



GECF

MONTHLY GAS MARKET REPORT

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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.

Contributors

Project Leader

- Aydar Shakirov, Head of Gas Market Analysis Department (GMAD)

Experts Team (In Alphabetical Order)

- Adrian Sookhan, Gas Market Analyst, GMAD
- Hossam ElMasry, Energy Analyst, GMAD
- Imran Mohammed, Gas Transportation and Storage Analyst, GMAD
- Rafik Amara, Senior Gas Market Analyst, GMAD
- Sandy Singh, Market Research Analyst, GMAD

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Highlights

Global economy: Global GDP growth for 2024, based on purchasing power parity, is projected by Oxford Economics to be 3.0%. On a regional level, GDP growth is expected to reach 2.6% in the US, 0.8% in the Euro area, and 4.7% in China. Looking forward to 2025, the global economy is expected to gain momentum, with a projected global GDP growth of 3.3%. Additionally, global inflation is anticipated to continue its downward trend, reaching an annual average of 4.5% in 2024 and 3.3% in 2025.

Gas consumption: Gas consumption in the EU witnessed a notable decrease of 12% y-o-y in April 2024, largely due to an unusually warm weather that lessened the need for heating. Europe experienced its second warmest April on record, with the average temperature 1.49°C above the 1991-2020 April norm. US gas consumption increased by 2.4% y-o-y to reach 69 bcm, driven by the power generation sector. In March 2024, China's apparent gas demand, which encompasses domestic production, pipeline gas and LNG imports, rose by 11% y-o-y to reach 36 bcm, bolstered by demand for heating amidst colder weather in northern China.

Gas production: Gas production in the US witnessed a 3% y-o-y rise to reach 85.1 bcm in April 2024, despite the announced gas production cuts amidst low Henry Hub gas prices. European gas production dropped by 2% y-o-y to reach 16. bcm in March 2024, mainly driven by continuous decline in British and Dutch production, despite the increase in Norwegian output. In Asia, China continued its gas production growth, with a sustained 6% y-o-y rise, driven by the uptick in unconventional gas production. Additionally, in April 2024, the global number of gas drilling rigs declined by 13 units m-o-m to stand at 372 rigs.

Gas trade: Global LNG imports surged to 34.5 Mt in April 2024, marking a 1.7% y-o-y increase and setting a new record for April. The Asia Pacific region spearheaded this growth, fuelled by increased gas consumption, market expansions, and favourable spot LNG prices. In the meantime, the EU experienced lower LNG imports due to subdued gas demand, ample storage and steady pipeline gas imports, which continued at the same stable rate of the recent few months, reaching 13.4 bcm.

Gas storage: In the EU, following the conclusion of the net gas withdrawal season, the average volume of gas in storage in April 2024 increased marginally to 63.2 bcm, or 61% capacity gas storage levels, while remaining at record highs for this season. In the US, the average gas storage level also rose slightly, reaching 67.4 bcm, or 50% of the country's capacity. In Asia, the combined volume of LNG in storage in Japan and South Korea increased to an estimated 13.6 bcm, reversing the declining trend of recent months.

Energy prices: Gas and LNG spot prices in Europe and Asia experienced an increase in April 2024. The average TTF spot price stood at \$9.1/MMBtu, marking a 7% m-o-m increase, while the average NEA spot LNG price rose by 9% m-o-m to \$9.8/MMBtu. Meanwhile, in the US, Henry Hub prices continued to decline, averaging \$1.6/MMBtu. Although overall gas market fundamentals are likely to remain relatively balanced in the upcoming months, any further escalation of geopolitical tensions, or extreme weather conditions could introduce volatility into spot prices.

Feature Article: The inclusion of the shipping industry in the EU ETS

The United Nations Conference on Trade and Development (UNCTAD) has estimated that the maritime sector accounts for 3% of global greenhouse gas (GHG) emissions, representing over 1.5 Gt of CO₂ (carbon dioxide) per year equivalent. The emissions from this particular sector have grown by some 20% over the last decade, underpinned by the rising levels of shipping activities, related mainly to global maritime trade.

The EU is one of the key players in the global maritime industry. However, unlike the power, manufacturing and aviation sectors, the maritime industry was not covered, until recently, by the EU Emissions Trading System (EU ETS). The EU ETS, established in 2005, functions in all 27 EU member states plus Iceland, Liechtenstein and Norway, covering around 45% of the EU's GHG emissions. The EU ETS operates on the basis of a 'cap and trade' principle, in which a cap is set for the total GHG emissions that can be emitted within the system. Participants are allowed to trade their EUAs (European Union Allowances) based on their needs, but they must have sufficient allowances to cover their total emissions for each year, or else they will be subject to heavy penalties. In this way, the EU ETS provides financial incentives to cut emissions, while also promoting investment in low-carbon technologies. Importantly, as the cap is reduced over time, overall emissions are also lowered.

On 18 April 2023, the European Parliament formally adopted the "Fit for 55" package, which aims to raise the 2030 emissions reduction target to 55% (compared to 1990 levels) in its drive towards carbon neutrality by 2050. The package includes a combination of initiatives such as extending the EU ETS to new sectors, as well as tightening the existing EU ETS, increasing the role of renewables, improving energy efficiency, accelerating zero-emission and low-carbon fuels in transportation, and preventing carbon leakage.

In particular, the EU ETS has been extended to the maritime industry, which accounts for 0.14 Gt of CO₂ annual emissions out of total regional emissions of 2.3 Gt. The EU ETS covers CO₂ emissions from all large ships entering EU ports, effective from January 2024. Large ships are defined as those with a gross tonnage of 5,000 and above, which are considered to be responsible for 85% of total CO₂ emissions from the maritime sector.

According to the new regulation, shipping companies are required to report emissions data as stipulated under the Monitoring and Reporting Verification (MRV) Regulation, through a platform operated by the European Maritime Safety Agency (EMSA). On an annual basis, companies must submit an emissions report for each ship under their responsibility, as well as an aggregated emissions report at company level. For instance, data for 2024 must be verified by an accredited verifier by 31 March 2025. Once verified, companies must provide the equivalent number of EUAs to the administering authorities of the EU Member States by 30 September 2025.

To ensure a smooth implementation of the new regulation, shipping companies are obligated to cover only a portion of their emissions during an initial phase-in period as follows:

- For 2025: 40% of their emissions in 2024;
- For 2026: 70% of their emissions in 2025;

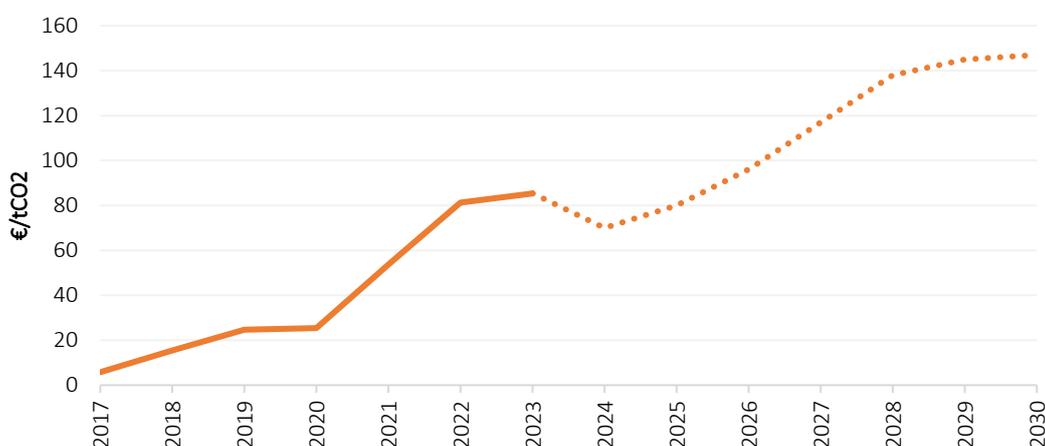
- For 2027 onwards: 100% of their emissions in the previous year.

Furthermore, the system will be flag-neutral and route-based, covering the following voyages:

- 50% of emissions from voyages either starting or ending outside of the EU;
- 100% of emissions that occur between two EU ports and when ships are within EU ports.

In order to cover their emissions, shipping companies need to have sufficient EUAs, which are based on the EU carbon prices. Since 2017, EU carbon prices have been steadily increasing. Moreover, they are expected to continue to increase until 2030, with the exception of 2024 (Figure 1). In 2023, the EU carbon price averaged €85/tCO₂, reflecting a 5% increase y-o-y. Moreover, the daily EU carbon price reached a record high of €100/tCO₂ at the end of February 2023, propelled by strong buying interest from utilities and low wind generation. However, in 2024, the EU carbon price is projected to decrease, with an annual average of €70/tCO₂, according to estimates from Refinitiv Eikon (as of April 17, 2024). This forecast was adjusted downward following a bearish Q4 2023, which was closely associated with weak gas market fundamentals. Additionally, expected lower industrial demand, stemming from sluggish economic growth, is likely to further impact the demand for EUAs in 2024. Furthermore, in the medium/long-term, the cost of EUAs is expected to gradually increase, reaching slightly above €145/tCO₂ by 2030.

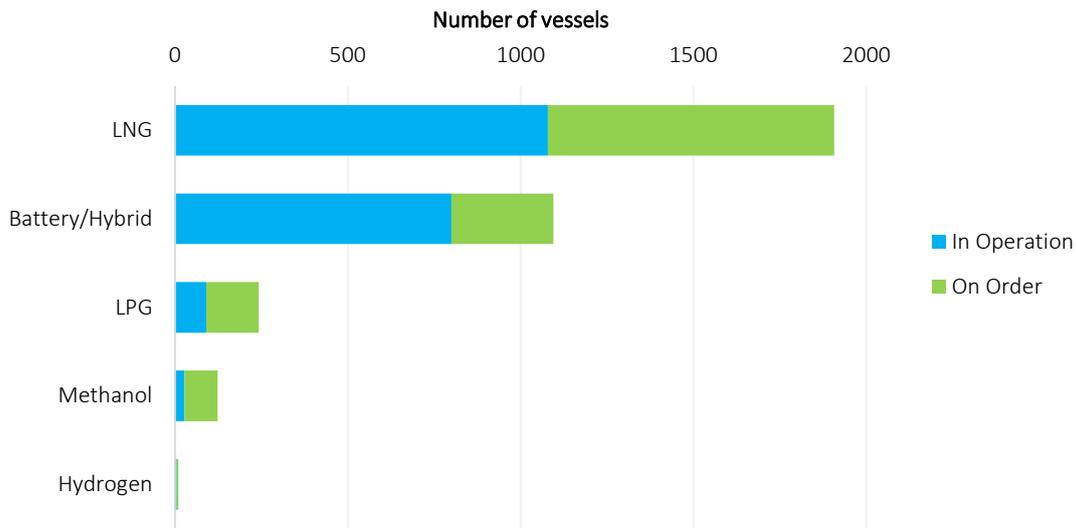
Figure 1: Annual average EU carbon prices



Source: GECF Secretariat based on data from Refinitiv Eikon

Currently, the main source of propulsion for the maritime sector are fuel oils, typically heavy fuel oil (HFO). HFO has been the preferred ship fuel due to its high energy density, as well as its relatively low cost, compared to other lighter ends derived from the crude oil refining process. However, the continued use of HFO has come under scrutiny with respect to its negative impact on the environment, specifically through the emissions of CO₂, as well as particulates and other harmful compounds. In this context, the maritime industry is introducing alternative fuels, which account for 2% of the world’s shipping fuels consumption. In particular, LNG bunker fuel is gaining momentum, with almost 1,100 LNG-fuelled vessels in operation, accounting for circa half of the alternatively-fuelled fleet (Figure 2).

Figure 2: Global fleet of alternatively-fuelled vessels



Source: GECF Secretariat based on data from DNV

By including the maritime industry in the EU ETS, the regional authorities seek to economically incentivise a shift away from traditional polluting maritime fuels to alternative fuels. In this context, the new regulation may become an additional driver to the structural shift towards LNG bunker fuel in the maritime sector, complementing other global-level regulations established by the IMO.

An expected consequence of the new regulation is that the EU carbon cost may rise, with the EUAs contributing to the total cost of maritime transportation, especially when the regulation is fully ramped up. In this context, the usage of LNG bunker fuel will result in lower carbon cost compared to HFO, since the combustion of LNG reduces CO₂ emissions by at least 20%.

The experience of the EU in including the shipping sector into the ETS may prove to be a blueprint for other regions, since the EU ETS is the world's oldest and largest international emissions trading system. For example, China established a national ETS, which currently does not cover its shipping industry. In the meantime, at the provincial level, local markets such as the Shanghai ETS has covered the maritime sector since 2021, which may be expanded country-wide in future, and may have a positive impact on LNG bunker fuel consumption.

The long-term viability for LNG bunker fuel is evidenced by the growing share of LNG-fuelled vessels in the global orderbook of newbuild ships, as well as the continued development of LNG bunkering infrastructure. According to the GECF Global Gas Outlook 2050, gas demand in the maritime industry will expand sharply to 90 bcma by 2050. In this context, it is important to highlight that at the 7th GECF Summit, held on March 2, 2024, Heads of State and Government of GECF Member Countries adopted the Algiers Declaration, in which they reaffirmed the commitment to *“foster the increased use of natural gas in maritime and land transportation, and develop necessary infrastructure to provide it efficiently and cost-effectively to all consumers.”*

1 Global Perspectives

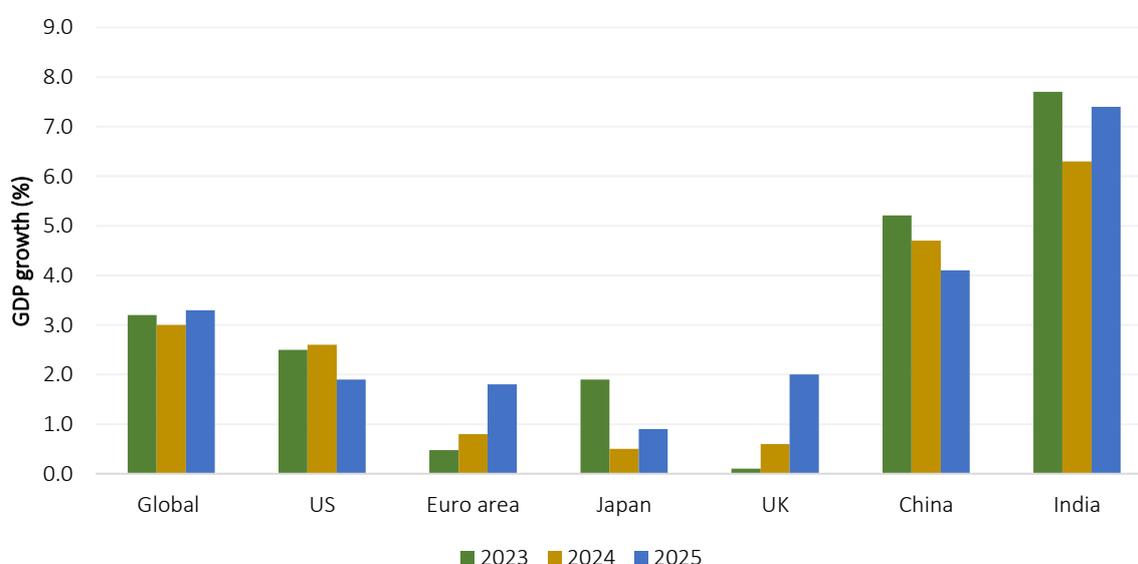
1.1 Global economy

As of May 2024, Oxford Economics has revised its forecast for global GDP growth for 2024 upwards by 0.1 percentage points to 3.0%, based on the purchasing power parity method. In the US, the GDP growth forecast has been slightly revised downward by 0.1 percentage points to 2.6% due to more modest estimates for GDP growth in Q1 2024 than previously anticipated. In the Euro area, the GDP growth forecast has been revised upward by 0.2 percentage points to 0.8%, mainly due to better-than-expected economic performances in Q1 2024, easing inflation, and increased industrial activity. Meanwhile, GDP growth forecasts for China and India have remained unchanged from the previous month, at 4.7% and 6.3% respectively. In China, economic growth in Q1 2024 was driven by increased industrial production, although this momentum may ease in Q2 2024.

Furthermore, the Organization of Petroleum Exporting Countries (OPEC) maintained its forecast for global GDP growth for 2024 at 2.8%. In Q1 2024, key economies including the US, Euro area and China performed better than expected. While this momentum may continue throughout the rest of the year, downside risks still persist, including geopolitical developments and persistently high inflation in some countries.

Looking ahead to 2025, the global economy is expected to gain momentum, with global GDP growth estimated at 3.3% by Oxford Economics. In the US, economic growth is expected to decelerate; however, the GDP growth forecast has been revised upward by 0.1 percentage points to 1.9%. In the Euro area, the GDP growth forecast has been maintained at 1.8% for 2025, with a relatively sharp acceleration expected. Additionally, for China, the GDP growth forecast of 4.1% has been maintained. Meanwhile, in India, GDP growth forecast was revised upward by 0.2 percentage points to 7.4% (Figure 3).

Figure 3: GDP growth

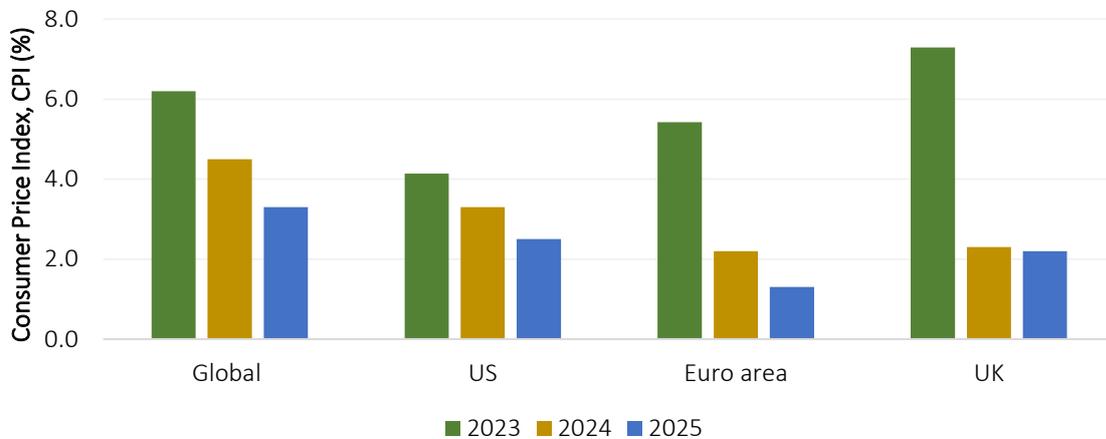


Source: GECF Secretariat based on data from Oxford Economics

Note: Global GDP growth calculated based on purchasing power parity.

Global inflation is expected to average 4.5% in 2024, declining from 6.2% in 2023, according to Oxford Economics. Furthermore, in 2025, global inflation is projected to fall to 3.3%. In the Euro area, inflation is projected to fall to 2.2% in 2024 and 1.3% in 2025. In the UK, inflation is expected to be 2.3% in 2024 and 2.2% in 2025. In the US, inflation is expected to decline to 3.3% in 2024 and 2.5% in 2025 (Figure 4).

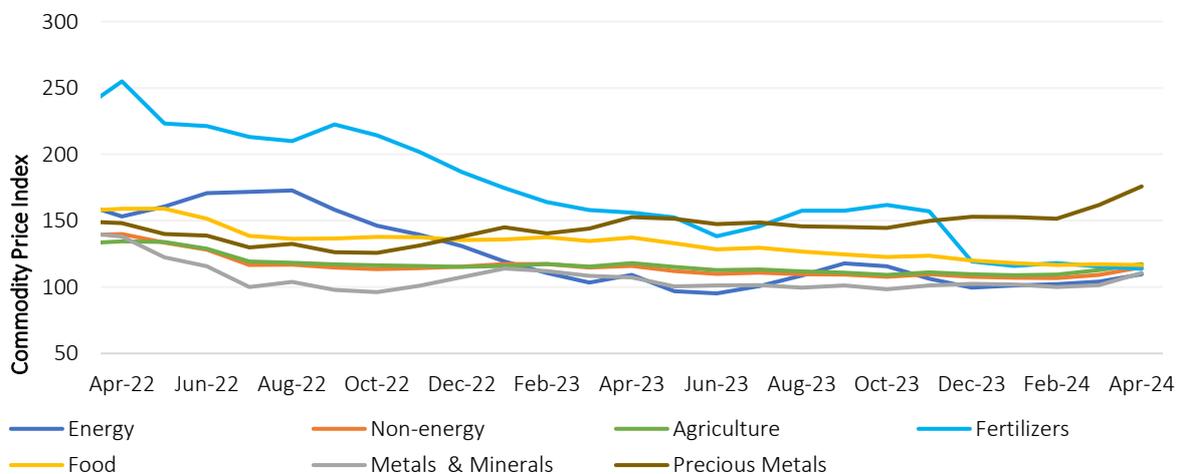
Figure 4: Inflation rates



Source: GECF Secretariat based on data from Oxford Economics

In April 2024, commodity prices in the energy sector increased for the fourth consecutive month. The energy price index experienced a 5% increase m-o-m and was at relatively the same level compared to the previous year. Higher oil, coal and gas prices during the month contributed to this increase. Additionally, the non-energy price index also experienced a 5% increase m-o-m, but reflected a 1% decrease y-o-y. Substantial increases in the metals and minerals, and precious metals indices supported the non-energy price index. Meanwhile, the fertilizer price index reflected a 1% decline m-o-m, and was 27% lower y-o-y (Figure 5).

Figure 5: Monthly commodity price indices

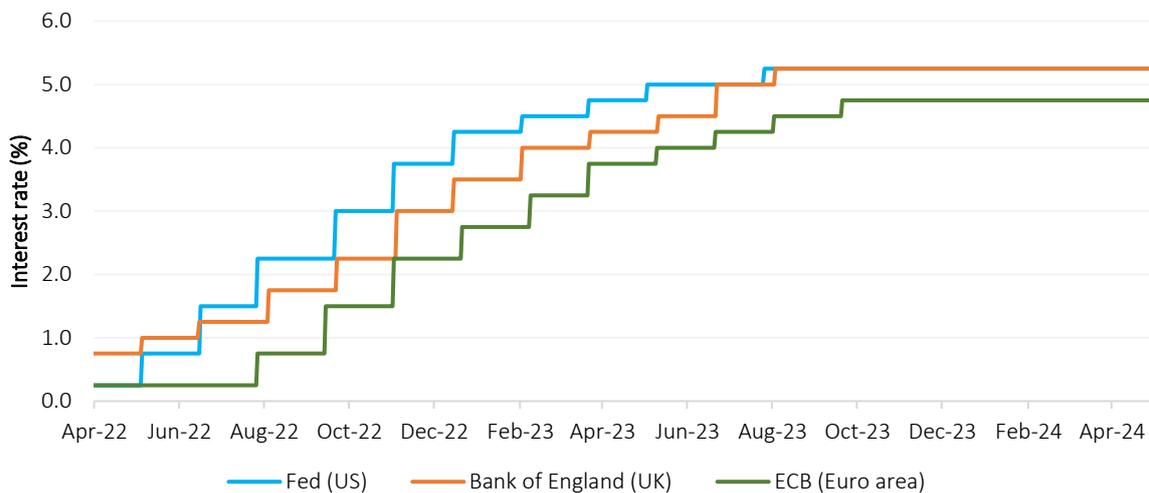


Source: GECF Secretariat based on data from World Bank Commodity Price Data

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

In April 2024, the US Federal Reserve (Fed) maintained its benchmark interest rate within the range of 5.25% to 5.50%. The Fed's last rate hike occurred in July 2023 (Figure 6). Similarly, the Bank of England (BOE) kept its key interest rate at 5.25%, following its most recent increase in August 2023. The European Central Bank (ECB) also held its key interest rates, with the main refinancing operations, marginal lending facility and deposit facility rates at 4.5%, 4.75% and 4.0%, respectively, since their last hike in September 2023. Central banks continue to tread cautiously regarding interest rate cuts. The BOE and ECB are likely to begin interest rate cuts in June 2024. Meanwhile, the Fed is likely to delay cuts until September 2024.

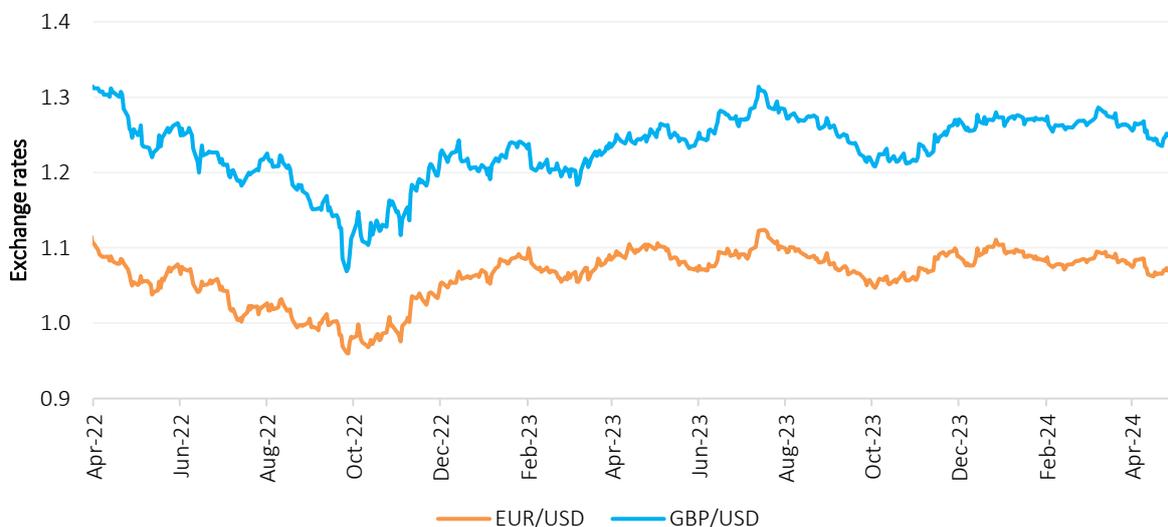
Figure 6: Interest rates in major central banks



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

In April 2024, the euro depreciated slightly against the US dollar, resulting in an average exchange rate of \$1.0726. This represented declines of 1% m-o-m and 2% y-o-y. Similarly, the British pound also depreciated against the US dollar, as the average exchange rate reached \$1.2519 reflecting a 2% m-o-m decrease and 1% y-o-y increase (Figure 7).

Figure 7: Exchange rates



Source: GECF Secretariat based on data from Refinitiv Eikon

1.2 Other developments

G7: The G7 Ministers' Meeting on Climate, Energy and Environment took place on April 28-30, 2024 in Turin, Italy. The G7 nations discussed suitable technologies that can provide an adequate supply of energy, and promote clean, sustainable energy for developing countries, particularly focusing on the African Continent, to achieve net-zero emissions by 2050. Notably, the G7 ministers made several commitments regarding the future direction of climate, energy and environmental policies, as stated in the Climate, Energy and Environment Minister's Meeting Communique. First, the ministers recognized the significant role of gas in ensuring energy security, stating, *"we stress the important role that increased deliveries of LNG can play and acknowledge that investment in the sector can be appropriate in response to the current crisis and to address potential gas market shortfalls provoked by the crisis."* Second, they committed to *"phase out existing unabated coal power generation in our energy systems during the first half of 2030s or in a timeline consistent with keeping a limit of 1.5°C temperature rise within reach, in line with countries' net-zero pathways"*, while calling for an end to governmental and financial institution support for new unabated coal-fired power plants. Third, the ministers acknowledged the high potential for reducing methane emissions in the hydrocarbon sector through the use of existing technologies and reaffirmed their commitment to *"pursue collective effort towards a 75 per cent reduction in global methane emissions from fossil fuels, including by reducing methane emissions intensity of oil and gas operations by 2030, through developing a robust methodology and use of measured data."* Finally, the ministers committed to the *"elimination of inefficient fossil fuels subsidies by 2025 or sooner."* In this context, they plan to collaborate with international organizations including the G20, UN and OECD to enhance transparency and strengthen global actions against inefficient fossil fuel subsidies.

