GECF

Gas Exporting Countries Forum

MONTHLY GAS MARKET REPORT

December 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 in global gas consumption for 2024 has been revised upward to 2.4%. In November 2024, the EU recorded its third consecutive y-o-y increase in gas consumption, rising by 12% y-o-y to 35 bcm, following seven months of continuous decline. This uptick was primarily driven by the electricity and residential sectors, influenced by an early-month cold spell and significantly low wind power output throughout the month. Similarly, U.S. gas consumption saw a modest y-o-y increase of 0.3%, reaching 79 bcm. Meanwhile, China's apparent gas demand in October 2024 rose by 13% y-o-y to 35.4 bcm, fuelled by increased LNG demand for trucks and higher gas-fired power generation.

Gas production: The projected global gas production growth for 2024 has been estimated at 2.5%, the same as the last projection. In November 2024, US gas production continued its declining trend to stand at 88.9 bcm, representing a 2.1% y-o-y reduction. This decline reflects the combined effect of the Hurricane Rafael on Gulf of Mexico operations and production cuts in response to low Henry Hub prices. In October 2024, Europe's gas production increased by 1.5% y-o-y to stand at 15.7 bcm, supported by higher Norwegian output and limited maintenance. In Asia Pacific, gas production was estimated to have risen by 0.5% y-o-y, driven by significant Chinese production growth of 9.7% y-o-y, however this regional effect was counterbalanced by the reduction of some other major Asian gas producers' outputs.

Gas trade: Global LNG trade is on track to grow by 2% in the full year of 2024, driven mainly by stronger imports in Asia Pacific, which offset a sharp decline in Europe. In November 2024, global LNG imports declined by 3.4% y-o-y to 34.0 Mt, marking the lowest level for the month since 2021. That was primarily due to a sharp y-o-y reduction in floating storage of LNG cargoes in October 2024, as the steep price contango observed in October 2023 was less pronounced this year. This dynamic led to a spike in imports in October, followed by a decrease in November. Europe accounted for the majority of the decline, with LNG imports falling by 14% y-o-y to 9.1 Mt, while PNG imports matched the volume of one year ago to reach 13.4 bcm. In contrast, LNG imports in Asia Pacific rose slightly by 0.2% y-o-y to 22.9 Mt, the weakest monthly level since June 2024, due to tight LNG supply.

Gas storage: In Europe, net gas withdrawals have begun, with the onset of winter conditions in the northern hemisphere. In November 2024, the monthly average volume of gas in storage in the EU decreased to 95 bcm (92% of the regional capacity), compared with 103 bcm at the same time last year. In the US, net gas injections continued during the month, bolstering the average gas storage level to 112 bcm (84% of the country's capacity), which is 3.9 bcm higher than one year ago. In Asia, the combined volume of LNG in storage in Japan and South Korea increased to an estimated 15.5 bcm, compared with the volume of 14.3 bcm in storage in November 2023.

Energy prices: Gas and LNG spot prices in Europe and Asia continued their upward trajectory for the second consecutive month in November 2024. The TTF spot price averaged $13.83/MMBtu, marking an 8% m-o-m increase, while the average NEA spot LNG price averaged $14.03/MMBtu, up by 7% m-o-m. Meanwhile, in the US, the Henry Hub spot price experienced a slight decline, averaging $2.18/MMBtu, but exhibited high volatility during the month. Looking ahead, weather conditions will remain a key driver of spot price movements, with colder-than-usual temperatures expected to exert additional upward pressure on prices.

Feature article: Implications of COP29 for the gas industry

The 29th session of the Conference of the Parties (COP29) to the United Nations Framework Convention on Climate Change (UNFCCC) took place from November 11-22, 2024, in Baku, Azerbaijan, bringing together nearly 200 countries. Remarkably, this was the third consecutive year that the COP was presided and hosted by a GECF member country, following COP27 in Egypt and COP28 in the UAE.

COP29 followed COP28, where countries agreed on an energy package that includes tripling renewable energy capacity, doubling the rate of energy efficiency improvements by 2030, and transitioning away from fossil fuels in energy systems. For the gas industry, the critical elements of the energy package are the call for the acceleration of zero- and low-emission technologies, including carbon capture, utilization, and storage, and the acknowledgment that "transitional fuels can play a role in facilitating the energy transition while ensuring energy security," with natural gas considered the most efficient and widely accepted transitional fuel.

Although COP29 has made progress on various important topics, its outcomes are perceived as having a less direct impact on the gas industry compared to the previous year. A major focus in Baku was building on COP28's landmark energy package, however, progress stalled as parties failed to agree on the next steps. In particular, proposals for an annual dedicated space on energy transition, new goals for storage and grids, and annual progress reports on transitioning away from fossil fuels were rejected. In the meantime, decisions made on crucial issues such as climate finance commitments, advancements in carbon markets and trade-related climate measures may have significant indirect implications for the gas industry.

COP29 placed climate finance at the center of discussions. This topic is a cornerstone of Article 9 of the Paris Agreement, which stipulates that "developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation, in continuation of their existing obligations under the Convention." Mitigation and adaptation refer to the two main strategies for addressing climate change. Mitigation aims to reduce or prevent the emission of greenhouse gases into the atmosphere, while adaptation involves adjusting to the impacts of climate change that are already occurring or are anticipated. In 2015, COP21 agreed to establish, prior to 2025, a new collective quantified goal (NCQG) for financial assistance to developing countries, replacing the annual target of $100 billion set at COP15 in 2009. Eventually, COP29 decided to set a NCQG of at least $300 billion per year by 2035 for climate action in developing countries. This funding will come from a variety of sources —public and private, bilateral and multilateral, including alternative sources.

Despite the increase in pledged amounts, many stakeholders view the agreements in this area as insufficient and inefficient. First, the financial commitment falls short of the estimated funding requirements, with concerns of developing countries reflected in a non-binding statement with a call for all actors to "work together to enable the scaling up of financing to developing country Parties for climate action from all public and private sources to at least $1.3 trillion per year by 2035." Second, the statement that funding may come from a wide variety of sources does not impose binding commitments on developed countries to provide public funding, which is the most critical element of the financing. Third, while developing countries have long called for financial support to be provided exclusively in grant-equivalent forms, the

final text acknowledges not only grant-based resources but also concessional finance. Fourth, the shift in language from the Paris Agreement's stipulation that developed countries "shall provide financial resources" to the phrasing in COP29, where their responsibility is framed as "taking the lead" in providing financial resources, transforms the commitments of developed countries from a direct obligation to a more aspirational and less enforceable expectation.

Overall, the lower-than-necessary commitments made by developed countries reflect their reluctance to shoulder significant financial burdens, which could present a major challenge to advancing energy transitions as envisioned by these nations, particularly with their strong emphasis on the expansion of renewable energy. The substantial gap between the estimated funding needs of developing countries — around $1.3 trillion per year — and the financial commitments of developed countries, set at $300 billion per year, highlights the difficulties that developing countries will face. With limited financial resources, these countries will encounter significant challenges and constraints in expanding their renewable energy sectors.

In this context, there is a growing global consensus that there is no one-size-fits-all model when it comes to energy transitions, as each region has its own unique challenges and resources. In many regions, energy transitions cannot solely rely on renewables; all energy sources must play a role. Taking into account their unique national circumstances, pathways, and approaches, developing countries will be encouraged to prioritize energy transitions that rely more heavily on traditional energy sources. In this regard, natural gas stands out as a balanced solution to the energy trilemma — ensuring energy security, affordability, and sustainability — due to its numerous economic, social, and environmental benefits. It aligns with most emissions-reduction pathways and plays a crucial role as a reliable backup energy source, complementing the intermittent nature of wind and solar power, while also providing stability for hydroelectric generation, which is heavily dependent on precipitation levels.

The global gas industry is well-positioned to advance the balanced energy transitions, while contributing to the reduction in GHG emissions globally. The Algiers Declaration, adopted at the 7th GECF Summit in March 2024, acknowledged “the contributions of eco-friendly natural gas in addressing climate change challenges, and its importance in achieving just, equitable, orderly, inclusive and sustainable energy transitions, while taking into account national circumstances, capabilities and priorities”. Similarly, the GECF Ministerial Statement of the 26th Ministerial Meeting, held in December 2024 in Tehran, underscored “the pivotal role of natural gas in advancing the United Nations Sustainable Development Goals, notably to end hunger and ensure universal access to energy, as well as in driving orderly, just, inclusive, cost-effective, and nationally determined energy transitions that leave no one behind”.

COP29 also achieved progress on carbon markets under Article 6 of the Paris Agreement, which provides the framework for international collaboration in carbon markets to help meet nationally determined contributions. Parties reached an agreement on the final building blocks that define how carbon markets will function, making country-to-country trading (Article 6.2) and a carbon crediting mechanism (Article 6.4) fully operational. Notably, the agreement opens the door for future international cooperation and integration of national and regional carbon markets, with emission allowances or credits generated under one system to be recognized in another, which would facilitate the creation of a centralized carbon market.

In the meantime, national and regional carbon markets operate independently of Article 6 of the Paris Agreement. They are divided into two types: voluntary and compliance. In voluntary carbon markets, participants are not formally obligated to meet specific targets but choose to offset their emissions voluntarily. In compliance markets, participants have obligations under national or regional emissions trading schemes (ETS). There are around 40 ETSs globally, covering nearly 20% of global GHG emissions. The EU ETS is the first and largest carbon market, operating on a "cap and trade" principle. In this system, a government or regulatory body sets a total emissions cap and issues a certain number of allowances, which are then distributed or auctioned to participants. These allowances are free or bought and can be traded among participants in the market. Over time, the cap on emissions is reduced, which drives a reduction in allowances. In the short and medium term, EU carbon prices are expected to rise to meet the 2030 emissions reduction target of 55% (compared to 1990 levels). This could enhance the competitiveness of natural gas over oil and coal, given its comparatively lower emissions profile, and specifically encourage coal-to-gas switching in the power generation sector. Additionally, ETSs are expected to provide financial incentives to cut emissions through the introduction of low-carbon technologies. In the case of the gas industry, carbon pricing is supposed to encourage the adoption of Carbon Capture, Utilization, and Storage (CCUS). Notably, the gas industry is incentivized to advance CCUS projects when the carbon price ranges from \$20/tCO_2 in the upstream sector to \$100/tCO_2 in the electricity generation sector.

COP29 also reached a significant agreement to establish a four-year work plan (2026–2030) aimed at addressing the effects of carbon-cutting policies, with a specific focus on their cross-border impacts. This new framework provides a formal platform within UN climate negotiations to evaluate and discuss trade-related climate measures, including mechanisms like the EU's Carbon Border Adjustment Mechanism (CBAM). The CBAM has sparked considerable debate as it imposes carbon costs on imports based on their carbon emissions, which could be seen as a form of protectionism. By integrating these concerns into the UN climate talks, COP29 acknowledges the delicate balance between advancing climate goals and preserving the principles of fair trade. It remains to be seen how the work plan will address these challenges, but the formal inclusion of trade-related climate measures in future negotiations signals a step toward more inclusive and transparent climate policies that consider both environmental and economic impacts. In this context, the GECF reinforced its stance on the matter, as expressed in the Algiers Declaration, adopted during the 7th GECF Summit in March. Heads of State and Government of GECF member countries rejected the use of climate change policies as a justification for implementing measures that could lead to arbitrary discrimination, emphasizing that such actions are in direct violation of international trade rules.

GECF has continued its successful participation in the COPs, aiming to expand the role of natural gas in promoting sustainable development across economic, social, and environmental dimensions (Figure i). At the High-Level Segment of COP29, GECF Secretary General, HE Eng. Mohamed Hamel delivered a statement leveraging the Forum's status as an Observer Member of the UNFCCC. He highlighted the essential role of natural gas in "driving economic growth, improving living standards, reducing household pollution, enhancing urban air quality, and lowering greenhouse gas emissions." He emphasized the need to "facilitate financing for natural gas projects and accelerate the adoption of cleaner technologies like CCUS."

Furthermore, GECF and Azerbaijan co-hosted the GECF ministerial panel discussion on the theme "Natural Gas for Sustainable Development," highlighting the critical role of natural gas in advancing sustainable development goals. Additionally, the GECF partnered with OPEC to hold their third coordination meeting on climate change issues. This meeting reaffirmed their shared commitment to tackling the dual challenges of climate change and energy security while providing coordinated support to their member countries throughout the UNFCCC processes. Additionally, the Forum organized the GECF Pavilion for the second consecutive year, hosting a variety of panels, workshops, and roundtables for energy industry experts. The discussions centered on the critical role of natural gas as an accessible, affordable, reliable, and sustainable energy source in supporting energy transitions and advancing the goals of the Paris Agreement and the UN SDGs. Additionally, GECF and AFREC signed a joint statement promoting a collaborative, multi-fuel approach to clean cooking. This statement underscores their shared commitment to sustainable energy transitions that prioritise Africa's unique needs, fostering healthier, safer, and more resilient communities.

COP30 will take place in November 2025 in Belém, Brazil. The country assumes the presidency at a time of uncertainty surrounding global climate actions, fueled by changes in leadership in several major countries. Specifically, a new U.S. administration, which will take office in January 2025, is expected to withdraw from the Paris Agreement and increase oil and natural gas production, while the newly-elected EU Commission may adopt a more pragmatic approach to the climate agenda. In this context, the negative narrative surrounding natural gas, which was dominant just a few years ago, may begin to lose momentum.

As a key player in the global energy market, Brazil relies on natural gas across all major sectors, particularly in electricity generation, where it complements the country's dominant hydropower during periods of low precipitation and extended droughts. Given Brazil's strong international relationships, especially within BRICS and the G20, its presidency of the upcoming COP could play a pivotal role in further fostering a balanced approach to natural gas as a vital enabler of equitable and sustainable energy transitions.

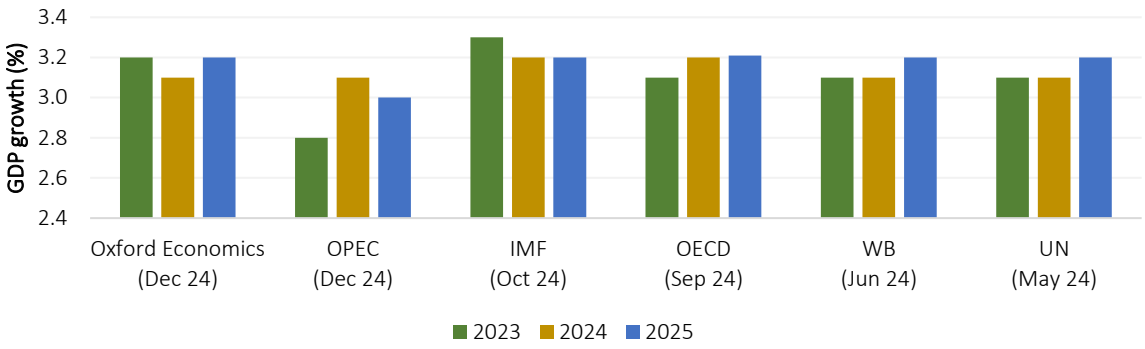
Figure i: GECF participation in COP29

1 Global Perspectives

1.1 Global economy

As of December 2024, the global GDP growth forecast for 2024 remains steady at 3.1%, based on purchasing power parity. This reflects stronger-than-expected economic performance in the first half of the year, alongside a gradual easing of inflation pressures across major economies. Notably, the global economy has demonstrated resilience despite challenges such as ongoing geopolitical tensions and heightened policy uncertainties. The global GDP growth forecast for 2025 has also been maintained at 3.2% (Figure 1).

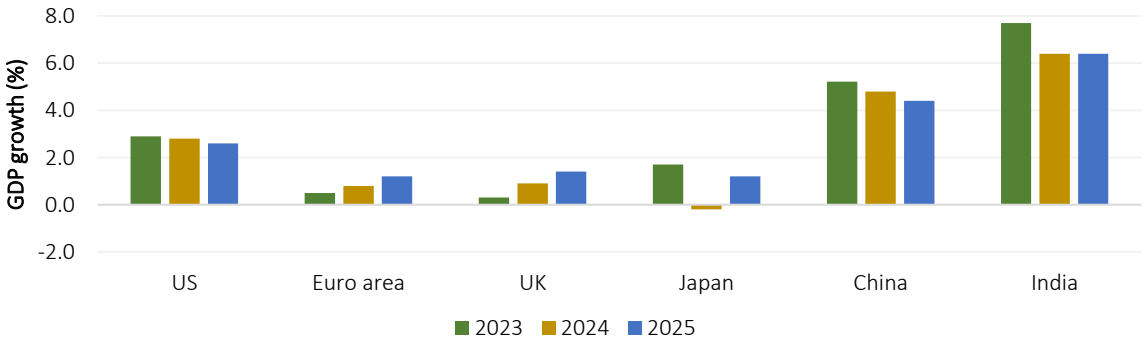
Figure 1: Global GDP growth



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 remains at 2.8%, supported by robust consumer spending and a resilient labour market, while the projection for 2025 has also been maintained at 2.6%, though policy uncertainties under the Trump administration could introduce potential volatility. The Euro area's GDP growth forecasts for 2024 and 2025 are unchanged at 0.8% and 1.2%, respectively, reflecting subdued growth momentum. China's GDP growth forecast for 2024 holds steady at 4.8%, with positive signs in the services sector, while the projection for 2025 remains at 4.4%, reflecting consistent performance expectations, though the potential imposition of US tariffs poses a significant downside risk. India's GDP growth forecast for 2024 has been revised down by 0.4 percentage points to 6.4%, driven by slower growth in Q3 amid weakening domestic consumption, while projection for 2025 has also been adjusted downward to 6.4% (Figure 2).

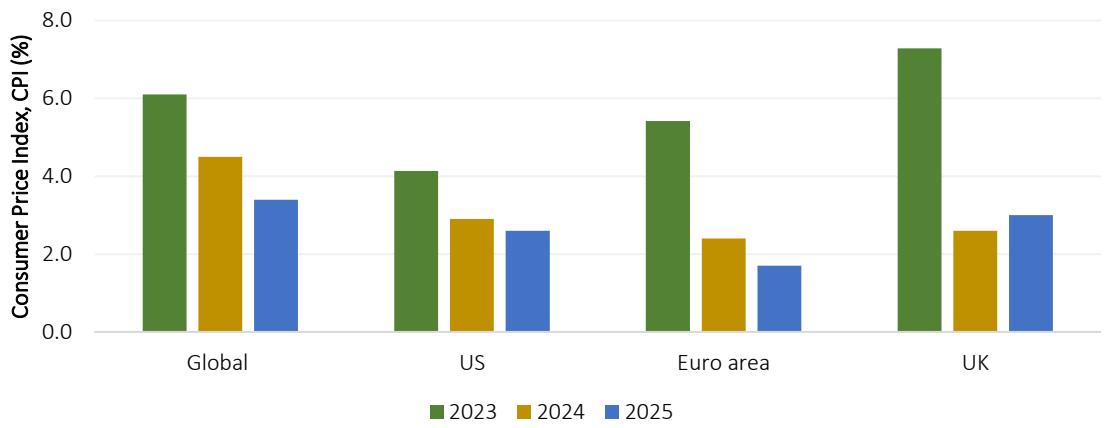
Figure 2: GDP growth in major economies



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. In 2025, global inflation is projected to fall further to 3.4%. In the Euro area, inflation is forecast to fall to 2.4% in 2024 and 1.7% in 2025. In the UK, inflation is expected to fall to 2.6% in 2024, after which it is anticipated to increase to 3% in 2025. In the US, inflation is expected to decline to 2.9% in 2024 and 2.6% in 2025 (Figure 3).

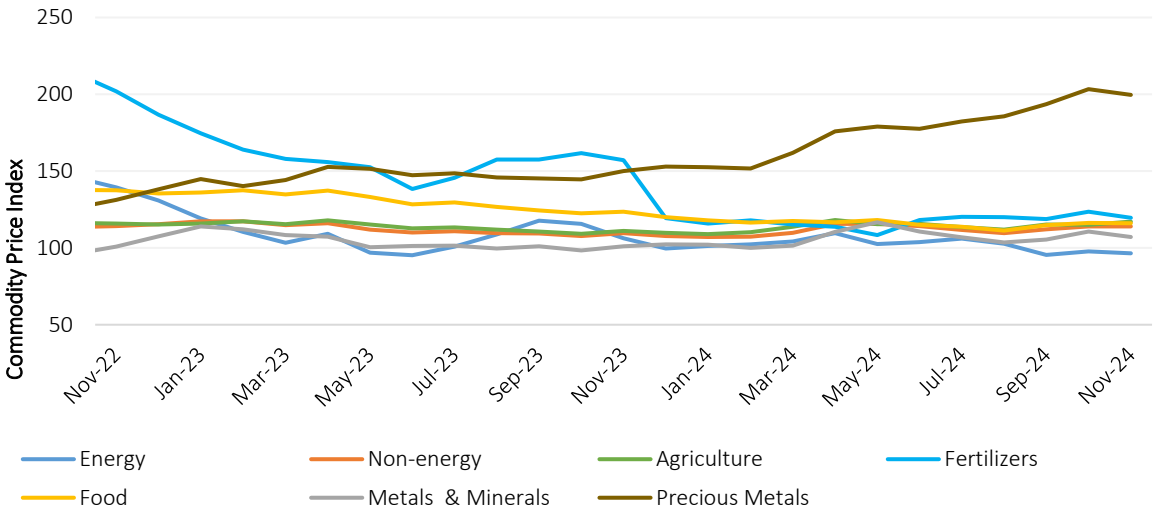
Figure 3: Inflation rates



Source: GECF Secretariat based on data from Oxford Economics

In November 2024, commodity prices in the energy sector declined, reversing the slight uptick in the previous month. The energy price index experienced decreases of 1% m-o-m and 9% y-o-y, primarily driven by rising gas prices. In contrast, the non-energy price index remained relatively stable compared to the previous month, while increasing by 4% y-o-y. Although agricultural prices saw an overall increase, this was offset by declines in fertilizers, metals, minerals and precious metals. The fertilizer price index dropped by 3% m-o-m and was 24% lower y-o-y (Figure 4).

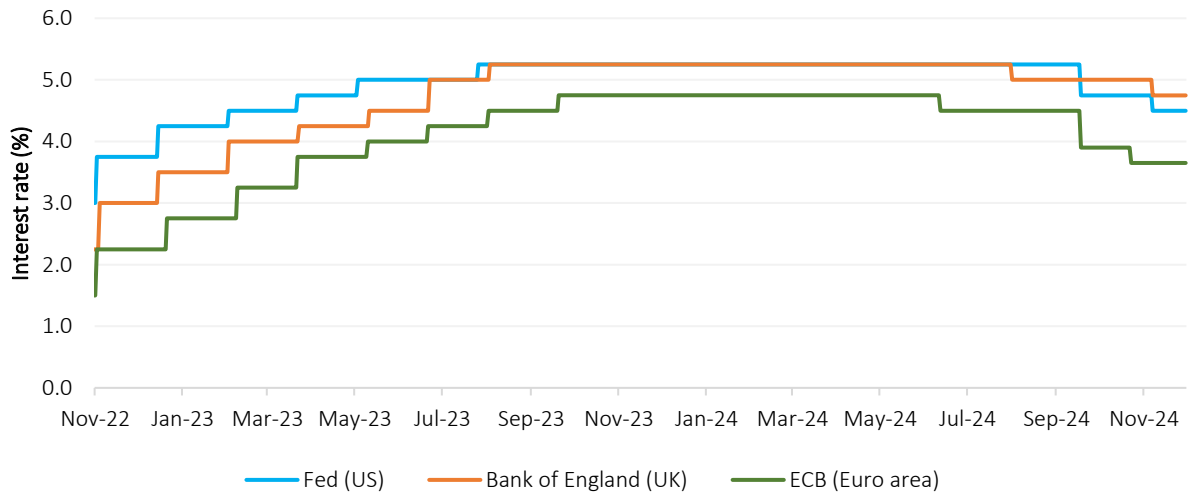
Figure 4: Monthly commodity price indices



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%).

On 7 November 2024, the US Federal Reserve (Fed) lowered its benchmark interest rate by 0.25 percentage points, bringing it within the range of 4.5% to 4.75%. Similarly, the Bank of England (BOE) also cut its benchmark interest rate by 0.25 percentage points, lowering it to 4.75%, on 7 November 2024. In contrast, the European Central Bank (ECB) kept its interest rates unchanged in November 2024, maintaining the rates for main refinancing operations, marginal lending facility and deposit facility rates at 3.40%, 3.65% and 3.25%, respectively (Figure 5).

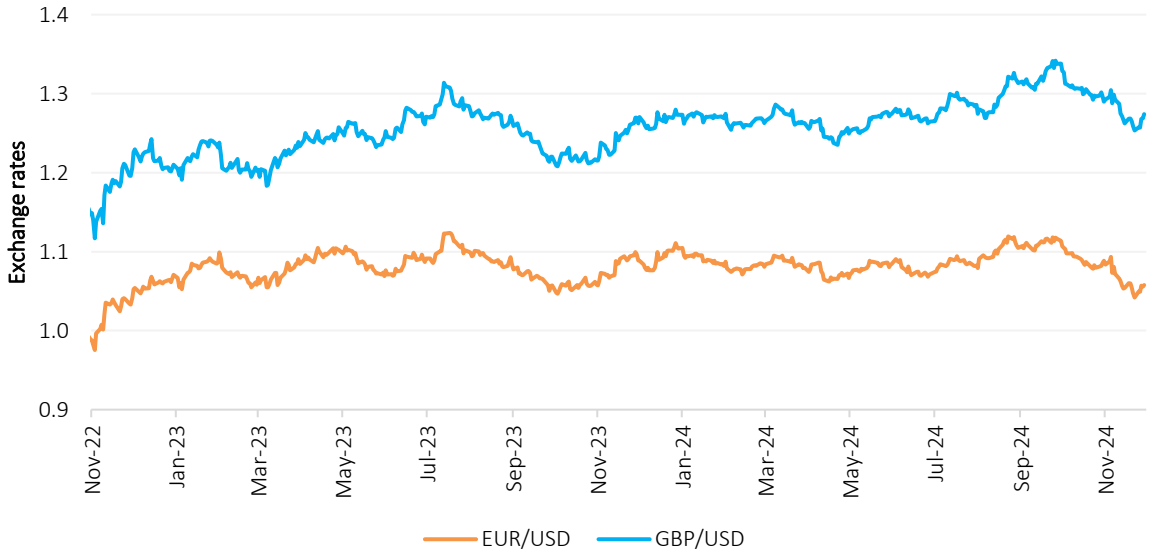
Figure 5: Interest rates in major central banks



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

In November 2024, the Euro depreciated against the US dollar, resulting in an average exchange rate of $1.0626, representing decreases of 2% m-o-m and y-o-y. Similarly, the British pound depreciated against the US dollar, as the average exchange rate reached $1.2750, reflecting a decrease of 2% m-o-m and an increase of 3% y-o-y (Figure 6).

Figure 6: Exchange rates



Source: GECF Secretariat based on data from Refinitiv Eikon

1.2 Other developments

GECF: The 26th Ministerial Meeting of the GECF took place on 8 December 2024, in Tehran, Iran. The Ministerial Statement underscored "the pivotal role of natural gas in driving economic development, advancing social progress, protecting the environment, and ensuring energy security, affordability, and sustainability." The ministers further acknowledged "the interconnection between energy security and food security, emphasizing the role of natural gas in supporting agricultural production and enhancing global food systems, particularly in addressing the challenges of hunger and poverty." Additionally, the ministers emphasized "the importance of timely investment in the natural gas value chain, stressing that calls to halt investment are misguided and will undermine energy security, heighten market volatility, and hinder progress toward achieving global emissions reduction targets."

