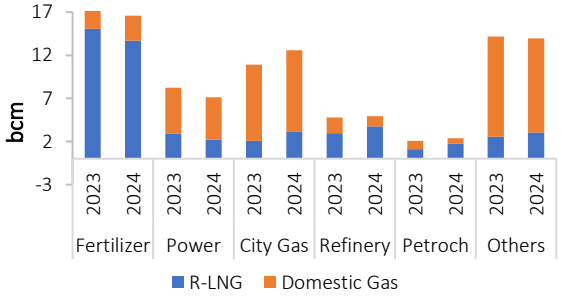
In the first 9 months of 2024, India's gas consumption increased by 14% y-o-y to 54 bcm.

Figure 31: Gas consumption in India



Source: GECF Secretariat based on data from PPAC

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

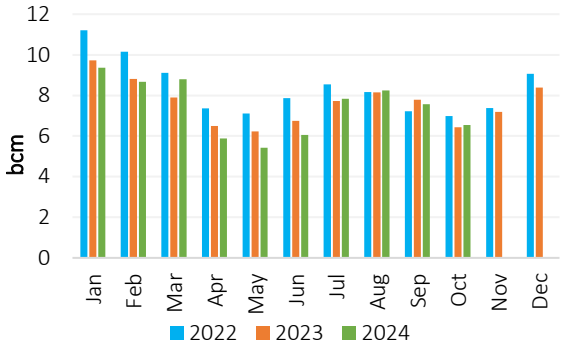


2.2.3 Japan

In October 2024, Japan's gas consumption increased by 1.8% y-o-y to 6.5 bcm (Figure 33). The national temperature anomaly was +2.2°C, making it the hottest October on record, which resulted in increased gas-fired power demand for cooling, amidst reduced nuclear output because of unplanned reactor outages and decreased coal-fired production.

In the first 10 months of 2024, Japan's gas consumption dropped by 2% y-o-y to 74 bcm.

Figure 33: Gas consumption in Japan



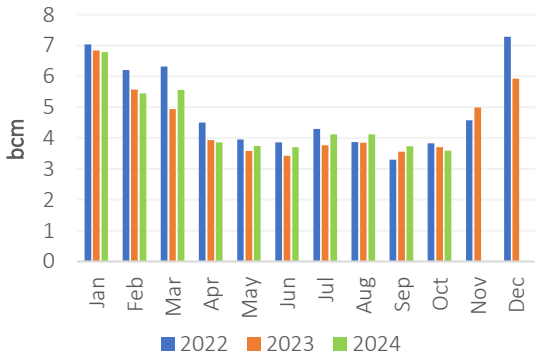
Source: GECF Secretariat based on data from Refinitiv

2.2.4 South Korea

In October 2024, South Korea's gas consumption decreased by 3.3% y-o-y to 3.6 bcm (Figure 34). The decrease was driven by a decline in the power generation and residential/ commercial sectors. The average temperature was 16.1°C with an anomaly of +1.8°C. No month in 2023 or 2024 was colder than average.

In the first 10 months of 2024, South Korea's gas consumption rose by 3% y-o-y to 45 bcm.

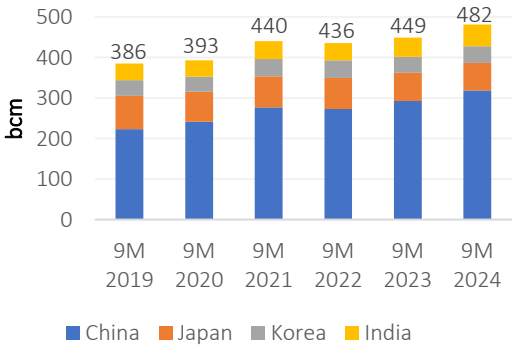
Figure 34: Gas consumption in South Korea



Source: GECF Secretariat based on data from Refinitiv

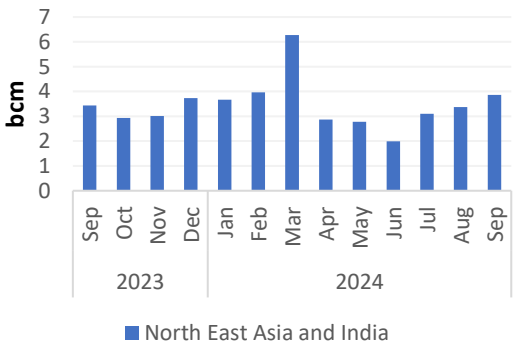
From January to September 2024, aggregated gas consumption in major Asian gas consuming countries, in particular China, India, Japan and South Korea, rose by 7% y-o-y (33 bcm) to reach 482 bcm (Figure 35). China was the leading contributor, with an additional 26 bcm, followed by India with an increase of 7 bcm. The region recorded the eighteenth 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



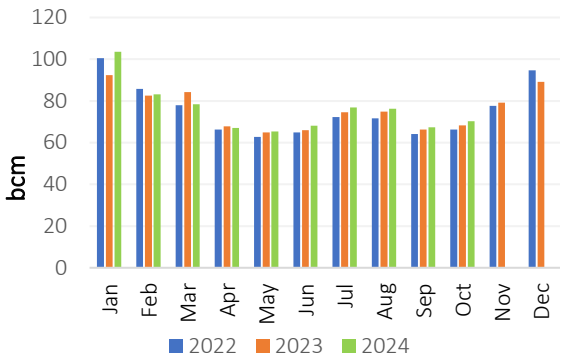
2.3 North America

2.3.1 US

In October 2024, US gas consumption increased by 2.8% y-o-y to 70 bcm (Figure 37). Gas-fired power generation witnessed a 2.4% y-o-y increase, while overall power output rose by 0.7% y-o-y. In the power mix, gas continued to lead with a 44% share. Similarly, the industrial and commercial sectors rose by 1% and 0.7% y-o-y, respectively.

In the first 10 months of 2024, US gas consumption increased by 1.9% y-o-y to reach 756 bcm.

Figure 37: Gas consumption in the US



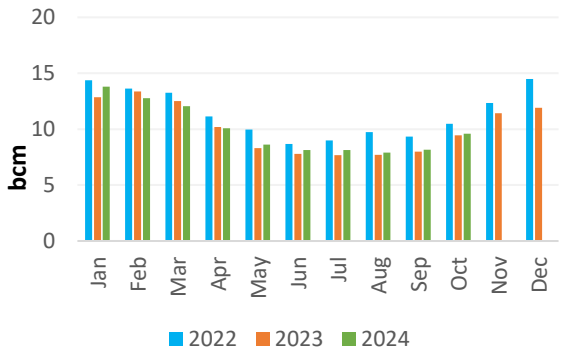
Source: GECF Secretariat based on data from EIA, Ember and Refinitiv

2.3.2 Canada

In October 2024, Canada's gas consumption rose by 1.7% y-o-y to reach 9.6 bcm (Figure 38). This rise was driven by the power generation/ industrial sectors, whilst the residential and commercial sectors recorded a decline of 3% and 1.3% y-o-y, respectively.

In the first 10 months of 2024, Canada's gas consumption rose by 1.4% y-o-y to reach 99 bcm.

Figure 38: Gas consumption in Canada



Source: GECF Secretariat based on data from Refinitiv

For the period January to October 2024, gas consumption in North America (US, Canada and Mexico) rose by 1.6% y-o-y (14.4 bcm) to reach 892 bcm (Figure 39). The US was the leading contributor, with an additional 14 bcm, followed by Canada with an increase of 1.4 bcm. However, Mexico recorded a decline of 1.9 bcm. The region recorded the fifth consecutive month of y-o-y growth (Figure 40).

Figure 39: YTD North American gas consumption

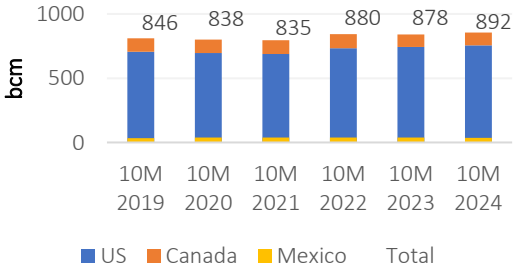
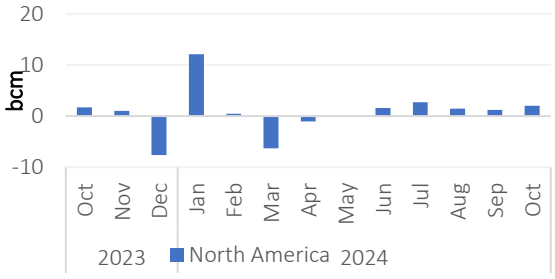


Figure 40: Y-o-y variation in North American gas consumption



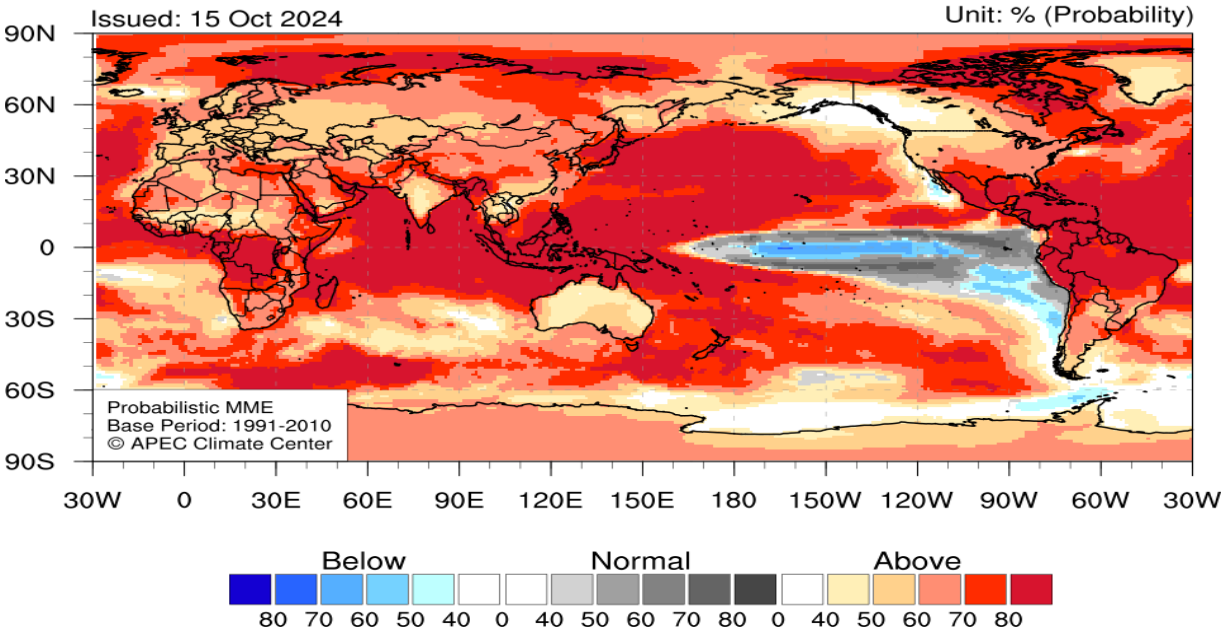
Source: GECF Secretariat based on data from EIA and Refinitiv

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 November 2024 to January 2025 (Figure 41).

Figure 41: Temperature forecast November 2024 to January 2025

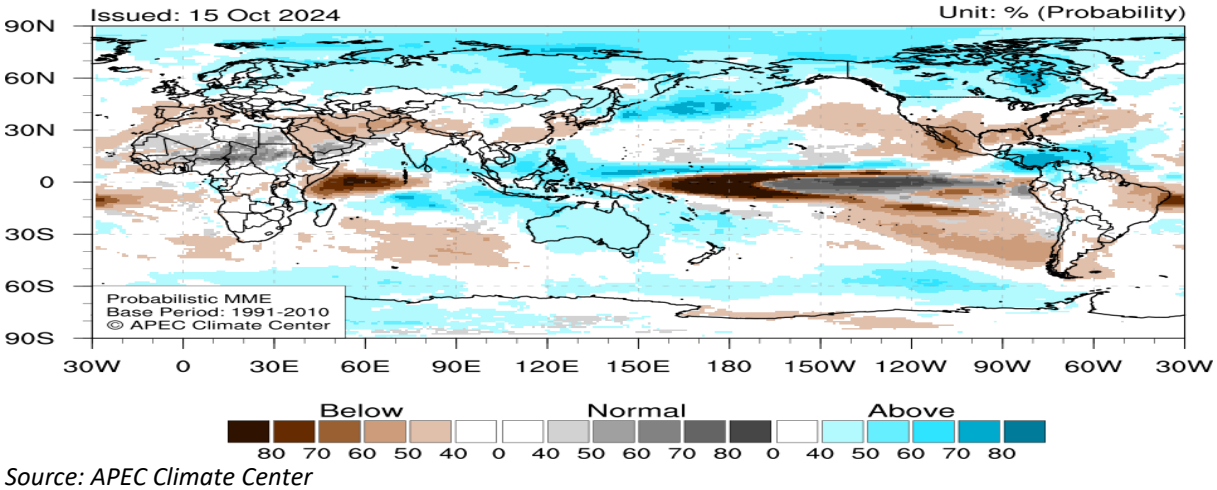


Source: APEC Climate Center

According to the same source, above normal precipitation is predicted for the Arctic, the northern North Pacific, region spanning the South China Sea to the western off-equatorial North Pacific, the Caribbean Sea, Canada, Alaska, Australia, and the Antarctic Ocean.

Strongly enhanced probability for below normal precipitation is predicted for the western equatorial Pacific, the off-equatorial central Pacific, the eastern subtropical South Pacific, northeastern South America, Mexico, and the western Indian Ocean for the period November 2024 to January 2025 (Figure 42).

Figure 42: Precipitation forecast November 2024 to January 2025



Source: APEC Climate Center

2.4.2 Sectoral developments

Baker Hughes releases its energy outlook: At the Third Quarter 2024 Earnings Call, the Baker Hughes Company announced that the company anticipates global primary energy demand to grow by 10% by 2040, driven by population growth and increasing energy intensity across major developing countries. CEO of the company, Lorenzo Simonelli, highlighted that "in our view, natural gas is a clear winner. It is abundant, low cost, and has lower emissions. This is the age of gas. By 2040, we expect natural gas demand to grow by almost 20% and global LNG demand to increase at an even faster rate of 75% ... We are experiencing a significant increase in gas infrastructure equipment orders and anticipate this trend will continue as many developing economies look to increase the use of natural gas within power generation and industrial applications."

United Kingdom phases out coal: The UK shut down its last coal-fired power plant (Ratcliffe-on-Soar plant with 2 GW capacity), becoming the first G7 nation to phase out coal. The closure concluded 142 years of coal-fired generation in the country. The share of coal in the UK's power mix gradually decreased from 80% of in the 1980s to 40% in 2012. However, over the past decade, it declined sharply due to carbon taxes and the rise of renewables, while the share of natural gas rose modestly to 32%.

Thailand commissions gas-fired power plant: Thailand's Gulf Energy Development officially launched a major 5,300 MW gas-fired power plant, marking a significant milestone in the country's energy infrastructure. The plant utilizes advanced combined cycle gas turbine (CCGT) technology, which improves efficiency by using both gas and steam turbines. This technology allows for a higher conversion of natural gas into electricity, making the plant more efficient and environmentally friendly compared to traditional power plants. The plant, which is part of Gulf Energy's efforts to expand its energy generation capacity, will play a key role in supporting Thailand's growing energy demand and enhancing grid reliability.

Saudi Arabia launches tenders for new gas-fired power plants equipped with CCS: Saudi Arabia's Minister of Energy announced plans to tender 6 GW of gas-fired combined cycle gas turbine (CCGT) power plant projects with carbon capture and storage (CCS) technology in 2025. These projects are part of a broader initiative to modernize existing power plants and develop new high-efficiency, CCS-ready CCGT plants. As part of its long-term energy strategy, the Kingdom aims to add 42 GW of new CCS-ready CCGT capacity by 2030.

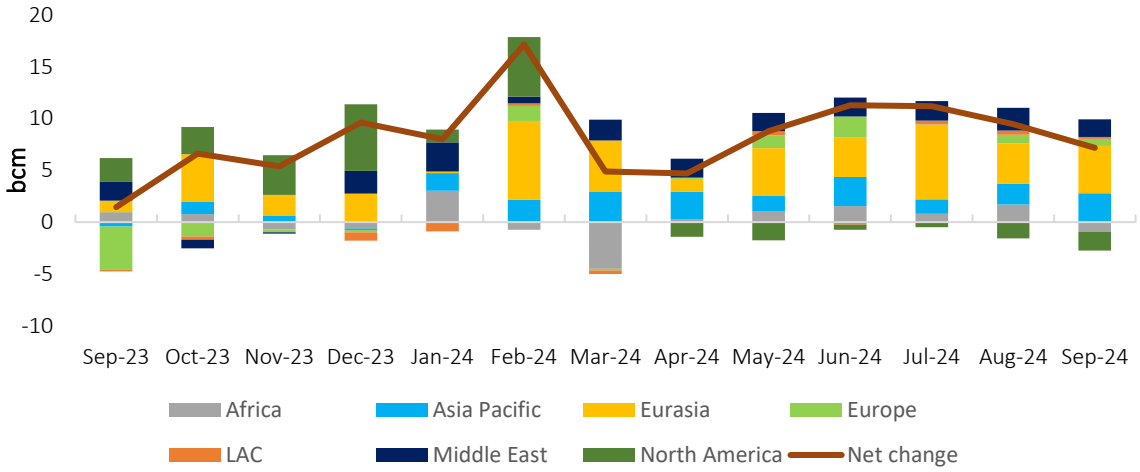
Oman develops LNG bunkering infrastructure: Marsa LNG, a partnership between TotalEnergies and Oman's OQ Group, is set to start constructing an LNG terminal with a capacity of 1 Mtpa, whose LNG output will be primarily used for bunkering LNG-fuelled vessels. The terminal, which is touted as the first fully electric-powered LNG plant in the region, will be equipped with LNG storage tanks and bunkering stations, which enable the transfer of LNG to ships using ship-to-ship bunkering methods. The terminal will bunker different types of vessels on their journeys through the Arabian Sea and the Gulf of Oman.

3 Gas Production

In September 2024, global gas production was estimated to have increased by 2.1% y-o-y to stand at the level of 339 bcm. All the main producing regions, especially Eurasia and Asia Pacific, showed a positive production trend, except for Africa, which was impacted by the decline in some of its major producers, and North America, which witnessed a decline of 1.9 bcm, driven by the lower gas output in the US (Figure 43).

From a regional perspective, North America kept its leading position as the top producing region, accounting for 31% of global gas production, followed by the Eurasia and Middle East each with 19% each, while Europe held the lowest share with 3.8% (Figure 44).

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



Source: GECF Secretariat estimation

In the first nine months of 2024, global gas production was estimated to have increased by 2.6% y-o-y to stand at 3,120 bcm (Figure 45). This growth was mainly driven by an increase in Russia's production to meet rising domestic consumption and to support growing pipeline gas exports to China as well as recovering pipeline gas supply to the EU. In addition, the growth in gas supply in the Middle East, specifically in Saudi Arabia, Iran and Qatar, is a major positive factor on global gas production in 2024.

The projected growth of global gas production for the year 2024 has been revised up to 2.5%, driven by a stronger-than-expected gas output in the Middle East.

Figure 44: Regional gas production in Sep 2024

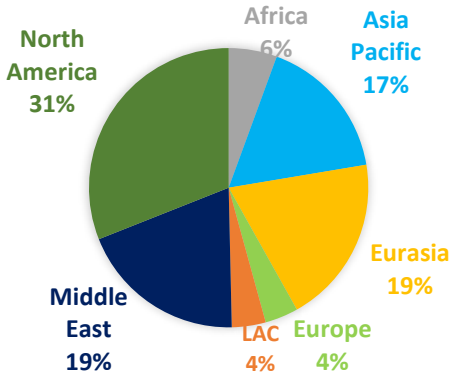
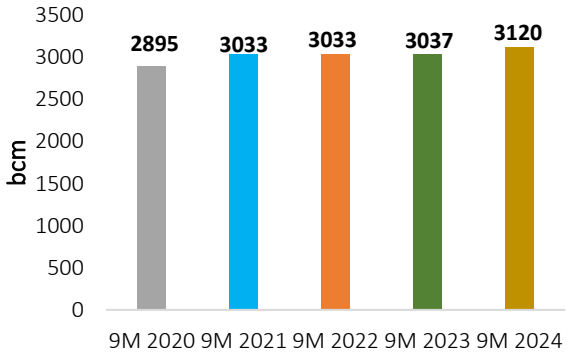


Figure 45: YTD global gas production



Source: GECF Secretariat estimation

3.1 Europe

In September 2024, Europe recorded a 5.5% y-o-y rise, culminating in a total output of 11.7 bcm (Figure 46). This increase primarily originated from the effect of the historical low monthly output in September 2023, as a result of the extended period of planned maintenance in Norway, along with the rise in Türkiye's gas output, specifically with the production ramp up of the Sakarya gas field in the Black Sea. However, the magnitude of the production rise was counteracted by the reduction in the UK's and the EU's output levels, mainly in the Netherlands and Germany (Figure 47). It is worth noting that in September 2024, Romania became the largest gas producer in the EU, with a monthly output of 0.7 bcm, overtaking the Netherlands.

