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Quarterly report

On European gas markets

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SUMMARY

EU gas consumption, production and storage in Q2 2023

- **EU gas consumption further declined** and remained **below the five-year consumption range of 2017-2021** in the second quarter of 2023. Total gas consumption was 65 bcm, a **seasonal decrease of 42%** from the previous quarter (113 bcm) mainly due to the start of the summer period in gas trade, and an **8% reduction year-on-year** (from 71 bcm).
- **EU domestic gas production continued to decline.** Total production was 9.5 bcm, **down 16% from the previous quarter** (11.2 bcm), and **17% less than in the same quarter of the previous year** (11.4 bcm). The biggest producer remained The Netherlands with 2.8 bcm production.
- **EU gas storage levels stood at 77%** (871 TWh, 89 bcm) at the end of June, following filling rates of 69% (778 TWh, 80 bcm) at the end of May and 60% (674 TWh, 69 bcm) at the end of April. The average filling rate for the quarter was 65% (732 TWh, 75 bcm), 3% lower than in the previous quarter (67%, 757 TWh, 78 bcm) but 62% higher than in the same period of the previous year (41%, 452 TWh, 46 bcm). **Storage filling rates** at the end of the quarter **were** over 70% in all but three Member States, **at record high levels compared to the previous year, indeed compared to the three previous years.**

EU gas imports in Q2 2023

- **EU gas imports increased by 7.7% quarter-on-quarter but decreased by 17.7% year-on-year**. Total gas imports amounted to 76,4 bcm, compared to 71.3 bcm in the first quarter of 2023 and 90.3 bcm in the same quarter of 2022.
- **EU pipeline imports increased by 4.6% quarter-on-quarter** and **declined by 29% year-on-year** mainly driven by much lower Russian gas supplies. Pipeline **imports from North Africa**, the United Kingdom increased, that from Azerbaijan remained stable. **Imports from Norway decreased modestly** due to maintenance work on several production sites.
- **Total EU LNG import increased by 10%** to 33.2 bcm, compared to the previous quarter and **increased by 13% year-on-year.** The **United States remained the EU's biggest LNG supplier with a 45% share** (17 bcm), followed by Russia (15%, 5.8 bcm) and Qatar (13%, 4.9 bcm).
- The **EU's biggest LNG importer remained France** (7 bcm, 21.1%), followed by Spain (6.1, 18.5%), and The Netherlands (5.8 bcm, 17.6%).
- **The EU was the largest LNG importer in the world in the second quarter of 2023** with **22% share in global LNG imports,** ahead of China (18%) and Japan (14.9%).
- **The share of Russian gas in total EU gas imports declined to 14%.** In the EU's total natural gas imports, **Russia's share has been reduced by** nearly **three fourths** (74%) **since** the second quarter of 2021, i.e. **the pre-war period** (from 41.4 bcm to 10.5 bcm).

EU wholesale gas prices and trade in organised markets in Q2 2023

- **European gas prices continued a declining trend** with some volatility towards the end of the quarter, in June 2023. In the second quarter of 2023, the **quarterly average Title Transfer Facility spot price** was 35.2. €/MWh, representing a **34% decrease from the previous quarter** (53.3 EUR/MWh), and a **64% decline year-on-year (**98.2 EUR/MWh).
- **The difference between the Asian and European gas prices** continued to be negative during April and May meaning that **European prices were higher than Asian prices with a premium amounting to 4.60 EUR/MWh** in April and to 0.32 EUR/MWh in May, as monthly average. In June, the average price differentials became slightly positive (by an average of 4.35 EUR/MWh), meaning that Asian price levels have risen above EU prices.
- The **Dutch Title Transfer Facility (TTF) remained the most important gas hub** in Europe attracting **three fourths** (75%) **of the trading volumes.** The British National Balancing Point (NBP) kept its second place with 8%, followed by the German Trading Hub of Europe (THE) with 5% and Belgium's Zeebrugge Trading Point (ZTP) with 4%. In the second quarter of 2023, total **traded volumes increased by 21% from the previous quarter** and **40% year-on-year**, continuing the growth trend from the previous quarter, which reversed the decline experienced since the second quarter of 2022.

EU retail gas prices in Q2 2023

- **Average monthly gas retail price for household consumers fell** to 11.08 Eurocents/kWh in June from 11.78 Eurocents/kWh in May and 11.47 Eurocents/kWh in April 2023. **The quarterly average retail gas price stood at 11.44** Eurocents/kWh**, 64% higher than in the pre-war period** (Q2 of 2021), but **15% less than in the previous quarter** and **10% less than in the same quarter of the previous year** (Q2 2022).
- The quarterly average price decrease was mainly due to a **decline in the energy component**, **which fell by 21% quarter-on-quarter** and **37% year-on-year**. The **decrease was partially offset by an increase in energy taxes**, which have risen by 19% quarter-on-quarter and 15% year-on-year.
- **Retail prices continued to diverge across Europe**. Amongst the Member States where natural gas is an important part of the energy mix, The Netherlands displayed the highest quarterly average retail gas price (17.15 Eurocents/kWh), while Hungary displayed the lowest (2.71 Eurocents/kWh).

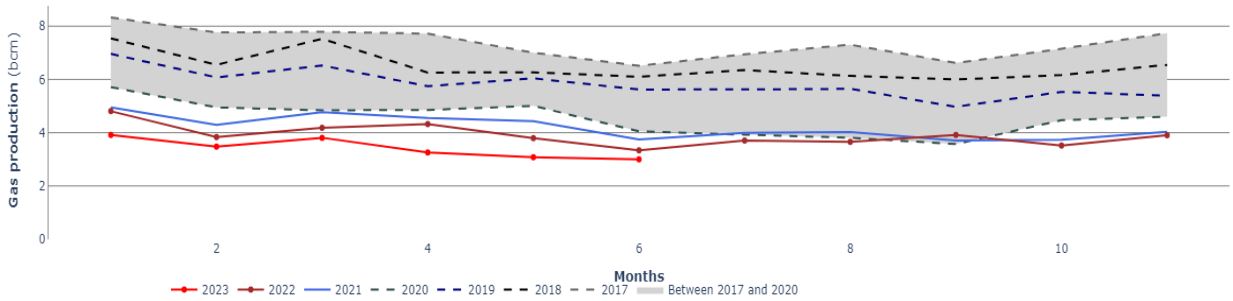
Methodological Note: The rapid changes in gas and electricity markets happening through the energy transition as well as the significant restructuring of the EU's energy supply following the energy crisis, call for reviewing the Quarterly Reports of the European Electricity and Gas Markets so as to make them best fit for purpose. The aim is to ensure a more timely publication, modernise presentation, increase data transparency and an easier access to the data used to produce the reports. All this should increase usability for readers. The process of the review is planned to be carried out gradually attending the feedback we receive on it. As the Commission advances with its review, the quarterly reports will progressively reflect the methodological, technical, and editing changes as well as the comments received from stakeholders.

1. Gas market fundamentals

1.1 Consumption

- EU gas consumption[1] in the second quarter of 2023 continued its declining trend below the five-year range of 2017-2021. Gas consumption fell 8% year-on-year (compared to 71 bcm in Q2 2022) and 42% quarter-on-quarter (compared to 113 bcm in Q1 2023). The EU consumed a total of 65 bcm gas in the second quarter of 2023, 48 bcm less than in the previous quarter and 6 bcm less than a year earlier in the second quarter of 2022.

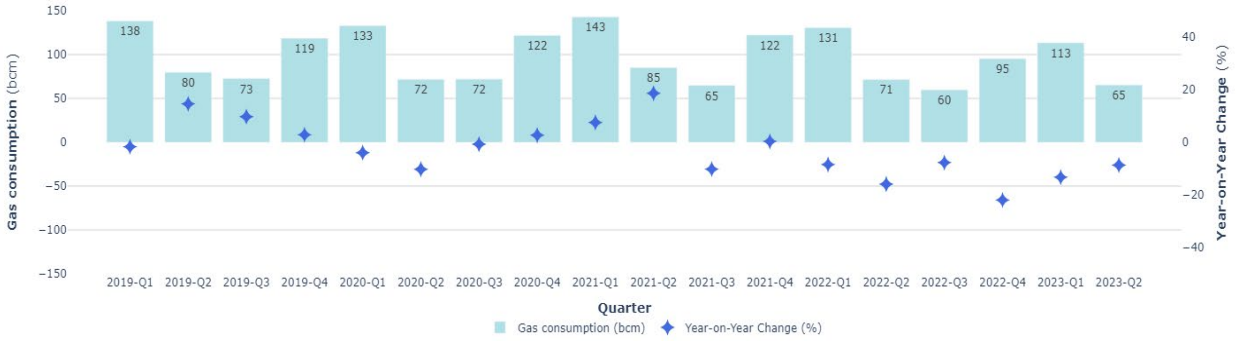
Figure 1- EU gas consumption



Source: Eurostat.

- Figure 2 shows the gas consumption and the year-on-year change in each quarter. Gas consumption declined in sixth consecutive quarters year-on-year and indeed through eight consecutive quarters back to the third quarter of 2021, if the lack of consumption increase in the fourth quarter of 2021 is also considered.
- Figure 3 highlights the quarter-on-quarter variations in the EU's gas consumption. The large drop from the first to the second quarter highlights the seasonality of gas usage as during the April-June period the winter heating season ends, and the summer cooling season starts. In the second quarter of 2023, the EU consumed 42% less natural gas than in the first quarter of 2023. A similar 45% quarter-on-quarter drop was observed in the second quarter of 2022 for similar reason.

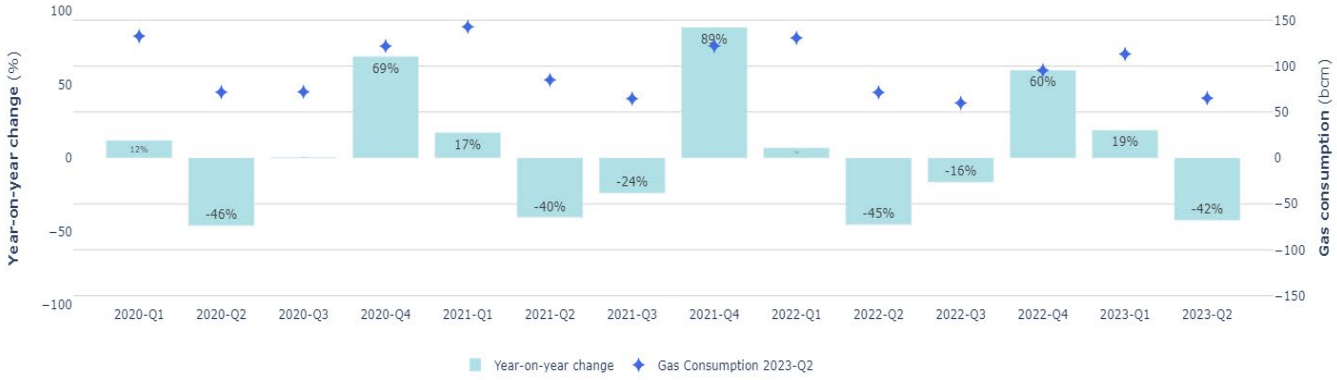
Figure 2 – Gas consumption and year-on-year change per quarter in the EU



Source: Eurostat.

[1] EU aggregates, unless otherwise indicated, refer to EU-27, and in order to ensure comparability over time, values of earlier periods and year-on-year comparison indices also refer to EU aggregates without the United Kingdom. Therefore, in comparison to earlier editions, total EU aggregate numbers might differ in the current report.

Figure 3: Quarter-on-quarter change in EU27 gas consumption in each quarter

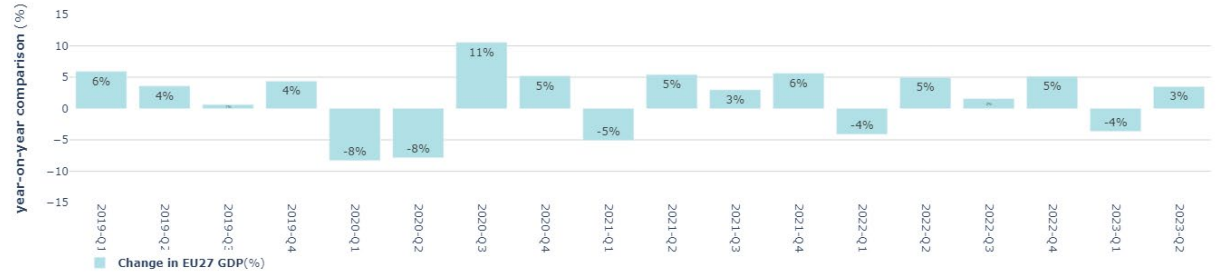


Source: Eurostat.