COP29: The COP29 UN Climate Change Conference took place from November 11-22, 2024, in Baku, Azerbaijan. One of the major outcomes was the pledge of $300 billion per year in climate finance from developed countries to support developing nations. Additionally, COP29 achieved a significant milestone with the agreement on international carbon markets. The GECF Secretary General, HE Eng Mohamed Hamel delivered a statement at the High-Level Segment in which he reiterated the global need for natural gas, "as the world's population grows, the economy expands, and human living conditions improve, the world will need more natural gas, not less."

G20: The G20 Summit took place on 18-19 November 2024 in Rio de Janeiro, Brazil, under the theme of "Building a just world and a sustainable planet". World leaders engaged in three sessions focused on the main priorities of the Brazilian presidency: social inclusion and the fight against hunger and poverty; reform of the institutions of global governance; and sustainable development and energy transition. In the adopted G20 Rio de Janeiro Leaders' Declaration, the leaders recognized "the need to catalyze and scale up investment from all financial sources and channels for bridging the funding gap for energy transitions globally, especially in developing countries." Reaffirming that developing countries need to be supported in their transitions to low carbon emissions, they committed to "work towards facilitating low-cost financing for them."

APEC: The APEC Summit took place on 16 November 2024 in Lima, Peru, under the theme of "Empower. Include. Grow." In the 2024 APEC Leaders' Machu Picchu Declaration, the economic leaders of APEC recognized "the importance of ensuring energy security, resilience and access to support a sustainable economic growth and development." They recognized that "more intensive efforts are needed for economies to accelerate their clean, sustainable, just, affordable, and inclusive energy transitions through various pathways, consistent with global net-zero greenhouse gas emissions / carbon neutrality by or around mid-century, while taking into account the latest scientific developments and different domestic circumstances."

Qatar: The 6th International Gas Conference (IGC2024) took place on 2-4 December 2024 in Doha, Qatar, under the theme of "Natural Gas in Energy Transition and Sustainability". The conference, organized by Qatar University and its Gas Processing Center, serves as a platform for fostering innovation and advancing insights sharing in the natural gas industry. The GECF Secretary General, HE Eng Mohamed Hamel delivered a keynote speech emphasizing "natural gas is part of the solution to the equation of how to ensure simultaneously energy security, affordability and sustainability." Furthermore, he highlighted the crucial tole of natural gas in replacing carbon-intensive fuels and acting as a backup for intermittent renewables.

2 Gas Consumption

The projected growth in global gas consumption for 2024 has been revised upwards to 2.4%. 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 ten months of 2024, gas consumption in these key countries rose by 2.8% y-o-y to reach 2,156 bcm, primarily driven by growth in Asia and North America.

2.1 Europe

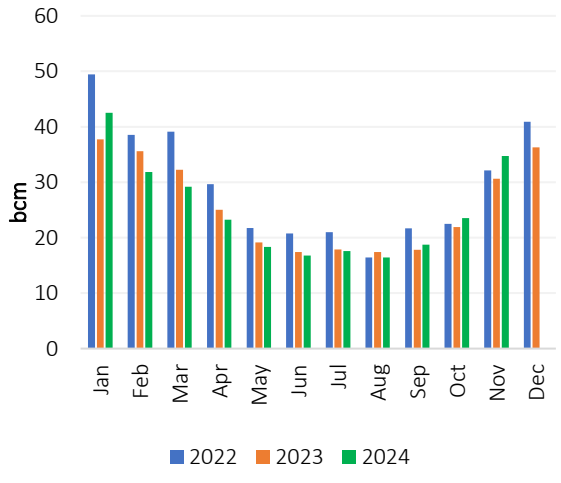
2.2.1 European Union

In November 2024, EU gas consumption increased by 12% y-o-y to 35 bcm, marking the third consecutive monthly rise following seven months of decline (Figure 7). This growth was primarily driven by higher gas demand in the electricity sector. Reduced wind speeds led to a significant surge in gas use within the power sector, as gas-fired power plants played a crucial role in stabilizing the electricity grid across the EU. Additionally, colder weather increased demand in the residential and commercial sectors, while industrial gas consumption continued to grow, supported by a recovery in major European countries and lower gas prices.

Total electricity production in the EU rose by 1% y-o-y, reaching 215 TWh. Gas-fired electricity generation recorded a huge growth of 38% y-o-y, reflecting lower outputs from hydro and wind (Figure 8). The decline in wind output was attributed to unfavourable weather conditions affecting most EU countries. In the power generation mix, non-hydro renewables led with a 29% share, followed by nuclear at 25%, gas at 21%, coal at 13% and hydro at 12%.

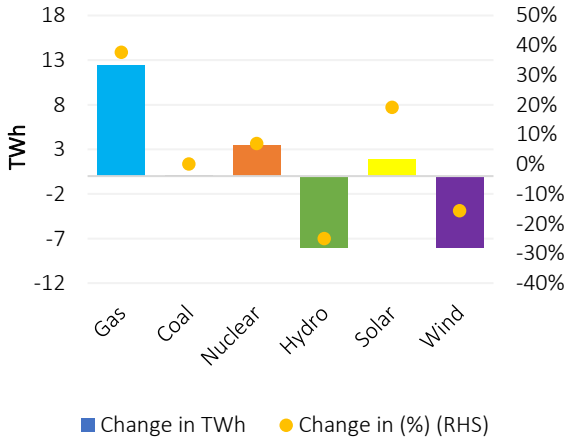
From January to November 2024, the EU's gas consumption remained nearly unchanged compared to the same period last year, totalling 273 bcm.

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 November 2024 (y-o-y change)



Source: GECF Secretariat based on data from Ember

2.1.1.1 Germany

In November 2024, Germany saw its third consecutive month of growth in gas consumption, signalling a recovery trend in the gas industry. Gas consumption rose by 7% y-o-y, reaching 8.6 bcm (Figure 9). This increase was primarily driven by higher demand in the electricity sector, followed by the industrial sector, which grew by 15% y-o-y (Figure 10), and the residential sector, which recorded a 4% y-o-y increase due to colder temperatures.

Figure 9: Gas consumption in Germany

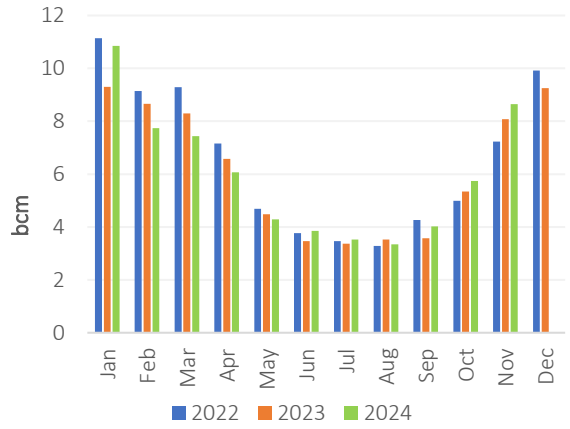
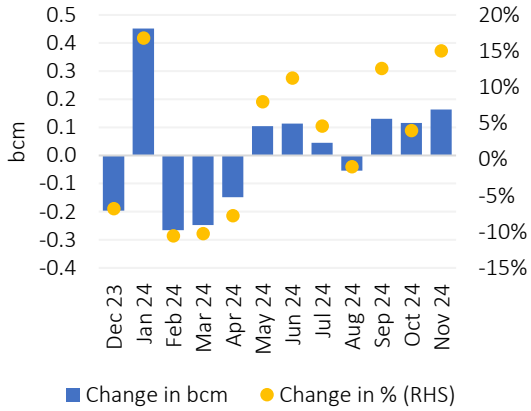


Figure 10: Trend in gas consumption in the industrial sector in Germany (y-o-y change)



Source: GECF Secretariat based on data from Refinitiv

Total electricity production declined by 5% y-o-y to reach 39.5 TWh. In addition, gas-fired power generation surged by 39% y-o-y, compensating for reduced outputs from wind, solar and hydro power due to unfavourable weather conditions (Figure 11). Notably, wind production recorded exceptionally low output levels, necessitating increased reliance on gas power plants to maintain stability in the German grid. Coal-fired generation also rose by 2% y-o-y. In the electricity mix, non-hydro renewables led with a 42% share, followed by coal at 30% and gas at 24% (Figure 12).

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

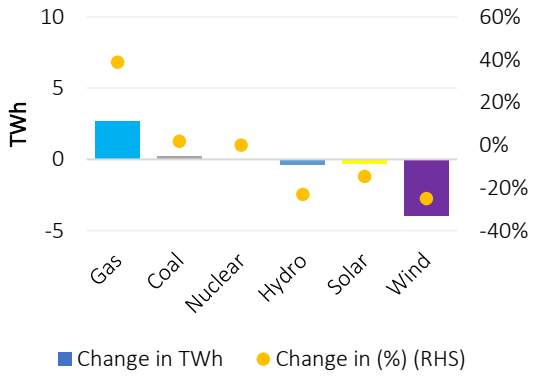
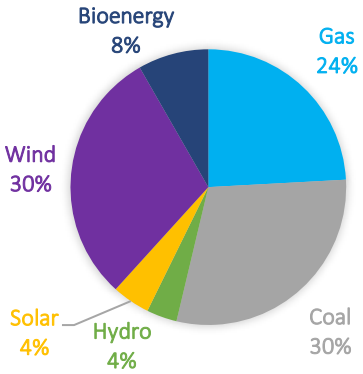


Figure 12: German electricity mix in Nov 2024



Source: GECF Secretariat based on data from Refinitiv and Ember

For the period Jan-Nov 2024, Germany's gas consumption rose by 1.3% y-o-y to 65 bcm.

2.1.1.2 Italy

In November 2024, Italy's gas consumption saw a significant y-o-y increase of 10%, totalling 6.5 bcm (Figure 13). This growth was primarily driven by higher consumption in the power generation and residential sectors. The residential sector recorded a 9% y-o-y increase, reaching 3.2 bcm, largely due to colder-than-average temperatures, particularly in the northern regions of the country. Gas consumption in the industrial sector remained unchanged from the previous year, holding steady at 1 bcm (Figure 14).

Figure 13: Gas consumption in Italy

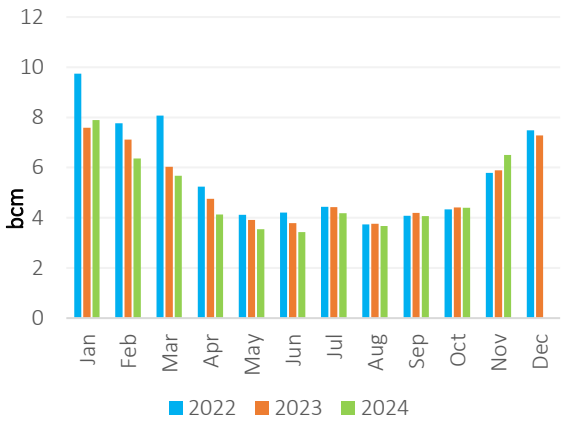
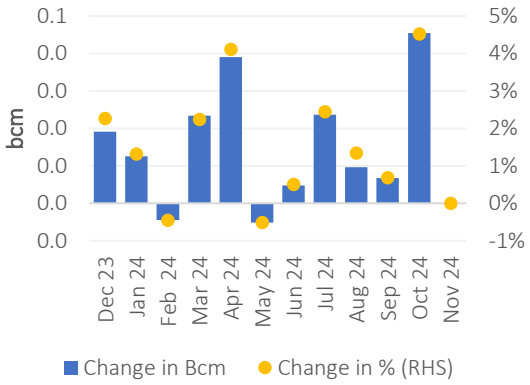


Figure 14: Trend in gas consumption in the industrial sector in Italy (y-o-y change)



Source: GECF Secretariat based on data from Snam

Total electricity production increased by 6.4% y-o-y to 19.3 TWh. Gas-based electricity production surged by 40% y-o-y to 2.1 bcm, to compensate significant y-o-y declines in electricity output from hydro and wind (Figure 15). Meanwhile, gas remained the dominant fuel in the power mix with 58%, followed by non-hydro renewables with 26% (Figure 16).

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

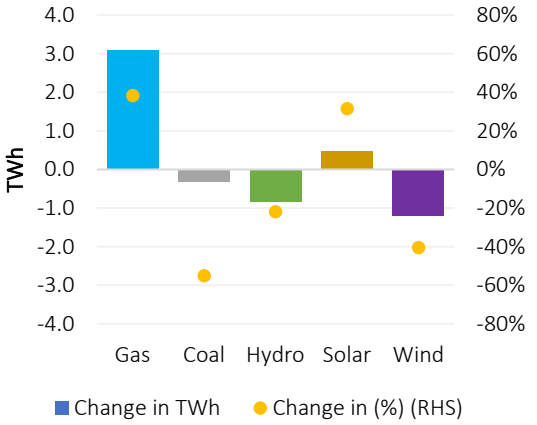
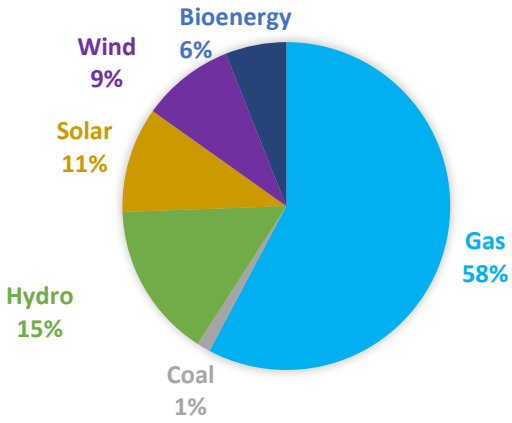


Figure 16: Italian electricity mix in November 2024



Source: GECF Secretariat based on data from Refinitiv and Ember

For the period Jan-Nov 2024, Italy's gas consumption dropped by 3.6% y-o-y to reach 54 bcm.

2.1.1.3 France

In November 2024, France's gas consumption remained unchanged compared to the previous year to reach 3.7 bcm (Figure 17). Gas consumption reflected a balance between a growth in the power generation and residential sectors and a decline in the industrial sector. The residential sector recorded a 1.1% increase, reaching 1 bcm, driven by cold weather, while the industrial sector saw a 3.8% y-o-y decline, with consumption totalling 0.9 bcm (Figure 18).

Figure 17: Gas consumption in France

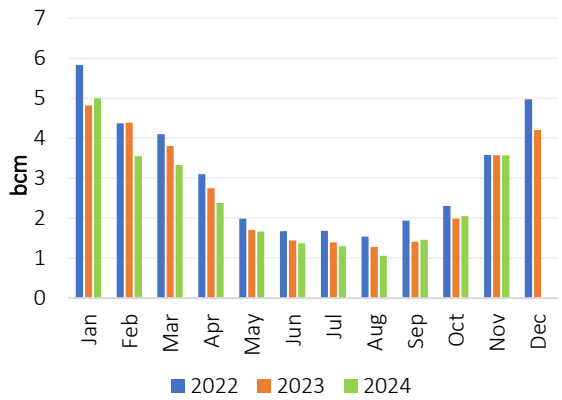
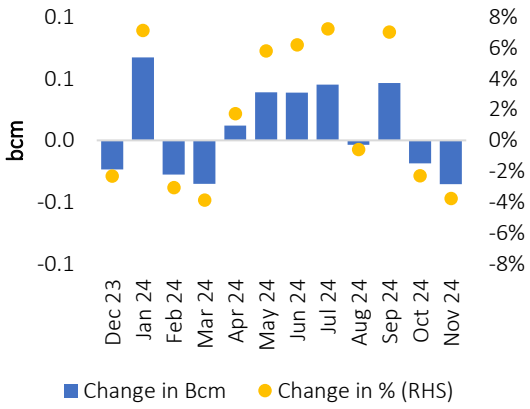


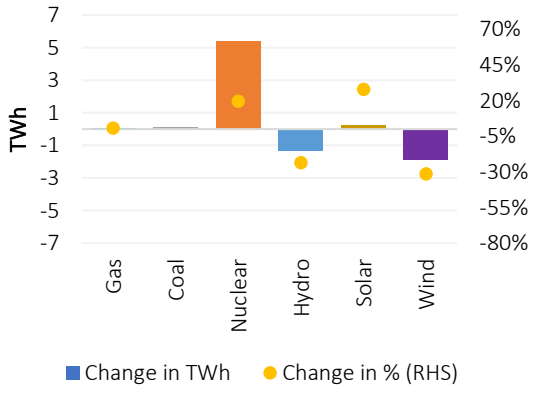
Figure 18: Trend in gas consumption in the industrial sector in France (y-o-y change)



Source: GECF Secretariat based on data from GRTgaz

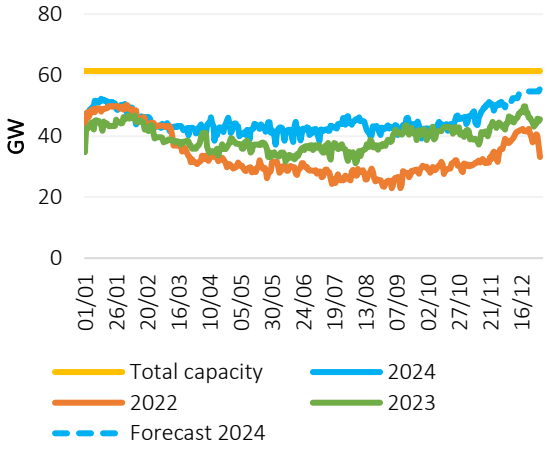
Total electricity production rose by 6% y-o-y to reach 45 TWh. November 2024 was marked by low wind and hydro output, with declines of 31% and 23% respectively. Furthermore, electricity production from gas slightly rose by 0.8% y-o-y, while electricity production from solar and nuclear also witnessed increases (Figure 19). The availability of nuclear capacity increased by 17% y-o-y and 7% 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 (12%), hydro (9%) and natural gas (6%).

Figure 19: Trend in electricity production in France in November 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-Nov 2024, France's gas consumption decreased by 6% y-o-y to reach 27 bcm.

2.1.1.4 Spain

In November 2024, Spain's gas consumption rose by 14% y-o-y to 2.7 bcm, marking the first increase after nine consecutive months of declines (Figure 21). This growth was primarily driven by increased gas demand in the power generation sector, attributed to low renewable energy output. Meanwhile, the industrial sector experienced its fifth consecutive month of growth, with a 11% y-o-y increase, supported by higher gas usage across various industries, including construction, refineries, agro-food, metallurgy and pharmaceutical (Figure 22).

Figure 21: Gas consumption in Spain

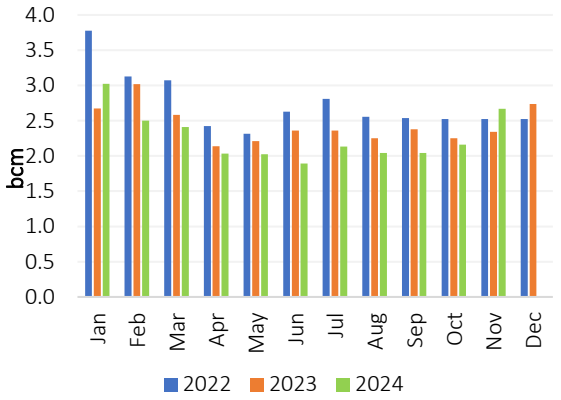
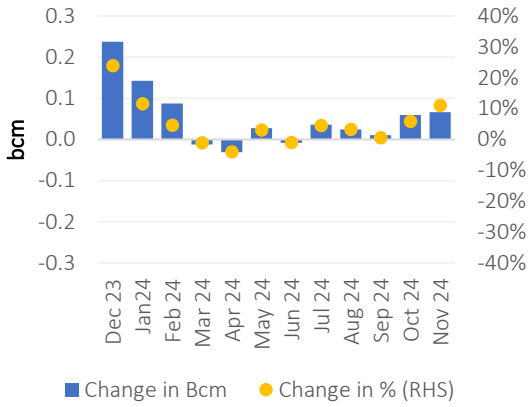


Figure 22: Trend in gas consumption in the industrial sector in Spain (y-o-y change)



Source: GECF Secretariat based on data from Enagas

Total electricity production in the country decreased by 5% y-o-y to 19 TWh. Furthermore, electricity generation from gas saw a 46% y-o-y increase, to compensate for a significant reduction in wind, hydro and nuclear output (Figure 23). The decrease in hydro output was driven by the fact that November was a notably dry month overall, with total precipitation 40% below normal. Non-hydro renewables maintained the dominant position in the power mix, accounting for 42%, while natural gas represented 25% (Figure 24).

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

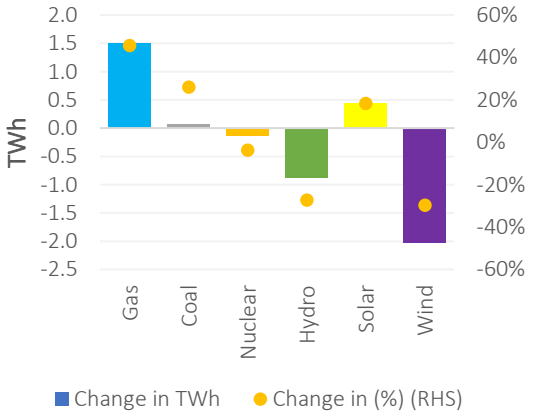
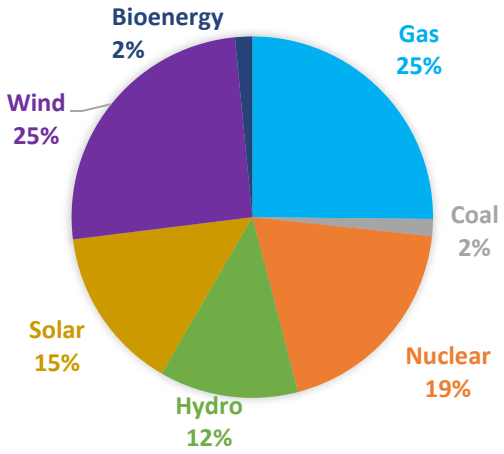


Figure 24: Spanish electricity mix in November 2024



Source: GECF Secretariat based on data from Ember and Ree

For the period Jan-Nov 2024, Spain's gas consumption decreased by 6% y-o-y to reach 25 bcm.

2.1.2 United Kingdom

In November 2024, the UK recorded its third consecutive monthly increase in gas consumption after seven months of decline, with consumption rising by 6.7% y-o-y to 6.6 bcm (Figure 25). The residential sector recorded a 3% y-o-y increase driven by higher heating demand due to a colder weather. The power generation sector saw a significant growth of 25% y-o-y, driven by the closure of the last coal-power plant in the UK and a reduction in wind output, the same trend as recorded in the mainland Europe. In the power mix, gas led with a 44% share, followed by non-hydro renewables at 42% and nuclear at 14%. Meanwhile, gas consumption in the industrial sector dropped by 12% y-o-y (Figure 26).

For the period Jan-Nov 2024, UK gas consumption dropped by 2% y-o-y to 49 bcm.

Figure 25: Gas consumption in the UK

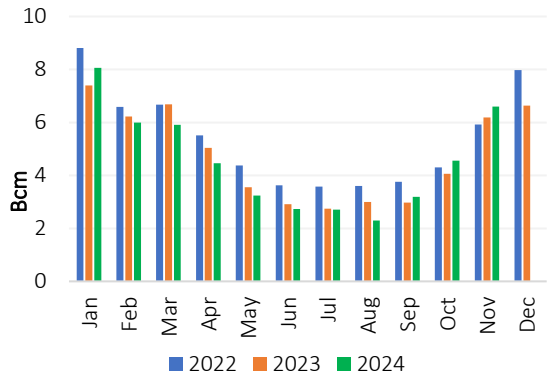
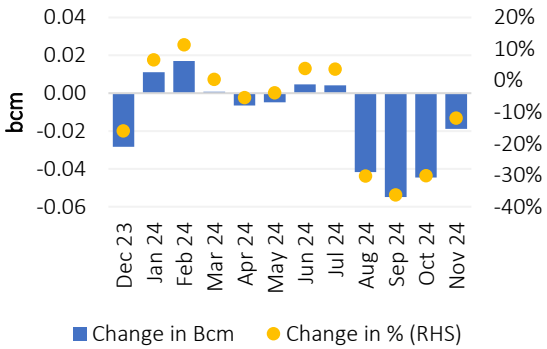


Figure 26: Trend in gas consumption in the industrial sector in the UK (y-o-y change)



Source: GECF Secretariat based on data from Refinitiv

For the period January to November 2024, aggregated gas consumption in the EU and UK decreased slightly by 0.2% y-o-y (0.5 bcm) to reach 323 bcm, driven by the UK consumption (Figure 27). In addition, the region (EU+UK) recorded its third 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

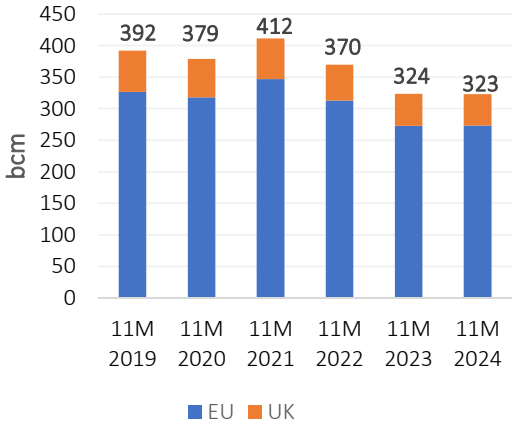
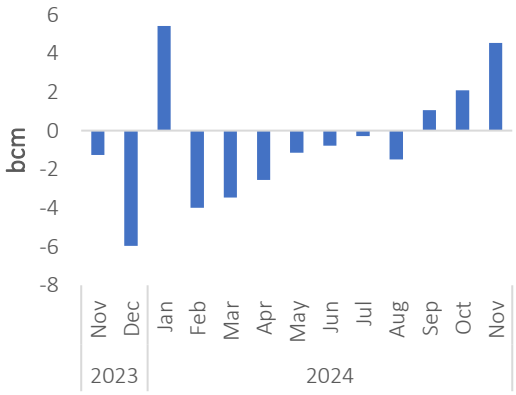


Figure 28: Y-o-y variation in EU and UK gas consumption



Source: GECF Secretariat based on data from Refinitiv

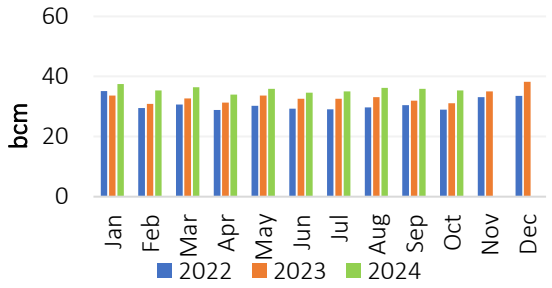
2.2 Asia

2.2.1 China

In October 2024, China's apparent gas demand rose by 13% y-o-y to 35.4 bcm (Figure 29). Gas-fired power generation increased by 2.4%, offsetting a decline in hydroelectric output (Figure 30). In addition, the Economic and Technology Research Institute (ETRI) revised upward its outlook for China's total 2024 gas demand, from 415.7 bcm in February to 422.2 bcm in November. A key growth driver is the rapid adoption of LNG as a transport fuel, supported by a government subsidy program for companies transitioning from diesel to low-emission trucks, introduced in June, which has helped offset investment costs. Moreover, LNG's lower price compared to diesel for much of the year, has heightened interest in LNG-powered trucks.

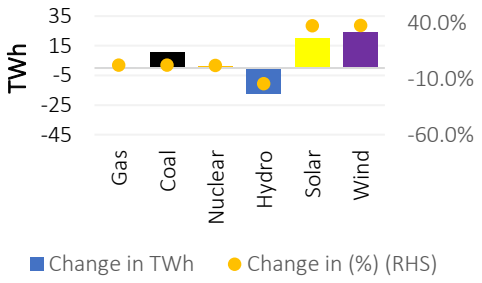
In the first 10 months of 2024, Chinese gas consumption increased by 10% y-o-y to 356 bcm.

