

ceegex

CENTRAL EASTERN EUROPEAN
GAS EXCHANGE



Global & Regional Market Analysis

NATURAL GAS, 2024

22/01/2024

STORIES OF THE YEAR 2024

January

- **Temporary pause on LNG projects in the US**
- Regardless of US sanctions Novatek **began production at Arctic LNG 2**
- **Red Sea crisis escalated**, ships had to sail around Africa instead of Suez
- Slovakia, Ukraine and Moldova joined the **Vertical Corridor initiative**

February

- **Balassagyarmat gas capacity** via Hungary into Slovakia **increased by 50%**
- **Extension of Freeport outage** by a month
- **Sign of Hungary-Turkey gas delivery contract** for Turkish export in '24 Q2-Q3

March

- Extension of the German storage neutrality charge
- **Ukraine** stated, that it did **not intend to extend the transit agreement with Russia**
- Restart of the gas production in Denmark's Tyra hub after 2019

April

- **Hungarian gas storage fees were reduced**
- **Balticconnector back in operation**
- Permanent closure of Groningen gas field
- **Egypt switched to imports**, halted all LNG exports
- Novatek scaled down Arctic LNG 2 project, due to sanctions
- **Attacks on Ukrainian gas storages**

May

- **Full operations have resumed at the Freeport LNG plant** in Texas
- Scheduled maintenance outages at the Troll and Kollsnes facilities in Norway

June

- EU countries have agreed on a 14th package of sanctions against Russia on June 20, introducing their **first restrictions on Russian gas**
- **First LNG vessel sailed through Red Sea since January in mid June.**

July

- Germany increased the gas storage levy from July 1
- Prices rose after geopolitical tensions in the Middle East escalated
- Freeport LNG had to shut down in preparation for Hurricane Beryl

August

- Ukrainian forces have captured a measuring station near the border town of Sudzha
- Europe reached the 90% gas storage target two month earlier on 19 August, Hungary met the target on September 2.
- The US sanctioned over 400 entities and individuals

September

- **FGSZ and Eustream, have agreed to increase the capacity at Balassagyarmat**
- NOVATEK sent a **non-ice-class LNG carrier** through the Northern Sea Route

October

- Balassagyarmat gas capacity via Hungary into Slovakia increased by 33%
- Serbia and North Macedonia have agreed to construct a 70-kilometer natural gas interconnector

November

- **Increase of German gas storage levy**
- **OMV warned of early Russian gas supply halt**
- US sanctions on Gazprombank

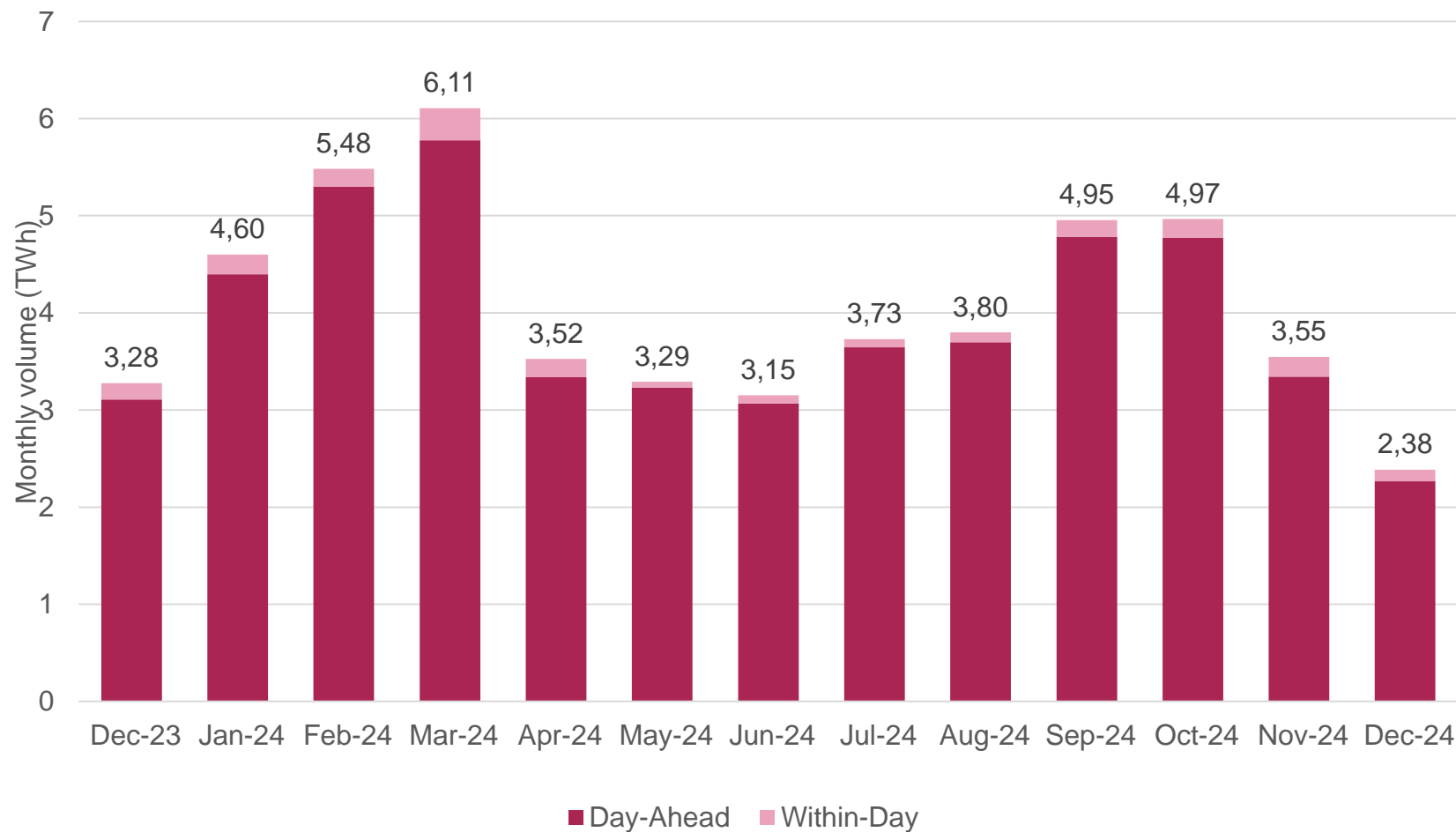
December

- **Germany abolished gas storage levy** at border points from 2025
- **OMV terminated Gazprom gas contract** after stopped deliveries
- **The transit of Russian gas via Ukraine ended 2025. January 1**

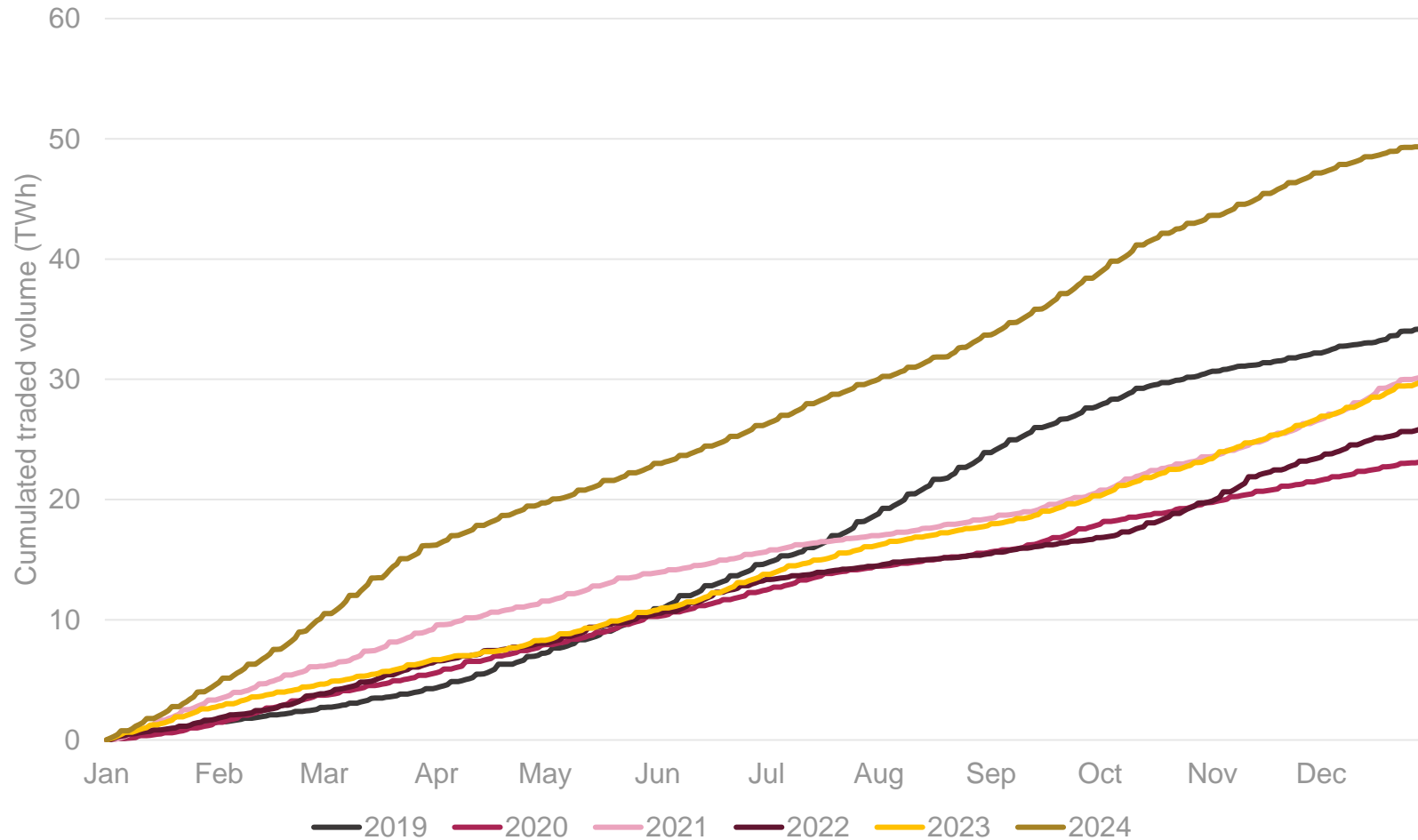
TRADED VOLUMES

EXPERT OPINION:

- » In December, traded volumes fell by around 30% both MoM and YoY.
- » The decline despite relatively high domestic gas consumption in December may have been due to lower export and import volumes compared with previous months, and the narrowing of CeegeX-TTF and CeegeX-BRM spreads may not have encouraged trading.
- » For the whole year 2024, the traded volumes were close to 5 TWh, an increase of about 65% compared to 30 TWh in 2023, with higher volumes traded in every month except December compared to the previous year.
- » Traded volumes may be related to annual domestic export volumes, which were also higher in 2024 than in 2023.