- In a year-on-year comparison, gas consumption decreased in 20 Member State and increased in 6 Member States. The largest decreases were recorded in Lithuania (-24.4%) and Portugal (-24.1%), followed by Estonia (-22%) and Latvia (-21.8%)[2]. Denmark (-14.3%), France (-14.2%), Bulgaria (-13.7%), Italy (-11.8%), Romania (-11.8%) and Austria (-11,3%) have shown double digit decrease compared to the same quarter in 2022. On the other hand, Malta registered an increase of 16% in gas consumption (after a 16% increase in the previous quarter), and so did Finland, which recorded a 13.4% year-on-year increase (following a 24% drop in the previous quarter). Single digit consumption increases were observed in Croatia (+9%), Sweden (+5%), Slovenia (+3.2%) and Slovakia (+3%) in the second quarter of 2023.
- **Figure 4: Year-on-year change in Member States' gas consumption in the second quarter of 2023**

Source: Eurostat.

Figure 5– Change in EU27 GDP in year-on-year comparison

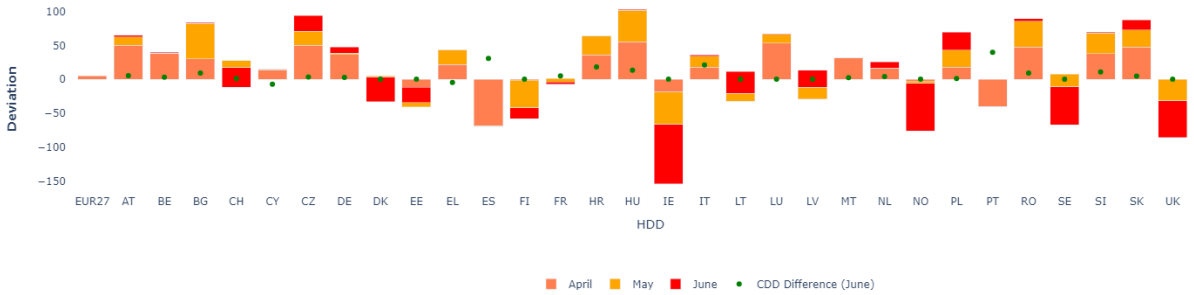


Source: Eurostat.

[2] In the case of Lithuania, the large drop of 24.4% followed an even larger year-on-year drop of 30.6% in the previous quarter. Estonia also had a big year-on-year decrease of 28.4% already in the previous quarter followed by another big drop of 22% in the second quarter of 2023.

- Figure 7 illustrates the monthly deviation of actual Heating Degree Days (HDDs) from the long-term average (a period between 1979 and the last calendar year completed) in Q2 2023. In general, temperature during Q2 – 2023 where higher than usual mainly because of June 2023 which had been the hottest June on record according to NASA's global temperature analysis.
- June had the highest number of deviations from the average levels (warmest June). Overall, among other relevant factors, the mild weather as well as the end of the winter helped keeping the energy price situation from worsening during the second quarter of 2023.

Figure 6 – HDD in the different months of Q2 2023

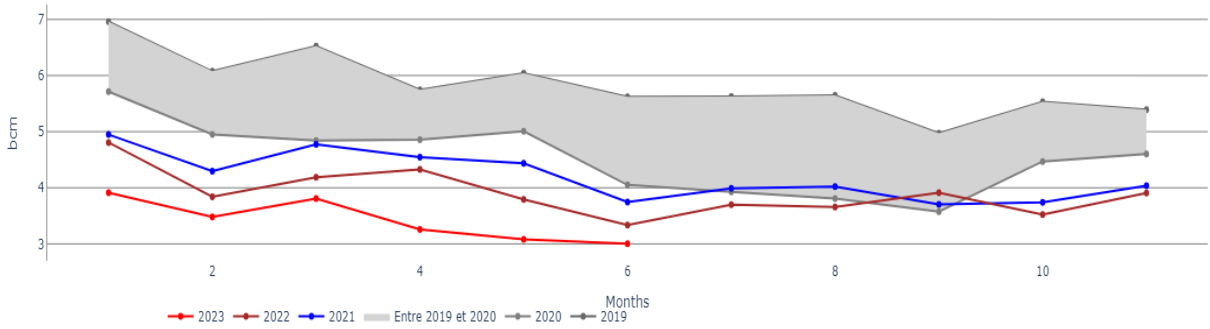


Source: JRC.

1.2 Production

- The EU's domestic gas production continued its downward trend in the second quarter of 2023. Total production was 9.5 bcm, a decrease of 16% compared to the previous quarter (11.2 bcm), and 17% reduction year-on-year (from 11.4 bcm). Average monthly production was 3.2 bcm, 16% decrease compared to the previous quarter (3.7 bcm), and 17% less than in the same quarter of 2022 (when the monthly average was 3.8 bcm). Since 2016, EU gas production more than halved (-55%, from 21 bcm in the second quarter of 2016).

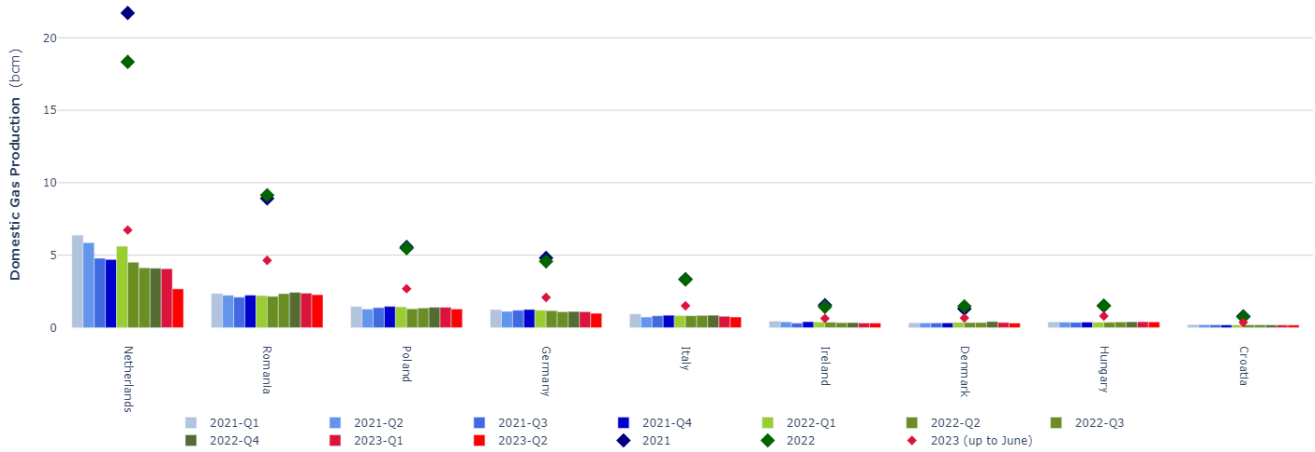
Figure 7 - Monthly domestic gas production in the EU



Source: Eurostat.

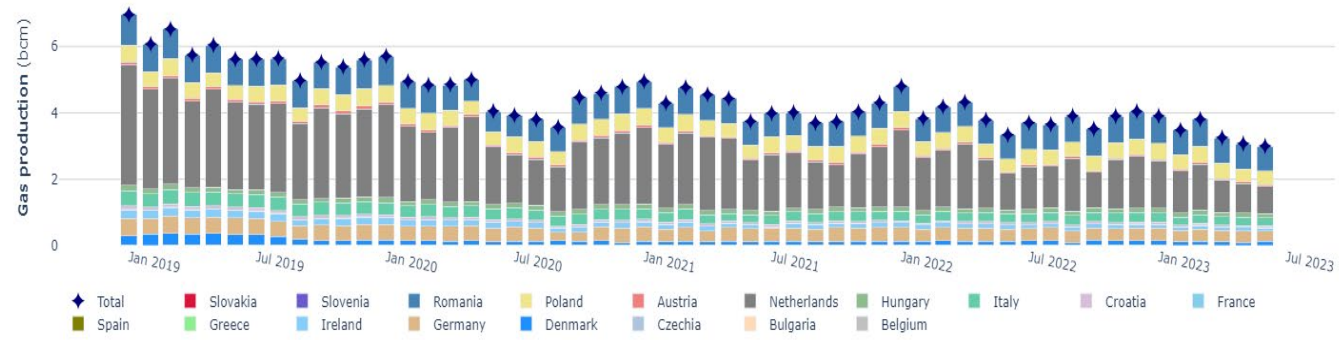
- In the EU, 18 Member States conduct domestic gas production, while nine Member States (Finland, Estonia, Latvia, Lithuania, Luxembourg, Malta, Portugal, Sweden, Cyprus) does not produce gas in their territories.
- The biggest EU gas producer in the second quarter of 2023 remained the Netherlands with a total quarterly production of 2.8 bcm, a decrease of 32% since the last quarter, and a 38% decrease year-on-year compared to a 4.5 bcm production in the second quarter of 2022. Romania kept its second place (2.3 bcm), followed by Poland (1.3 bcm) and Germany (1 bcm). In a year-on-year comparison, production in all producing Member States fell with the exception of Hungary (+8%), Romania (+5%) and France (+1%). Regarding the currently biggest domestic EU gas producer, the Dutch Government on 30 June 2023 announced plans to close Groningen, Europe's largest gas field as of 1 October 2023, which will potentially further half Europe's domestic gas production.

Figure 8: The ten biggest domestic gas producer Member States in the EU



Source: Eurostat.

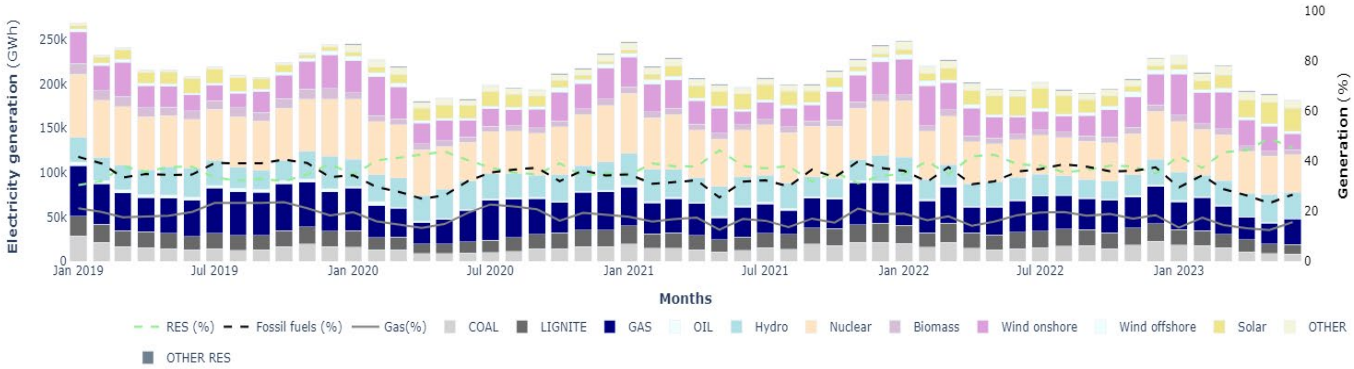
Figure 9: Monthly gas production in the EU



Source: Eurostat.

Electricity generation from natural gas amounted to 77.1 TWh in the second quarter of 2023, a decrease of 23% compared to the previous quarter (100.3 TWh) and a reduction of 19% year-on-year (94.9 TWh)[3]. While gas-fired electricity generation constituted 13.7% of total electricity generation in the quarter, in terms of gas consumption 12% of EU's total gas usage was dedicated to power production. This was a 3 %-point increase (from 9%) in the share of total EU gas used for power generation in the previous quarter and a 2%-point decrease (from 14%) compared to the same quarter in the previous year.

Figure 10: Monthly gas-fired power generation in the EU



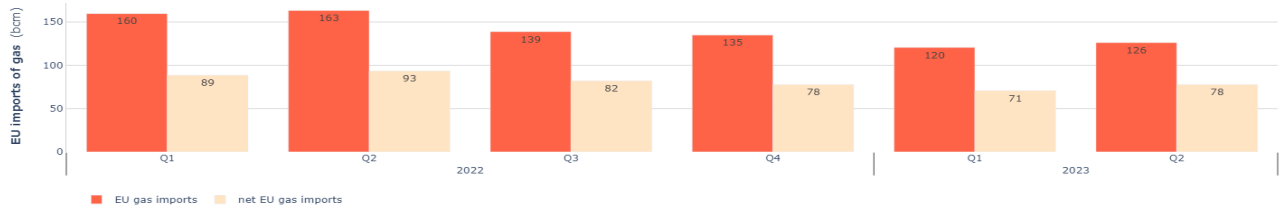
Source: ENTSO-E.

3 Data retrieved from ENTSO-E Transparency Platfrom, which may differ from Eurostat data.

1.3 Imports

According to Eurostat, total gas import in the EU amounted to 126 bcm in the second quarter of 2023, a 5% (+6 bcm) increase from the previous quarter but a 23% (-37 bcm) decrease year-on-year. Net imports[4] amounted to 78 bcm reflecting 48 bcm export. Net import increased 10% (+7 bcm) compared to the previous quarter but declined 17% (-15 bcm) year-on-year. Exceptionally high storage filling ratios during the winter months, mild winter and demand reduction contributed to the historically low import level.