IMF/World Bank 2024 Spring Meetings: The World Bank Group (WBG) and the International Monetary Fund (IMF) held their annual Spring Meetings on April 15-20, 2024 in Washington DC, US. The discussions focused on efforts to support poverty eradication and economic development, including initiatives to improve electricity access, health services and the development of new financial tools. One key initiative that was announced was a partnership between the WBG and the African Development Bank Group (AfDB) which aims to connect 300 million people to electricity by 2030. Ajay Banga, President of the World Bank Group, stated *"Electricity access is the bedrock of all development. It is a critical ingredient for economic growth and essential for job creation at scale. Our aspiration will only be realized with partnership and ambition. We will need policy action from governments, financing from multilateral development banks, and private sector investment to see this through."*

G20: The G20 Finance Ministers and Central Bank Governors met on April 16, 2024, on the sidelines of the IMF/World Bank 2024 Spring Meetings. Despite Brazil's strong efforts to advance a progressive reform agenda, the G20 failed to reach agreement on any of these key issues discussed during the meeting.

World Economic Forum: The World Economic Forum's Special Meeting on Global Collaboration, Growth and Energy for Development took place on April 28-29, 2024 in Riyadh, Saudi Arabia. The meeting focused on three themes: revitalizing global collaboration; forging a compact for inclusive growth; and catalysing action on energy for development. Over the course of two days and 50 sessions, more than 1,000 leaders from around the world convened in a spirit of mutual respect and understanding to address the most urgent challenges posed

by the increasingly fragmented geopolitical and economic environment. Minister of State for Energy Affairs, the President and CEO of QatarEnergy, HE Saad Sherida Al Kaabi emphasized that, *“Demand for oil is going to be there for a very long time. You need petrochemicals that wind farms and solar energy cannot produce, and you also need petrochemical plants to make refined products for a very long time. Gas is going to be needed to power the electricity that is needed for expansion and growth. The most important thing is that we all do it in a responsible manner to make sure that humanity can develop and grow.”* In this context, he highlighted the efforts of Qatar to capture CO₂ from production to ship, with 2.5 million tonnes of CO₂ per annum having been captured from LNG facilities and injected since 2015.

A special European Council meeting: The European Council (EC) held a special meeting on April 17-18, 2024 in Brussels, Belgium. Among other topics, the EU leaders discussed the proposed New European Union Competitiveness Deal, aimed at strengthening the competitiveness of the EU and its single market amidst an increasingly volatile geopolitical landscape. European Commission President von der Leyen highlighted four key areas for action, including improving access to capital for European companies, reducing the cost of energy, improving the skills of the workforce and strengthening trade with the rest of the world. Moreover, she highlighted that *“a large wave of new LNG export projects is coming to the market from next year on. This is good news. These projects are going to increase the global supply of LNG by 50%. So, we are moving from a world of shortfalls of gas to the opposite, to a world where we could see soon an abundance of gas on the market. And giving the new importance of LNG in our energy mix in the European Union, this will bring significantly lower gas prices.”* In the Summit's conclusions, leaders called for policies to enhance *“Europe’s economic, manufacturing, industrial and technological base, thereby securing the Union’s economic resilience and industrial renewal, global competitiveness, technological leadership, and attractiveness as a business location.”*

EU’s Net-Zero Industry Act: On April 25, 2024, the European Parliament formally approved the provisional agreement on the Net-Zero Industry Act (NZIA), reached with the EU Council in February 2024. This legislation aims to enhance the competitiveness and resilience of the EU’s net-zero industry and contribute to the Union’s ambitious goal to achieve climate neutrality by mid-century. The NZIA will support the scaling-up of a broad range of net-zero technologies crucial for Europe’s decarbonisation efforts, including Carbon Capture and Storage (CCS). Specifically, the act recognises CO₂ capture, transport and storage projects as net-zero strategic projects, entitled to benefit multiple advantages, including efficient permitting procedures and priority status at the national level. The NZIA now requires formal approval from the Council of the EU before it can be published in the Official Journal of the EU and enter into force.

EPA’s new standards for fossil fuel-fired power plants: On April 25, 2024, the US Environmental Protection Agency (EPA) announced a set of final rules to reduce pollution from fossil fuel-fired power plants. These new standards are included in a number of regulations, including the Clean Air Act, Clean Water Act, and Resource Conservation and Recovery Act, targeting a significant reduction in air, water and land pollution from power generation. Notably, these updated rules put stricter commitment on existing coal-fired and new base load natural gas-fired power plants to abate 90% of their carbon emissions by 2047, with an accumulated reduction of 1.38 Gt of carbon emissions predicted.

2 Gas Consumption

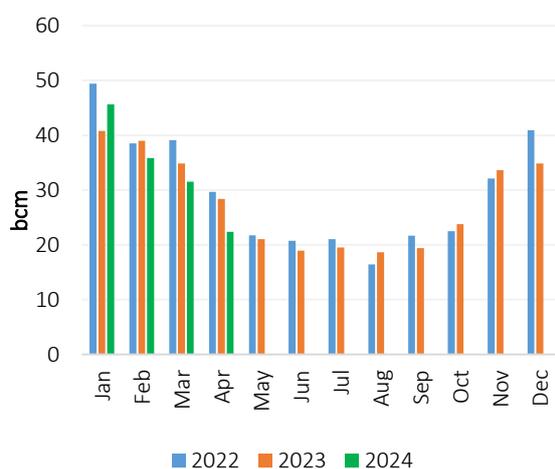
2.1 Europe

2.1.1 European Union

In April 2024, gas consumption in the EU witnessed a notable decrease of 12% y-o-y, largely due to an unusually warm weather that lessened the need for heating (Figure 8). Europe experienced its second warmest April on record, with the average temperature 1.49°C above the 1991-2020 April norm. The highest temperature deviations were observed in Eastern European regions. The overall mean temperature for the continent conceals the stark contrasts observed within the month, with warmer conditions at the beginning and cooler temperatures towards the end of April, particularly in Western Europe, as stated by the Copernicus Climate Change Service/ECMWF. Furthermore, gas consumption in the industrial sector showed a slight decline, even against a backdrop of falling gas prices.

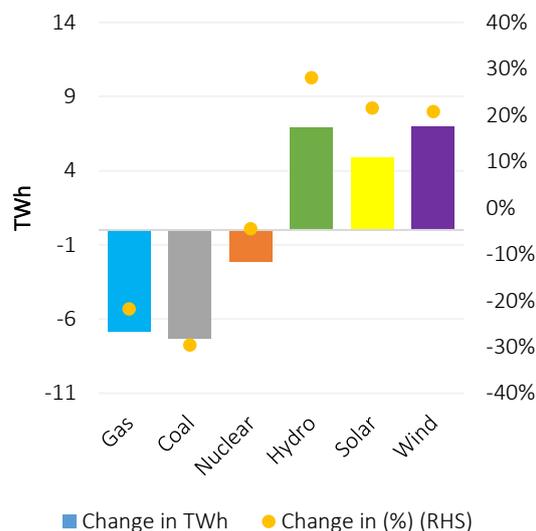
Gas-based power generation in the EU experienced a 22% y-o-y decline, while total electricity production modestly rose by 1.2% y-o-y, reaching 195 TWh. This significant decrease in gas consumption within the power sector can be attributed to increased outputs from hydro, solar and wind. Conversely, electricity generated from coal and nuclear witnessed a decline (Figure 9). Within the current power mix, renewables held the largest share at 39%, followed by nuclear at 23%, hydro at 16%, gas at 13%, and coal at 9%.

Figure 8: Gas consumption in the EU



Source: GECF Secretariat based on data from EntsoG and Refinitiv

Figure 9: Trend in electricity production in the EU in April 2024 (y-o-y change)



Source: GECF Secretariat based on data from Ember

For the period January to April 2024, EU's overall gas consumption declined by 5% y-o-y to reach 135 bcm.

2.1.1.1 Germany

In April 2024, Germany experienced an 8% y-o-y reduction in gas consumption, with usage dropping to 6 bcm (Figure 10). This decline was observed across various sectors, including residential and industrial, and was influenced by multiple factors (Figure 11). The country experienced an average temperature of 9.87°C in April, which was 1°C above the norm, leading to overall reduced heating demand, although like much of Europe, Germany had a notably warm first half of the month, followed by a colder second half. Ongoing gas demand reduction measures also negatively impacted the residential sector. In contrast, natural gas consumption in the power generation sector increased, mainly due to the shutdown of several coal-fired power plants in the country.

Figure 10: Gas consumption in Germany

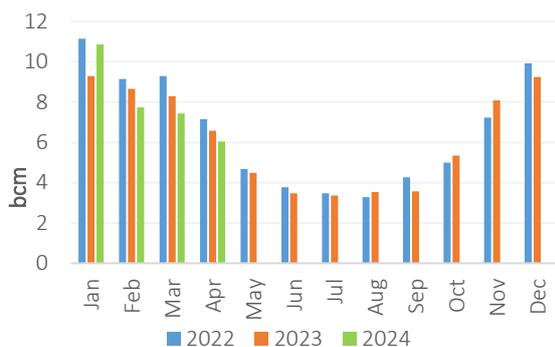
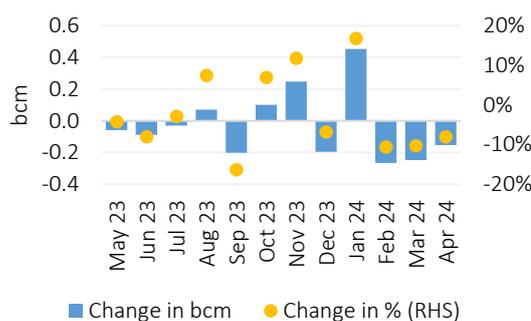


Figure 11: Trend in gas consumption in the industrial sector in Germany (y-o-y change)



Source: GECF Secretariat based on data from Refinitiv

Source: GECF Secretariat based on data from Refinitiv

Gas-fired power generation saw a slight y-o-y increase of 0.5%, while overall electricity production dropped by 7%, totalling 35 TWh. Notably, electricity production from coal decreased amidst the closure of seven coal-fired power plants during Easter, marking a significant advancement in the nation's transition away from coal. Conversely, wind and solar energy generation experienced substantial increases, driven by favourable weather conditions (Figure 12). In the electricity mix, renewables led with a 61% share, followed by coal and gas at 17% each (Figure 13).

Figure 12: Trend in electricity production in Germany in April 2024 (y-o-y change)

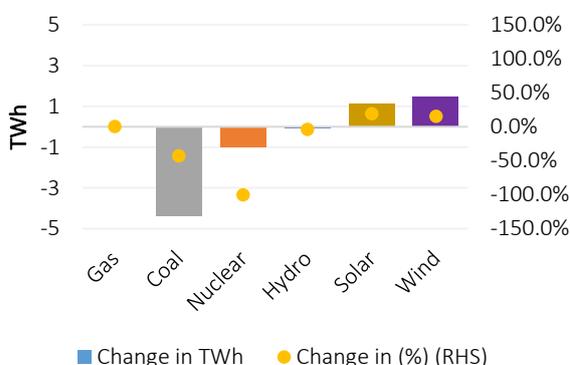
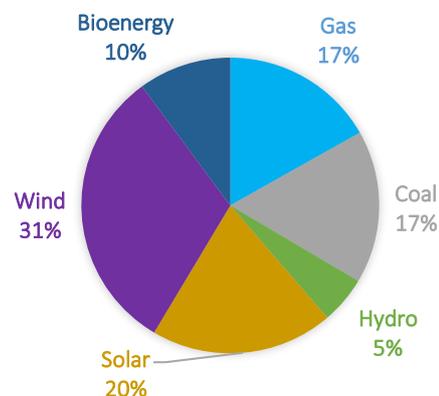


Figure 13: German electricity mix in April 2024



Source: GECF Secretariat based on data from Refinitiv and Ember

In the first four months of 2024, Germany's overall gas consumption decreased by 2% y-o-y to reach 32 bcm.

2.1.1.2 Italy

In April 2024, Italy's gas consumption decreased by 13% y-o-y to total 4.1 bcm (Figure 14). This decline was primarily due to reduced consumption in the power generation sector, largely influenced by increased hydroelectric output. Additionally, the residential sector saw a 9% decrease in consumption, dropping to 1.8 bcm, which was driven by the country's mild weather. Italy experienced a temperature anomaly of +1.22°C, with warmer conditions in the south and southeast and near-normal temperatures in the north. This was attributed to significant temperature contrasts, with a very warm first half of the month followed by a markedly cold second half. Meanwhile, the industrial sector showed a resurgence, with a 4% y-o-y growth, reaching 1 bcm (Figure 15).

Figure 14: Gas consumption in Italy

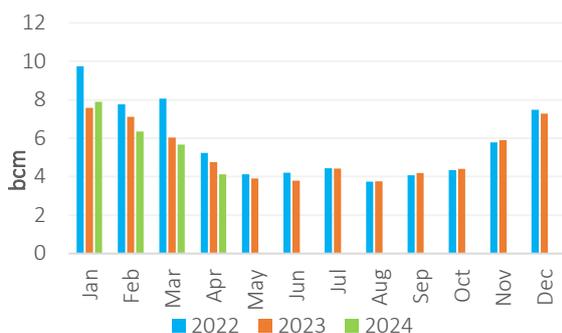
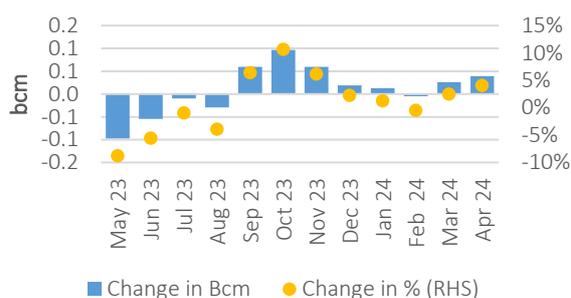


Figure 15: Trend in gas consumption in the industrial sector in Italy (y-o-y change)



Source: GECF Secretariat based on data from Snam

Gas-based electricity production declined by 28% y-o-y to 1.2 TWh, while total electricity production increased by 6% y-o-y, reaching 17.5 TWh. Notably, there was a significant y-o-y increase in energy generation from hydro by 170%, which affected the role of natural gas in the power generation mix (Figure 16). Meanwhile, renewables became the dominant fuel in the power mix with 40% of the share followed by gas (35%) (Figure 17).

Figure 16: Trend in electricity production in Italy in April 2024 (y-o-y change)

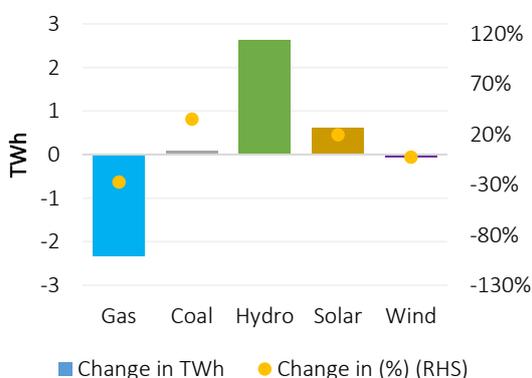
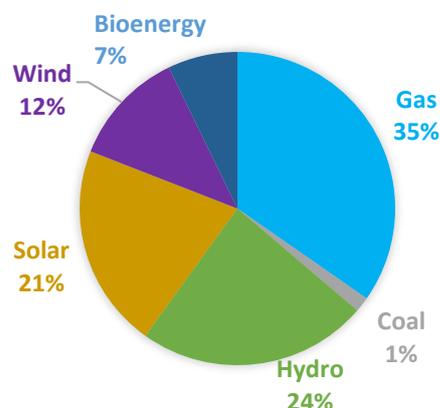


Figure 17: Italian electricity mix in April 2024



Source: GECF Secretariat based on data from Refinitiv and Ember

In the first 4 months of 2024, Italy's overall gas consumption decreased by 6% y-o-y to reach 24 bcm.

2.1.1.3 France

In April 2024, France experienced a third consecutive decline in gas consumption, dropping by 14% y-o-y to 2.4 bcm (Figure 18). The primary driver of this decline was the power generation sector, which recorded a high availability of nuclear and hydro production. Additionally, April 2024 once again recorded a higher than normal temperature. With an average temperature of approximately 12.3°C, which is a deviation of +0.6°C from the 1991-2020 average, it marks the 27th consecutive month with temperatures above seasonal norms. This contributed to an 8% y-o-y decrease in gas consumption in the residential sector. By contrast, the industrial sector recorded a growth of 1.7% y-o-y totalling 0.9 bcm (Figure 19).

Figure 18: Gas consumption in France

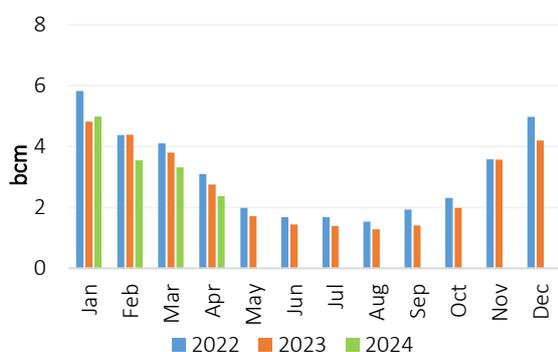
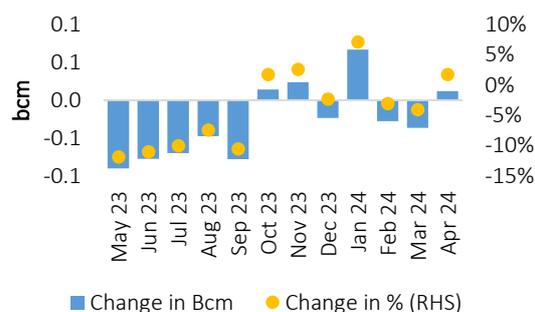


Figure 19: Trend in gas consumption in the industrial sector in France (y-o-y change)



Source: GECF Secretariat based on data from GRTgaz

Electricity production from gas in France dropped by 65% y-o-y, while the country's total electricity production rose by 7% y-o-y to reach 39 TWh. Conversely, electricity production from hydro, solar, wind and nuclear witnessed substantial increases (Figure 20). The availability of nuclear capacity increased by 16% y-o-y (Figure 21). In France's electricity mix, nuclear power continued to be the dominant source, accounting for a 67% share, followed by renewables (18%), hydro (13%) and gas (2%).

Figure 20: Trend in electricity production in France in April 2024 (y-o-y change)

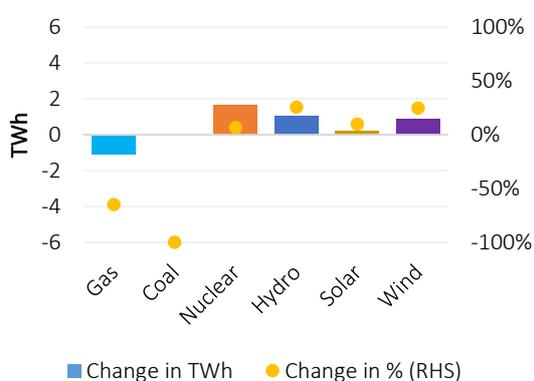
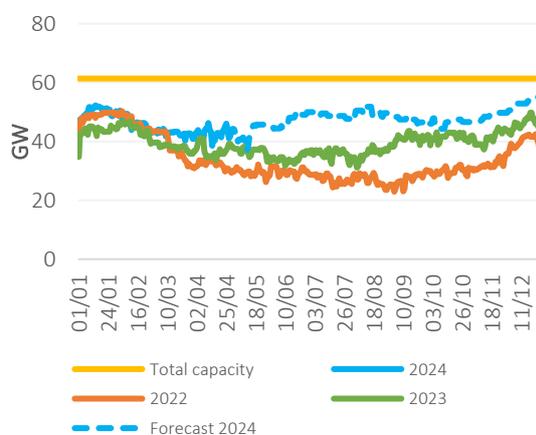


Figure 21: French nuclear capacity availability



Source: GECF Secretariat based on data from Ember

Source: GECF Secretariat based on Refinitiv and RTE

In the first 4 months of 2024, France's gas consumption dropped by 10% y-o-y to reach 14 bcm.

2.1.1.4 Spain

In April 2024, Spain’s gas consumption decreased by 5% y-o-y to reach 2 bcm (Figure 22). The decrease mainly stemmed from less gas use in both the power generation and residential sectors. A significant rise in hydroelectric production and the halt of electricity exports to France led to a continued decrease in the power sector's gas demand. Meanwhile, the residential sector's gas consumption dropped notably due to warmer weather. Spain recorded an average temperature of 13.2°C, which was 1.3°C above the usual levels. Additionally, industrial sector consumption continues its negative trend, registering a 4% year-over-year decrease, fuelled by lower gas usage across several industries (Figure 23).

Figure 22: Gas consumption in Spain

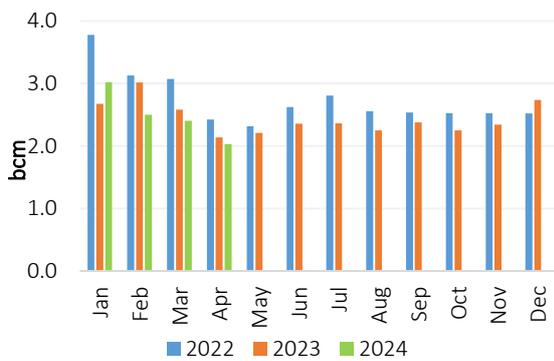
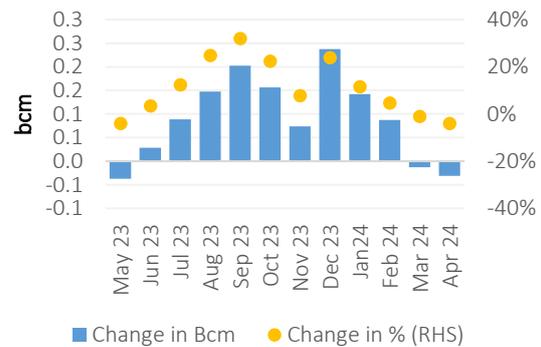


Figure 23: Trend in gas consumption in the industrial sector in Spain (y-o-y change)



Source: GECF Secretariat based on data from Enagas

Electricity generation from gas experienced a 37% y-o-y decrease, while the overall electricity production in the country declined by 2% y-o-y to total 19 TWh. Additionally, there were notable reductions in electricity production from coal, nuclear and wind sources. In contrast, a significant increase in electricity generation from hydro was observed (Figure 24). Renewables maintained the dominant position in the power mix, accounting for 48%, while natural gas represented 12% (Figure 25).

Figure 24: Trend in electricity production in Spain in April 2024 (y-o-y change)

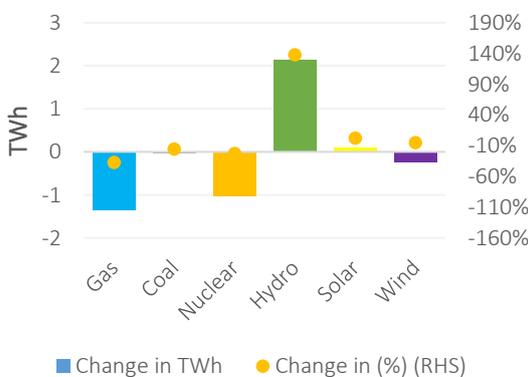
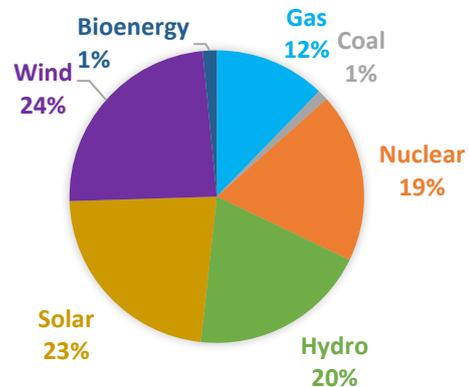


Figure 25: Spanish electricity mix in April 2024



Source: GECF Secretariat based on data from Ember and Ree

In the first 4 months of 2024, Spain's gas consumption decreased by 4% y-o-y to reach 10 bcm.

2.1.2 United Kingdom

In April 2024, the UK continued its downward trend in gas consumption for the third consecutive month, recording a 12% y-o-y decrease to a total of 4.5 bcm (Figure 26). This reduction was primarily attributed to consumption decline in the power generation sector, although the industrial sector also showed a 5% decline (Figure 27). By contrast, the residential sector experienced a 1.4% decrease, influenced by cooler weather during the latter part of the month.

Figure 26: Gas consumption in the UK

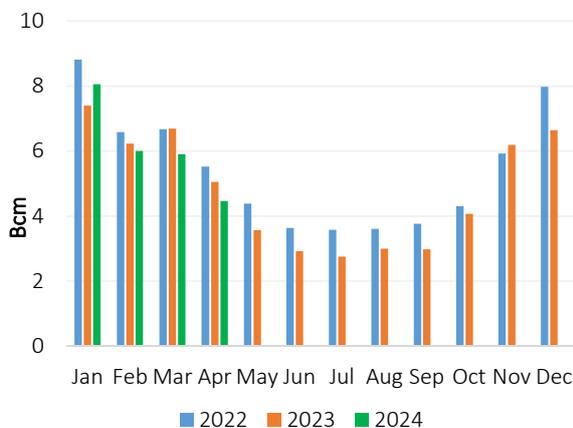
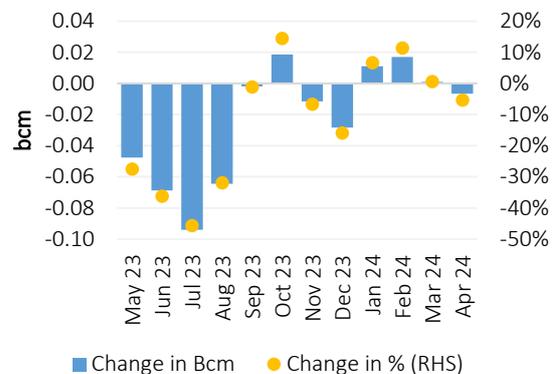


Figure 27: Trend in gas consumption in the industrial sector in the UK (y-o-y change)



Source: GECF Secretariat based on data from Refinitiv

In the UK, electricity production from gas witnessed a 49% y-o-y decrease, while total electricity production increased by 2% y-o-y to 19 TWh. Electricity generation from nuclear, hydro, solar and wind energy production experienced significant increases (Figure 28). In the power mix, renewables took the lead with 58% of the total electricity production, followed by gas at 20% (Figure 29).

Figure 28: Trend in electricity production in UK in April 2024 (y-o-y change)

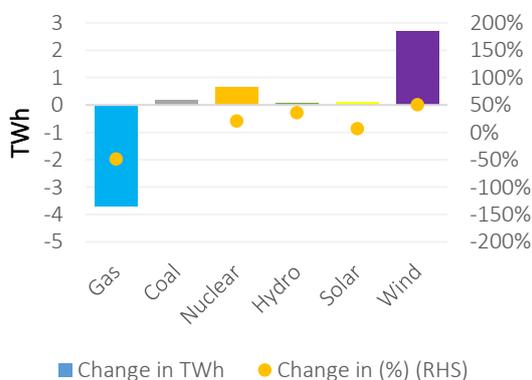
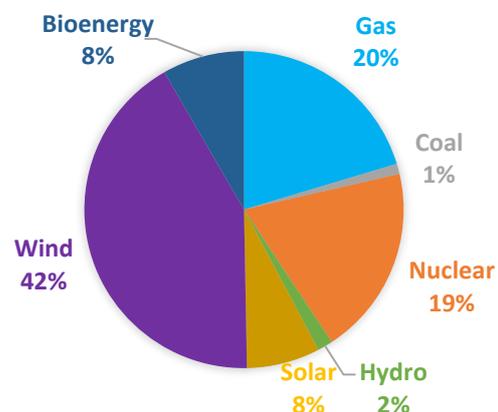


Figure 29: UK electricity mix in April 2024



Source: GECF Secretariat based on data from Refinitiv

In the first 4 months of 2024, the UK's gas consumption dropped by 4% y-o-y to reach 24 bcm.