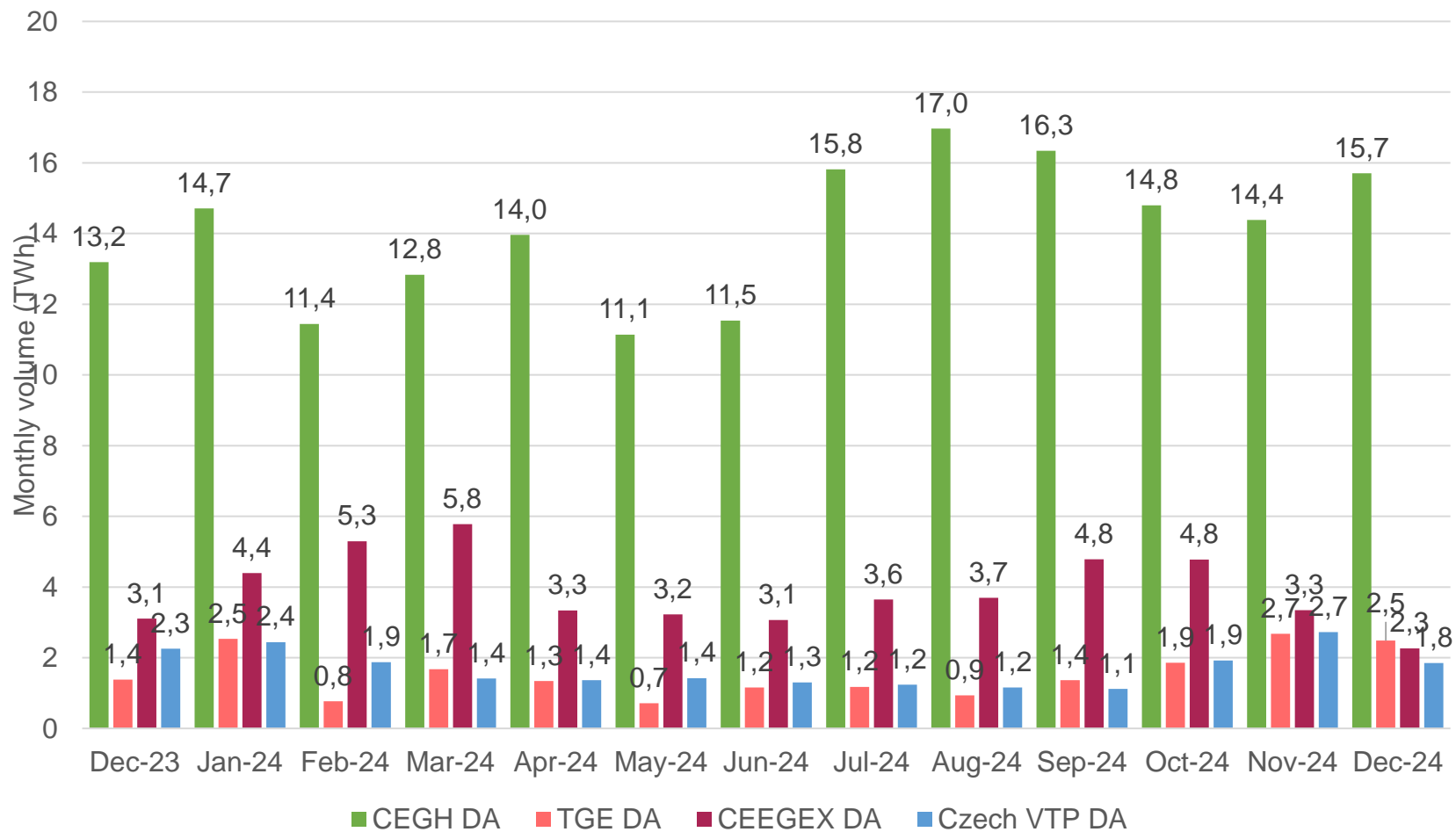
TRADED VOLUMES YEARLY COMPARISON



EXPERT OPINION:

- » The cumulative annual volumes graph shows the **65% increase compared to last year**, and a **45% increase compared to the previous record year 2019**.
- » **2024 Q1 started with record volumes**, doubled the 2023 numbers, and 76% increase compared to 2021 Q1.
- » **Since Q1, traded volumes in each month were also close to record levels**, generally only surpassed by 2019 volumes.
- » **In September and October, volumes traded exceeded the previous September and October maximum**, as can be seen in the chart.

REGIONAL SCOPE DA MARKETS



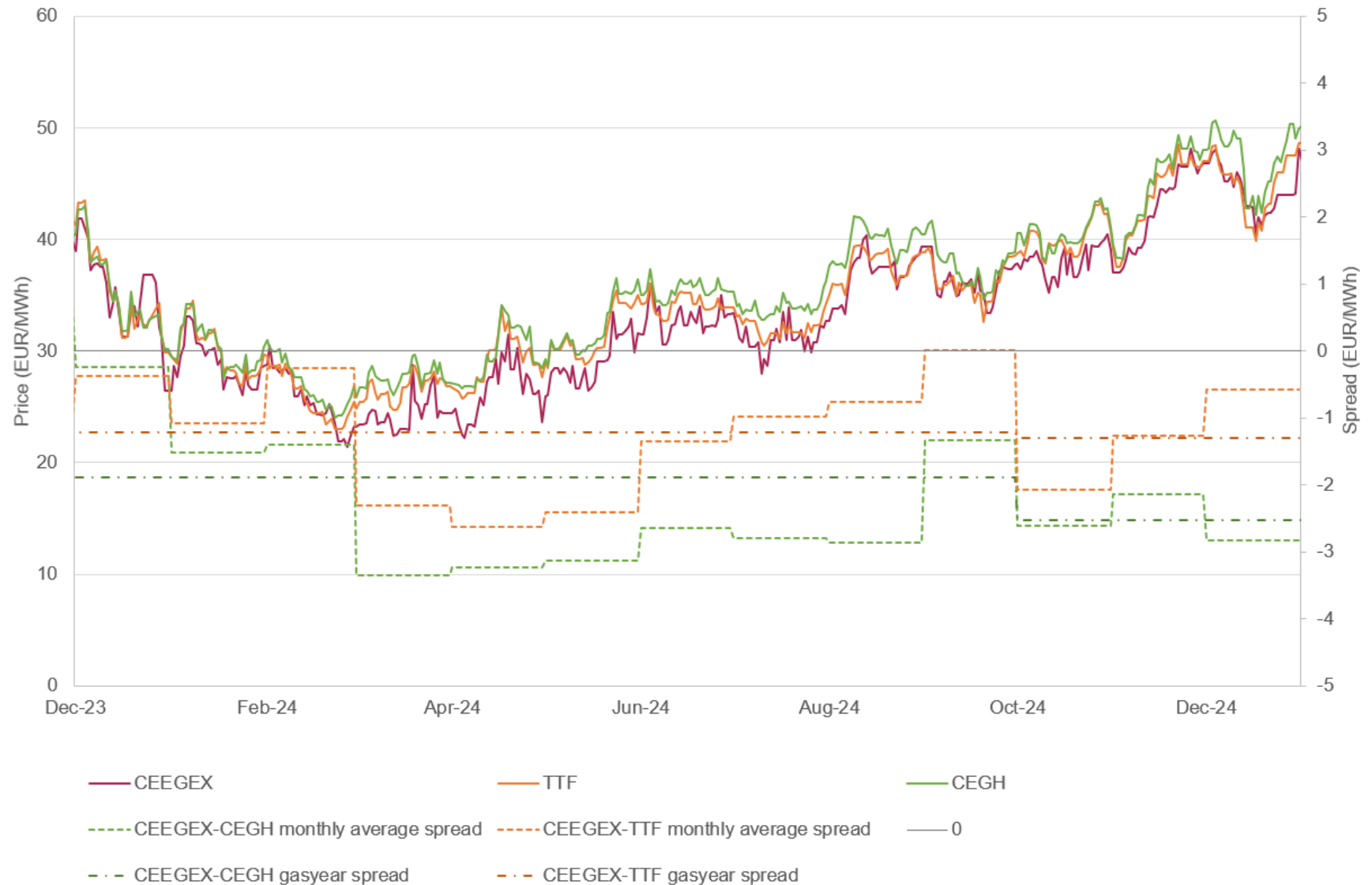
EXPERT OPINION:

- » The monthly volumes in December have decreased on CEEGEX, slightly increased on CEEGH and decreased on TGE and Czech VTP, compared to November.
- » YoY, CEEGEX volumes saw a decrease of around 25%, while CEEGH volumes increased. YoY, Polish TGE volumes increased strongly.
- » Compared to 2023, volumes traded on CEEGH have remained roughly stagnant for the whole 2024, compared to a significant increase on Ceegeex.

TTF, CEGH PRICES AND SPREADS

EXPERT OPINION:

- » In November and December, the narrowing of Ceegeex-TTF spread continued.
- » For most of 2024, Ceegeex prices were lower than TTF and CEGH prices. With year-end price increases, Ceegeex approached TTF prices.
- » The trend of prices in 2024 was similar on the three exchanges examined. Prices above 30€ at the beginning of the year fell below 25€ until March, and then followed an upward trend until the end of the year, with prices approaching 50€ at the end of the year, double the annual minimum.
- » The evolution of prices may be influenced by geopolitical factors and LNG supply, the price of gas arriving through the South Stream pipeline was less affected by the global price increase for most of the year, but concerns about year-end supplies also affected Hungarian prices more.



BRM, BGH PRICES AND SPREADS

EXPERT OPINION:

- » At the **beginning of November, CEEGEX, BRM and BGH exchange prices started to rise** from a lower level of around 37€. The prices reached their annual maximum around the beginning of December. After April, the observed exchanges' prices parted after moving together for 4 months.
- » Compared to the 2024 January prices, 2024 December prices increased by an average 14€. All in all, the price volatility of 2024 was lower, than in 2023.
- » Throughout 2024, **prices on the Romanian and Bulgarian exchanges usually remained below the price of CEEGEX**, however, mainly in January, April and December, BRM prices reached or exceeded CEEGEX's.
- » The discount for most of the year, due to stable and relatively high production on the Romanian side, and a fixed and large flow from Turkey on the Bulgarian side.
- » The price increase in November effected the Bulgarian and Romanian exchanges more.



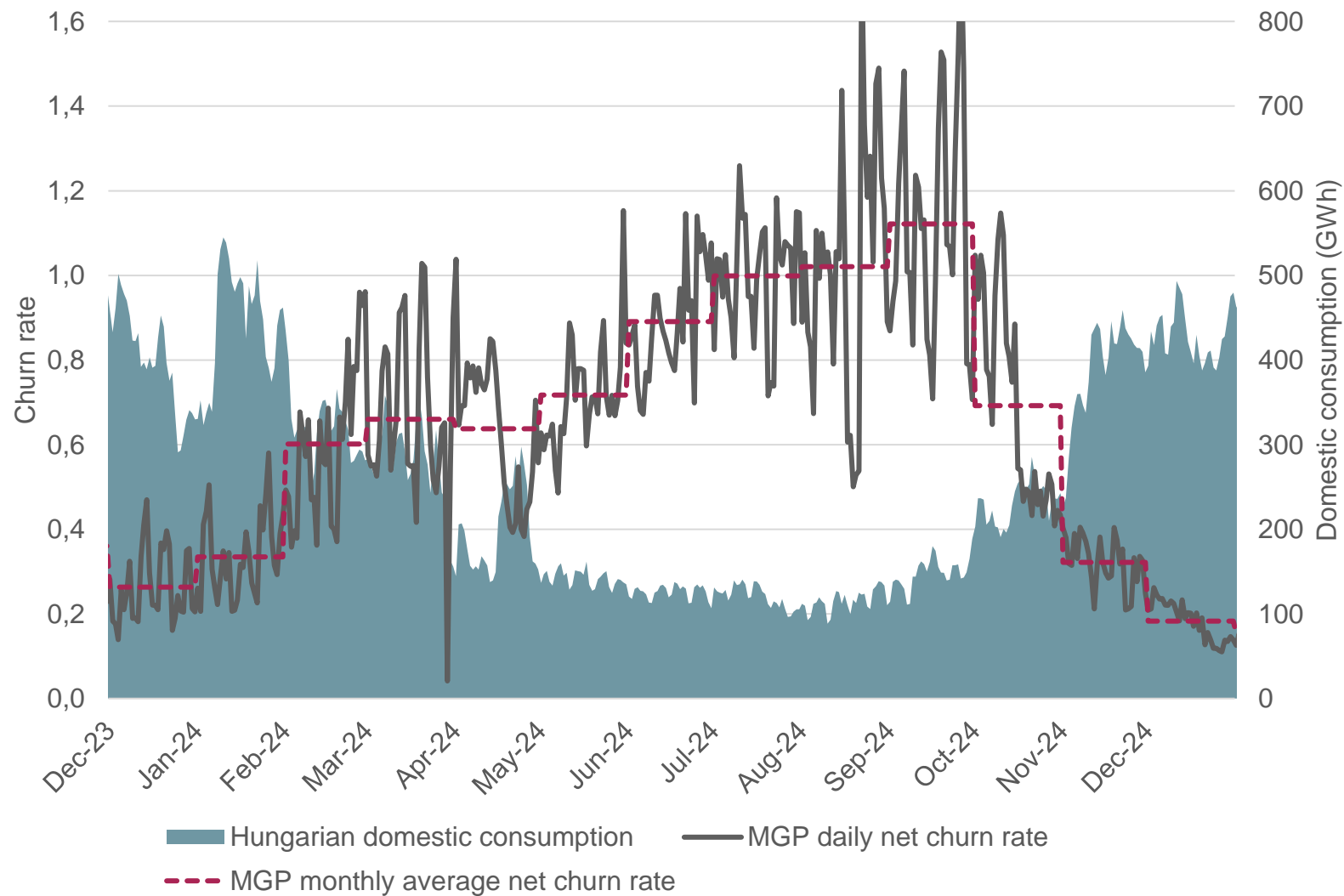
JAPANESE CANDLES LAST 3 MONTHS



EXPERT OPINION:

- » The Japanese candle chart also shows that **after a price drop in early December** due to better weather, **prices rose until the end of the year.**
- » In November and December, price **volatility increased** compared to October.
- » In November, and especially in December, significant intraday price changes weren't as typical as in October.