Figure 46: Europe's monthly gas production

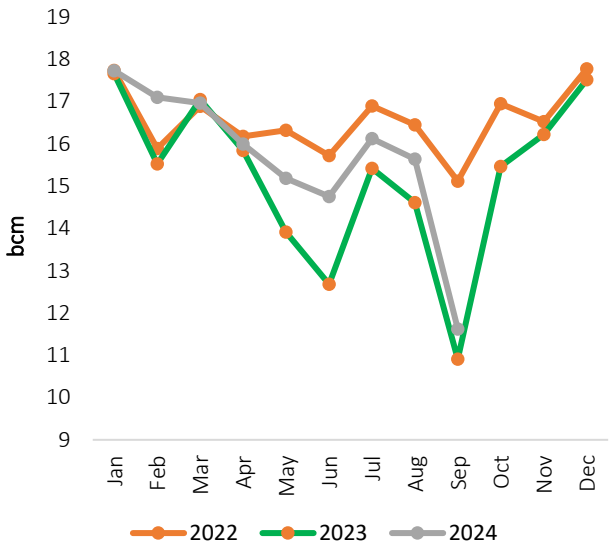
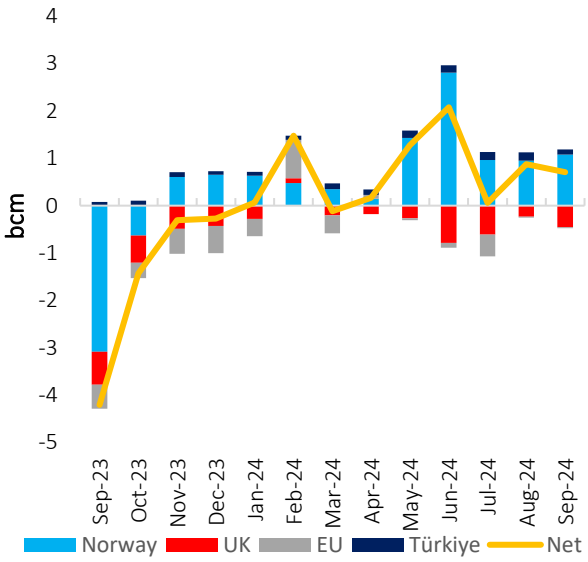


Figure 47: Y-o-y variation in Europe's gas production



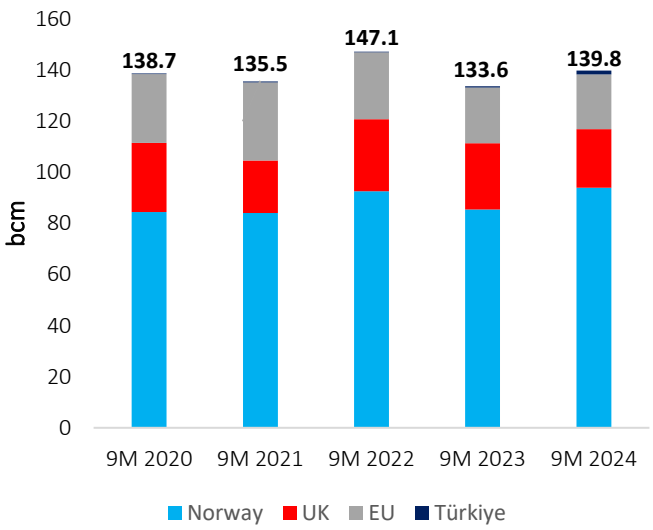
Source: GECF Secretariat based on data from Refinitiv, the Norwegian Offshore Directorate and JODI Gas
Note: EU countries include Austria, Denmark, Germany, Italy, Netherlands, Poland and Romania

From January to September 2024, the aggregated gas output in Europe reached 139.8 bcm (Figure 48), representing an uptick of 4.7%, when compared with the production level during the same period in 2023, and was also the second highest output in the last 5-year period, after 2022.

Norway was the main driver for the European gas production increase in this period, representing two thirds of the cumulative European production.

Meanwhile, a continuous decline in the UK's and Netherlands' gas output was recorded.

Figure 48: YTD Europe's gas production



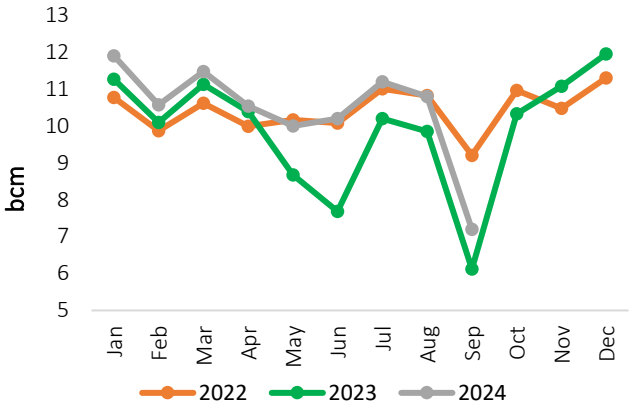
Source: GECF Secretariat based on data from Refinitiv, the Norwegian Offshore Directorate and JODI Gas

3.1.1 Norway

Norway's gas production recorded a 9.9% y-o-y rise to stand at the level of 7.2 bcm (Figure 49). This increase was attributed to the effect of the base month, with September 2023 recording a historical low monthly output. September is considered the upstream planned maintenance period in Norway, which results in reduced outputs from the major producing field. Notably, the 133 mcm/d Troll gas field underwent planned maintenance, which slashed its production by 120 mcm/d for 3 days.

In Jan-Sep 2024, cumulative gas production reached 94.3 bcm, a 9.3% y-o-y increase.

Figure 49: Trend in gas production in Norway



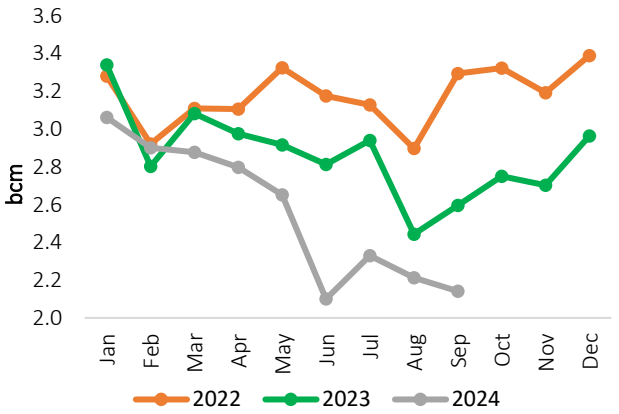
Source: GECF Secretariat based on data from the Norwegian Offshore Directorate

3.1.2 UK

The UK gas production continued its declining trend to stand at 2.1 bcm, representing a 21% y-o-y decline (Figure 50). Planned outages in the 10.2 mcm/d Bacton Perenco field and the 5.5 mcm/d Bacton SEAL gas terminal reduced their production capacities for periods of 4 and 2 days, respectively.

In Jan-Sep 2024, aggregated gas production stood at 23.1 bcm, representing an 11% y-o-y decline, driven by the continuous reduction in output from the mature UK fields and absence of new gas supply.

Figure 50: Trend in gas production in the UK



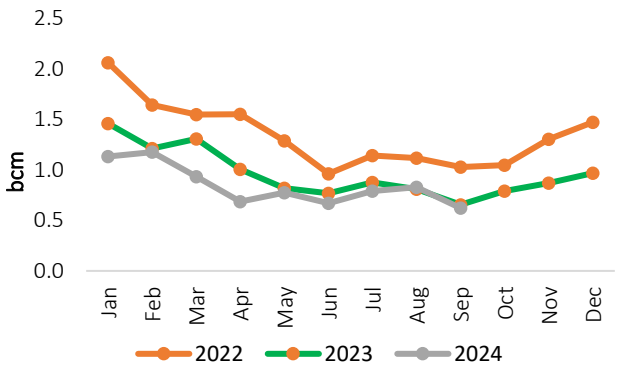
Source: GECF Secretariat based on data from Refinitiv

3.1.3 Netherlands

The Netherlands gas output witnessed a 5% y-o-y decline to stand at the level of 0.62 bcm (Figure 51).

In Jan-Sep 2024, cumulative gas production reached 7.6 bcm, representing a 14% y-o-y decline. This production decline from the ageing Dutch fields is more likely to continue in the coming years, especially with the lack of new gas project startups.

Figure 51: Trend in gas production in the Netherlands



Source: GECF Secretariat based on data from Refinitiv

3.2 Asia Pacific

In September 2024, gas output in Asia Pacific was estimated to stand at 57 bcm (5.0% y-o-y rise), with YTD gas production (Jan-Sep 2024) at the level of 524 bcm (3.9% y-o-y surge). This uptick was driven by significant growth in the Chinese gas production.

3.2.1 China

In September 2024, China's gas production rose by 8% y-o-y to reach 19.3 bcm (Figure 52). Coal bed methane production continued its sustained growth to culminate in an output of 1.4 bcm, with a 23% y-o-y surge. Notably, CNOOC brought on stream its deepwater Shenhai-1 phase II gas development project in the northern part of the South China Sea. The field is projected to reach its peak production in 2025, at 1.7 bcma. In the first nine months of 2024, China's gas production rose by 7.2% y-o-y to reach a record high of 183.1 bcm (Figure 53).

Figure 52: Trend in gas production in China

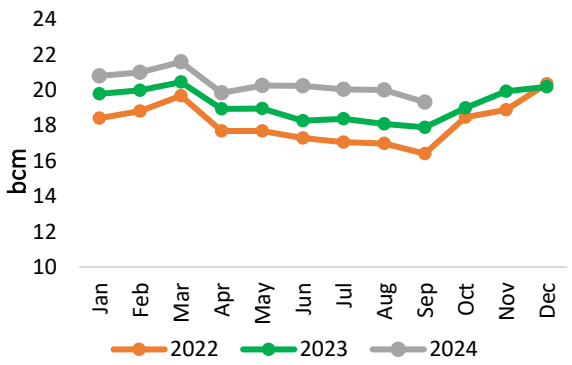
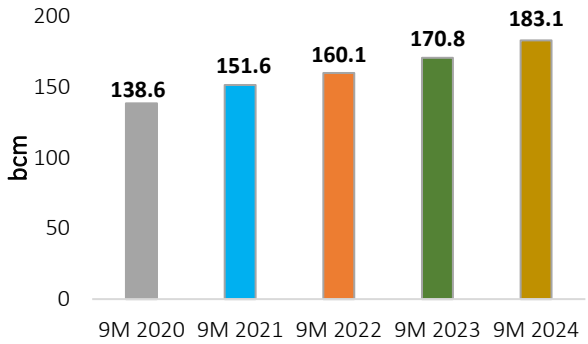


Figure 53: YTD China's gas production



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

3.2.2 India

In September 2024, India's gas production fell by 1.4% y-o-y, marking the second consecutive month of decline, and totalled 3 bcm (Figure 54). The decline was mainly driven by the reduction of onshore gas output, specifically from the Rajasthan field, however this effect was partially counterbalanced by a rise in the offshore gas production, which represented 73% of total gas production. CBM gas fields recorded a 17% y-o-y rise, mainly from the West Bengal field. In the first nine months of 2024, cumulative gas production rose by 3.9% y-o-y to reach 26.9 bcm, driven by the rejuvenation of some mature gas fields (Figure 55).

Figure 54: Trend in gas production in India

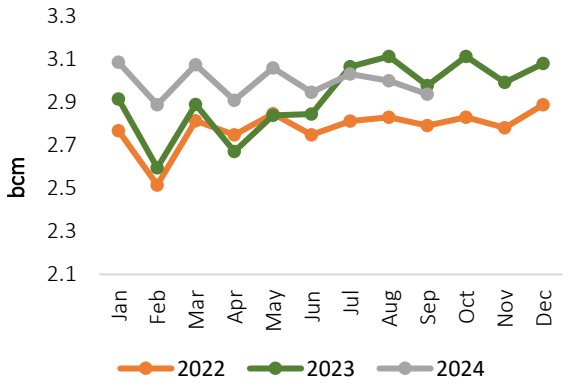
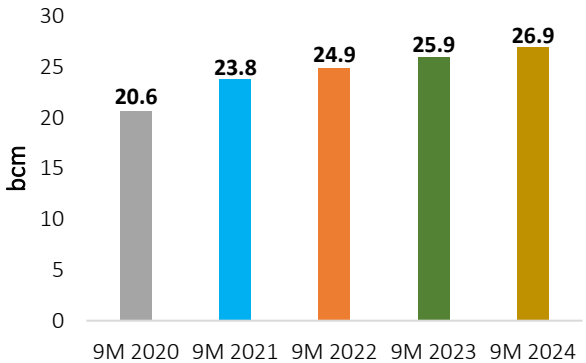


Figure 55: YTD India's gas production



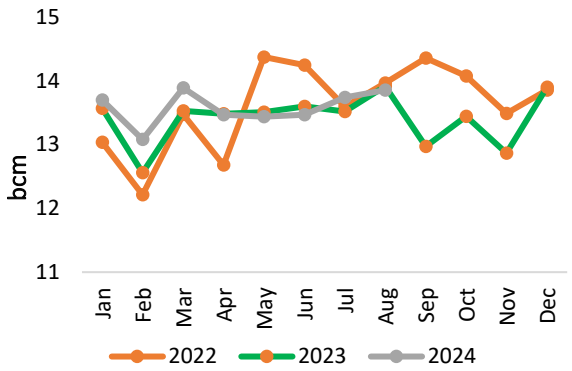
Source: GECF Secretariat based on data from the Ministry of Petroleum and Natural Gas (PPAC)

3.2.3 Australia

In August 2024, Australia's gas production recorded a slight decline of 0.4% y-o-y to stand at 13.8 bcm (Figure 56). Gas production from CBM fields achieved a historical record high output of 3.6 bcm, while accounting for 26% of total domestic production. Australia kept the position of the leading CBM producer globally. It is worth noting that Australia is ramping up its exploration activities, with 13 new blocks awarded in 2024, covering 13,000 km^2.

In Jan-Aug 2024, cumulative gas output rose by 1% y-o-y to reach 108.6 bcm.

Figure 56: Trend in gas production in Australia



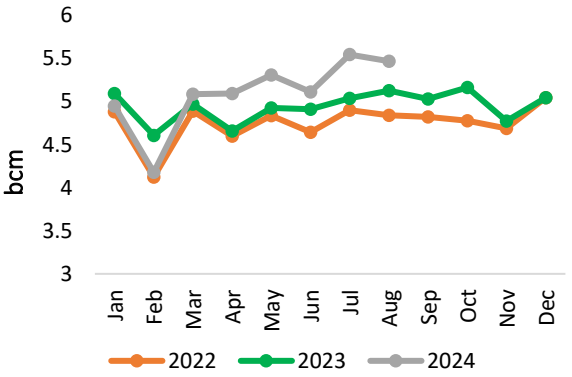
Source: GECF Secretariat based on data from the Australian Department of Energy

3.2.4 Indonesia

In August 2024, Indonesia's gas production increased by 6.6% y-o-y to reach 5.4 bcm. However, it was still below the monthly record set in July 2024, the highest in the past five years (Figure 57).

In Jan-Aug 2024, cumulative gas production rose by 3.6% y-o-y to stand at 40.7 bcm. This was driven by the startup of multiple gas projects, with 9 new gas producing fields, with aggregated volume of 3 bcma, brought on stream in 2024.

Figure 57: Trend in gas production in Indonesia



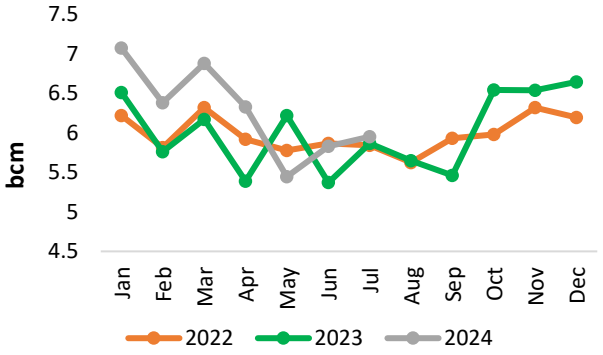
Source: GECF Secretariat based on data from Indonesia's upstream regulator (SKK Migas) and JODI Gas

3.2.5 Malaysia

In July 2024, Malaysia's gas production was estimated to stand at 5.9 bcm, representing a 1.4% y-o-y increase (Figure 58). Notably, Petronas and TotalEnergies announced the production startup from the Jerun gas field, offshore Sarawak, with a production capacity of 5.7 bcma, to be supplied mainly to Bintulu LNG export terminal.

In Jan-Jul 2024, cumulative gas production increased by 6.3% y-o-y to reach 43.9 bcm.

Figure 58: Trend in gas production in Malaysia



Source: GECF Secretariat based on data from the JODI Gas

3.3 North America

In September 2024, gas production in North America (including Mexico) reached 105 bcm, representing a decline of 2.1% y-o-y, driven by the reduced gas output in the US. However, the North American YTD gas production (Jan- September 2024) was estimated to stand at the level of 968 bcm, which is the same level as 2023.

3.3.1 US

In October 2024, US total gas production continued its downward trend with a 0.8 % y-o-y reduction, to culminate a monthly output of 90.6 bcm (Figure 59). This reduction in the US output reflected the combined effect of the Hurricane Milton, which resulted a temporary shut-in for multiple Gulf of Mexico (GoM) gas production platforms, along with the effect of production cuts by some major producers, in response to low Henry Hub gas prices. In terms of supply distribution, the US shale gas production accounted for 79% of total US gas production, while the rest comes from Alaska and GoM. The Appalachia region accounted for 30% of total gas production, while the Permian region output, including associated gas, represented 22.5%. Shale gas production from the Haynesville region recorded the largest decline in the main producing regions, followed by the GoM.

Additionally, for the period January to October 2024, US cumulative gas production increased by 0.2% y-o-y to reach 889 bcm, representing a 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.

Figure 59: Trend in gas production in the US

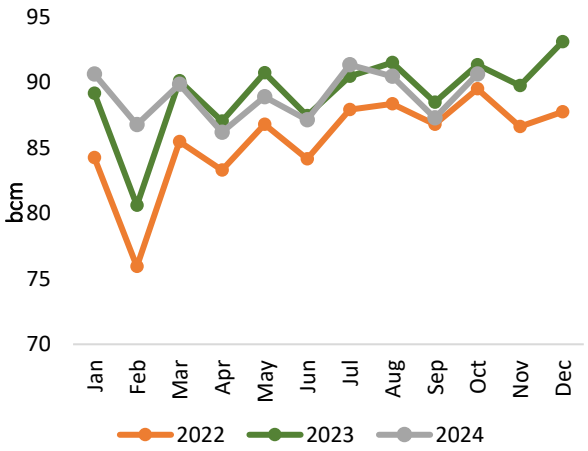
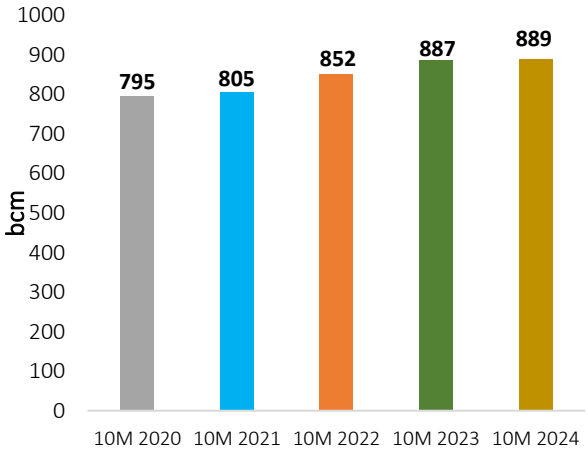


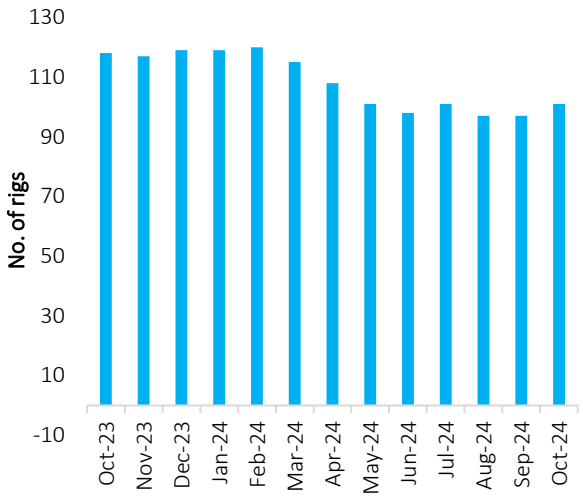
Figure 60: YTD gas production in the US



Source: GECF Secretariat based on data from the US EIA

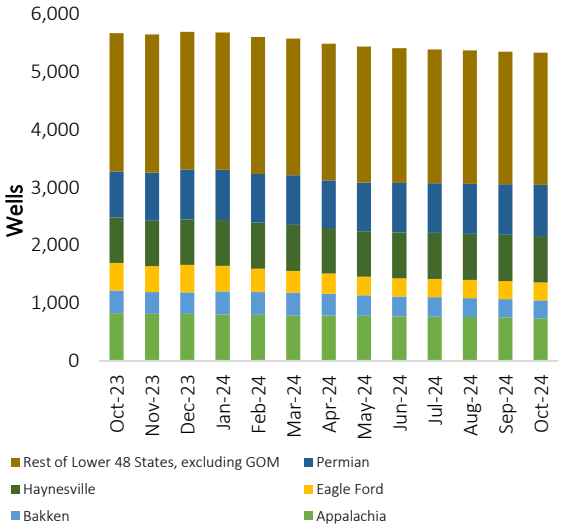
As of October 2024, the number gas drilling rigs operating in the key shale gas regions and GoM in the US stood at 101, representing a 4-well m-o-m rise, driven by an increase in number of rigs in the Permian basin (Figure 61), which accounted for the major share of the current drilling fleets with 54%. Additionally, in October 2024, the total number of drilled but uncompleted (DUC) wells in the seven major regions amounted to 5,334, marking a 19-well m-o-m decrease (Figure 62) and 339 well lower than October 2023. It is worth noting that 2024 witnessed a clear trend of decline in the number of DUCs, driven by the low Henry Hub prices, which increased gas producers' reliance on their inventory of DUCs, in an attempt to reduce production cost.