Figure 29: Gas consumption in China



Source: GECF Secretariat based on data from Refinitiv

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



Source: GECF Secretariat based on data from Ember

2.2.2 India

In October 2024, India's gas consumption fell by 2% y-o-y to 6 bcm, marking its third 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 (21%), power generation (11%), refining (9%) and the petrochemical sector (3%) (Figure 32).

In the first 10 months of 2024, India's gas consumption increased by 12% y-o-y to 60 bcm.

Figure 31: Gas consumption in India

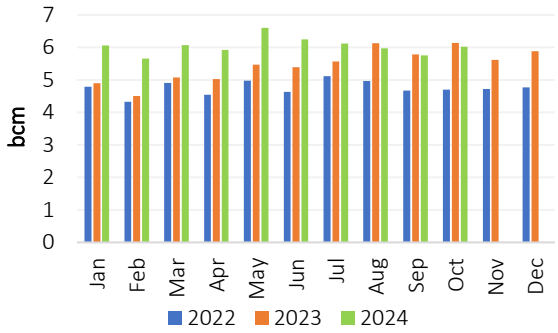
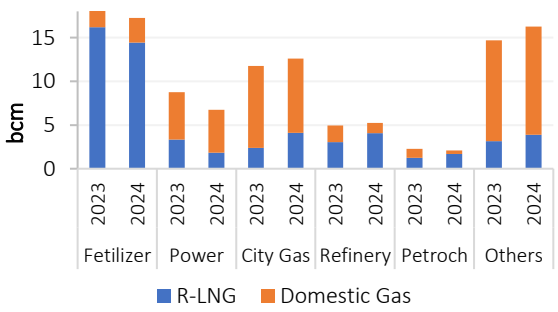


Figure 32: India's gas consumption by sector in October 2024



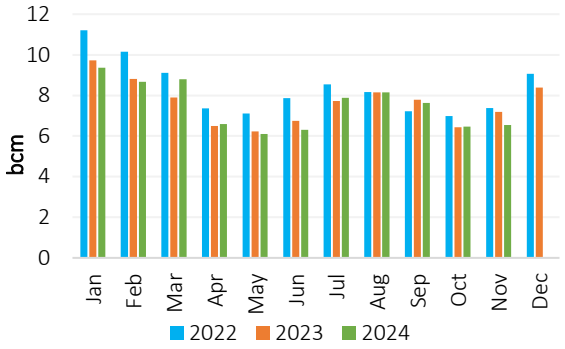
Source: GECF Secretariat based on data from PPAC

2.2.3 Japan

In November 2024, Japan's gas consumption decreased by 9% y-o-y to 6.5 bcm (Figure 33), driven by warmer-than-usual weather, which reduced power demand for heating. Additionally, gas-fired power generation was affected by the operation of 11 nuclear reactors, including the restart of Kansai Electric Power's Mihama No. 3 reactor.

In Jan-Nov 2024, Japan's gas consumption dropped by 0.8% y-o-y to 82 bcm.

Figure 33: Gas consumption in Japan



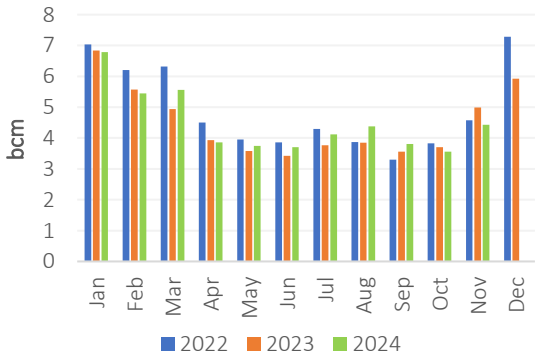
Source: GECF Secretariat based on data from Refinitiv

2.2.4 South Korea

In November 2024, South Korea's gas consumption decreased by 11% y-o-y to 4.4 bcm (Figure 34), driven by a decline in the power generation and residential/ commercial sectors amidst a warmer-than-usual weather (the average temperature anomaly was +1.8°C), which reduced power demand for heating.

In the first 11 months of 2024, South Korea's gas consumption rose by 3% y-o-y to 49 bcm.

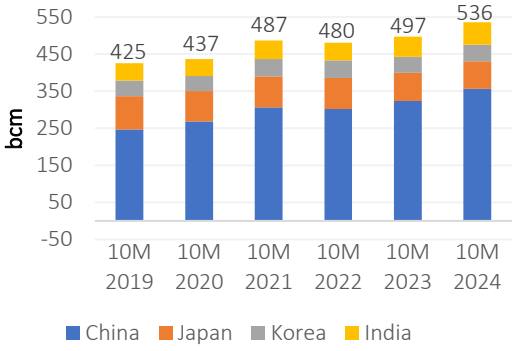
Figure 34: Gas consumption in South Korea



Source: GECF Secretariat based on data from Refinitiv

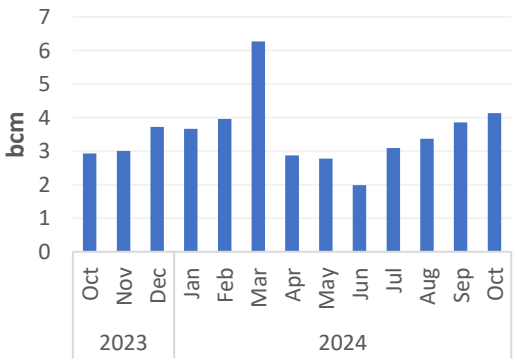
From January to October 2024, aggregated gas consumption in major Asian gas consuming countries, in particular China, India, Japan and South Korea, rose by 8% y-o-y (39 bcm) to reach 536 bcm (Figure 35). China was the leading contributor, with an additional 33 bcm, followed by India with an increase of 6.4 bcm. The region recorded the nineteenth 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



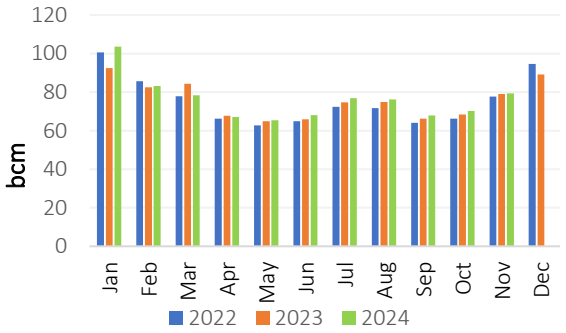
2.3 North America

2.3.1 US

In November 2024, US gas consumption increased by 0.3% y-o-y to 79 bcm (Figure 37). Gas-fired power generation witnessed a 6% y-o-y growth, while overall power output rose by 2.6% y-o-y. In the power mix, gas continued to lead with a 42% share. However, the industrial, residential and commercial sectors declined by 2%, 3.3% and 3.4% y-o-y, respectively.

In the first 11 months of 2024, US gas consumption increased by 1.8% y-o-y to reach 836 bcm.

Figure 37: Gas consumption in the US



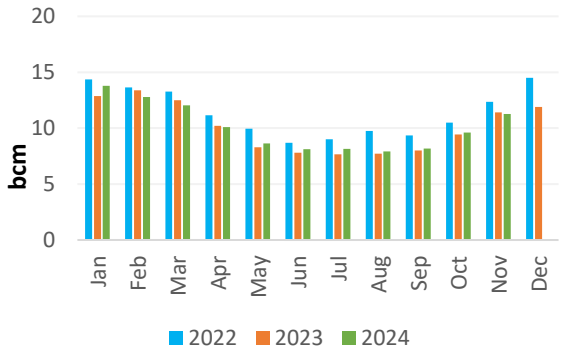
Source: GECF Secretariat based on data from EIA, Ember and Refinitiv

2.3.2 Canada

In November 2024, Canada's gas consumption declined by 1.3% y-o-y to reach 11 bcm (Figure 38). This decrease was driven by the residential and commercial sectors, which registered declines of 10% and 8% y-o-y, respectively, driven by mild weather during the month.

In the first 11 months of 2024, Canada's gas consumption rose by 1.2% y-o-y to reach 111 bcm.

Figure 38: Gas consumption in Canada



Source: GECF Secretariat based on data from Refinitiv

For the period January to November 2024, gas consumption in North America (US, Canada and Mexico) rose by 1.5% y-o-y (14 bcm) to reach 987 bcm (Figure 39). The US was the leading contributor, with an additional 15 bcm, followed by Canada with an increase of 1.3 bcm. However, Mexico recorded a decline of 1.8 bcm. The region recorded the sixth consecutive month of y-o-y growth (Figure 40).

Figure 39: YTD North American gas consumption

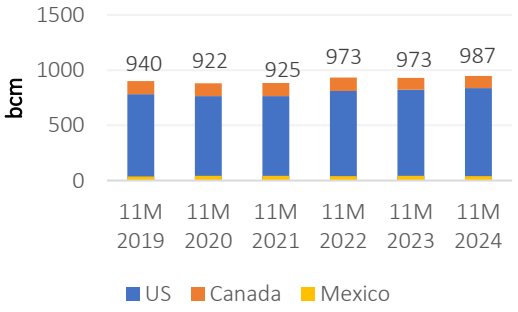
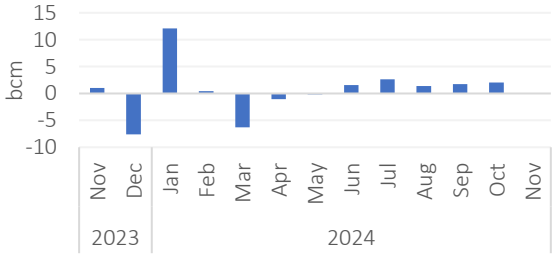


Figure 40: Y-o-y variation in North American gas consumption



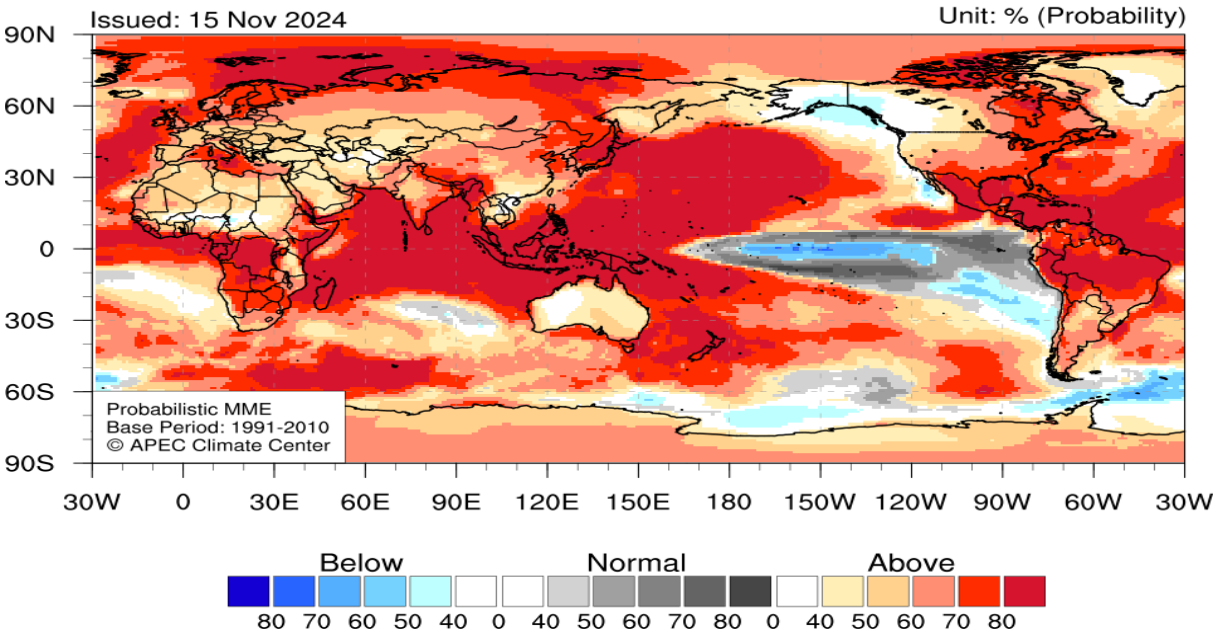
Source: GECF Secretariat based on data from EIA and Refinitiv

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 December 2024 to February 2025 (Figure 41).

Figure 41: Temperature forecast December 2024 to February 2025

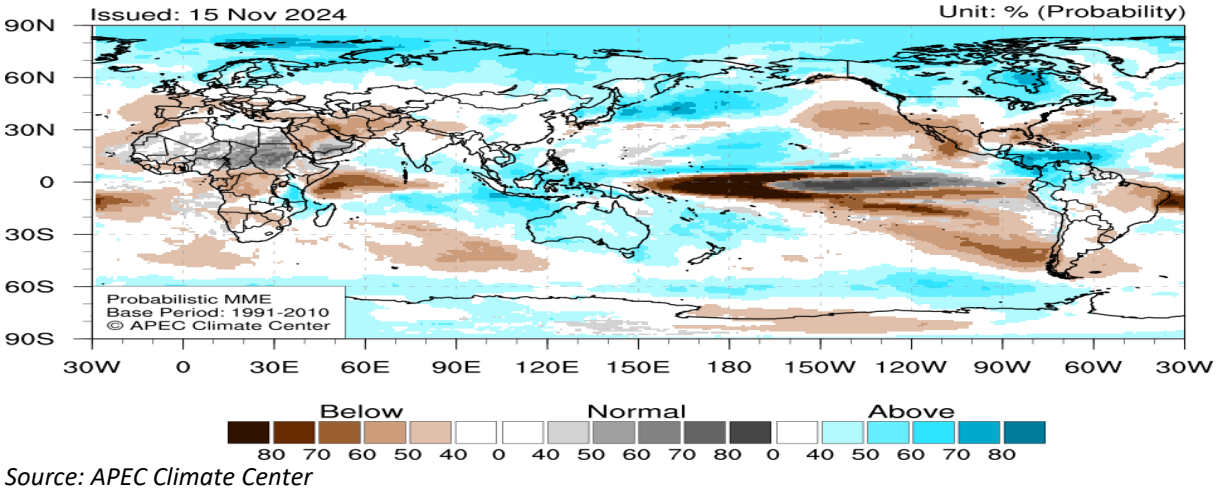


Source: APEC Climate Center

According to the same source, above normal precipitation is predicted for the Arctic, northern North Pacific, central subtropical North Pacific, off-equatorial North Pacific, eastern Indian Ocean, the Caribbean Sea, Alaska, Canada, Southeast Asia and Australia.

Strongly enhanced probability for below normal precipitation is predicted for the western equatorial Pacific, the eastern subtropical South Pacific, off-equatorial South Atlantic, the western Indian Ocean, eastern subtropical North Pacific to Mexico and the western subtropical North Atlantic for the period December 2024 to February 2025 (Figure 42).

Figure 42: Precipitation forecast December 2024 to February 2025



Source: APEC Climate Center

2.4.2 Sectoral developments

A foundation stone for a blue ammonia plant is laid in Qatar: His Highness Sheikh Abdullah bin Hamad Al Thani, the Deputy Amir of Qatar, laid the foundation stone for the world's largest blue ammonia plant at a special ceremony. This project consists of an ammonia production unit with a capacity of 1.2 Mtpa, along with an additional unit for CO_2 injection and storage, with a capacity of 1.5 Mtpa. This plant is a significant milestone in QatarEnergy's strategy to expand in the clean energy sector, focusing on producing low-carbon ammonia, a key solution for reducing CO_2 emissions. With an investment of approximately QAR 4.4 billion, the plant will be located in Mesaieed Industrial City and is expected to begin production in the second quarter of 2026.

Ghana's President Nana Addo Dankwa Akufo-Addo inaugurated a new gas-fired plant: The 200 MW Bridge Power gas-fired plant in Tema, Ghana, was commissioned. This plant marks the first phase of a 515 MW gas-fired power plant project, valued at US$1.2 billion. It is the world's first use of trailer-mounted aeroderivative gas turbines in a combined cycle gas turbine (CCGT) configuration. The plant is expected to improve energy efficiency and reduce emissions compared to traditional single-cycle plants. Natural gas accounts for 50% of Ghana's total power capacity, which is estimated at 5.5 GW, with 1.5 GW of new gas-fired capacity added since 2010.

Qatar to build a new 2,400 MW gas-fired power plant: Sumitomo Corporation, Shikoku Electric Power Co., Inc., Korea Southern Power Co., Ltd. ("KOSPO"), and Korea Overseas Infrastructure & Urban Development Corporation ("KIND") have jointly secured the rights to the Facility E independent water and power project in Qatar through an international tender organized by Qatar General Electricity and Water Corporation ("Kahramaa"). The project involves constructing and operating a natural gas-fired power plant (2,400 MW) and a seawater desalination facility (110 MIGD*2, or 495,000 tons/day). The new plant will use high-efficiency gas turbines, which reduce gas consumption and lower CO_2 and pollutant emissions compared to existing gas-fired power plants.

Hapag-Lloyd orders 24 new container ships: Hapag-Lloyd has signed two agreements with Chinese shipyards for a total of 24 new container ships. Twelve of these vessels, each with a capacity of 16,800 TEU, will be constructed by Yangzijiang Shipbuilding Group to enhance the capacity of existing services. Additionally, twelve ships, each with a capacity of 9,200 TEU, have been ordered from New Times Shipbuilding Company Ltd. These will replace older vessels in the Hapag-Lloyd fleet that are expected to reach the end of their service life within this decade.

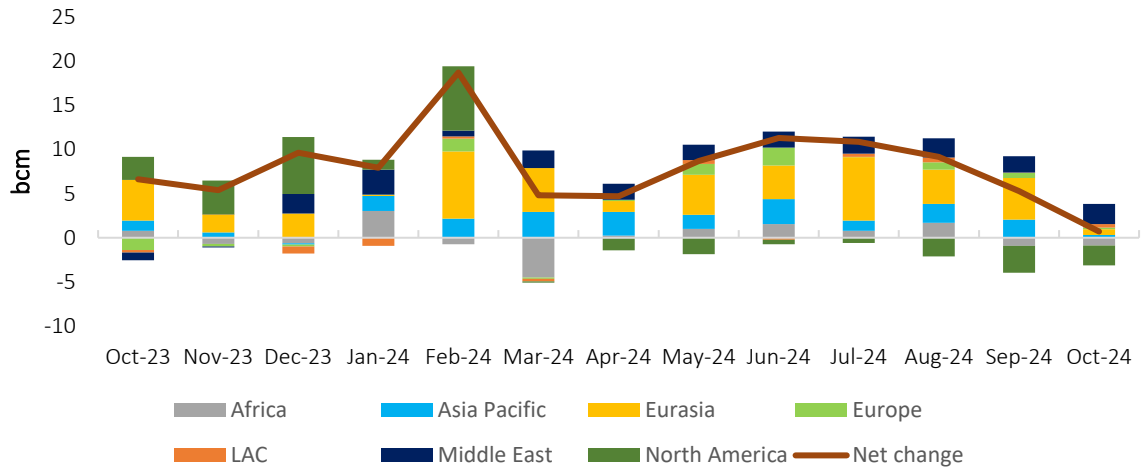
Japan to pioneer liquefied CO_2 transport: Japan is launching a pilot project by the New Energy and Industrial Technology Development Organization (NEDO) to transport liquefied carbon dioxide for the first time in the world. The low-temperature and low-pressure CO_2 carrier, EXCOOL, will transport CO_2 from Kansai Electric's Maizuru coal-fired power plant to a terminal in Tomakomai, Hokkaido. Japan aims to store 120 to 240 million metric tons of CO_2 annually by 2050, which would involve construction of 11 reservoirs capable of storing 16 billion metric tons of CO_2, as well as scaling up the CO_2 transport technology to larger vessels.

3 Gas Production

In October 2024, global gas production was estimated to have increased by 1% y-o-y to stand at the level of 356 bcm. All the main producing regions, especially in LAC and the Middle East, showed a positive production variation, except for North America, which witnessed a decline of 1.4 bcm, driven by lower gas output in the US (Figure 43).

From a regional perspective, North America maintained its leading position as the top-producing region, accounting for 31% of global gas production, followed by Eurasia with 20%, the Middle East with 18%, and Asia Pacific with 16%, while Africa, Europe, and Latin America and the Caribbean (LAC) held shares ranging from 4% to 6% (Figure 44).

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



Source: GECF Secretariat estimation

In the first ten months of 2024, global gas production was estimated to have increased by 2.5% y-o-y to stand at 3,474 bcm (Figure 45). This growth was driven by an increase in Russia's production to meet rising domestic consumption and growing pipeline gas exports, along with the development of gas production in the Middle East. In addition, the growth in gas supply in Asia Pacific, specifically in China, has a positive impact on global gas production in 2024.

The projected growth of global gas production for the year 2024 has been estimated at 2.5%, the same as the last projection, driven by counterbalancing projections for both the Middle East and North America.

Figure 44: Regional gas production in Oct 2024

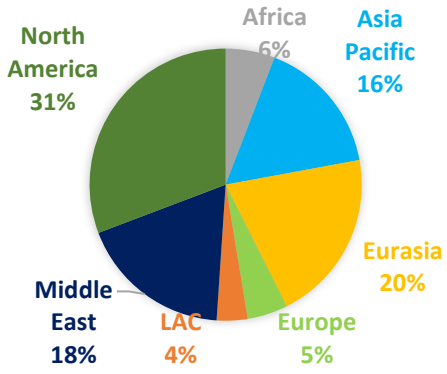
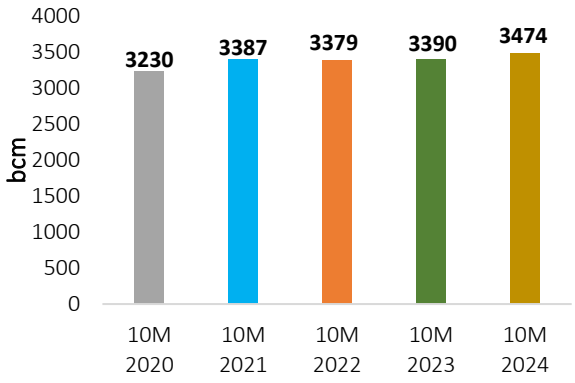


Figure 45: YTD global gas production



Source: GECF Secretariat estimation

3.1 Europe

In October 2024, Europe witnessed a 1.5% y-o-y rise, reaching a total output of 15.7 bcm (Figure 46). This increase primarily originated from the elevated gas production in Norway, along with the rise in Türkiye's gas output, specifically with the production ramp up of the Sakarya gas field located in the Black Sea. However, the magnitude of the production rise was limited by the decline in the UK's and the EU's output levels, mainly in the Netherlands and Germany (Figure 47). Notably, EU aggregated gas production stood at the level of 2.2 bcm, with the Netherlands and Romania being the top producers.

Figure 46: Europe's monthly gas production

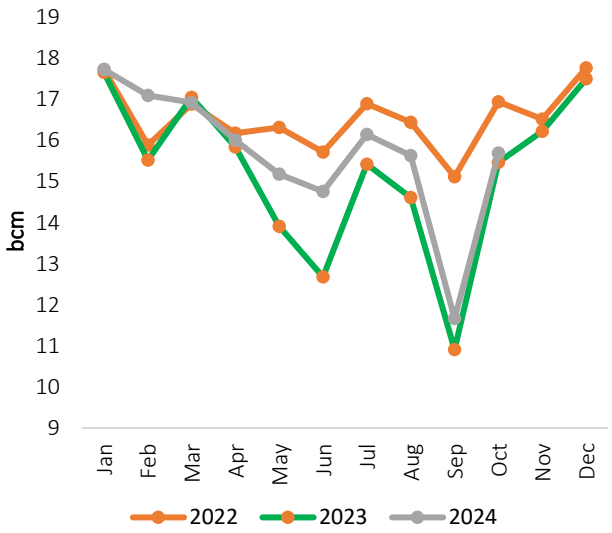
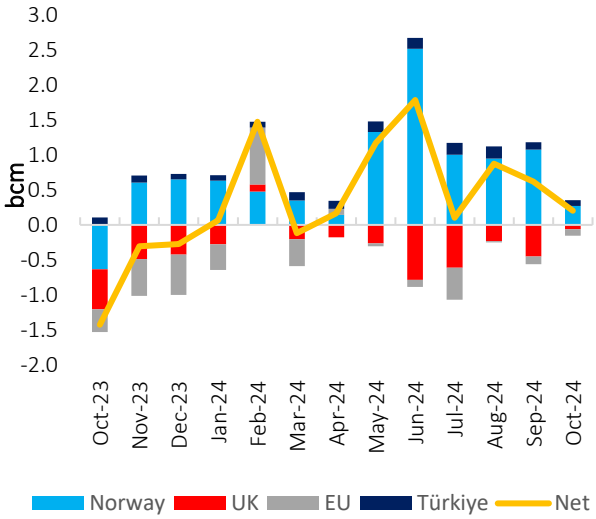


Figure 47: Y-o-y variation in Europe's gas production



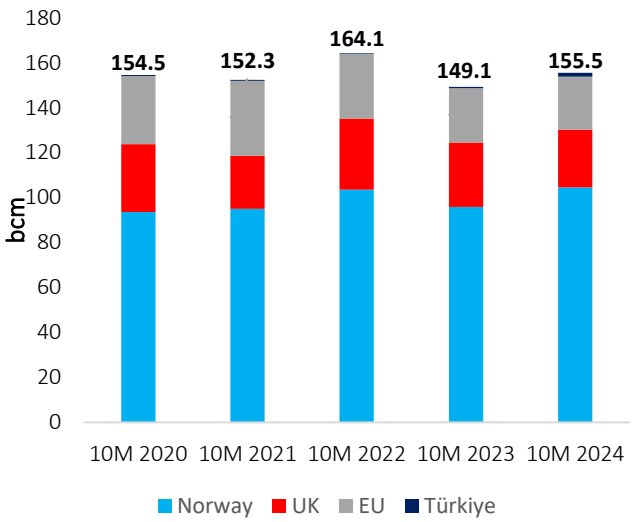
Source: GECF Secretariat based on data from Refinitiv, the Norwegian Offshore Directorate and JODI Gas
Note: EU countries include Austria, Denmark, Germany, Italy, Netherlands, Poland and Romania

From January to October 2024, the aggregated gas output in Europe stood at the level of 155.5 bcm (Figure 48), representing an increase of 5.2%, 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 emerged as the main driver behind the increase in European gas production for this period, representing about 67% of the cumulative European production.

However, a continuous reduction in the gas outputs of historical European producers, including the UK and the Netherlands, was recorded.

Figure 48: YTD Europe's gas production



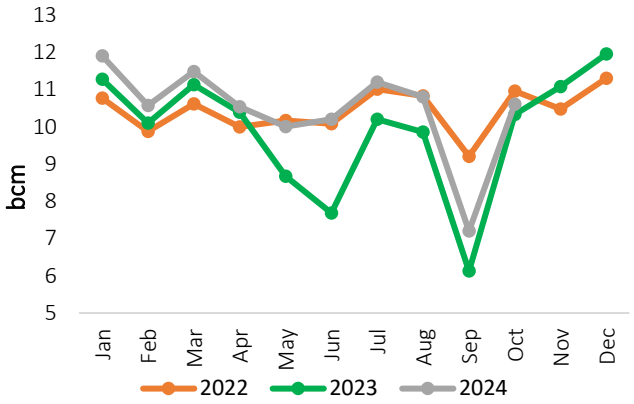
Source: GECF Secretariat based on data from Refinitiv, the Norwegian Offshore Directorate and JODI Gas

3.1.1 Norway

Norway's gas production saw a 2.6% y-o-y rise to reach the level of 10.6 bcm (Figure 49). This high output was driven by elevated gas output from the giant Troll field, combined with the effect of a low maintenance period especially in the Kollsnes plant. Notably, the 133 mcm/d Troll gas field underwent a planned maintenance, which slashed its production by 14 mcm/d for 7 days, while the Asgard field saw an unplanned maintenance outage that impacted its output by 9 mcm/d for 6 days.