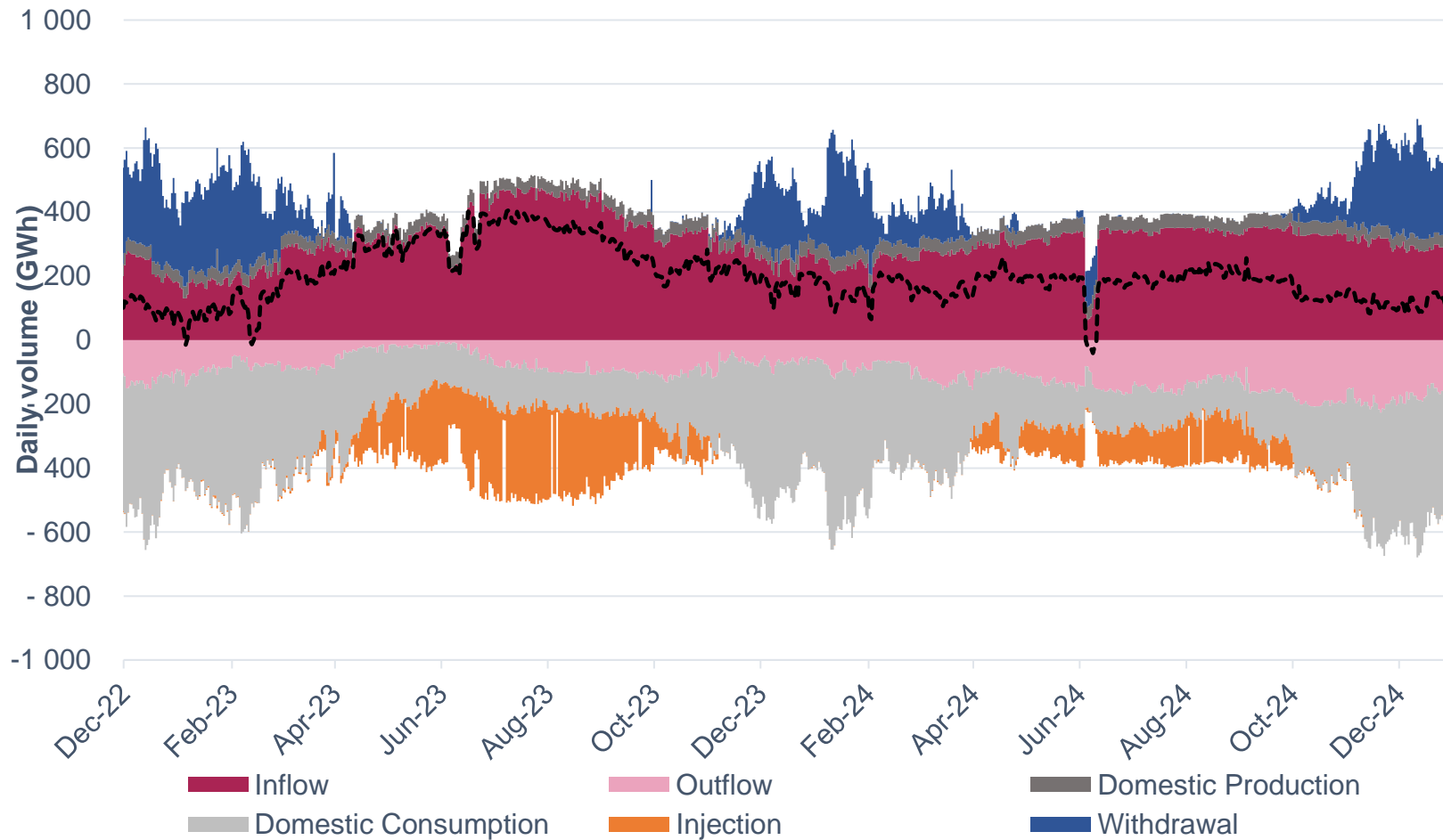
CEEGEX CHURN RATE



EXPERT OPINION:

- » 2024 CEEGEX yearly average churn rate was above 2023, because **traded volumes increased, while gas usage stagnated.**
- » Daily churn rate peaked in September, as it reached a **record high 1.6 churn rate and monthly churn rate also peaked in September, it was above 1.1.** The traded volumes were the highest and the gas consumption of Hungary was the lowest during this period.

HUNGARIAN GAS MARKET BALANCE



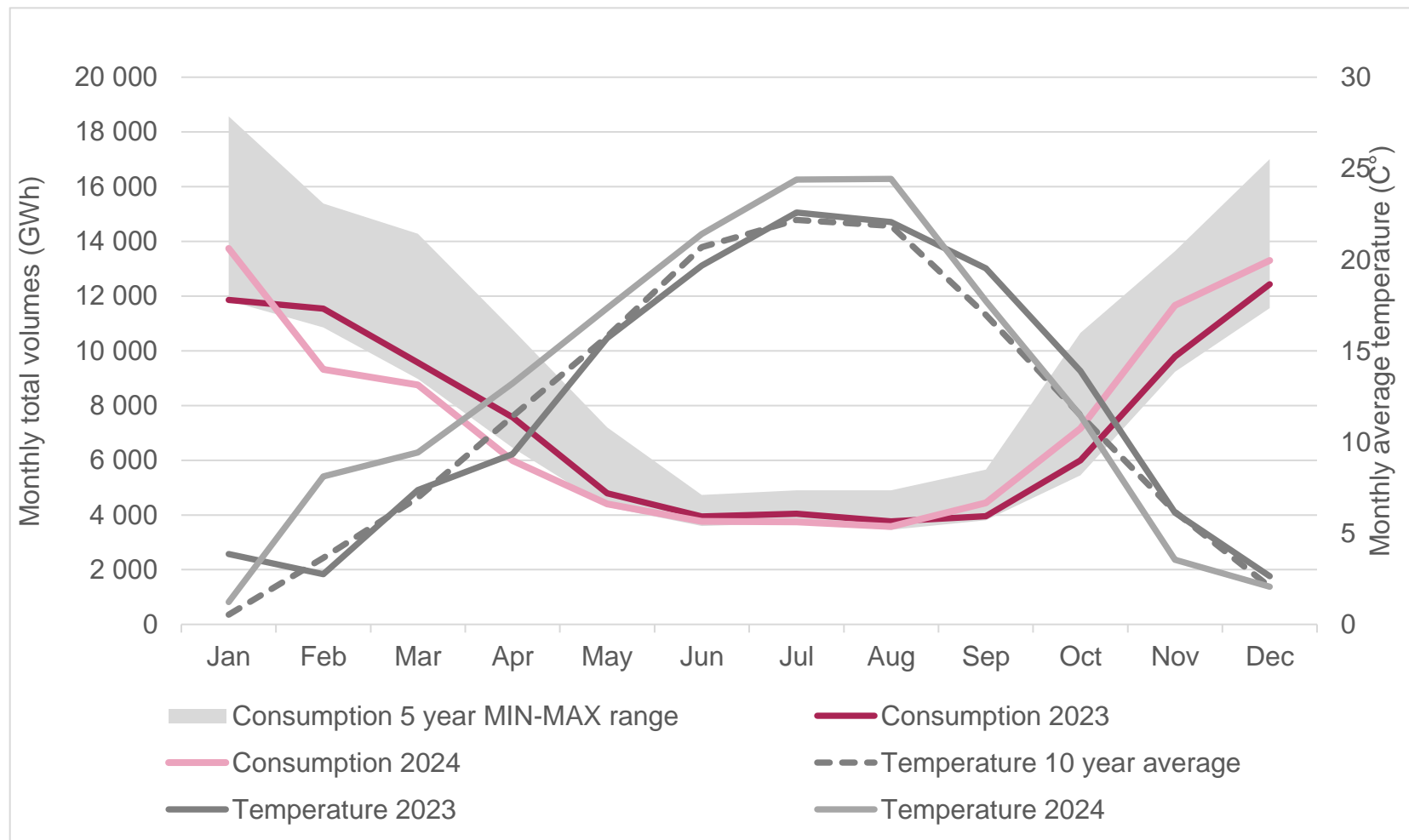
EXPERT OPINION:

- » YoY there was a growth in domestic consumption, up by more than 10% compared to December last year. The YoY increase may be due to a colder December than last year.
- » Consumption from September was higher than in 2023.
- » Domestic production remained on similar level as in 2023.
- » In 2024, import volumes have slightly decreased compared to 2023, while exports volumes doubled.
- » In December, the withdrawal was highly significant, similar to November.