Figure 61: Gas rig count in the US



Source: GECF Secretariat based on data from Baker Hughes

Figure 62: DUC wells count in the US

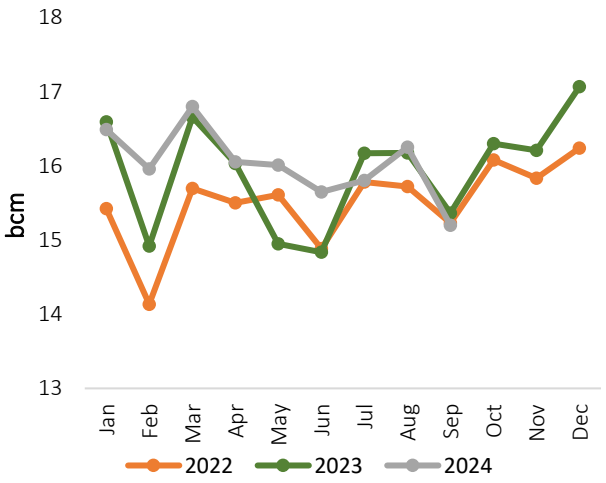


Source: GECF Secretariat based on data from the US EIA

3.3.2. Canada

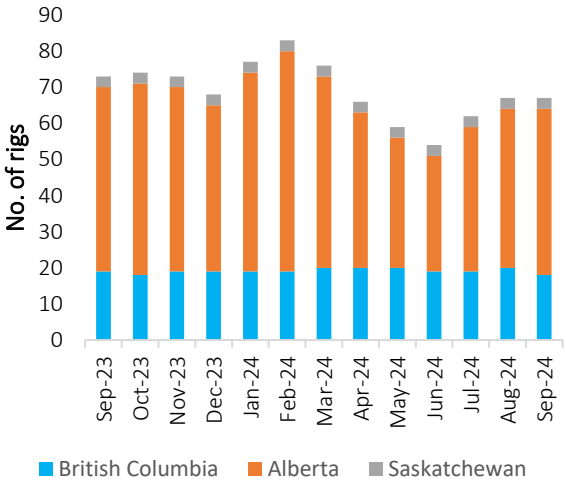
In September 2024, Canada's gas production nearly mirrored the same level of September 2023 to stand at 15.3 bcm, (Figure 63), mainly originating from the growth of the associated gas output from tight oil plays. From a regional perspective, Alberta produced 9.1 bcm, mainly from an increase in the Bakken shale output, while British Columbia produced 5.8 bcm, with rise of tight gas/tight oil production from Montney basin being the main source of this output. For the first nine months of 2024, cumulative gas production in Canada reached 144.2 bcm, representing a 2% y-o-y surge. With this level of output, Canada is projected to be one of the drivers of the global gas supply growth in 2024, counterbalancing the reduction of the US. For the gas drilling activity, September 2024 witnessed a monthly increase of 2 rigs in Alberta, while BC decreased by 2 units 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: Gas rig count in Canada



Source: GECF Secretariat based on data from Refinitiv

3.4 Latin America and the Caribbean (LAC)

In September 2024, gas production in LAC was estimated at 12.4 bcm (1.2% y-o-y rise), mainly driven by the increase in gas output of Argentina, Brazil and Venezuela. In addition, YTD gas production (Jan-Sep 2024) was estimated at 116.8 bcm, mirroring the same level as 2023.

3.4.1 Brazil

In September 2024, Brazil's marketed gas production surged by 4.6% y-o-y to stand at 1.7 bcm (Figure 65), driven by a 7.6% y-o-y rise in the gross gas production (a record high gross output). Notably, offshore fields were responsible for more than 83% of production. In addition, production from pre-salt basin achieved a record high level, representing 81% of the total. 55% of gross production was reinjected into reservoirs, while gas flaring witnessed an 8% increase compared to September 2023, driven by the commissioning of a new FPSO (Figure 66). For the period Jan - Sep 2024, cumulative Brazilian output reached 13.4 bcm, representing a 4.7% y-o-y decline, driven by the increased gas reinjection volumes.

Figure 65: Trend in gas production in Brazil

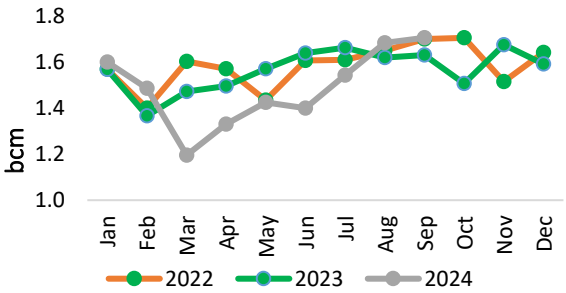
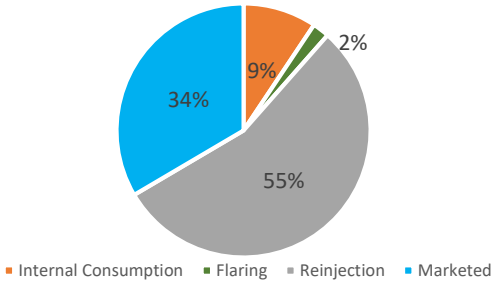


Figure 66: Distribution of gross gas production



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

3.4.2 Argentina

In September 2024, Argentina's gas production continued its upward trend to stand of 4.4 bcm, representing a 2.8% y-o-y rise (Figure 67).This was mainly driven by the increased output from shale gas production from the Vaca Muerta shale gas basin. Accordingly, shale gas production witnessed an 18% y-o-y surge to stand at the level of 2.35 bcm and account for 53% of total gas production (Figure 68). In addition, tight gas reservoir production reached 0.5 bcm, representing an 11% share. For the period Jan - Sep 2024, cumulative gas production reached 39 bcm, representing a 4.4% y-o-y surge.

Figure 67: Trend in gas production in Argentina

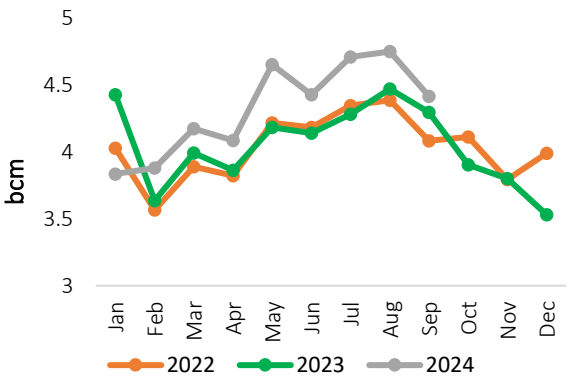
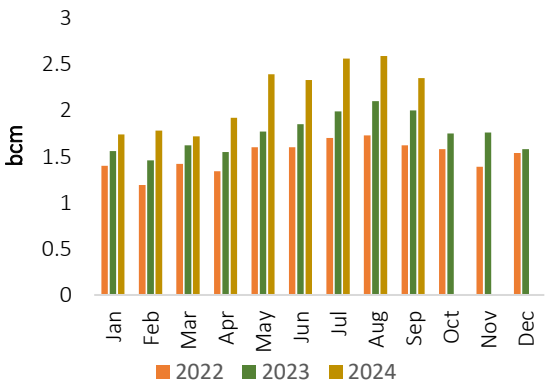


Figure 68: Shale gas output in Argentina



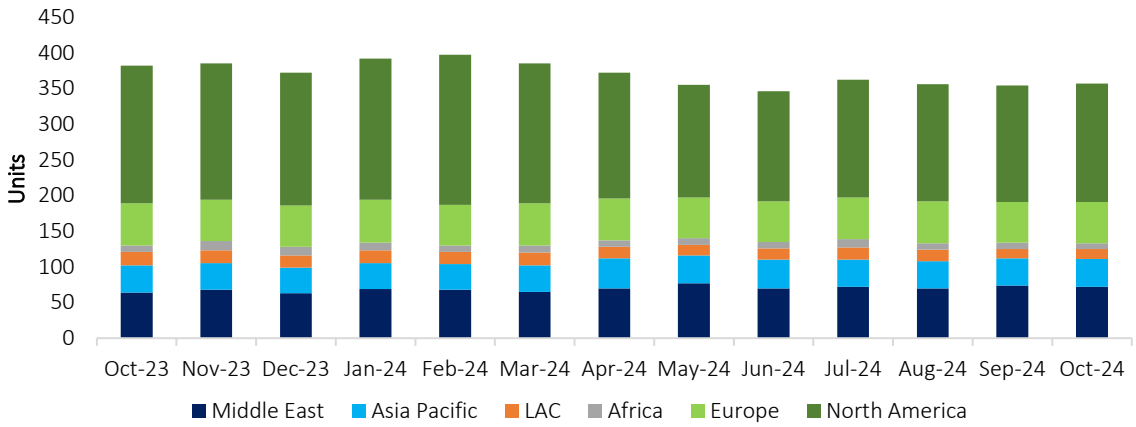
Source: GECF Secretariat based on data from Argentinian Ministry of Economy

3.5 Other developments

3.5.1 Upstream tracker

In October 2024, the global number of gas drilling rigs reversed its declining trend, to increase by 3 units m-o-m, reaching 357 rigs (Figure 69). This was mainly driven by a decrease in the drilling activity in North America (the US) and Europe (Italy), although this effect was partially counterbalanced by a slowdown of drilling activity in the Middle East, specifically in Saudi Arabia which released 2 gas drilling rigs. Onshore drilling accounted for the majority with 330 units, while offshore accounted for 27 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 September 2024, the total volume of discovered gas and liquids amounted to 65 million barrels of oil equivalent (boe) (Figure 70). This is the lowest discovered volume in 2024 so far. Natural gas accounted for 65% (8 bcm), while liquid oil constituted 35% (23 million bbl). Seven new relatively small discoveries were announced, four of them were offshore. In terms of regional distribution, North America dominated the new discovered volumes with 53%, mainly in the US, followed by Asia Pacific (32%) (Figure 71). The Erregulla field, located to the east of the existing West Erregulla field, onshore Australia, was the most significant gas discovery, with about 10 bcm of original gas in place.

Cumulative discovered volumes for the period Jan- September 2024 amounted to 5.2 billion boe, with natural gas accounting for 42% (370 bcm).

Figure 70: Monthly oil and gas discovered volumes

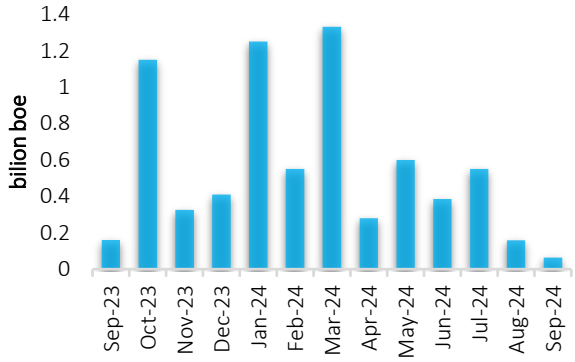
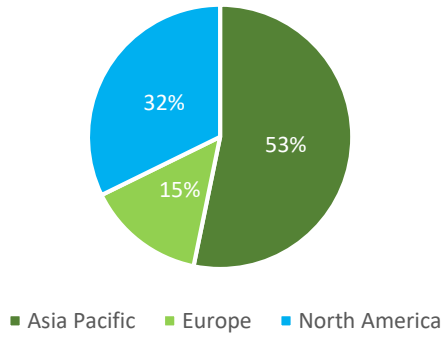


Figure 71: Discovered oil and gas volumes in September 2024 by region



Source: GECF Secretariat based on Rystad Energy

3.5.2 Other developments

Algeria announced a new oil and gas licensing round in 2024: The National Agency for the Development of Hydrocarbon Resources of Algeria launched the country's first oil and gas licensing round since 2014. This round covers six onshore oil and gas exploration blocks, including El Mazayed, Ahara, Reggane 2, Zarafa 2, Tawal and Qarn El Kassa. These blocks are characterized by the presence of known hydrocarbon basins and the proximity to the nearby infrastructure, which facilitates their development. It is worth noting that this round will be followed by other rounds, with one round to be launched each year till 2028. This comes in the context of the continuous Algerian efforts to boost oil and gas production.

Tanzania will launch its fifth licensing round in 2025: Tanzania announced that it will launch its fifth licensing round in 2025, which will cover 25 oil and gas exploration blocks, including 23 offshore blocks in the Indian Ocean and 2 onshore blocks. Tanzania Petroleum Development Corporation (TPDC) will be responsible for implementing the licensing procedures and providing comprehensive seismic data sets for interested investors. This step comes as an integral part of the governmental efforts to incentivize investment in the oil and gas industry through offering improved models of production sharing agreements and better fiscal regulations.

Iran started production from its Kish offshore gas field: According to announcement from Iran's Ministry of Petroleum, the country started production from its Kish offshore gas field. This field, located near Kish Island, is owned by the National Iranian Oil Company (NIOC) and developed by Pars Oil and Gas Company. Seven wells have been brought on stream thus far, with the gas production from Phase 1 projected to reach 10.3 bcma, when all the 14 development wells are put on stream. Kish field is estimated to contain more than 1 tcm of natural gas, in addition to 400 million barrels of condensate.

UK will provide 28.5 billion USD for carbon capture projects: According to announcement from the UK government, the country will allocate 21.7 billion pounds (28.5 billion USD) for the development of carbon capture and storage (CCS) projects in Northern England. "Carbon capture technology is not just about cleaning up our industry and our energy sector. It is a massive opportunity to attract investment and create thousands of skilled jobs," finance minister Rachel Reeves noted during the funding announcement. The UK government regards CCS as one of the pathways needed to curb emissions from energy intensive industrial sectors, while achieving a target to reach net zero emissions by 2050.

4 Gas Trade

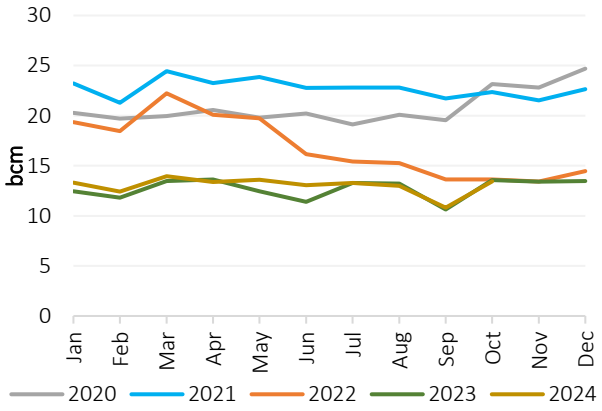
4.1 PNG trade

Global PNG trade continues to expand this year. For the period January to October 2024, global PNG imports is estimated to increase by 5% y-o-y to reach a total of 496 bcm. The main drivers were increased PNG exports from Norway, Russia and Canada, while the demand side was supported by an increase in PNG imports from China and Europe.

4.1.1 Europe

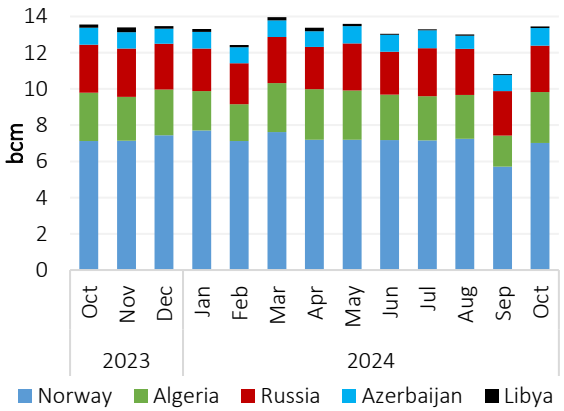
PNG supply to the EU rebounded in October 2024. During the month, the EU's imports of PNG increased by 24% m-o-m to reach 13.4 bcm (Figure 72). However, this volume was 1% lower y-o-y, and was the lowest level for October in the past five years. Following a period of maintenance activities, there was a rebound in PNG supply from both Algeria and Norway in October 2024. However, while Algeria's PNG exports in October were higher than the monthly average earlier in the year, PNG exports from Norway did not match the level of January to September 2024 (Figure 73).

Figure 72: Monthly PNG imports to the EU



Source: GECF Secretariat based on data from Refinitiv

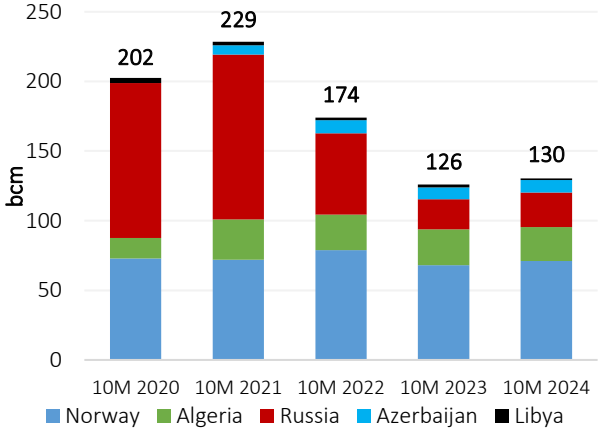
Figure 73: Monthly EU PNG imports by supplier



Source: GECF Secretariat based on data from Refinitiv

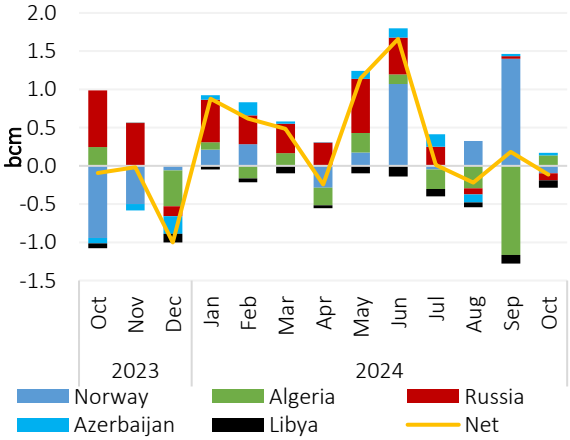
During the months of January to October 2024, the EU imported 130 bcm of PNG, which represented an increase of 3% or 4.4 bcm y-o-y (Figure 74). Higher imports from Russia and Norway drove this increase, with each having supplied 3.0 bcm more in 2024. With supply stabilising, there has been very little net y-o-y variations over the past four months (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

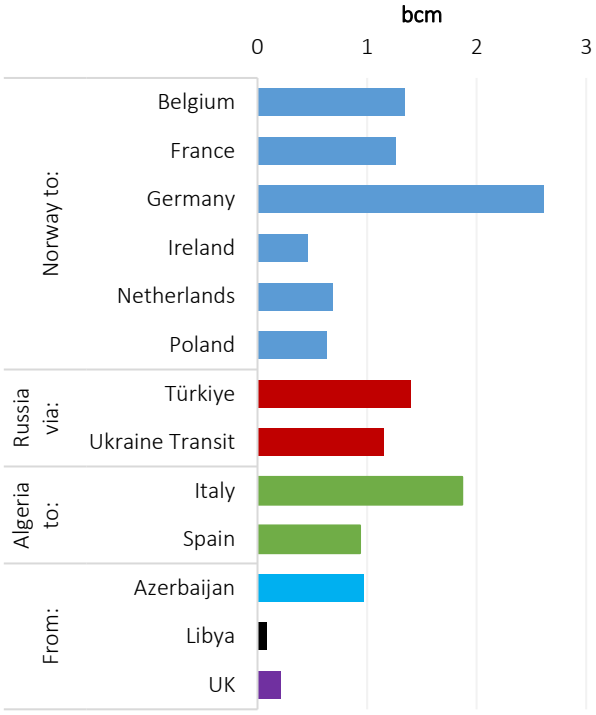


Source: GECF Secretariat based on data from Refinitiv

Figure 76 shows the PNG imports to the EU via the major supply routes in October 2024. Norwegian supply to Germany increased by 48%, while flows via the Baltic Pipe to Poland also rose notably. Algerian supply increased via both routes, with flows to Italy rising by 68% in particular. Imports from Russia, Azerbaijan and Libya increased slightly m-o-m. With the region well supplied with LNG, there was a 55% m-o-m decrease in net flows via the interconnectors with the UK.