Figure 11: Quarterly EU gas imports



Source: Eurostat.

1.3.1. Total EU imports

- According to ENTSO-G, which tracks all flows in- and out of the EU, total gas imports by EU Member States amounted to 76.5 bcm in the second quarter of 2023 (+5.5 bcm compared to the first quarter of 2023), of which 56% arrived through pipelines and 44% through LNG terminals.
- The share of LNG increased by 2%-point compared to the previous quarter (when it was 42%) and 11%-point year-on-year (when it was 33%, i.e. in Q2 of 2022). The increase in the LNG share was due to an increase in LNG imports from the United States (+2.4bcm, +24%) and Qatar (+0.5bcm, +21%). The volume of pipeline imports also slightly increased (+4.6%, 2,8 bcm) compared to the previous quarter, mainly due to an increase in pipeline imports from North Africa (+1,2bcm, +16%) and the United Kingdom (+1.6bcm, +36%). The imports from Norway fell slightly (-5.1%, -1.9 bcm) due to maintenance works in production fields during the month of June 2023.

Figure 12: EU imports of natural gas by source

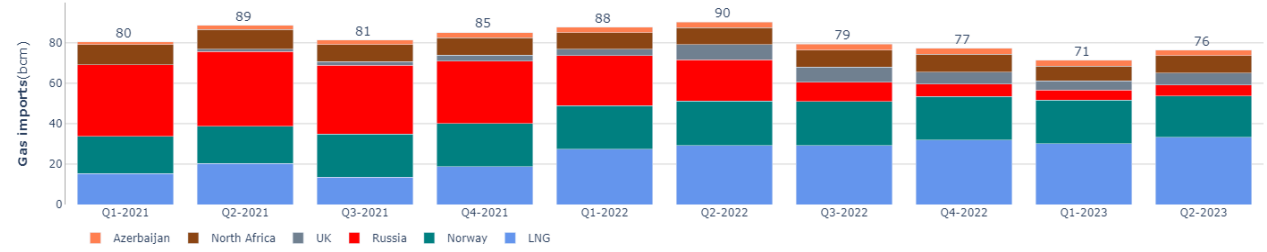
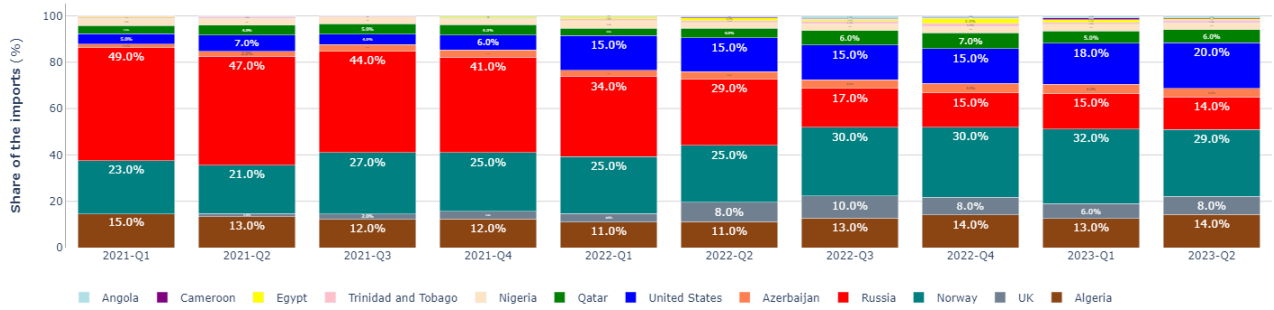


Figure 13 – Quarterly share of gas imports within the total, combining both pipeline and LNG imports

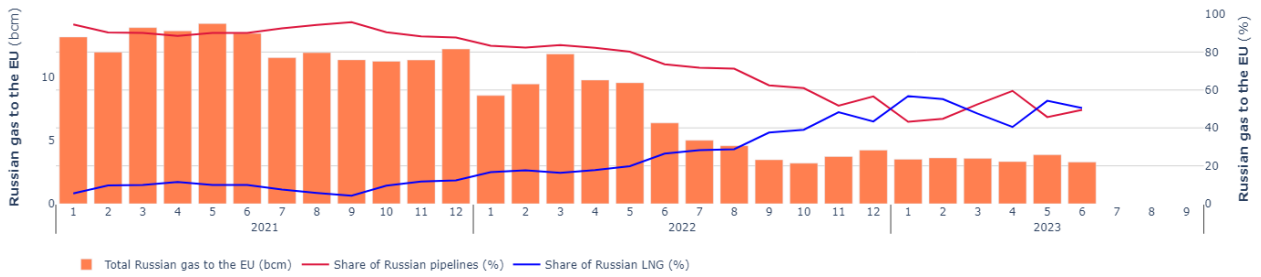


Source: Commission calculation based on ENTSO-G and Refinitiv.

[4] Net imports equal imports minus exports and do not account for stock changes.

- Total Russian gas export to the EU amounted to 10.5 bcm in the second quarter of 2023, a small increase of 2% (+0,2 bcm) compared to the previous quarter and a decrease of 59% (-15.24 bcm) year-on-year. Not only the volume, but also the structure of the Russian export changed significantly. While historically the bulk of Russian gas import to the EU was transported through pipelines, in January, February, April and May of 2023 Russia shipped more gas in LNG tankers than in pipelines.

Figure 14– Monthly pipeline and LNG imports from Russia

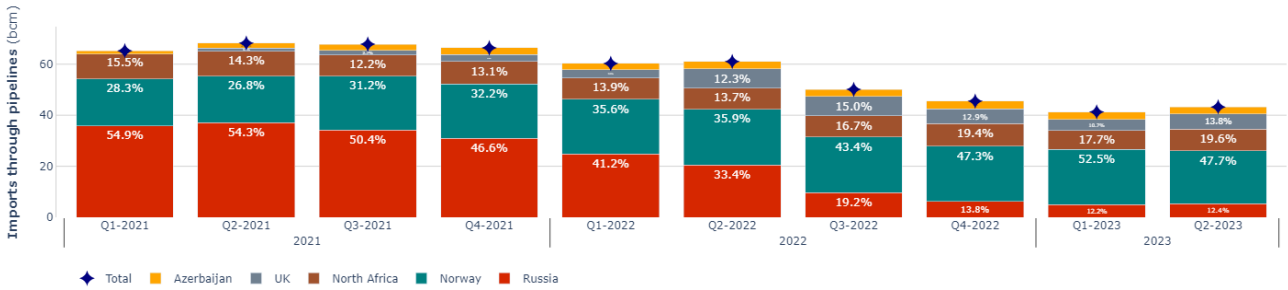


Source: Based on data Refinitiv and from the ENTSO-G Transparency Platform

1.3.2 Pipeline imports

- EU pipelines import was 43.2 bcm in the second quarter of 2023, a slight increase of 4.6% compared to the previous quarter, and a 29% decline year-on-year.
- Norway remained the EU's biggest pipeline gas exporter with a share of 47.7% (20.6 bcm), down from a 52.5% in the previous quarter but up from 35.9% a year earlier. The second largest exporter to the EU became North-Africa with 19.6% export share (8.5 bcm), followed by UK (13.8%, 6 bcm), Russia (12.4%, 5 bcm) and Azerbaijan (6.5%, 2,8 bcm).
- Pipeline export volumes decreased from Norway (-1.9 bcm, -5.1%), while they increased from North Africa (1.2 bcm, +16%) and UK (1.6 bcm, + 36%) and marginally from Russia (0.4 bcm, +8%), while gas exports from Azerbaijan remained stable (2.8 bcm). June 2023 saw the lowest gas pipelines imports ever, signalling a structural change towards a bigger role of LNG, which has in practice become a baseload supply option for the EU as opposed to its traditional role of balancing supply in meeting EU import needs.

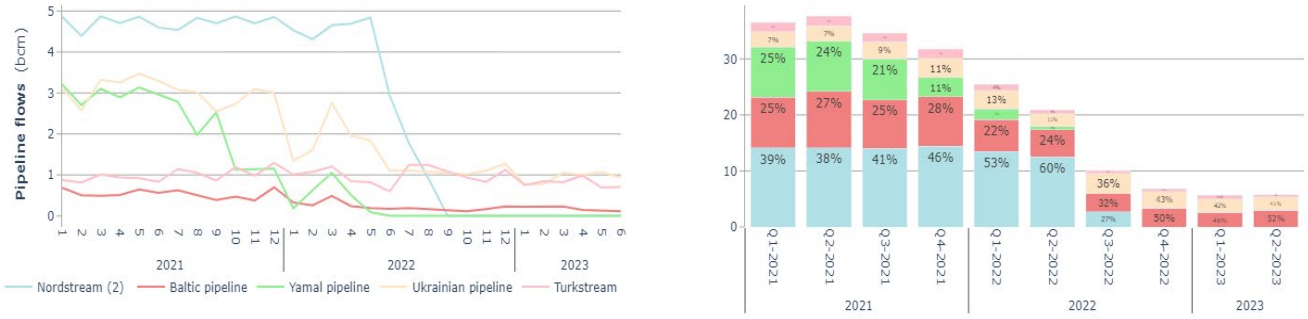
Figure 15 – Quarterly EU imports of natural gas from pipelines



Source: Based on data from the ENTSO-G Transparency Platform.

- In the second quarter of 2023, most of the gas transported by Russian pipelines passed through Ukraine (52%) and Turkey (41%). As a comparison, in the same period of the previous year, 60% of the gas passed through the Nord Stream pipeline directly from Russia to Germany, while 24% crossed Ukraine and 11% was transported through the pipeline crossing Turkey, i.e.Turkstream.
- During the three months of the second quarter of 2023, the amount of gas passing through Ukraine and Turkstream was relatively stable around 2 bcm per month with slightly higher flows in the Ukrainian pipeline system than in Turkey's Turkstream pipeline.

Figure 16 – Monthly and Quarterly EU imports of natural gas from Russia by supply route

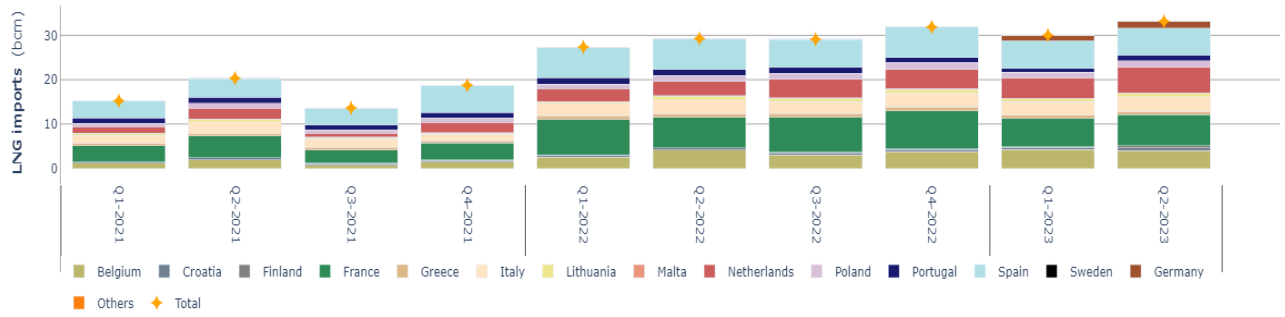


Source: Based on data from the ENTSO-G Transparency Platform

1.3.3 LNG imports

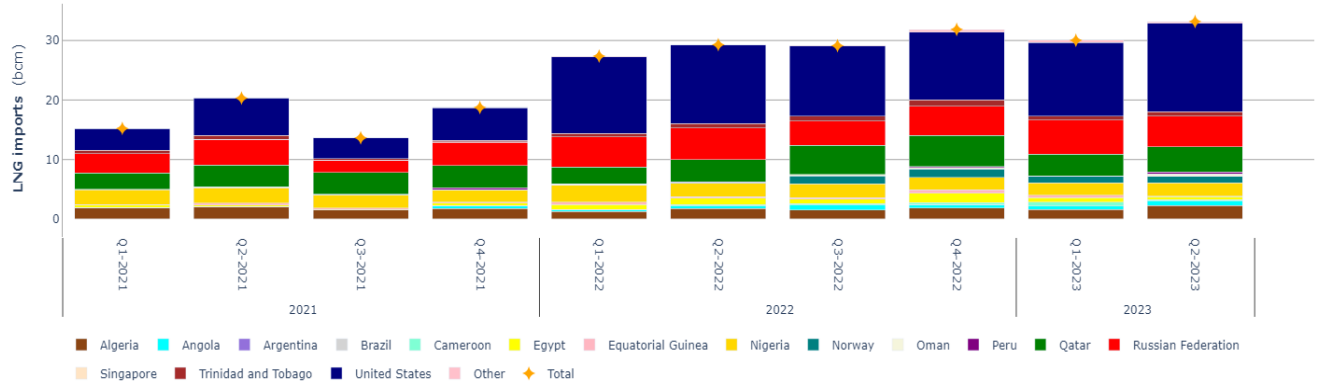
- Total gross EU LNG import was 33.2 bcm, an increase of 10% compared to the previous quarter and 13% increase year-on-year. In the second quarter of 2023, the United States remained the EU's biggest LNG importer with a 45% share (17 bcm), followed by Russia (15%, 5.8 bcm) and Qatar (13%, 4.9 bcm). The US increased it share in EU LNG imports by 3 percentage point or 3.12 bcm.
- The EU's biggest LNG importer remained France (7 bcm, 21.1%), followed by Spain (6.1 bcm, 18.5%), The Netherlands (5.84 bcm, 17.6%), Belgium (4 bcm, 12.1%) and Italy (3.4 bcm, 10.2%).