HUNGARIAN DOMESTIC GAS CONSUMPTION

EXPERT OPINION:

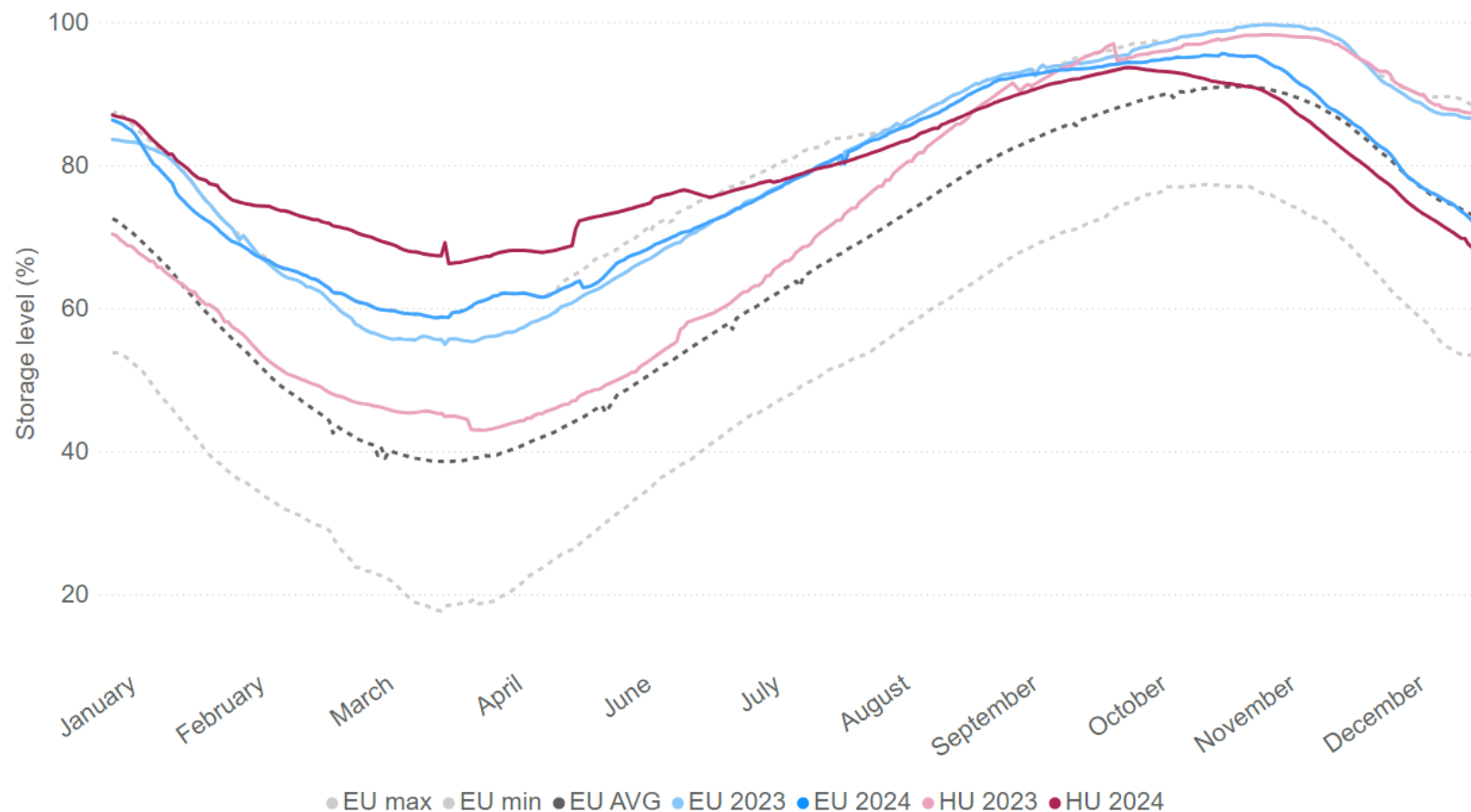
- » Between February and September 2024, average monthly temperatures were higher than both the previous year and the 10-year average.
- » As a result, **consumption in the first half of the year was lower than in 2023.**
- » However, in the second half of the year, average monthly temperatures dropped below 2023 levels, with a particularly colder heating season in 2024.
- » Consequently, **consumption exceeded last year's levels during 2024 H2.**
- » All in all, **temperature fluctuations influenced consumption patterns.** Summer consumption remained roughly the same, while **there was a noticeable difference during the heating season due to temperature changes.**
- » According to that, in the industrial sector, there were no significant consumption reduction.



GAS STORAGE LEVEL IN EU AND HU

EXPERT OPINION:

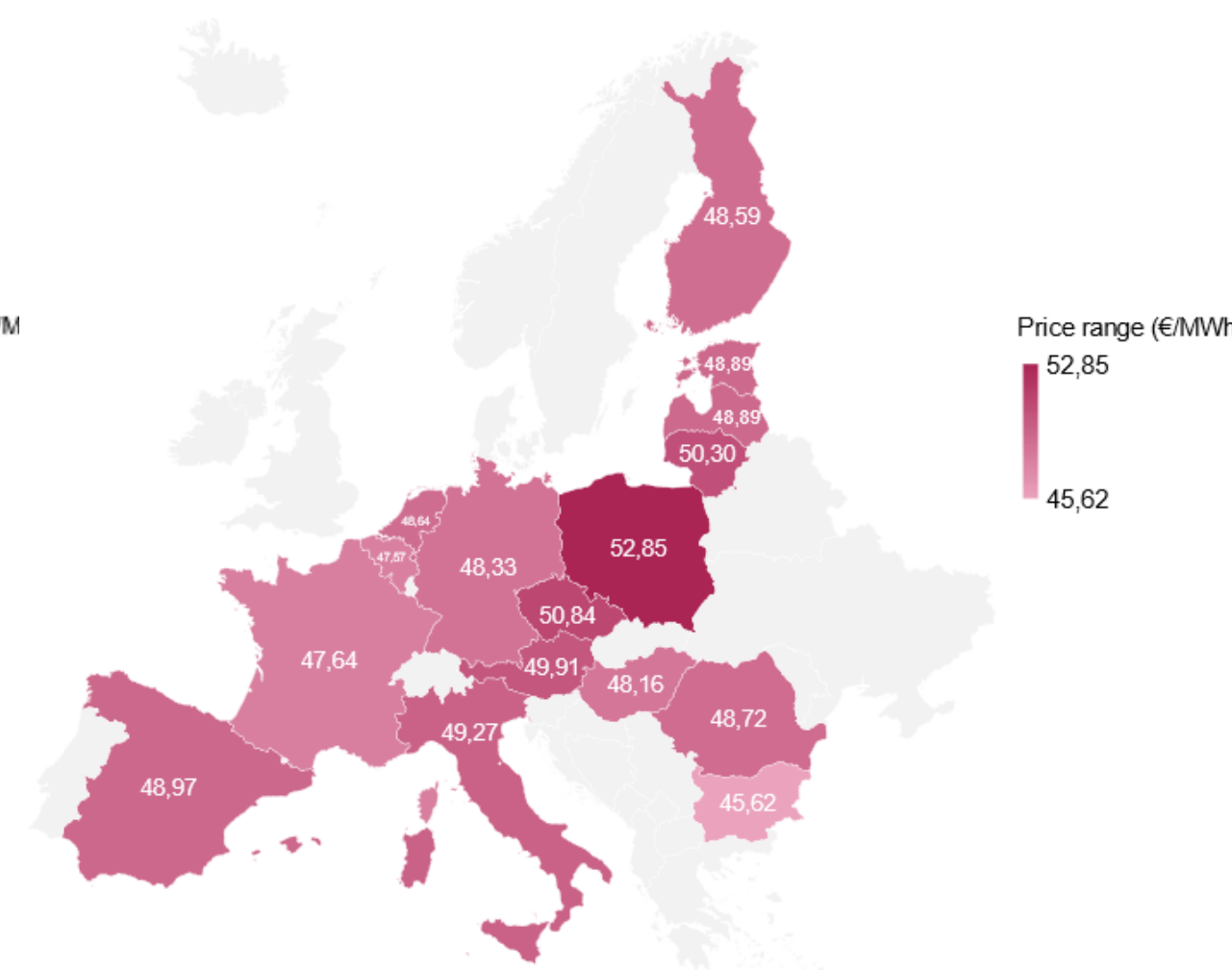
- » In the end of 2024, the aggregated EU storage facilities stood at 72,2% (-16% YoY), while Hungarian stocks stood at 68,5% (-21% YoY).
- » Both EU and Hungarian gas storage levels are way below last year's values. Moreover, the TTF winter-summer spread flipped to negative in the beginning of November.
 - » This can lead to stronger injections throughout the summer of 2025.
- » Reasons behind the lower inventory levels at the end of the year:
 - » Increasingly tight market: EU is becoming more vulnerable to market volatility, as it relies on global LNG to replace Russian flows through Ukraine.
 - » Colder winter not only in Hungary, but across Europe supports withdrawals.