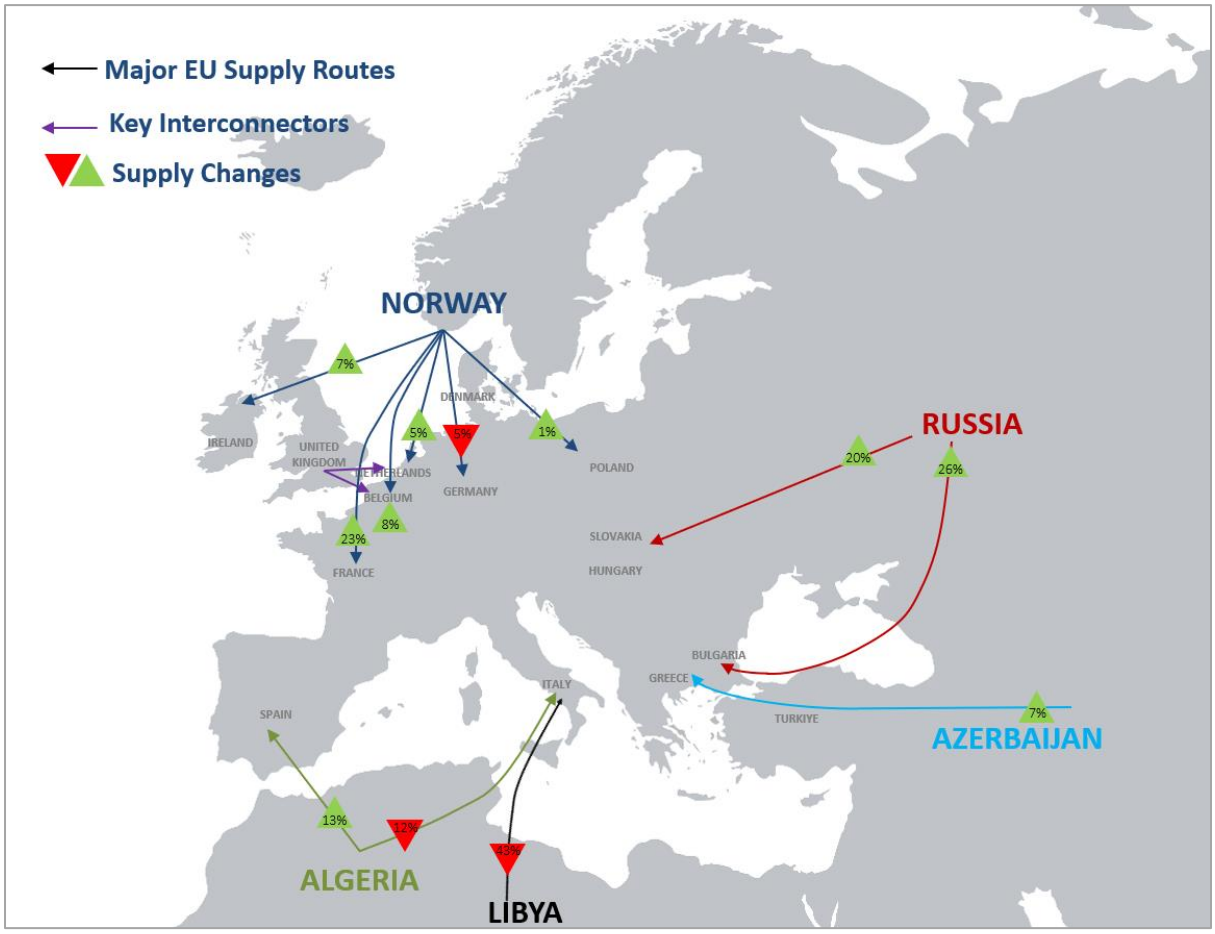
Figure 77 displays the PNG imports to the EU via the major supply routes during the period from January to October 2024, versus the same period in 2023. There was a 26% increase in flows from Russia via Turkstream. Norwegian flows to its largest market Germany decreased by 5%, in favour of increased PNG exports to the neighbouring countries. Moreover, imports of regasified LNG from the UK decreased by 43% y-o-y.

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



Source: GECF Secretariat based on data from Refinitiv

Figure 77: PNG imports to the EU by supply route (10M 2024 v 10M 2023)

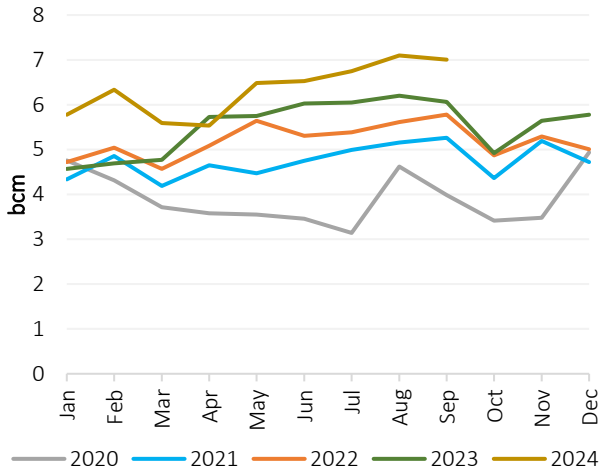


Source: GECF Secretariat based on data from Refinitiv

4.1.2 Asia

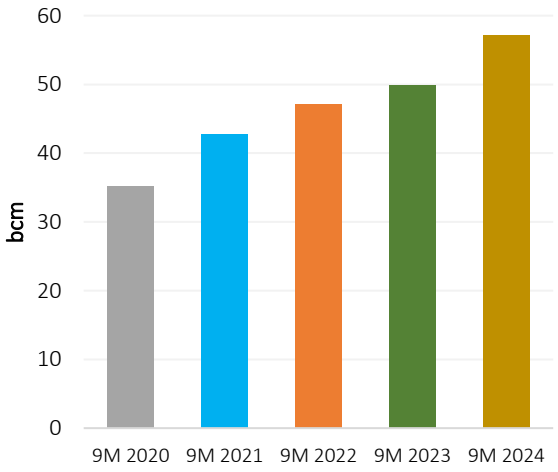
China maintained its trend of high PNG imports this year, with the country importing 7.0 bcm in September 2024 (Figure 78). This volume represented an increase of 15% compared with one year ago, but was a slight 1% decrease from the level of the previous month. PNG accounted for 43% of Chinese gas imports during the month. During the first nine months of the year, China imported a total of 57 bcm of PNG, which is an increase of 15% 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

Singapore imported 0.48 bcm of PNG from Indonesia and Malaysia in July 2024. While imports have been stable in recent months, this volume represented a 17% decrease from the level of one year ago, and was 1% lower compared to the previous month (Figure 80).

In the same month, Thailand imported 0.44 bcm from Myanmar, which was 15% lower y-o-y, but represented a 2% increase compared with the previous month (Figure 81).

Figure 80: Monthly PNG imports in Singapore

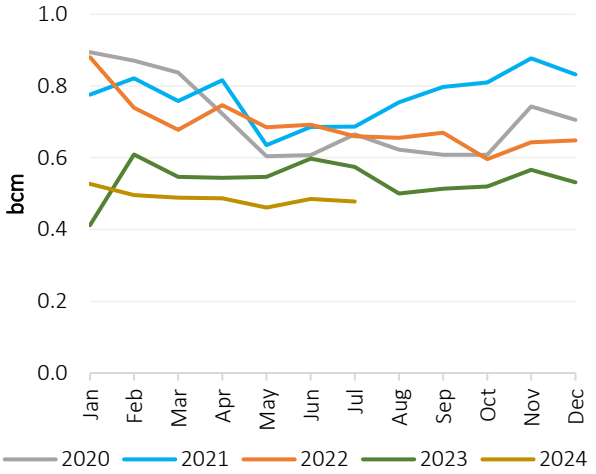
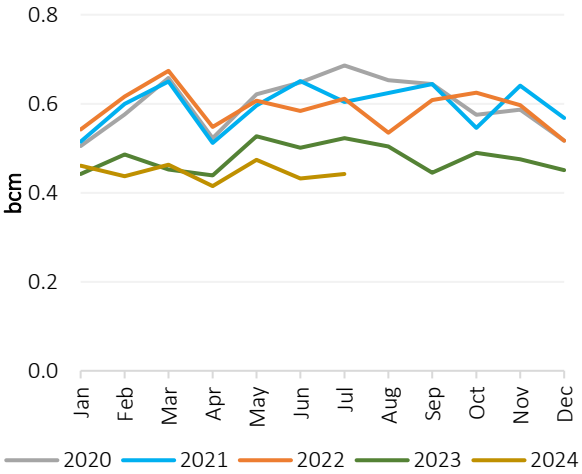


Figure 81: Monthly PNG imports in Thailand



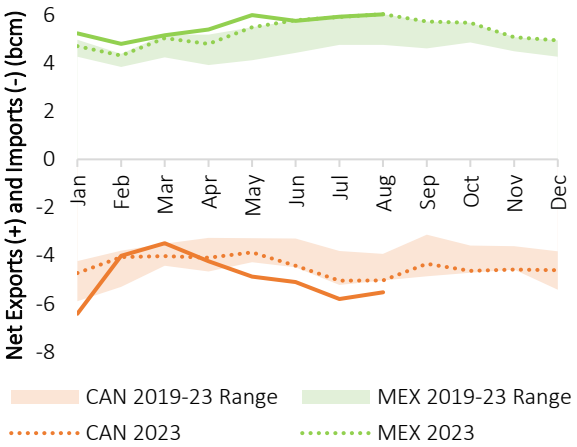
Source: GECF Secretariat based on data from JODI Gas

4.1.3 North America

In August 2024, Mexico continued the high level of PNG imports from the US, reaching 6.0 bcm (Figure 82). This volume was the same level as one year ago, but represented 2% increase from the level of the previous month.

Net PNG flows from Canada to the US reached 5.5 bcm in the same month. This volume was 10% higher y-o-y, but was 5% less compared to the previous month. During the month, exports from Canada to the US decreased to 7.4 bcm, while exports from the US to Canada remained steady at 1.9 bcm.

Figure 82: Historical net PNG trade in the USA



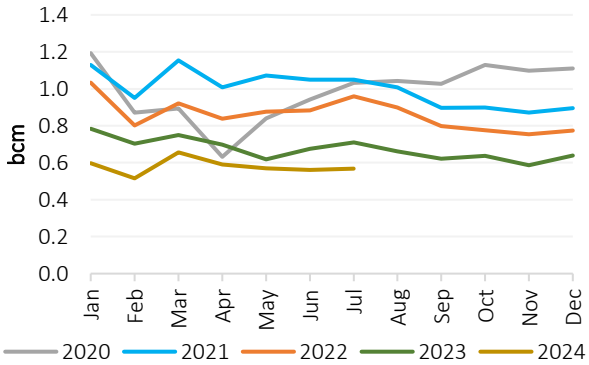
Source: GECF Secretariat based on data from US EIA

4.1.4 Latin America and the Caribbean

Bolivia increased exports of PNG to Brazil and Argentina in July 2024, reaching 0.57 bcm. This volume was 1% higher than the previous month, but 20% lower than the level exported one year ago (Figure 83).

During the same month, Argentina exported 0.13 bcm of PNG to Chile, which was a 60% increase compared with the previous year, but which represented a 17% 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

Russia earmarks the startup of the Far East route: Gazprom CEO Alexei Miller recently announced that pipeline gas supply to China via the new Far East route will begin in January 2027. Currently, China imports Russian pipeline gas via the Power of Siberia 1 (POS1) pipeline, which commenced operations at the end of 2019. POS1 will complete its phased ramp-up of supply by 2025, reaching the designed capacity of 38 bcma. The Far East route would enter China's pipeline infrastructure from a different point, by extending the Russian Sakhalin-Khabarovsk-Vladivostok pipeline. This new supply route will have a capacity of 10 bcma.

Argentina ends gas imports from Bolivia: According to data from the Argentina's Enarsa, the country has ended its pipeline gas imports from neighbouring Bolivia in September 2024, after almost twenty years. In recent years, the imports have declined due to an increase in Argentina's domestic output, driven by the development of its shale reserves in Vaca Muerta. Argentina has recently commissioned the President Nestor Kirchner Gas Pipeline, which transports Vaca Muerta gas to the capital Buenos Aires, and is in the process of reversing the flow in the existing infrastructure, to extend delivery further northwards.

4.2 LNG trade

4.2.1 LNG imports

In October 2024, global LNG imports grew at a robust pace, increasing by 8.6% (2.73 Mt) y-o-y to 34.40 Mt (Figure 84). This marks the highest monthly LNG imports since April 2024 and sets a record for the month of October. Stronger LNG imports were primarily driven by the Asia Pacific region, along with increased imports in the LAC and MENA regions, which helped offset weaker LNG imports in Europe. The LNG price arbitrage between Asia Pacific and Europe continued to support the flow of flexible LNG cargoes from the Atlantic basin, particularly from the US, to the Asia Pacific region.

For the period January to October 2024, global LNG imports grew by 2.4% (7.89 Mt) y-o-y to reach 341.12 Mt, primarily driven by increased imports in the Asia Pacific region, which offset a decline in European imports (Figure 85).

Figure 84: Trend in global monthly LNG imports

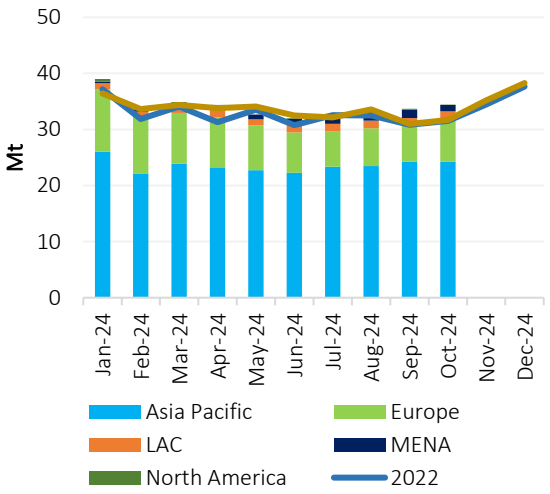
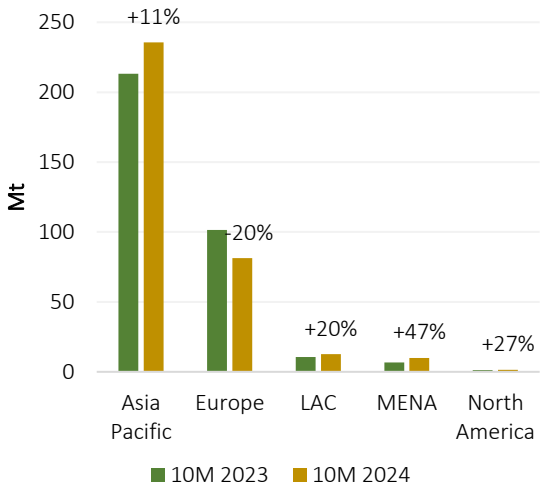


Figure 85: Trend in YTD regional LNG imports



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.1 Europe

In October 2024, LNG imports in Europe continued to slide, falling by 20% (1.90 Mt) y-o-y to 7.54 Mt (Figure 86). High gas storage levels, robust pipeline gas imports and the open LNG arbitrage between the Asia Pacific and European markets led to the drop in Europe's LNG imports. Belgium, Italy, the Netherlands, Spain and the UK drove the decline in the region's LNG imports, which was partially offset by higher imports in France (Figure 87).

Belgium's LNG imports declined due to high storage levels, increased pipeline imports from Norway, and reduced exports to Germany. Italy's LNG imports also dropped, driven by higher Algerian pipeline supplies and full storage. In the Netherlands, despite rising consumption, LNG demand was limited by a significant price gap between North East Asia spot LNG and TTF prices. Spain saw lower LNG imports due to decreased gas consumption and higher pipeline imports from Algeria. In the UK, stronger Norwegian pipeline supplies offset rising domestic consumption, reducing LNG demand. In contrast, France's LNG imports rose, supported by higher gas consumption and reduced pipeline imports from Norway.

For the period January to October 2024, Europe's LNG imports stood at 81.31 Mt, representing a decline of 20% (20.19 Mt) y-o-y.

Figure 86: Trend in Europe's monthly LNG imports

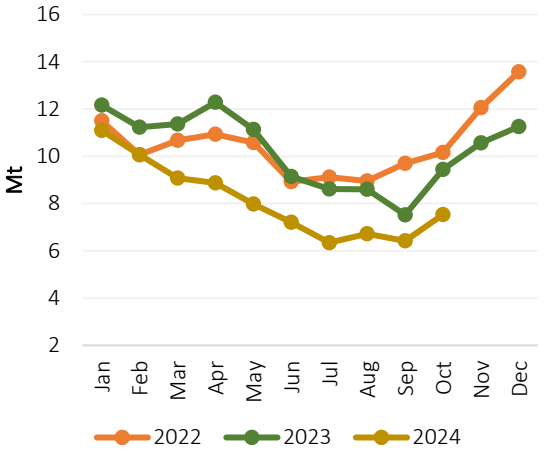
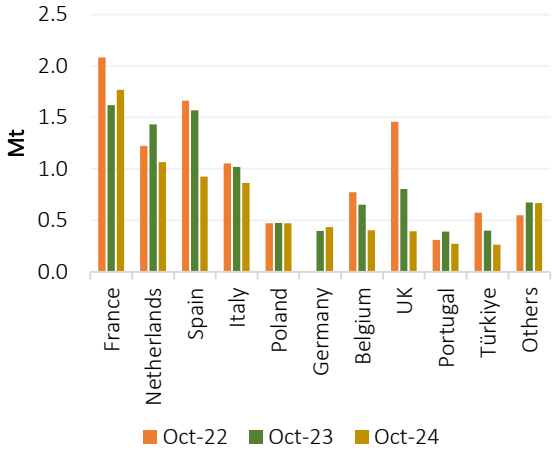


Figure 87: Top LNG importers in Europe



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.2 Asia Pacific

In October 2024, LNG imports in the Asia Pacific region rose to 24.28 Mt, marking an 18% (3.68 Mt) y-o-y increase (Figure 88). This is the highest monthly import volume since January 2024 and represents one of the strongest y-o-y monthly growth figures on record. The increase was fuelled by rising gas demand in several countries, pre-winter LNG restocking, and favourable LNG arbitrage between Asia Pacific and Europe. China, India, and South Korea led this increase, offsetting a decline in Japan (Figure 89).

China's LNG imports increased due to stronger gas demand from the electricity and transportation sectors, along with pre-winter restocking. In India, a reduction of at least 20% in domestically produced gas allocated to the city gas sector likely contributed to higher LNG imports. South Korea's LNG imports surged, likely driven by higher electricity sector demand due to lower nuclear availability and transmission issues at coal-fired plants, along with pre-winter restocking. In contrast, Japan's LNG imports declined, attributed to high storage levels.

For the period January to October 2024, LNG imports in the Asia Pacific's region expanded by 11% (22.51 Mt) y-o-y to reach 235.73 Mt.