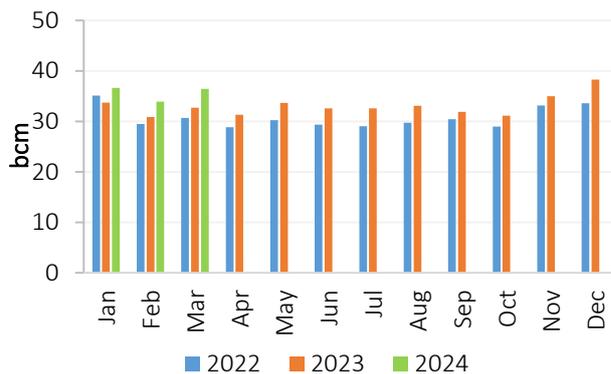
2.2 Asia

2.2.1 China

In March 2024, China’s apparent gas demand, which encompasses domestic production, pipeline gas and LNG imports, rose by 11% y-o-y to reach 36.4 bcm (Figure 30). Colder weather in northern China bolstered domestic heating demand, which contributed to an increase in gas consumption. In March, Beijing recorded an average temperature of 2.3°C, a drop from the previous year's average of 3.7°C.

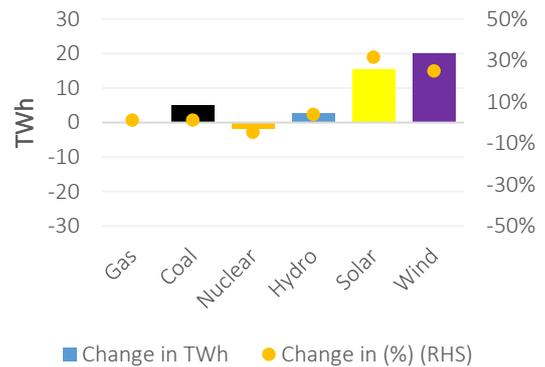
Electricity production from gas increased by 1% y-o-y, while the total electricity production rose by 6% to reach 794 TWh. The month witnessed increases in electricity generation from hydro, solar, wind and coal (Figure 31). Coal remained the dominant fuel in the power mix, accounting for 61%, followed by renewables (23%), hydro (9%), nuclear (4%) and gas (3%).

Figure 30: Gas consumption in China



Source: GECF Secretariat based on data from Refinitiv

Figure 31: Trend in electricity production in China in March 2024 (y-o-y change)



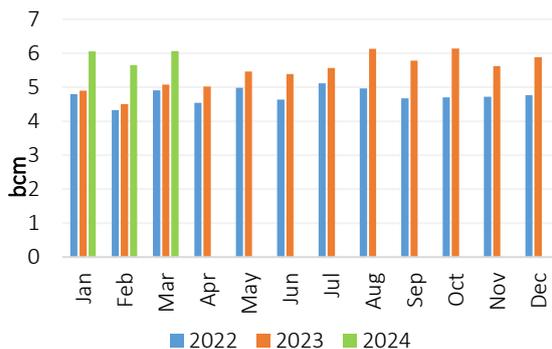
Source: GECF Secretariat based on data from Ember

2.2.2 India

In March 2024, India's gas consumption marked its fifteenth consecutive month of y-o-y growth, with a 20% y-o-y increase, to reach 6.1 bcm (Figure 32). In the sectoral breakdown, the fertilizer sector accounted for 28% of gas demand, followed by city gas distribution (20%), power generation (11%), refining (11%) and the petrochemical sector (4%) (Figure 33).

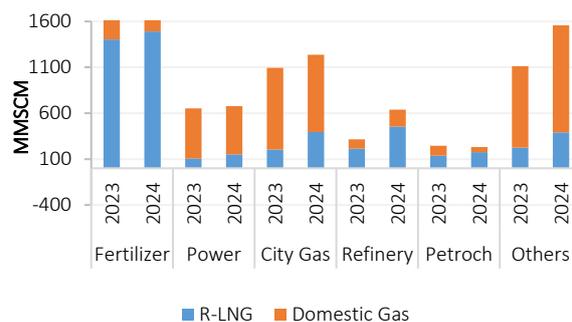
Total power generation surged to 149 TWh, marking a 8% y-o-y increase, with Indian gas-based power utilities operating at their optimal capacity.

Figure 32: Gas consumption in India



Source: GECF Secretariat based on data from PPAC

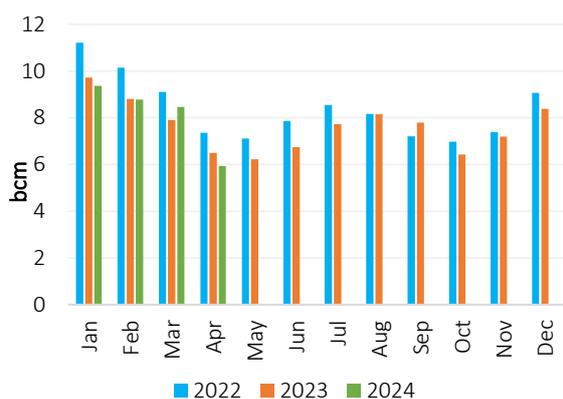
Figure 33: India's gas consumption by sector in March 2024



2.2.3 Japan

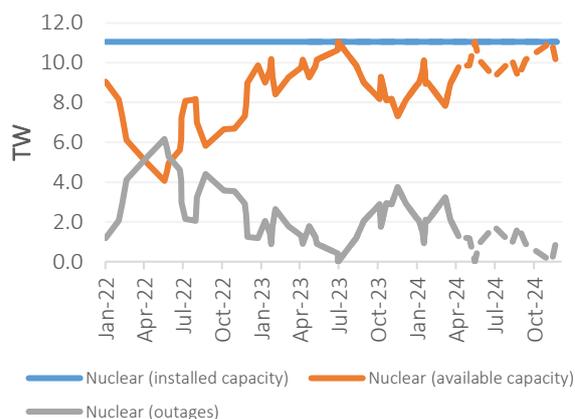
In April 2024, Japan decreased gas consumption by 8% y-o-y to 5.9 bcm (Figure 34). This reduction was primarily due to a significant drop in demand from the power generation sector, influenced by unusually mild weather. The month was exceptional, recording the warmest April since measurements began in 1898, with a temperature anomaly of +2.76°C above the norm. Consequently, the gas-fired power generation sector experienced a 22% y-o-y decline, reaching 4 bcm. Additionally, the increased availability of nuclear power compared to the previous year reduced the reliance on gas for power generation (Figure 35). By contrast, the city gas sector witnessed a 6% y-o-y growth in consumption, driven by a slight recovery in demand from the commercial and industrial sectors.

Figure 34: Gas consumption in Japan



Source: GECF Secretariat based on data from Refinitiv

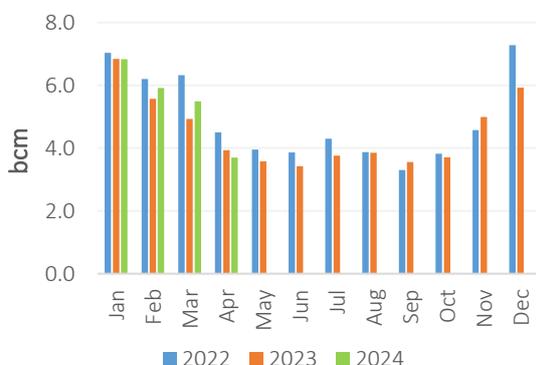
Figure 35: Nuclear availability in Japan



2.2.4 South Korea

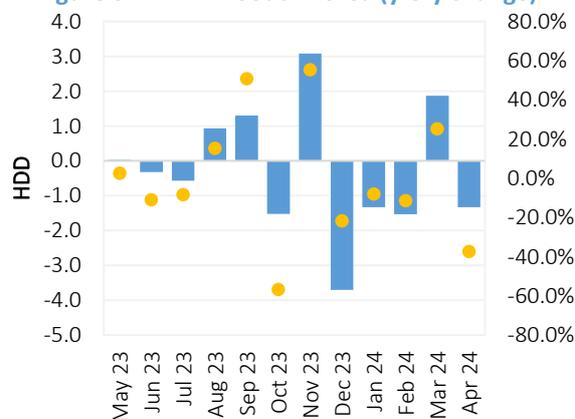
In April 2024, South Korea's gas consumption experienced a 6% decline compared to the previous year, totalling 3.7 bcm (Figure 36). This decrease was attributed to a 7% y-o-y decline in the power generation sector and a 4% decrease in the city gas sector. Additionally, the Heating Degree Days (HDD) in South Korea decreased by 37% y-o-y, indicating a lower demand for heating compared to the prior year (Figure 37).

Figure 36: Gas consumption in South Korea



Source: GECF Secretariat based on data from Refinitiv

Figure 37: HDD in South Korea (y-o-y change)



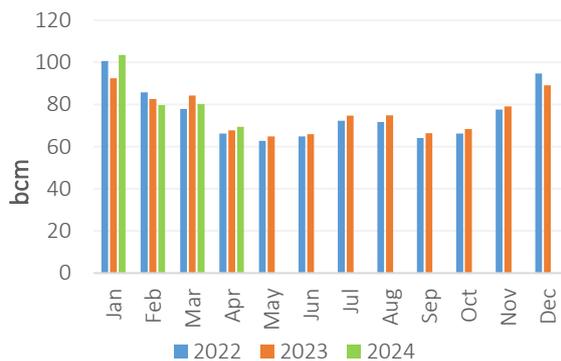
2.3 North America

2.3.1 US

In April 2024, US gas consumption increased by 2.4% y-o-y, totalling 69 bcm. This growth was led by the power generation sector, driven by the shift from coal to gas as gas prices became more competitive. In contrast, the residential and commercial sectors each recorded declines in gas consumption of 3.6% and 3.5% y-o-y, respectively, influenced by mild weather. Meanwhile, the industrial sector experienced a slight decrease of 0.7% in gas consumption.

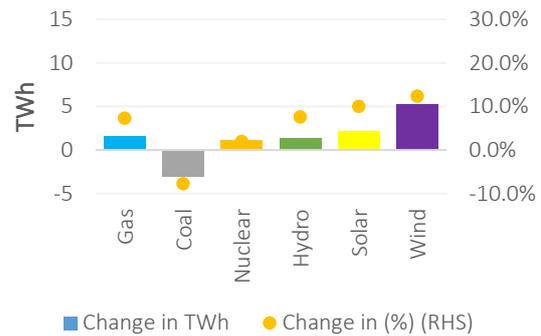
Electricity generation from gas recorded a 7% y-o-y increase, whereas the overall electricity production rose by 2.6%. The month was marked by a rise in generation from nuclear, hydro, solar and wind, while coal recorded a decline (Figure 39). In the power mix, gas continued to lead with a 39% share, followed by renewable (24%), nuclear (19%), coal (12%) and hydro (6%).

Figure 38: Gas consumption in the US



Source: GECF Secretariat based on data from EIA and Refinitiv

Figure 39: Electricity production in the US in April 2024 (y-o-y change)



Source: GECF Secretariat based on data from Ember and Refinitiv

2.3.2 Canada

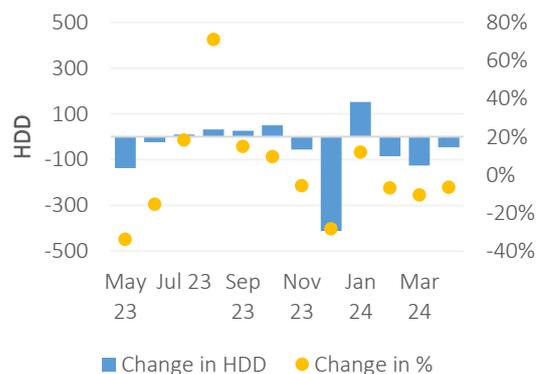
In April 2024, Canada’s gas consumption dropped by 1.1% y-o-y to reach 10 bcm (Figure 40). This drop was mainly due to warm weather, with the Heating Degree Days (HDD) averaging 652, indicating a 7% y-o-y decrease (Figure 41). That led to a reduction in gas usage in the residential, commercial and combined industrial and power generation sectors by 8%, 10% and 4% y-o-y, respectively.

Figure 40: Gas consumption in Canada



Source: GECF Secretariat based on data from Refinitiv

Figure 41: HDD in Canada (y-o-y change)

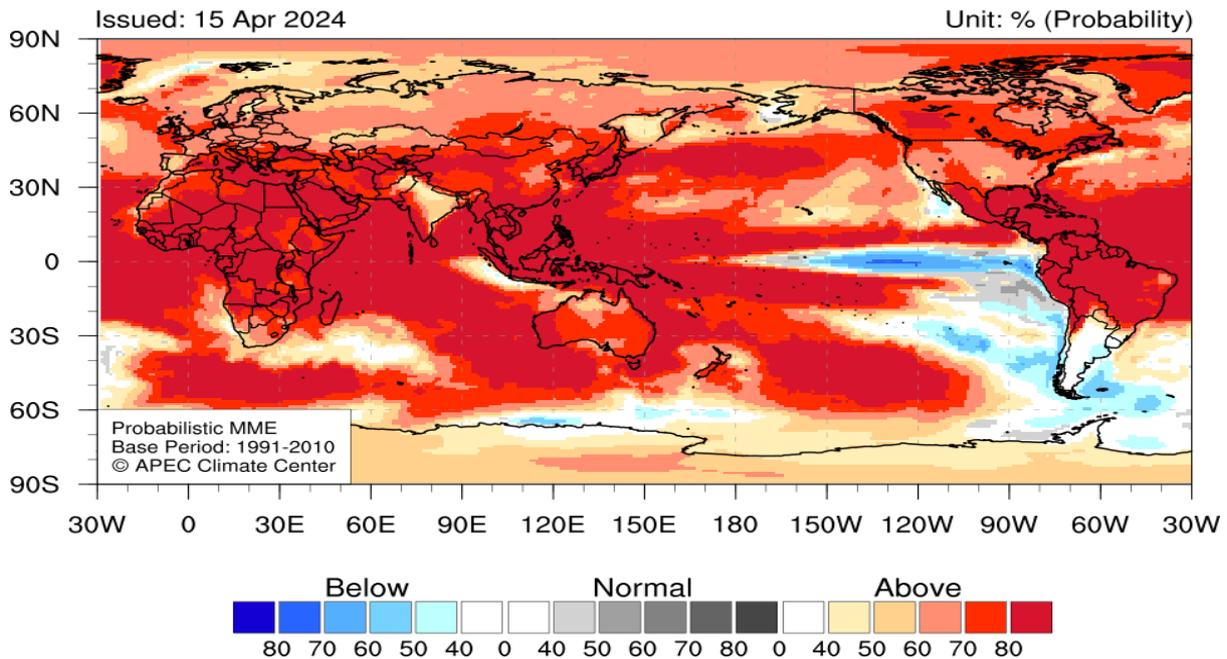


2.4 Weather forecast

2.4.1 Temperature forecast

According to the APEC Climate Center, a pronounced likelihood of above normal temperatures is predicted for most of the globe (excluding central and eastern equatorial Pacific and India) for the period May to July 2024 (Figure 42).

Figure 42: Temperature forecast May to July 2024

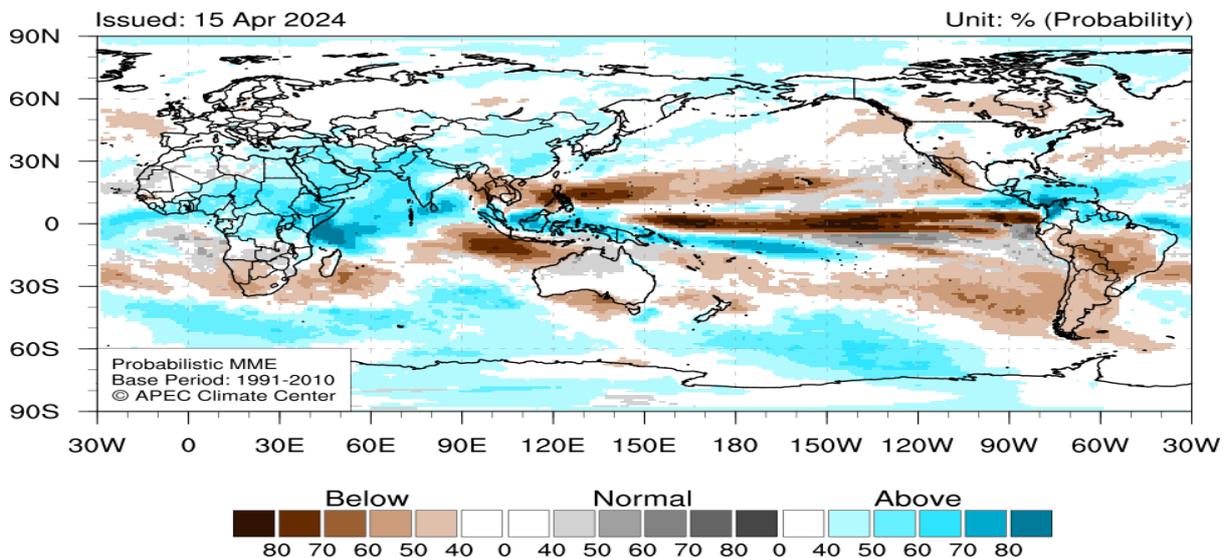


Source: APEC Climate Center

2.4.2 Precipitation forecast

According to the same source, above normal precipitation is predicted for the region spanning central Africa to the western Indian Ocean, the Arabian Sea, and Indonesia, the Middle East, South Asia, the Caribbean Sea for the period May to July 2024 (Figure 43).

Figure 43: Precipitation forecast May to July 2024



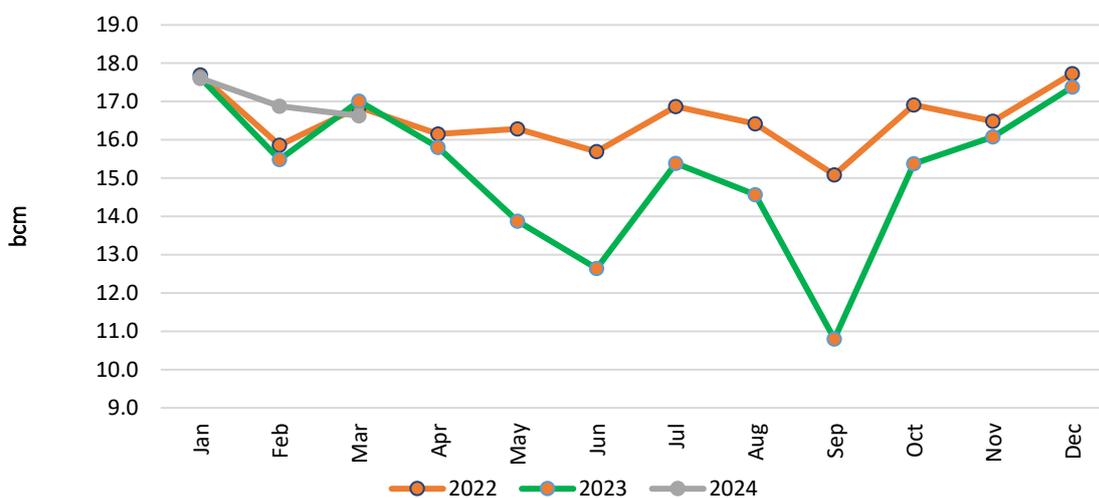
Source: APEC Climate Center

3 Gas Production

3.1 Europe

In March 2024, Europe experienced a 2% y-o-y reduction in gas production, resulting in a total output of 16.6 bcm (Figure 44). This decrease primarily stemmed from the continued decrease of gas production in the UK and the Netherlands, although the increase in Norwegian gas production partially compensated for the decline in the other major regional contributors. For Q1 2024, the cumulative gas production in Europe reached 51.1 bcm, representing a 2% y-o-y rise.

Figure 44: Europe's monthly gas production



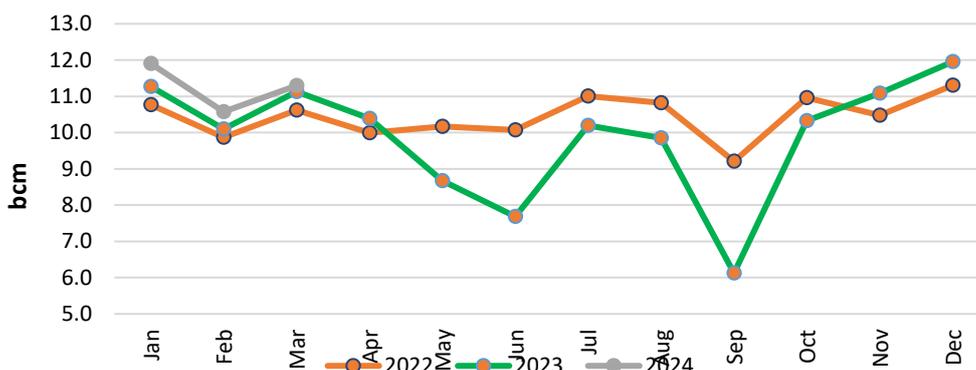
Source: GECF Secretariat based on data from Refinitiv, and Norwegian Petroleum Directorate
*Europe's production: UK, the Netherlands, Norway, Germany, Italy, Poland, Denmark, Austria and Romania

3.1.1 Norway

Preliminary data from the Norwegian Petroleum Directorate showed that Norway's gas production in March 2024 increased by 5% compared to the previous year to achieve 11.3 bcm (Figure 45). In the first quarter of 2024, cumulative gas production in Norway reached 33.8 bcm, representing a 4% uptick. This increase in Norwegian gas production was mainly driven by the relative increase in gas output from the giant Troll field, which experienced a 6% rise in its gas output mainly due to a reduced unplanned maintenance outage period.

Regarding maintenance activities in April 2024, the 25.4 mmcm/d Aasta Hansteen gas field underwent a planned maintenance outage which slashed its output capacity for a period of 4 days. In addition, the field is forecasted to undergo another planned maintenance in May 2024. Moreover, supply flows from Norway towards Europe were down by 4 mmcm/d, for a 2-day period, due to maintenance outages starting at Oseberg and Ormen Lange production fields.

Figure 45: Trend in gas production in Norway



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

3.1.2 UK

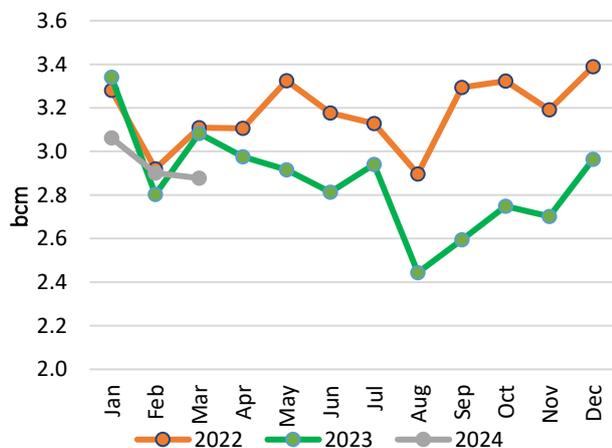
In March 2024, the UK recorded a 6.6% y-o-y decline in its gas production to reach 2.9 bcm (Figure 46), mirroring the same level of production attained in February 2024. For Q1 2024, the cumulative gas production in the UK reached 8.9 bcm, representing a 4% y-o-y decline. This was mainly driven by the sustained decline in the gas output from mature UK fields.

Regarding maintenance activities, a short unplanned outage in the 11.2 mcm/d Bacton Perenco gas terminal reduced its output capacity to 10.2 mcm/d for a period of 2 days, according to data from GBREMIT.

3.1.3 Netherlands

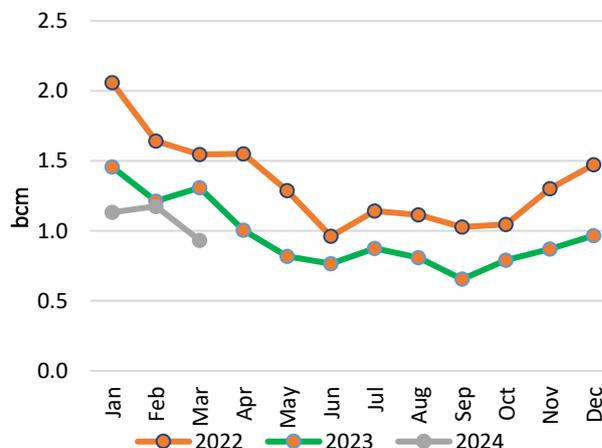
In March 2024, the Netherlands experienced a large 28% y-o-y decline in its gas production, with total March output of 0.9 bcm (Figure 47). In addition, this represented a 21% decrease compared to the February 2024 level. For the first quarter of 2024, the cumulative gas production in the Netherlands was 3.2 bcm, representing a 22% reduction compared to the same period in 2023. This decrease in gas production is mainly due to reduced output from ageing Dutch fields.

Figure 46: Trend in gas production in the UK



Source: GECF Secretariat based on data from Refinitiv

Figure 47: Trend in gas production in the Netherlands



Source: GECF Secretariat based on data from Refinitiv

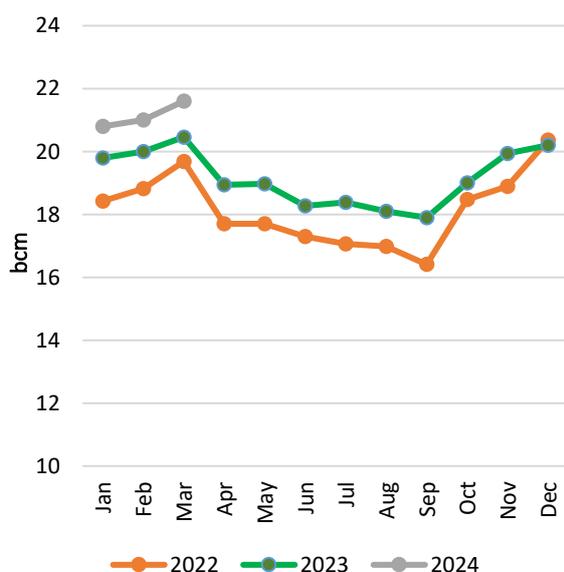
3.2 Asia Pacific

3.2.1 China

In March 2024, China’s gas production output reached 21.6 bcm, representing a 6% y-o-y rise (Figure 48). Coal bed methane gas production continued its growth to reach 1.28 bcm, with a remarkable 22% y-o-y increase (Figure 49). In the first quarter of 2024, the cumulative Chinese gas production totalled 63.4 bcm, representing a 5.2% increase, while the cumulative coal bed methane gas production culminated in 3.73 bcm output for the same period.

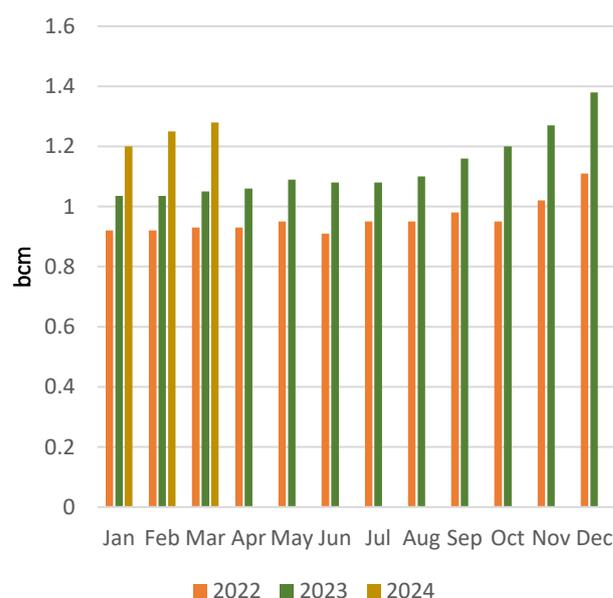
Notably, China National Offshore Oil Corporation (CNOOC), the operator of China’s most ultra-deepwater gas field, Shenhai Yihao, announced that the field recorded a cumulative gas production of more than 8 bcm since the production startup in June 2021. According to CNOOC, the completion of phase II of the field development will include drilling 23 ultra-deep gas wells and 2 subsea production systems.

Figure 48: Trend in gas production in China



Source: GECF Secretariat based on data from Refinitiv

Figure 49: Trend in CBM production in China



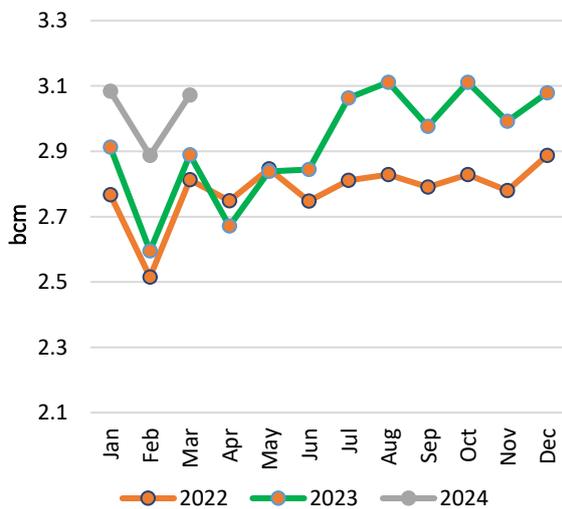
Source: GECF Secretariat based on data from the National Bureau of Statistics of China

3.2.2 India

In March 2024, India’s gas production increased by 6% y-o-y to reach 3.07 bcm (Figure 50). In the first quarter of 2024, the cumulative gas production reached 9.1 bcm, representing a 8% y-o-y increase.

