Market Price Report - 2024

Supply, demand and price dynamics

While the price trend was largely downward in 2023, 2024 saw a gradual rise in prices from mid-February 2024 until the end of the year. This rise was fuelled by developments in Ukraine and the Middle East, as well as the prospect of the interruption of Russian pipeline deliveries through Ukraine with the end of the transit agreement between Naftogaz and Gazprom end of 2024. Price volatility remained high, although less so than in 2022 or even 2023. The cold weather at the start of the winter of 2024-25 led to large withdrawals from stocks, as LNG does not offer the flexibility needed for peak consumption. LNG supplies have been sufficient, but in general this dependence on LNG is making the market nervous. The "*Bilan gaz 2024*" report by Natran (formerly GRTgaz) shows that demand has remained stable but that supply needs have fallen by -6% between 2023 and 2024, the balance having been offset by an increase in withdrawals from storage. Engie's analysis (*EnergyScan*) shows that the share of LNG in European supply has fallen from 38% in 2023 to 32% in 2024, while supplies of Russian and Norwegian gas by pipeline have increased from 7% to 9% and from 28% to 32% respectively. The shares of European production and imports from North Africa and Azerbaijan have remained stable.

According to the IEA[1] *(Gas Report - Q1 2025*), world natural gas consumption has increased by +2.7% in 2024, above its average growth of +2% (2010-2020) and +1% (2019-2023). Natural gas consumption grew in 2024 on every continent: North America (+1.9%), the Middle East (+3%), Asia-Pacific (+5.5%, which includes 8% growth in Chinese demand), Africa (+1%), Central and South America (+1.6%) and Europe (+0.5%).

In Europe consumption in 2024 remained almost stable (+0.9% compared with 2023) due, according to *Energyscan* (Engie), to the combined effect of the increase in direct Y-o-Y consumption (distribution +2.2% and industrial +5.9%) and the fall in electricity production from natural gas (-7.6%). In terms of residential consumption, the effect of efficiency gains, cost-saving measures and the deployment of heat pumps was offset by colder average temperatures in the second half of 2024 compared with the second half of 2023. In the fourth quarter 2024, electricity production from natural gas was +18% higher than in fourth quarter 2023, mainly due to a period of low renewable electricity production with a combination of cold weather, low sunshine and little wind (phenomena called *Dunkelflaute*).

In 2024, 57% of the European Union's gas supply came from pipelines, 34% from LNG carriers and 10% from its own production (European Commission *Dashboard*). In 2023, it was 53%, 38% and 9% respectively. In 2021, pipeline supply still accounted for 70% of the total.

The total volumes 2024 of European imports could be reduced by -6% thanks to greater withdrawals from storage, particularly during fourth quarter of 2024. Engie's analysis (*EnergyScan*) shows that compared to 2023, during 2024 Russian gas imports by pipeline have increased by +11.5%, from 7% to 9% of Europe's total supply. Volumes from Norway (+7.7%) rose from 28% to 32% of supply. Volumes from North Africa and Azerbaijan fell by -3.5%, European production has been falling for several years now:

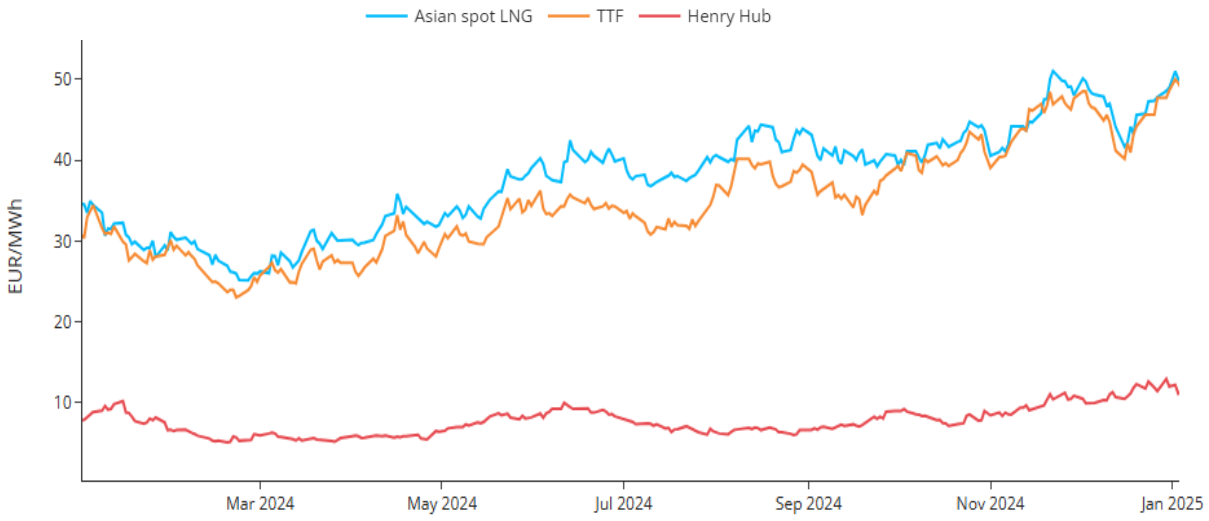
[1] IEA: International Energy Agency

-12.6% for Great Britain and -15.5% for the Netherlands reduction between 2024 and 2023. Production at the giant Groningen gas field in the Netherlands has been completely and officially suspended since 1st October 2023. LNG supply 2024 vs 2023 has fallen(-20%), from 38% to 32%. This has been compensated by higher imports from Norway and Russia. Restocking requirements have fallen by -17% between 2023 and 2024.

In 2024, 42.4% of Europe's regasification capacity was used (58.5% in 2023), according to the *Dashboard* provided by the European Commission. According to *Energyscan* (Engie), 47% of the LNG imported by Europe came from the United States and Trinidad & Tobago (compared with 50% in 2023), 12% from the Middle East (13.5% in 2023), 19% from Russia (13% in 2023) and 15% from Africa (19% in 2023). Europe, in turn, as a destination market, accounted for 51% of US LNG exports (64% in 2023).

The price trend has been largely upwards. The spot price at the TTF-hub, Europe's benchmark for *spot* gas prices, was 30.4 €/MWh at the beginning of January 2024, and closed at 48.6 €/MWh on 31 December 2024. Average *spot* LNG prices in Asia started the year at 34.5 €/MWh and ended it at 49 €/MWh, following closely Europe's price but almost consistently higher.

Gas price trend 2024 for delivery the following month
(*Month ahead)*



Source: EnergyScan, Engie

In the first quarter of 2024, TTF *spot* prices averaged 27.5 €/MWh, 49% lower than in the first quarter of 2023 (53.4 €/MWh). Prices reached their low point for 2024 at 23 €/MWh on February 22nd, and started from then consistently rising until the end of the quarter (27.3 €/MWh).

Temperatures in the first quarter 2024 were milder than in the first quarter of 2023. As a consequence, the European demand (126.5 bcm) in the first quarter of 2024 fell by -0.6% compared with the first quarter of 2023 (127.2 bcm). While industrial demand (21.4 bcm) rose by +5.9%, residential demand (85.8 bcm) fell by -0,7% year-on-year. Gas demand for power generation also fell, by -6.3% year-on-year.

In terms of European supply, Russian exports to Western Europe increased during first quarter 2024 by +51% (7.4 bcm) compared with the first quarter of 2023. Imports from Norway increased by+ 4.1% Q12024 vs Q1 2023 (30.3 bcm) and domestic production decreased by -12.7% (15.1 bcm). Imports from North Africa and Azerbaijan rose during the first quarter of 2024 by 2,1% year-on-year (9.9 bcm). LNG sendouts (i.e., the volumes of LNG injected into the grid after gasification) fell by -14% (33.3 bcm) compared with the first quarter of 2023.

In Asia, *spot* prices averaged 29.2 €/MWh in the first quarter of 2024, 44% lower than in the same quarter of the previous year (52 €/MWh). In the United States, the average *Henry Hub* price fell by 24% in the first quarter of 2024 (6.61 €/MWh) compared with the same period of the previous year (8.7 €/MWh), returning to a level comparable to that prevailing before the war in Ukraine.

Storage releases reached 29.8 bcm in the first quarter of 2024, compared with 28.4 bcm during the same period in 2023, i.e., an increase of +4.9%. European storage facilities were 58.5% full at 31 March 2024, compared with 55.8% the previous year.