In Jan-Oct 2024, cumulative gas production surged by 9% y-o-y to stand at 104.5 bcm.

Figure 49: Trend in gas production in Norway



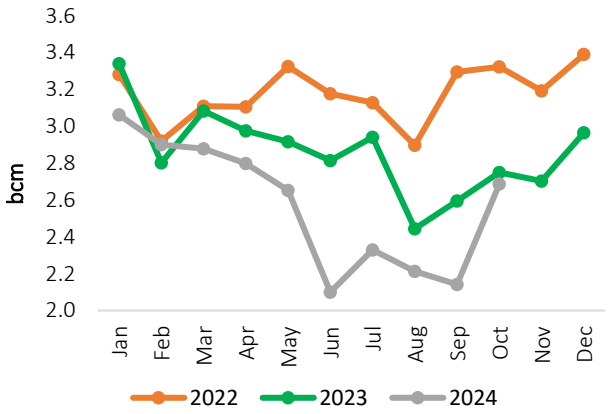
Source: GECF Secretariat based on data from the Norwegian Offshore Directorate

3.1.2 UK

The UK gas production continued its declining trend to stand at 2.7 bcm, representing a 2.3% y-o-y reduction (Figure 50). Unplanned outage in the 10.2 mcm/d Bacton Perenco field and planned outage in the 5.8 mcm/d Bacton SEAL gas terminal reduced their production capacities for periods of 5 and 2 days, respectively.

In Jan-Oct 2024, aggregated gas production stood at 25.8 bcm, representing a 10% y-o-y decline, driven by the continuous reduction in output from the mature UK fields and the lack of investments in new gas supplies.

Figure 50: Trend in gas production in the UK



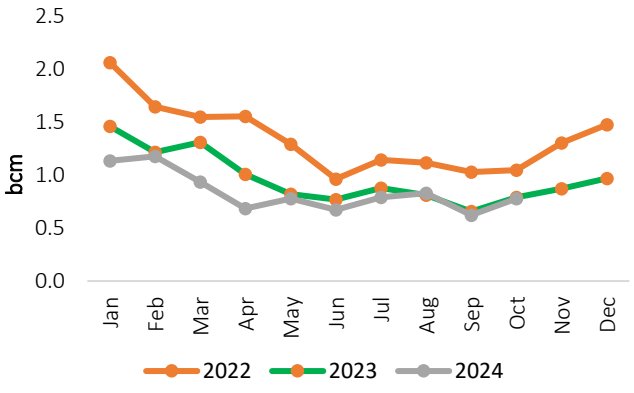
Source: GECF Secretariat based on data from Refinitiv

3.1.3 Netherlands

The Netherlands gas output witnessed a 5% y-o-y decline to stand at the level of 0.78 bcm (Figure 51). All the 10 months in 2024 have recorded negative production variation, thus far.

In Jan-Oct 2024, cumulative gas production dropped by 14% y-o-y to reach 8.4 bcm. This production drop from the ageing Dutch fields is likely to continue in the coming years, with the reduction of gas share in the Dutch energy mix.

Figure 51: Trend in gas production in the Netherlands



Source: GECF Secretariat based on data from Refinitiv

3.2 Asia Pacific

In October 2024, gas output in Asia Pacific was estimated to stand at 57.9 bcm (0.5% y-o-y rise), with YTD gas production (Jan-Oct 2024) at the level of 581.5 bcm (3.4% y-o-y uptick). This rise was driven by significant growth in Chinese gas production.

3.2.1 China

In October 2024, China's gas production surged by 9.7% y-o-y to reach 20.9 bcm (Figure 52). Coal bed methane production continued its sustained growth to stand at a level of 1.5 bcm, with a 21% y-o-y rise. Notably, the Shenhai-1 phase II deepwater gas development project in the northern part of the South China Sea was brought on stream. The field is estimated to reach a peak of 1.7 bcma in 2025. In the first ten months of 2024, China's annual gas production rose by 7.5% y-o-y to reach a record high of 204 bcm (Figure 53), with all months recording positive comparable change.

Figure 52: Trend in gas production in China

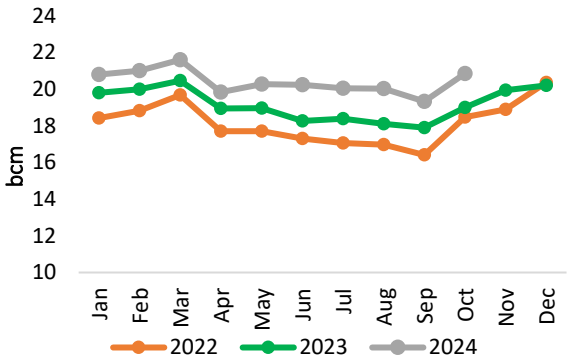
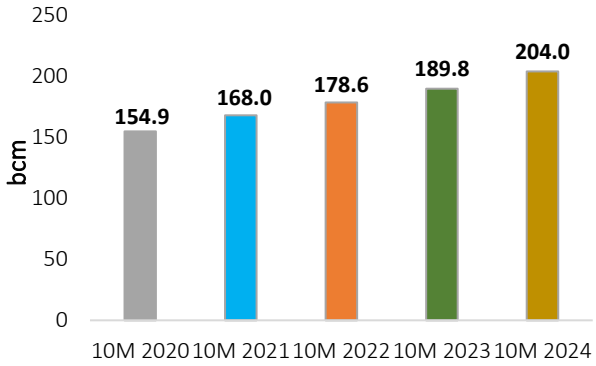


Figure 53: YTD China's gas production



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

3.2.2 India

In October 2024, India's gas production dropped by 1.3% y-o-y, marking the fourth consecutive month of decline, to stand at 3.1 bcm (Figure 54). The decline was mainly driven by the reduction of onshore gas output, specifically in Tamil Nadu field; however, this effect was partially counterbalanced by a rise in the offshore gas production, which represented 72% of total gas production. CBM gas fields recorded a 15% y-o-y rise, mainly from the West Bengal field. In the first ten months of 2024, cumulative gas production rose by 3.4% y-o-y to reach 30 bcm, driven mainly by the rise in the offshore gas production (Figure 55).

Figure 54: Trend in gas production in India

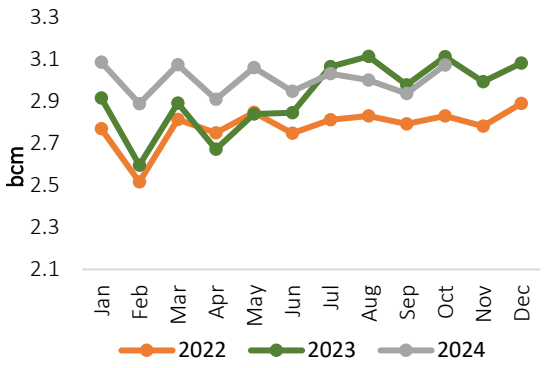
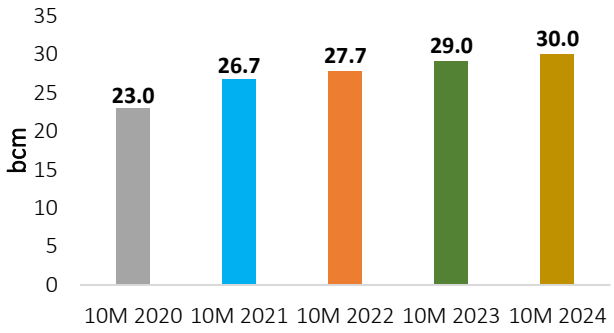


Figure 55: YTD India's gas production



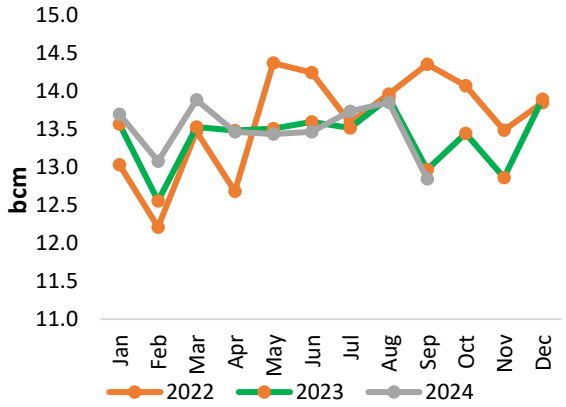
Source: GECF Secretariat based on data from the Ministry of Petroleum and Natural Gas (PPAC)

3.2.3 Australia

In September 2024, Australia's gas production witnessed a reduction of 0.9% y-o-y to stand at 12.8 bcm (Figure 56). Gas production from CBM fields reached 3.4 bcm, mirroring the same level of last year and accounting for 26% of total domestic production. Australia kept the position of the leading CBM producer globally. It is worth noting that Australia granted the environmental approval for the Carpentaria shale gas pilot project, with an ambition to be a prominent player in that field.

In Jan- Sep 2024, cumulative gas output rose by 0.7% y-o-y to reach 121.5 bcm.

Figure 56: Trend in gas production in Australia



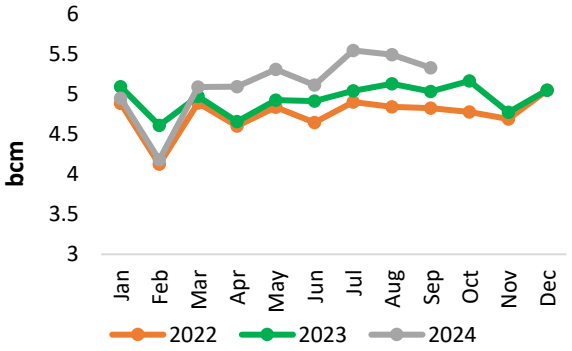
Source: GECF Secretariat based on data from the Australian Department of Energy

3.2.4 Indonesia

In September 2024, Indonesia's gas production increased by 5.9% y-o-y to reach 5.3 bcm. This was driven by drilling 89 development wells and marked a positive production variation for eight consecutive months in 2024 (Figure 57).

In Jan-Sept 2024, cumulative gas production increased by 3.9% y-o-y to stand at 46.1 bcm. This was driven by the startup of multiple gas projects, with 634 new development wells drilled in 2024 thus far, in addition to 26 new exploration wells.

Figure 57: Trend in gas production in Indonesia



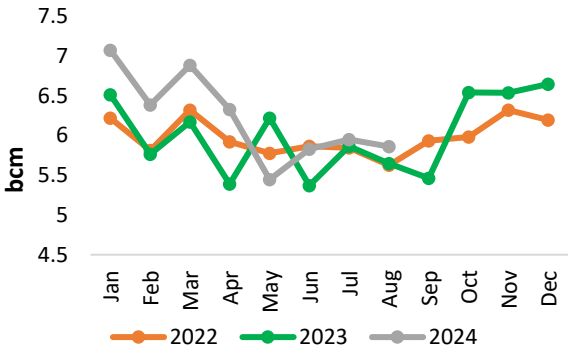
Source: GECF Secretariat based on data from Indonesia's upstream regulator (SKK Migas) and JODI Gas

3.2.5 Malaysia

In August 2024, Malaysia's gas production was estimated to stand at 5.8 bcm, representing a 3.8% y-o-y increase (Figure 58). Notably, Petronas announced the production startup from its giant Kasawari field, offshore Sarawak, with a target output of 5.6 bcma. The produced gas is transported to an existing production hub for processing, then supplied to Bintulu LNG terminal.

In Jan-Aug 2024, cumulative gas production increased by 6% y-o-y to reach 49.8 bcm.

Figure 58: Trend in gas production in Malaysia



Source: GECF Secretariat based on data from the JODI Gas

3.3 North America

In October 2024, gas production in North America (including Mexico) reached 109.6 bcm, representing a decline of 1.9% y-o-y, driven by the reduced gas output in the US. In the meantime, the North American YTD gas production (Jan- October 2024) was estimated to stand at the level of 1078 bcm, which is 3 bcm lower than the level of this same period in 2023.

3.3.1 US

In November 2024, US total gas production continued its downward trend with a 2.1 % y-o-y reduction, to total a monthly output of 88.9 bcm (Figure 59). This reduction in the US output reflected the combined effect of the Hurricane Rafael, which resulted in a temporary reduction of 37% in the total Gulf of Mexico (GoM) gas production, along with the effect of production cuts by some major producers, in response to low Henry Hub gas prices. In terms of supply distribution, US shale gas production accounted for 80% of total US gas production, while the remainder originated from the dry gas production in Alaska and the GoM. The Appalachia region accounted for 31% of total gas production, while the Permian region output, including associated gas, represented 22%. Haynesville's shale gas production region recorded the largest decline in the main producing regions, followed by the GoM.

Additionally, for the period January to November 2024, US cumulative gas production decreased by 0.1% y-o-y to reach 975 bcm, with 2 bcm lower the high record of 2023 (Figure 60).

Figure 59: Trend in gas production in the US

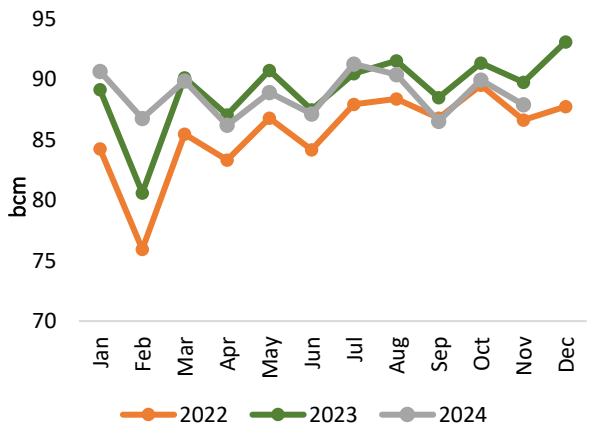
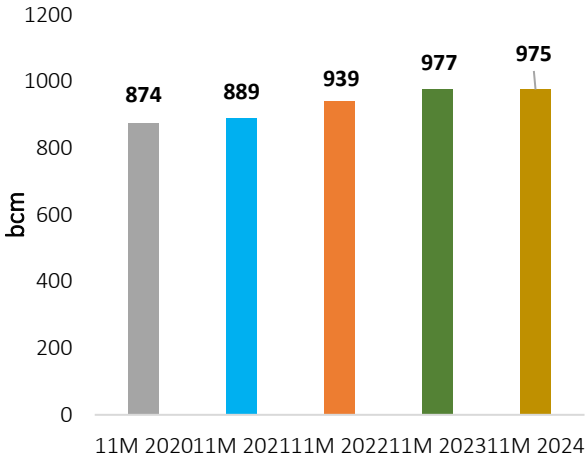


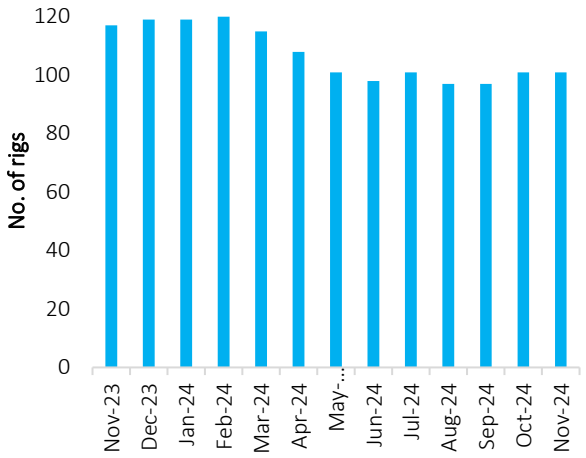
Figure 60: YTD gas production in the US



Source: GECF Secretariat based on data from the US EIA

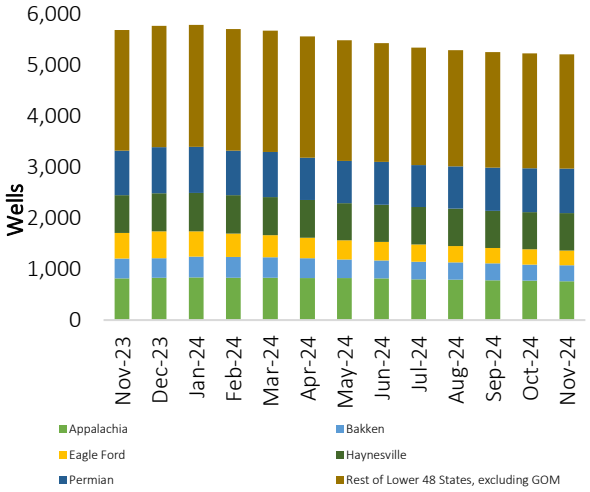
As of November 2024, the number gas drilling rigs operating in the key shale gas regions and GoM in the US stood at 101, mirroring the same level of October 2024 (Figure 61). Permian basin accounted for the major share of the current drilling fleets with 54%. a 4-well m-o-m rise, driven by an increase 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 November 2024, the total number of drilled but uncompleted (DUC) wells in the seven major regions amounted to 5,221, marking a 17-well m-o-m decrease (Figure 62) and 473 well lower than November 2023. It is worth noting that this is the tenth consecutive month to witness a decline in the number of DUCs since February 2024, 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

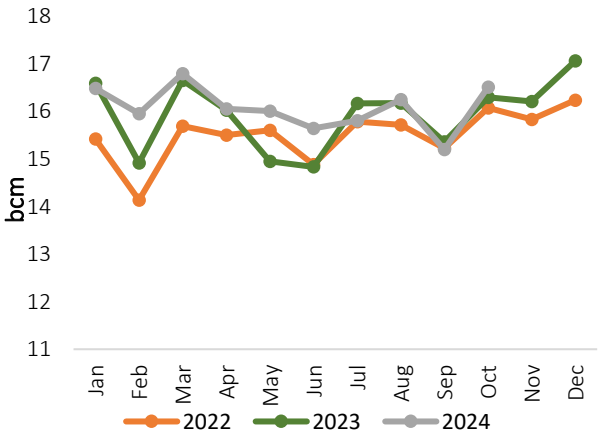


Source: GECF Secretariat based on data from the US EIA

3.3.2. Canada

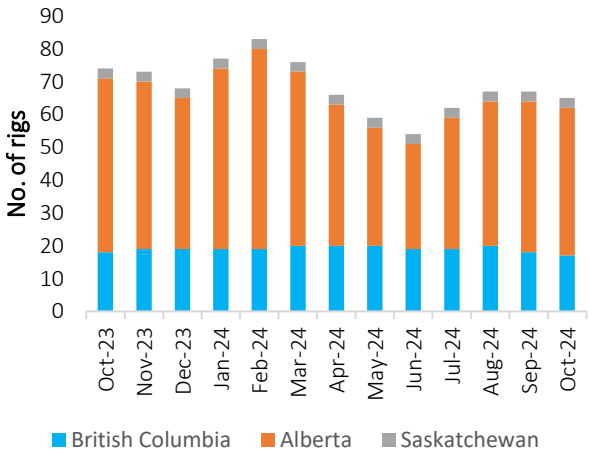
In October 2024, Canada's gas production recorded a 1.4% y-o-y increase in its output to stand at 16.5 bcm, (Figure 63), mainly originating from the growth of the associated gas output from tight oil plays. From a regional perspective, Alberta was responsible for 9.8 bcm of the production, mainly from an increase in the Bakken shale output, while British Columbia produced 6.3 bcm, with rise of tight gas production from Montney basin being the main source of this output. For the first ten months of 2024, cumulative gas production in Canada totalled 160.7 bcm, representing a 1.8% y-o-y surge. With this level of output, Canada is projected to counterbalance the reduction from the US and hence, contribute in the global gas supply growth in 2024, In terms of gas drilling activity, October 2024 witnessed a monthly decrease of 2 rigs, one each in Alberta and British Colombia, while 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 October 2024, gas production in LAC was estimated at 13 bcm (3.2% y-o-y rise), mainly driven by the increase in gas output of Argentina, Brazil and Venezuela. In addition, YTD gas production (Jan- October 2024) was estimated at 129.9 bcm, representing a 0.5% rise.

3.4.1 Brazil

In October 2024, Brazil's marketed gas production recorded a notable 15.4% y-o-y surge to stand at 1.75 bcm (Figure 65), driven by a 4.2% y-o-y rise in the gross gas production and a 2% reduction in gas reinjection. More than 82% of production originated from offshore fields. In addition, production from pre-salt basin continued its growth, to represent 75% of the total. 53% of gross production was reinjected into reservoirs, while gas flaring witnessed an 4% reduction compared to October 2023, driven by the shutdown of 2 FPSOs in the Búzios Field. (Figure 66). For the period Jan - October 2024, cumulative Brazilian output reached 15.2 bcm, representing a 2.8% y-o-y decline, driven by higher gas reinjection volumes.

Figure 65: Trend in gas production in Brazil

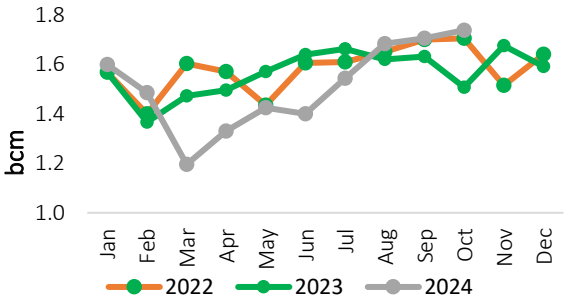
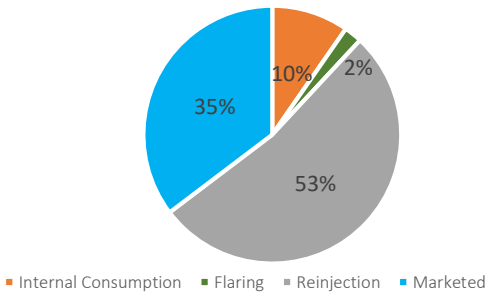


Figure 66: Distribution of gross gas production



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

3.4.2 Argentina

In October 2024, Argentina's gas production sustained its annual growth to stand of 4.1 bcm, representing a 5.7% 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 and the ramp-up of the Fenix offshore field. Accordingly, shale gas production recorded a 14% y-o-y uptick to reach the level of 2 bcm and account for 49% of total gas production (Figure 68). In addition, tight gas reservoir production reached 0.5 bcm, representing a 12% share. For the period Jan - October 2024, aggregated gas production stood at the level of 43 bcm, representing a 4.5% y-o-y surge and is on the path to record high annual production.

Figure 67: Trend in gas production in Argentina

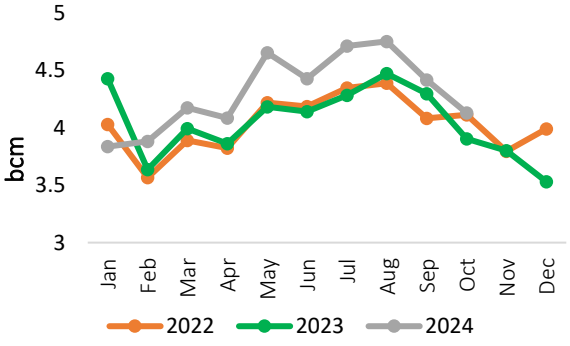
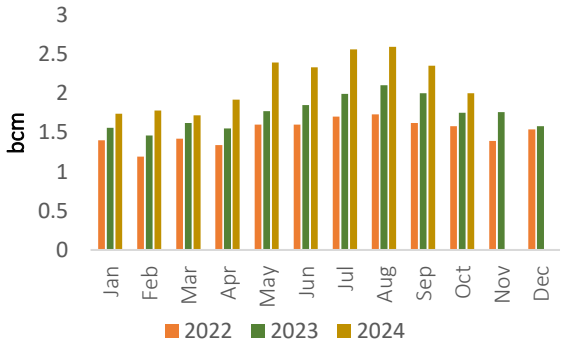


Figure 68: Shale gas output in Argentina



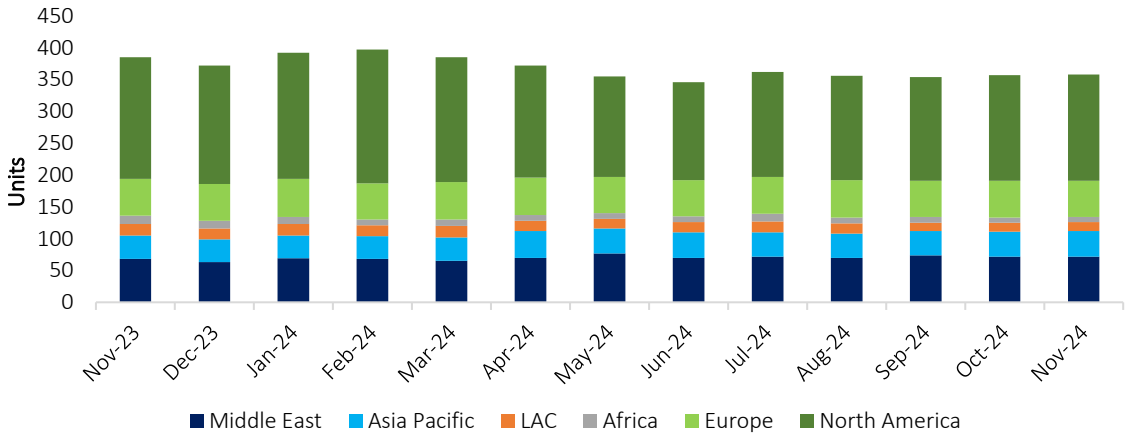
Source: GECF Secretariat based on data from Argentinian Ministry of Economy

3.5 Other developments

3.5.1 Upstream tracker

In November 2024, the global number of gas drilling rigs continued its rising trend for the second consecutive month, to increase by 1 unit m-o-m, reaching 358 rigs (Figure 69). This was mainly driven by the increase in the drilling activity in North America (Canada) and Asia Pacific (China), although this effect was partially counterbalanced by a slowdown of drilling activity in Europe, specifically in Türkiye which released 1 gas drilling rig. Onshore drilling accounted for the majority with 326 units, while offshore accounted for 32 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 October 2024, the total volume of discovered gas and liquids amounted to 115 million barrels of oil equivalent (boe) (Figure 70). Natural gas dominated the new discoveries, accounting for 84% (17 bcm), while liquid oil constituted 16% (19 million bbl). Five new relatively small discoveries were announced, three of them were offshore. In terms of regional distribution, Europe dominated the new discovered volumes with 68%, mainly in Denmark, followed by Asia Pacific (19%) (Figure 71). The Harald East field, located to the east of the existing Harald field, offshore Denmark, was the most significant gas discovery, with about 8 bcm of recoverable gas resources. The field is expected to be tie into the existing Harald and Tyra facilities, minimizing the development costs. Cumulative discovered volumes for the period Jan-October 2024 amounted to 5.35 billion boe, with natural gas accounting for 43% (390 bcm).