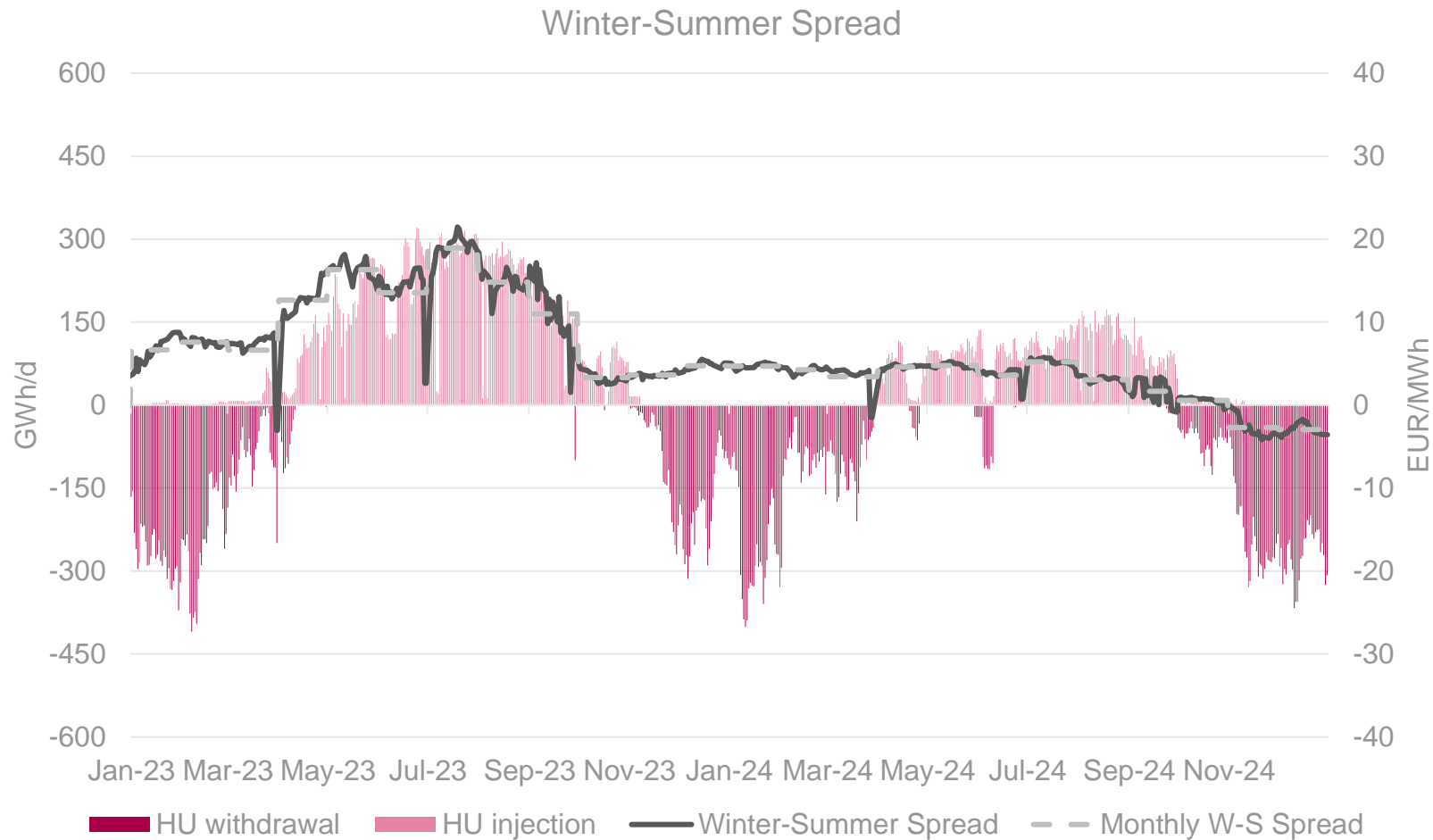
NATURAL GAS PRICES SNAPSHOT

29/12/2023

31/12/2024



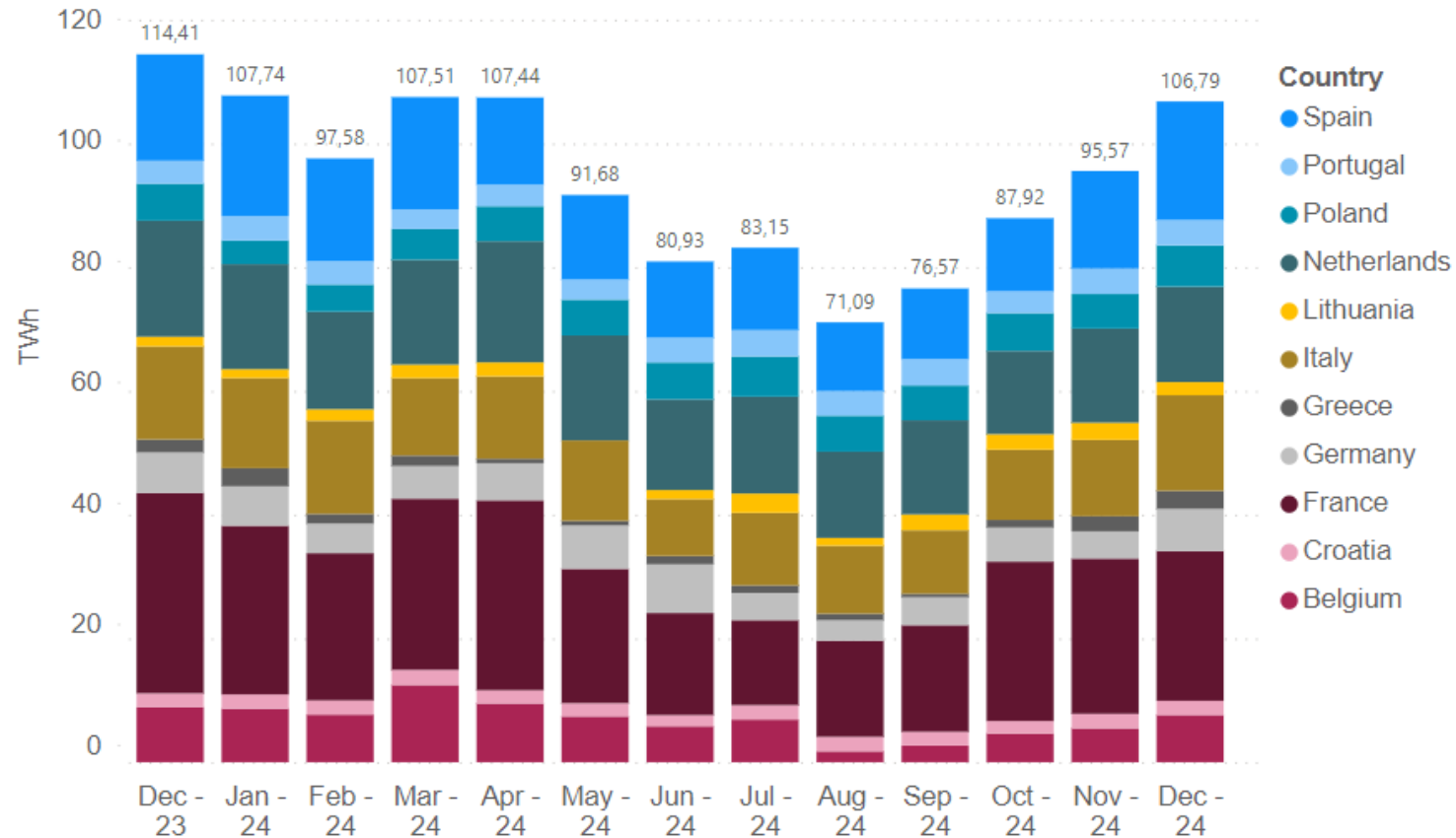
WINTER-SUMMER SPREAD



EXPERT OPINION:

- » The winter-summer spread shows the price difference between **winter 2025/26 and summer 2025**,
- » The TTF winter-summer spread hit an all-time low (-4 EUR/MWh) in November and is **currently negative, indicating that gas might be cheaper next winter than next summer**.
- » This can be attributed to the strong withdrawals in November and December and the tight market conditions after the end of the Ukrainian transit.
- » Negative summer-winter spreads can impact injections, making it harder for the EU to reach the 90% storage target.
- » The spread was quite balanced in the first half of 2024.
- » At the end of 2024, the winter-summer spread is around **-3.5 EUR/MWh**.

LNG SEND-OUTS BY EUROPEAN COUNTRIES* MOM

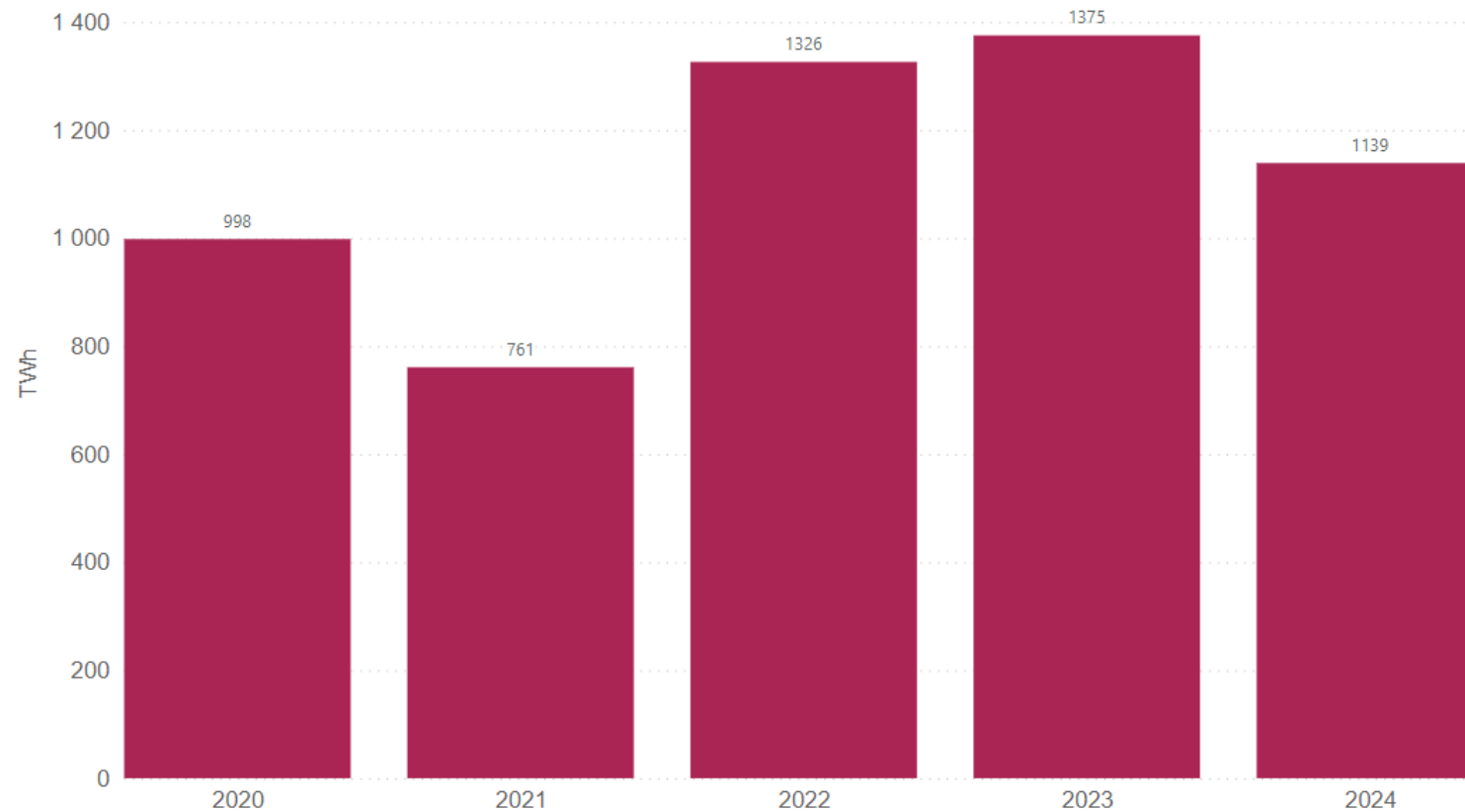


EXPERT OPINION:

- » **European LNG imports increased by 14% MoM but decreased by 7% YoY.**
- » In the end-of-year period, European **temperatures were weaker** than last year, which may explain the increase in LNG send-out volumens.
- » **Egypt was expected to seek more LNG cargoes** in 2025 Q1, which would further increase global competition for LNG and **could push European gas prices higher** this winter.
- » Another reason for the increased volume may be that the approaching **end of the year halt to Ukrainian transit** has also encouraged some countries **to increase imports.**
- » Unusually, by the end of the year, **European prices were more expensive than Asian LNG prices**, which may have attracted shipments towards Europe.

• Excluding UK, Finland (data not available)

LNG SEND-OUTS BY EUROPEAN COUNTRIES* YOY

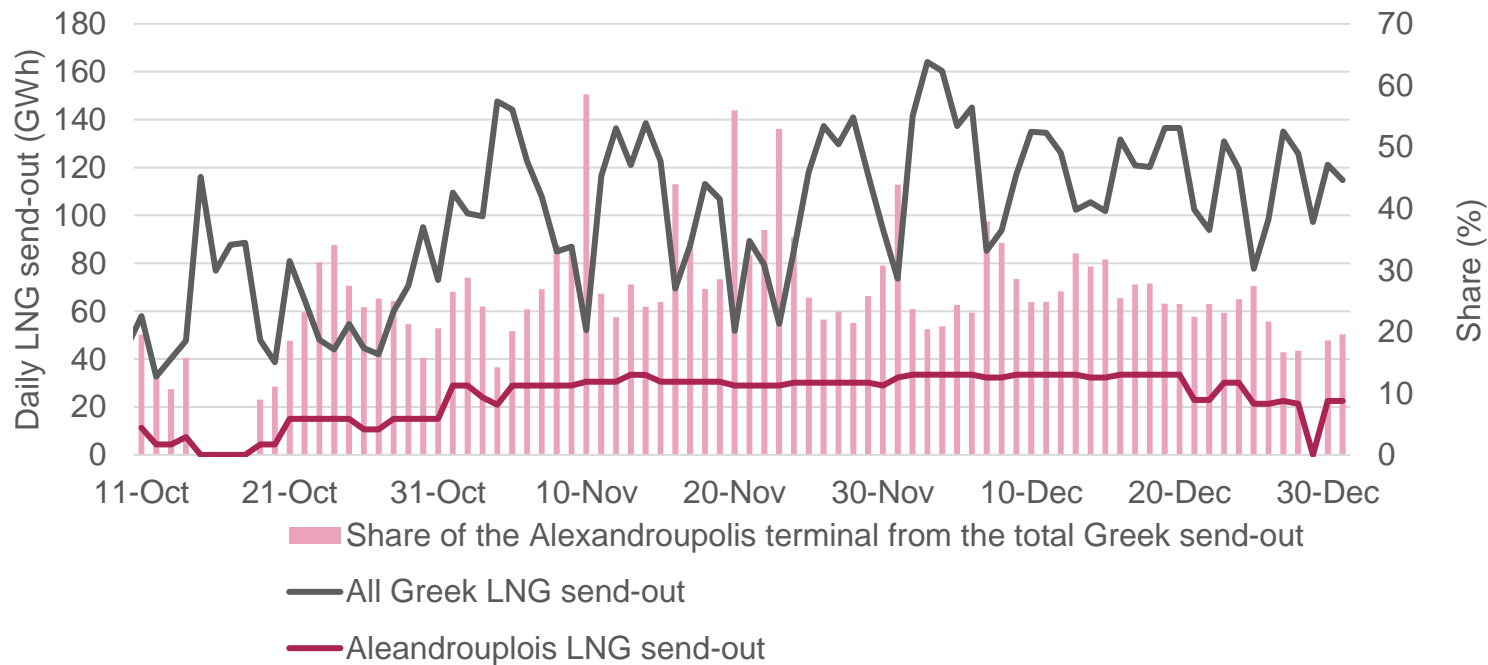


- Excluding UK, Finland (data not available)