In the second quarter of 2024, the average TTF *spot* price was 31.7 €/MWh, down -10% on the same period in 2023 and up +15.3% on the previous quarter.

Spot prices at the TTF rose from 27.75 €/MWh on 1st of April 2024 to 33.9 €/MWh on 28th of June, and even reached 36.1 €/MWh on 3rd of June. During the second quarter, the market was buoyed by new non-physical players (hedge funds, pension funds, algorithmic trading) posting their highest ever level of open interest. But it was also the geopolitical context (tensions in the Middle East) and uncertainties surrounding Russian supplies (Austria, Russia, etc.) that pushed prices up.

European gas demand in the second quarter of 2024 (68.3 bcm) fell by -6.7% compared with the same period in 2023 (73.2 bcm). While industrial demand (17.8 bcm) increased by+ 9.2%, residential demand (37,9 bcm) fell by -4.3% year-on-year. Gas demand for power generation also fell by -27.2% compared with the same period in 2023, as a result of the good availability of French nuclear power and strong production of renewable energy.

On the supply side, Russian exports to Western Europe increased by +33.9% (7.5 bcm) in the second quarter of 2024 compared with the second quarter of 2023. Imports from Norway increased by +15.4% year-on-year to 27.7 bcm and domestic production decreased by -7.4% to 13.7 bcm. Imports from North Africa and Azerbaijan fell by -0.9% year-on-year (10.9 bcm). Volumes of regasified LNG injected into the networks fell by -30.2% (27.7 bcm) in the second quarter of 2024 compared with the second quarter of 2023.

Henry Hub prices averaged 7.44 €/MWh in the second quarter of 2024, compared with 7.26 €/MWh in the same period of 2023, a year-on-year increase of +2.4%. Asian market prices followed the rise in European prices.

Net injection into European storage facilities amounted to 19.4 bcm, down on the same period in 2023 (22.5 bcm). European storage facilities were 77.8% full at 30 June 2024, the same level as the previous year.

In the third quarter of 2024, the slow increase in Norwegian supply and tensions in the Middle East amplified the rise in prices. The *spot* TTF averaged 35.3 €/MWh, 6.5% above the average for the same period in 2023 and 11.5% higher than in the second quarter of 2024. Volatility remained high. On 19th of September in particular, the false announcement that Ukraine had agreed to allow Azerbaijani gas to transit to Europe triggered a sharp fall in prices to 32.6 €/MWh. But prices bounced back very quickly after the Ukrainian and Azerbaijani authorities denied the news.

European gas demand in the third quarter of 2024 (60.7 bcm) was up by +2.5% compared with the third quarter of 2023 (59.2 bcm). Industrial demand (16 bcm) was up by +6.7%, same as residential demand (28 bcm, +15.2% year-on-year). Gas demand for power generation, on the other hand, was down by -16.1% year-on-year. This as a result of the good availability of French nuclear power and strong production of renewable energy.

Russian exports to Western Europe rose by +9.5% (8.1 bcm) in the third quarter of 2024 compared with the third quarter of 2023. Imports from Norway increased by +15.3% year-on-year (26.4 bcm). Domestic production fell by -10.3% (13.1 bcm). Imports from North Africa and Azerbaijan fell by -18% (9.1 bcm). LNG send out volumes fell from 28.8 to 22.9 bcm in the third quarter of 2024 compared with the third quarter of 2023.

Injection into European storage facilities continued in the third quarter of 2024, reaching a fill rate of 94.35% at 30 September (95.5% at the same date one year earlier).

In Q4 2024, the average TTF price was 43.1 €/MWh, +6% higher than the average price for the same period in 2023 (40.6 €/MWh), but +22% higher than the average price for Q3 2024 (35.3 €/MWh). European prices reacted strongly to a few episodes of lower temperatures compared to fourth quarter of 2023, and to low renewable energy production ("*Dunkelflaute*" condition, i.e., a combination of low winds and limited sunshine). In December 2024, prices rebounded as the market anticipated the end of the transit agreement through Ukraine. Russian gas flows via Ukraine came to a complete halt on 1 January 2025. On 31st of December, the *spot* TTF closed the year at 47.6 €/MWh, i.e., +55% above the price at the end of 2023 (30.7 €/MWh). On the forward market, the price differential between winter 2025 and summer 2025 has been in positive territory since 1 November, driven by speculation from major players betting on the need for significant restocking in order to reach the 90% fill level by 1st of November as required by the European Commission. On the 31st of December, this difference stood at 3.6 €/MWh.