Figure 70: Monthly oil and gas discovered volumes

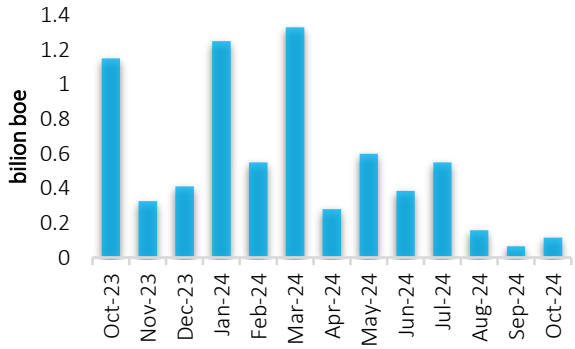
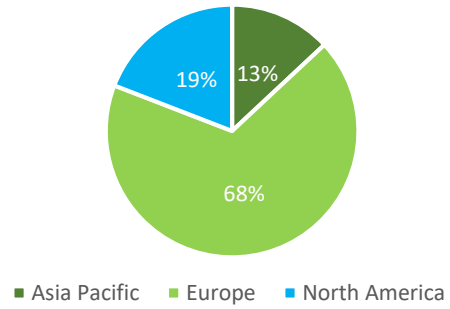


Figure 71: Discovered oil and gas volumes in October 2024 by region



Source: GECF Secretariat based on Rystad Energy

3.5.2 Other developments

QatarEnergy expands its exploration activity in Egypt: According to announcement from QatarEnergy, the state-owned company has entered into an agreement with Chevron to acquire a 23% working interest in the concession agreement for the North El-Dabaa (H4) Block, in the Mediterranean Sea, offshore Egypt. The working interests of the block are distributed among Chevron with 40% interest (the operator), Woodside with a 27% interest and Tharwa Petroleum Company, an Egyptian state-owned company, with a 10% interest. HE Saad Sherida Al-Kaabi, the Minister of State for Energy Affairs, the President and CEO of QatarEnergy commented that "the agreement demonstrates our commitment to the oil and gas sector in the Arab Republic of Egypt, and further strengthens our partnership with our valued partner Chevron." The North El-Dabaa (H4) Block lies about 10 km offshore of the Egyptian Mediterranean coast at water depths ranging between 100 and 3,000m. It is worth mentioning that both Egypt and Qatar are two esteemed Member Countries of the GECF.

BP approved a new 7 billion USD carbon capture project in Indonesia's upstream sector: British Petroleum company (BP) announced the sanctioning of a new 7 billion USD carbon capture, utilisation and storage (CCUS) project, linked to its Tangguh LNG project in Papua Barat, Indonesia. The project is expected to unlock more than 3 tcf (85 bcm) of additional gas reserves, through the development of Ubadari gas field. The produced gas will be used as a feedstock for the three liquefaction trains in Tangguh LNG plant. Gas production from Ubadari field is anticipated in 2028 and the announced CCUS project is planned to capture about 15 Mtpa of CO_2 in its initial phase. Part of the captured CO_2 will be reinjected into Tangguh's reservoirs to be used an enhanced gas recovery (EGR) method.

US EPA introduced new rules for methane emission abatement in the oil and gas sector: The US Environmental Protection Agency (EPA) announced in November, new rules for methane emissions abatement from the oil and gas sector. The rules derived from the implementation of the Inflation Reduction Act (IRA) directive to collect a Waste Emissions Charge as a means for better transferring natural gas into the market, instead of flaring or venting it. The IRA has imposed this charge on large emitters of methane based on whether their emissions surpassed specific performance levels. The EPA's rules also set a number of financial incentives for the companies to take near-term action to deliver valuable natural gas to the consumers, improve efficiency in the oil and gas sector and reduce methane emissions. According to the EPA's estimates, these rules have the capacity to produce cumulative emissions reductions of 1.2 Mt of methane (35 Mt of CO_2 equivalent) until 2035, which is equivalent to taking nearly 8 million diesel-powered cars off the road for a year.

4 Gas Trade

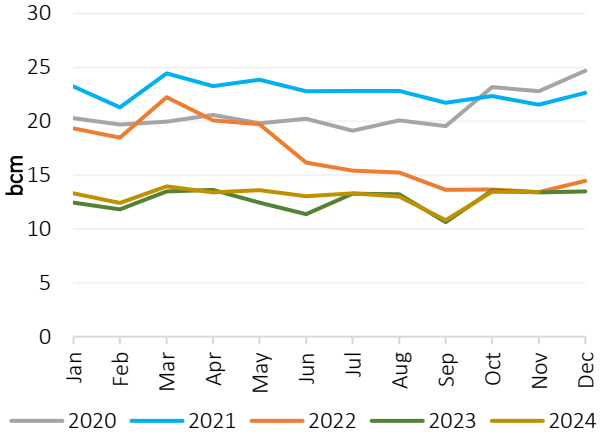
4.1 PNG trade

From January to November 2024, global PNG trade continued a positive trajectory, with global gas imports estimated to increase by 4% y-o-y to reach a total of 545 bcm. During this period, the growth was driven by increased PNG exports from Russia, Norway and Canada, along with an increase in PNG imports from China, continental Europe and the UK.

4.1.1 Europe

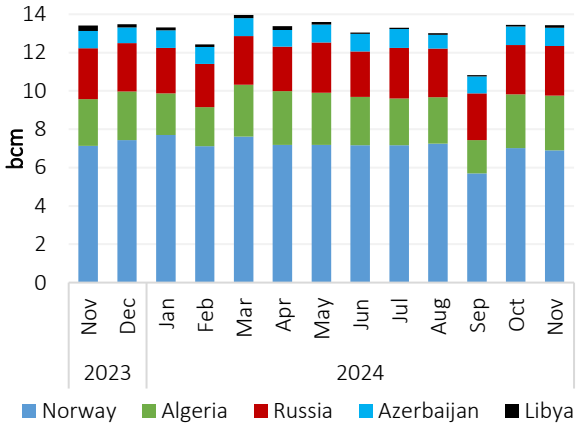
The quantity of PNG imported each month by the EU countries has been consistent in 2024, notwithstanding the supply disruption due to anticipated Norwegian maintenance activities in September. The EU imported 13.4 bcm in November 2024, which was the same quantity imported one year ago, as well as one month ago (Figure 72). During the month, there was a slight decrease in PNG supply from Norway, compared with the previous month. However, this was offset by robust imports from Russia, Algeria and Libya (Figure 73).

Figure 72: Monthly PNG imports to the EU



Source: GECF Secretariat based on data from Refinitiv

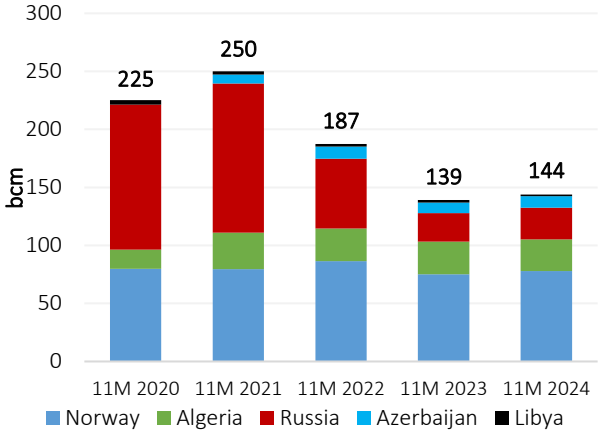
Figure 73: Monthly EU PNG imports by supplier



Source: GECF Secretariat based on data from Refinitiv

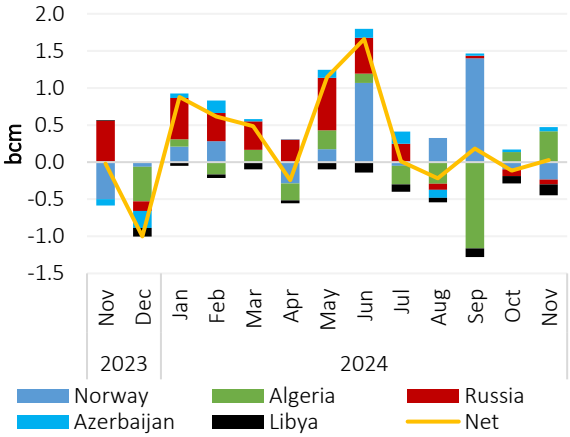
Additionally, the EU imported 144 bcm of PNG from January to November 2024, an increase of 3% or 4.4 bcm y-o-y (Figure 74). The increase was driven by increased imports from Russia and Norway in 2024, of around 3.0 bcm each. Since the beginning of the second half of 2024, there has been a narrow range of variation in net PNG imports compared with 2023 (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

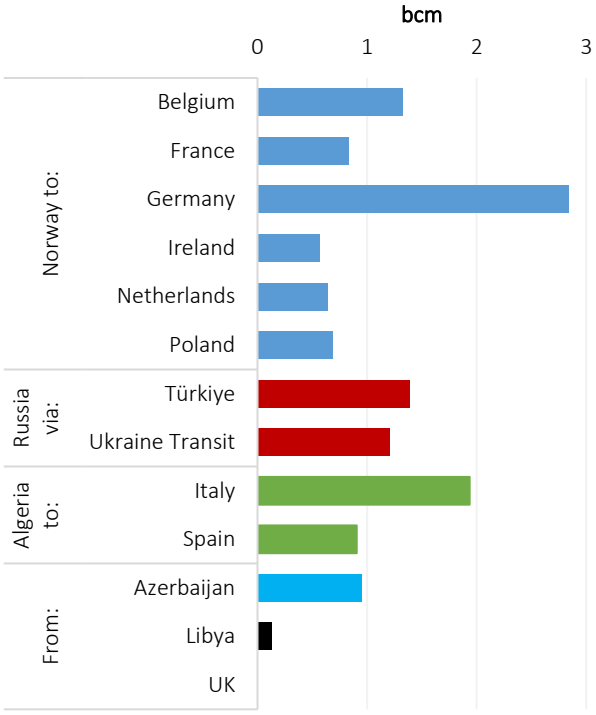


Source: GECF Secretariat based on data from Refinitiv

Figure 76 shows the PNG imports to the EU via the major supply routes in November 2024. The largest increase was 8% m-o-m from Norway to its largest market, Germany, while there was a 33% m-o-m contraction in flows to France. Algeria boosted PNG exports to Italy by 4% during the month, while Russian flows via Ukraine increased by a similar percentage. After providing 6.0 bcm of regasified LNG over the year, there were zero net flows via the interconnectors with the UK in November.

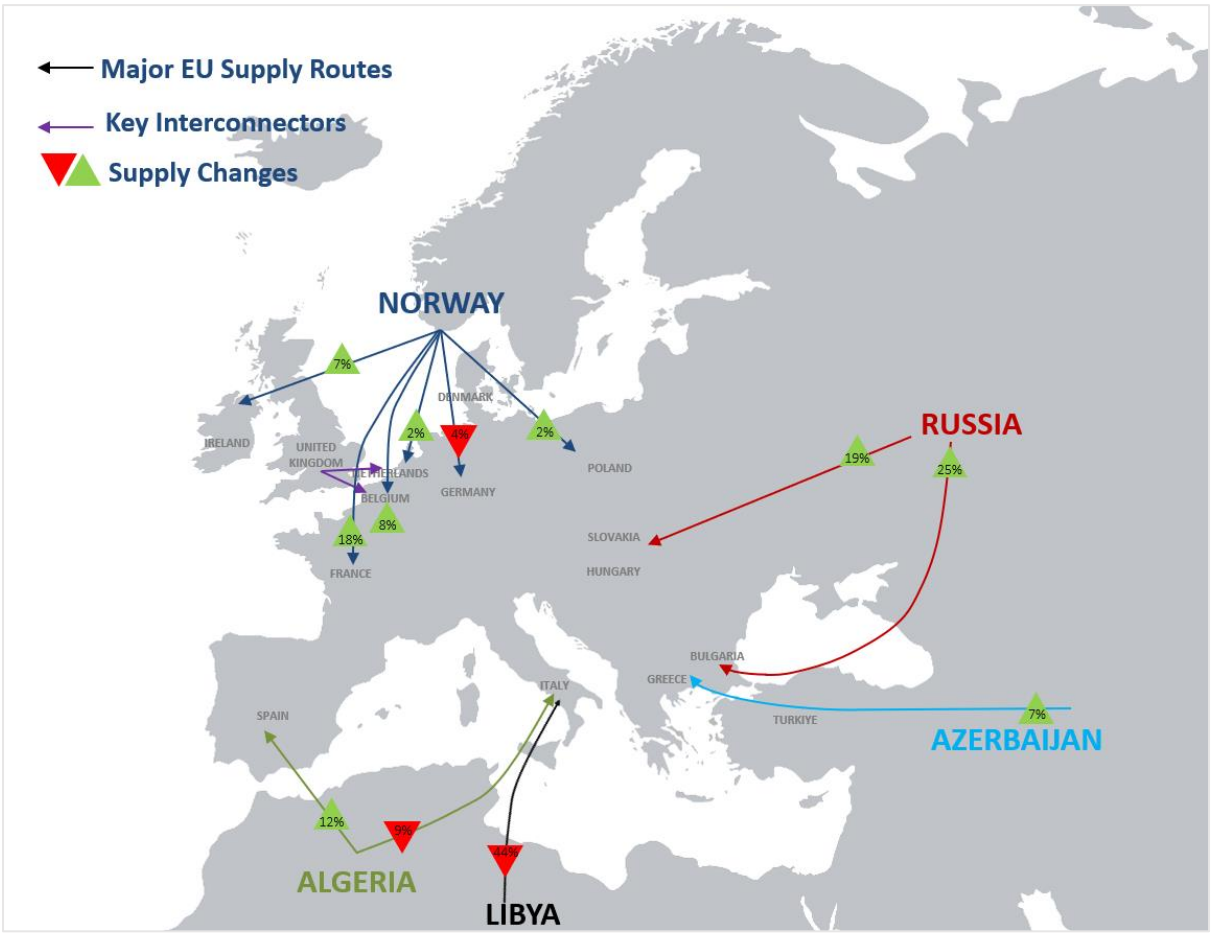
Figure 77 displays the PNG imports to the EU via the major supply routes during the period from January to November 2024, versus the same period in 2023. Russia continued its increased gas flows via both supply routes to the EU. On the other hand, Norway increased flows via each of its supply routes, except to Germany. There was a 45% y-o-y decrease in flows of regasified LNG from the UK.

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



Source: GECF Secretariat based on data from Refinitiv

Figure 77: PNG imports to the EU by supply route (11M 2024 v 11M 2023)

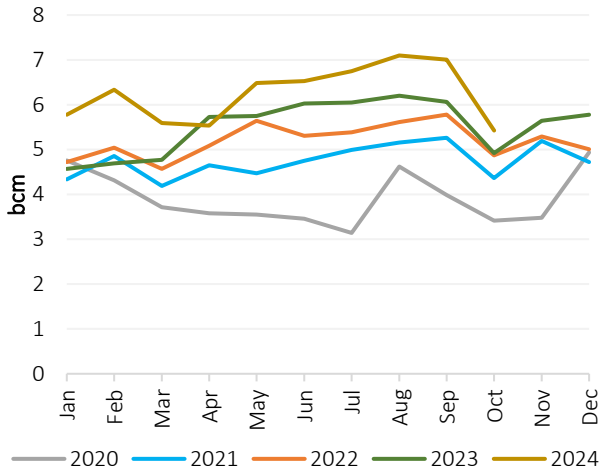


Source: GECF Secretariat based on data from Refinitiv

4.1.2 Asia

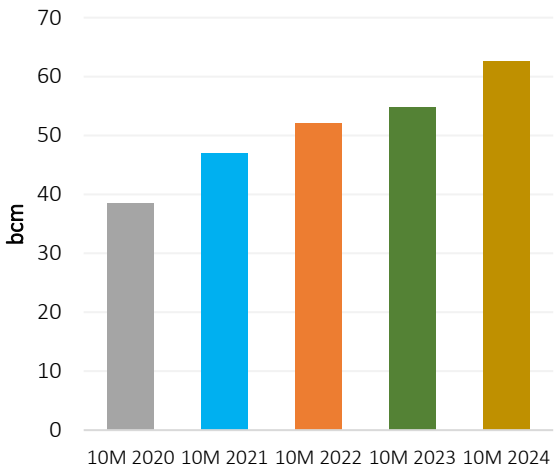
In October 2024, China imported 5.4 bcm of PNG, which was 10% higher compared to the previous year (Figure 78). However this volume represented a decrease of 23% m-o-m, in line with the curtailed energy demand in the country during the Golden Week celebrations, which take place every October. The share of PNG in China's total gas imports fell to 38% during the month. Over the first ten months of the year, China increased its PNG imports by 14% compared to the previous year, to reach 63 bcm (Figure 79).

Figure 78: Monthly PNG imports in China



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

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



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

In August 2024, Singapore imported 0.54 bcm of PNG from Indonesia and Malaysia. This volume was 8% higher than one year ago, and represented the first y-o-y increase since January 2024 (Figure 80). Additionally, this volume was 13% higher than the volume imported in the previous month.

Thailand imported 0.43 bcm from Myanmar in the same month, which was 14% lower y-o-y, as well as 2% lower than the previous month (Figure 81).

Figure 80: Monthly PNG imports in Singapore

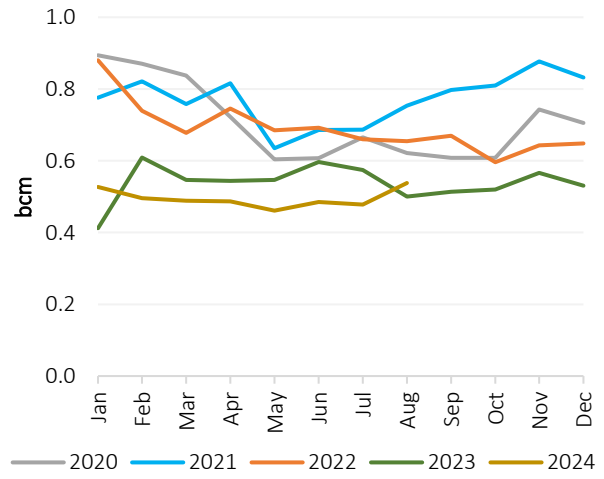
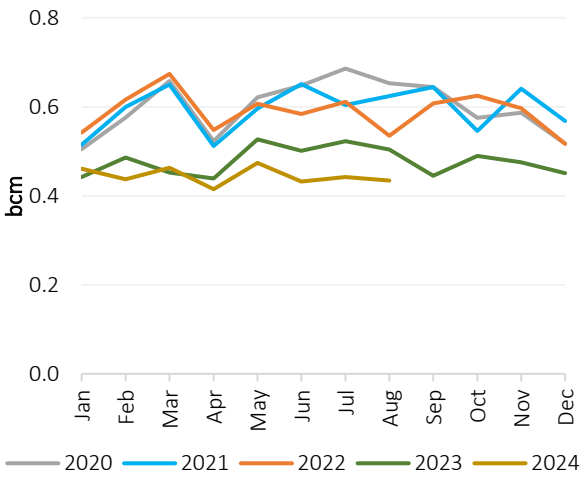


Figure 81: Monthly PNG imports in Thailand



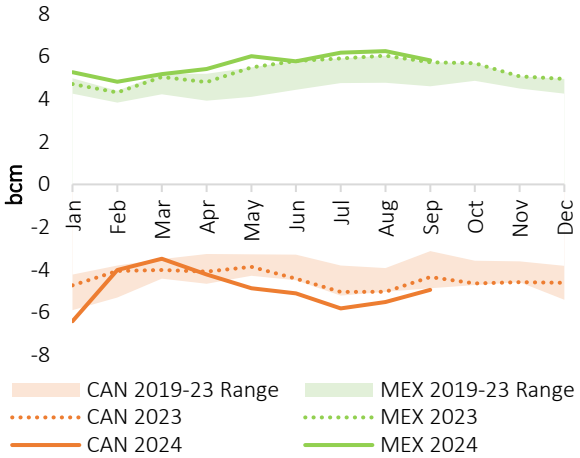
Source: GECF Secretariat based on data from JODI Gas

4.1.3 North America

In 2024, Mexico has consistently imported higher volumes of PNG from the US than one year ago. In September 2024, Mexico imported 5.8 bcm, which was 2% higher y-o-y, but 7% lower than the level of the previous month (Figure 82).

At the same time, net PNG flows from Canada to the US reached 4.9 bcm. This volume was 14% higher y-o-y, but 10% lower than the level of the previous month. In September, flows from Canada to the US decreased m-o-m to 6.9 bcm, while exports from the US to Canada rose to reach 2.0 bcm.

Figure 82: Net US PNG exports (+) and imports (-)



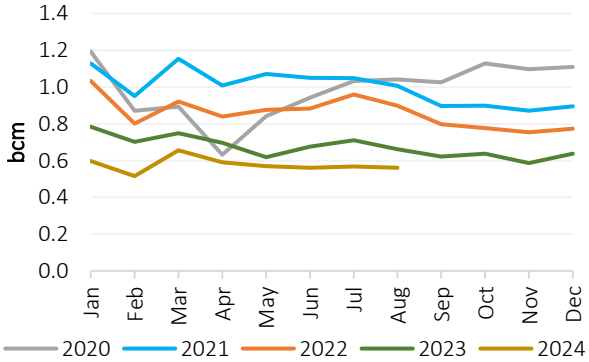
Source: GECF Secretariat based on data from US EIA

4.1.4 Latin America and the Caribbean

In August 2024, Bolivia exported 0.56 bcm of PNG to Brazil and Argentina. This volume represented a 15% decrease from the level of one year ago, and was also 1% lower than the previous month (Figure 83). Total gas exports for the eight months of 2024 reached 4.6 bcm.

Argentina also exported 0.12 bcm of PNG to Chile during August. This was a 9% increase y-o-y, but was 7% lower than the volume supplied during the previous month.

Figure 83: Monthly PNG exports from Bolivia



Source: GECF Secretariat based on data from JODI Gas

4.1.5 Other developments

Completion of the Power of Siberia (POS) pipeline: Chinese authorities have announced the completion of the final phase of the Power of Siberia pipeline, specifically sections within the country. As the longest gas transmission network in the world, the POS traverses over 5,000 km across nine provinces in China, concluding in Shanghai. With a designed capacity of 38 bcma, the POS will support the needs of 130 million households across Northeast China, the Beijing-Tianjin-Hebei region, and the Yangtze River Delta.

Brazil and Argentina advance pipeline gas trade: On the sidelines of the G20 meeting in November 2024, an MOU was signed for pipeline gas exports from Argentina's Vaca Muerta shale reserves to Brazil. Argentina's Economy Minister and Brazil's Mines & Energy Minister also agreed to have a study to develop the logistics, with consideration of expanding existing infrastructure. The gas supply may be delivered via one of three routes: reversal of Bolivia's pipelines to Argentina, or construction of new lines through Paraguay or Uruguay. Initial imports may start at 3 mcm/d, potentially increasing to 30 mcm/d by 2030.

4.2 LNG trade

4.2.1 LNG imports

In November 2024, global LNG imports fell by 3.4% (1.20 Mt) y-o-y to 34.00 Mt (Figure 84), which represents the weakest level of LNG imports for the month since 2021. This decline is largely attributed to a significant reduction in floating LNG cargoes during October 2024 compared to the previous year. In October 2023, a steep contango in LNG prices led to a high number of floating cargoes, a trend that was less pronounced in 2024. As a result, LNG imports saw a sharp increase in October 2024, followed by a subsequent decline in November. The overall decrease in global LNG imports was driven by a notable drop in Europe, while the Asia Pacific region recorded a modest increase.

For the period January to November 2024, global LNG imports rose by 1.5% (5.58 Mt) y-o-y, reaching 374.01 Mt driven mainly by higher imports in the Asia Pacific, which offset a sharp decline in Europe (Figure 85). Global LNG imports are on track to grow by 2% in 2024.

Figure 84: Trend in global monthly LNG imports

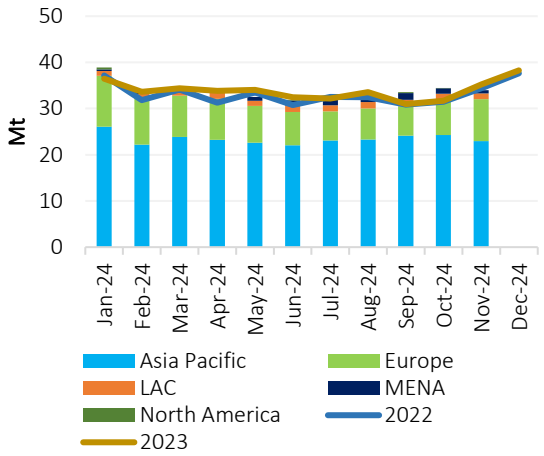
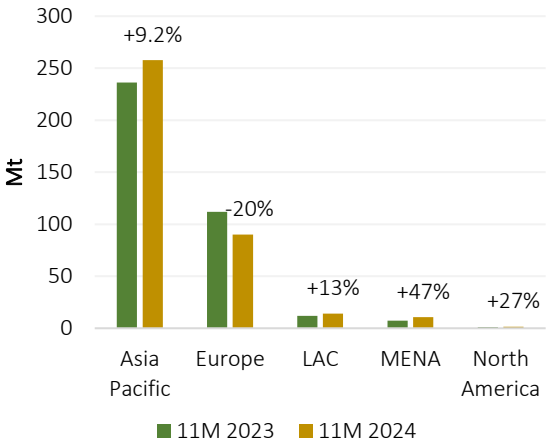


Figure 85: Trend in YTD regional LNG imports



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.1 Europe

In November 2024, despite an increase in its gas consumption, Europe's LNG imports fell for the 17th straight month, decreasing by 14% (1.47 Mt) y-o-y to 9.09 Mt (Figure 86). The decrease was primarily driven a substantial price gap between spot LNG prices in Asia Pacific and Europe throughout most of the month. The decline was particularly evident in Belgium, France, Italy, Spain and the UK, while Türkiye experienced a significant increase (Figure 87). Stronger gas storage withdrawals mainly compensated for the drop in LNG imports.

Belgium switched from being a net pipeline gas exporter to the Netherlands to a net importer, driven by reduced LNG imports. In France, the decline in LNG imports led to lower pipeline gas exports to Germany and Switzerland. Italy offset its drop in LNG imports with increased pipeline gas imports from Algeria. Similarly, Spain compensated for its reduced LNG imports with stronger pipeline supplies from Algeria, France and Portugal. Despite the UK experiencing a decrease in LNG imports, its November imports reached their highest level since February 2024. Meanwhile, Türkiye's rise in LNG imports was fuelled by a surge in imports from the US.

For the period January to November 2024, LNG imports in Europe dropped by 20% (22 Mt) to reach 90.21 Mt.

Figure 86: Trend in Europe's monthly LNG imports

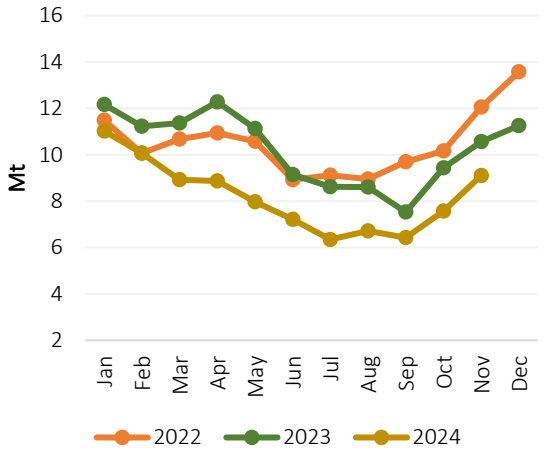
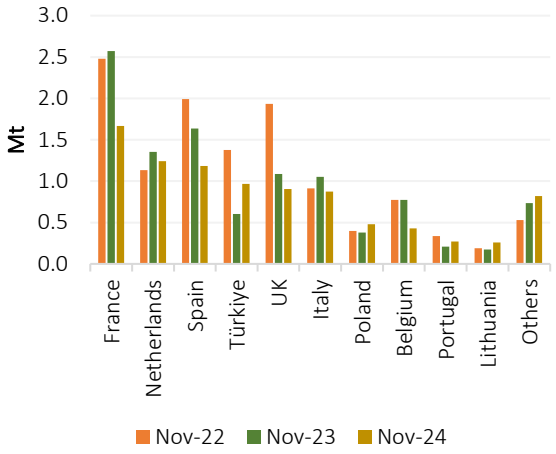


Figure 87: Top LNG importers in Europe



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.2 Asia Pacific

In November 2024, LNG imports in Asia Pacific increased slightly by 0.2% (0.04 Mt) y-o-y to 22.94 Mt, which is the weakest LNG imports since June 2024 (Figure 88). The meagre increase in LNG imports was mainly attributed to tight LNG supplies during the month. Bangladesh, India and Taiwan recorded significant increases in LNG imports, offsetting lower imports in China and Thailand (Figure 89).