Figure 17 - LNG imports to the EU by Member States



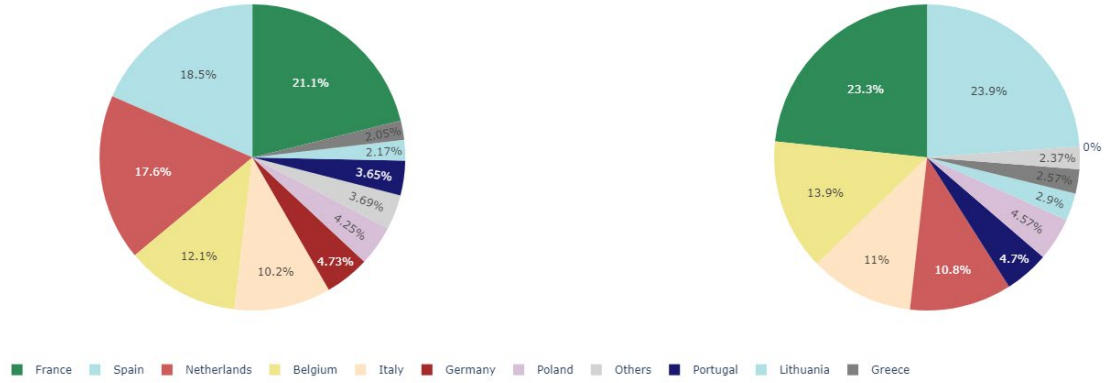
Source: European Commission calculation based on Refinitiv and ENTSO-G.

Figure 18 - LNG imports to the EU by supplier countries



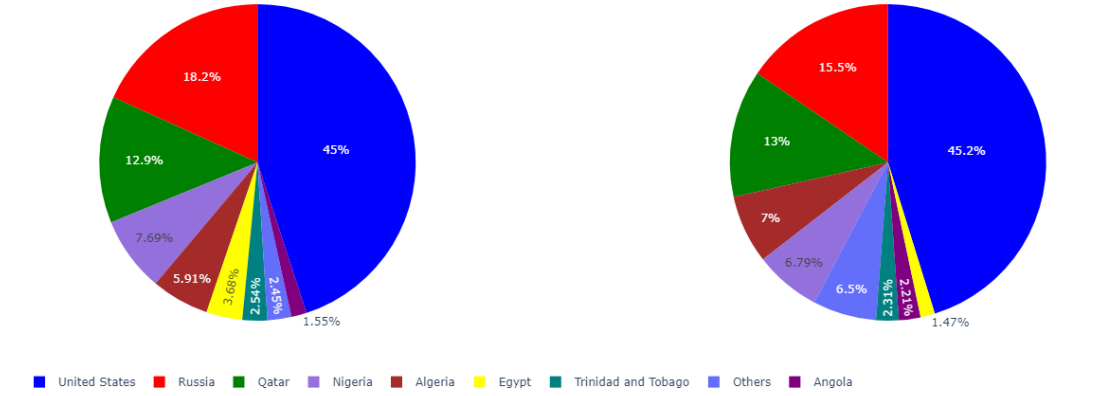
Source: European Commission calculation based on Refinitiv and ENTSO-G.

Figure 19 – Share of Member States in EU LNG imports in Q2 2023 (left) and Q2 2022 (right)



Source: Refinitiv, 'Others' includes Croatia, Finland, Malta and Sweden.

Figure 20 – Share of exporters in EU LNG imports in Q2 2023 (right) and Q2 2022 (left)



Source: Refinitiv.

2. International LNG trade

- In the second quarter of 2023, the EU kept the number one position as the world's largest importer of LNG with a 22% share (31.8 bcm) in global imports[5]. China became the second largest LNG importer with a 18% share (22.9 bcm), followed by Japan with 14,9% (19.2 bcm). The EU increased its share in global imports by 1.5 percentage point from 20.5% compared to the previous year and 3.1 percentage point compared to the same period in 2021. Japan market share fell 3.3 percentage points to 14.9% from 18.2% in the previous year and 1.5 percentage points compared to 2021.

- In the second quarter of 2023, global LNG exports amounted to 135.3 bcm, a 4.2% decrease compared to the previous quarter (141.3 bcm) and 1.5% decrease year-on-year (137.3 bcm in Q2 2022).

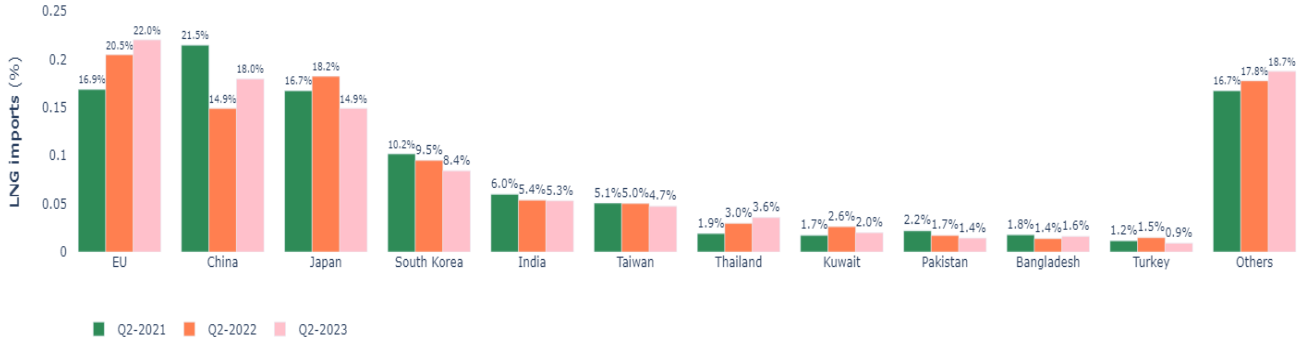
- The biggest LNG exporter remained the United States followed by Australia and Qatar. These three countries together supplied close to two thirds (32%) of the world's LNG demand. The United States kept its number one position with a 20.8% (30 bcm) share in global exports, closely followed by Australia (19.7%, 27 bcm) and Qatar (19.3%, 26.6 bcm).

- Far behind the leading trio, Russia (7.1%, 9.7 bcm), Malaysia (6.5%, 8.4 bcm) and Indonesia (3.6%, 5.2 bcm) secured the fourth, fifth and sixth position, respectively, in global LNG exports with single digit shares. Nigeria, Algeria, Oman, Trinidad and Tobago completed the ranks of the ten biggest LNG exporters with between 3.3% and 2.3% market shares, supplying

5 Gross imports.

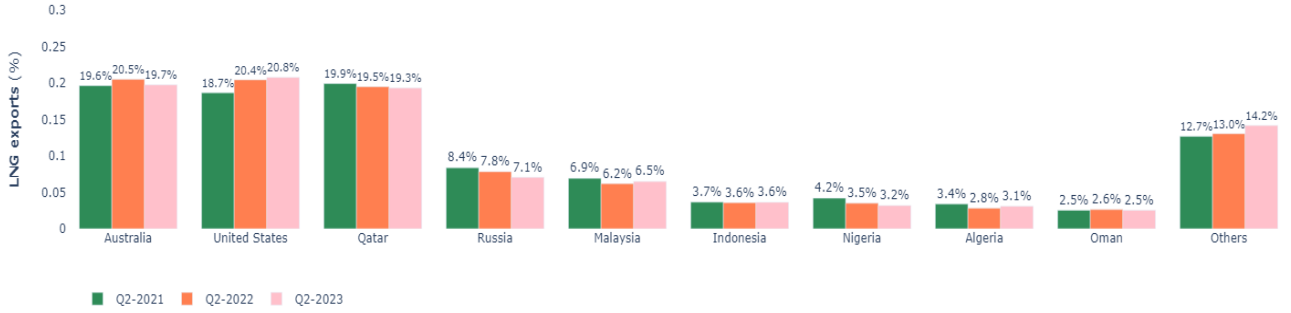
from 4.5 bcm (Nigeria, Algeria) to 3.4 bcm (Oman) and 3.2 bcm (Trinidad and Tobago) demand, respectively, in the second quarter of 2023.

Figure 21– Main global LNG importers in Q2 2023



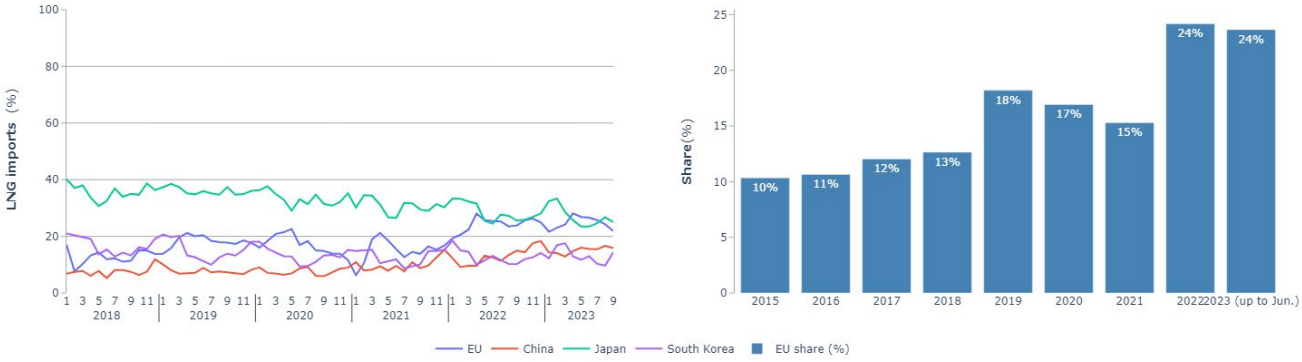
Source: Refinitiv.

Figure 22 – Main global LNG exporters in Q2 2023



Source: Refinitiv.

Figure 23 – The most important global LNG importers and evolution of the EU's annual LNG imports share



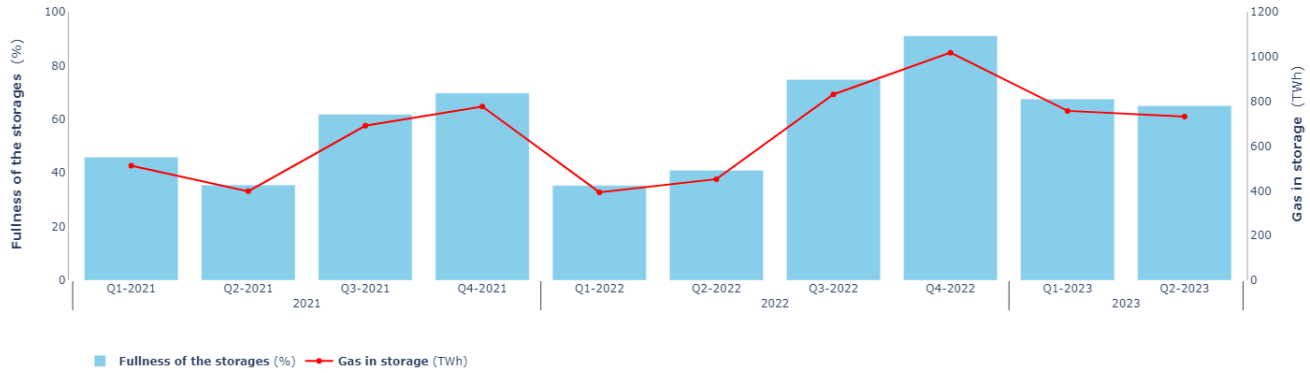
Source: Refinitiv.