Henry Hub prices averaged 9.58 €/MWh in the fourth quarter of 2024, compared with 9.4 €/MWh in the fourth quarter of 2023, up +1.9% year-on-year. *Spot* LNG prices in Asia averaged 44.7 €/MWh down -8% compared to the fourth quarter 2023.

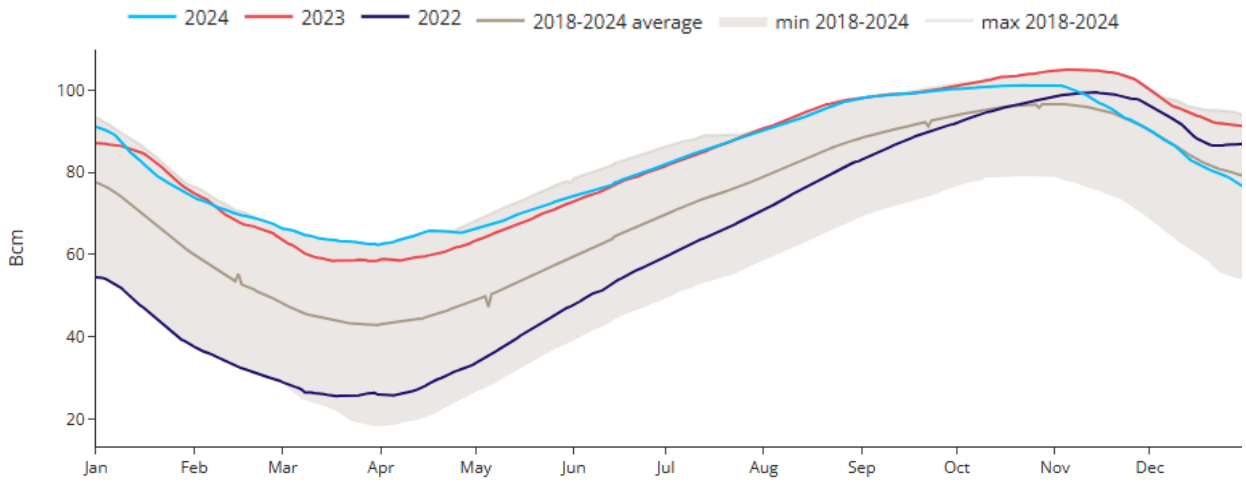
The price difference between Asian *spot* prices and TTF *spot* prices during the third quarter of 2024 was still largely in favour of the TTF (4.8 €/MWh). In the fourth quarter of 2024, this average was 1.3 €/MWh, showing that European buyers had to offer a lower price differential to Asia to bring LNG tankers to European shores.

European demand in Q4 2024 (115.5 bcm) was up by +6.8% compared with Q4 2023 (108.1 bcm). Industrial demand (20.5 bcm) was up by +2.5%, as was residential demand (72.7 bcm), up by +5.1% year-on-year. Gas demand for electricity generation was up by +18%, as a result of low production of renewable energy.

Russian exports to Western Europe increased by +3.8% (8.1 bcm) in the fourth quarter of 2024 compared with the fourth quarter of 2023. Imports from Norway decreased by -0.7% (29.7 bcm) compared to the previous year, and domestic production decreased by -2.6% (14.7 bcm). Imports from North Africa and Azerbaijan rose by +3.7% year-on-year (11.2 bcm). LNG sendout volumes decreased by -14.8% (30.5 bcm) in Q4 2024 compared to Q4 2023.

Net withdrawals from European stocks were significantly higher in the fourth quarter of 2024 than in the same period a year earlier. Whereas 9.3 bcm were withdrawn in 2023, 23.8 bcm were withdrawn in 2024. In 2023, injections continued until the beginning of November, which was not the case in 2024. The periods of and *Dunkelflaute* required greater withdrawals. Stock levels at the end of 2024 were therefore 72.2%, compared with 86.4% a year earlier.