Figure 88: Trend in Asia's monthly LNG imports

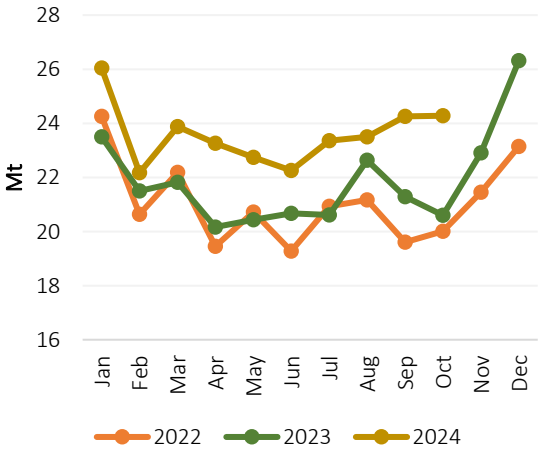
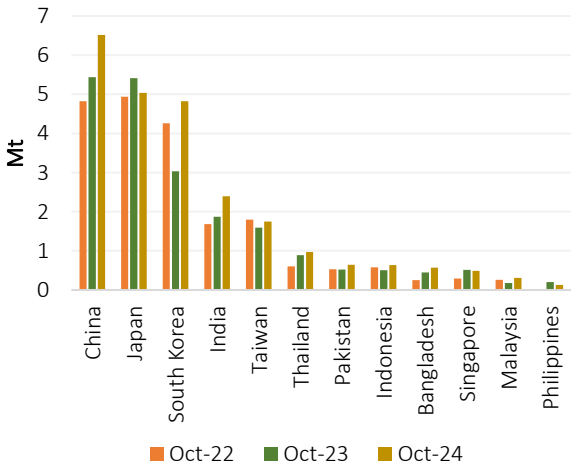


Figure 89: LNG imports in Asia Pacific by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.3 Latin America & the Caribbean (LAC)

In October 2024, LNG imports in the LAC region surged by 72% (0.59 Mt) y-o-y to 1.41 Mt (Figure 90), which is a record for the month. This increase was driven by Brazil and Colombia, which offset a decline in Jamaica (Figure 91).

Brazil and Colombia saw increased LNG imports due to a surge in electricity sector demand, driven by low hydro levels from drought conditions. In contrast, Jamaica's LNG imports declined, largely due to a slowdown in re-exports to Puerto Rico, which have decreased by 0.25 Mt so far in 2024.

For the period January to October 2024, LNG imports in the LAC region grew by 20% (2.09 Mt) y-o-y to 12.75 Mt.

Figure 90: Trend in LAC's monthly LNG imports

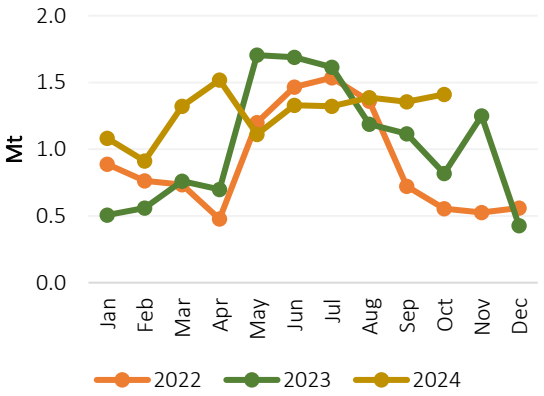
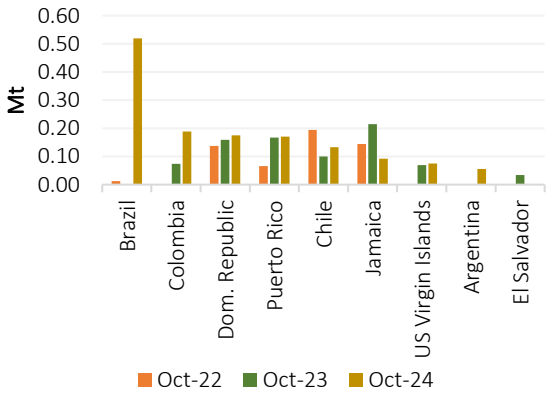


Figure 91: Top LNG importers in LAC



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.4 MENA

In October 2024, LNG imports in the MENA region saw significant y-o-y growth, rising by 59% (0.42 Mt) to 1.13 Mt (Figure 92). This increase was primarily driven by higher imports from Egypt (Figure 93), helping to meet Egypt's gas demand amid declining domestic production, as well as from Jordan. Regasified LNG from Jordan is exported via pipeline to Egypt.

For the period January to October 2024, LNG imports in the MENA region jumped by 47% (3.19 Mt) y-o-y to reach 9.95 Mt.

Figure 92: Trend in MENA's monthly LNG imports

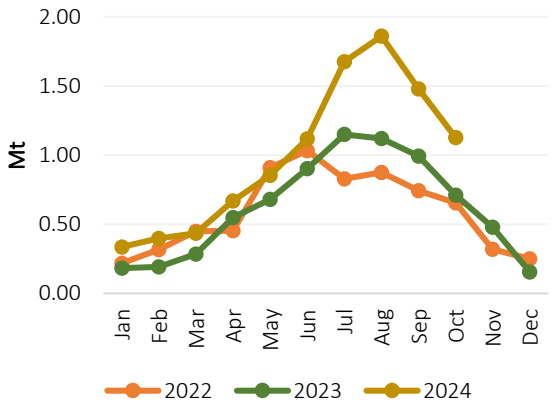
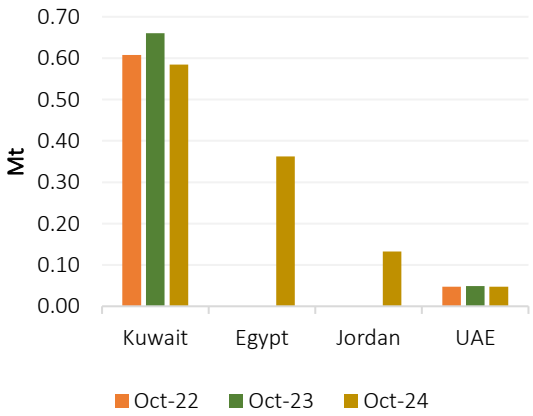


Figure 93: Top LNG importers in MENA



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2 LNG exports

In October 2024, global LNG exports rose by 1.8% (0.63 Mt) y-o-y to reach at 34.62 Mt (Figure 94), marking the highest level since March 2024. This growth was driven by non-GECF countries, which offset a decrease in LNG re-exports and a slight decline in LNG export from GECF Member Countries. Non-GECF countries' share of global LNG exports increased to 54.2%, up from 52.6% in October 2023, while the shares of GECF Member Countries and re-exports fell to 44.8% and 1.0%, respectively, from 45.8% and 1.6% the previous year.

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

For the period January to October 2024, global LNG exports stood at 341.83 Mt, representing an increase of 1.5% (5.15 Mt) y-o-y, driven by stronger exports from both GECF and non-GECF countries (Figure 95).

Figure 94: Trend in global monthly LNG exports

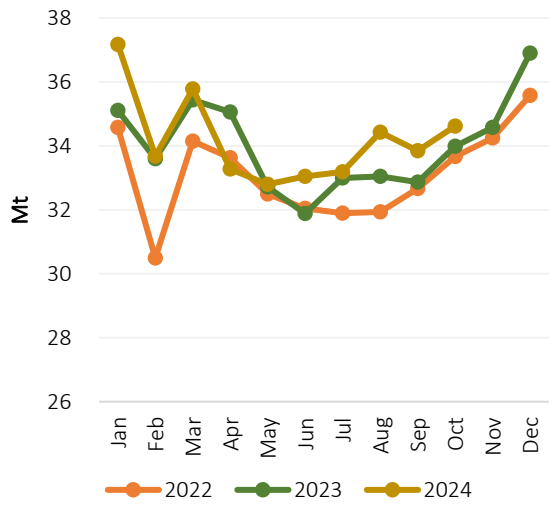
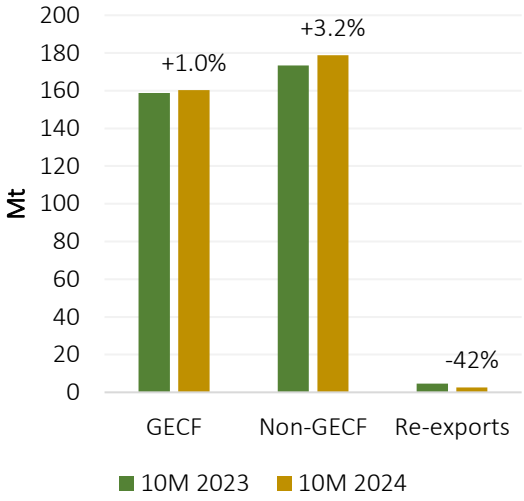


Figure 95: Trend in YTD LNG exports by supplier



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2.1 GECF

In October 2024, LNG exports from GECF Member and Observer Countries saw a slight y-o-y decline of 0.3% (0.05 Mt), totalling 15.52 Mt (Figure 96). The decrease was led by reduced exports from Algeria, Peru, and Trinidad and Tobago, which offset increases from Malaysia and Qatar (Figure 97).

Algeria's LNG exports declined in October due to planned maintenance at the Arzew LNG facility. Peru shipped three LNG cargoes, two fewer than the same period in 2023 and half of September's total. Meanwhile, Trinidad and Tobago's LNG exports fell due to reduced feedgas availability for LNG exports. Conversely, Malaysia's exports increased as feedgas availability to the Bintulu facility improved after repairs to the Sabah-Sarawak pipeline. Furthermore, in Qatar, lower maintenance activity compared to the previous year contributed to higher LNG exports.

The Asia Pacific region was the primary market for GECF LNG, receiving 71% of its exports, followed by Europe at 23%, and both Latin America and the MENA region at 3% each.

For the period January to October 2024, GECF's LNG exports totalled 160.31 Mt, reflecting a slight y-o-y increase of 1.0% (1.53 Mt).

Figure 96: Trend in GECF monthly LNG exports

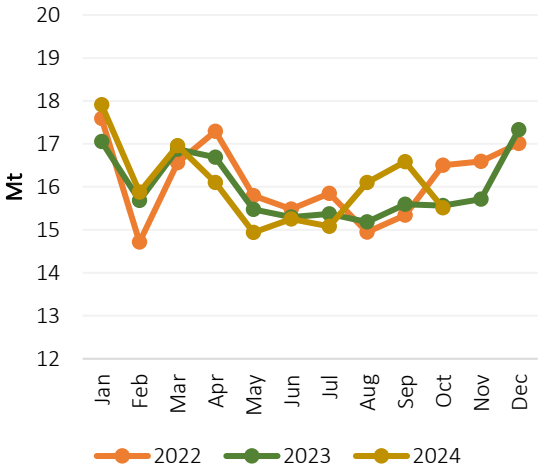
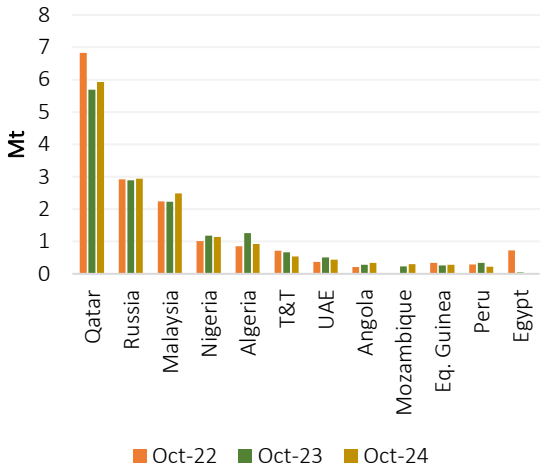


Figure 97: GECF's LNG exports by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2.2 Non-GECF

In October 2024, LNG exports from non-GECF countries rose by 5.0% (0.89 Mt) y-o-y, reaching 18.75 Mt, the highest level since January 2024 (Figure 98). This increase was primarily driven by higher exports from Australia, Indonesia and Oman, while U.S. LNG exports remained steady compared to the previous year (Figure 99).

Australia's stronger LNG exports were primarily driven by increased output from the Prelude FLNG facility, which offset lower exports from the Ichthys LNG facility. This growth at Prelude resulted from reduced maintenance activity, while heightened maintenance at Ichthys limited its exports. In Indonesia, ramped-up production at the Tangguh Train 3 facility and decreased maintenance at the Bontang LNG facility boosted exports. Oman's rise in LNG exports was similarly due to reduced maintenance activity. Meanwhile, in the US, increased LNG exports from the Corpus Christi and Freeport facilities offset a decline in exports from the Calcasieu Pass facility.

For the period January to October 2024, LNG exports from non-GECF countries increased by 3.2% (5.54 Mt) y-o-y, reaching 178.86 Mt.

Figure 98: Trend in non-GECF monthly LNG exports

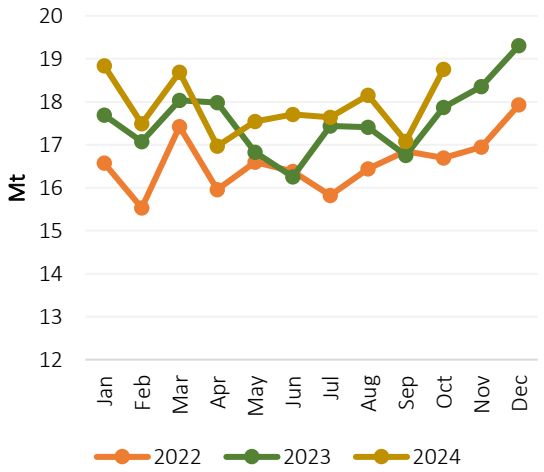
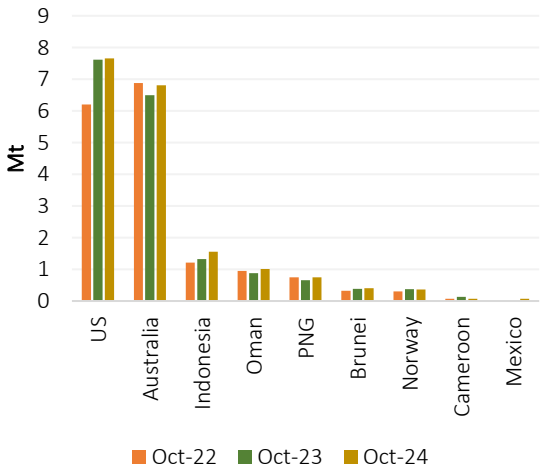


Figure 99: Non-GECF's LNG exports by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.3 Global LNG re-exports

In October 2024, global LNG re-exports continued to slide, falling by 38% (0.21 Mt) to 0.35 Mt, which represents the third consecutive monthly y-o-y decline (Figure 100). Jamaica, Spain and Türkiye recorded the largest declines, which were partially offset by higher re-exports from the US Virgin Islands.

Jamaica's LNG re-exports declined due to reduced shipments to Puerto Rico. The majority of the LNG re-exported to Puerto Rico is now supplied from the US Virgin Islands. Spain's LNG re-exports were also lower, driven by lower re-exports to Brazil and Puerto Rico compared to last year. Similarly, Türkiye's drop in LNG re-exports was due to reduced shipments to Japan.

For the period January to October 2024, global LNG re-exports dropped by 42% (1.93 Mt) y-o-y to 2.65 Mt. This decrease was primarily driven by reduced re-exports from China, Finland, Indonesia, Jamaica and Spain, partially offset by a significant increase in LNG re-exports from the US Virgin Islands (Figure 101).

Figure 100: Trend in global monthly LNG re-exports

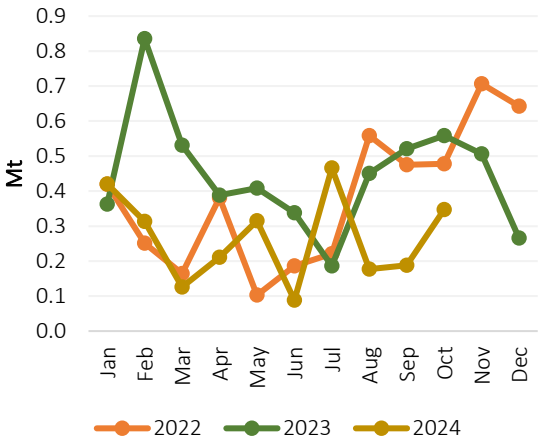
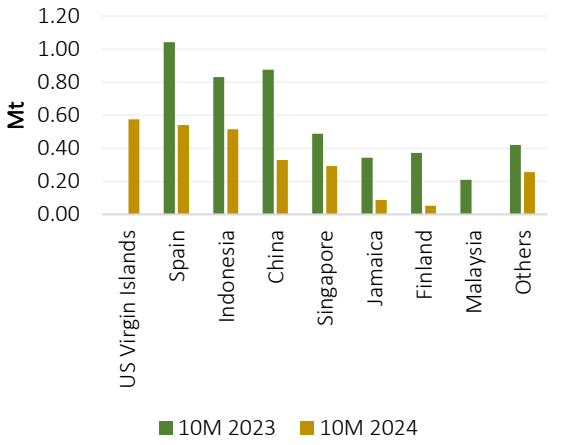


Figure 101: Trend in YTD LNG re-exports by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.4 Arbitrage opportunity

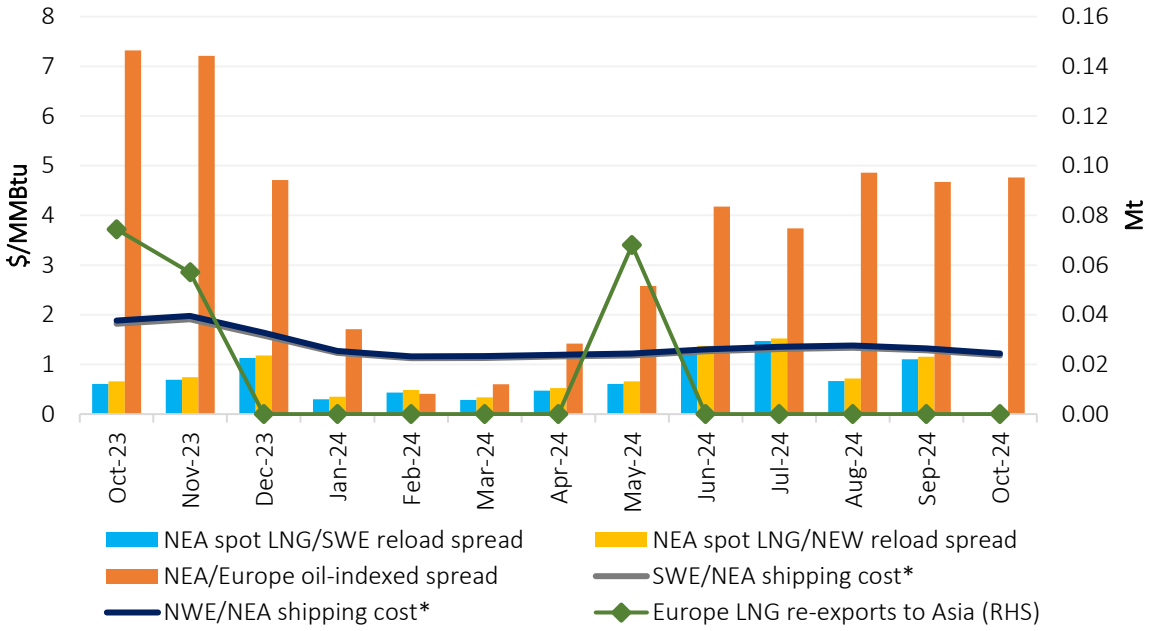
In October 2024, the arbitrage opportunity for LNG re-exports from Europe to Asia Pacific continued to be out of the money due to convergence between the Asia spot LNG and European LNG reload prices. While one-way spot shipping costs from Europe to Asia Pacific declined, they still exceeded the narrow price spreads between these regions (Figure 102). However, the price gap between Asia Pacific spot LNG and oil-indexed European prices was four times the one-way shipping cost.

Price spreads for NEA spot/SWE reload and NEA spot/NWE reload plummeted month-on-month by 98% ($1.08/MMBtu) and 94% ($1.08/MMBtu), respectively, to $0.03/MMBtu and $0.08/MMBtu, largely due to a rise in European LNG reload prices as Asian spot prices stayed relatively stable. Meanwhile, the Asia Pacific spot-to-European oil-indexed price spread edged up by 1.9% ($0.09/MMBtu) to $4.76/MMBtu.

Shipping costs on NEA/SWE and NEA/NWE routes fell month-on-month by 8.1% ($0.10/MMBtu) to $1.18/MMBtu and $1.22/MMBtu, respectively. No LNG re-exports from Europe to Asia Pacific were recorded in October 2024. On a y-o-y comparison, NEA spot/SWE reload, NEA spot/NWE reload, and NEA spot-to-European oil-indexed price spreads fell

sharply by 96% ($0.58/MMBtu), 89% ($0.58/MMBtu), and 35% ($2.56/MMBtu), respectively, with spot LNG shipping costs on Europe-Asia routes also down 35% ($0.65/MMBtu).