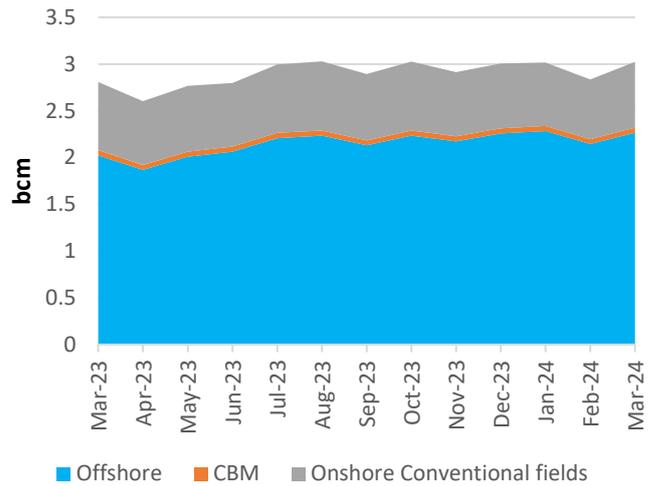
In terms of distribution, the offshore gas fields’ output reached 2.2 bcm, with a 11% y-o-y rise and representing a 74% of the total production. This uptick in the offshore gas production drove the overall growth in Indian gas production. On the other hand, gas production from the conventional onshore gas fields (23% of the total production) and coal bed methane mirrored closely the production level of March 2023 (Figure 51).

Figure 50: Trend in gas production in India



Source: GECF Secretariat based on data from Refinitiv

Figure 51: Distribution of gas production in India



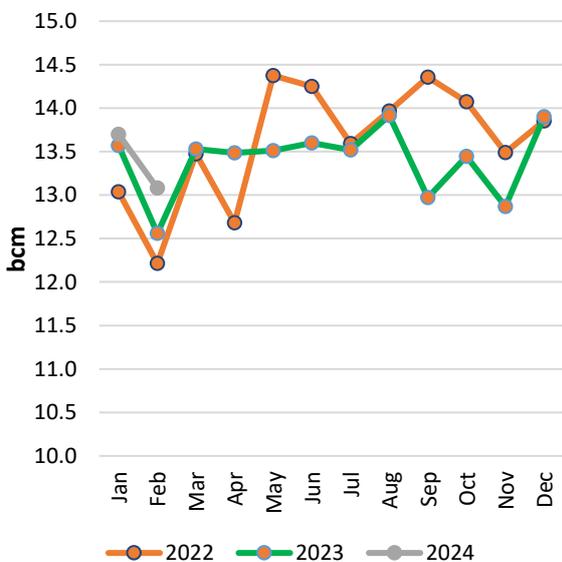
Source: GECF Secretariat based on data from Refinitiv

3.2.3 Australia

According to the Australian Department of Energy data, the country’s gas production in February 2024 reached 13.1 bcm, representing a 4% increase in gas production compared to February 2023 (Figure 52). For the first 2 months of 2024, the cumulative Australian gas production reached 26.8 bcm, representing a 2.4% rise y-o-y.

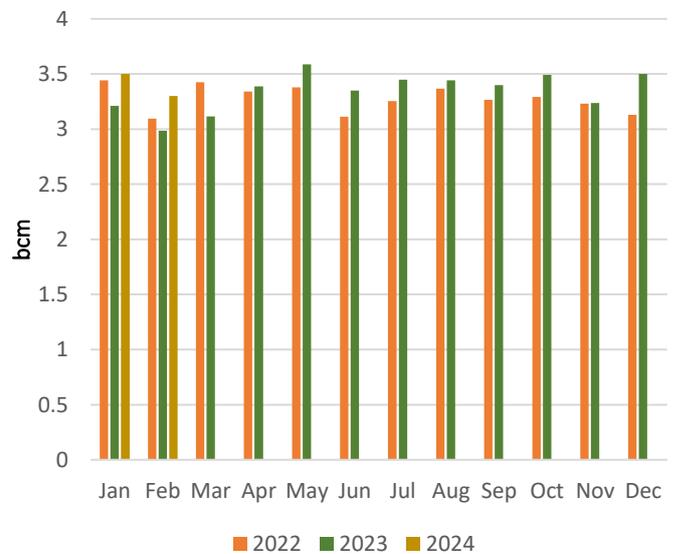
Natural gas production from coal bed methane fields reached 3.3 bcm, representing 25% of the total production, with an 11% y-o-y increase. These production volumes have maintained Australia as a global frontrunner in coal bed methane production (Figure 53).

Figure 52: Trend in gas production in Australia



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

Figure 53: Trend in CBM production in Australia



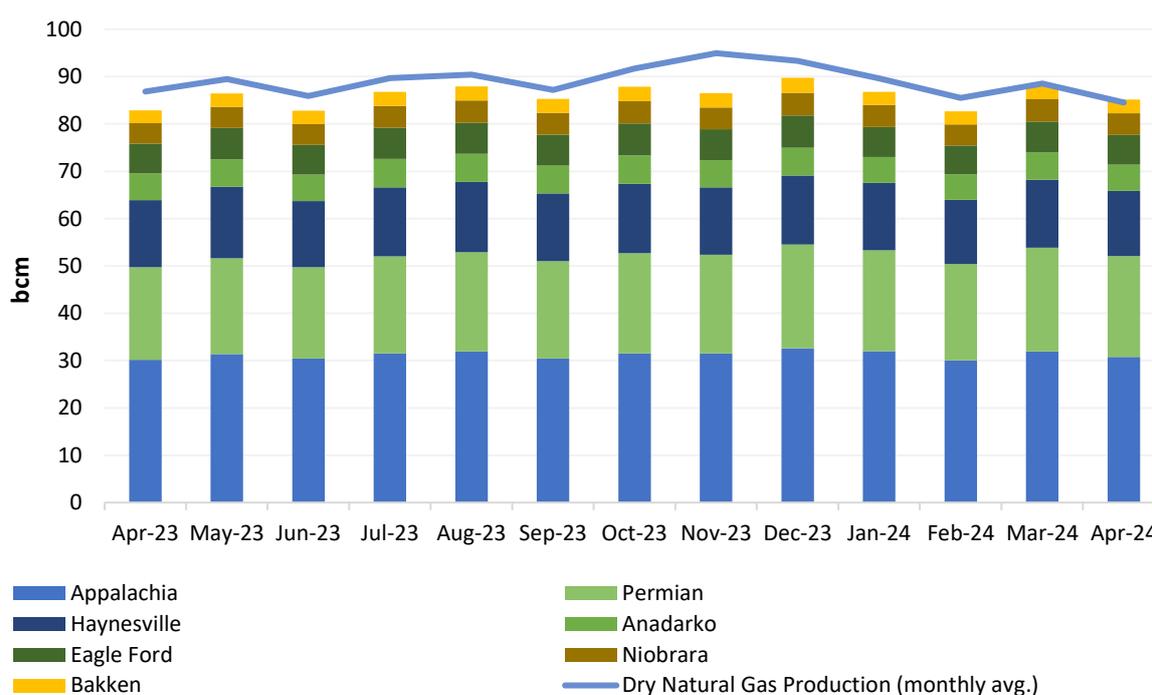
Source: GECF Secretariat based on data from the Australian Department of Energy

3.3 North America

3.3.1 US

In April 2024, the US total gas production (including production from the key shale gas producing regions (Anadarko, Appalachian, Bakken, Eagle Ford, Haynesville, Niobrara and Permian regions) rose by 3% y-o-y to reach 85.1 bcm, despite the announced cuts in gas production by some private producers amidst low Henry Hub gas prices. However, this represented a 3.4% m-o-m reduction in the total gas output (Figure 54). The Appalachian region, which includes the Marcellus and Utica shale formations, accounted for 36% of the total shale gas production, while the Permian shale oil play with its associated gas production represented 25%.

Figure 54: Trend in shale gas production in the US shale oil/gas producing regions



Source: GECF Secretariat based on data from Refinitiv, EIA

As of March 2024, the number of oil and gas drilling rigs operating in the seven key shale oil and gas regions in the US was 557. This count of drilling rigs mirrored the same count of February 2024, driven by the increase of number of rigs in the Permian basin that compensated the reduction that took place in Haynesville basin (driven by the gas production cuts). Furthermore, this count represented a decrease of 128 rigs from the March 2023 level (Figure 55). The Permian basin accounted for the major share of the current drilling rigs with more than 57%.

Additionally, in March 2024, the total number of drilled but uncompleted (DUC) wells in the seven major regions amounted to 4,522, marking an increase of 9 wells compared to the number in February 2024, according to the latest EIA Drilling Productivity Report (Figure 56). With the current low Henry Hub prices, the private producers are expected to slow down their drilling activity, aiming to reduce cost burden, and relying on their inventory of DUCs.

Figure 55: US shale region oil and gas rig count

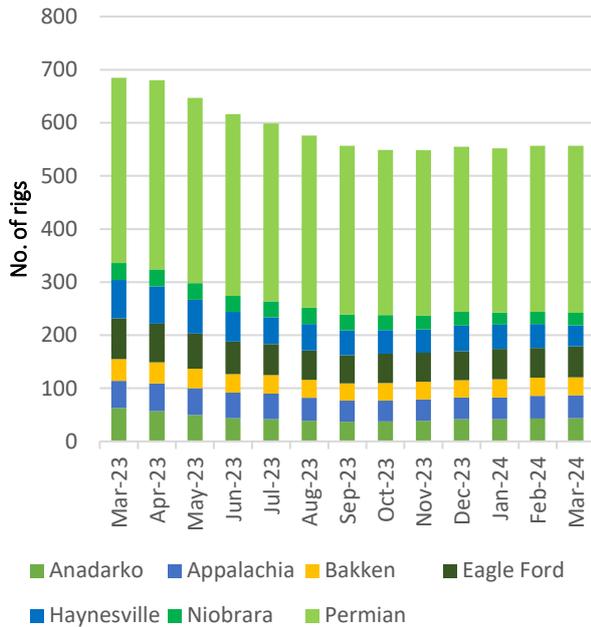
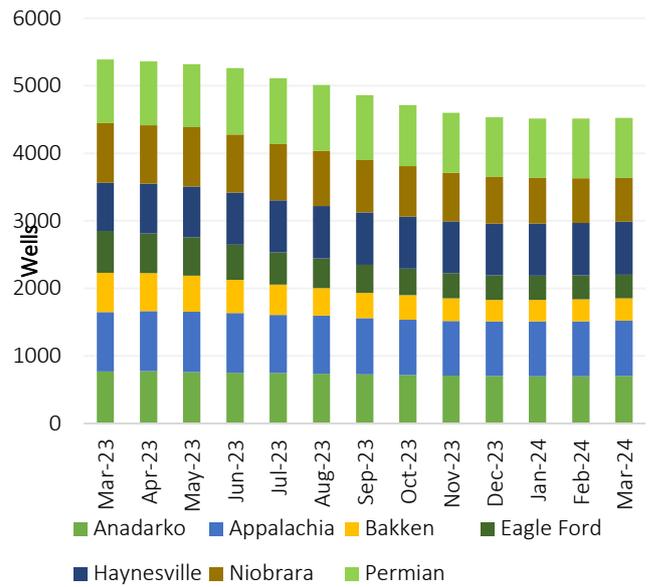


Figure 56: Drilled but uncompleted well (DUCs) counts in the US

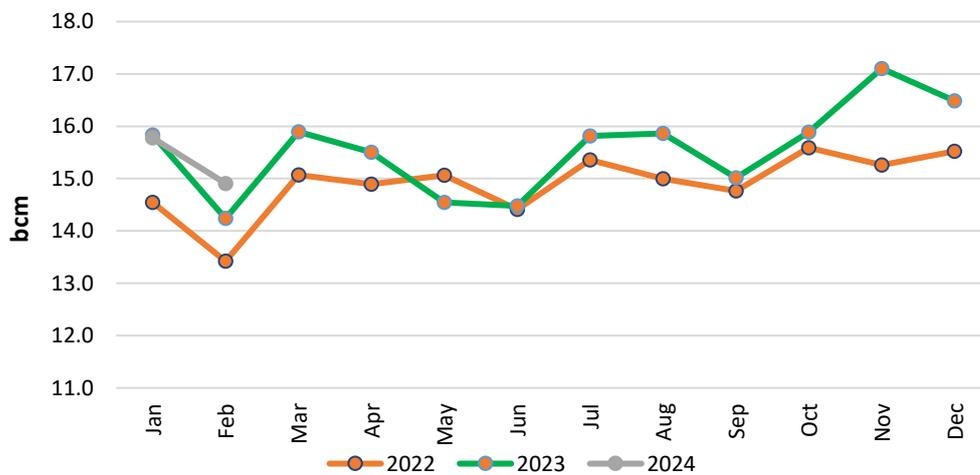


Source: GECF Secretariat based on data from Refinitiv, US EIA

3.3.2 Canada

In February 2024, Canada's gas production reached 14.9 bcm, representing a 5% y-o-y increase (Figure 57). For the period January – February 2024, the cumulative gas production in Canada reached 30.7 bcm, with a 2% y-o-y rise. The state of Alberta accounted for 9.2 bcm, representing 61% of the total Canadian gas production.

Figure 57: Trend in gas production in Canada



Source: GECF Secretariat based on data from the Canada Energy Regulator (CER)

3.4 Latin America and the Caribbean (LAC)

3.4.1 Brazil

In March 2024, Brazil’s gross gas production rose by 4% y-o-y to reach 4.4 bcm (Figure 58). Notably, pre-salt fields were responsible for more than 80% of production, with the Tupi field in the Santos pre-salt basin emerging as the largest gas-producing field at 1.2 bcm. 58% of gross production was reinjected into reservoirs, while gas flaring represented 4% of gross production (Figure 59). The cumulative output for Q1 2024 reached 13.3 bcm, representing a 2% y-o-y growth.

Figure 58: Trend in gross gas production in Brazil

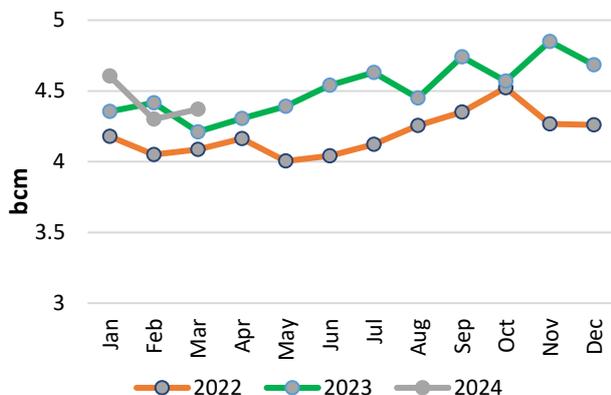
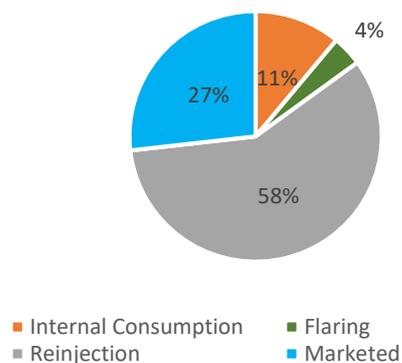


Figure 59: Distribution of gross gas production in Brazil



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

3.4.2 Argentina

In March 2024, Argentina’s gas production rose by 4% y-o-y to reach 4.15 bcm (Figure 60). Shale gas production rose by 6% y-o-y to reach 1.7 bcm, representing 41% of the total production, driven by increased output from the Vaca Muerta shale gas basin (Figure 61). In addition, tight gas reservoir production reached a 12% share. In the first quarter of 2024, Argentina’s gas output stood at the level of 11.9 bcm, representing a 2.3% y-o-y increase.

Figure 60: Trend in gas production in Argentina

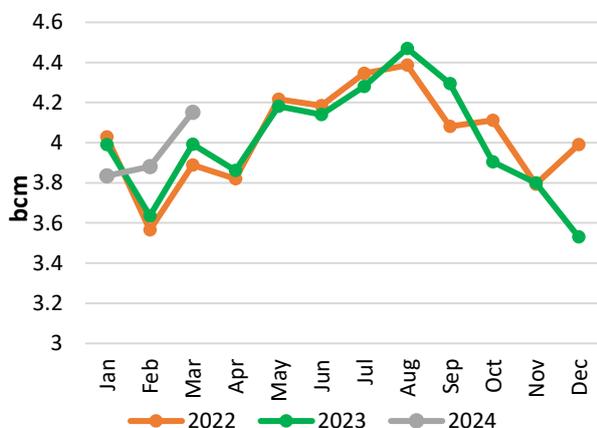
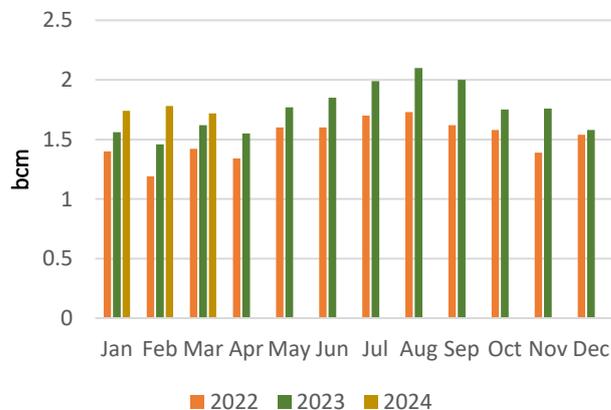


Figure 61: Trend in shale gas production in Argentina



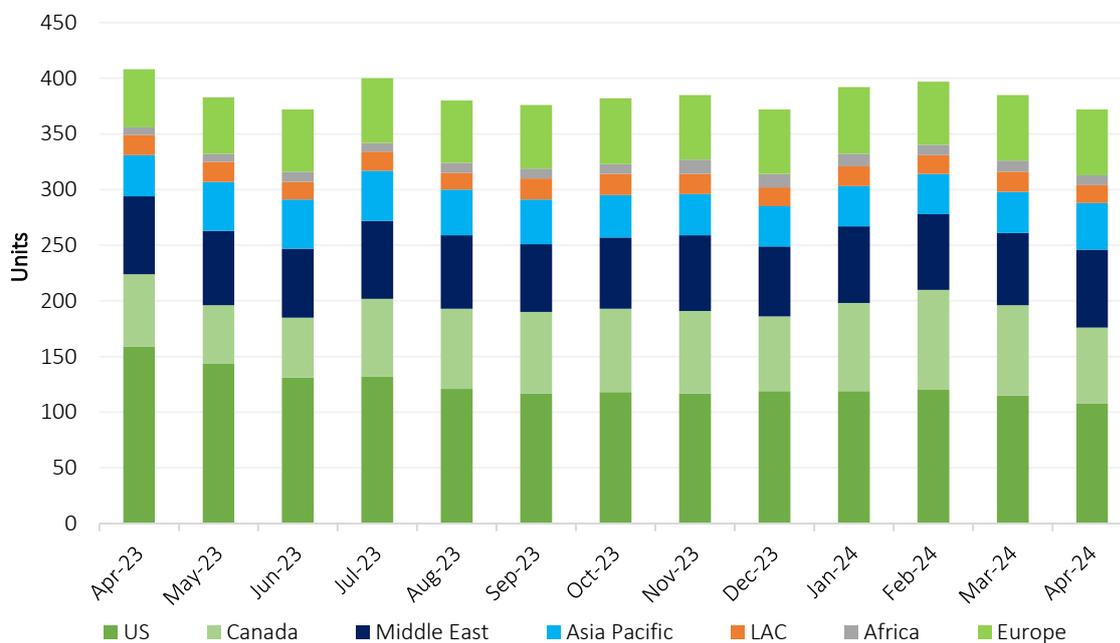
Source: GECF Secretariat based on data from Argentinian Ministry of Economy

3.5 Other developments

3.5.1 Upstream tracker

In April 2024, the global number of gas drilling rigs dropped by 13 units m-o-m to reach 372 rigs, driven by the consecutive decrease in gas rigs throughout Canada and the US by 13 and 7 rigs, respectively (Figure 62). This development was mainly driven by the slowdown in the drilling activity in North America, amid low Henry Hub gas prices. In addition, this marked a 36-rig decrease y-o-y from the 408 rigs in April 2023.

Figure 62: Trend in monthly global gas rig count



Source: GECF Secretariat based on data from Baker Hughes

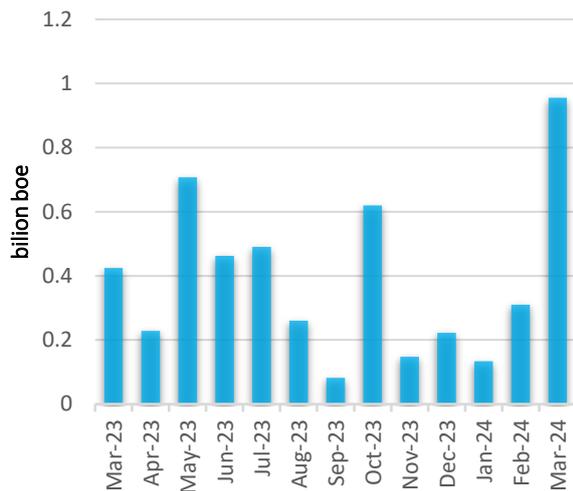
Note: Excludes data for Eurasia and Iran

In March 2024, the total volume of discovered gas and liquids amounted to 955 million barrels of oil equivalent (boe). Of this, liquid oil accounted for the majority with 82% (780 million boe), while natural gas constituted 18% (30 bcm). Cumulative discovered volumes in the first quarter of 2024 amounted to 1.5 billion boe (Figure 63), with an average monthly discovered volumes of 500 million boe, the lowest in the last decade. Offshore discoveries represented nearly all the discovered volumes, dominated by the Bluefin oil discovery offshore Guyana, within the prolific Stabroek basin.

In terms of regional distribution, LAC dominated the new discovered volumes in March with 49%, mainly in Guyana’s offshore activities, while Africa held 39% of the new discoveries, followed by Asia Pacific with 10% (Figure 64).

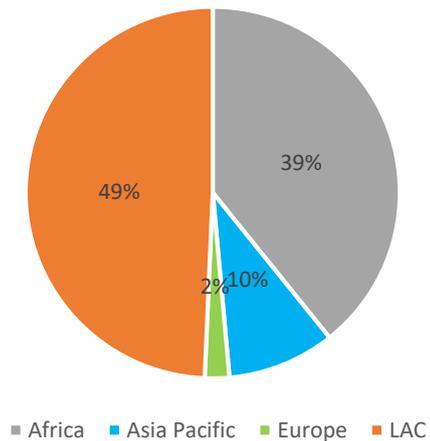
The Calao oil and gas discovery, located in block CI-205, 45 km offshore Côte d’Ivoire, was the most significant gas discovery announced in March 2024. The discovery was made through the exploration well Murene -1X, drilled to a depth of 5,000 m, in water depths of around 2,200 m. The well encountered light oil, gas, and condensates in various intervals of Cenomanian age characterized by good to excellent permeability values. It is worth noting that this is the second largest oil and gas discovery in Côte d’Ivoire, after the prolific Baleine field which started production in August 2023.

Figure 63: Monthly gas and liquid discovered volumes



Source: GECF Secretariat based on Rystad Energy Ucube

Figure 64: Discovered volumes in March 2024 by region



Source: GECF Secretariat based on Rystad Energy Ucube

3.5.2 Other regions

QatarEnergy to acquire two new exploration blocks offshore Egypt: According to the QatarEnergy announcement, the company has signed farm-in agreement with ExxonMobil to acquire a 40% participating interest in two exploration blocks offshore Egypt. QatarEnergy will acquire a 40% working interest in each of the “Cairo” and “Masry” Offshore Concession Agreements, while ExxonMobil (the Operator) will retain the remaining 60% working interest. The Cairo and Masry offshore exploration blocks were awarded to ExxonMobil in January 2023 and cover an area of approximately 11,400 square kilometres in water depths of 2,000 to 3,000 meters. It is worth noting that Egypt and Qatar are two GECF Member Countries.

Nigeria launched the 2024 oil and gas exploration and development licensing round: During the 2024 Offshore Technology Conference in Houston, the Nigerian Upstream Petroleum Regulatory Commission (NUPRC) announced the launch of the 2024 exploration and development licensing round, targeting a boost in its oil and gas industry. Notably, the 2024 licensing round offered multiple blocks for exploration and further development, with promising economic potential and supported by a robust regulatory framework characterized by fairness and transparency, under the Petroleum Industry Act of 2021. It is worth noting that NUPRC has recently updated the country’s portfolio of hydrocarbon reserves to stand at the level of 37.5 billion barrel of liquid oil and condensate, as of the beginning of 2024, while the natural gas reserves stood at 5.93 tcm (210 tcf), nearly half of which is attributed to associated gas volumes.

4 Gas Trade

4.1 PNG trade

4.1.1 Europe

Pipeline gas imports to the EU continued at a stable rate this year. In April 2024, there were 13.4 bcm of PNG imports, which was 4% lower m-o-m, and 2% lower y-o-y (Figure 65). Moreover, across the months of January to April, total PNG imports by the EU reached 53 bcm, surpassing the volume imported during the same period in 2023 by 3% (Figure 66). This increase in imports was driven mainly by Russia, which supplied 21% more PNG to the region, as well as a ramping up of flows from Azerbaijan, which increased exports to the EU by 8%.

Figure 65: Monthly PNG imports to the EU

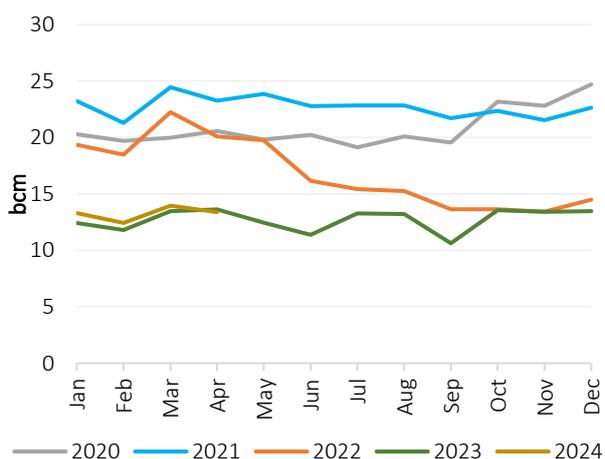
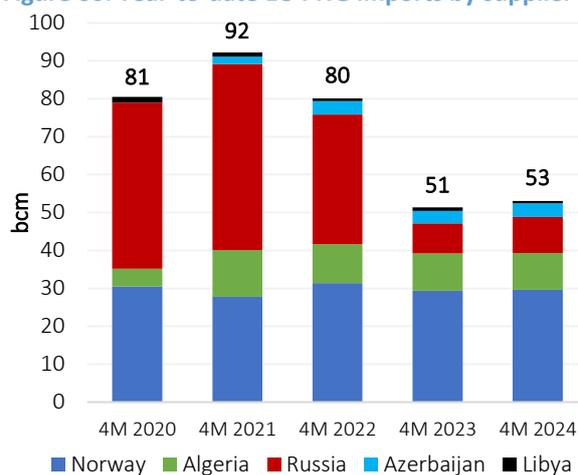


Figure 66: Year-to-date EU PNG imports by supplier

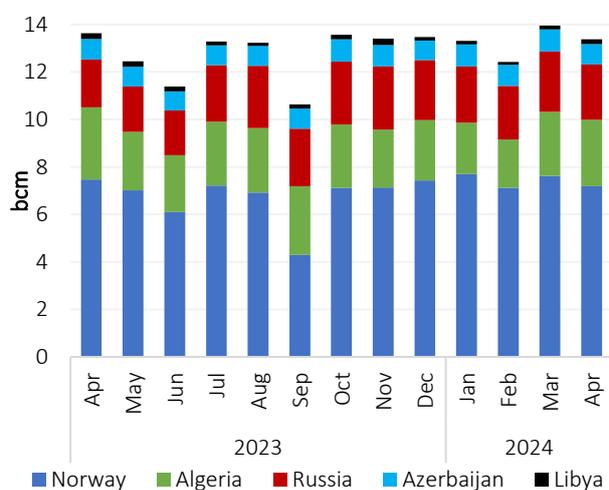


Source: GECF Secretariat based on data from Refinitiv

Source: GECF Secretariat based on data from Refinitiv

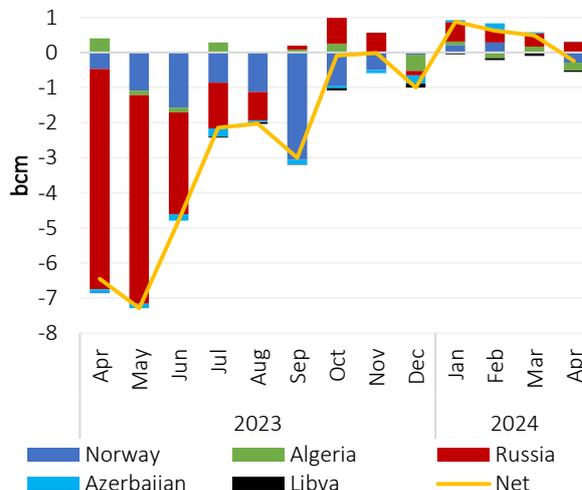
On a monthly basis, supply from Algeria has been increasing throughout 2024, while imports from Norway has fluctuated (Figure 67). There was a decrease in Norway's output in April 2024 due to upstream maintenance activities. As a result, after the four months of 2024, Norway accounted for 56% of the PNG imported by the EU, followed by both Russia and Algeria at 18%. In all months of 2024 thus far, PNG supply from Russia and Azerbaijan has been greater than in the corresponding period in 2023 (Figure 68).