Bangladesh's LNG imports increased due to stronger spot LNG demand driven by higher gas demand for electricity generation and declining domestic gas production. Similarly, India's LNG imports rose, supported by growing gas demand and reduced domestic production. In Taiwan, higher gas demand for electricity generation contributed to the increase in LNG imports. Conversely, China's LNG imports declined due to high gas and LNG storage levels, stronger pipeline gas imports, and increased domestic production. In Thailand, the reduction in LNG imports primarily came from lower imports from Malaysia, Mozambique and Qatar.

For the period January to November 2024, Asia Pacific's LNG imports grew by 9.4% (22.25 Mt) y-o-y to 258.38 Mt.

Figure 88: Trend in Asia's monthly LNG imports

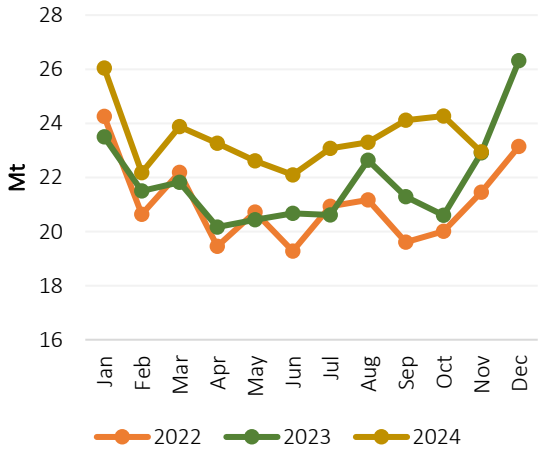
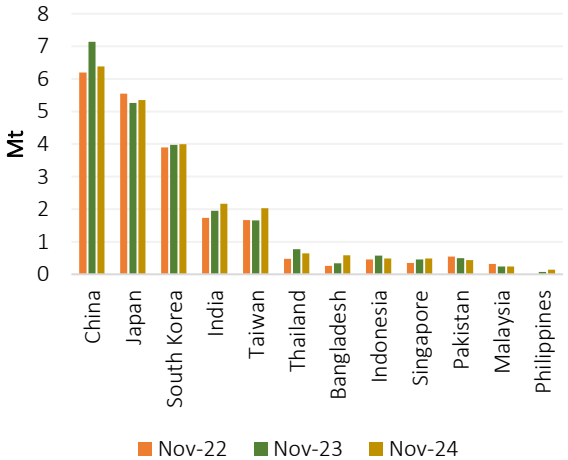


Figure 89: LNG imports in Asia Pacific by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.3 Latin America & the Caribbean (LAC)

In November 2024, LNG imports in the LAC region stood at 1.28 Mt, representing an increase of 2.2% (0.03 Mt) y-o-y (Figure 90). The uptick in LNG imports came mainly from Jamaica and Puerto Rico, which offset weaker imports in the US Virgin Islands (Figure 91).

Jamaica's LNG imports rose, supported by stronger supplies from Mexico and Nigeria, while Puerto Rico saw an increase in imports from Trinidad and Tobago. Conversely, the decline in LNG imports to the USVI was primarily attributed to lower imports from Trinidad and Tobago.

For the period January to November 2024, LNG imports in the LAC region jumped by 18% (2.12 Mt) y-o-y to reach 14.02 Mt.

Figure 90: Trend in LAC's monthly LNG imports

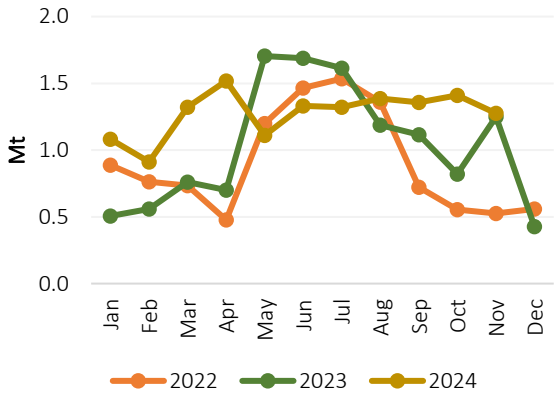
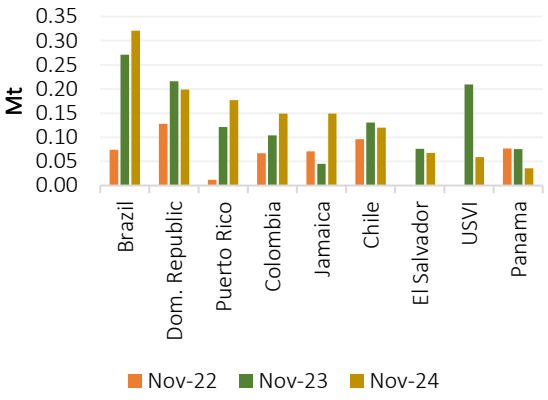


Figure 91: Top LNG importers in LAC



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.4 MENA

In October 2024, LNG imports in the MENA region continued to expand, increasing by 43% (0.20 Mt) to reach 0.68 Mt (Figure 92). Egypt led the rise in the region's LNG imports, compensating for a decline in Kuwait (Figure 93). Egypt's higher LNG imports were driven by reduced domestic gas production, while Kuwait's decline was primarily due to lower imports from Oman and Russia.

For the period January to November 2024, LNG imports in the MENA region rose by 47% (3.39 Mt) y-o-y to 10.63 Mt.

Figure 92: Trend in MENA's monthly LNG imports

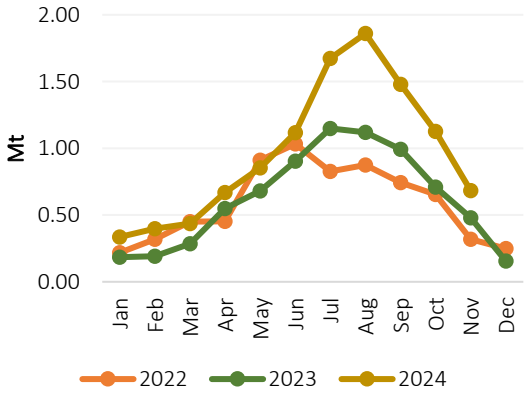
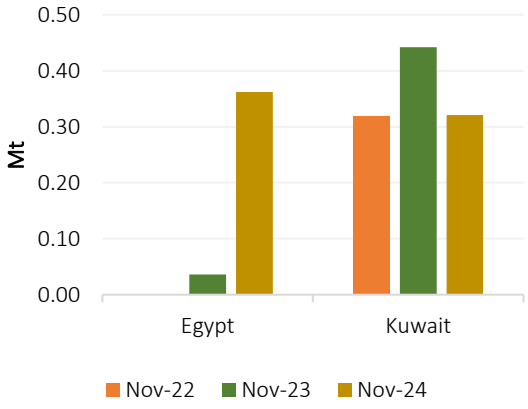


Figure 93: Top LNG importers in MENA



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2 LNG exports

In November 2024, global LNG exports rose significantly by 3.0% y-o-y (1.04 Mt) to reach 35.69 Mt, marking a record high for the month (Figure 94). The increase was primarily driven by GECF Member Countries. Non-GECF countries maintained the largest share of global LNG exports at 51.9%, though this was a slight decrease from 53.0% in November 2023. In contrast, GECF Members' share grew from 45.3% to 46.9%, while LNG re-exports dropped from 1.7% to 1.3% over the same period.

The top three LNG exporters in November 2024 were the US, Australia and Qatar.

For the period January to November 2024, global LNG exports increased by 1.4% y-o-y (5.17 Mt), reaching 376.28 Mt. This growth was supported by stronger exports from both GECF and non-GECF countries, which offset a decline in LNG re-exports (Figure 95).

Figure 94: Trend in global monthly LNG exports

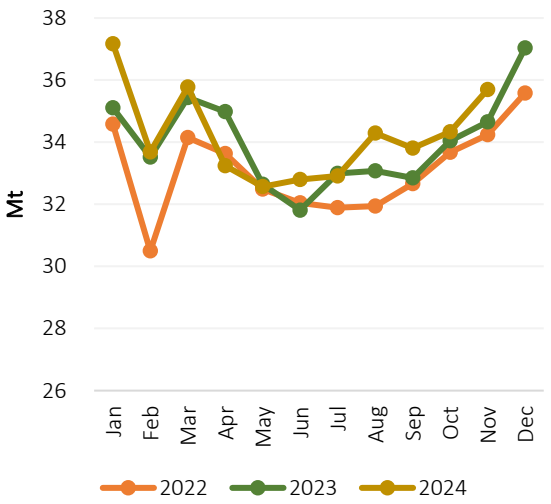
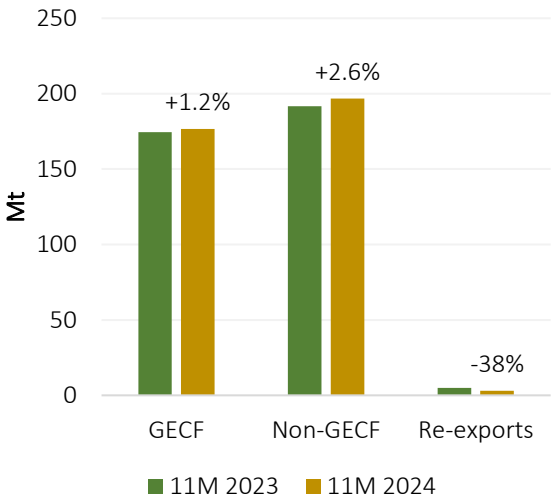


Figure 95: Trend in YTD LNG exports by supplier



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2.1 GECF

In November 2024, LNG exports from GECF Member and Observer Countries jumped by 6.5% (1.02 Mt) y-o-y to reach 16.73 Mt (Figure 96). This is the strongest y-o-y growth since July 2022. The stronger LNG exports came mainly from Malaysia, Nigeria, Peru, Qatar and Trinidad & Tobago, which offset a decline in Egypt (Figure 97).

Malaysia's LNG exports increased following the lifting of the force majeure on gas supply to the LNG Dua facility on November 1, 2024, which had been in place since a disruption in the Sabah-Sarawak gas pipeline in October 2022. In Nigeria and Qatar, higher LNG exports were driven by reduced planned maintenance activity. Improved feedgas availability supported the rise in LNG exports from Peru and Trinidad and Tobago. Conversely, a decline in feedgas availability led to the halt in Egypt's LNG exports since April 2024, contributing to the y-o-y decline.

In November, the Asia Pacific region was the largest market for GECF's LNG exports, accounting for 67%, followed by Europe at 28%, LAC at 4%, and the MENA region at 1%.

For the period January to November 2024, GECF's LNG exports grew by 1.2% (2.03 Mt) y-o-y to reach 176.52 Mt (1.53 Mt).

Figure 96: Trend in GECF monthly LNG exports

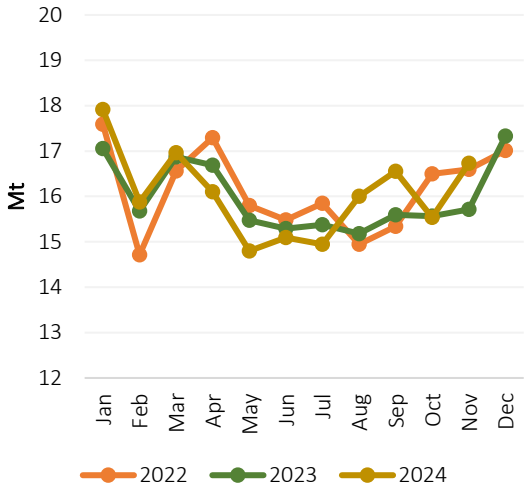
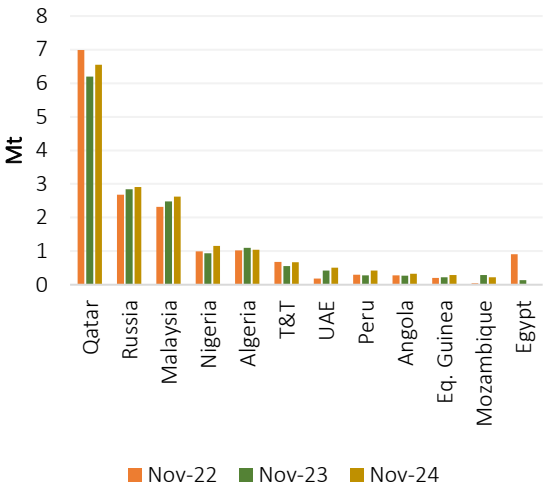


Figure 97: GECF's LNG exports by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2.2 Non-GECF

In November 2024, LNG exports from non-GECF countries reached 18.51 Mt, representing a marginal y-o-y increase of 0.8% (0.15 Mt) (Figure 98). Significant increases in LNG exports from Australia and Mexico offset declines from Brunei and Indonesia, while US LNG exports remained relatively stable (Figure 99).

In Australia, increased LNG exports from the APLNG, Gorgon and Prelude LNG facilities, driven by reduced maintenance activity, offset lower exports from the Darwin and Ichthys LNG facilities. The Darwin LNG facility has been shut down for life extension work until 2025, while higher maintenance activity at the Ichthys LNG facility contributed to its export decline. Mexico's LNG exports surged due to the ramp-up of production at the Altamira FLNG 1 facility. In contrast, declines in LNG exports from Brunei and Indonesia were attributed to increased maintenance activity at the Lumut and Tangguh LNG facilities, respectively.

For the period January to November 2024, LNG exports from non-GECF countries grew by 2.6% (5.02 Mt) y-o-y to reach 196.70 Mt.

Figure 98: Trend in non-GECF monthly LNG exports

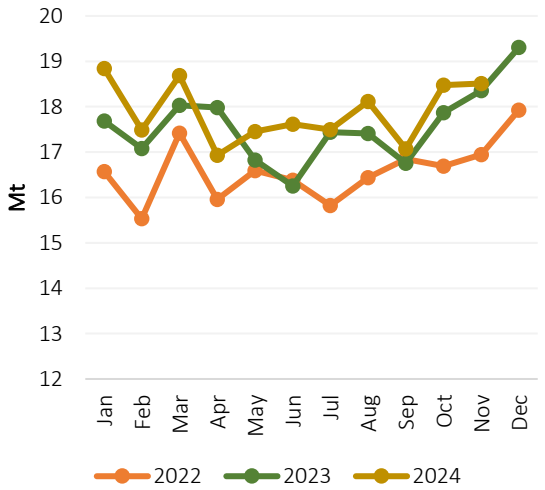
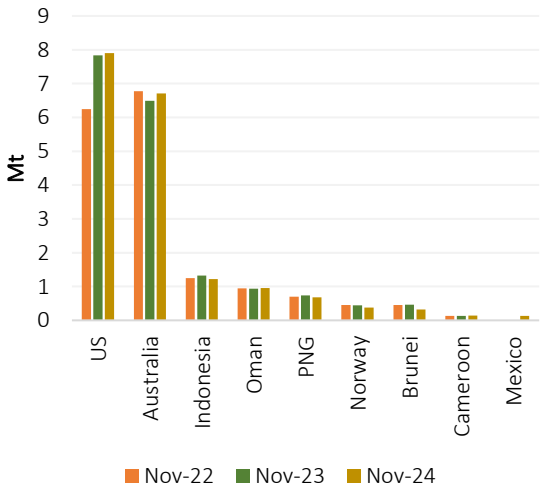


Figure 99: Non-GECF's LNG exports by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.3 Global LNG re-exports

In November 2024, global LNG re-exports declined on an annual basis for the fourth consecutive month, dropping by 23% (0.13 Mt) y-o-y to 0.45 Mt, which was however, the highest level since July 2024 (Figure 100). The y-o-y decrease was primarily driven by lower re-exports from Spain.

In November 2023, Spain re-exported five LNG cargoes, with one each going to Italy, Puerto Rico, South Korea, Sweden and the United Kingdom. However, by November 2024, Spain's re-exports dropped to just two cargoes, destined for Italy and Türkiye.

From January to November 2024, global LNG re-exports totalled 3.07 Mt, representing a 38% (1.88 Mt) y-o-y decline. This significant drop was primarily driven by reduced re-exports from China, Indonesia, Jamaica, Malaysia, Singapore, Spain, and Türkiye, partially offset by increased volumes from Finland, Lithuania, and the USVI (Figure 101).

Figure 100: Trend in global monthly LNG re-exports

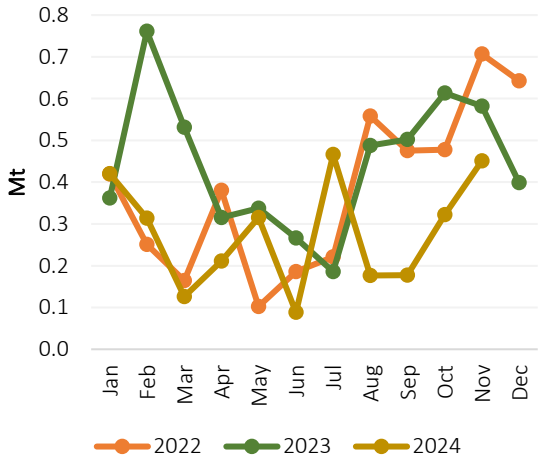
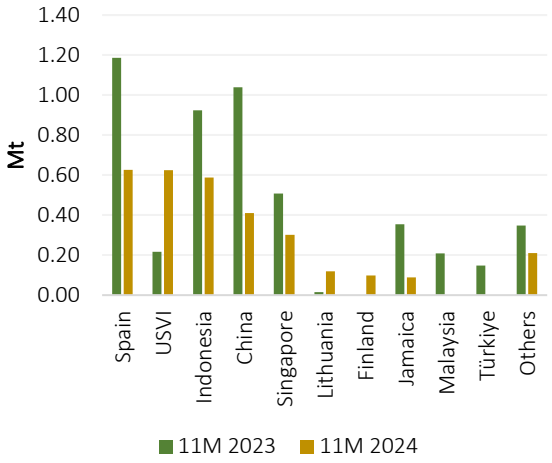


Figure 101: Trend in YTD LNG re-exports by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.4 Arbitrage opportunity

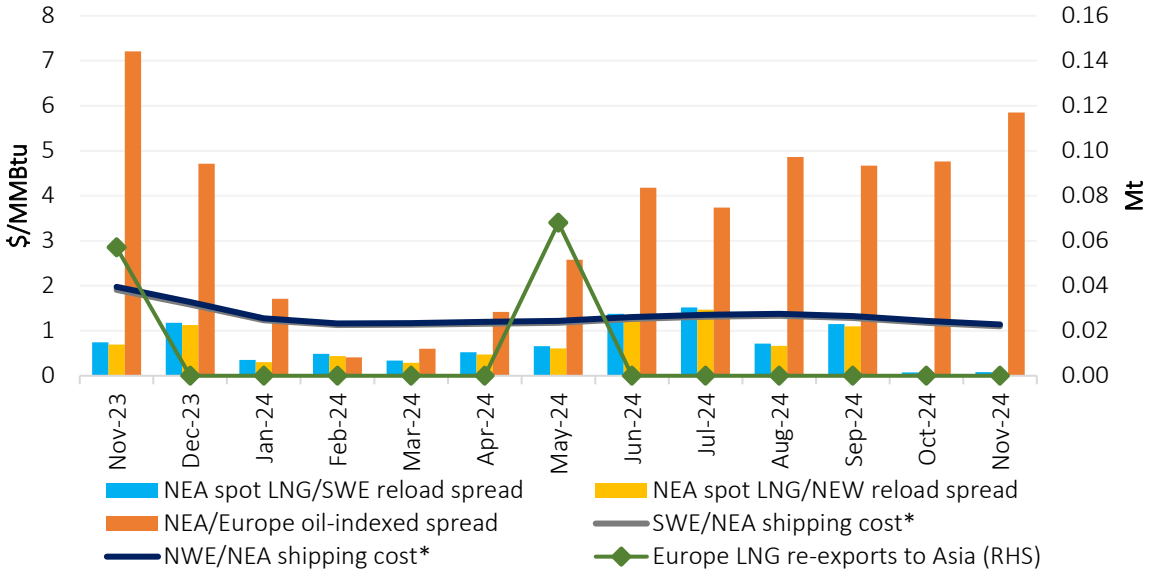
In November 2024, there was no arbitrage opportunity for LNG re-exports from Europe to Asia Pacific as the prices for Asia spot LNG and European LNG reloads continued to converge. The one-way spot shipping costs from Europe to Asia Pacific remained significantly higher than the small price differentials between the two markets (Figure 102). Conversely, the price spread between Asia Pacific spot LNG and oil-indexed European prices exceeded the one-way shipping costs by a considerable margin.

The price spreads for NEA spot/SWE reload and NEA spot/NWE reload remained unchanged from the previous month at $0.08/MMBtu and $0.03/MMBtu, respectively, reflecting similar m-o-m increases in both European LNG reload and Asian spot prices. In contrast, the price difference between Asia Pacific spot LNG and European oil-indexed prices rose by 23% ($1.09/MMBtu) m-o-m to $5.85/MMBtu. Shipping costs on NEA/SWE and NEA/NWE routes continued their decline, dropping by 6.5% ($0.08/MMBtu) m-o-m to $1.10/MMBtu and $1.14/MMBtu, respectively.

No LNG re-exports from Europe to Asia Pacific were recorded in November 2024. Compared to November 2023, the NEA spot/SWE reload and NEA spot/NWE reload price spreads, as

well as the NEA spot-to-European oil-indexed price spreads and Europe-Asia spot LNG shipping costs, fell sharply by 89% ($0.66/MMBtu), 96% ($0.66/MMBtu), 19% ($1.36/MMBtu), and 42% ($0.82/MMBtu), respectively.

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

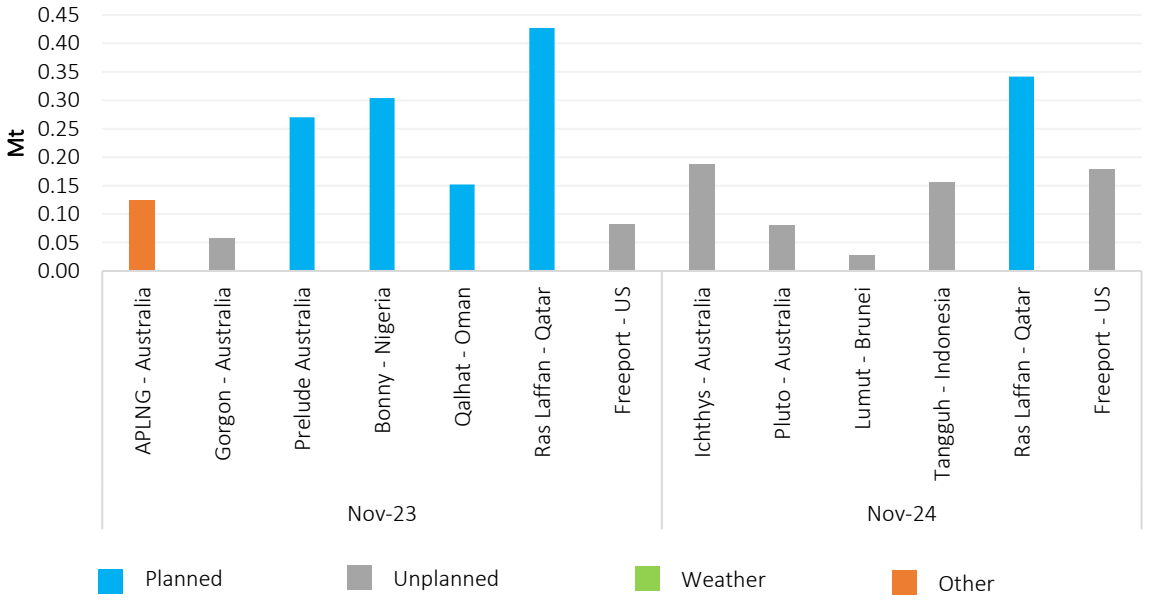


Source: GECF Secretariat based on data from GECF Shipping Model, Argus and ICIS LNG Edge
(*): One-way spot shipping cost

4.2.5 Maintenance activity at LNG liquefaction facilities

In November 2024, the combined effect of scheduled maintenance, unplanned outages, and other factors at global liquefaction plants totalled 0.97 Mt, down from 1.42 Mt in the same period last year (Figure 103). Key activities included planned maintenance at the Ras Laffan LNG facility and unplanned outages at the Ichthys, Pluto, Lumut, Tangguh and Freeport LNG plants.

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



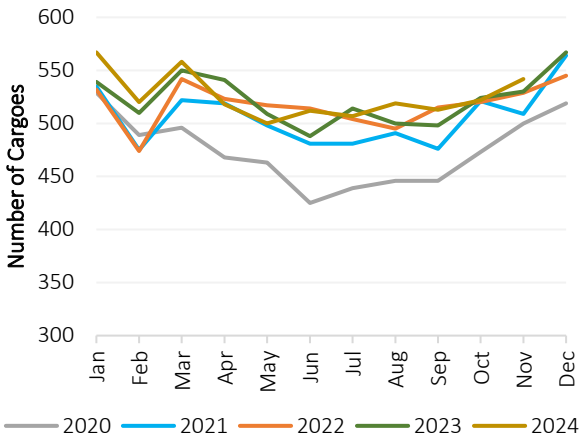
Source: GECF Secretariat based on information from Argus, ICIS LNG Edge and Refinitiv

4.2.6 LNG shipping

In November 2024, there was a surge in LNG shipments, in line with seasonal trends. There were 542 LNG cargoes exported during the month, which was 12 more than one year ago, as well as a 4% increase when compared with the total shipments in the previous month (Figure 104). For the period January to November 2024, the total number of cargoes reached 5,778, an increase of 75 shipments, when compared with the same period in 2023.

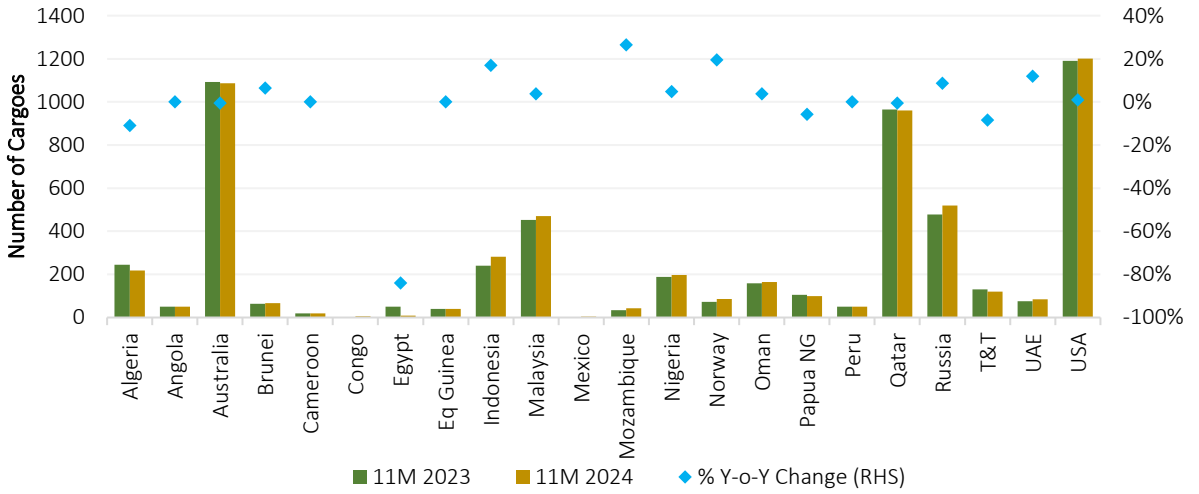
Moreover, both Russia and Indonesia delivered 41 more cargoes each in 2024 than in the same period last year. Similarly, Mozambique increased shipments by 26%, followed by Norway at 19% (Figure 105).