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

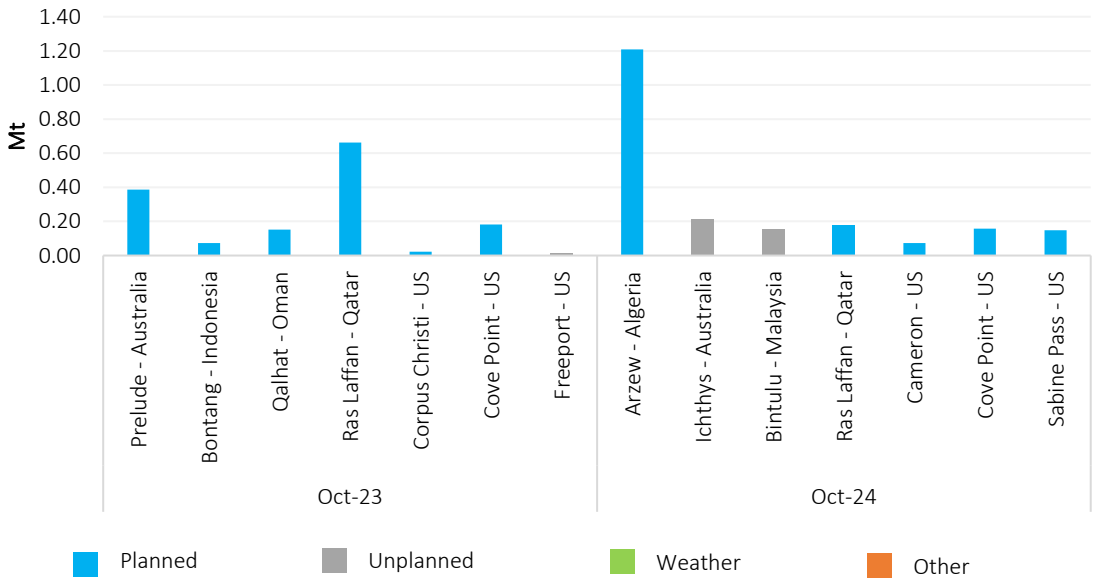


Source: GECF Secretariat based on data from GECF Shipping Model, Argus and ICIS LNG Edge
(*): One-way spot shipping cost

4.2.5 Maintenance activity at LNG liquefaction facilities

In October 2024, the combined impact of scheduled maintenance, unplanned outages and other factors at global liquefaction plants totalled 2.14 Mt, an increase from 1.49 Mt in October 2023 (Figure 103). The major activities included planned maintenance at the Arzew, Ras Laffan, Cameron, Cove Point and Sabine Pass LNG facilities, alongside unplanned outages at the Ichthys and Bintulu LNG plants.

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



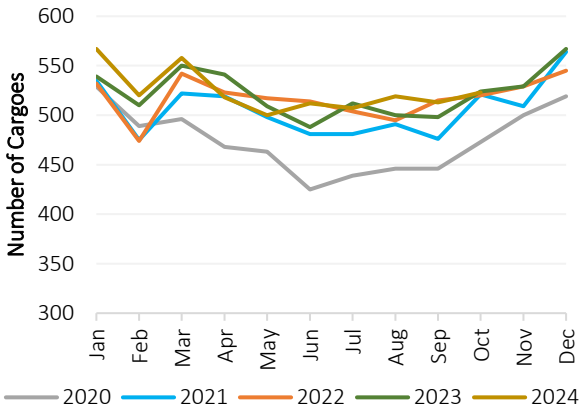
Source: GECF Secretariat based on information from Argus, ICIS LNG Edge and Refinitiv

4.2.6 LNG shipping

There were 523 LNG cargoes exported in October 2024, which was one cargo less than one year ago (Figure 104). Moreover, this represented a 2% increase when compared with the total shipments in the previous month. For the period January to October 2024, the total number of cargoes reached 5,237, which was an increase of 1%, or 66 shipments, when compared with the same period in 2023.

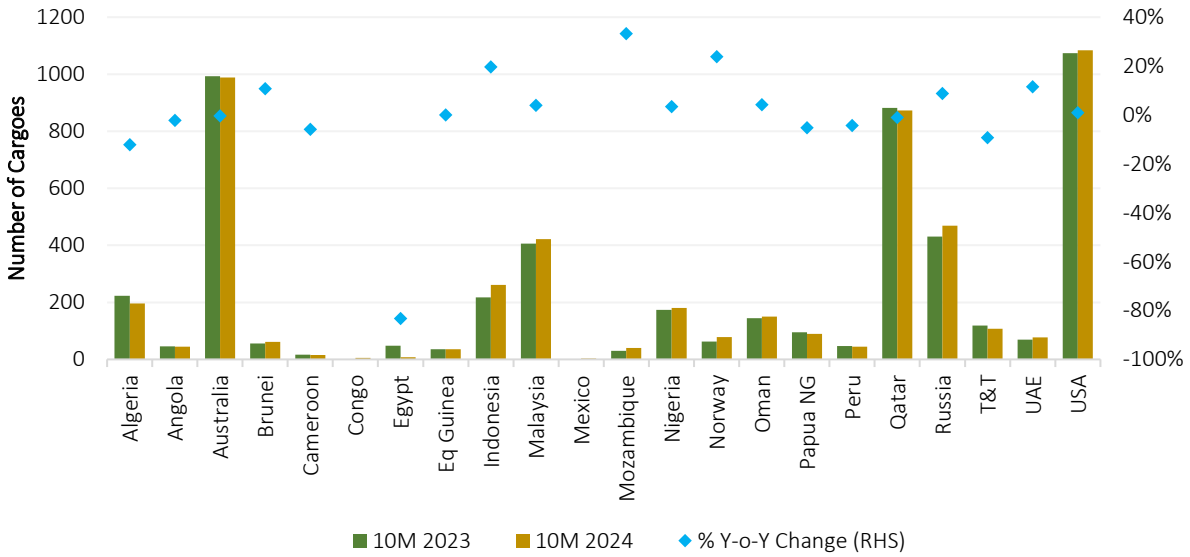
In 2024, there were 43 more shipments from Indonesia, along with 38 more from Russia. Mozambique had the largest relative increase, by 33%, followed by Norway at 24% (Figure 105).

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

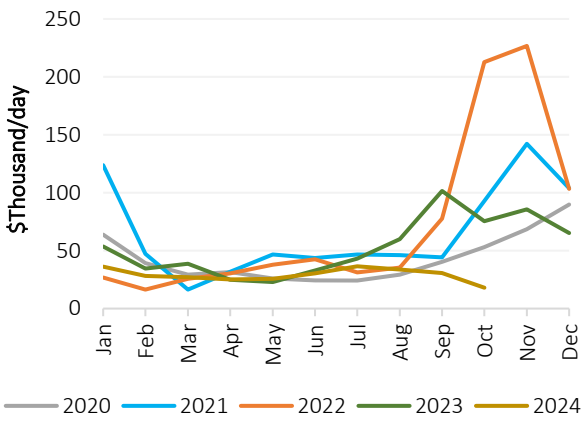
Charter rates continued to plummet in October 2024. The monthly average spot charter rate for steam turbine LNG carriers decreased by 41% m-o-m, to reach $18,000 per day (Figure 106). Going against the seasonal trend, this monthly average charter rate was also 76% lower y-o-y. In addition, the rate was the lowest level for October during the past ten years, and was $85,600 per day lower than the five-year average price for the month. The other segments of the global LNG carrier fleet also reached historic lows during the month. The average spot charter rate for TDFE vessels fell by 32% m-o-m to reach $30,500 per day, while the average spot charter rate for two-stroke vessels fell by 31% m-o-m to reach $44,200 per day.

Charter rates typically rise in the final quarter of the year, in anticipation of increased gas demand for heating during the northern hemisphere winter. This year has proved to be atypical, with Europe reducing its gas consumption while aggressively refilling storage sites. However, the major reason for the extreme loosening of the shipping market is the large

number of new LNG carriers commissioned this year, which has not been met with the same rate of commissioning of LNG export capacity.

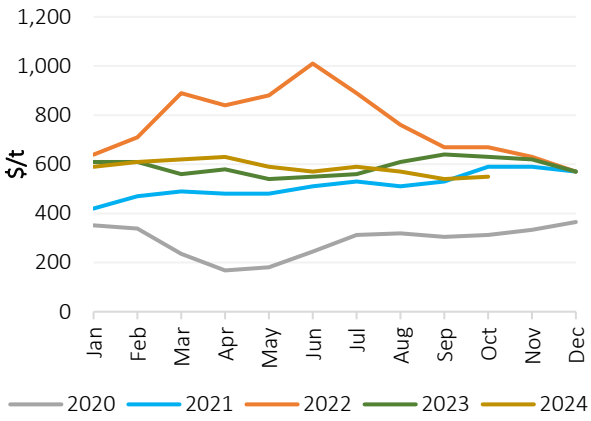
In October 2024, the average price of shipping fuels increased by 2% m-o-m, to reach $550 per tonne (Figure 107). This average price was however 13% lower y-o-y, but 7% higher than the five-year average price for the month.

Figure 106: Average LNG spot charter rate



Source: GECF Secretariat based on data from Argus

Figure 107: Average price of shipping fuels

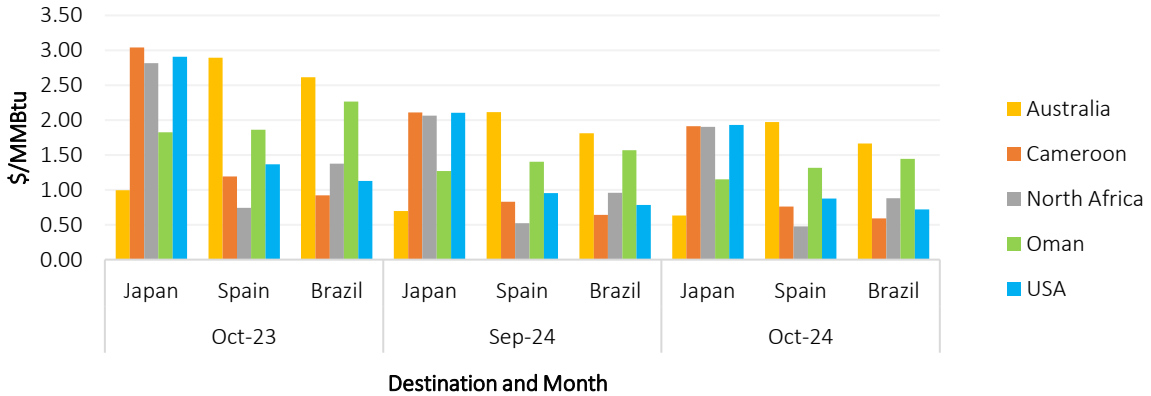


Source: GECF Secretariat based on data from Argus

In October 2024, while the average LNG carrier spot charter rate decreased, there were increases in the cost of LNG shipping fuels and the delivered spot LNG prices, compared with the previous month. The net effect was a decrease in the LNG spot shipping costs for steam turbine carriers relative to the previous month, by up to $0.20/MMBtu on certain routes (Figure 108).

When compared with one year ago, the monthly average spot charter rate, the cost of shipping fuels, and delivered spot LNG prices were all lower October 2024, resulting in LNG shipping costs of up to $1.13/MMBtu lower than October 2023.

Figure 108: LNG spot shipping costs for steam turbine carriers



Source: GECF Shipping Cost Model

4.2.7 Other developments

Greece's Alexandroupolis FSRU received its first LNG cargo: On October 2, 2024, Greece's Alexandroupolis floating storage regasification unit (FSRU) received its first LNG cargo from the Seapeak Magellan carrier, loaded at Norway's Hammerfest LNG facility. The 3.9 Mtpa FSRU, constructed and operated by Gastrade, commenced commercial operations on October

1, 2024. This facility is set to supply regasified LNG to Central and Southeast European countries, including Greece, Hungary, North Macedonia, Romania and Slovakia.

Germany's Brunsbüttel onshore regasification terminal reaches FID: On October 8, 2024, Gasunie and RWE made a final investment decision (FID) on Germany's Brunsbüttel onshore regasification terminal. The 7.6 Mtpa facility, with an estimated cost of 1.5 billion euros, is slated to begin operations by 2027, with the German government contributing 940 million euros in funding. Once operational, the onshore terminal will replace the current Brunsbüttel FSRU. This is Germany's second onshore regasification terminal currently under construction, following the Stade project.

TotalEnergies optimising its LNG portfolio with more oil-indexed pricing: TotalEnergies, a leading French multi-energy company, is aiming to optimise its LNG portfolio by expanding its LNG trading with a focus on oil-indexed pricing. With a new wave of LNG supply projected to enter the market over the next few years, the company anticipates downward pressure on spot gas and LNG prices. To mitigate its exposure to volatile spot prices, TotalEnergies plans to boost its long-term contracts indexed to oil, creating a more stable revenue stream and enhancing its ability to navigate market fluctuations.

Panama Canal to prioritize LNG carriers: The Panama Canal is emerging from an extended period of reduced canal transits, which was triggered by drought conditions impacting the water level. Following the recent announcement of the investment into a new water reservoir, the Panama Canal Authority (PCA) has now also expanded its schedule to allow bidding for slot packages on a long-term basis. According to the PCA, this Long-Term Slot Allocation measure has been implemented to cater to the interests of LNG shippers. Bidding for these new slot packages opened in October 2024, and are valid for transit for a period of one year, commencing January 2025.

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

Table 1: New LNG sale agreements signed in October 2024

Contract Type	Exporting Country	Project	Seller	Importing Country	Buyer	Volume (Mtpa)	Duration (Years)
SPA	Portfolio	Portfolio	Santos	Portfolio	TotalEnergies Gas & Power Asia	0.5	3.25
SPA	Oman	Qalhat LNG	Oman LNG	Japan	Kansai Electric Power	0.4	4
SPA	Portfolio	Portfolio	ConocoPhillips	European Union	SEFE	0.66	10
SPA	US	N/A	Coterra Energy	Portfolio	Vitol	0.7	11
SPA	US	N/A	Coterra Energy	Portfolio	Centrica	0.7	10

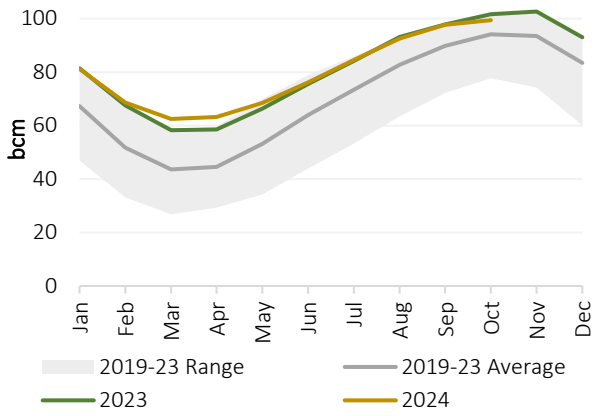
Source: GECF Secretariat based on Project Updates and News
N/A: Not available

5 Gas Storage

5.1 Europe

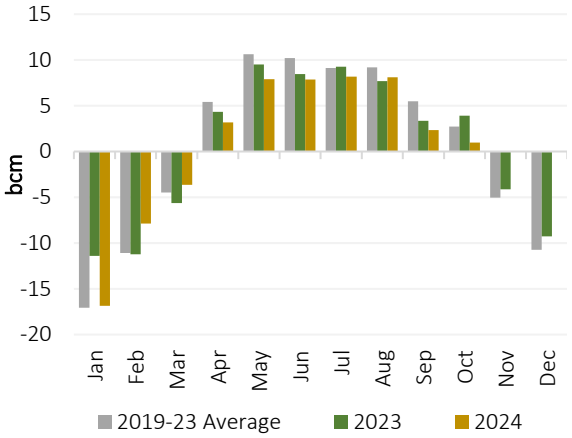
The EU has ended its gas restocking season for 2024, and in October 2024, the average daily volume of gas in underground storage increased to 99.4 bcm, up from 97.6 bcm in the previous month (Figure 109). The regional capacity stood at 96% for the month, above the European Commission's target of 90% by the start of November. The average storage level was the third highest on record for that month, and was 2.2 bcm less than the average monthly storage level of one year ago. There were 5.3 bcm more gas in storage in October 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+

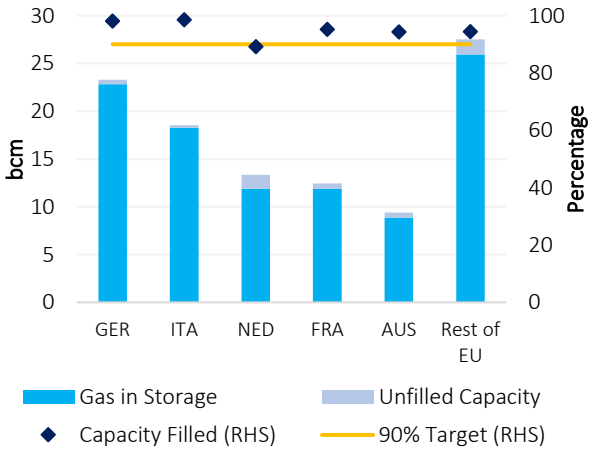
Figure 110: Net gas injections in the EU



Source: GECF Secretariat based on data from AGSI+

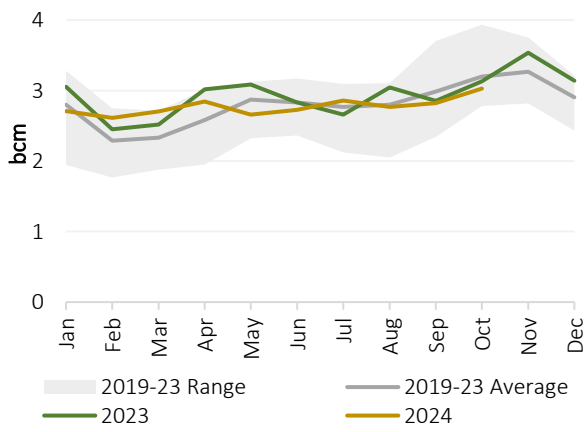
The EU's target of achieving 90% filled capacity was achieved by mid-August 2024. With storage levels elevated, this placed downward pressure on the rate of restocking. As such, in October 2024, there were just 1.0 bcm of net gas injections in storage sites across the EU, which was lower than the 3.9 bcm of net injection one year ago, and the five-year average for the month of 2.7 bcm (Figure 110). There were 10 days experiencing net gas withdrawals, for a combined 2.0 bcm. Over the entire gas restocking season in 2024, the EU countries have injected 39.1 bcm of gas into UGS sites in the region. Apart from the Netherlands, the average storage level in each of the top five EU countries is above 94% (Figure 111). In October 2024, the combined amount of LNG stored in the EU countries reached 3.0 bcm, a decrease of 3% y-o-y, and 5% lower than the five-year historical average for that month (Figure 112).

Figure 111: UGS in EU countries as of Oct 31, 2024



Source: GECF Secretariat based on data from AGSI+

Figure 112: Total LNG storage in the EU



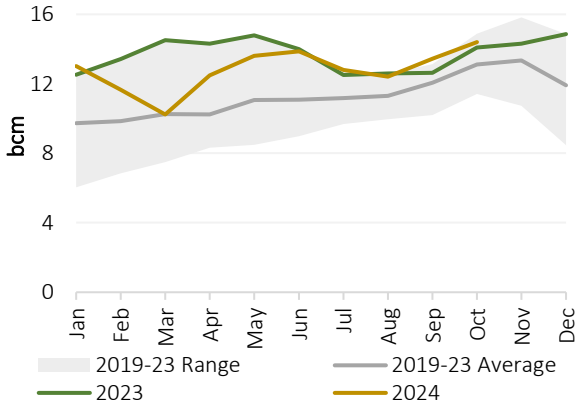
Source: GECF Secretariat based on data from ALSI

5.2 Asia Pacific

In October 2024, the combined volume of LNG in storage in Japan and South Korea increased to an estimated 14.4 bcm (Figure 113). This volume was 2% higher y-o-y, and 1.3 bcm greater than the five-year average for the month. The combined LNG storage level has remained at the high end of the five-year range in recent months.

This combined LNG storage level also increased by 7% m-o-m, with individual stocks in Japan and South Korea reaching 7.5 bcm and 6.9 bcm respectively.