Development of European storage facilities



Source: EnergyScan (Engie), GIE - Aggregated gas storage inventory

Medium-term outlook for natural gas, biomethane and LNG

According to the *IEA*, global gas demand should continue to grow in 2025, mainly driven by the fast-growing Asian markets. However, the pace of growth is expected to slow to less than 2% in 2025. Asia is expected to account for almost 45% of this increase. Global gas supply remains fragile and the market balance is tight. Growth in global LNG supply is expected to accelerate to 5% in 2025, thanks to the start-up and increased production of several major projects, particularly in North America. The cessation of Russian gas transit via Ukraine on 1st January 2025 (166 TWh/year less gas from Russia) should not pose any imminent risk to the European Union's security of supply, but it will increase the EU's LNG import requirements by almost 15%, keeping European hub prices close to Asian LNG spot prices. Added to this, gas storage levels in the European Union are already lower at the start of 2025 than they were the previous year, increasing the need for restocking during summer 2025 by some 280 TWh (April 2025 estimate). However, with the price differential between winter 2025 and summer 2025 remaining in negative territory, restocking could prove problematic unless the European legislation on the obligation to fill up to 90% of capacity by 1st of November is made more flexible. At the time of writing, this flexibility is under discussion.

In 2024, global biomethane production grew strongly, by an estimated +15%, reaching more than 10 bcm (source: *IEA*). This expansion was mainly driven by Europe and North America. In the United States, biomethane production has increased by more than +25% (or 0.7 bcm) to reach more than 3.5 bcm in 2024. The United States has thus consolidated its position as the world's leading producer of biomethane, accounting for more than 40% of the increase worldwide in 2024. Around 90% of the biomethane produced in the United States is used as a transport fuel. In Europe, biomethane production has increased by around +15% (or more than 0.7 bcm) in 2024, mainly thanks to France. Germany remains Europe's biggest market for biomethane, although its growth has slowed. French production almost quadrupled between 2020 and 2023, becoming Europe's second largest producer in 2023, ahead of Denmark. Preliminary data indicate a further +27% increase in French production in 2024, to over 1 bcm. France should become Europe's leading biomethane producer by 2025. Denmark, after years of strong growth, has only seen a +2% increase in 2024 due to a change in its support mechanisms. Italy and the Netherlands are also rapidly developing their biomethane production.

15% of the gas consumed in Europe will be renewable by 2030. The 2022 published REPowerEU plan calls for the production of 35 bcm of biomethane by 2030, or 8% of consumption by that date. Since the plan was published, significant progress has been made towards achieving the 35 bcm target. Gas and energy companies, energy majors and financial investors are investing massively in the sector.

Europe's LNG imports fell by -18% (almost 30 bcm) in 2024. However, the trend is set to be reversed with the expected reduction in Russian pipeline supplies and substantially higher requirements in 2025 than in 2024 for stocks to be 90% full at the start of winter, as required by the EU. From today's perspective, Europe's LNG supplies appear to be secure, with new liquefaction capacity recently commissioned in the United States (Plaquemines) and more planned over the next few years. With the change of administration in Washington, the US government is once again issuing the necessary authorisations for the construction of new liquefaction terminal projects. According to Engie (*Energyscan*), global liquefaction capacity should increase by +7% in 2025. In 2030, over 40% more capacity is expected than what was available in 2024, mainly in North America and Qatar.

The geopolitical situation in Europe and the Middle East remains highly uncertain. The Trump administration in the United States is blowing hot and cold on the economy and calling into question the alliances that have prevailed since the 2nd World War. Europe now depends on LNG for almost 40% of its gas supplies, half of which comes from the United States. Added to this are the operational risks for liquefaction, regasification and gas transport infrastructures. However, the market is currently reacting positively whenever it receives positive news of discussions between Russia, the United States and Ukraine, suggesting that some market players are attaching some probability to the return of Russian gas supplies by pipeline, particularly via Nordstream 2, one pipeline of which was not damaged in the explosions in the summer of 2022.

Sources: EnergyScan (Engie), European Commission Dashboard, Gas Report Q1 2025 (IEA), IEA Global Energy Review 2025, ICIS Heren Biomethane data 2024, Bilan gaz 2023 & Transition gazière (NaTran/ GRTgaz)