3. Storage and LNG terminals

3.1 Storage

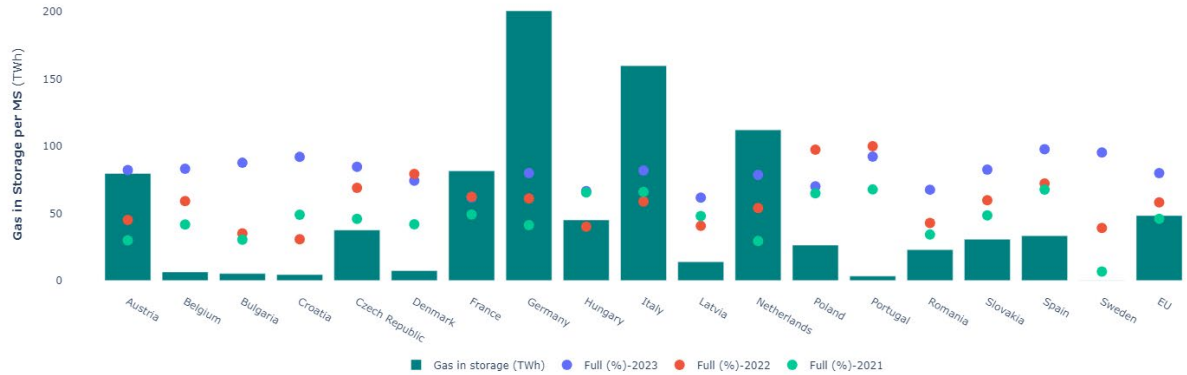
- The EU's operational gas storage capacity is 1139.8 TWh (116.64 bcm) corresponding to around one third of the European Union's total gas consumption in 2022.[6]
- In the second quarter of 2023, gas storage levels remained high compared to historical values. EU gas storage levels stood at 77% (871 TWh, 89 bcm) at the end of June, following an end of May's filling rate of 69% (778 TWh, 80 bcm) and an end of April's filling rate of 60% (674 TWh, 69 bcm). The average filling rate for the quarter was 65% (732 TWh, 75 bcm), a small decrease (-3%) from the 67% (757 TWh, 78 bcm) in the previous quarter reflecting the drawdowns during the winter heating season but significantly higher (+62%) than in the same period of the previous year (41%, 452 TWh, 46 bcm).
- All the Member States but Denmark, Portugal and Poland registered storage filling records in the second quarter of 2023 compared to the previous year and indeed compared to the three preceding years before.

Figure 24 - Gas storage levels as percentage of maximum gas storage capacity in the EU in the middle of the month



Source: Gas Storage Europe AGSI+ Aggregated Gas Storage Inventory. See explanations on data coverage at https://agsi.gie.eu/#/faq.

Figure 25 - Gas storage levels as percentage of maximum gas storage capacity at the end of June 2023 per MS



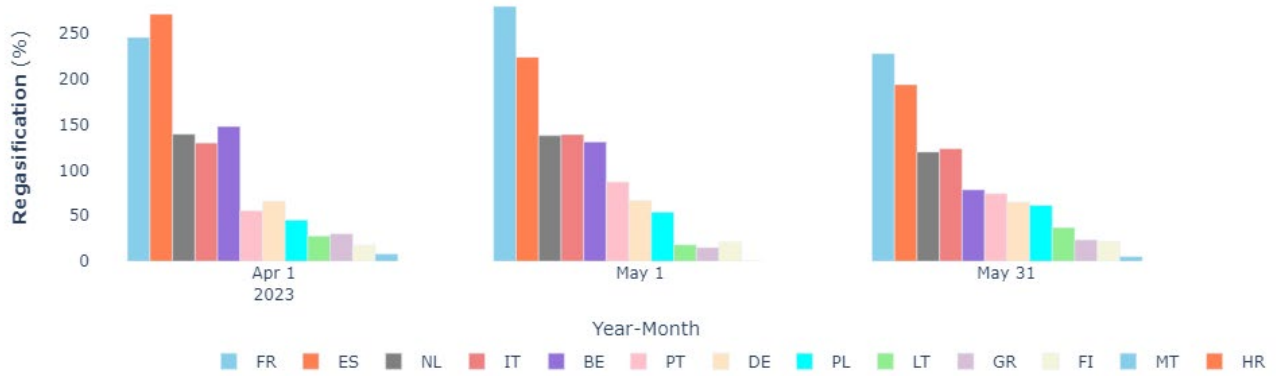
Source: Gas Storage Europe AGSI+ Aggregated Gas Storage Inventory. See explanations on data coverage at https://agsi.gie.eu/#/faq.

[6] Gas Infrastructure Europe - AGSI (gie.eu), data published under the Storage Transparency Platform, 1139.8979 TWh of technical working capacity as of 28 November 2023.

3.2 LNG Terminals

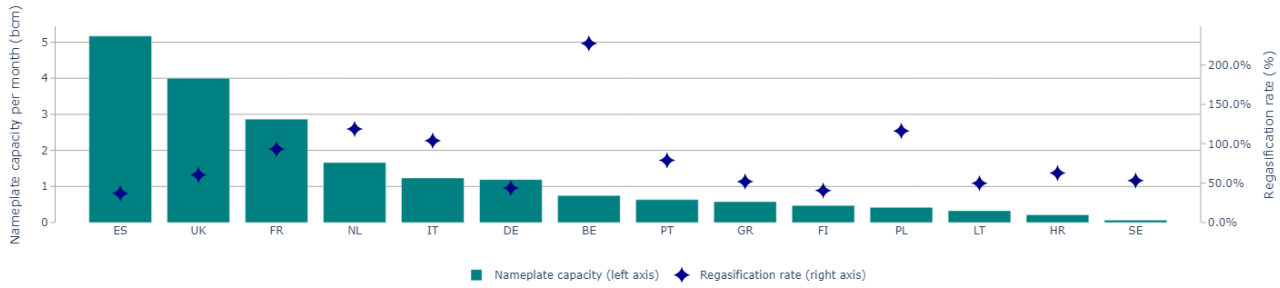
- LNG terminals' regasification utilisations rates varied greatly across Europe during the quarter. In the major EU LNG terminals in France, Spain, The Netherlands, Italy and Belgium utilisation rates were often well above full nameplate capacity (100%) during the second quarter of 2023. The recently deployed LNG terminals in Germany, as well as in Poland, and other terminals in Europe had lower utilisation rates and operated at less than full capacity.

Figure 26: Regasification utilisation during the months of the second quarter of 2023



Source: Refinitiv.

Figure 27 – Nameplate capacities and average regasification utilisation rates in the second quarter of 2023 in main EU LNG importers



Source: Refinitiv.

4. Wholesale Gas Prices

4.1 Wholesale gas prices at the EU level

- In the second quarter of 2023, European spot prices (TTF day-ahead) continued their downward trend from the historic peak reached in August 2022. The quarterly average spot price was 35.2€/MWh, 34% lower than in the previous quarter (53€/MWh), and a 64% decrease year-on-year.
- Forward contracts indicated higher prices ahead, with the 1 year ahead contract selling at a 34% (+12 €/MWh) higher price on a quarterly average basis. The premium moderated to a premium of 25% for the 2 years ahead contracts and a premium of

11% for the 3 years ahead contracts, confirming industry's expectations regarding gradually easing supply tightness on global gas markets, as new LNG export- and import infrastructure capacities are to be rolled out, adding significant new capacity expansion as of 2025 onwards. The average quarter-ahead contract was 1 €/MWh above the spot price, while the two quarter-ahead contracts sold with a premium of 13 €/MWh, again signalling an expectation of higher prices ahead.

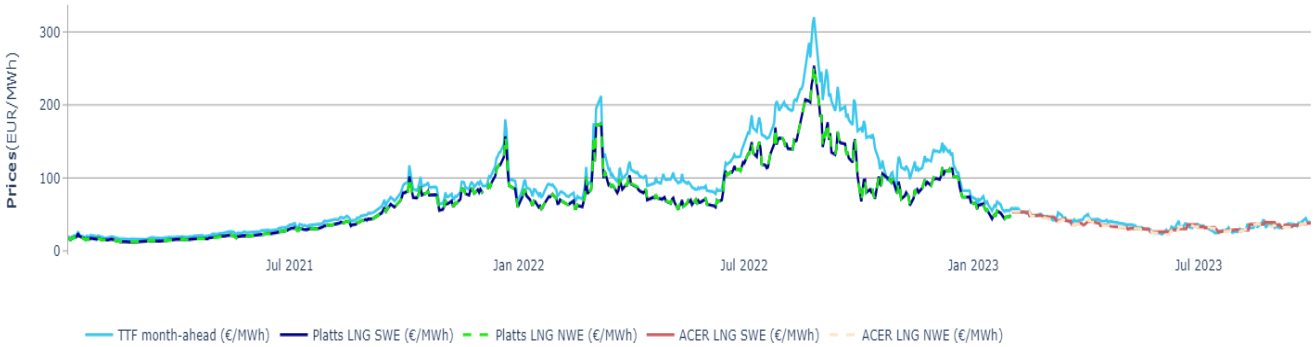
- The LNG Northwestern Europe (NWE) and Southwestern Europe (SWE) benchmarks kept their prices closely together and displayed similar prices below the prices of the Dutch Title Transfer Facility (TTF). The price differential started with a range of 6.6 €/MWh (NWE) - 6.65 €/MWh (SWE) discount counted in monthly average for April; it reduced to a range of 3.60 €/MWh (NWE) and 3.51 €/MWh (SWE) discount in May and further reduced to a range of 1.30 €/MWh (NWE) and 1.16€/MWh (SWE) in June 2023. On average NWE and SWE hubs were 11% cheaper than the TTF spot price.
- Wholesale prices declined 36% on both NWE and SWE LNG on a quarter-on-quarter basis and 64% year-on-year, closely tracking the price direction in the Dutch TTF benchmark.

- As of January 2023, the LNG NWE and SWE benchmarks are replaced by the new ACER NWE and SWE LNG benchmarks. In the second quarter of 2023, the change in benchmarks resulted in higher price assessments. The ACER NWE price assessment was on average 0.91 EUR/MWh higher than the LNG Northwestern Europe benchmark and the ACER SWE price assessment was 1,27 EUR/MWh above the LNG Southwestern Europe benchmark (quarterly averages).

Figure 28 –TTF day-ahead (spot) prices compared with TTF quarter-ahead, two quarters-ahead and year-ahead prices

Source: S&P Global (Platts).

Figure 29 – LNG NWE and SWE benchmarks compared with the Dutch TTF and ACER NWE and SWE benchmarks



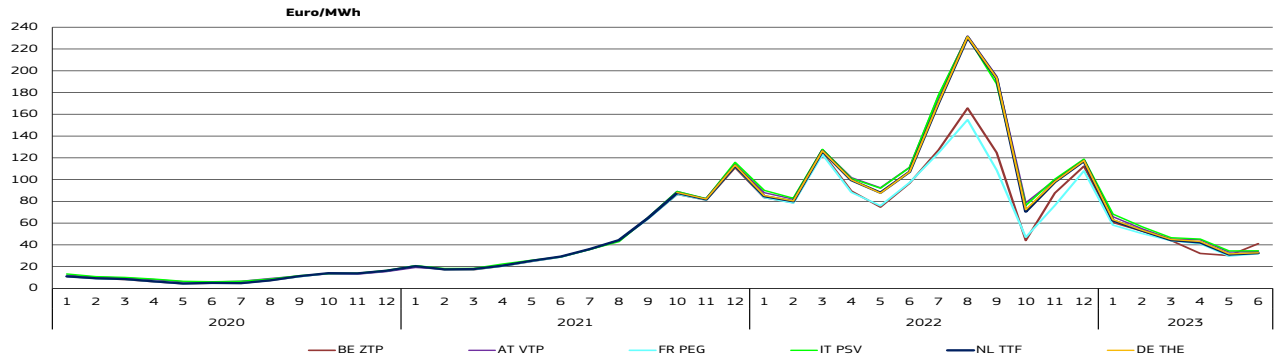
Sources: Global S&P (Platts), ACER.

4.2 European hubs

- In the second quarter of 2023, prices in the main European LNG hubs decreased between 30% and 36% quarter-on-quarter and between 37% and 64% year-on-year. The price differentials between the hubs with the lowest and highest price were 12€/MWh in April; they were 6.2€/MWh in May and 9.8€/MWh in June.
- The average price in the second quarter of 2023 ranged from the lowest 32.3 €/MWh (Spain) to the highest 38.9 €/MWh (Slovakia). Compared to the Dutch TTF, which serves as European benchmark, traders paid 9% less in the Spanish PVB, 6% less in UK NBP, 3% less in France's PEG and 2% less in Belgium's ZTP. Compared to the Dutch TTF, traders paid 9% more in

Slovakia's VTP, 8% more in Italy's PSV, 6% more in Austria's VTP, 5% more in the Czech VTP and 2% more in the German THE hub in the second quarter of 2023.