Figure 104: Number of LNG export cargoes



Source: GECF Secretariat based on data from ICIS LNG Edge

Figure 105: Changes in LNG cargo exports



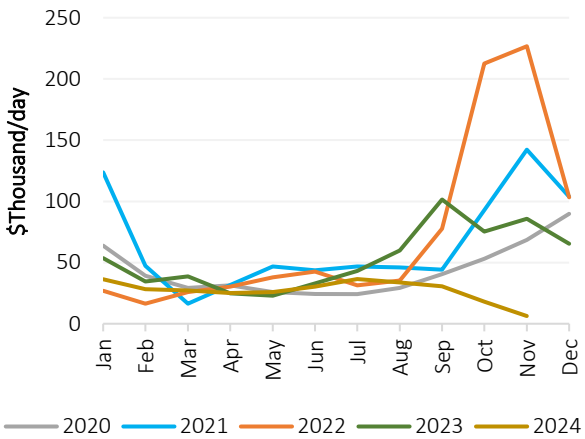
Source: GECF Secretariat based on data from ICIS LNG Edge

In November 2024, the monthly average spot charter rate for steam turbine LNG carriers reached just $6,300 per day (Figure 106). This level was 93% lower than one year ago, while also representing a decrease of 65% m-o-m. Historically, this average charter rate was $115,200 per day lower than the five-year average price for the month of November. There were similar decreases in the charter rates for the other segments of the global LNG carrier fleet as well during the month. The average spot charter rate for TDFE vessels fell by 50% m-o-m to reach $15,100 per day, while the average spot charter rate for two-stroke vessels fell by 44% m-o-m to reach $24,700 per day.

The charter rates for the global LNG carrier market continued the slide observed since July of this year. The shipping market has become very loose over these recent past months, driven by the notably high number of new LNG carrier deliveries this year, juxtaposed with the slower rate of commissioning of LNG export capacity. The current status of gas market in Europe, amidst elevated storage levels, stable pipeline supply and curtailed demand, has also impacted charter rates. However, rates may be buoyed in the coming weeks by the expectations of colder temperatures than in the previous winter seasons.

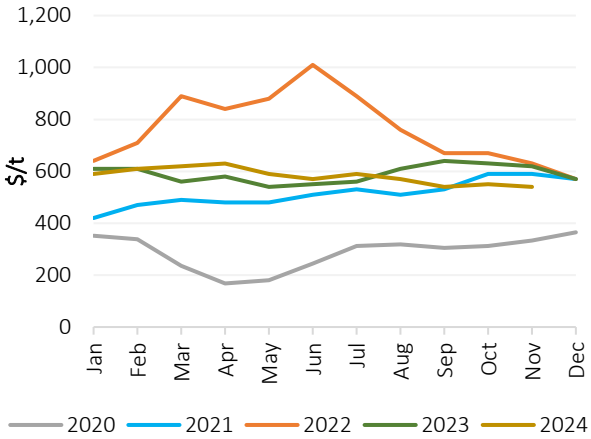
The average price of shipping fuels in November 2024 decreased by 2% m-o-m, to reach $540 per tonne (Figure 107). This average price was also 13% lower y-o-y, while remaining 7% higher than the five-year average price for that month.

Figure 106: Average LNG spot charter rate



Source: GECF Secretariat based on data from Argus

Figure 107: Average price of shipping fuels

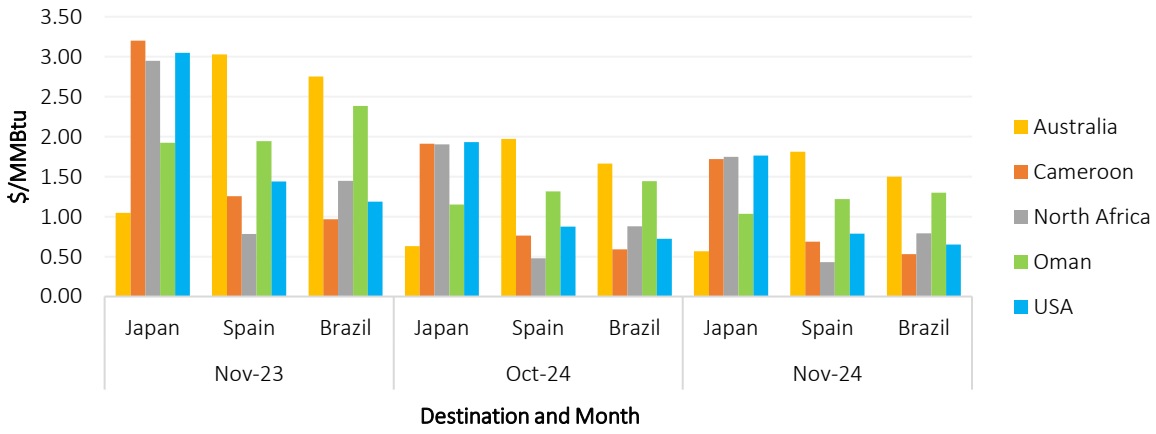


Source: GECF Secretariat based on data from Argus

In November 2024, there was a decrease in the LNG spot shipping costs for steam turbine carriers relative to the previous month, by up to $0.19/MMBtu on certain routes (Figure 108). This was primarily driven by the large decrease in the average LNG carrier spot charter rate and the small decrease in the cost of LNG shipping fuels, despite the increase in the delivered spot LNG prices compared with the previous month.

Moreover, 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 in November 2024, resulting in LNG shipping costs of up to $1.48/MMBtu lower than in November 2023.

Figure 108: LNG spot shipping costs for steam turbine carriers



Source: GECF Shipping Cost Model

4.2.7 Other developments

Black & Veatch partners with Baker Hughes on PRICO® technology LNG solution: On November 4, 2024, Black & Veatch and Baker Hughes announced a collaboration at ADIPEC 2024 to combine Baker Hughes' LM9000 gas turbine and compression technology with Black & Veatch's PRICO® liquefaction technology. This partnership aims to deliver a standardized, mid-scale LNG solution capable of producing up to 2 Mtpa per train with cost-efficient and reliable performance. Black & Veatch's PRICO®, a market-leading liquefaction technology,

debuted as the first proven floating LNG technology in 2016. Baker Hughes' LM9000, a highly efficient 65+MW aeroderivative gas turbine, is suited for onshore and offshore LNG applications, enhancing this innovative LNG solution.

Eni launches hull for Congo's Nguya FLNG facility: On November 22, 2024, Italian energy giant Eni has launched the hull for the 2.4 Mtpa Nguya FLNG facility at China's Wison shipyard, set to be deployed offshore the Republic of the Congo. This second unit will complement the 0.6 Mtpa Tango FLNG facility, operational since December 2023, boosting Congo's LNG output to 3 Mtpa by late 2025. With 80% of completion activities finalised, Eni confirmed the project's timeline. Congo joined the club of LNG-producing countries in March 2024, with Eni marketing all LNG volumes from the venture.

China CTS launches online LNG trading platform in Chongqing: On November 25, 2024, China's Chongqing Petroleum and Natural Gas Trading Centre (CTC) launched an online LNG trading platform for Sinopec's Fuling plant, utilizing LNG trucks. This shift from offline, bilateral trading to an exchange platform enhances market transparency. LNG truck trade plays a vital role in strengthening liquidity in China's domestic gas market. The Fuling LNG plant, Chongqing's largest, features a 30,000 m^3 storage capacity. Its first phase processes 1 million m^3/day, with phase two set to match this capacity. The new platform aims to improve LNG market clarity in Sichuan and Chongqing and increase spot LNG availability.

Wind-assisted propulsion for LNG carriers: Japanese transport company Mitsui OSK Lines (MOL) has received an Approval in Principle for their proposal to integrate wind-assisted propulsion in a novel design for LNG carriers. The project will be developed in partnership with South Korean shipbuilding giant Hanwha Ocean, and LNG containment engineering firm GTT. The system comprises two telescopic sails made of fiberglass-reinforced plastic, each having a width of 15 metres and a maximum height of 49 metres. On testing, it was found that the system reduced fuel consumption by up to 17% on certain routes and under particular operating modes. MOL targets the implementation of the system of 25 vessels by 2030, and 80 vessels by 2035.

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

Table 1: New LNG sale agreements signed in November 2024

Contract Type	Exporting Country	Project	Seller	Importing Country	Buyer	Volume (Mtpa)	Duration (Years)
HOA	Portfolio	Portfolio	TotalEnergies	China	Sinopec	2	15
SPA	Papua New Guinea	Papua LNG	Kumul Petroleum Holdings Ltd.	Portfolio	Chevron	N/A	2
SPA	UAE	Ruwais LNG	ADNOC Gas	Germany	SEFE	1	15
SPA	UAE	Das Island	ADNOC Gas	India	GAIL	0.52	10

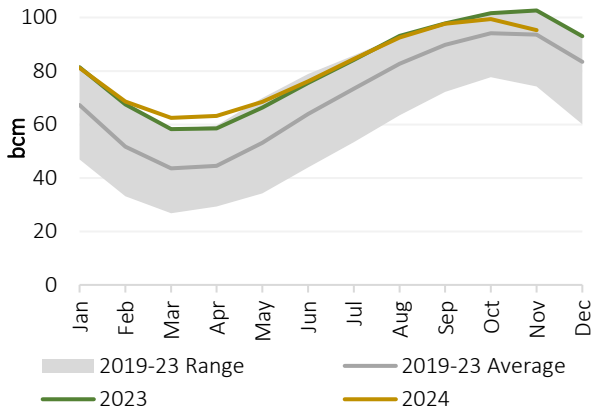
Source: GECF Secretariat based on Project Updates and News
N/A: Not available

5 Gas Storage

5.1 Europe

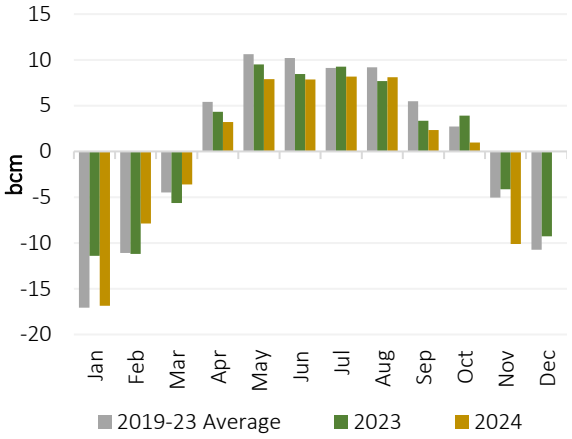
The net gas withdrawal season has commenced for the countries of the EU, in line with the start of the northern hemisphere winter. In November 2024, the average daily volume of gas in underground storage decreased to 95.2 bcm, from 99.4 bcm in the previous month (Figure 109). This placed the average capacity across the region at 92% for the month. In addition, the average storage level was 7.4 bcm less than one year ago, but 1.7 bcm higher 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+

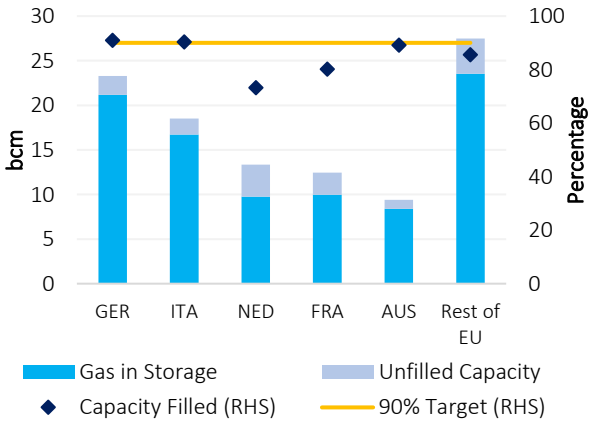
Figure 110: Net gas injections in the EU



Source: GECF Secretariat based on data from AGSI+

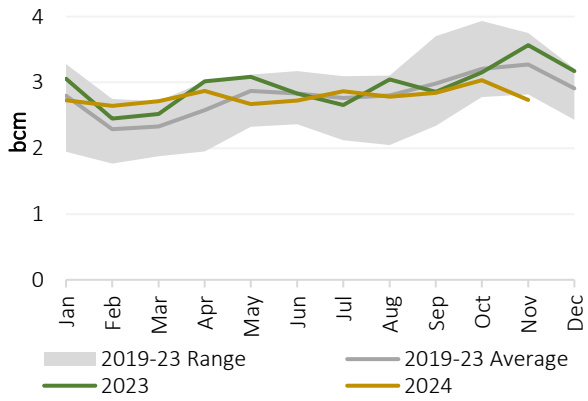
The EU set the target of 90% filled capacity by the start of November, but this was achieved by mid-August 2024. Unlike in 2023, when gas injections continued into November until EU storage reached practically 100%, this year the maximum storage level was reached in late October. This was followed by a large storage drawdown, driven by a short cold spell at the start of November, and a period of low solar and wind power output. As a result, in November 2024, there were 10.1 bcm of net gas withdrawals across the EU, which was greater than the 4.1 bcm of net withdrawal one year ago, and the five-year average for the month of 5.0 bcm (Figure 110). Nevertheless, the average storage level in Germany, Italy and Austria remained around 90% at the end of the month (Figure 111). In November 2024, there were 2.7 bcm of LNG stored in the EU countries. Amidst the increased LNG sendout, this volume was 23% lower y-o-y, and 16% lower than the five-year historical average for that month (Figure 112).

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



Source: GECF Secretariat based on data from AGSI+

Figure 112: Total LNG storage in the EU



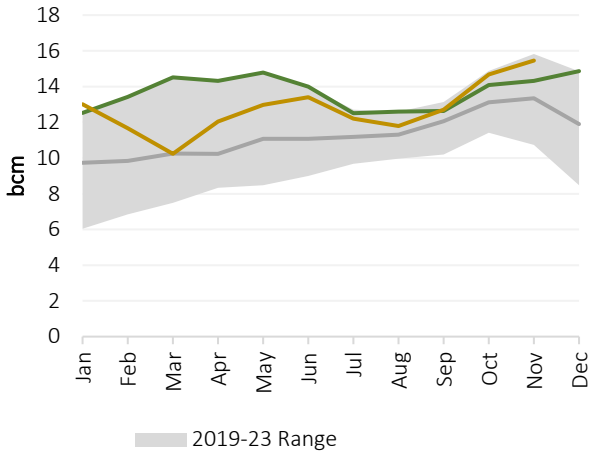
Source: GECF Secretariat based on data from ALSI

5.2 Asia Pacific

The combined volume of LNG in storage in Japan and South Korea increased to an estimated 15.5 bcm in November 2024 (Figure 113). In recent months, the LNG storage levels have consistently remained near the upper limit of the five-year range, and in November, the storage level was 8% higher y-o-y, as well as 2.1 bcm greater than the five-year average for the month.

In line with the seasonal stockpiling ahead of the winter months, the combined LNG storage level has also grown by 5% m-o-m. LNG storage in Japan and South Korea reached 7.9 bcm and 7.6 bcm respectively.

Figure 113: LNG in storage in Japan and South Korea

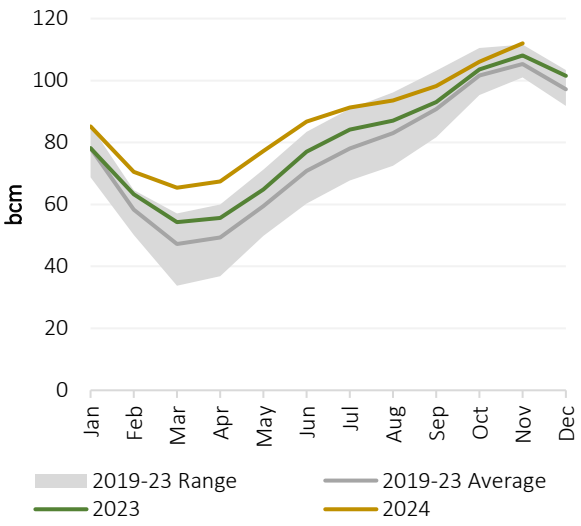


Source: GECF Secretariat based on data from Refinitiv

5.3 North America

In the US, net gas injections continued into November 2024, and the average daily volume of gas in storage increased to 112.0 bcm, up from 106.1 bcm in the previous month (Figure 114). This average storage level is the highest for the month of November since 2016. The average capacity utilisation of the UGS sites in the US rose to 84%. The gas storage level in 2024 has been consistently higher than both 2023 and the five-year average. In November 2024, there were 3.9 bcm more gas in storage than one year ago, and 6.7 bcm more than the five-year average. The total gas stored during the 2024 restocking season in the US reached 48.5 bcm.

Figure 114: Monthly average UGS level in the US



Source: GECF Secretariat based on data from US EIA

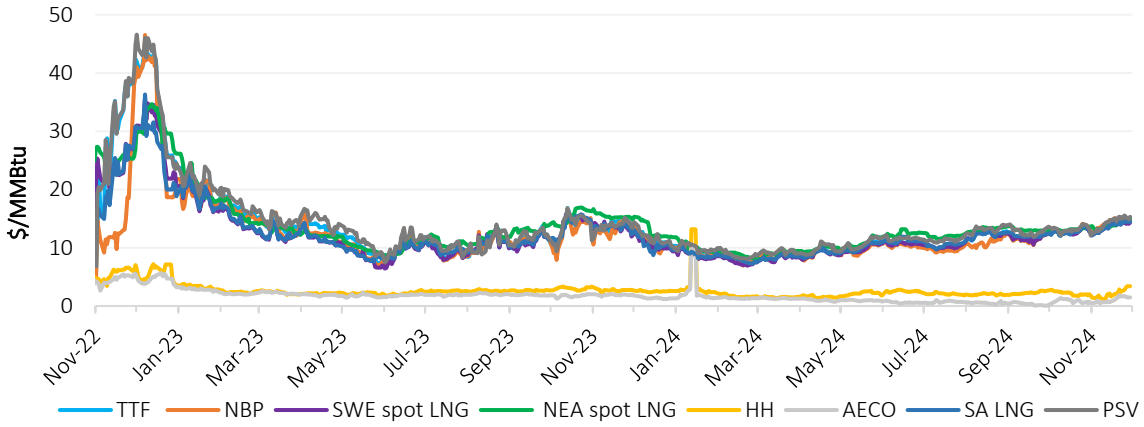
6 Energy Prices

6.1 Gas prices

6.1.1 Gas & LNG spot prices

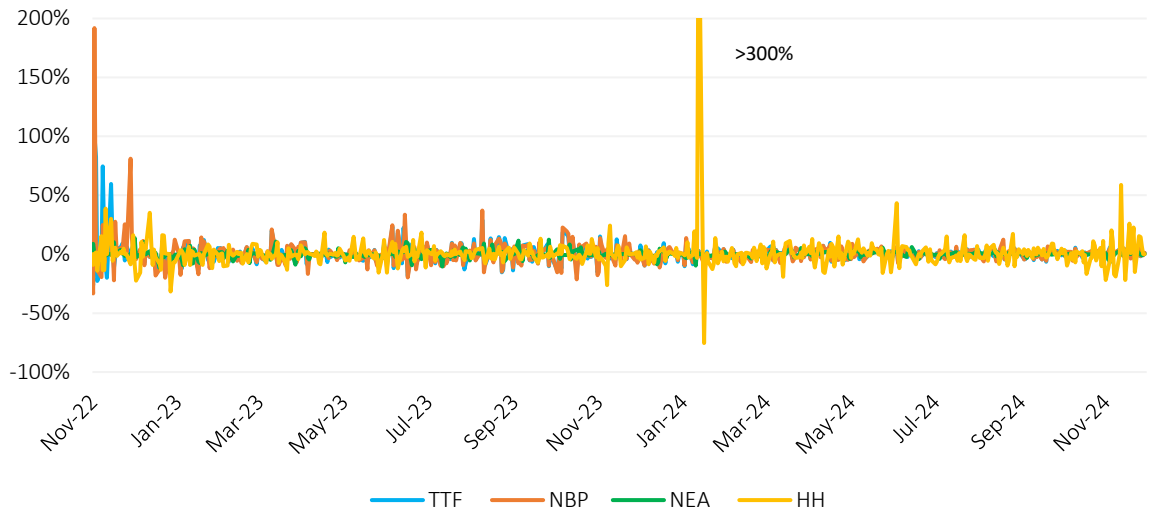
In November 2024, gas and LNG spot prices in Europe and Asia rose for the second consecutive month, with overall market volatility remaining low. However, the Henry Hub spot prices exhibited significant fluctuations during the month (Figure 115 and Figure 116). In Europe, spot prices reached their highest levels of the year, fuelled by supply side concerns, colder temperatures and lower wind power generation. Similarly, in Asia, rising LNG demand contributed to an upward trend in prices. Looking ahead, weather conditions will play a critical role in shaping spot price movements, with colder-than-usual temperatures expected to provide additional upward pressure on prices.

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

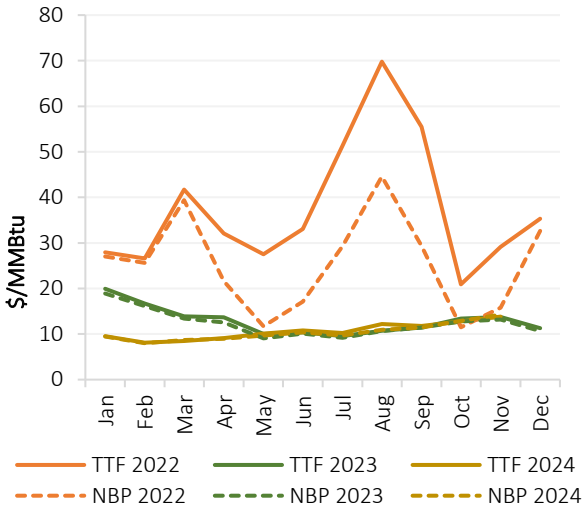


Source: GECF Secretariat based on data from Argus and Refinitiv Eikon

6.1.1.1 European spot gas and LNG prices

In November 2024, the TTF spot gas price averaged $13.83/MMBtu, reflecting increases of 8% m-o-m and 1% y-o-y. In addition, the NBP spot price averaged $14.26/MMBtu, reflecting increases of 11% m-o-m and 8% y-o-y (Figure 117). The SWE spot LNG price averaged $13.63/MMBtu in November 2024 (8% increase m-o-m and 1% increase y-o-y). In addition, the PSV spot price averaged $14.34/MMBtu (9% increase m-o-m and 5% increase y-o-y).

Figure 117: Monthly European spot gas prices



Source: GECF Secretariat based on data from Refinitiv Eikon

European gas and LNG spot prices surged to their highest levels of the year, driven by supply-side concerns, colder temperatures that boosted heating demand, and reduced wind generation, which increased reliance on gas-fired power generation. To meet the heightened demand, there was an uptick in storage withdrawals. Consequently, daily TTF spot prices peaked at a 13-month high of $14.90/MMBtu during the month.

For the period January to November 2024, TTF and NBP spot prices averaged $10.64/MMBtu and $10.40/MMBtu, respectively, representing declines of 18% and 17% y-o-y, respectively.

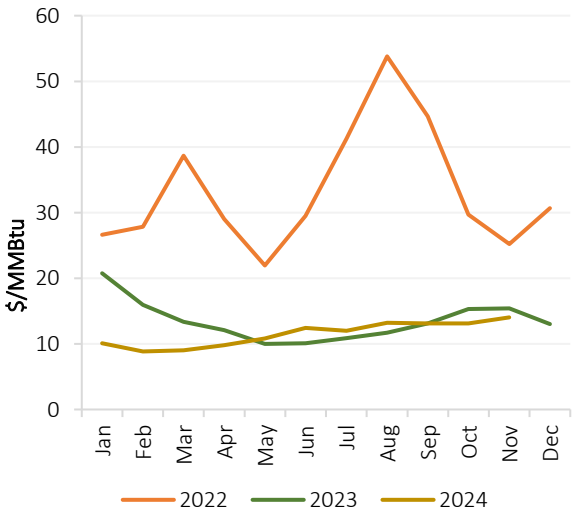
6.1.1.2 Asian spot LNG prices

In November 2024, the average Northeast Asia (NEA) spot LNG price averaged $14.03/MMBtu, reflecting an increase of 7% m-o-m, but experienced a decline of 9% y-o-y. (Figure 118).

Asian LNG prices were influenced by a tightening supply/demand balance, as colder-than-usual temperatures in the region drove up LNG demand. However, some price-sensitive buyers opted to stay out of the market. As a result, daily NEA spot LNG prices rose to an 11-month high of $15.30/MMBtu.

For the period January to November 2024, the average NEA spot LNG price stood at $11.49/MMBtu, representing a decline of 15% y-o-y.

Figure 118: Monthly Asian spot LNG prices



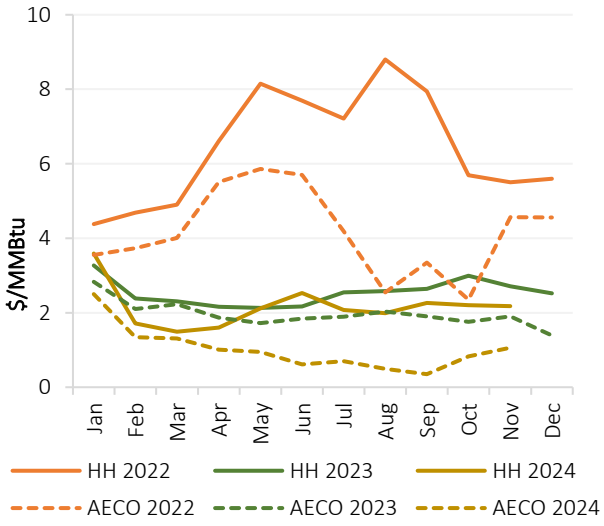
Source: GECF Secretariat based on data from Argus and Refinitiv Eikon

6.1.1.3 North American spot gas prices

In November 2024, the HH spot gas price averaged $2.18/MMBtu, reflecting a decline of 1% m-o-m. Additionally, it was 20% lower than the average price of $2.71/MMBtu observed in November 2023 (Figure 119).

Henry Hub prices declined for the second consecutive month, primarily due to robust gas production. However, daily HH spot prices displayed significant volatility during the month. Prices fell to multi-year lows of $1.21/MMBtu in mid-November before rising to an annual high of $3.39/MMBtu (apart from the January 2024 spike), driven by a cold spell and strong gas demand in the power sector.

Figure 119: Monthly North American spot gas prices



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

Meanwhile, in Canada, the AECO spot price averaged $1.06/MMBtu in November 2024, reflecting an increase of 28% m-o-m, but was 44% lower y-o-y.

For the period January to November 2024, the HH spot price averaged $2.16/MMBtu, representing a 15% decline y-o-y. Meanwhile, the AECO spot price averaged $1.01/MMBtu, marking a 49% decrease y-o-y.