Figure 67: Monthly EU PNG imports by supplier



Source: GECF Secretariat based on data from Refinitiv

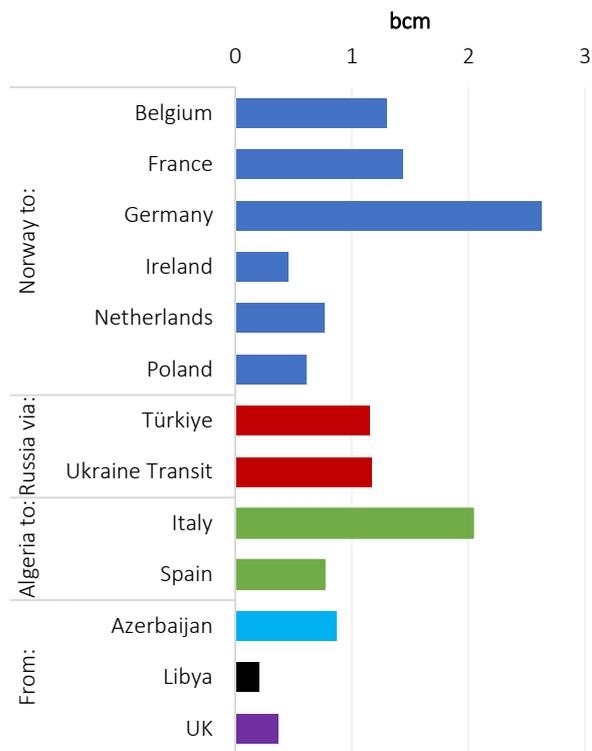
Figure 68: Y-o-y variation in EU PNG supply



Source: GECF Secretariat based on data from Refinitiv

Figure 69 shows the PNG imports to the EU via the major supply routes in April 2024. Algeria supplied 73% of its volumes during the month to Italy, and the quantity shipped via this supply route increased by 6% m-o-m. Russia supplied equal amounts via both of its supply routes, but exports via Turkstream fell by 14% m-o-m. Norway recorded m-o-m increases in PNG exports via Poland (20%) and France (2%), while deliveries via its other supply routes contracted. The BBL pipeline between the UK and the Netherlands has entered reverse flow mode, consequently bolstering net PNG flows from the UK to the continent to a volume of 0.4 bcm during the month.

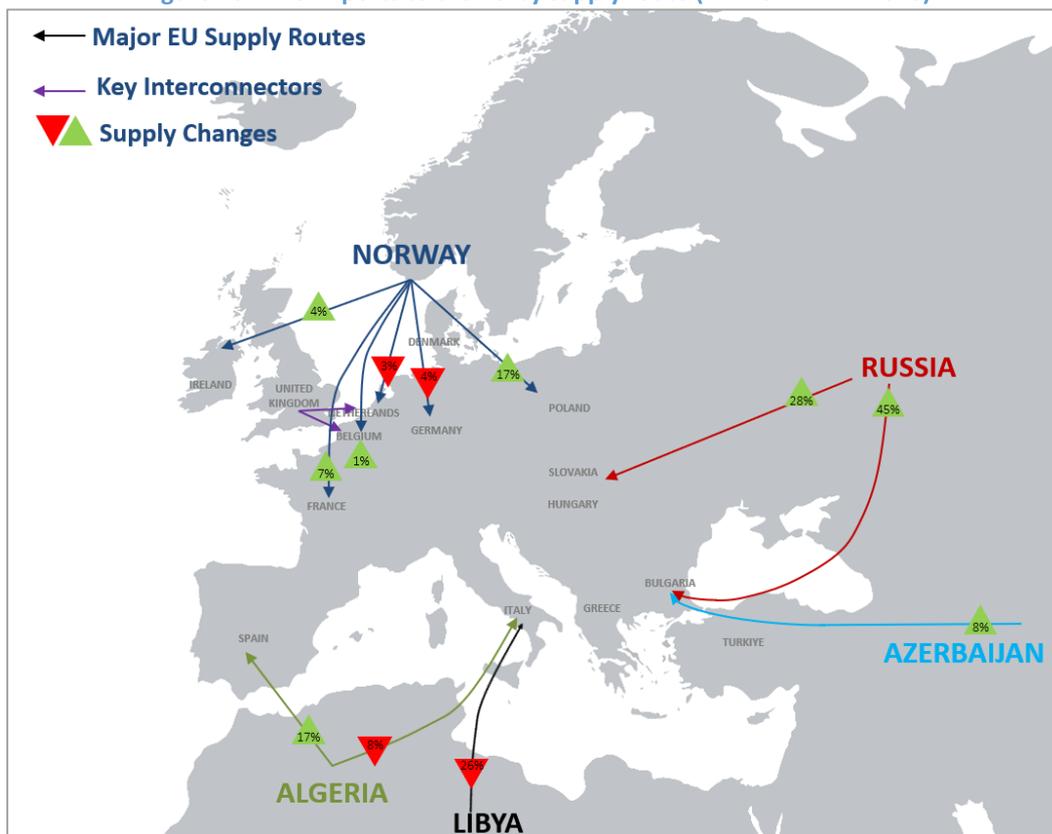
Figure 69: EU PNG imports by supply route, in April 2024



Source: GECF Secretariat based on data from Refinitiv

Figure 70 displays the PNG imports to the EU via the major supply routes during the first four months of 2024, versus the same period in 2023. Russian exports via both supply routes have increased during the period. Algeria's deliveries to Spain have increased by 17%, while Norway's supply to the German market has declined by 4%.

Figure 70: PNG imports to the EU by supply route (4M 2024 v 4M 2023)

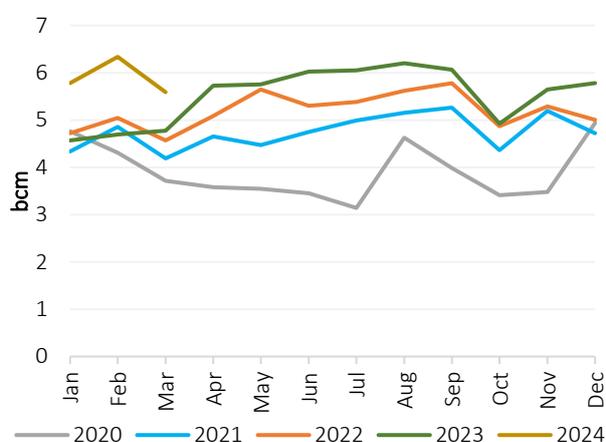


Source: GECF Secretariat based on data from Refinitiv

4.1.2 Asia

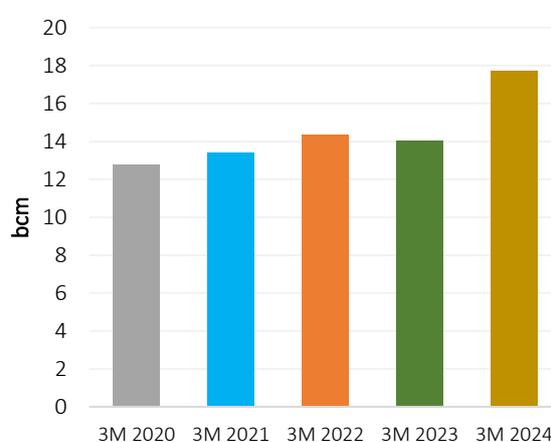
Following five months of increases, China’s imports of PNG declined by 12% m-o-m to reach 5.6 bcm in March 2024 (Figure 71). However, this quantity remained 17% higher than the level recorded one year ago. Coupled with a rise in LNG imports during the month, the share of PNG imports in the total gas imports for March declined to 38%. China imported almost 18 bcm in the first quarter of 2024, representing an increase of 26% compared with the same period in 2023 (Figure 72).

Figure 71: Monthly PNG imports in China



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

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

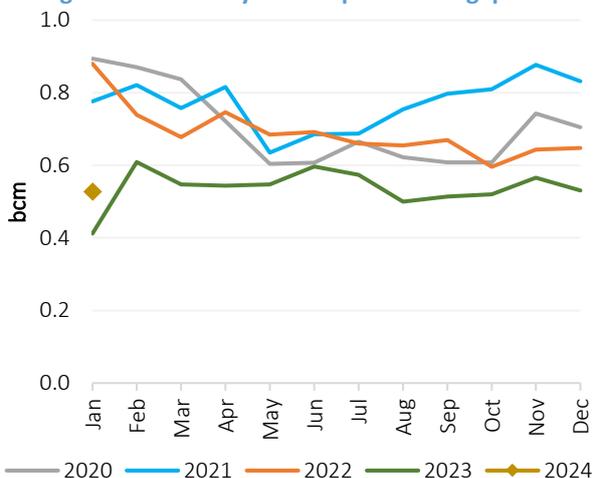


Source: GECF Secretariat based on data from Refinitiv and General Administration of Customs China

Singapore imported 0.53 bcm of PNG from Indonesia and Malaysia in January 2024, which was unchanged from the level recorded in the previous month, but 28% higher y-o-y (Figure 73). This continued the trend of lower PNG imports since 2022 amidst stable LNG supply.

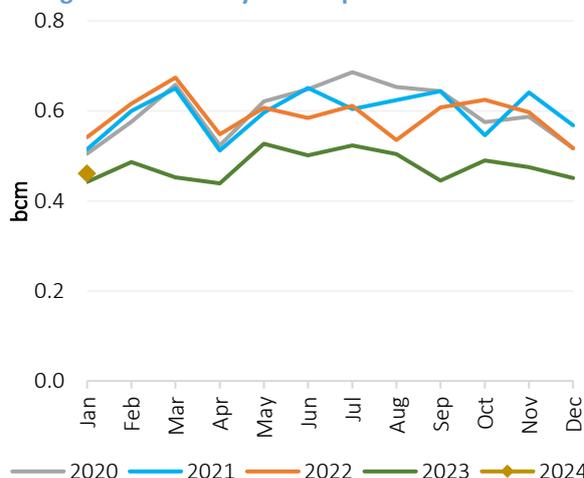
Similarly, Thailand’s imports of PNG from Myanmar were unchanged in January 2024, totalling 0.46 bcm (Figure 74). However, this quantity was 4% higher than the level of imports one year ago. Since 2022, Thailand’s PNG imports have declined as a result of falling production in Myanmar, and have been subsequently replaced with growing levels of LNG imports.

Figure 73: Monthly PNG imports in Singapore



Source: GECF Secretariat based on data from JODI Gas

Figure 74: Monthly PNG imports in Thailand



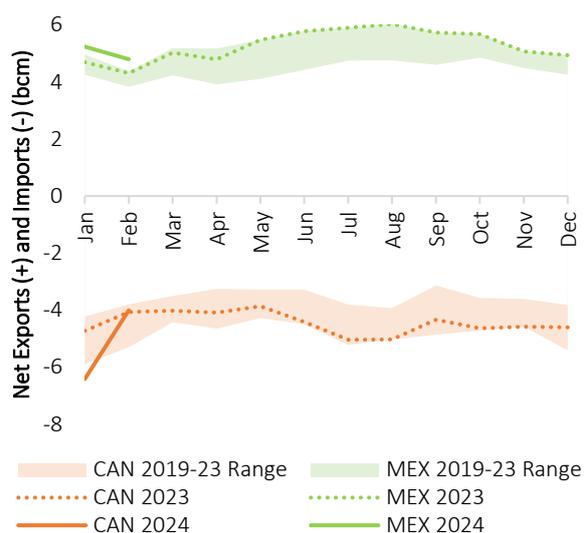
Source: GECF Secretariat based on data from JODI Gas

4.1.3 North America

In February 2024, the US delivered 4.8 bcm of PNG to Mexico, which was 8% lower m-o-m, but 11% higher than in the previous year (Figure 75). Net PNG imports from Canada to the US declined by 38% m-o-m to reach 4.0 bcm. This quantity was 1% less than that of February 2023.

There were 0.8 bcm of net flows of PNG from the US to the other countries of North America. This marked a return to net exports, following the reversal in January 2024. The average monthly flows in the region in February 2024 were 7.2 bcm from Canada to the US, 3.2 bcm from the US to Canada and 4.8 bcm from the US to Mexico.

Figure 75: Historical net PNG trade in the USA



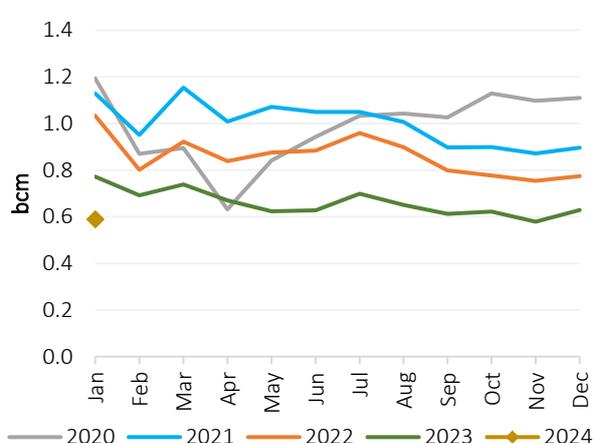
Source: GECF Secretariat based on data from US EIA

4.1.4 Latin America and the Caribbean

In January 2024, Bolivia exported 0.59 bcm of PNG to Brazil and Argentina (Figure 76). This quantity was 6% less than the previous month, and 24% less than the level recorded one year ago.

In January 2024, Argentina exported 0.31 bcm of PNG to Chile. This volume was an increase of 114% compared to the previous month, and 11% compared with the previous year, in line with the growing gas production in the country.

Figure 76: Monthly PNG exports from Bolivia



Source: GECF Secretariat based on data from JODI Gas

4.1.5 Other developments

Turkmenistan eyes pipeline gas exports to Europe: The governments of Turkmenistan and Türkiye signed preliminary agreements for the supply of pipeline gas to Türkiye, and onward to Europe. In this context, the Trans-Caspian Gas Pipeline is a potential project for a line under the Caspian Sea, from western Turkmenistan, connecting with the South Caucasus Gas Pipeline in Azerbaijan. The proposed 300 km line would have a capacity of 16 bcma.

Balticconnector resumes operation: The Balticconnector pipeline between Finland and Estonia has resumed flows from 22 April 2024, following the incident in October 2023 which damaged the pipeline and prevented flows. The pipeline is operated by Finland’s Gasgrid and Estonia’s Elering, and connects Inkoo, Finland with Paldiski, Estonia. The Balticconnector is also bidirectional, capable of flowing 2.6 bcma of supply in either direction as needed.

4.2 LNG trade

4.2.1 LNG imports

In April 2024, global LNG imports stood at 34.52 Mt, representing an increase of 1.7% (0.58 Mt) y-o-y (Figure 77). This is a record high for LNG imports for the month of April. The Asia Pacific and LAC regions led the rise in global LNG imports and offset a sharp decline in European LNG imports (Figure 78). For the period January to April 2024, global LNG imports expanded by 2.9% (3.98 Mt) y-o-y to reach 142.52 Mt.

Figure 77: Trend in global monthly LNG imports

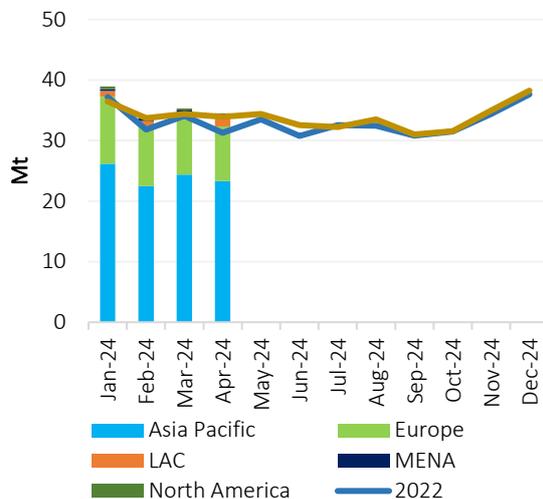
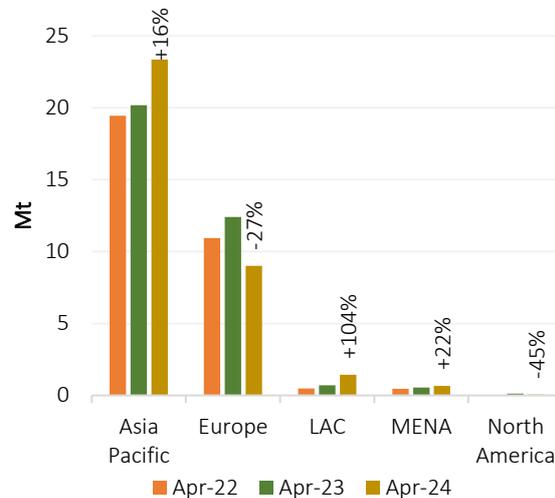


Figure 78: Trend in regional LNG imports



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.1 Europe

In April 2024, LNG imports in the European region fell sharply by 27% (3.39 Mt) to 9.01 Mt, which is the tenth consecutive monthly y-o-y decline (Figure 79). The lower LNG imports were driven by weaker gas consumption, high gas storage levels and stable pipeline gas imports. At a country level, Belgium, Greece, Lithuania, Spain, Türkiye and the UK contributed to the drop in the region's LNG imports while France recorded a significant increase (Figure 80). For the period January to April 2024, European LNG imports dropped by 17% (8.02 Mt) y-o-y to 39.25 Mt.

The decline in Belgium's LNG imports was attributed to lower gas consumption, higher pipeline gas imports from France, ample gas inventory, and a fall in pipeline gas exports to Germany and the Netherlands. Greece did not import any LNG in April, the first time since April 2019, due to robust pipeline gas imports and lacklustre gas consumption. In Lithuania, a decrease in gas consumption and the start of maintenance activity on the Klaipeda FSRU in early May 2024 curbed its LNG imports. Meanwhile, the drop in gas consumption, coupled with high gas storage levels, stronger pipeline gas imports from Algeria, and a switch from net exporter to net importer of pipeline gas with France, led to the fall in Spain's LNG imports. In Türkiye, higher gas production and a decline in gas consumption contributed to the slowdown in LNG imports. Furthermore, the sharp decline in the UK's LNG imports was driven by lower gas consumption, higher pipeline gas imports from Norway, and weaker pipeline gas exports to mainland Europe.

Conversely, despite lower gas consumption in France, the rise in its LNG imports was attributed to higher utilization of LNG regas terminals compared to a year earlier when operations were impacted by strike actions, and an increase in pipeline gas exports to Belgium.

Figure 79: Trend in Europe’s monthly LNG imports

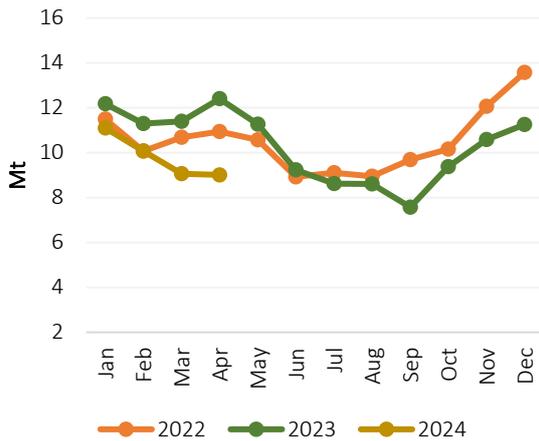
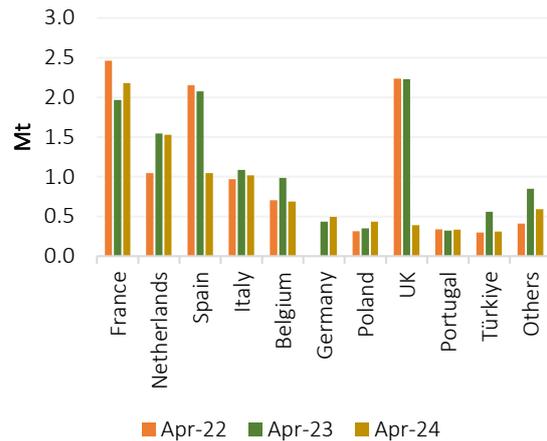


Figure 80: Top LNG importers in Europe



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.2 Asia Pacific

In April 2024, Asia Pacific’s LNG imports surged by 16% (3.17 Mt) to a record high of 23.35 Mt (Figure 81). The stronger LNG imports in the region were supported by higher gas consumption in some countries, ramp-up of imports in new markets and attractive spot LNG prices, which encouraged spot LNG buying in price sensitive markets. China continued to lead the rise in Asia Pacific’s LNG imports while Bangladesh, Japan, Singapore, South Korea and Vietnam contributed to a lesser extent (Figure 82). For the period January to April 2024, Asia Pacific’s LNG imports grew by 11% (9.37 Mt) y-o-y to 96.38 Mt.

China’s LNG imports jumped in April and surpassed the previous record for the month set in 2021. This was due to an increase in gas consumption, higher contractual LNG delivery from Qatar and the US, and attractive spot LNG prices. The increase in Bangladesh’s LNG imports was supported by lower spot LNG prices compared to a year earlier. In Japan and South Korea, lower LNG storage levels, supported LNG restocking ahead of the summer season and contributed to the rise in LNG imports in both countries. In Singapore, stronger LNG imports from Mozambique, Qatar, and the US boosted its LNG imports. Furthermore, the ramp-up in LNG imports led to an increase in Vietnam’s LNG imports.

Figure 81: Trend in Asia’s monthly LNG imports

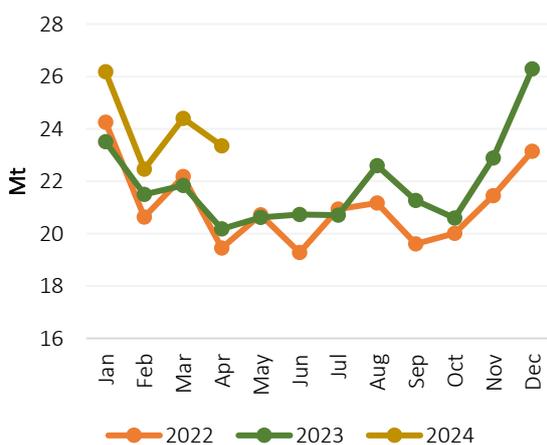
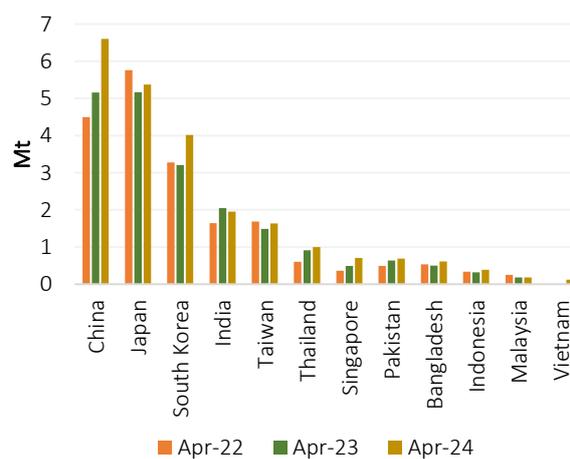


Figure 82: Top LNG importers in Asia Pacific



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.3 Latin America & the Caribbean (LAC)

In April 2024, LNG imports in the LAC region reached a record high of 1.43 Mt, expanding sharply by 104% (0.73 Mt) y-o-y (Figure 83). Colombia and the Dominican Republic together accounted for the bulk incremental increase in the region’s LNG imports (Figure 84). For the period January to April 2024, LAC’s LNG imports grew by 69% (1.73 Mt) y-o-y to 4.26 Mt.

The stronger gas consumption in Colombia’s electricity sector, amidst lower hydro power caused by the El Niño phenomenon supported the increase in its LNG imports. Meanwhile, the rise in LNG imports in the Dominican Republic was attributed to stronger gas consumption in the electricity sector and increased LNG storage following the start-up of a new LNG storage tank in November 2023.

Figure 83: Trend in LAC’s monthly LNG imports

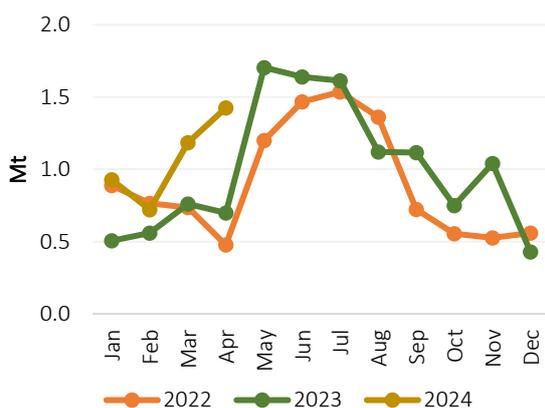
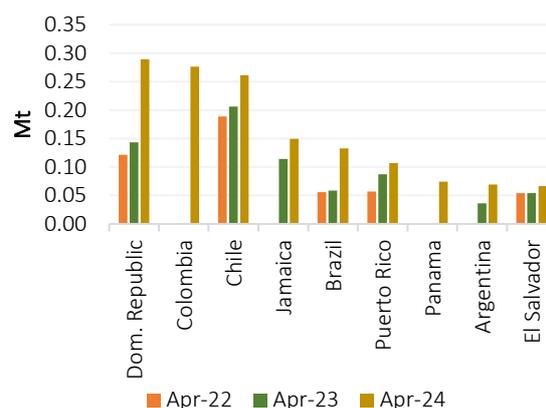


Figure 84: Top LNG importers in LAC



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.1.4 MENA

In April 2024, the MENA region’s LNG imports increased by 22% (0.12 Mt) y-o-y to 0.67 Mt (Figure 85). Higher LNG imports in Jordan and Kuwait drove the increase in LNG imports (Figure 86). From January to April 2024, LNG imports in the MENA region expanded by 78% (0.51 Mt) to 1.17 Mt. Egypt’s EGAS imported an LNG cargo via the Aqaba FSRU in Jordan to compensate for lower gas supply in Egypt; the regasified LNG was exported from Jordan to Egypt via pipeline. Additionally, higher gas consumption in Kuwait boosted its LNG imports.