Figure 113: LNG in storage in Japan and South Korea



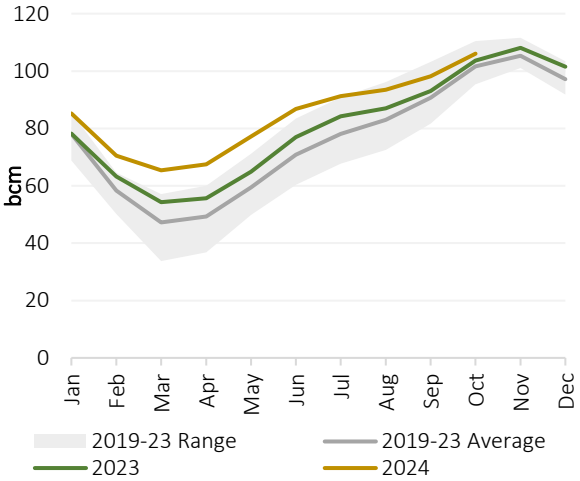
Source: GECF Secretariat based on data from Refinitiv

5.3 North America

In October 2024, the average daily volume of gas in storage increased to 106.1 bcm, up from 98.2 bcm in the previous month (Figure 114). Accordingly, the average capacity utilisation of the UGS sites in the US rose to 79%.

In 2024, the monthly average volume of gas in storage has consistently remained higher than both 2023 and the five-year average, but the delta has narrowed in recent months. In October 2024, there were 2.5 bcm more gas in storage than one year ago, and 4.5 bcm more than the five-year average. The total gas stored during the 2024 restocking season in the US reached 45.4 bcm.

Figure 114: Monthly average UGS level in the US



Source: GECF Secretariat based on data from US EIA

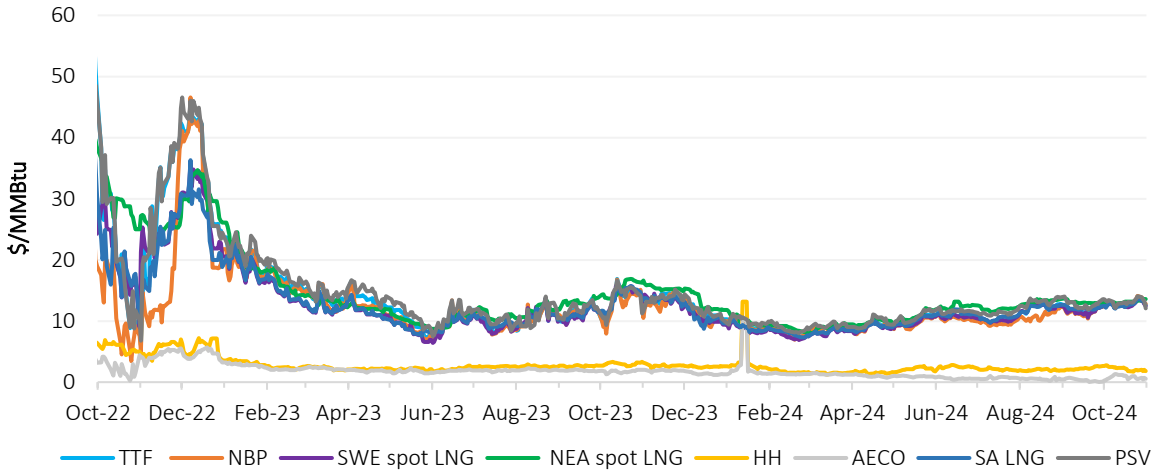
6 Energy Prices

6.1 Gas prices

6.1.1 Gas & LNG spot prices

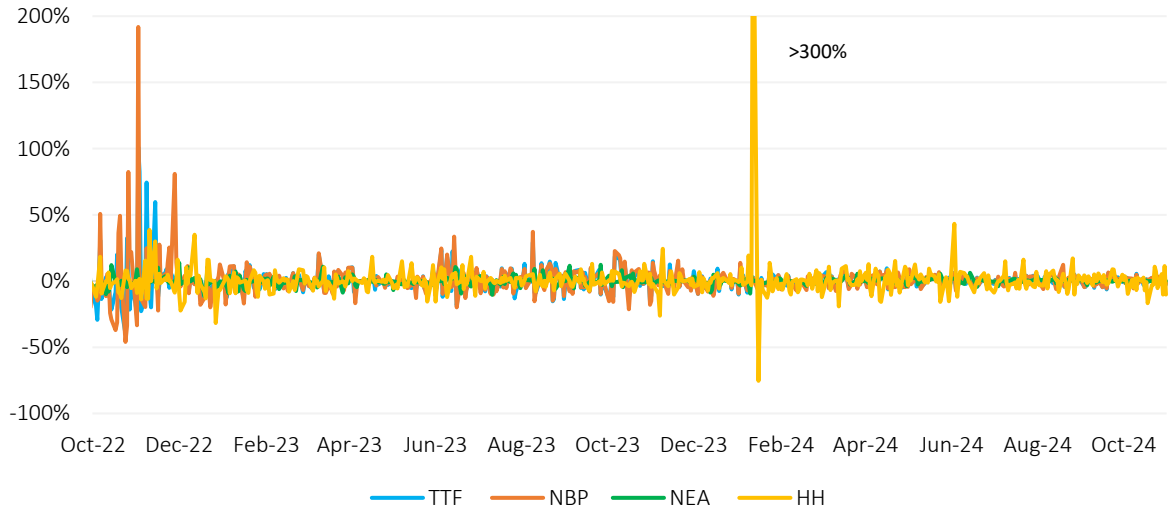
In October 2024, European gas and LNG spot prices increased, while Asian LNG spot prices remained relatively stable, with volatility remaining low (Figure 115 and Figure 116). In Europe, prices surged amid tightened supply due to unplanned outages in Norway, alongside rising tensions in the Middle East. Meanwhile, in Asia, soft demand and high storage levels kept prices steady. Looking ahead, spot prices are expected to gain support from rising European gas demand driven by anticipated below-normal temperatures, along with increased LNG procurement from 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

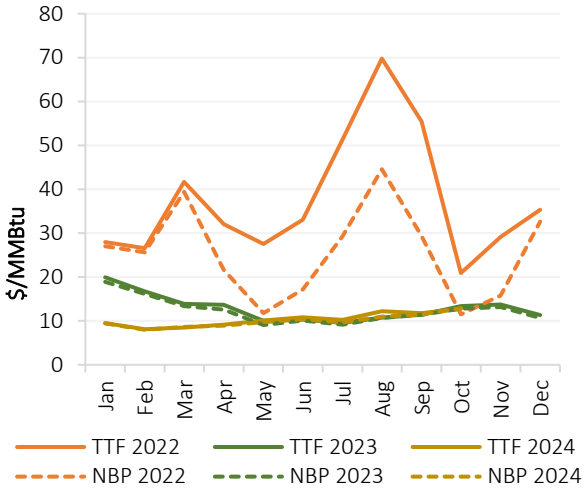


Source: GECF Secretariat based on data from Argus and Refinitiv Eikon

6.1.1.1 European spot gas and LNG prices

In October 2024, the TTF spot gas price averaged $12.78/MMBtu, reflecting a 9% increase m-o-m and a 5% decrease y-o-y. In addition, the NBP spot price averaged $12.89/MMBtu, reflecting a sharp 13% increase m-o-m and 1% increase y-o-y (Figure 117). The SWE spot LNG price averaged $12.67/MMBtu in October 2024 (9% increase m-o-m and 8% decrease y-o-y). In addition, the PSV spot price averaged $13.11/MMBtu (3% increase m-o-m and 4% decrease y-o-y).

Figure 117: Monthly European spot gas prices



Source: GECF Secretariat based on data from Refinitiv Eikon

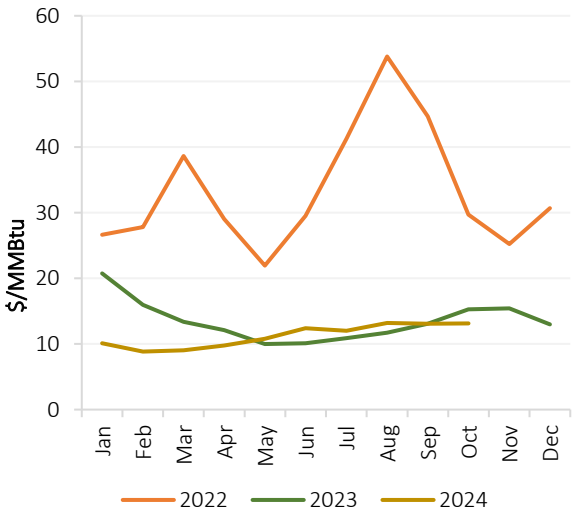
European gas and LNG spot prices surged due to tightening supply fundamentals and escalating tensions in the Middle East. Unplanned outages in Norway reduced pipeline gas imports to Northwest Europe, while reduced feedgas flows into certain US LNG facilities and seasonal maintenance at Qatar's Ras Laffan terminal further strained supply. Consequently, daily TTF spot prices reached a year-to-date high of $13.58/MMBtu during the month.

For the period January to October 2024, TTF and NBP spot prices averaged $10.32/MMBtu and $10.01/MMBtu, respectively, representing declines of 20% and 19% y-o-y, respectively.

6.1.1.2 Asian spot LNG prices

In October 2024, the average Northeast Asia (NEA) spot LNG price averaged $13.13/MMBtu, remaining at the same level as the previous month, but experienced a decline of 14% y-o-y. (Figure 118).

Figure 118: Monthly Asian spot LNG prices



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

Asian LNG prices were relatively stable due soft demand and high storage levels. Although market fundamentals were balanced, the ongoing conflict in the Middle East provided upward support for prices. As a result, daily NEA spot LNG prices reached a two-month high of $13.60/MMBtu.

For the period January to October 2024, the average NEA spot LNG price stood at $11.24/MMBtu, representing a decline of 16% y-o-y.

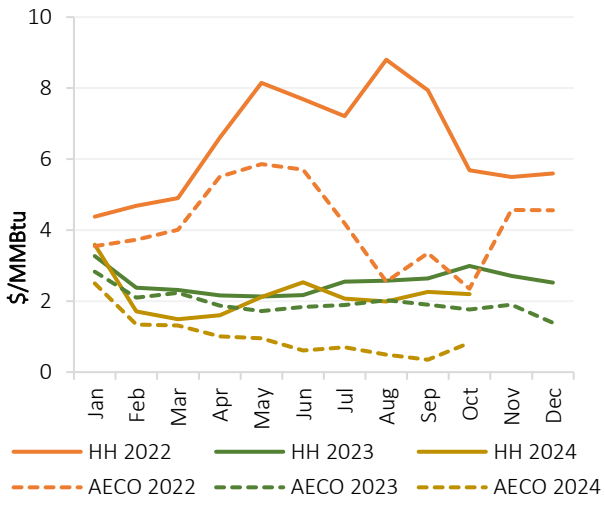
6.1.1.3 North American spot gas prices

In October 2024, the HH spot gas price averaged $2.20/MMBtu, reflecting a decline of 3% m-o-m. Additionally, it was 26% lower than the average price of $2.99/MMBtu observed in October 2023 (Figure 119).

Henry Hub prices declined driven by robust gas production, and reduced gas demand for power generation following Hurricane Milton's passage through Florida. Daily HH spot prices fell to a five-month low of $1.71/MMBtu.

Meanwhile, in Canada, the AECO spot price averaged $0.83/MMBtu in October 2024, reflecting a sharp increase of 137% m-o-m, but was 53% lower y-o-y. Daily AECO spot prices reached a 7-month high of $1.36/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 October 2024, the HH spot price averaged $2.16/MMBtu, representing a 14% decline y-o-y. Meanwhile, the AECO spot price averaged $1.01/MMBtu, marking a 50% decrease y-o-y.

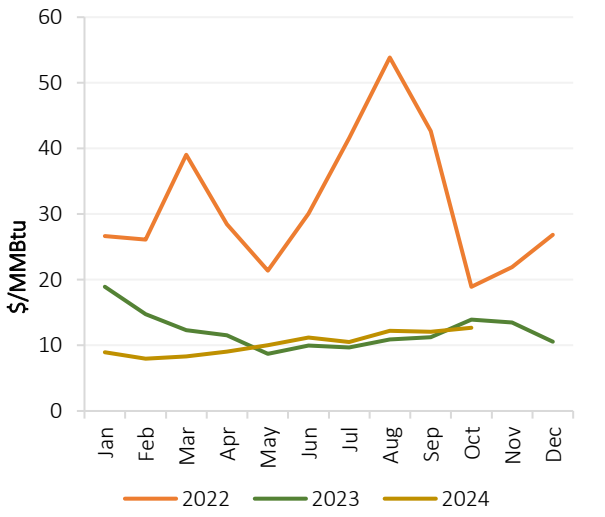
6.1.1.4 South American spot LNG prices

In October 2024, the South American (SA) LNG price experienced a 5% m-o-m increase, averaging $12.68/MMBtu. Additionally, the SA LNG price was 9% lower compared to the average price of $13.94/MMBtu observed in October 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 $12.74/MMBtu, $12.51/MMBtu and $12.80/MMBtu, respectively.

For the period January to October 2024, the SA LNG spot price averaged $10.30/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 October 2024, the average Oil-indexed I LNG price was $12.48/MMBtu, reflecting declines of 3% m-o-m and 2% y-o-y. Similarly, the Oil-indexed II LNG price averaged $9.29/MMBtu, reflecting declines of 4% m-o-m and y-o-y (Figure 121). Furthermore, Oil-indexed I prices traded at a discount of $1/MMBtu over NEA spot LNG prices. Additionally, Oil-indexed II prices showed a discount of $4/MMBtu over the NEA spot LNG prices.

In Europe, the Oil-indexed III price averaged $8.37/MMBtu in October 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 $4/MMBtu over the average SWE LNG price.

For the period January to October 2024, the Oil-indexed I LNG price reflected a 1% decrease y-o-y, while the Oil-indexed II LNG price showed a 3% increase y-o-y. Additionally, the Oil-indexed III LNG price for the same period reflected a 3% decrease y-o-y.

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

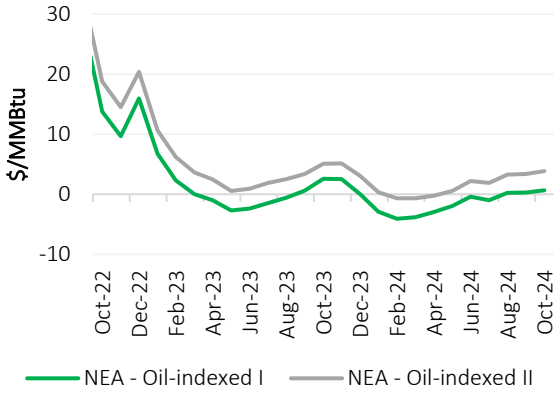
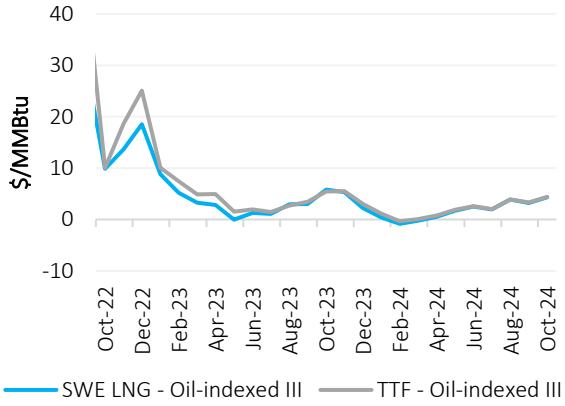


Figure 122: Europe: Spot and oil-indexed price spread



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 October 2024, the NEA-TTF price spread remained positive, but narrowed compared to the previous month. The average premium of NEA LNG spot price over the average TTF spot price was $0.35/MMBtu (Figure 123).

NBP traded at an average premium of $0.11/MMBtu to TTF in October 2024, after trading at a discount for the previous six months (Figure 124). The positive NBP-TTF spread indicated higher NBP prices, driven by increased heating demand in the UK and reduced pipeline imports from Norway. This price dynamic discouraged exports to Northwest Europe, reversing the flow direction through the BBL interconnector to favour deliveries toward the UK.

Furthermore, the spread between NWE LNG and TTF was negative, indicating that utilisation at regasification terminals was marginally higher (Figure 125). The NWE LNG-SA LNG price spread was negligible indicating a convergence of both prices (Figure 126). Meanwhile, the NEA-HH and TTF-HH spreads both widened to $10.93/MMBtu and $10.58/MMBtu, 9respectively (Figure 127 and Figure 128). The premium of both Asian and European spot prices over North American spot prices increased compared to the previous month.

Figure 123: NEA-TTF price spread

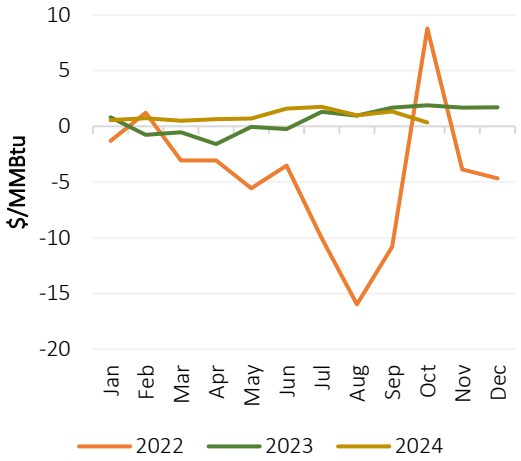


Figure 124: NBP-TTF price spread

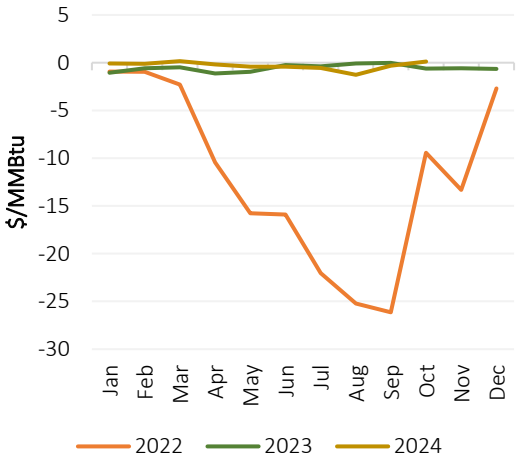


Figure 125: NWE LNG-TTF price spread

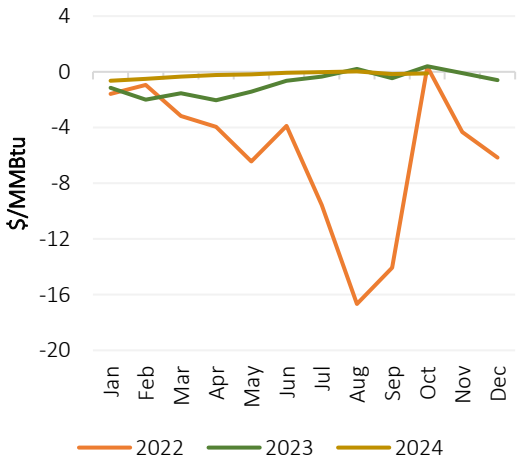


Figure 126: NWE LNG – SA LNG price spread

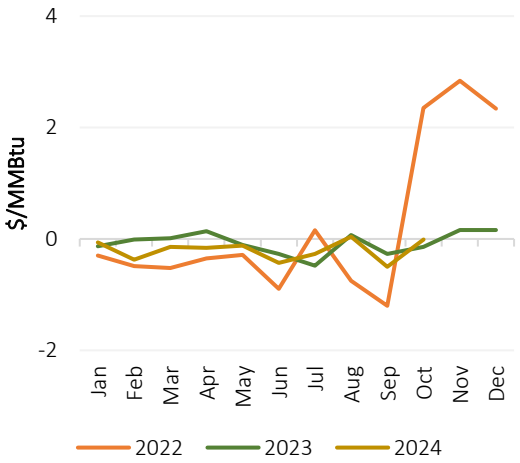


Figure 127: NEA-HH price spread

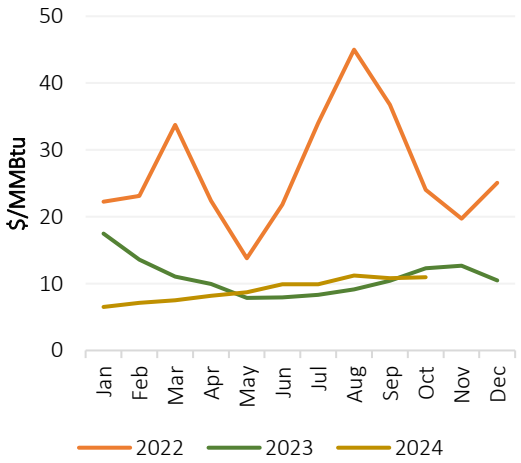
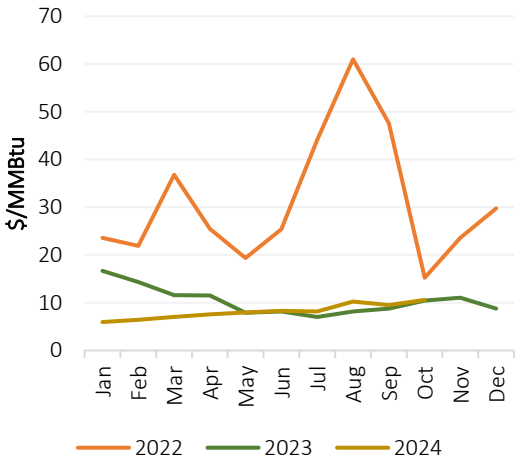


Figure 128: TTF-HH price spread



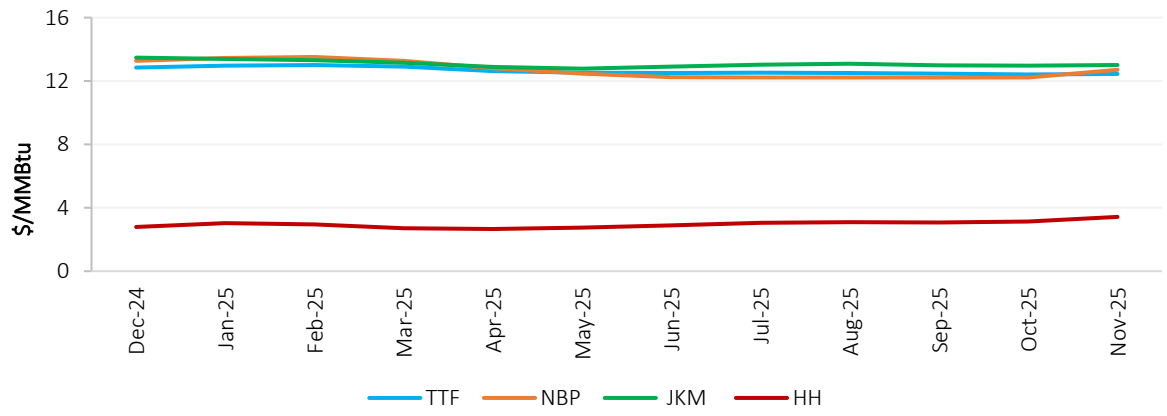
Source: GECF Secretariat based on data from Argus and Refinitiv Eikon

6.1.4 Gas & LNG futures prices

For the six-month period spanning December 2024 to May 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).