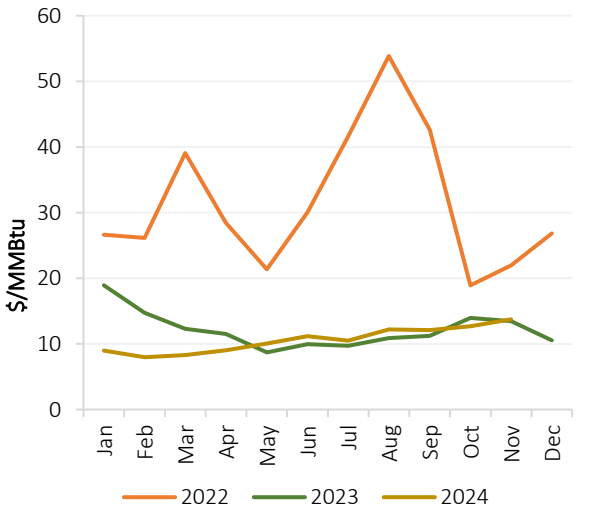
6.1.1.4 South American spot LNG prices

In November 2024, the South American (SA) LNG price experienced a 5% m-o-m increase, averaging $13.74/MMBtu. Additionally, the SA LNG price was 2% higher compared to the average price of $13.48/MMBtu observed in November 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 were $13.66/MMBtu, $13.53/MMBtu and $13.78/MMBtu, respectively.

For the period January to November 2024, the SA LNG spot price averaged $10.61/MMBtu, representing a decline of 14% 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 November 2024, the average Oil-indexed I LNG price was $12.19/MMBtu, reflecting declines of 2% m-o-m and 6% y-o-y. Similarly, the Oil-indexed II LNG price averaged $9.04/MMBtu, reflecting declines of 3% m-o-m and 11% y-o-y (Figure 121). Furthermore, Oil-indexed I prices traded at a discount of $2/MMBtu over NEA spot LNG prices. Additionally, Oil-indexed II prices showed a discount of $5/MMBtu over the NEA spot LNG prices.

In Europe, the Oil-indexed III price averaged $8.18/MMBtu in November 2024, reflecting a 1% decrease m-o-m and a 3% increase y-o-y (Figure 122). Moreover, the average Oil-indexed III price held a discount of $5/MMBtu over the average SWE LNG price.

For the period January to November 2024, the Oil-indexed I LNG price reflected a 1% decrease y-o-y, while the Oil-indexed II LNG price showed a 1% 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

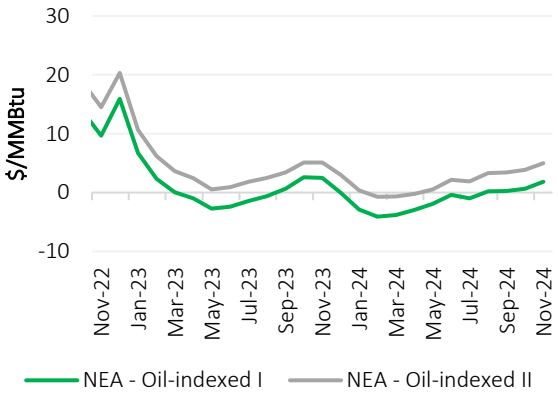
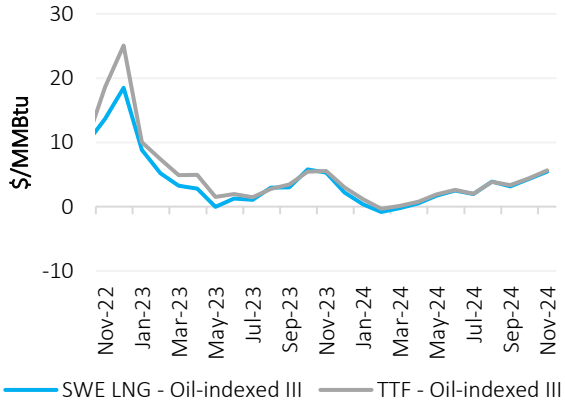


Figure 122: Europe: Spot and oil-indexed price spread



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 November 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 $0.20/MMBtu (Figure 123).

The average premium of NBP over TTF increased to $0.43/MMBtu in November 2024 (Figure 124). The positive NBP-TTF spread reflected higher NBP prices, driven by increased demand in the residential sector due to colder temperatures and low wind speeds in the UK. Further support for NBP spot prices came from unplanned maintenance, which reduced domestic gas production.

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 widened to $0.11/MMBtu (Figure 126). Meanwhile, the NEA-HH and TTF-HH spreads both widened to $11.85/MMBtu and $11.65/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

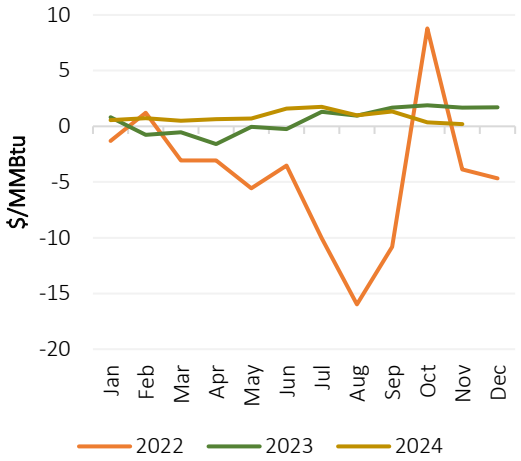


Figure 124: NBP-TTF price spread

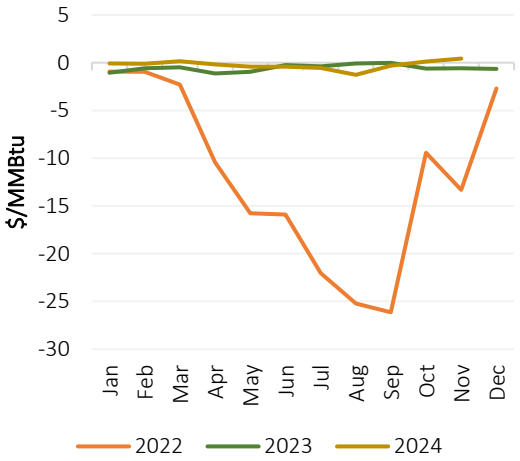


Figure 125: NWE LNG-TTF price spread

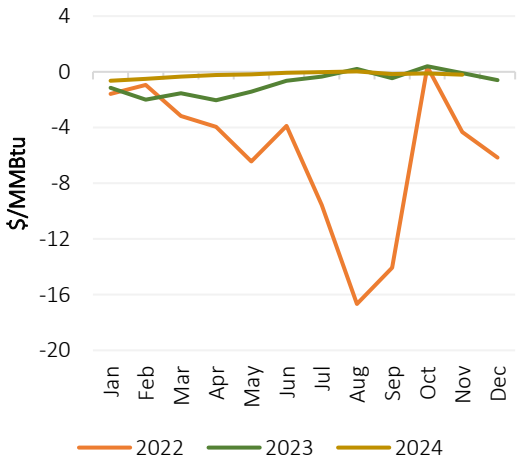


Figure 126: NWE LNG – SA LNG price spread

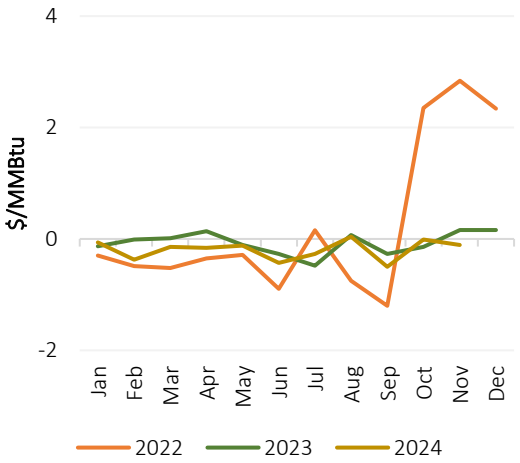


Figure 127: NEA-HH price spread

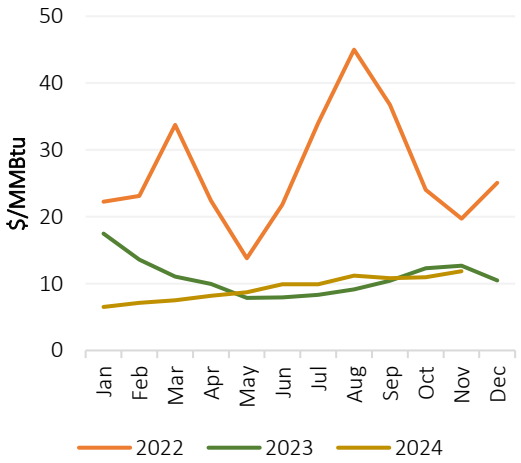
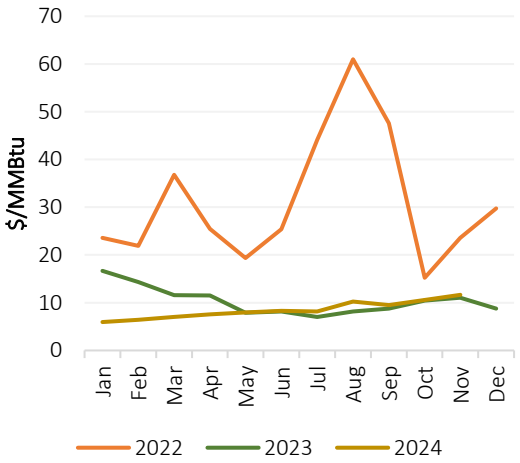


Figure 128: TTF-HH price spread



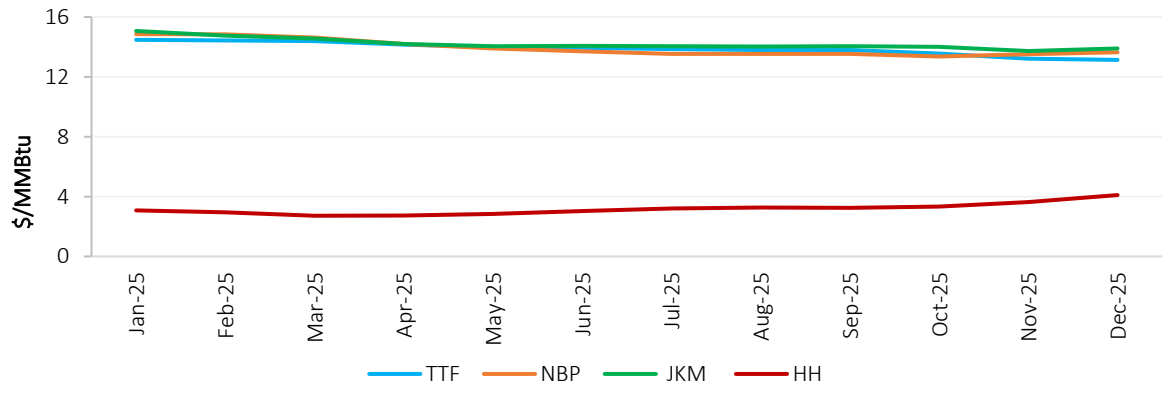
Source: GECF Secretariat based on data from Argus and Refinitiv Eikon

6.1.4 Gas & LNG futures prices

For the six-month period spanning January to June 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).

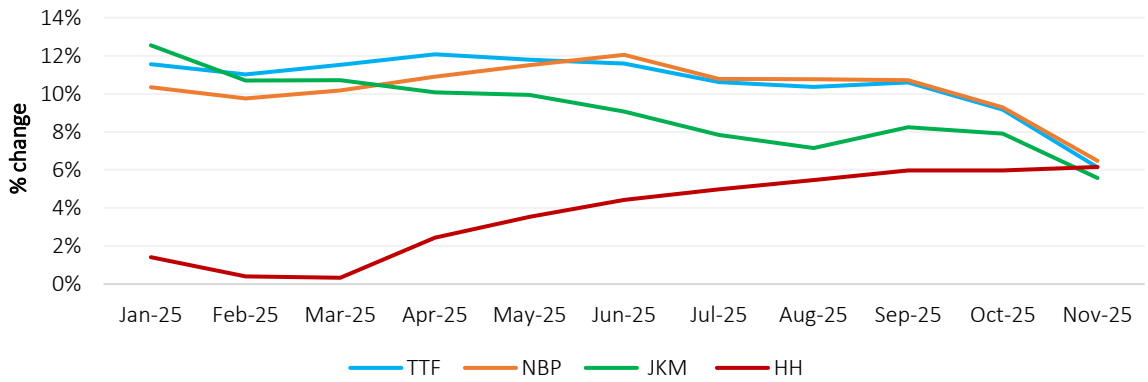
Moreover, as of 8 December 2024, the average futures prices for TTF, NBP and JKM during the same six-month period are $14.23/MMBtu, $14.35/MMBtu and $14.45/MMBtu, respectively. Furthermore, gas and LNG futures prices for TTF, NBP and JKM for the six-month period from January to June 2025 (as of 8 December 2024) are higher than the futures prices expectations considered on 5 November 2024 (as reported in the GECF MGMR November 2024). Additionally, the average Henry Hub futures price for the same period is $2.89/MMBtu, which is also higher than previous expectations (Figure 130).

Figure 129: Gas & LNG futures prices



Source: GECF Secretariat based on data from Refinitiv Eikon
Note: Futures prices as of 8 December 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 5 November 2024, as reported in GECF MGMR November 2024.

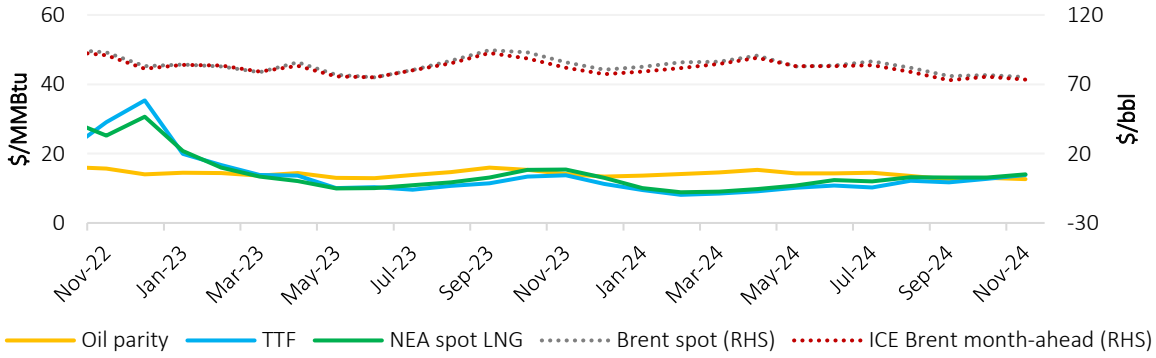
6.2 Cross commodity prices

6.2.1 Oil prices

In November 2024, the average Brent spot price was $75.26/bbl, reflecting decreases of 2% m-o-m and 12% y-o-y (Figure 131). The Brent month-ahead price averaged $73.40/bbl, reflecting decreases of 3% m-o-m and 11% y-o-y. Furthermore, in November 2024, both TTF and NEA LNG spot prices traded at a premium of $1/MMBtu to the oil parity price.

In Jan-Nov 2024, the average Brent spot price dropped by 2% y-o-y to $82.58/bbl. Similarly, the average Brent month-ahead price was $80.45/bbl, reflecting a decline of 3% y-o-y.

Figure 131: Monthly crude oil prices



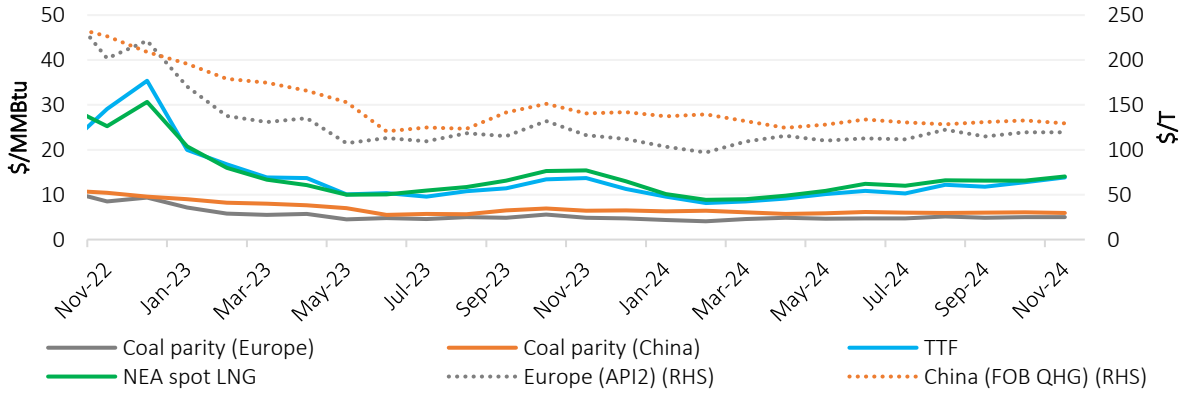
Source: GECF Secretariat based on data from Argus and Refinitiv Eikon
Note: Conversion factor of 5.8 was used to calculate the oil parity price in $/MMBtu based on the ICE Brent month-ahead price.

6.2.2 Coal prices

In November 2024, the European coal price (API2) averaged $119.50/T, reflecting an increase of 3% y-o-y. The premium of TTF spot price over the API2 parity price increased to $9/MMBtu. Meanwhile, in China, the QHG coal price averaged $129.60/T, reflecting declines of 2% m-o-m and 8% y-o-y (Figure 132). The premium of NEA spot LNG price over the QHG parity price also increased to around $8/MMBtu.

In Jan-Nov 2024, the European API2 averaged $112.36/T, representing an 11% decrease y-o-y. Meanwhile, the Chinese QHG price averaged $131.52/T, reflecting a 13% decline y-o-y.

Figure 132: Monthly coal parity prices



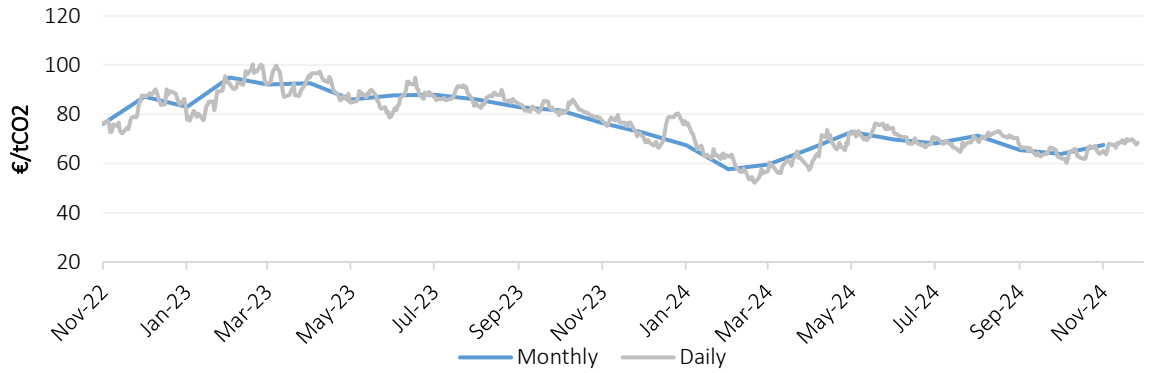
Source: GECF Secretariat based on data from Argus and Refinitiv Eikon
Note: Conversion factors of 23.79 and 21.81 were used to calculate the coal prices in $/MMBtu for Europe (API2) and China (QHG) respectively.

6.2.3 Carbon prices

In November 2024, EU carbon prices averaged €67.51/tCO_2, reflecting an increase of 6% m-o-m, but a decline of 12% y-o-y (Figure 133). This growth was driven by heightened demand for EUAs, spurred by colder-than-usual temperatures coupled with reduced wind generation.

For the period January to November 2024, EU carbon prices averaged €66.33/tCO2, representing a decline of 23% y-o-y.

Figure 133: EU carbon prices

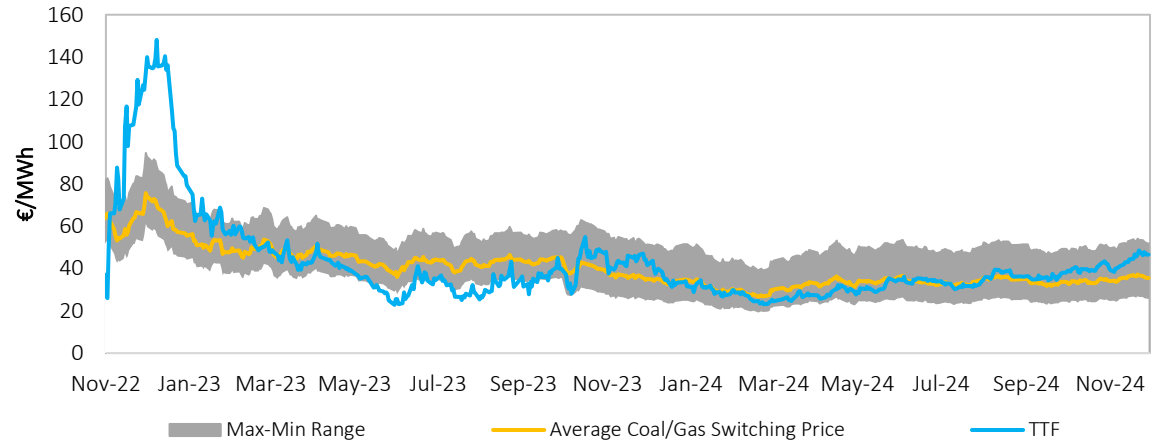


Source: GECF Secretariat based on data from Refinitiv Eikon

6.2.4 Fuel switching

In November 2024, daily TTF spot prices remained within the range that is favourable for coal-to-gas switching. However, it soared close to the upper limit of the switching range towards the end of the month. Notably, the average monthly spread between the TTF spot price and the coal-to-gas switching price remained positive and increased an average of €8/MWh (Figure 134). Looking ahead to January 2025, 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 may 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%.

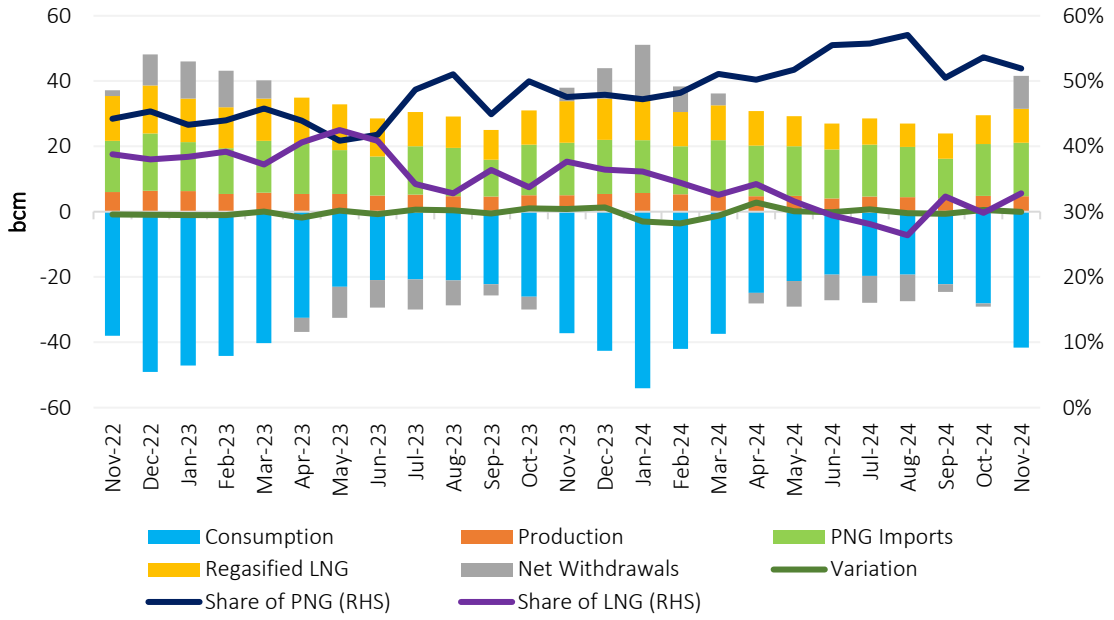
Annexes

Gas Balance

1) EU + UK

In November 2024, regasified LNG accounted for 33% of the EU and UK gas supply, up from 30% in October 2024 but significantly lower than 38% in November 2023. Conversely, pipeline gas imports represented 54%, a slight decrease from 52% in the previous month but an increase from 48% in November 2023 (Figure 135). The m-o-m rise in regasified LNG's share, along with the drop in pipeline gas imports' share, was due to a greater increase in regasified LNG send-out compared to pipeline imports. In comparison to November 2023, the decline in regasified LNG's share and the growth in pipeline imports were driven by higher pipeline gas volumes alongside reduced regasified 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 November 2024.

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

	2023	Nov-23	Nov-24	11M 2023	11M 2024	Change* y-o-y	Change** 2024/2023
(a) Gas Consumption	377.73	37.18	41.60	335.09	329.75	12%	-2%
(b) Gas Production	63.46	5.00	4.79	58.03	52.91	-4%	-9%
Difference (a) - (b)	314.27	32.18	36.81	277.06	276.84	14%	0%
PNG Imports	174.88	16.12	16.35	158.28	168.72	1%	7%
Regasified LNG	143.59	12.77	10.33	130.95	103.26	-19%	-21%
Net Withdrawals	-4.86	4.14	10.09	-14.14	-0.11	144%	-99%
Variation	0.66	-0.84	0.03	1.97	4.96		

Source: GECF Secretariat based on data from AGSI+, JODI Gas and Refinitiv
(*): y-o-y change for November 2024 compared to November 2023
(**): y-o-y change for 11M 2024 compared to 11M 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 September 2024.

Table 3: OECD'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) OECD Gas Consumption	1770.0	123.6	124.0	1298.1	1299.3	0.3%	0.1%
(b) OECD Gas Production	1700.0	135.2	132.8	1263.8	1266.9	-1.8%	0.2%
Difference (a) - (b)	70.0	-11.6	-8.8	34.3	32.4	-24.0%	-5.6%
OECD LNG Imports	329.9	22.5	22.3	244.5	221.7	-0.5%	-9.3%
LNG Imports from GECF	140.8	9.5	9.0	105.2	92.8	-5.3%	-11.8%
LNG Imports from Non-GECF	189.1	12.9	13.3	139.2	128.9	2.9%	-7.4%
OECD LNG Exports	238.4	18.8	19.4	175.3	178.9	3.0%	2.0%
Intra-OECD LNG Trade	154.9	10.5	10.6	113.4	103.8	1.1%	-8.5%
OECD Pipeline Gas Imports	499.0	33.0	34.6	372.2	364.8	4.9%	-2.0%
OECD Pipeline Gas Exports	479.8	31.5	34.4	361.0	349.4	9.1%	-3.2%
Stock Changes and losses	40.7	16.6	11.9	46.0	25.8		

Source: GECF Secretariat based on data from ICIS LNG Edge and IEA Monthly Gas Statistics
(*): y-o-y change for September 2024 compared to September 2023
(**): y-o-y change for 9M 2024 compared to 9M 2023

3) India

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

Table 4: India's 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) India Gas Consumption	62.15	5.76	6.01	53.38	56.69	4.2%	6.2%
(b) India Gas Production	35.09	3.11	3.07	29.02	29.98	-1.2%	3.3%
Difference (a) - (b)	27.06	2.65	2.93	24.36	26.71	10.5%	9.6%
India LNG Imports	30.27	2.54	3.26	24.96	30.89	28.3%	23.7%
LNG Imports from GECF	23.57	1.90	2.12	19.49	22.11	11.5%	13.4%
LNG Imports from Non-GECF	6.70	0.64	1.14	5.47	8.78	77.8%	60.5%
Stock Changes and losses	3.21	-0.11	0.33	0.60	4.18		

Source: GECF Secretariat based on data from ICIS LNG Edge and India's PPAC
(*): y-o-y change for October 2024 compared to October 2023
(**): y-o-y change for 10M 2024 compared to 10M 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
TEU	Twenty-foot equivalent unit
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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