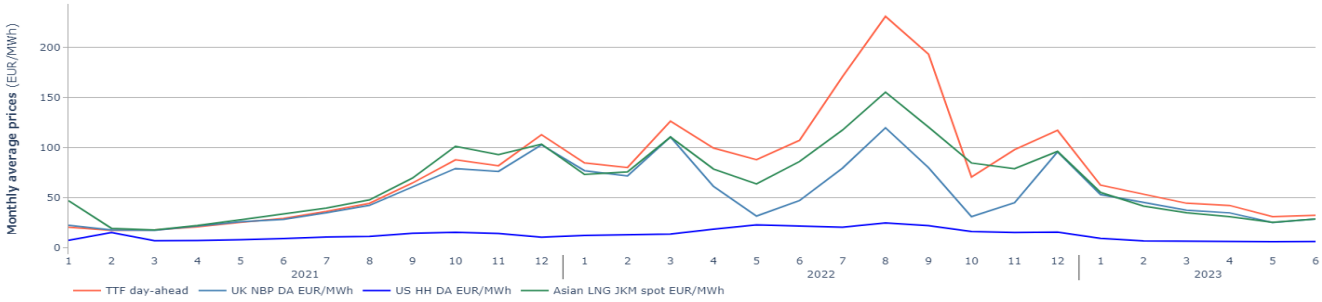
Figure 30 - Price developments in some of the major European gas hubs



Source: S&P Global (Platts).

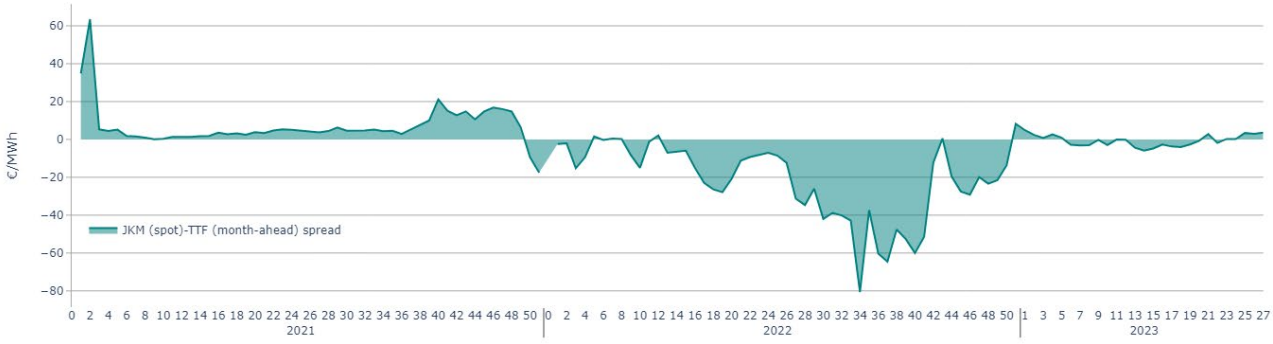
- Gas prices in the major international hubs continued their downward trend in the second quarter of 2023. The Dutsch Title Transfer Facility (TTF), which serves as European benchmark, declined 34% quarter-on-quarter and 64% year-on-year. Prices on the Asian Japan Korea Marker (JKM) benchmark, the EU closest competitor, also declined 34% quarter-on-quarter and 59% year-on-year. The UK National Balancing Point (NBP) price decreased by the same 34% quarter-on-quarter as the main hub in Europe but displayed a smaller 37% drop year-on-year. The US Henri Hub declined 18% compared to the previous quarter and 71% year-on-year.
- For most of the second quarter of 2023 (indeed for most of the first half of the year), Europe remained the most attractive gas market offering price premiums over Asian and UK trading hubs. In June however, the European price differentials turned positive signalling that Asian and UK gas prices became higher than those in Europe.

Figure 31 – Comparison of monthly average prices on the Dutch TTF, UK NBP, the US Henry hub and the Asian JKM



Source: S&P Global (Platts).

Figure 32 – Prices differences between the JKM and the TTF (EUR/MWh)



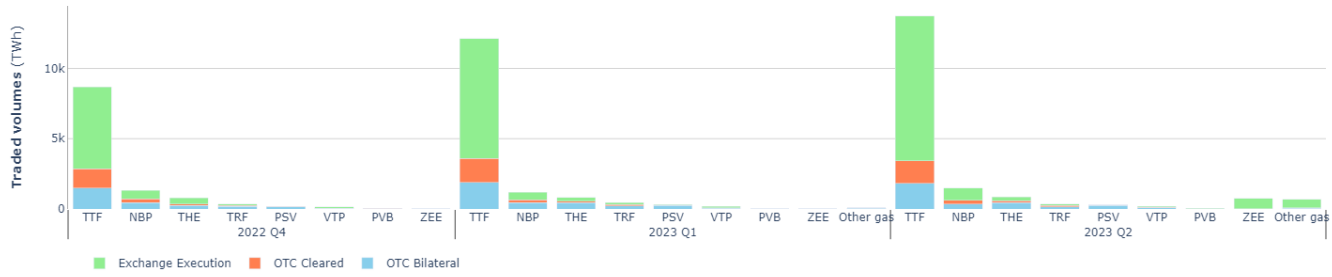
Source: S&P Global (Platts).

4.3 Gas trade on the EU hubs

- In the second quarter of 2023, total traded volumes increased by 21% compared to the previous quarter and 40% year-on-year, continuing the growth trend from the previous quarter, which reversed the decline experienced since the second quarter of 2022. Exchange executed trade constituted 66% of transactions showing a continued shift towards exchange executed trade and took away shares from over the counter (OTC) bilateral transactions, which represented 18% of trade, and from OTC cleared trade, which had a 12% share.
- Compared to the previous quarter, exchange executed trade grew by 27%, while OTC bilateral trade decreased by 6% and OTC cleared trade decreased by 3%. Year-on-year, OTC exchange executed volumes increased the most, by 49%, while OTC cleared trade increased by 23% and OTC bilateral trade declined by 1%.
- The Dutch Title Transfer Facility (TTF) remained by far the most important gas hub attracting three fourths (75%) of the volumes. The British National Balancing Point (NBP) kept its second place with 8%, followed by the German Trading Hub of Europe (THE), which had a 5% share. The Belgium Zeebrugge Trading Point (ZTP) has become the fourth most important trading hub with a 4% share after merging with the Zeebrugge Beach trading point [1]. France's TRF and Italy's PSV have taken the fifth and sixth position with 2% and 1.6% share., respectively.

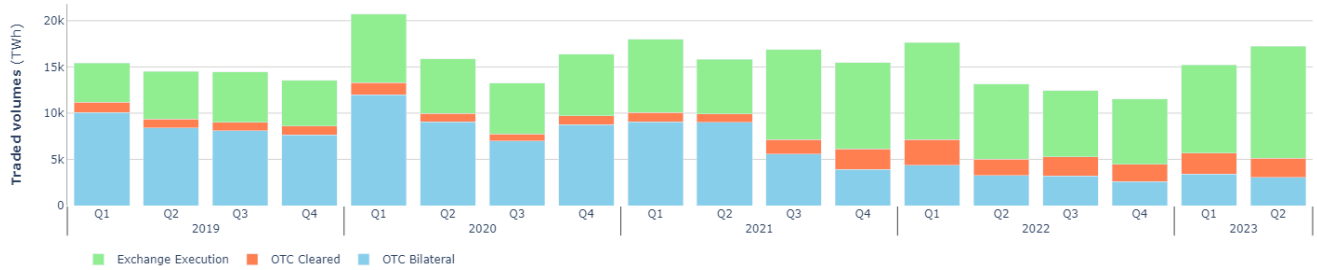
[1] As of October 1, 2023, the Belgian Zeebrugge Beach trading point and the Zeebrugge Trading Point (ZTP) virtual hub have been combined into one virtual-trading location, ZTP. From 29 September 2023, the merged ZTP virtual hub is assessed, databased and published in the existing symbols for the Belgian Zeebrugge Trading Point (ZTP), without any further change to existing methodology. Belgian Zeebrugge beach natural gas assessments have been discontinued. Platts, EGD, Vol. 28/Issue 188/September 29, 2023.

Figure 33 - Traded volumes on the main European gas hubs in the last three quarters



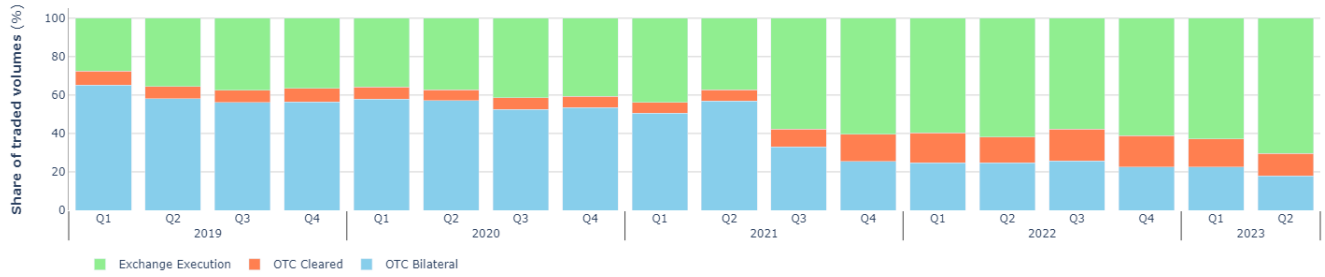
Sources: Trayport Commodities Report, LEBA Monthly Energy Volume Report and Analysis.

Figure 34 – Over the counter (OTC -bilateral and cleared) and exchange executed trade on European gas hubs



Sources: Trayport Commodities Report, LEBA Monthly Energy Volume Report and Analysis.

Figure 33 – Share of traded volumes in the main European gas hubs



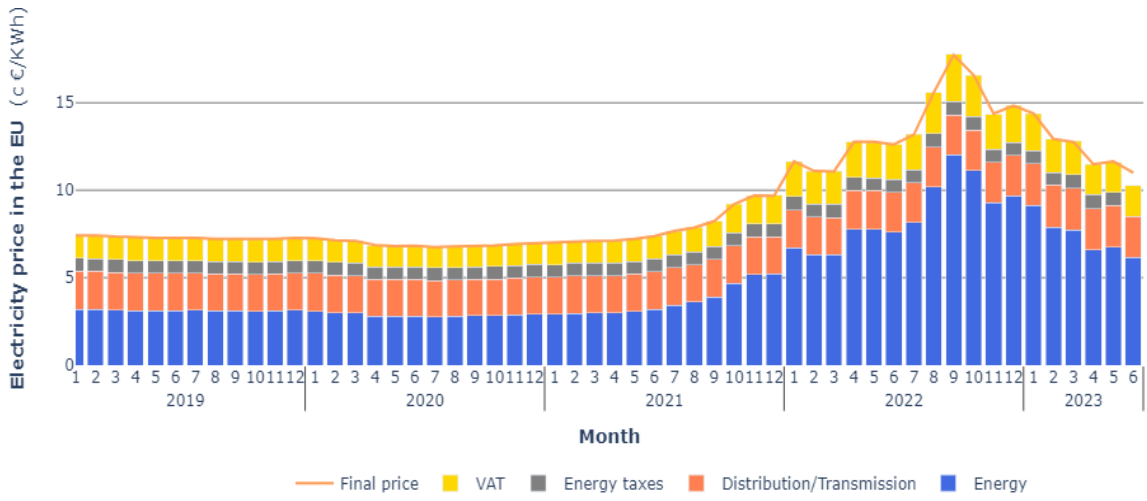
Sources: Trayport Commodities Report, LEBA Monthly Energy Volume Report and Analysis.

The chart covers the following trading hubs: Netherlands: TTF (Title Transfer Facility); Germany: THE (Trading Hub Europe); France: TRF (Trading Region France); Italy: PSV (Punto di Scambio Virtuale); Spain: PVB (Virtual Balancing Point); Austria: Virtual Trading Point (VTP); Belgium: ZTE (Zeebrugge Trading Point) (which fusioned with the Belgian Zeebrugge Beach Trading Point in June 2023). UK: NBP (National Balancing Point)
Source: Trayport Commodities Report and LEBA Monthly Volumes and Energy Analysis reports.