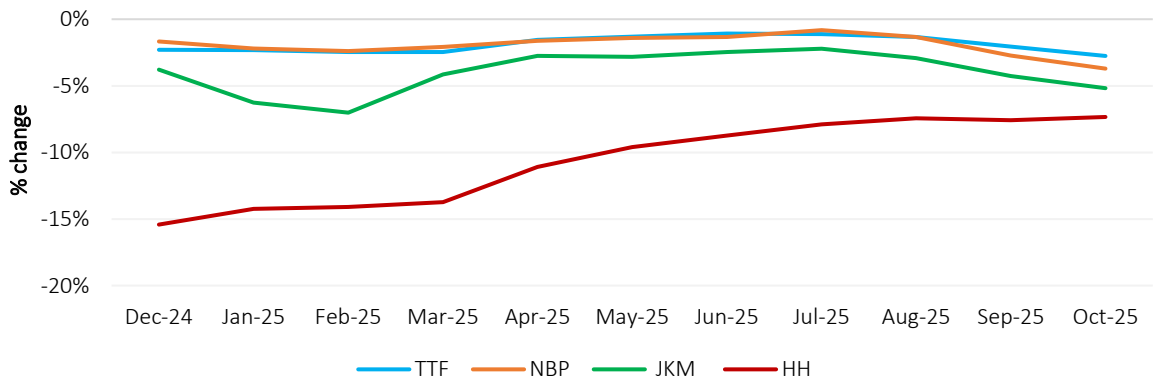
Moreover, as of 5 November 2024, the average futures prices for TTF, NBP and JKM during the same six-month period are $12.82/MMBtu, $13.13/MMBtu and $13.17/MMBtu, respectively. Furthermore, gas and LNG futures prices for TTF, NBP and JKM for the six-month period from December 2024 to May 2025 (as of 5 November 2024) are lower than the futures prices expectations considered on 8 October 2024 (as reported in the GECF MGMR October 2024). Additionally, the average Henry Hub futures price for the same period is $2.81/MMBtu, which is also lower 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 8 October 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 8 October 2024, as reported in GECF MGMR October 2024.

6.2 Cross commodity prices

6.2.1 Oil prices

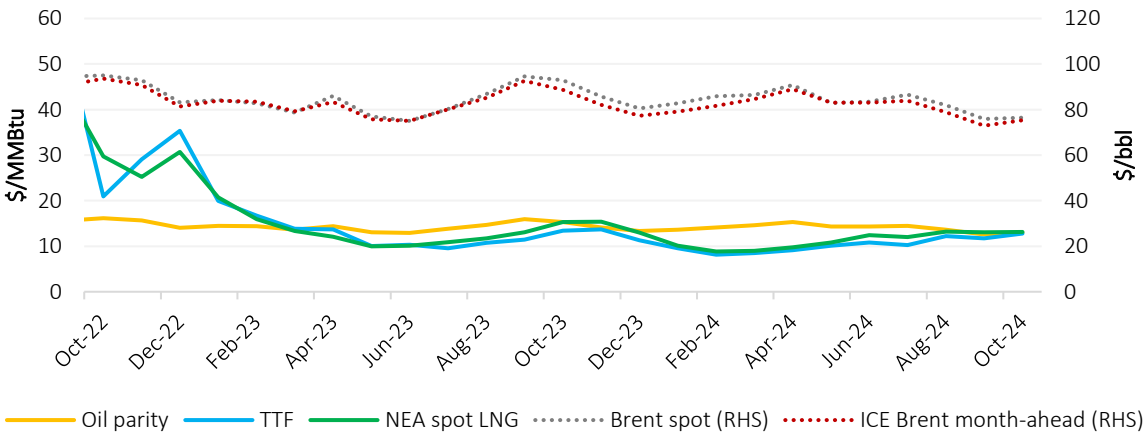
In October 2024, the average Brent spot price was $76.51/bbl, reflecting an increase of 1% m-o-m, but was 18% lower y-o-y (Figure 131). The Brent month-ahead price averaged $75.38/bbl, reflecting an increase of 3% m-o-m and a decline of 15% y-o-y.

Oil prices rose after a two-month decline, largely due to intensifying geopolitical tensions in the Middle East and potential supply disruptions. However, global market fundamentals remain bearish amid slowing oil demand growth in China. Furthermore, at the beginning of November, OPEC+ announced a one-month delay in its planned output increase, now scheduled for the end of December 2024.

Furthermore, in October 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.

For the period January to October 2024, the average Brent spot price was $83.32/bbl, representing a decrease of 1% y-o-y. Similarly, the average Brent month-ahead price was $81.16/bbl, reflecting a decline of 2% y-o-y.

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

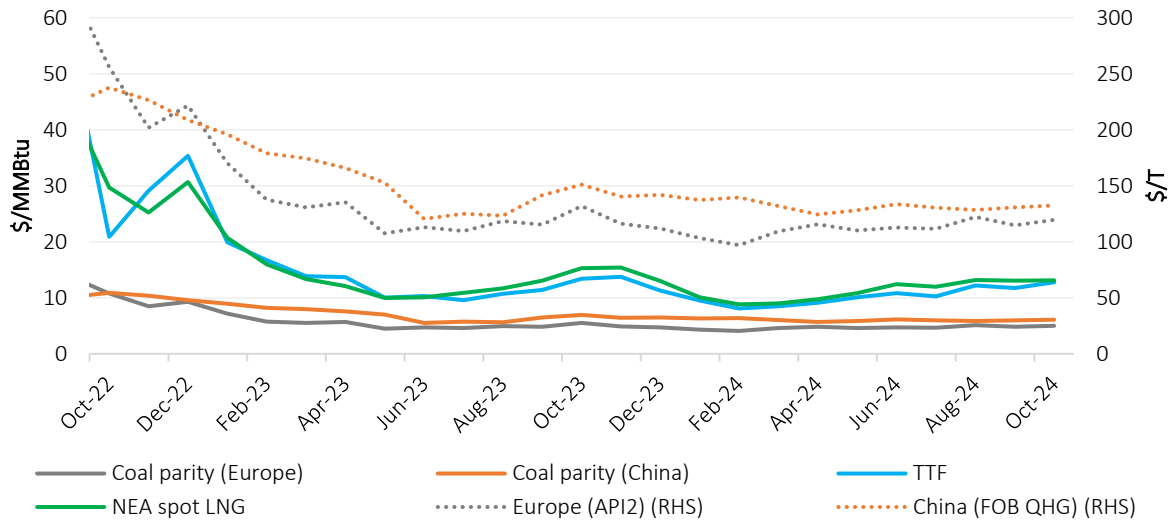
In October 2024, the European coal price (API2) averaged $119.64/T, reflecting an increase of 4% m-o-m and a decline of 9% y-o-y. Meanwhile, in China, the QHG coal price averaged $132.51/T, reflecting a 1% increase m-o-m and a 12% decrease y-o-y (Figure 132).

European coal prices rose, following the bullish trend in TTF gas prices, with anticipated colder temperatures in the coming months likely contributing to this upward movement. In China, coal prices also climbed due to increased demand driven by higher industrial activity.

The premium of TTF spot price over the API2 parity price increased to $8/MMBtu in October 2024. Additionally, the premium of NEA spot LNG price over the QHG parity price was relatively stable at around $7/MMBtu.

For the period January to October 2024, the European API2 averaged $111.65/T, representing a 12% decrease y-o-y. Meanwhile, the Chinese QHG price averaged $131.71/T, reflecting a 14% 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.

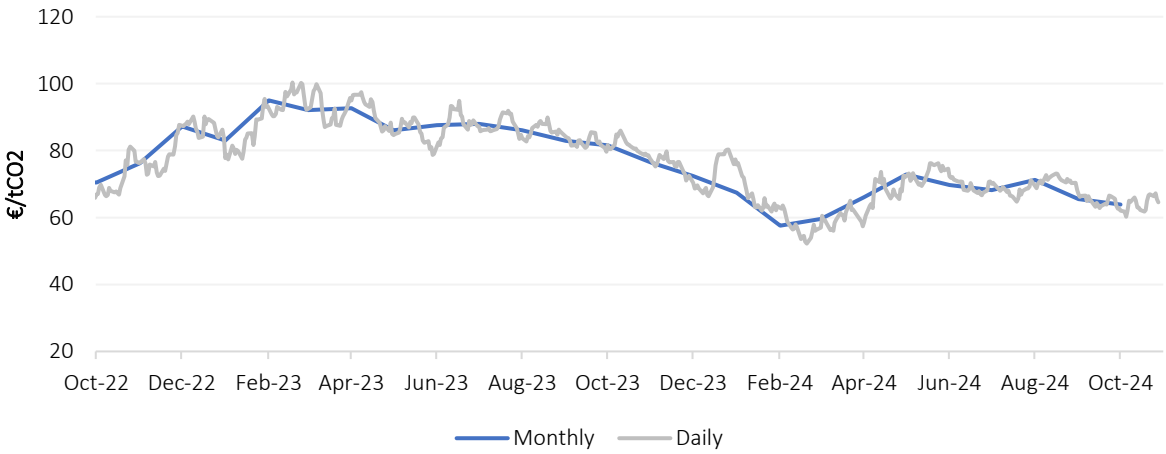
6.2.3 Carbon prices

In October 2024, EU carbon prices averaged €63.93/tCO_2, reflecting declines of 2% m-o-m and 22% y-o-y (Figure 133).

EU carbon prices continued their decline, reaching a six-month low of €60.29/tCO_2, likely due to mild weather that reduced heating demand.

For the period January to October 2024, EU carbon prices averaged €66.22/tCO2, representing a decline of 24% y-o-y.

Figure 133: EU carbon prices

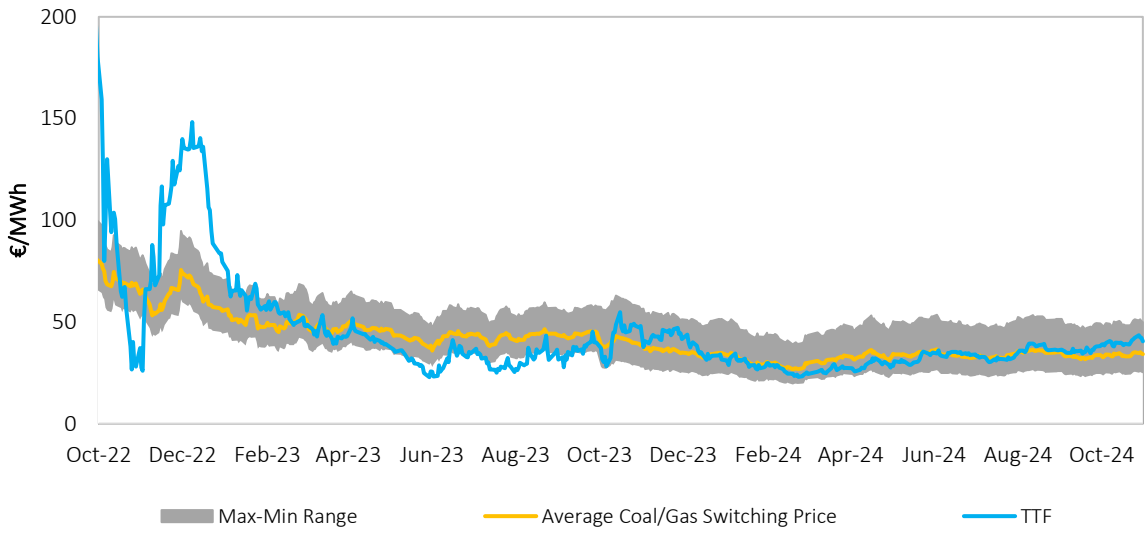


Source: GECF Secretariat based on data from Refinitiv Eikon

6.2.4 Fuel switching

In October 2024, daily TTF spot prices remained within the range that is favourable for coal-to-gas switching. The average coal-to-gas switching price experienced an increase of 3% m-o-m to reach €33.84/MWh. Notably, the average monthly spread between the TTF spot price and the coal-to-gas switching price was positive, averaging €6/MWh (Figure 134). Looking ahead to December 2024, the TTF spot price is expected to remain within the coal-to-gas switching range but will likely stay above the average switching price. This elevated level could discourage coal-to-gas switching in the region.

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%.

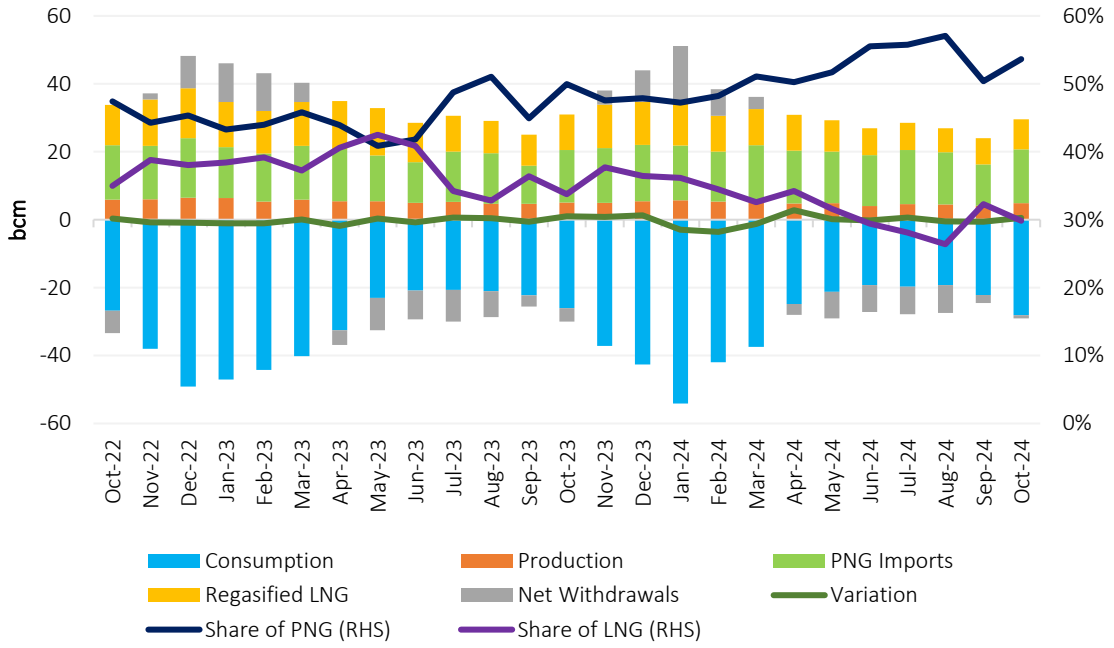
Annexes

Gas Balance

1) EU + UK

In October 2024, regasified LNG's share in the EU and UK gas supply declined to 30%, down from 32% the previous month and 34% in October 2023. Conversely, pipeline gas imports rose to 54%, up from 50% in both October 2023 and September 2024 (Figure 135). The m-o-m decrease in regasified LNG share, alongside the increase in the share of pipeline gas imports, was driven by a stronger rise in pipeline imports relative to LNG send-out. Compared to October 2023, the lower share of regasified LNG and uptick in the share of pipeline gas imports reflect a slight increase in pipeline imports amid a sharp drop in LNG send-out.

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 October 2024.

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

	2023	Oct-23	Oct-24	10M 2023	10M 2024	Change* y-o-y	Change** 2024/2023
(a) Gas Consumption	377.73	26.07	28.10	297.91	288.15	8%	-3%
(b) Gas Production	63.46	5.05	4.89	53.04	48.15	-3%	-9%
Difference (a) - (b)	314.27	21.03	23.22	244.87	240.00	10%	-2%
PNG Imports	174.88	15.49	15.86	142.16	152.37	2%	7%
Regasified LNG	143.59	10.46	8.82	118.18	92.94	-16%	-21%
Net Withdrawals	-4.86	-3.92	-0.97	-18.28	-10.20	-75%	-44%
Variation	0.66	-1.01	-0.49	2.82	4.90		

Source: GECF Secretariat based on data from AGSI+, JODI Gas and Refinitiv
(*): y-o-y change for October 2024 compared to October 2023
(**): y-o-y change for 10M 2024 compared to 10M 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 August 2024.

Table 3: OECD'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) OECD Gas Consumption	1770.0	132.8	132.5	1174.4	1175.7	-0.2%	0.1%
(b) OECD Gas Production	1700.0	144.0	143.0	1128.6	1134.3	-0.7%	0.5%
Difference (a) - (b)	70.0	-11.1	-10.5	45.9	41.4	-5.8%	-9.7%
OECD LNG Imports	329.9	25.3	22.9	222.1	199.6	-9.7%	-10.1%
LNG Imports from GECF	140.8	10.0	9.3	95.7	83.9	-7.5%	-12.4%
LNG Imports from Non-GECF	189.1	15.3	13.6	126.4	115.7	-11.1%	-8.4%
OECD LNG Exports	238.4	19.5	20.2	156.5	160.0	3.6%	2.2%
Intra-OECD LNG Trade	154.9	12.4	10.3	102.9	93.3	-17.0%	-9.4%
OECD Pipeline Gas Imports	499.0	39.2	41.3	339.1	330.0	5.3%	-2.7%
OECD Pipeline Gas Exports	479.8	39.4	40.3	329.5	314.0	2.4%	-4.7%
Stock Changes and losses	40.7	16.8	14.1	29.4	14.2		

Source: GECF Secretariat based on data from ICIS LNG Edge and IEA Monthly Gas Statistics
(*): y-o-y change for August 2024 compared to August 2023
(**): y-o-y change for 8M 2024 compared to 8M 2023

3) India

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

Table 4: India's 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) India Gas Consumption	62.15	5.56	5.84	47.61	50.68	5.0%	6.4%
(b) India Gas Production	35.09	2.98	2.94	25.90	26.91	-1.5%	3.9%
Difference (a) - (b)	27.06	2.58	2.91	21.71	23.78	12.4%	9.5%
India LNG Imports	30.27	2.94	2.84	22.42	27.62	-3.4%	23.2%
LNG Imports from GECF	23.57	2.46	2.15	17.60	19.99	-12.6%	13.6%
LNG Imports from Non-GECF	6.70	0.47	0.68	4.82	7.63	44.3%	58.2%
Stock Changes and losses	3.21	0.35	-0.07	0.71	3.85		

Source: GECF Secretariat based on data from ICIS LNG Edge and India's PPAC
(*): y-o-y change for September 2024 compared to September 2023
(**): y-o-y change for 9M 2024 compared to 9M 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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