EXPERT OPINION:

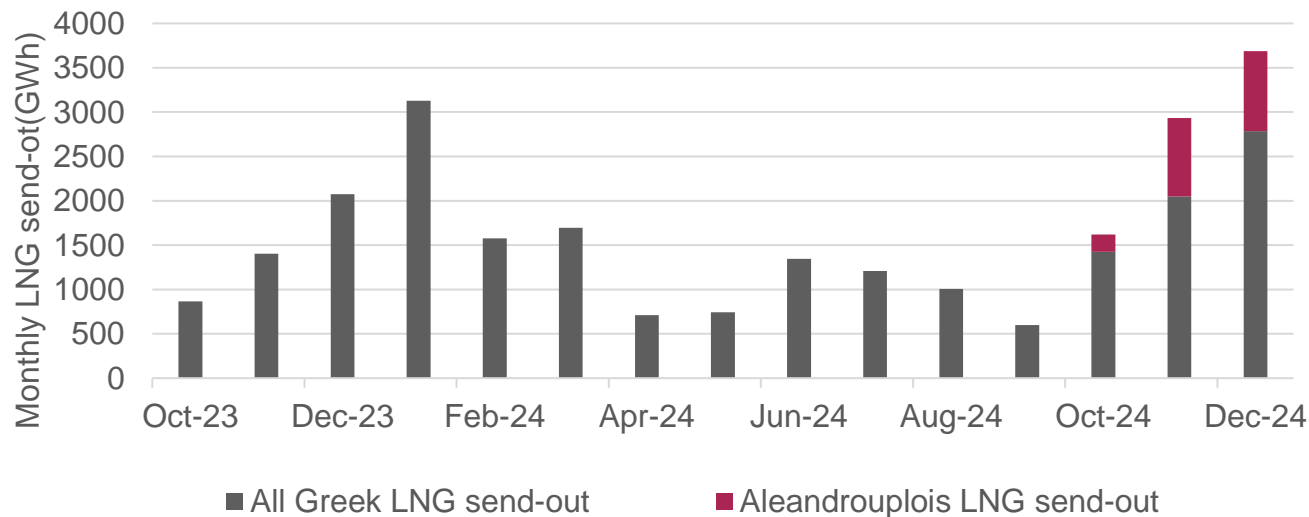
- » The figure shows the LNG send-outs of European countries year by year.
- » Europe refers to the same countries shown in the previous figure: Belgium, Croatia, France, Germany, Greece, Italy, Lithuania, Netherlands, Poland, Portugal, Spain.
- » The four countries producing the highest values in 2024 continued to be **France, Italy, the Netherlands** and **Spain**.
- » The value **nearly doubled from 2021 to 2022**, as a result of the Russian Ukrainian war.
- » There was a **small increase from 2022 to 2023**,
 - while a **decrease of more than 200 TWh** is seen **from 2023 to 2024**. The increasing competition with Asia for LNG shipments may have played a role in the decrease.

THE ALEXANDROUPOLIS LNG TERMINAL IN 2024



EXPERT OPINION:

- » **The Alexandroupolis LNG terminal in Greece began operations in early October**, marking a significant step forward in diversifying energy supplies for the region.
- » The terminal **sources LNG from the United States, Qatar and Egypt:**
 - » with **potential supply routes** to countries including **Greece, Bulgaria, Romania, North Macedonia, Serbia, Moldova, Ukraine, Slovakia, and Hungary.**
- » During 15th-18th October the terminal was under scheduled maintenance and halted send-outs.
- » **Since November, the share of the Alexandroupolis LNG send-out stayed stable between 25-30%** from the total Greek LNG send-out, which is approximately 30 GWh/day.
- » **Total capacity of the terminal is 240 GWh/day**, which shows a promising potential to play a larger role in the future.
- » **Compared to 2023**, when Greece had one LNG terminal, Revithoussa, **Greek LNG send-out increased by 43% in October, by 87% in November and by 77% in December.**



RECENT INFRASTRUCTURE ADVANCEMENTS AND UPDATES

1

Balassagyarmat capacity increase

2

Balticconnector back in operation

3

Start of the Alexandroupolis LNG terminal

4

Vertical Corridor Implementation started in Bulgaria

5

Komotini interconnection point

6

Germany's Baltic Sea terminal of Mukran started operation

7

Denmark's Tyra hub restarted gas production

8

Permanent closure of the Groningen gas field

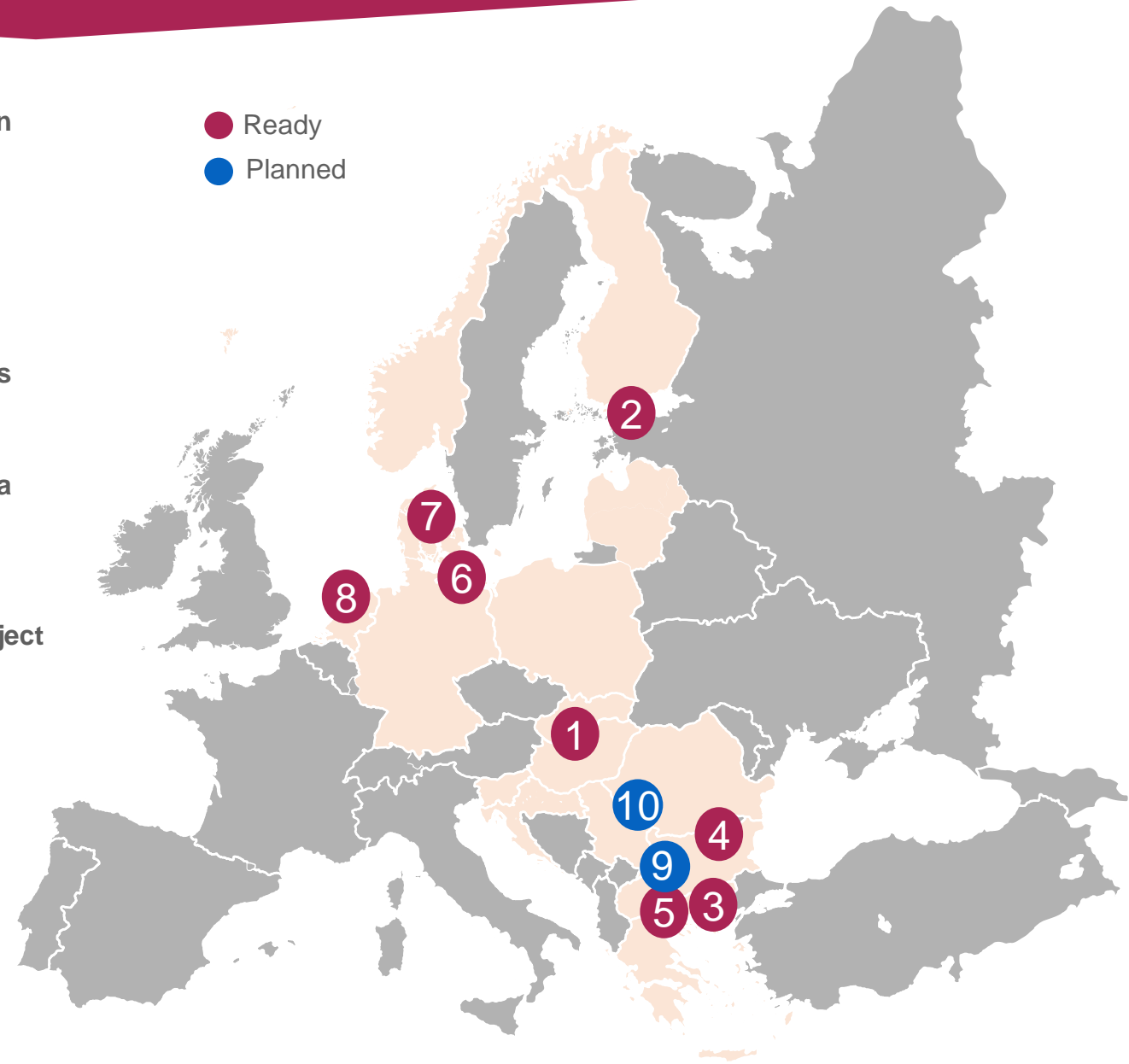
9

South-north gas pipeline linking Bulgaria and North Macedonia with Hungary

10

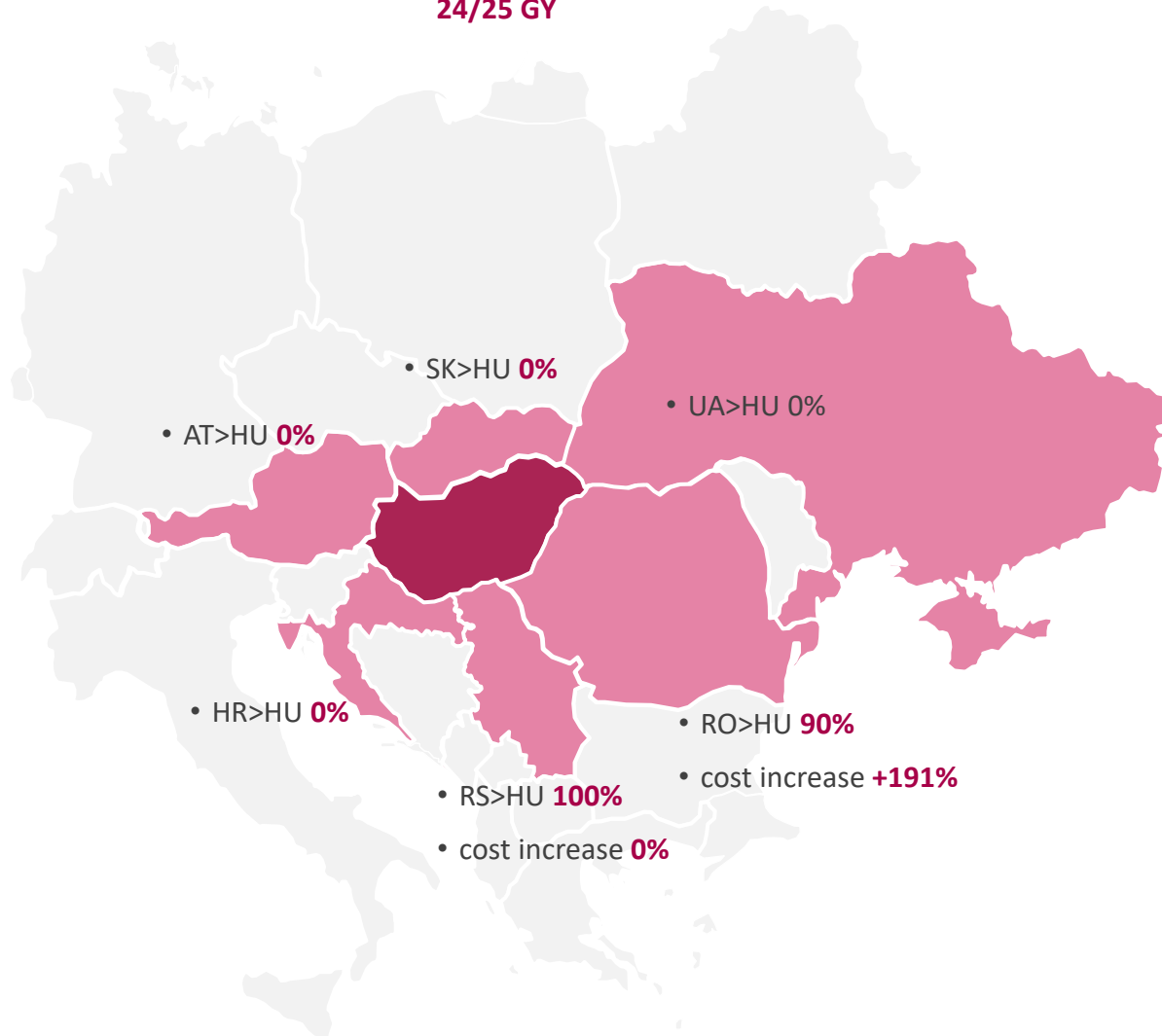
Romania and Serbia interconnector project