Figure 85: Trend in MENA’s monthly LNG imports

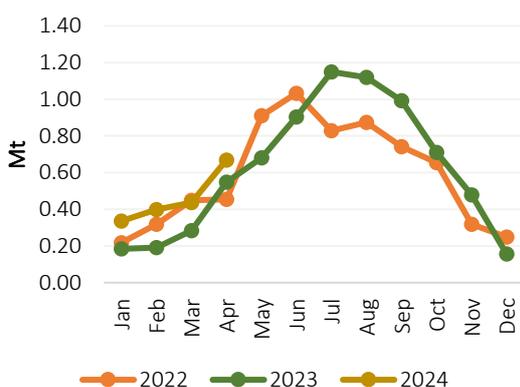
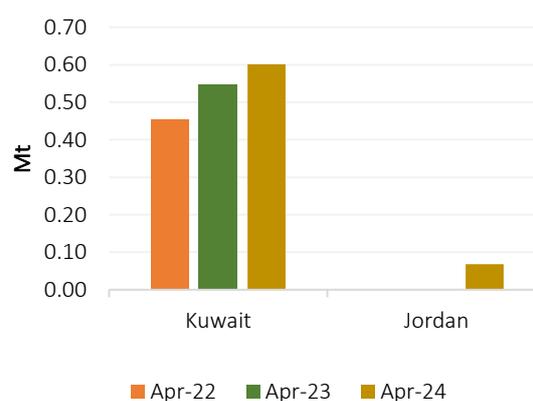


Figure 86: Top LNG importers in MENA



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2 LNG exports

In April 2024, global LNG exports fell significantly by 3.9% (1.35 Mt) y-o-y to 33.73 Mt, representing the first monthly y-o-y decline since June 2023 (Figure 87). In addition, monthly LNG exports were at the lowest level since September 2023. The weaker LNG exports were attributed to decline in exports from both GECF and non-GECF countries as well as a slowdown in LNG reloading activity.

Non-GECF countries continued to be the largest LNG exporters during April, accounting for 51.2% of global LNG exports, which was relatively unchanged from a year earlier. Meanwhile, GECF Member Countries accounted for 48.3% of global LNG exports, up from 47.6% in April 2023. In contrast, the market share of LNG reloads in global LNG exports fell from 1.1% to 0.5% during the same period. Australia and Qatar overtook the US to become the top LNG exporters in April (Figure 88). For the period January to April 2024, global LNG exports were up meagrely by 1.4% (1.98 Mt) y-o-y to reach 141.25 Mt.

Figure 87: Trend in global monthly LNG exports

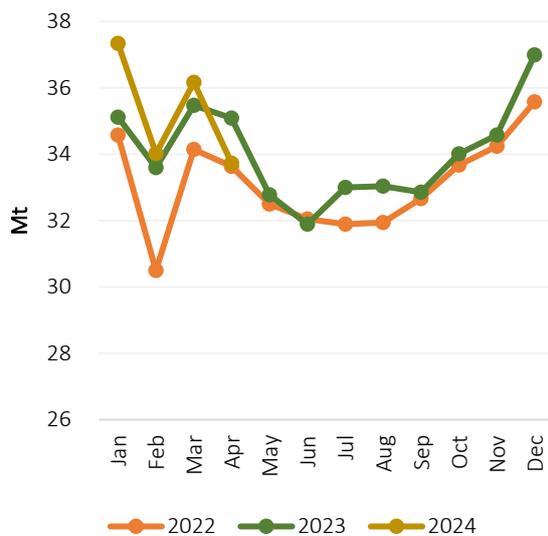
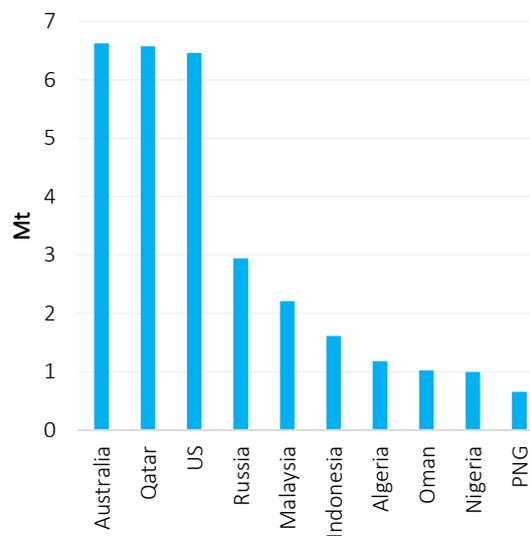


Figure 88: Top 10 LNG exporters in Apr 2024



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2.1 GECF

In April 2024, LNG exports from GECF Member Countries and Observers fell by 2.6% (0.43 Mt) y-o-y to 16.28 Mt (Figure 89). The weaker LNG exports were primarily due to a drop in exports from Egypt, Nigeria, Qatar as well as Trinidad and Tobago, which were partially offset by higher exports from Equatorial Guinea, Malaysia and Russia (Figure 90). For the period January to April 2024, GECF's LNG exports increased by 1.6% (1.09 Mt) y-o-y to 67.46 Mt.

The y-o-y drop in LNG exports from Egypt, Nigeria and Trinidad and Tobago were attributed to lower feedgas availability in these countries. In Qatar, a slight decline in its capacity utilisation, which is still above its nameplate capacity, contributed to the decline in its LNG exports. Conversely, lower maintenance activity at the Puta Europa LNG facility, compared to a year earlier, boosted LNG exports from Equatorial Guinea. Similarly, the rise in Malaysia's LNG exports was driven by a decrease in maintenance activity at the Bintulu LNG facility. Furthermore, higher LNG exports from the Portovaya and Sakhalin 2 LNG facilities supported the rise in Russia's LNG exports.

Figure 89: Trend in GECF monthly LNG exports

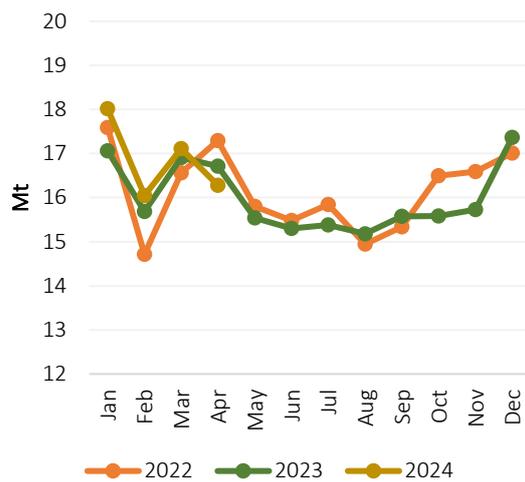
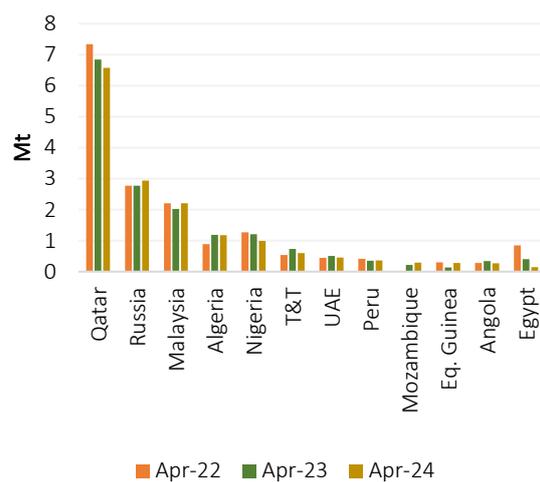


Figure 90: GECF's LNG exports by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.2.2 Non-GECF

In April 2024, LNG exports from non-GECF countries declined by 3.9% (0.70 Mt) y-o-y to 17.29 Mt, representing its first monthly y-o-y decline since September 2023 (Figure 91). Unlike previous months, the US drove the decline in non-GECF's LNG exports (Figure 92). Conversely, Australia and Indonesia recorded significant increases in their LNG exports. For the period January to April 2024, non-GECF's LNG exports rose by 3.1% (2.21 Mt) y-o-y to 72.98 Mt.

The US saw its first monthly y-o-y decline in LNG exports since March 2023, primarily due to reduced exports from the Freeport LNG facility, along with slight decreases at the Calcasieu Pass and Sabine Pass LNG facilities. Higher maintenance activities, both planned and unplanned, contributed to the drop in exports from Freeport LNG. Meanwhile, Australia experienced an uptick in LNG exports driven by increased shipments from the Gorgon and Ichthys LNG facilities, offsetting a decline in exports from the North West Shelf LNG facility. Lower maintenance at Gorgon and Ichthys facilities contrasted with reduced feedgas availability at the North West Shelf facility. Additionally, Indonesia saw a boost in LNG exports thanks to the ramp-up in production and reduced maintenance at the Tangguh LNG facility.

Figure 91: Trend in non-GECF monthly LNG exports

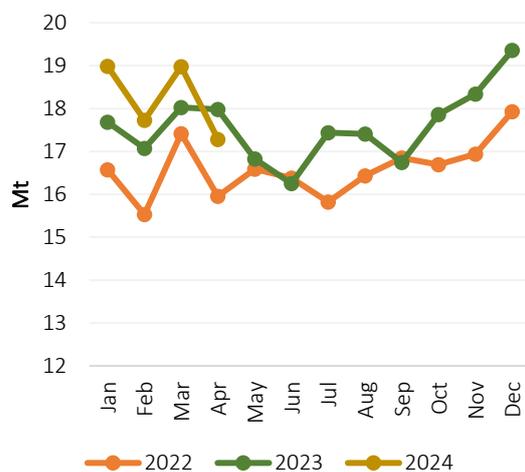
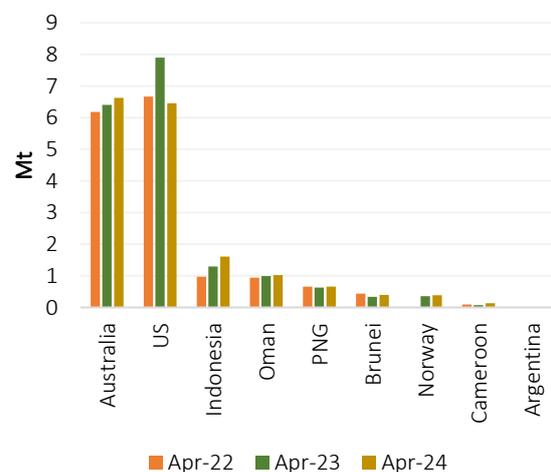


Figure 92: Non-GECF's LNG exports by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.3 Global LNG reloads

In April 2024, global LNG reloads stood at 0.17 Mt, representing a decline of 57% (0.22 Mt) y-o-y (Figure 93). The decrease in LNG reloading activity was driven mainly by France, Jamaica, Singapore and Spain while Chinese LNG reloads barely grew (Figure 94). For the period January to April 2024, global LNG reloads slumped by 62% (1.31 Mt) y-o-y to 0.81 Mt.

France did not reload any LNG cargoes in April, whereas a year earlier, one LNG cargo was re-exported to Taiwan. The decrease in LNG re-exports to Puerto Rico affected Jamaica's LNG reloading activity. Similarly, the decline in Singapore's LNG reloads was attributed to weaker LNG re-exports to Northeast Asia. Furthermore, reduced LNG demand in the EU contributed to the decline in LNG reloads in Spain, resulting in lower intra-EU LNG trade.

Figure 93: Trend in global monthly LNG reloads

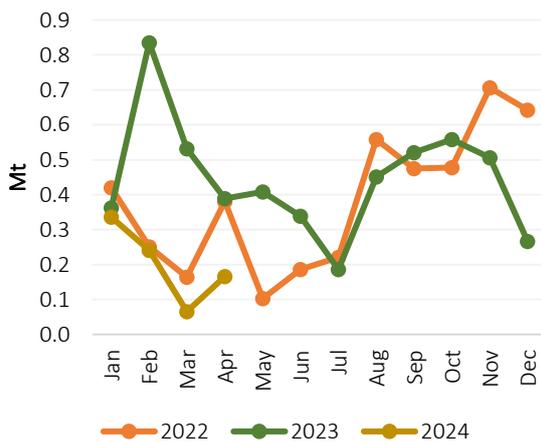
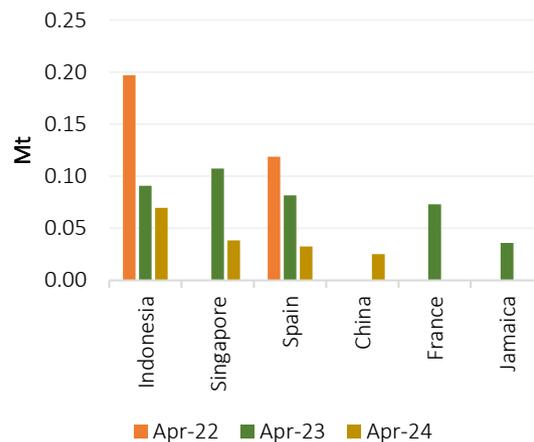


Figure 94: Global LNG reloads by country



Source: GECF Secretariat based on data from ICIS LNG Edge

4.2.4 Arbitrage opportunity

In April 2024, the arbitrage for LNG reloads from Europe to Asia Pacific continued to be absent, which was due to the spot market shipping costs from Europe to Asia Pacific being above the spot LNG price spreads between Asia Pacific and Europe (Figure 95). The spot shipping cost was also higher than the price spread between spot LNG price in Asia Pacific and oil-indexed prices in Europe.

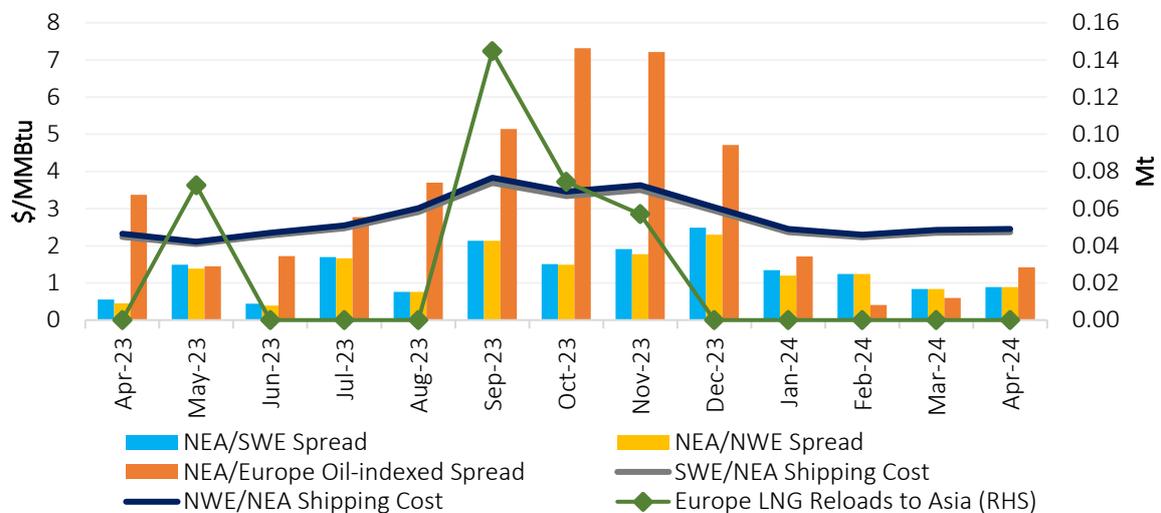
During the month of April, the spot LNG price differentials between NEA/SWE and NEA/NWE each increased slightly by 6.1% (\$0.05/MMBtu) m-o-m to \$0.89/MMBtu respectively. The slight uptick in the price differentials was attributed to a higher increase in the spot LNG price in Asia Pacific compared to Europe. Similarly, the price differential between spot LNG prices in Asia Pacific and oil-indexed prices in Europe surged by 137% (\$0.82/MMBtu) m-o-m to \$1.42/MMBtu as a result of weaker oil-indexed price in Europe.

In terms of the shipping costs for the NEA/SWE and NEA/NWE spot routes, both increased slightly by 0.9% (\$0.02/MMBtu) m-o-m to stand at \$2.37/MMBtu and \$2.45/MMBtu, respectively. However, it is important to note that shipping costs can vary depending on the specific vessels used. Medium to long-term chartered vessels may have lower costs compared to spot shipping rates.

Furthermore, the y-o-y NEA/SWE and NEA/NWE price differentials jumped by 62% (\$0.34/MMBtu) and 98% (\$0.44/MMBtu), respectively. Likewise, the y-o-y spot shipping costs

from Europe to Asia Pacific grew by 5.8% (\$0.13/MMBtu). Conversely, the price differential between the NEA spot LNG and European oil-indexed prices fell by 58% (\$1.95/MMBtu) y-o-y. The absence of any arbitrage opportunity prevented LNG reloads from Europe to Asia Pacific in April.

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

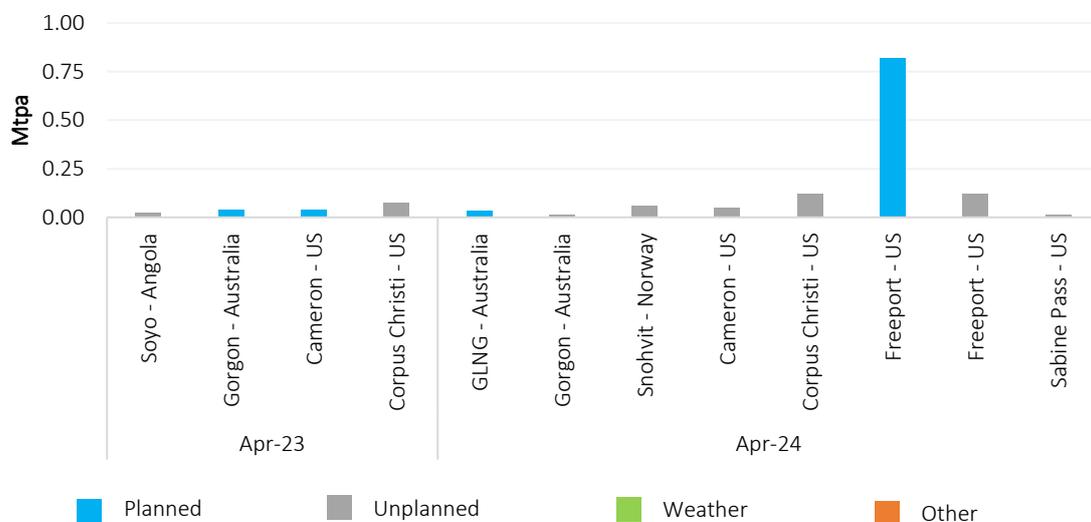


Source: GECF Secretariat based on data from GECF Shipping Model, Argus and ICIS LNG Edge

4.2.5 Maintenance activity at LNG liquefaction facilities

In April 2024, the cumulative impact of scheduled maintenance, unplanned outages and other factors at liquefaction plants globally stood at 1.24Mt, up sharply from 0.17 Mt in April 2023 (Figure 96). The main activities at liquefaction facilities in April 2024 included planned maintenance activity at the Freeport and GLNG LNG facilities, as well as unplanned outages at the Cameron, Corpus Christi, Gorgon, Snohvit and Sabine Pass LNG facilities.

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



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

4.2.6 Other developments

Chhara LNG terminal in India receives its first LNG cargo – The Chhara LNG import terminal in India received its inaugural LNG cargo on 12 April 2024. Developed by Hindustan Petroleum, this 5 Mtpa terminal is the eighth operational LNG import terminal in India. The maiden LNG cargo was delivered by the Maran Gas Mystras vessel, loaded from the Punta Europa LNG export terminal in Equatorial Guinea.

China’s SHPGX launches registration for joint LNG procurement – China’s Shanghai Petroleum and Natural Gas Exchange (SHPGX) initiated joint LNG procurement registration on 12 April 2024. Small and medium-sized LNG consumers were invited to participate by registering on the SHPGX platform. SHPGX would aggregate the consumers’ LNG demand on the platform, and CNOOC would supply the LNG to consumers from one spot LNG cargo during Q3 2024 at the Tianjin LNG import terminal.

Oman’s Marsa LNG terminal takes FID – Oman’s Marsa LNG project reached a final investment decision (FID) on April 21, 2024. The 1 Mtpa terminal is a joint venture between TotalEnergies (80%) and Oman’s National Oil Company – OQ (20%) and is scheduled for commissioning in 2028. The LNG produced will primarily serve as marine fuel (LNG bunkering) in the Gulf region, with the surplus volumes destined for export to the international market.

Gaz-System signs charter agreement for Gdansk FSRU in Poland – Poland’s gas grid operator, Gaz-System, signed a 15-year charter agreement with White Eagle Energy, on 25 April 2024, for an FSRU to be used at the Gdansk LNG import terminal in Poland. The terminal will have an LNG import capacity of 4.5 Mtpa and is expected to commence operations between 2027 and 2028. Orlen, a Polish gas company, has booked the entire capacity at the Gdansk FSRU.

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

Table 1: New LNG sale agreements signed in April 2024

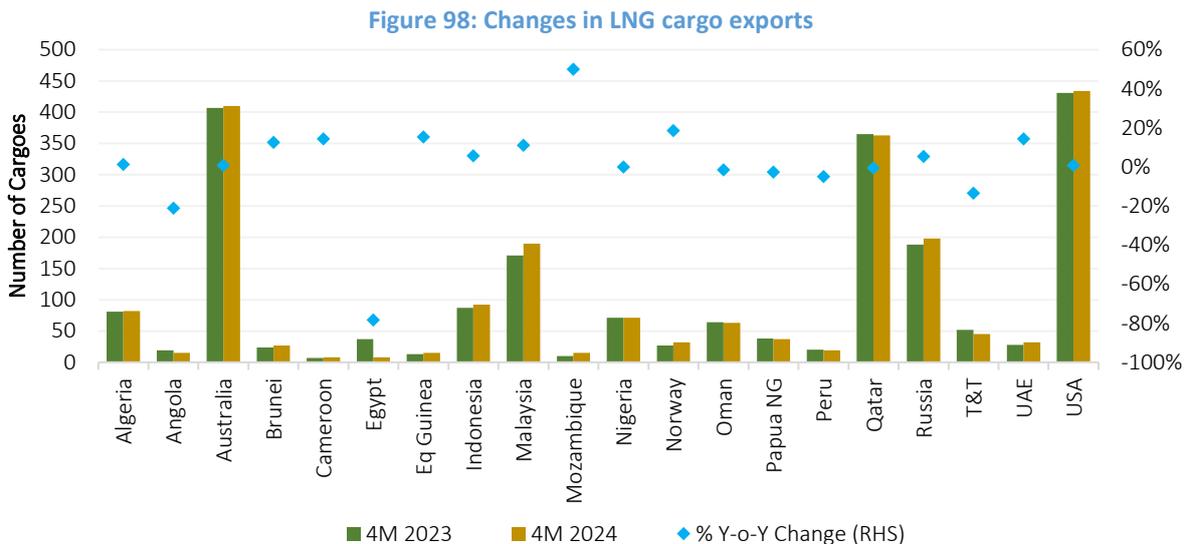
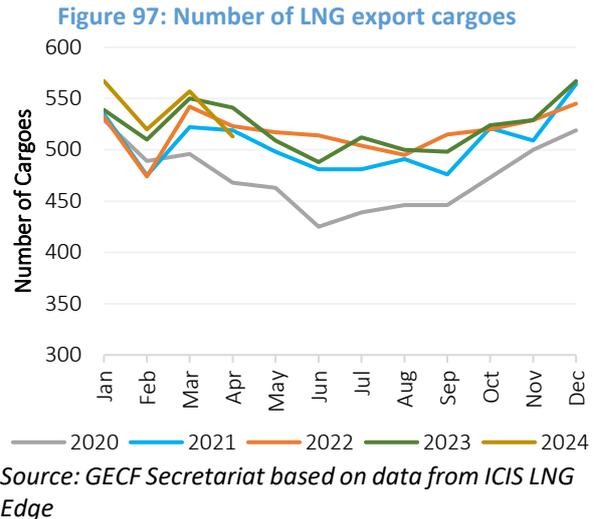
| Contract Type | Exporting Country | Project | Seller | Importing Country | Buyer | Volume (Mtpa) | Duration (Years) |
|---------------|-------------------|------------|----------|-------------------|---------------|---------------|------------------|
| SPA | Oman | Qalhat LNG | Oman LNG | Japan | JERA | 0.8 | 10 |
| SPA | Oman | Qalhat LNG | Oman LNG | Portfolio | Shell | 1.6 | 10 |
| SPA | Oman | Qalhat LNG | Oman LNG | Türkiye | BOTAS | 1 | 10 |
| SPA | Oman | Qalhat LNG | Oman LNG | Portfolio | TotalEnergies | 0.8 | 10 |
| SPA | Portfolio | | BP | South Korea | KOGAS | 0.89 | 11 |

Source: GECF Secretariat based on Project Updates and News

4.2.7 LNG shipping

There were 513 LNG cargoes exported in April 2024, a decrease of 8% from the number of shipments in the previous month, and 5% less than one year ago (Figure 97). For the period of January to April, there have been 2,157 cargoes exported, which was an increase of 1% (or 17 deliveries) compared with the same period in 2023.

In this period, Malaysia delivered 19 more cargoes than in the same period of 2023, followed by Russia with 10 more (Figure 98). Mozambique increased its shipments by 50%, followed by Norway by 19%.

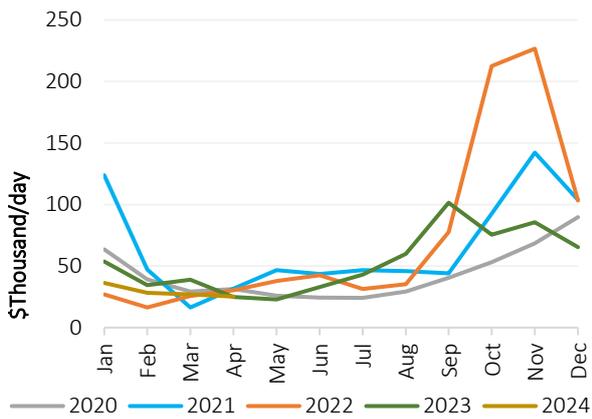


In April 2024, there was a continuation of the downward trend in charter rates for LNG carriers, which has been observed since October 2023. The monthly average spot charter rate for steam turbine LNG carriers reached \$25,200 per day in April 2024, which was a decrease of 7% m-o-m (Figure 99). However, this monthly average charter rate was 1% higher than one year ago, while being \$4,000 below the five-year average price for the month. There were rate decreases also observed in the other segments of the global LNG carrier fleet during this month. The average spot charter rate for TDFE vessels declined by 11% m-o-m to reach \$36,300 per day, while the average spot charter rate for two-stroke vessels decreased by 16% m-o-m to reach \$47,900 per day.

April 2024 was characterised by long periods of inactivity in the daily charter rate for steam turbine vessels during the month. In general, the shipping market has been experiencing several months of high vessel availability, and thus low demand, in both main basins. There had been a slowly growing arbitrage for intra-basin deliveries in recent months, but this eroded quickly, as markets in both Europe and Asia remain satisfied.

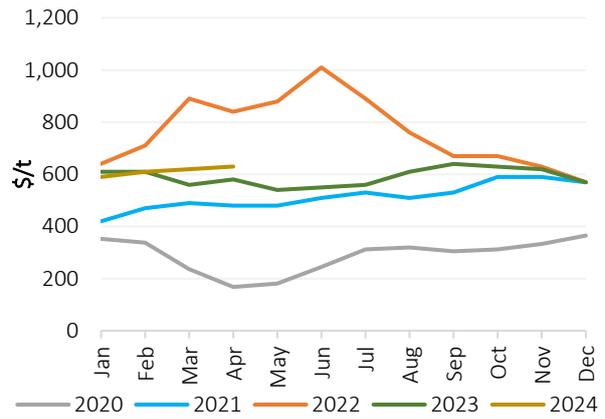
The average price of the shipping fuels reached \$630 per tonne in April 2024, which was 2% higher m-o-m, and 9% higher y-o-y (Figure 100).