5. Retail gas prices

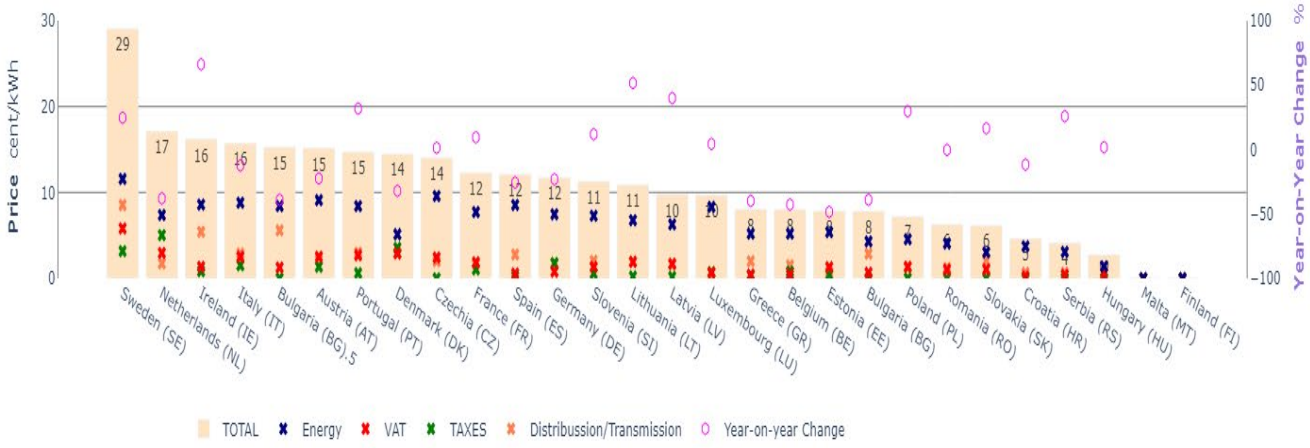
- Average monthly gas retail price for household consumers fell to 11.08 Eurocents/kWh in June from a peak of 11.78 Eurocents/kWh in May, which followed on a lower price of 11.47 Eurocents/kWh in April 2023. The quarterly average retail gas price stood at 11.44 Eurocents/kWh, 64% higher than the average retail price in the second quarter of the pre-war year of 2021, which however was a 15% decrease from the previous quarter, and a 10% decrease year-on-year.
- The energy component amounted to 6.67 Eurocents/kWh, which was 59% of the price, while distribution and storage costs constituted 20% (2.22 Eurocents/kWh), energy taxes 8% (0.93 Eurocents/kWh) and value added tax (VAT) 14% (1.63 Eurocents/kWh) of the total end user price paid by the final retail consumers.
- The energy component fell the most, by 21% quarter-on-quarter and 37% year-on-year. This was somewhat offset by the rise in energy taxes, which amounted to a 19% increase compared to the previous quarter and 15% year-on-year. The distribution and storage component remained stable with a small decrease of 1% compared to the previous quarter and 9% increase year-on-year, while the VAT component decreased by 10% quarter-on-quarter and 14% year-on-year.

Figure 36 – Monthly average gas price in the EU paid by typical household customers



- Compared to the previous quarter, average quarterly retail prices declined in most Member States between 35% and 1%. Prices stayed the same in two Member States (Lithuania, Luxembourg) and increased in five Member States (Croatia 5%, Hungary, 4% Slovenia 4%, Poland 2%, Ireland 1%). The biggest decline in quarterly average prices was registered in Belgium (-35%), Austria (-33%), Greece (-30%), Bulgaria (-29%), Denmark (-26%) and Spain (-24%). In Germany and Estonia prices declined 20%. France (-12%) Latvia (-11%), Czechia (-11%), Italy (-10%) also saw double digit declines in retail gas prices.
- On a yearly comparison, prices increased the most in Ireland (+66%), Lithuania (+52%) and Latvia (+40%), followed by Portugal (+32%), Poland (+30%) and Sweden (+25%). Slovakia (+16%), Slovenia (+12%), France (+9%), Luxembourg (+4%), Hungary (+2%), and Czechia (+1%) had higher prices for consumers than in the same quarter a year before.
- Year-on-year, prices declined the most in Estonia (-48%), Belgium (-43%), Greece (-39%), Bulgaria (-39%), the Netherlands (-38%) and Denmark (-32%). Considerable year-on-year decrease in prices were also registered in Spain (-26%), Germany (-23%), Austria (-22%), Italy (-12%) and Croatia (-7%).
- Retail prices continued to diverge across the European Union. Amongst those Member States, where natural gas is an important part of the energy mix (e.g. widely used for heating and electricity production), the highest average quarterly price was registered in The Netherlands (17.15 Eurocents/kWh) while the lowest average quarterly gas retail price (2.71 Eurocents/kWh) was reported in Hungary. A remarkably high price, which could be considered outlier in Europe (28.46 Eurocents/kWh) was paid for natural gas in Sweden, where the use of gas for heating is limited amongst households.

Figure 37- Breakdown of gas price paid by typical household customers in European capitals and annual change in prices, Q2 – 2023



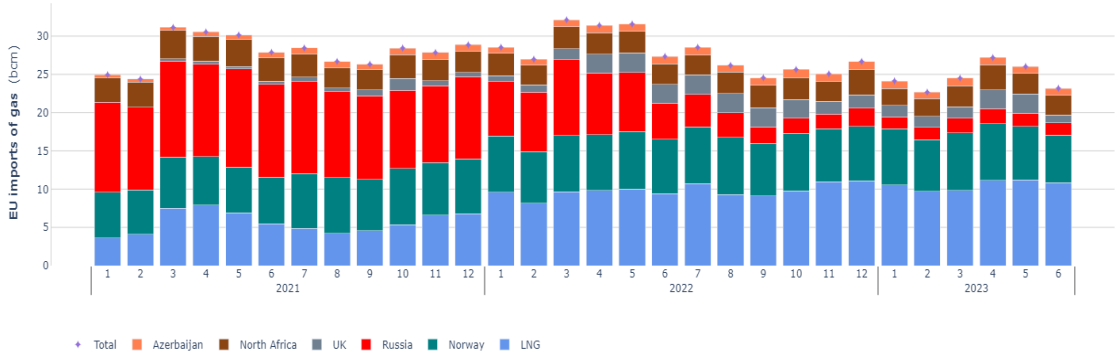
Source: VaasaETT. EU-27 represents an aggregate average of the 27 capital cities.

Figure 37- Annual change in retail gas prices in Member States in Q2 2023

Source: VaasaETT. EU-27 represents an aggregate average of the 27 capital cities.

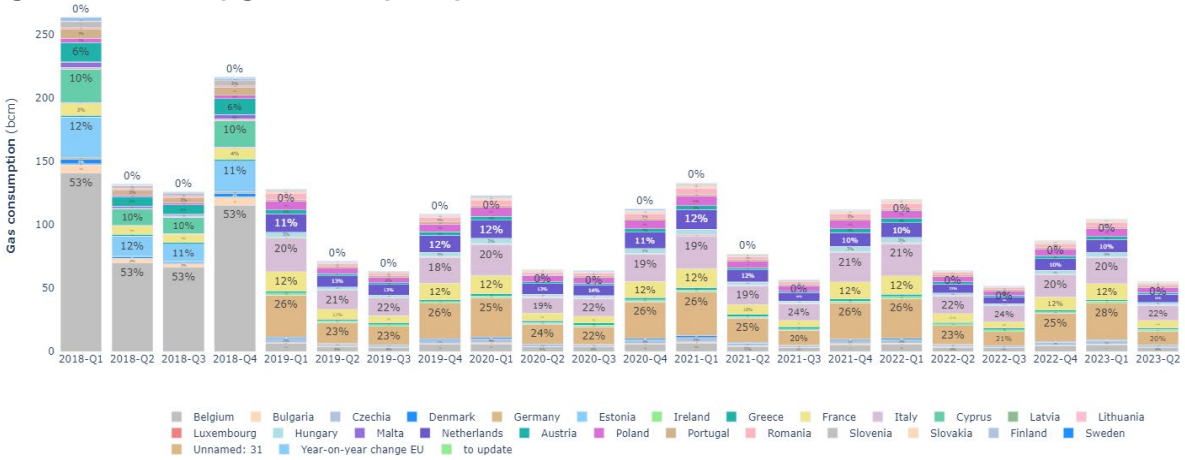
6. Appendix – charts providing further details on market developments

Figure 1: Monthly EU imports of natural gas by source



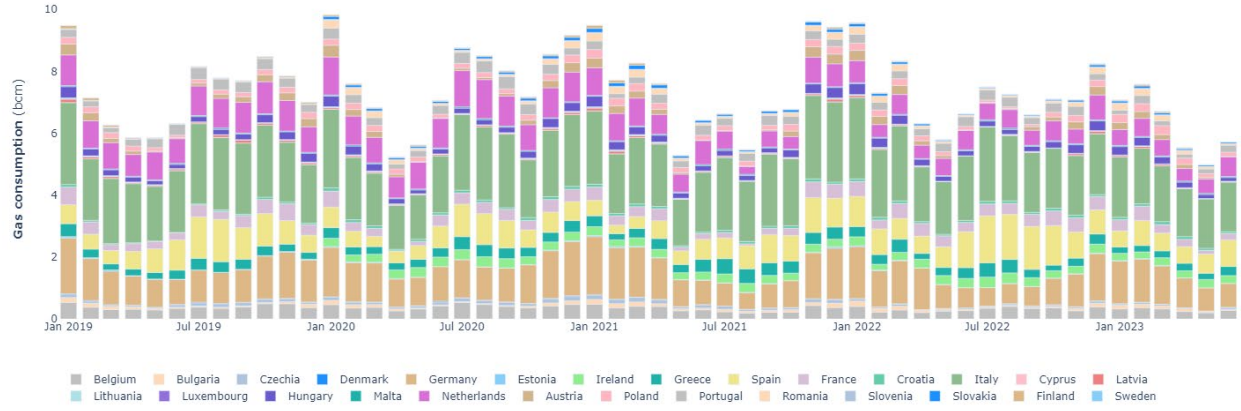
Source: ENTSO-G.

Figure 2 - Quarterly gas consumption per Member States



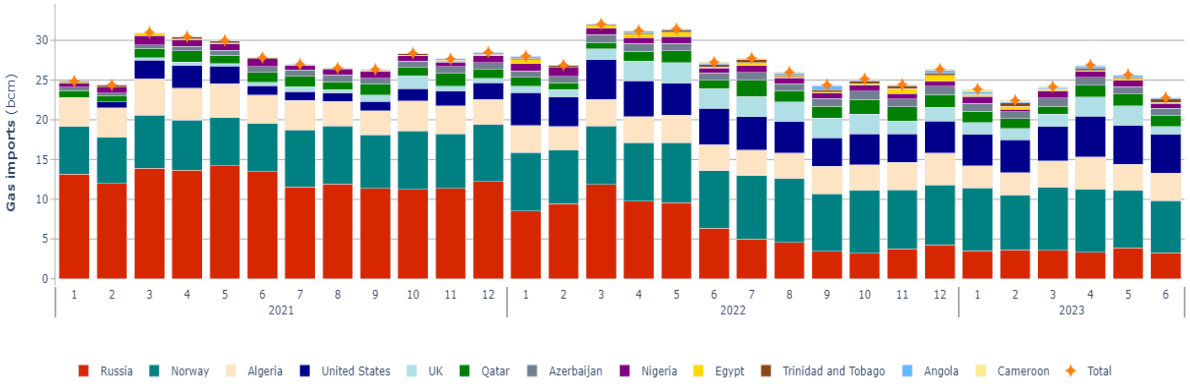
Source: Eurostat.

Figure 3 - Monthly gas production per Member States



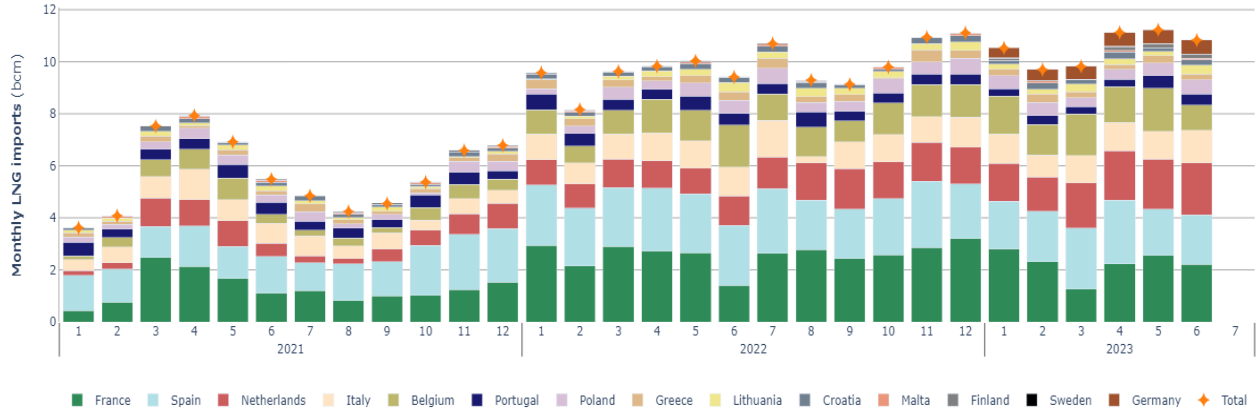
Source: Eurstat.