● Ready
● Planned



YEARLY CAPACITY AUCTIONS IN JULY, IMPORT

Yearly Firm Capacity product 24/25 GY



Yearly Firm Capacity product 23/24 GY

- SK>HU 0%
- UA>HU 0%
- AT>HU 96%
cost increase 4%
- RO>HU 97%
cost increase 160%
- HR>HU 42%
cost increase 0%
- RS>HU 99%
cost increase 0%

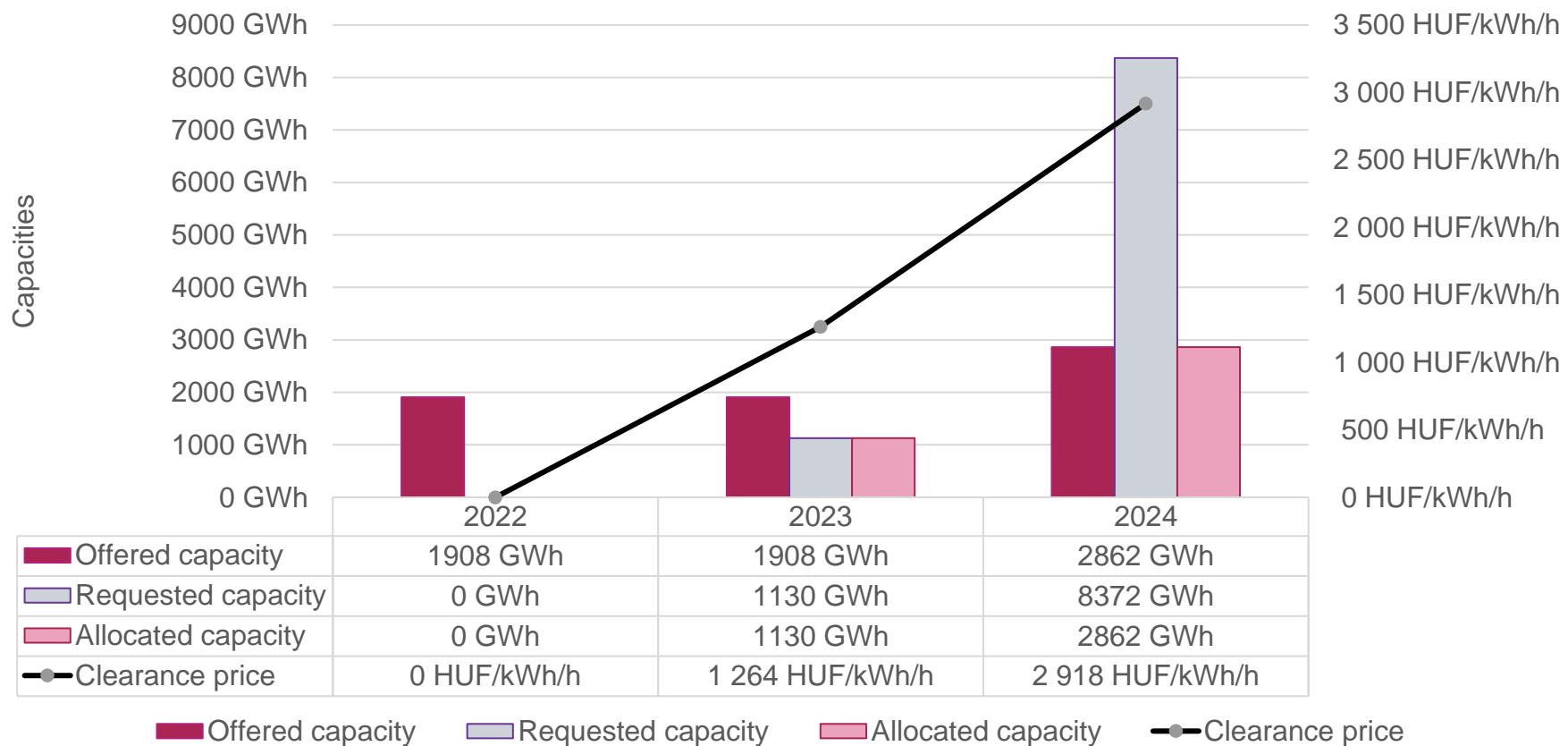
EXPERT OPINION:

- » AT>HU: No bookings in this year, significant decrease after previous year July.
- » RO>HU: This route very popular this year and last year as well, driving up premiums significantly.
- » HR>HU: No bookings this year, despite of constant inflow volumes.
- » SK>HU: No one booked capacity in this July.
- » RS>HU: There was only one participant, just like last year.
- » UA>HU: No one attended the auction.

HU > SK YEARLY CAPACITY AUCTIONS

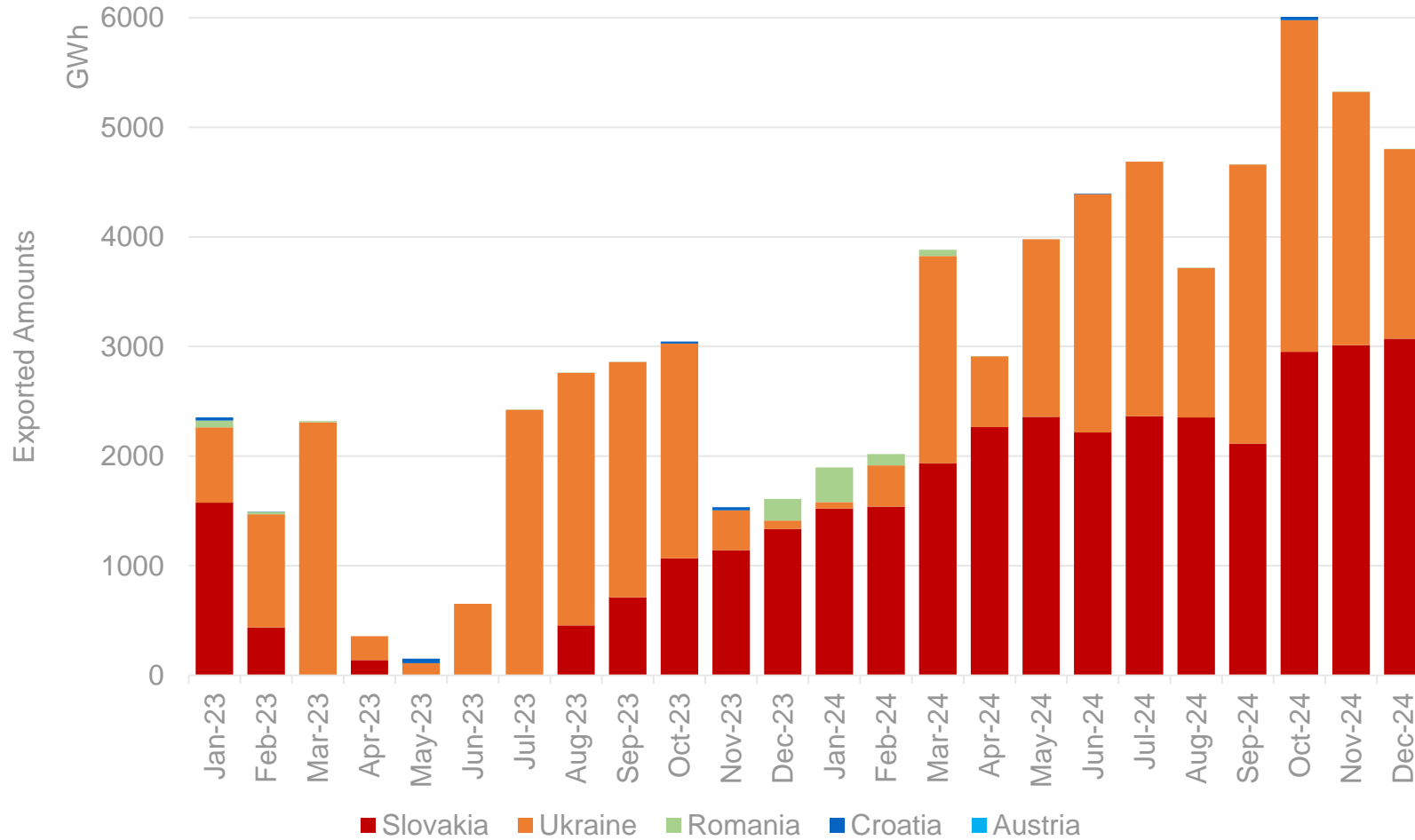
EXPERT OPINION:

- » There was a **significant increase** in demand and clearing price as well.
- » There is a steep upward curve in interest, showing a large interest in gas import from Hungary to Slovakia.
- » The **expected cease of Russian gas** flows via Ukraine could be a key factor, because more than one alternative routes are coming through Hungary.
- » **Possibly, gas flows** from Hungary also **go to Austria** via Slovakia.
- » It could mean that our **position as transit country** is getting valued more.
- » The **requested capacity could increase further next year**, if the conditions stays similar.



	2022	2023	2024
Number of auction participants	0	4	18

Hungarian Exports



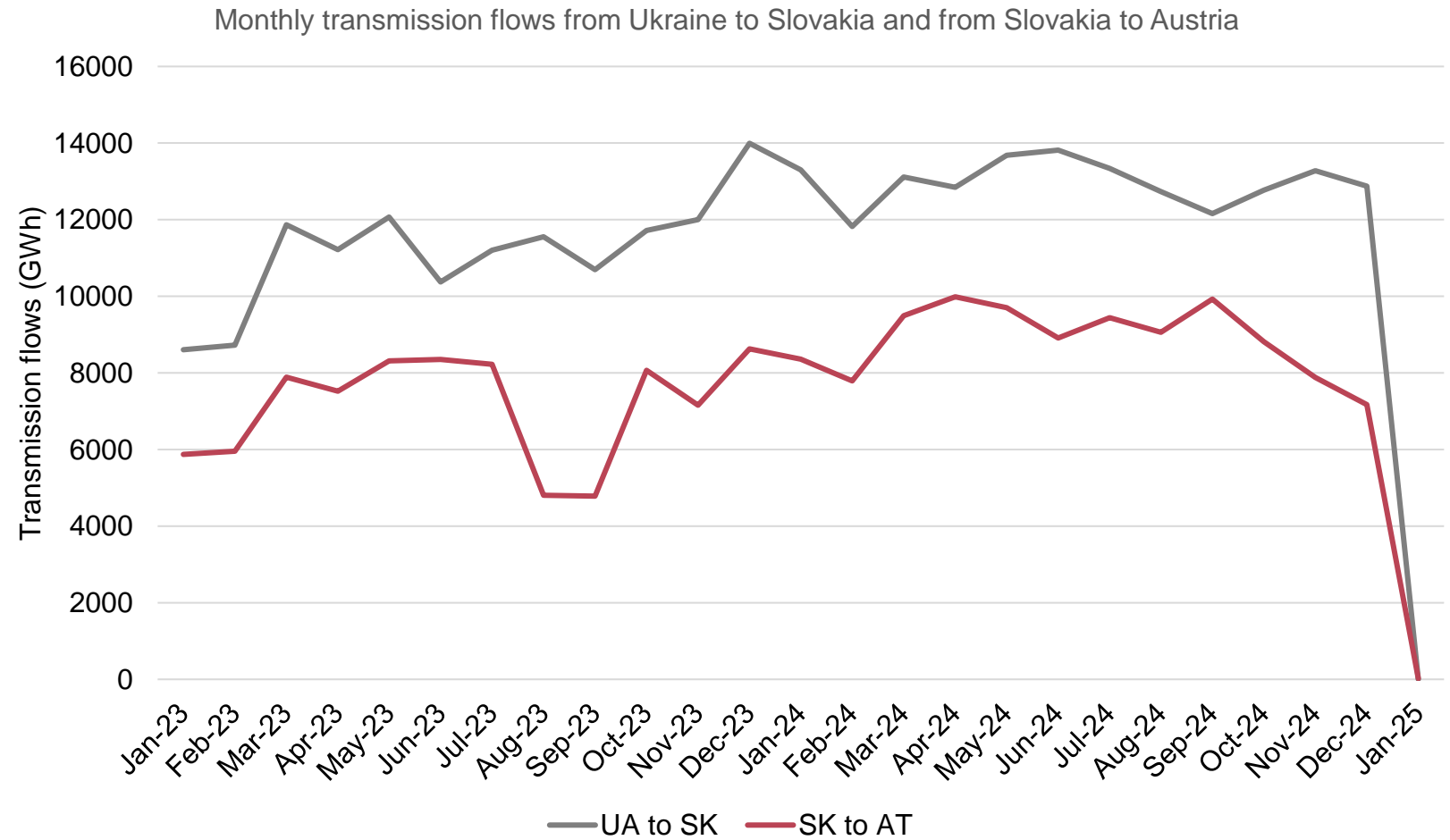
EXPERT OPINION:

- » The exports to Slovakia increased by big amount from 2023 to 2024, due to the cross border capacity extensions too.
- » Exports to Ukraine also increased significantly, with significant outflows in almost every month of 2024.
- » Surprisingly, outflow volumes to Ukraine also fell in early 2025, in line with the Ukrainian transit stoppage.
- » At the end of 2023 and at the beginning of 2024 there were exports from Hungary to Romania. The reason for this may be that the spreads were reverse. The Hungarian prices were more favorable than the Romanian prices at this time.

UA-SK, SK-AT FLOWS

EXPERT OPINION:

- » **The gas flow from Ukraine to Slovakia** started to drop in November 2024 and **reached zero on January 1, 2025, due to the end of the transit agreement** between Ukraine and Russia and the end of contracts between the TSOs.
- » A **similar phenomena can be observed** on the transmission flows **from Slovakia to Austria**, however, the decrease started earlier in October.
- » **Austria received gas**, probably through other distribution lines for higher prices, **despite the stopped gas supply between Gazprom Export and OMV from November 16, 2024**, as the contracts between the TSOs were still ongoing. However, the supply came to a full stop on January 1, 2025.
- » **After the end of the transit agreement Slovakia importing gas only through Hungary**, while **Austria secured different routes (through Germany)** to adapt to the current situation.

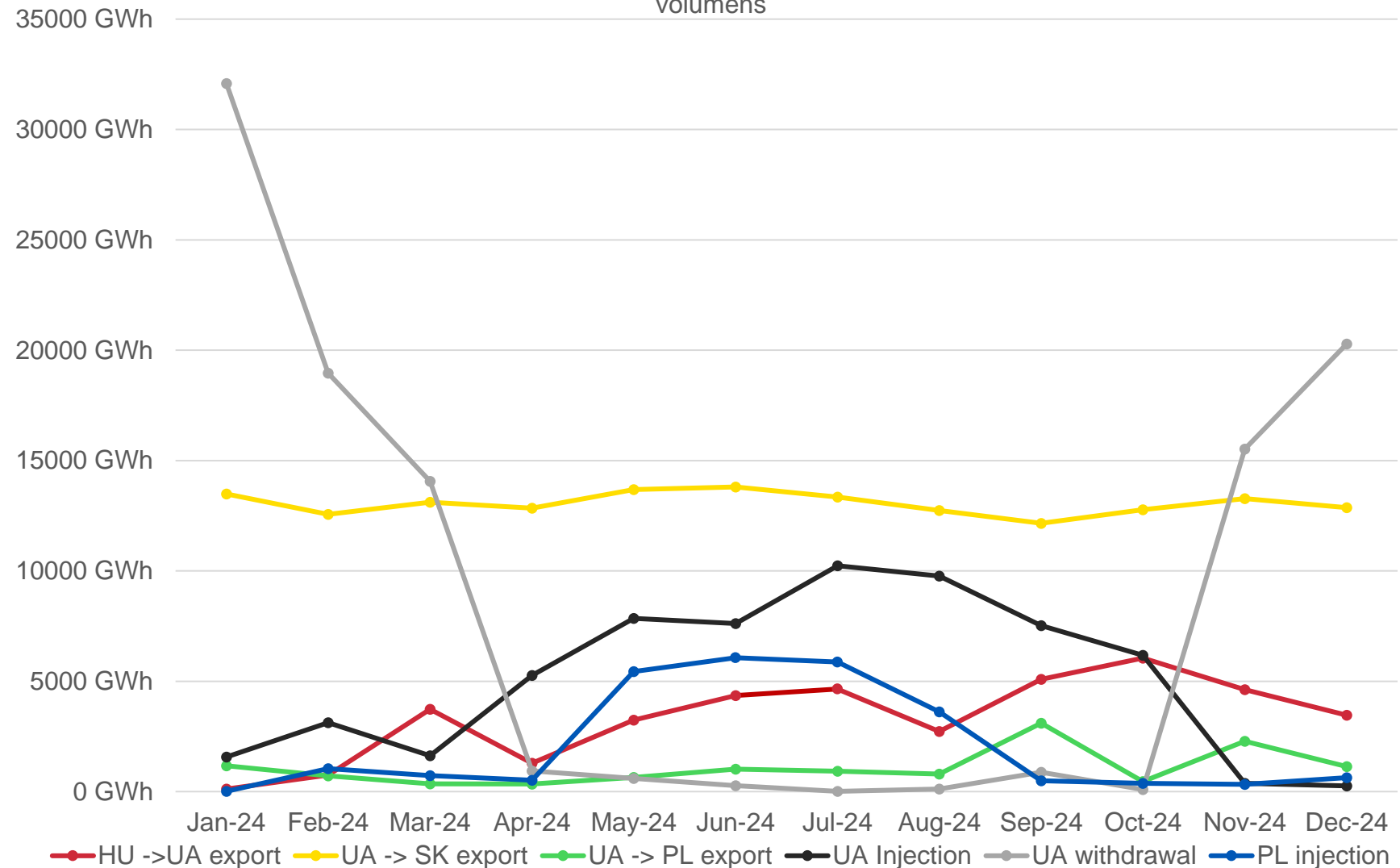


TRENDS IN UKRAINIAN GAS FLOWS

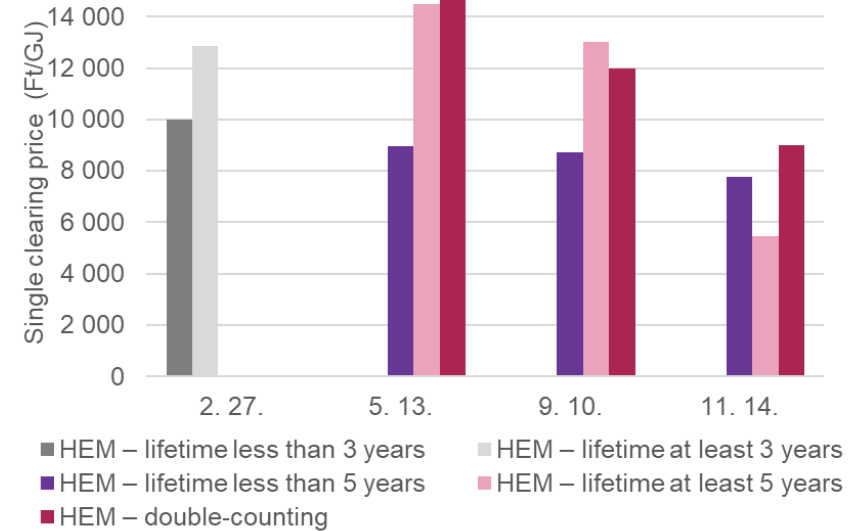
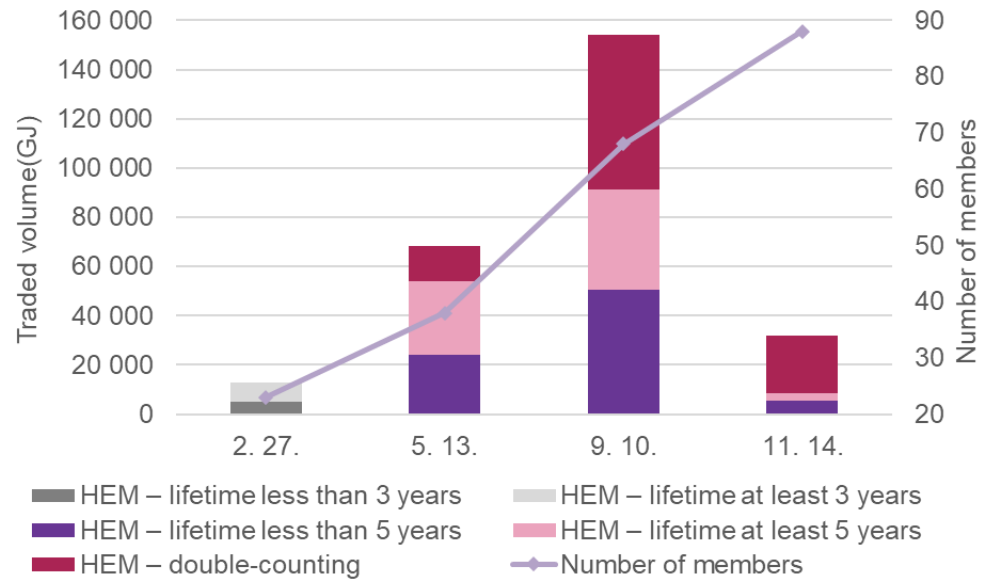
EXPERT OPINION:

- » During 2024, **gas exports from Hungary to Ukraine increased** compared to 2023. Between the 4th and 10th months, the **volume of gas exported from Hungary was equivalent to half of the total gas injected** into Ukrainian storages.
- » The volume of **Slovak imports** remained stable and high, **averaging about 13 000 GWh per month**. There was no disruption in the imported quantities even in the end of the year, it became evident that Ukrainian gas exports to Slovakia would cease.
- » Polish exports were marginally low throughout the year, with a few standout months during the autumn injection period. However, it is evident that Poland's gas demand was not covered by imports from Ukraine.
- » It can be **concluded** that the volume of **Hungarian gas exports to Ukraine, in few months correlated with the gas exported from Ukraine to Poland**, mainly during the injection period.

Aggregated monthly volumens from HU to UA, from UA to SK&PL and withdrawal and injection volumens



HUNGARIAN WHC MARKET



White certificate exchange started in 2024 February under the scope of the Hungarian Energy Efficiency Obligation Scheme.

» **Each auction has seen increased participation**

- » On the third auction, 68 members participated, which is double the number of participants in the second one.
- » Number of members on the market reached 88 for the fourth auction.

» **The traded volume at the EKR auction on the 10th of September was more than double the volume traded on 14.05. and more than ten times the volume traded on 27.02.**

- » Looking at traded volumes by product, we can see that volumes have increased for all products, especially for double-counting HEM*, where the volumes have more than quadrupled.

» Due to lower demand, volumes and prices experienced a significant drop on the last auction of 2024.

» **A decreasing trend is observed in the prices of all products.**

- » Most notably for double-counting HEM, where prices were lower than for HEM with a lifetime of at least 5 years on the third auction.

HEM: Certified energy savings