Figure 99: Average LNG spot charter rate



Source: GECF Secretariat based on data from Argus

Figure 100: Average price of shipping fuels

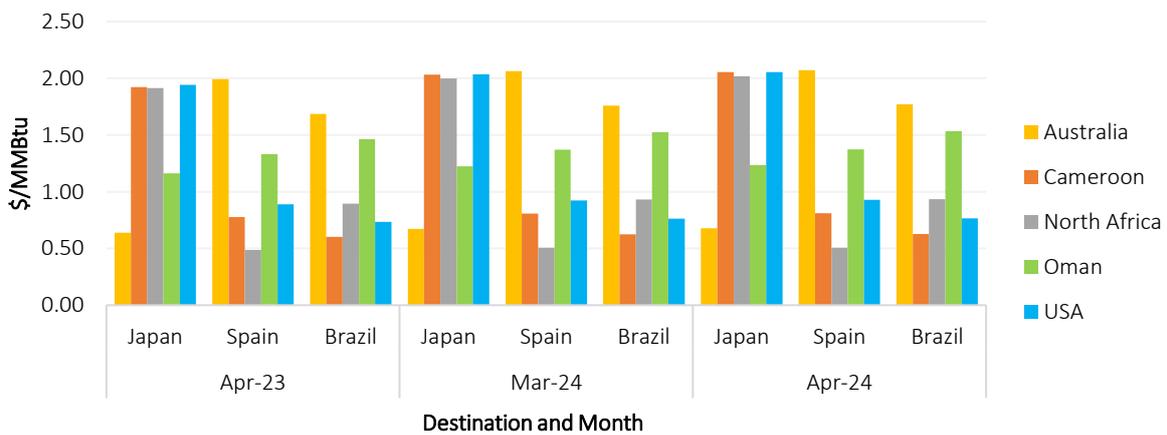


Source: GECF Secretariat based on data from Argus

In April 2024, there was a decrease in the average LNG carrier spot charter rate relative to the previous month, coupled with small increases in the delivered spot LNG prices and the cost of LNG shipping fuels. Consequently, the net effect was that LNG spot shipping costs for steam turbine carriers were unchanged for many of the routes relative to the previous month, increasing by up to just \$0.03/MMBtu on certain routes (Figure 101).

When April 2024 is compared with one year ago, the monthly average spot charter rate and the cost of shipping fuels were both higher, while the delivered spot LNG prices were lower, resulting in LNG shipping costs of up to \$0.13/MMBtu higher than April 2023.

Figure 101: LNG spot shipping costs for steam turbine carriers



Source: GECF Shipping Cost Model

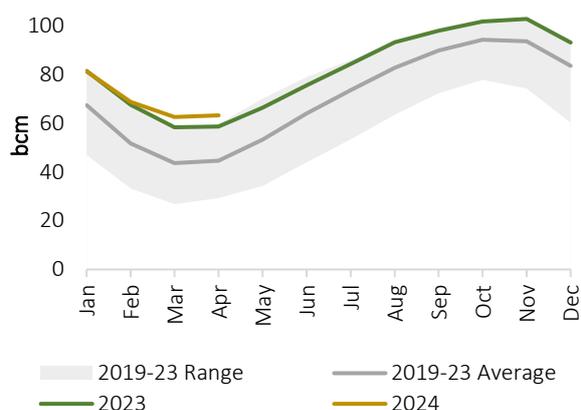
More speculation about Qatar’s LNG expansion: South Korean shipyard Hanwha Ocean has signed a memorandum of agreement (MoA) with a shipping company client from the Middle East, which is widely speculated by market insiders to be QatarEnergy. Under the MoA, Hanwha Ocean will construct twelve “very large” LNG carriers. QatarEnergy has recently been ramping up its efforts to expand its LNG carrier fleet, to accommodate expansions of LNG output in Qatar, offtake rights in Golden Pass in the US, and to replace some of the ageing steam turbine vessels. In recent months, QatarEnergy has been linked to deals with Hyundai Heavy Industries to build 17 carriers, as well as with Samsung Heavy Industries to build 15 carriers.

5 Gas Storage

5.1 Europe

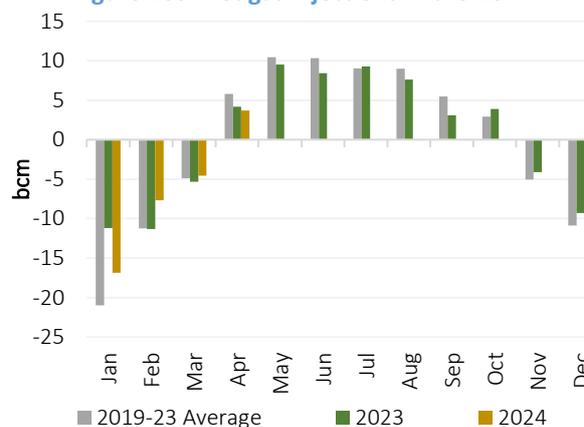
Having concluded the winter season, the average daily volume of gas in underground storage in the EU increased slightly to 63.2 bcm in April 2024, up from 62.5 bcm one month prior (Figure 102). The average capacity utilisation of UGS sites in the region rose marginally, to 61%. Moreover, this average quantity of gas in storage was the highest on record for the month of April. In this regard, there was 4.7 bcm more gas in storage than the average level recorded in April 2023. With the already elevated levels of gas in storage, the delta between the gas storage level in April 2024 and the five-year average for the month reached 18.7 bcm.

Figure 102: Monthly average UGS level in the EU



Source: GECF Secretariat based on data from AGSI+

Figure 103: Net gas injections in the EU

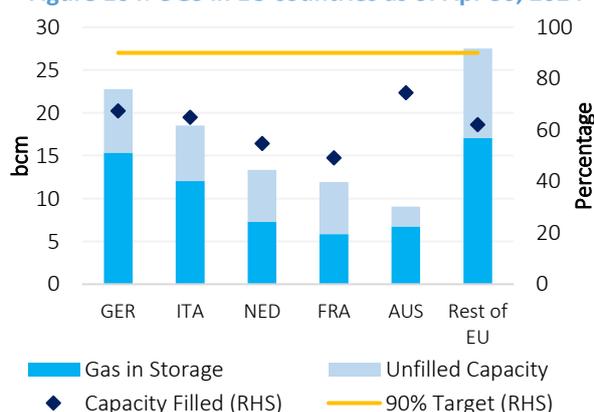


Source: GECF Secretariat based on data from AGSI+

In this shoulder month before the onset of the traditional net gas restocking season in Europe, there was 5.8 bcm of gas injections into the UGS sites, along with 2.6 bcm taken out of storage during the month (Figure 103). At the end of April 2024, 2.7 bcm of gas has been stored since the end of winter. EU countries are obliged to fill UGS sites to a minimum of 90% by 1 November 2024, with checkpoints set at different points of the year. By the end of April 2024, the EU currently stands at around 37 bcm ahead of this filling trajectory.

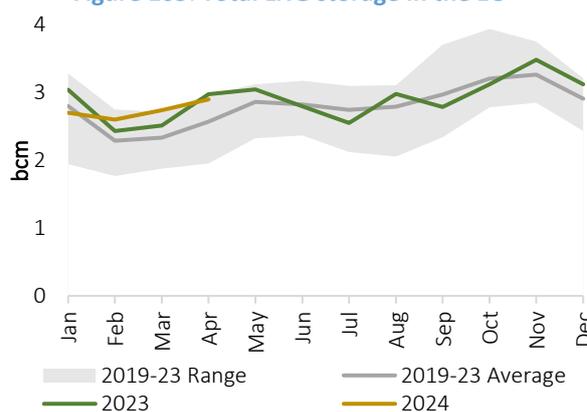
In the top EU countries for UGS capacity, Austria's UGS sites were three-quarters filled by the end of April 2024, while Germany and Italy already averaged above 65% (Figure 104). In April 2024, the combined amount of LNG stored in the EU countries was 2.9 bcm (Figure 105). This quantity was a 6% increase m-o-m, and 13% greater than the five-year historical average for the month.

Figure 104: UGS in EU countries as of Apr 30, 2024



Source: GECF Secretariat based on data from AGSI+

Figure 105: Total LNG storage in the EU



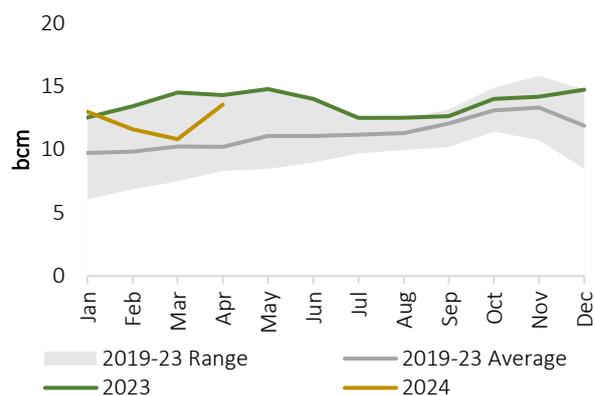
Source: GECF Secretariat based on data from ALSI

5.2 Asia

Japan and South Korea possess a combined capacity of 17 bcm of LNG storage. Following three months of decline, the combined volume of LNG in storage in both countries reversed the trend to reach an estimated 13.6 bcm in April 2024 (Figure 106).

Amidst an increase in LNG imports, this volume was 5% lower y-o-y, but 3.3 bcm higher than the five-year average for the month. Storage in Japan and South Korea accounted for 7.3 bcm and 6.3 bcm, respectively.

Figure 106: LNG in storage in Japan and South Korea



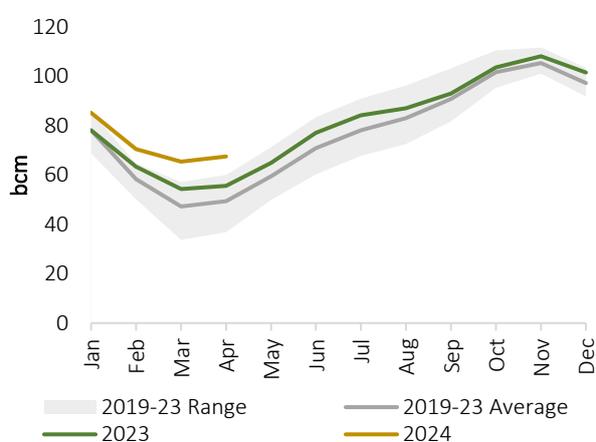
Source: GECF Secretariat based on data from Refinitiv

5.3 North America

The average daily volume of gas in storage in the US pushed forward slightly in April 2024, reaching 67.4 bcm, up from 65.4 bcm in the previous month (Figure 107). The average capacity utilisation of the UGS sites in the country rose to 50%. Similar to the previous month, the storage level was the highest on record for the month of April since 2016.

There was 11.8 bcm more gas in storage than one year ago, and 18.1 bcm more than the five-year average. The total gas stored during the 2024 restocking season in the US thus far has reached 6.4 bcm.

Figure 107: Monthly average UGS level in the US



Source: GECF Secretariat based on data from US EIA

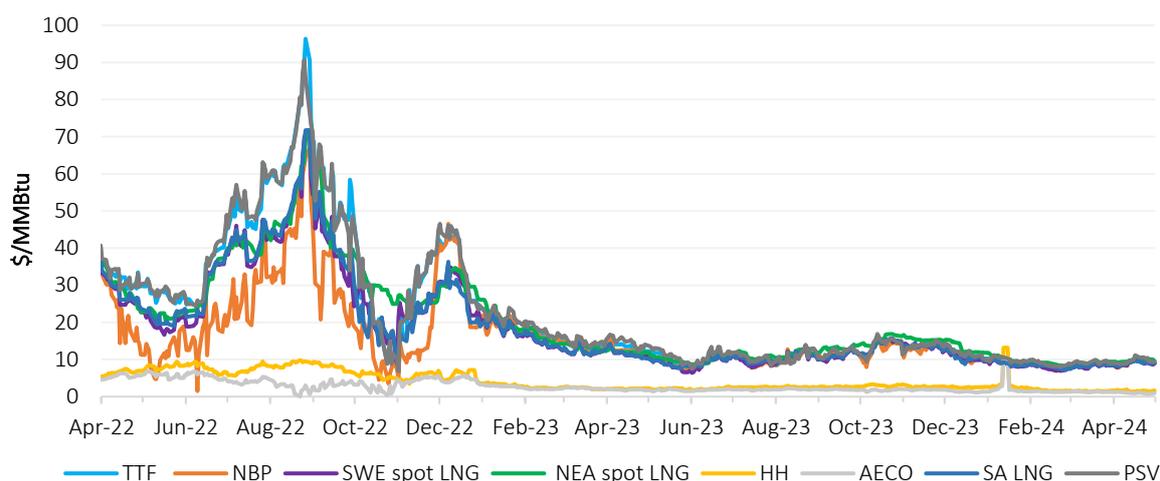
6 Energy Prices

6.1 Gas prices

6.1.1 Gas & LNG spot prices

In April 2024, gas and LNG spot prices in Europe and Asia experienced a m-o-m increase, but with volatility remaining relatively low (Figure 108 and Figure 109). This rise in spot prices was primarily attributed to colder weather in the second half of April, and a tightened supply balance in Northwest Europe due to Norwegian maintenance activities. Meanwhile, in Asia, increased buying interest from price-sensitive importing countries and additional demand from Japanese buyers to replenish inventories supported prices. While overall gas market fundamentals remain relatively balanced, any further escalation of geopolitical tensions, or extreme weather conditions could introduce volatility into spot prices.

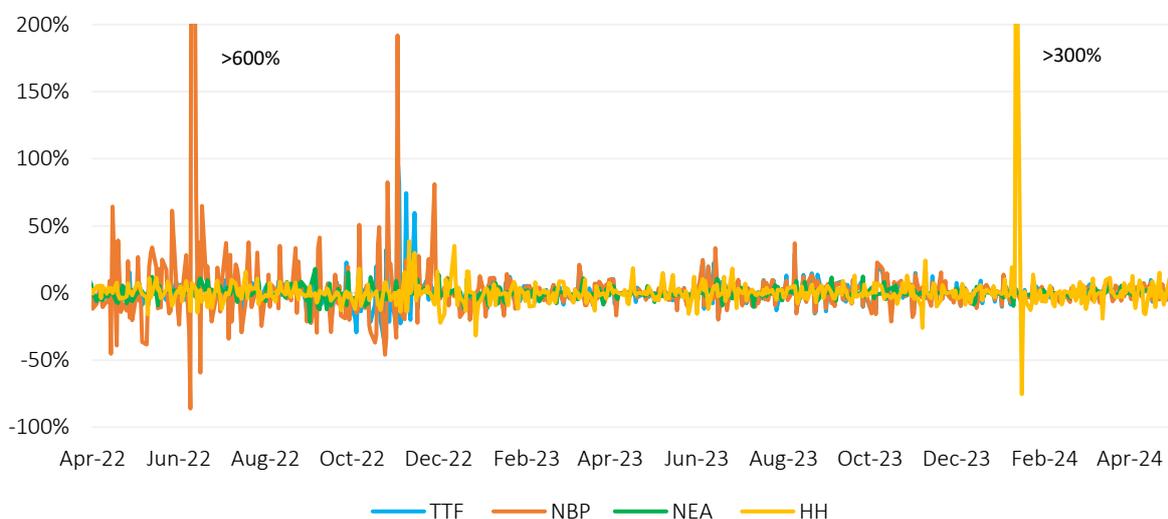
Figure 108: Daily gas & LNG spot prices



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

Note: SA LNG price is an average of the LNG delivered prices for Argentina, Brazil and Chile based on Argus assessment.

Figure 109: Daily variation of spot prices



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

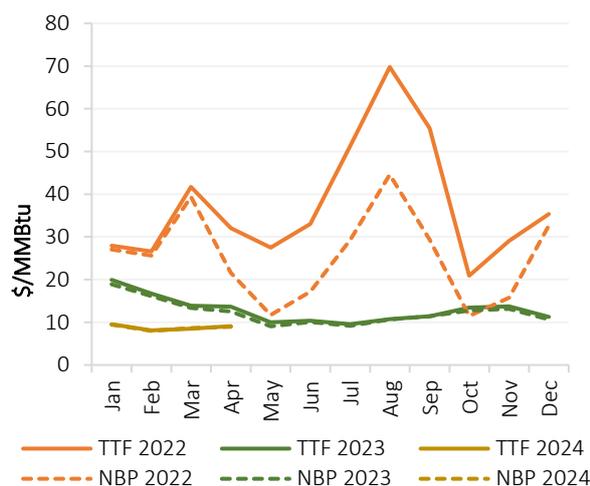
6.1.1.1 European spot gas and LNG prices

In April 2024, TTF spot gas prices averaged \$9.13/MMBtu, reflecting a 7% increase m-o-m, but remained 33% lower y-o-y. In addition, NBP spot prices averaged \$8.96/MMBtu, reflecting a 3% increase m-o-m and a 29% decrease y-o-y (Figure 110). The SWE spot LNG prices averaged \$8.89/MMBtu in April 2024 (9% increase m-o-m and 23% decrease y-o-y). In addition, the PSV spot price averaged \$9.76/MMBtu in March 2024 (5% increase m-o-m and 34% decrease y-o-y).

European gas and LNG spot prices experienced an increase for the second consecutive month, driven primarily by escalating geopolitical tensions, colder weather in the second half of April, and a tightened supply balance in Northwest Europe. This tightening was due to planned Norwegian maintenance activities and an unplanned outage at the Nyhamna gas processing plant. Daily TTF spot prices rose to a four-month high of \$10.61/MMBtu during this period.

For the period January to April 2024, TTF and NBP averaged \$8.82/MMBtu and \$8.77/MMBtu, respectively, representing substantial declines of 45% and 42% y-o-y, respectively.

Figure 110: Monthly European spot gas prices



Source: GECF Secretariat based on data from Refinitiv Eikon

6.1.1.2 Asian spot LNG prices

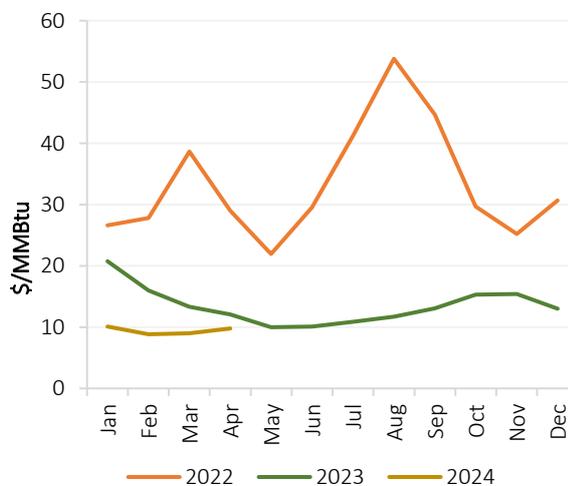
In April 2024, the average North East Asia (NEA) spot LNG price experienced an increase of 9% m-o-m, reaching an average of \$9.78/MMBtu. This represents a 19% decline y-o-y (Figure 111).

Asian LNG prices rose for the third consecutive month, despite bearish pressures from warmer-than-usual temperatures and healthy inventory levels. The uptick was primarily driven by increased buying interest from price-sensitive Asian importers and additional demand from Japanese buyers to replenish stocks following a sharp inventory drawdown in March 2024.

Daily NEA spot LNG prices rose to a four-month high at \$10.36/MMBtu during the month.

For the period January to April 2024, the average NEA spot LNG price stood at \$9.43/MMBtu, representing a 39% y-o-y decrease.

Figure 111: 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

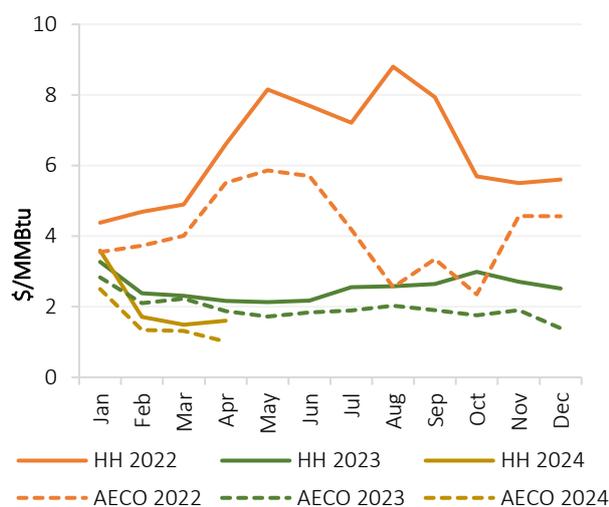
In April 2024, the HH spot gas price averaged \$1.60/MMBtu, reflecting an increase of 7% m-o-m. Additionally, it was 26% lower than the average price of \$2.16/MMBtu observed in April 2023. (Figure 112).

Henry Hub prices declined for the third consecutive month. Spot prices in North America continued to be influenced by high storage levels, and lower LNG exports. Furthermore, daily HH spot prices remained at multi-year lows, reaching \$1.36/MMBtu.

Similarly, in Canada, the AECO spot price averaged \$1.01/MMBtu in April 2024, reflecting a decrease of 23% m-o-m and 46% y-o-y. Subdued demand and reduced pipeline gas exports to the US weighed on prices in this market.

For the period January to April 2024, the HH spot price averaged \$2.10/MMBtu, representing a decline of 17% y-o-y. Meanwhile, the AECO spot price averaged \$1.54/MMBtu, marking a 32% y-o-y decrease.

Figure 112: Monthly North American spot gas prices



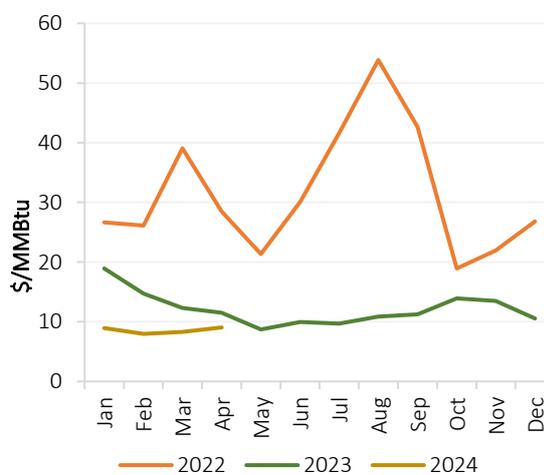
Source: GECF Secretariat based on data from Argus and Refinitiv Eikon

6.1.1.4 South American spot LNG prices

In April 2024, the South American (SA) LNG price experienced a 9% m-o-m increase, averaging \$9.05/MMBtu. Additionally, the SA LNG price was 21% lower compared to the average price of \$11.51/MMBtu observed in April 2023 (Figure 113).

LNG spot prices in South America continued to align with the trends observed in European and Asian spot prices. The average delivered prices for LNG in Argentina, Brazil and Chile averaged \$9.06/MMBtu, \$8.87/MMBtu and \$9.20/MMBtu, respectively.

Figure 113: Monthly South American spot LNG prices



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

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

In April 2024, the average Oil-indexed I LNG price was \$12.73/MMBtu, reflecting declines of 1% m-o-m and 3% y-o-y. Similarly, the Oil-indexed II LNG price averaged \$10.03/MMBtu, reflecting a 4% increase m-o-m and a 3% increase y-o-y (Figure 114). Furthermore, Oil-indexed I prices traded an average premium of \$3/MMBtu over NEA spot LNG prices. Additionally, Oil-indexed II prices held a slight premium of less than \$1/MMBtu over the NEA spot LNG prices.

In Europe, the Oil-indexed III price averaged \$8.36/MMBtu in April 2024, being relatively stable m-o-m, but remained 7% lower y-o-y (Figure 115). Moreover, the average Oil-indexed III price held a slight premium of \$1/MMBtu over the average SWE LNG price.

From January to April 2024, the Oil-indexed I LNG price exhibited a 5% decrease y-o-y, while the Oil-indexed II LNG price showed a 1% decrease y-o-y. Additionally, the Oil-indexed III LNG price for the same period was 9% lower y-o-y.

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

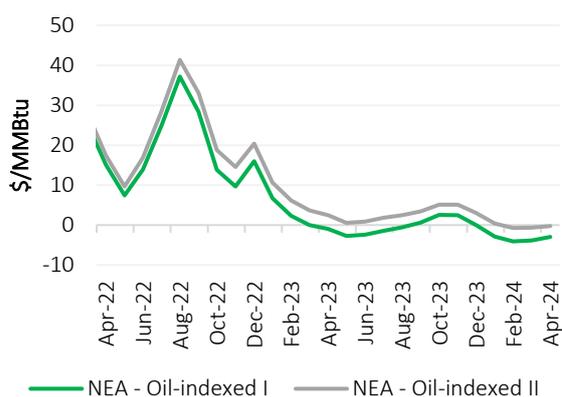
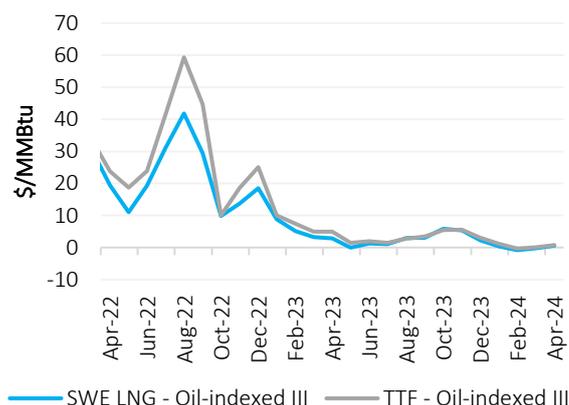


Figure 115: Europe: Spot and oil-indexed price spread



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

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

6.1.3 Regional spot gas & LNG price spreads

In April 2024, the NEA-TTF price spread remained positive, and increased slightly compared to the previous month. The average premium of NEA LNG spot price over the average TTF spot price was \$0.65/MMBtu. Asian LNG prices experienced a sharper increase during the month compared to TTF gas prices. (Figure 116).

NBP traded at a discount of \$0.17/MMBtu compared to TTF, reversing the trend observed in the previous month (Figure 117). The negative NBP-TTF spread reflected softer UK market fundamentals, and a reversal of gas flows from the UK to the Netherlands via the BBL pipeline.

Furthermore, the NWE LNG-TTF spread remained negative, with the NWE LNG spot price trading at a discount of \$0.24/MMBtu compared to TTF, indicating high LNG sendout in the region (Figure 118). The NWE LNG-SA LNG price spread was negative, averaging \$0.16/MMBtu (Figure 119). Meanwhile, the NEA-HH and TTF-HH spreads both widened to \$8.18/MMBtu and \$7.53/MMBtu, respectively (Figure 120 and Figure 121). The premium of the Asian and European spot prices over North American spot prices increased during the month.