Figure 4 – Pipelines and LNG imports to the EU per suppliers



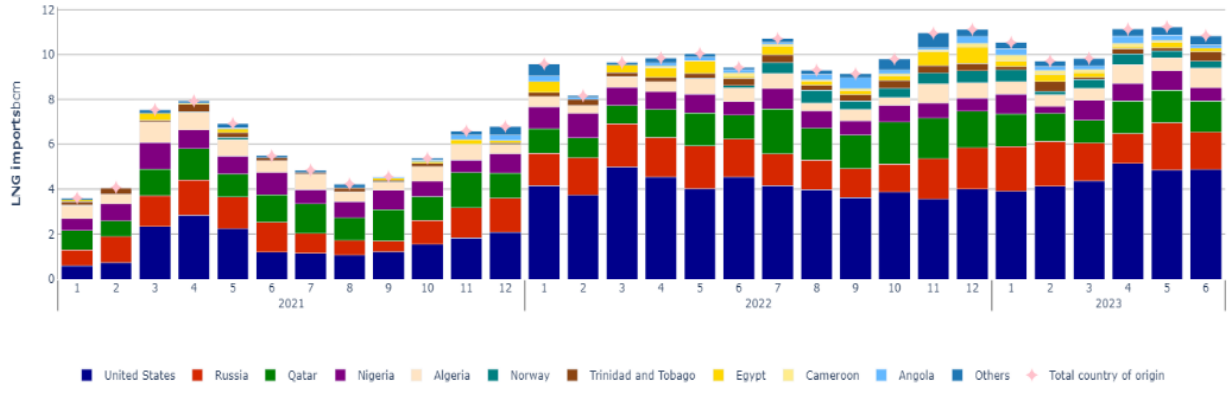
Source: European Commission calculation based on Refinitiv and ENTSO-G.

Figure 5 – Monthly LNG imports to the EU per Member States



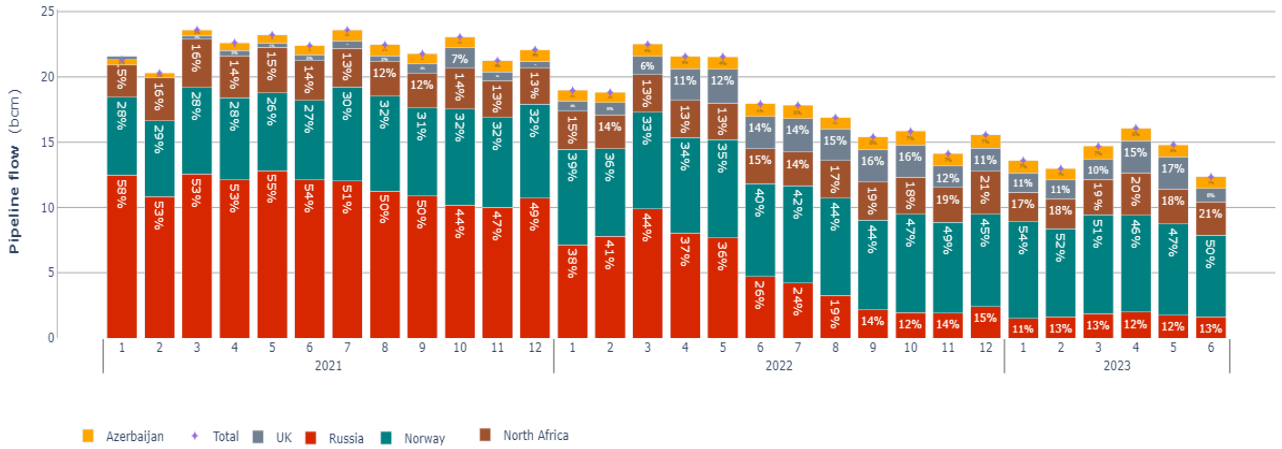
Source: European Commission calculation based on Refinitiv and ENTSO-G.

Figure 6 – Monthly LNG imports to the EU per suppliers



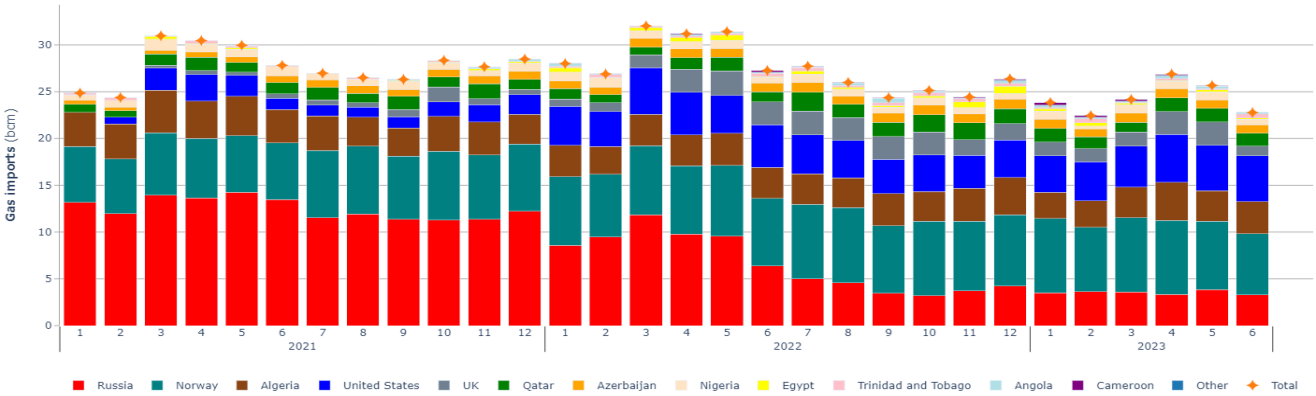
Source: European Commission calculation based on Refinitiv and ENTSO-G.

Figure 7 – Monthly EU imports of natural gas from pipelines



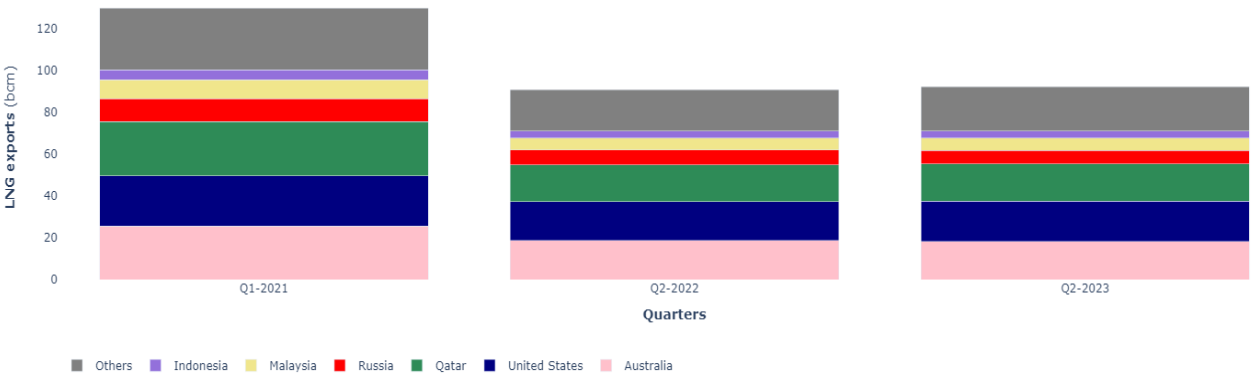
Source: Based on data from the ENTSO-G Transparency Platform.

Figure 8 – Monthly pipeline and LNG imports from Russian and other sources



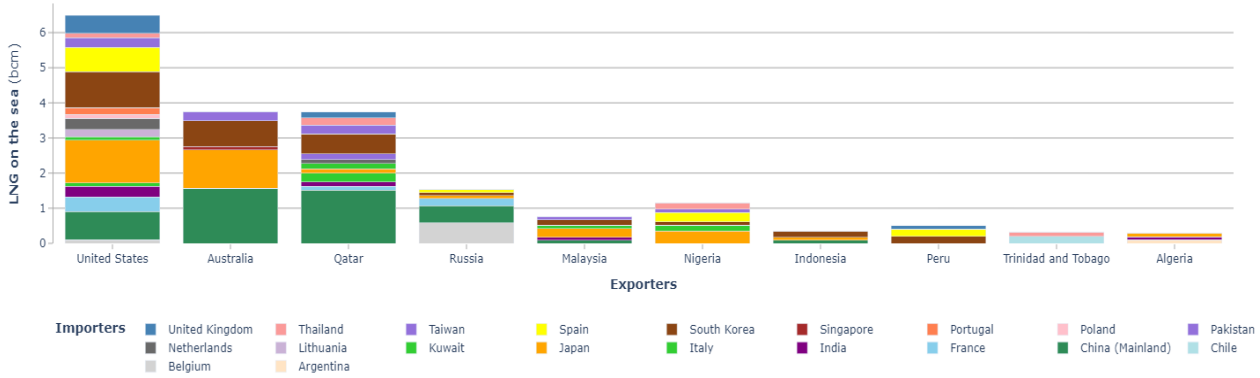
Source: Based on data from the ENTSO-G Transparency Platform.

Figure 9 – The comparison of global LNG exports in Q2 2023, Q1 2023 and Q2 2022



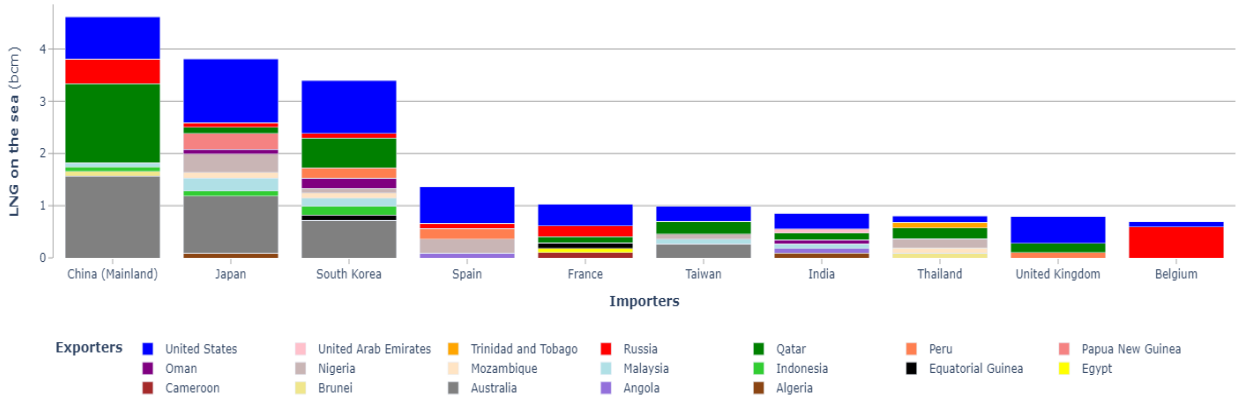
Source: Refinitiv.

Figure 10 – LNG on the sea coming from the 10 biggest LNG exporters in early June 2023



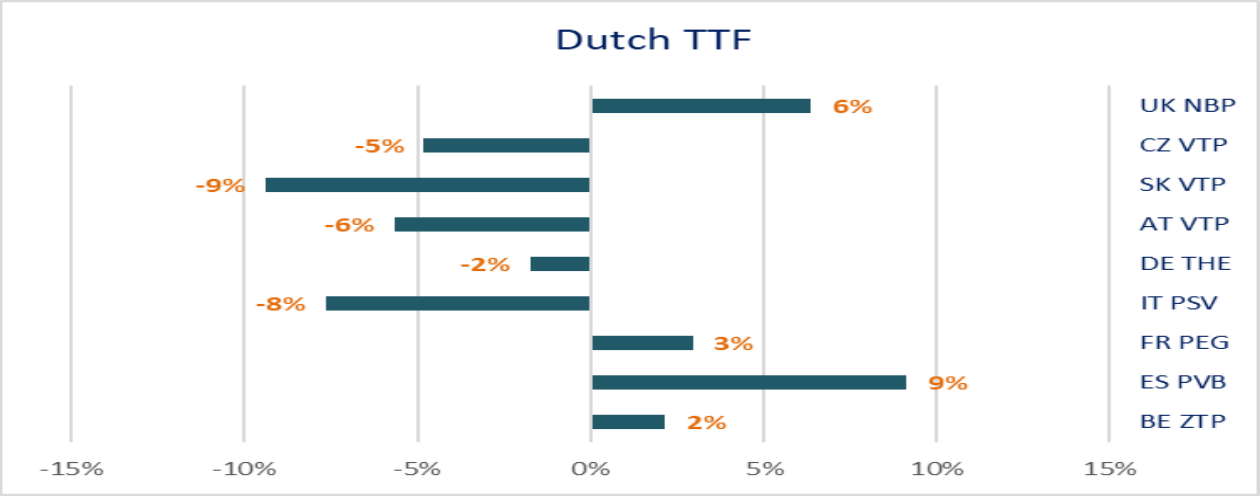
Source: Refinitiv.

Figure 11 – LNG on the sea going to the 10 biggest LNG importers in early June 2023



Source: Refinitiv.

Figure 12: Price differentials of European gas hubs with the Dutch Title Transfer Facility (TTF)



Source: S&P Global (Platts).