Figure 116: NEA-TTF price spread

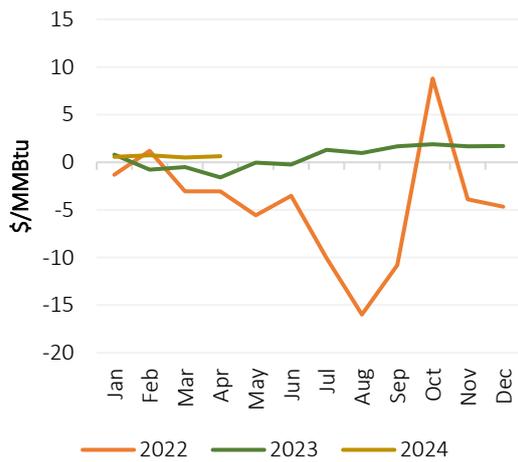


Figure 117: NBP-TTF price spread

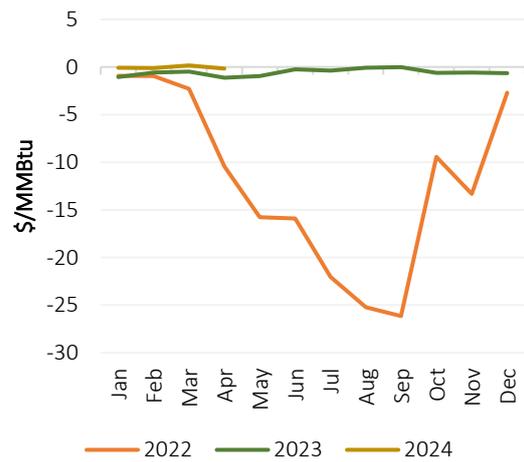


Figure 118: NWE LNG-TTF price spread

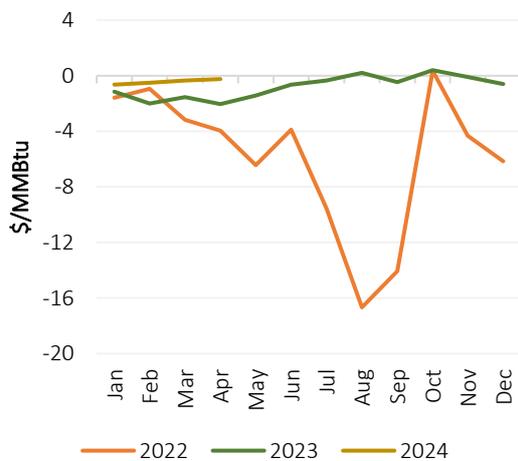


Figure 119: NWE LNG – SA LNG price spread

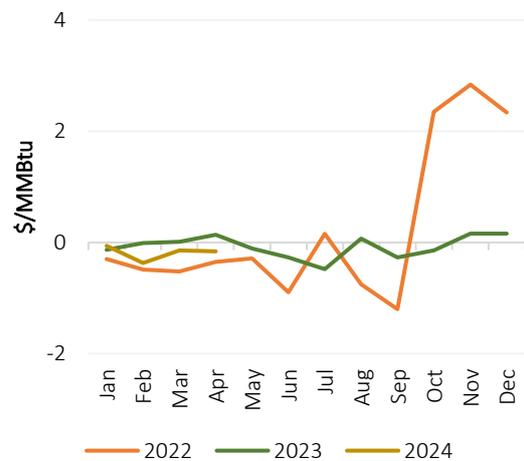


Figure 120: NEA-HH price spread

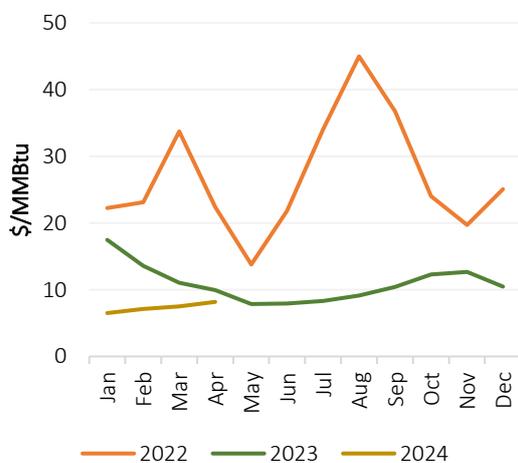
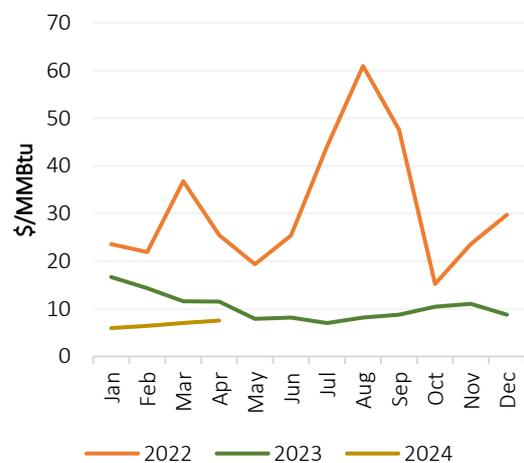


Figure 121: TTF-HH price spread



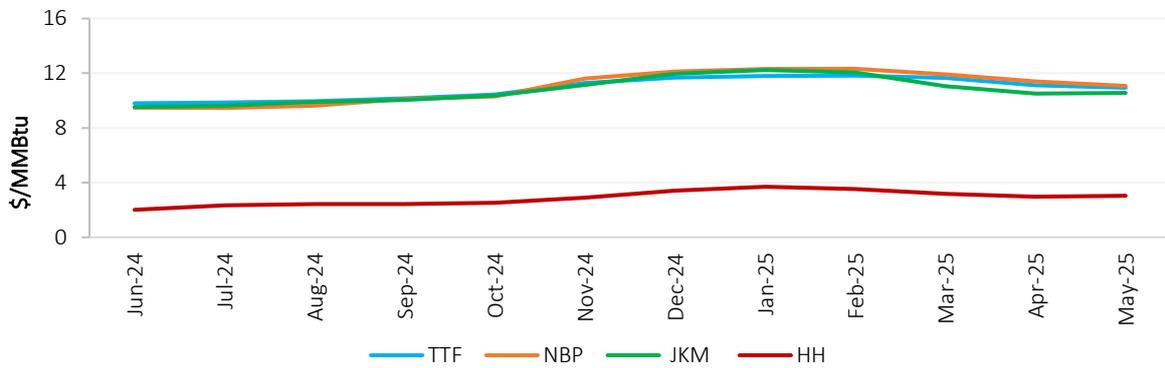
Source: GECF Secretariat based on data from Argus and Refinitiv Eikon

6.1.4 Gas & LNG futures prices

For the six-month period spanning June to November 2024, the JKM-TTF futures price spread is expected to be slightly negative, reflecting the potential for Asian LNG prices to lose its premium over European spot prices. Over this period, JKM is expected to trade at a marginal average discount of \$0.1/MMBtu compared to TTF. Additionally, the NBP-TTF spread is expected to be slightly negative in the same six-month period, with TTF expected to maintain a small average premium of less than \$0.1/MMBtu over NBP spot prices (Figure 122).

Moreover, gas and LNG futures prices for TTF, NBP and JKM for the six-month period from June to November 2024, (as of May 8, 2024) are higher than the futures prices expectations considered on April 2, 2024 (as reported in the GECF MGMR April 2024). Furthermore, as of May 8, 2024, the average futures prices for TTF, NBP and JKM during the same six-month period are \$10.24/MMBtu, \$10.10/MMBtu and \$10.10/MMBtu, respectively. Additionally, the average Henry Hub futures price is \$2.44/MMBtu, which is slightly higher than previous expectations (Figure 123).

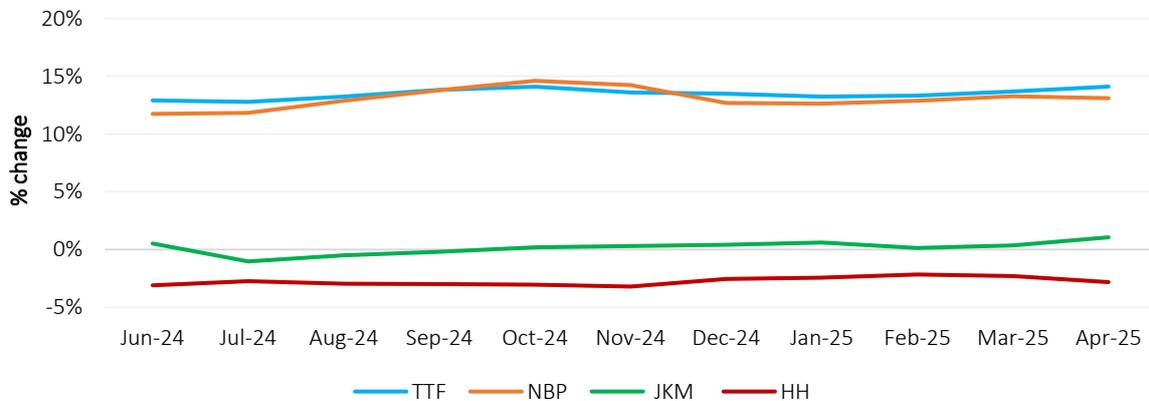
Figure 122: Gas & LNG futures prices



Source: GECF Secretariat based on data from Refinitiv Eikon

Note: Futures prices as of May 8, 2024.

Figure 123: Variation in gas & LNG futures prices



Source: GECF Secretariat based on data from Refinitiv Eikon

Note: Comparison with the futures prices as of April 2, 2024, as reported in GECF MGMR April 2024.

6.2 Cross commodity prices

6.2.1 Oil prices

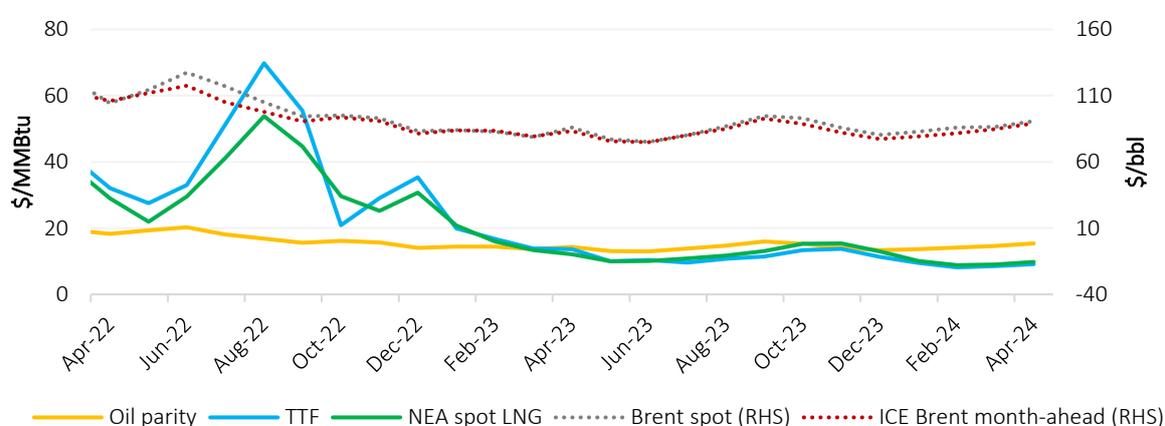
In April 2024, the average Brent spot price was \$90.78/bbl, reflecting increases of 5% m-o-m and 6% y-o-y (Figure 124). The Brent month-ahead price averaged \$89.00/bbl, marking a 5% increase m-o-m and a 7% increase y-o-y.

Oil prices continued to rise for the fourth consecutive month, with daily prices hovering above the \$90/bbl mark. This bullish trend was driven by escalating geopolitical tensions in the Middle East, tighter oil market fundamentals, particularly regarding supply concerns. Moreover, daily Brent spot prices reached a six-month high above \$94/bbl in mid-April.

Furthermore, in April 2024, TTF spot prices traded at a discount to the oil parity price of \$6/MMBtu, compared to the previous month. Similarly, NEA LNG spot prices maintained a discount of \$6/MMBtu to the oil parity price.

From January to April 2024, the average Brent spot price was \$86.45/bbl, representing a 6% increase y-o-y. Similarly, the average Brent month-ahead price was \$83.64/bbl, representing a 2% increase y-o-y.

Figure 124: Monthly crude oil prices



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

Note: Conversion factor of 5.8 was used to calculate the oil parity price in \$/MMBtu based on the ICE Brent month-ahead price.

6.2.2 Coal prices

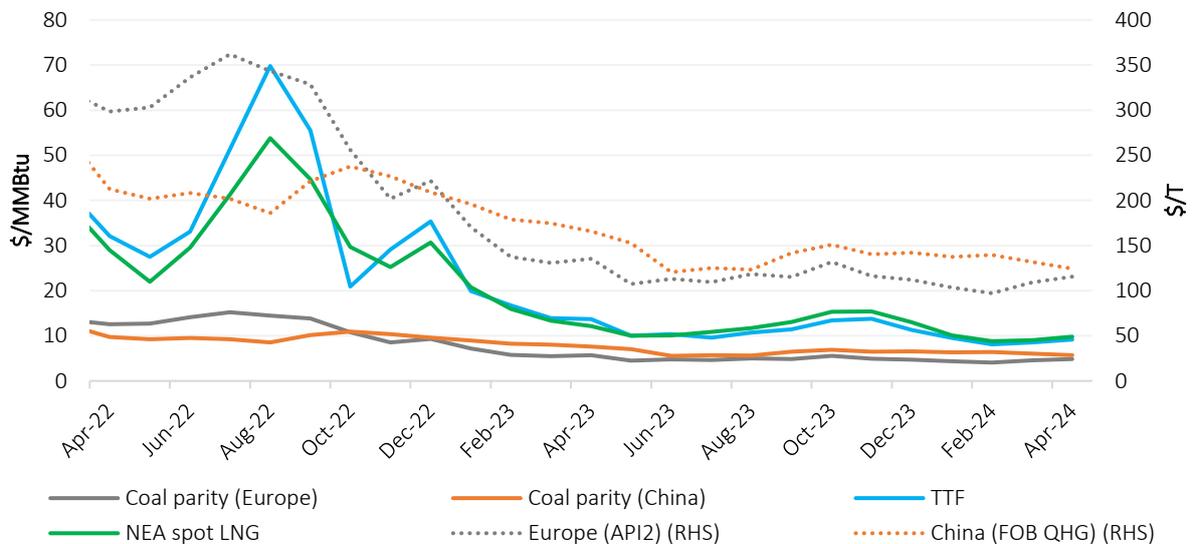
In April 2024, the European coal price (API2) averaged \$115.68/T, increasing by 6% m-o-m, but was 14% lower y-o-y. Meanwhile, in China, the QHG coal price averaged \$124.37/T, reflecting a 6% decline m-o-m and a 25% decrease y-o-y (Figure 125).

European coal prices rose to a five-month high, primarily driven by escalating geopolitical tensions in the Middle East and an uptick in European gas prices. Additionally, a reduction in US coal exports, following the Baltimore Bridge collapse, also supported the increase in API2 prices. Meanwhile, Chinese coal prices dropped to a nine-month low due to subdued demand and high inventory levels.

The premium of TTF spot price over the API2 parity price remained at approximately \$4/MMBtu in April 2024. Additionally, the premium of NEA spot LNG price over the QHG parity price increased by 37% m-o-m to \$4/MMBtu.

From January to April 2024, the European API2 averaged \$106.32/T, representing a 26% decrease y-o-y. Meanwhile, the Chinese QHG price averaged \$133.29/T, which was 25% lower y-o-y.

Figure 125: Monthly coal parity prices



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

Note: Conversion factors of 23.79 and 21.81 were used to calculate the coal prices in \$/MMBtu for Europe (API2) and China (QHG) respectively.

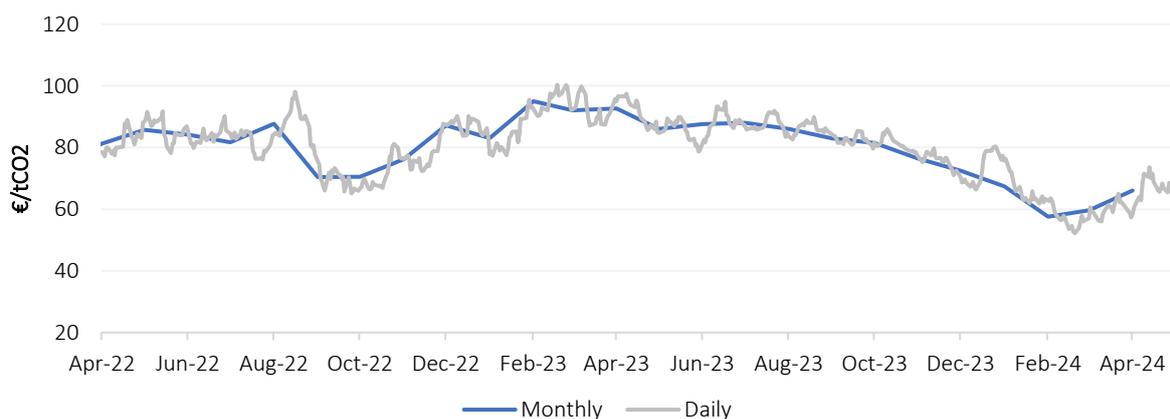
6.2.3 Carbon prices

In April 2024, EU carbon prices averaged €66.07/tCO₂, reflecting an 11% increase m-o-m, and a 29% decline y-o-y (Figure 126).

EU carbon prices experienced an uptick for the second consecutive month, with daily prices reaching a high of €74/tCO₂. Moreover, EU carbon prices has continued to track movements in TTF spot prices.

For the period January to April 2024, EU carbon prices averaged €62.68/tCO₂, representing a decline of 31% y-o-y.

Figure 126: EU carbon prices

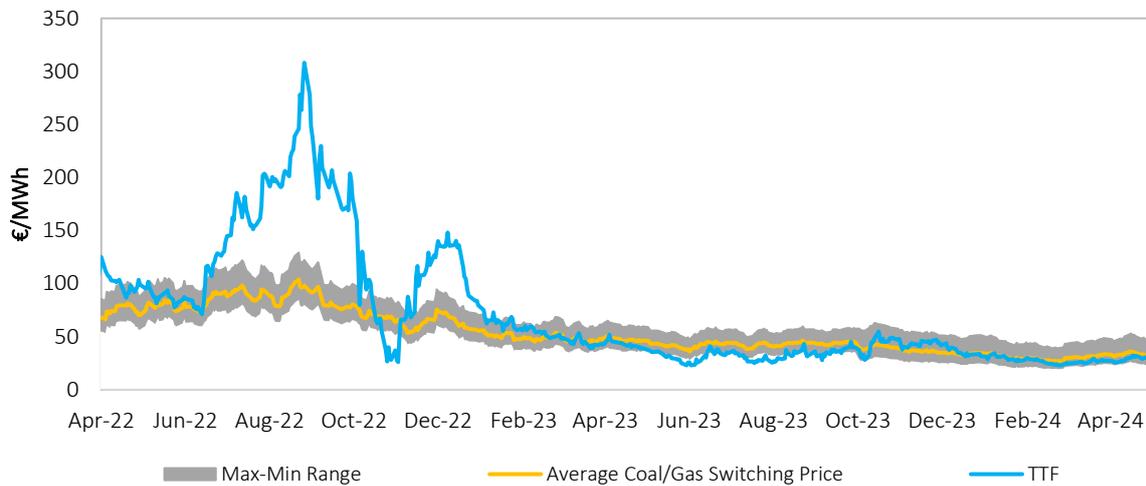


Source: GECF Secretariat based on data from Refinitiv Eikon

6.2.4 Fuel switching

In April 2024, daily TTF spot prices stayed within the range that is favourable for coal-to-gas switching. The average coal-to-gas switching price experienced an increase of 7% m-o-m to reach €33.42/MWh. The TTF spot prices also increased slightly during the month. However, the monthly spread between the TTF spot price and the coal-to-gas switching price was relatively stable compared to the previous month, averaging -€5/MWh (Figure 127). Looking ahead to June 2024, the TTF spot price is likely to remain below the average coal-to-gas switching price, potentially incentivising coal-to-gas switching in Europe.

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



Source: GECF Secretariat based on data from Refinitiv Eikon

Note: Coal-to-gas switching price is the price of gas at which generating electricity with coal or gas is equal. The estimate takes into consideration coal prices, CO₂ 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%.

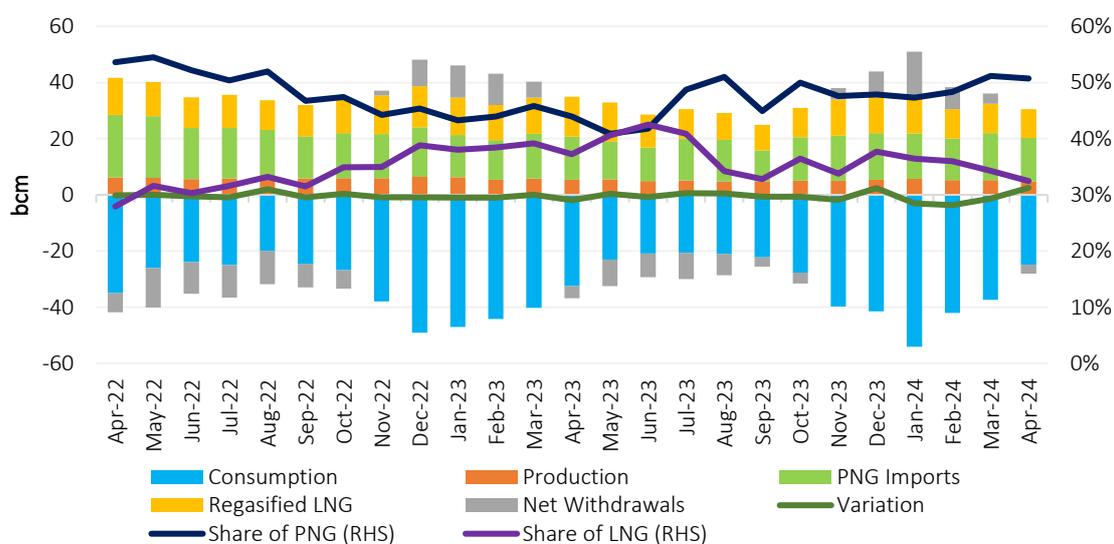
Annexes

Gas Balance

1) EU + UK

In April 2024, the share of regasified LNG in the gas supply for the sub-region of EU and UK increased slightly from 32% in March 2024 to 34%, but is significantly lower than the figure of 41% in April 2023. Meanwhile, the share of pipeline gas imports was stable at 51% in April compared to the previous month but increased significantly from 44% a year earlier (Figure 128). The m-o-m increase in the share of regasified LNG send-out was attributed to the lower decline in LNG send-out compared to the declines in pipeline gas imports and gas production. Conversely, a significant decline in LNG send-out compared to April 2023 led to the drop in the share of regasified LNG while the y-o-y uptick in pipeline gas imports supported its higher share in the sub-region's gas supply.

Figure 128: EU + UK monthly gas balance



Note: Variation refers to losses and statistical differences

Source: GECF Secretariat based on data from AGSI+, JODI Gas and Refinitiv

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

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

| | 2023 | Apr-23 | Apr-24 | YTD 2023 | YTD 2024 | Change* y-o-y | Change** 2024/2023 |
|----------------------|--------|--------|--------|----------|----------|---------------|--------------------|
| (a) Gas Consumption | 380.85 | 32.50 | 24.85 | 164.00 | 158.35 | -24% | -3% |
| (b) Gas Production | 63.46 | 5.40 | 4.77 | 23.00 | 21.09 | -12% | -8% |
| Difference (a) - (b) | 317.39 | 27.10 | 20.08 | 141.00 | 137.26 | -26% | -3% |
| PNG Imports | 174.88 | 15.37 | 15.50 | 60.31 | 63.03 | 1% | 5% |
| Regasified LNG | 143.59 | 14.20 | 10.29 | 52.95 | 43.57 | -28% | -18% |
| Net Withdrawals | -4.86 | -4.34 | -3.20 | 23.89 | 25.14 | -26% | 5% |
| Variation | 3.78 | 1.86 | -2.51 | 3.85 | 5.51 | | |

Source: GECF Secretariat based on data from AGSI+, JODI Gas and Refinitiv

(*): y-o-y change for Apr 2024 compared to Apr 2023

(**): y-o-y change for YTD 2024 compared to YTD 2023

2) OECD

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

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

| | 2023 | Feb-23 | Feb-24 | YTD 2023 | YTD 2024 | Change* y-o-y | Change** 2024/2023 |
|---------------------------|--------|--------|--------|----------|----------|---------------|--------------------|
| (a) OECD Gas Consumption | 1769.4 | 169.7 | 164.9 | 359.8 | 371.8 | -2.9% | 3.3% |
| (b) OECD Gas Production | 1699.8 | 131.4 | 138.6 | 276.8 | 284.7 | 5.5% | 2.8% |
| Difference (a) - (b) | 69.6 | 38.3 | 26.2 | 83.0 | 87.1 | -31.5% | 4.9% |
| OECD LNG Imports | 329.9 | 31.3 | 27.7 | 64.3 | 58.6 | -11.4% | -8.9% |
| LNG Imports from GECF | 140.8 | 13.7 | 11.5 | 28.0 | 24.2 | -15.9% | -13.4% |
| LNG Imports from Non-GECF | 189.1 | 17.6 | 16.2 | 36.4 | 34.4 | -7.9% | -5.4% |
| OECD LNG Exports | 238.4 | 19.0 | 20.4 | 38.6 | 42.1 | 7.8% | 9.0% |
| Intra-OECD LNG Trade | 154.9 | 13.8 | 13.7 | 28.1 | 28.9 | -0.8% | 2.7% |
| OECD Pipeline Gas Imports | 499.2 | 43.1 | 39.8 | 90.9 | 86.0 | -7.8% | -5.4% |
| OECD Pipeline Gas Exports | 480.2 | 40.6 | 38.1 | 86.5 | 79.8 | -6.2% | -7.8% |
| Stock Changes and losses | 40.9 | -23.5 | -17.3 | -52.9 | -64.3 | | |

Source: GECF Secretariat based on data from ICIS LNG Edge and IEA Monthly Gas Statistics

(*): y-o-y change for Feb 2024 compared to Feb 2023

(**): y-o-y change for YTD 2024 compared to YTD 2023

3) India

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

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

| | 2023 | Mar-23 | Mar-24 | YTD 2023 | YTD 2024 | Change* y-o-y | Change** 2024/2023 |
|---------------------------|-------|--------|--------|----------|----------|---------------|--------------------|
| (a) India Gas Consumption | 61.85 | 5.44 | 5.59 | 14.69 | 16.42 | 2.8% | 11.8% |
| (b) India Gas Production | 35.09 | 2.89 | 3.07 | 8.40 | 9.04 | 6.3% | 7.7% |
| Difference (a) - (b) | 26.76 | 2.55 | 2.52 | 6.29 | 7.38 | -1.1% | 17.2% |
| India LNG Imports | 30.27 | 2.51 | 3.07 | 6.23 | 8.82 | 22.4% | 41.6% |
| LNG Imports from GECF | 23.57 | 1.84 | 2.50 | 5.13 | 7.11 | 35.6% | 38.6% |
| LNG Imports from Non-GECF | 6.70 | 0.66 | 0.57 | 1.10 | 1.71 | -14.3% | 55.4% |
| Stock Changes and losses | 3.51 | -0.04 | 0.55 | -0.06 | 1.44 | | |

Source: GECF Secretariat based on data from ICIS LNG Edge and India's PPAC

(*): y-o-y change for Mar 2024 compared to Mar 2023

(**): y-o-y change for YTD 2024 compared to YTD 2023

Abbreviations

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

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

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

References

- Argus. (n.d.). *Argus LNG Daily and Global LNG*.
- Baker Hughes. (n.d.). *Worldwide Rig Counts*. Retrieved from <http://phx.corporateir.net/phoenix.zhtml?c=79687&p=irol-rigcountsintl>
- Balkan Green Energy News. (2023, April 6). *Firms from Energy Community can now use EU's joint gas purchasing platform*. Retrieved from Balkan Green Energy News: <https://balkangreenenergynews.com/firms-from-energy-community-can-now-use-eus-joint-gas-purchasing-platform/>
- Bank of England. (2024). *Official bank rate*. Retrieved from <https://www.bankofengland.co.uk/boeapps/database/Bank-Rate.asp>
- BloombergNEF. (n.d.). Retrieved from <https://www.bnef.com/>
- China's Chongqing Petroleum & Gas Exchange. (n.d.). Retrieved from <https://www.chinacqpgx.com/information/informationBulletinDetails.htm?type=14&id=4559&rownumber=3>
- Enagas Spanish Transport System Operator. (n.d.). Retrieved from <https://www.enagas.es/>
- European Central Bank (ECB). (2024). *Official interest rates*. Retrieved from https://www.ecb.europa.eu/stats/policy_and_exchange_rates/key_ecb_interest_rates/html/index.en.html
- European Commission. (2024). *EU Energy Platform*. Retrieved from European Commission: https://energy.ec.europa.eu/topics/energy-security/eu-energy-platform_en
- GECF Secretariat. (n.d.). GECF Shipping Model.
- GIE AGSI+. (n.d.). *Gas Infrastructure Europe - Aggregated Gas Storage Inventory*.
- GIE ALSI. (n.d.). European LNG Storage.
- GRTgaz French Transport System Operator. (n.d.). Retrieved from <https://www.smart.grtgaz.com/>
- ICIS. (n.d.). *ICIS LNG Daily and Global LNG Market*.
- ICIS. (n.d.). ICIS LNG Edge.
- India's Petroleum Planning & Analysis Cell (PPAC) . (n.d.). Retrieved from <https://www.ppac.gov.in/>
- National Bureau of Statistics of China . (n.d.). Retrieved from <http://data.stats.gov.cn/english/easyquery.htm?cn=A01>
- Organization of Petroleum Exporting Countries (OPEC). (n.d.). *Monthly Oil Market Reports*. Retrieved from https://www.opec.org/opec_web/en/publications/338.htm
- Oxford Economics. (2024). *World Economic Prospects Monthly*.
- Refinitiv. (n.d.). Refinitiv Eikon Database.
- Rystad Energy Ucube. (2024).
- Snam, Italian Transport System Operator . (n.d.). Retrieved from <https://www.snam.it/>
- U.S Energy Information Administration (EIA). (n.d.). Retrieved from <https://www.eia.gov>
- US Federal Reserve. (2024). *Selected interest rates*. Retrieved from <https://www.federalreserve.gov/releases/h15/>
- World Bank. (2024). World Bank Commodity Price Data.

Gas Exporting Countries Forum (GECF)

GECF Headquarters

P.O. Box 23753, Tornado Tower

47th & 48th Floors, West Bay, Doha

www.gecf.org

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