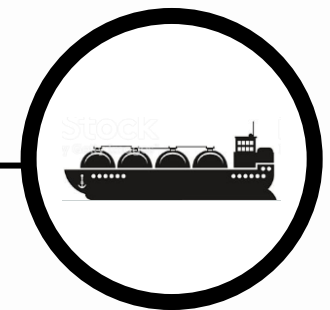


Global & Regional Market Analysis

Natural Gas

October 2022

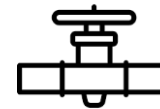
16/11/2022





Stories of the recent weeks

In October Russian flows have remained at 0% on the NS1 and Yamal, subdued flows via Ukraine were not suspended, while flows via TurkStream remained stable. Putin proposed to ramp up Russian gas supplies via Turkey in order to create a new hub there.



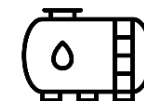
European gas prices fell to 4-month low in October amid mild weather, abundant supply and weak demand, TTF spot was even negative. Over 30 LNG ships were waiting around Spain, which represent 1/3 of EU LNG regas capacity.



EU energy ministers have expressed strong support for joint gas buying, but remain divided on possible gas price caps after a council meeting in Luxembourg on 26 Oct. Ministers supported the EC's proposal to ask ACER to develop an LNG price benchmark.



Gazprom has allowed Hungary to temporarily defer payments for its gas imports. MVM Group announced the increase of storage capacity at Zsana and investigates the possibility of using the 800 mcm of cushion gas at Hajdúszoboszló.

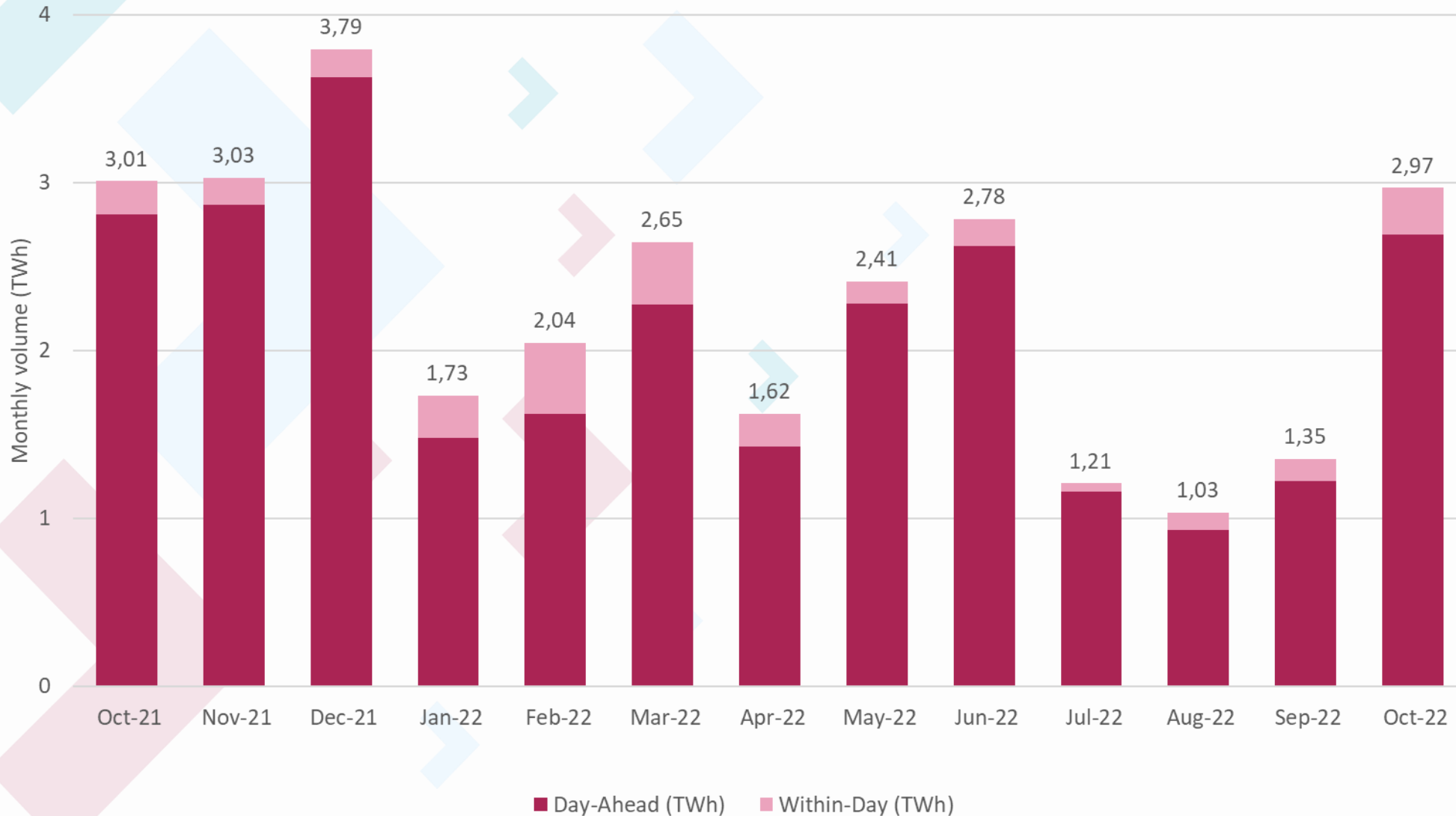


RS, AT and HU agreed to share gas reserves with each other if necessary. The TSOs of BG, RO, SK and HU aim to co-operate to transport more Azeri gas to Europe through their networks.



CEEGEX monthly traded volumes

Source: CEEGEX

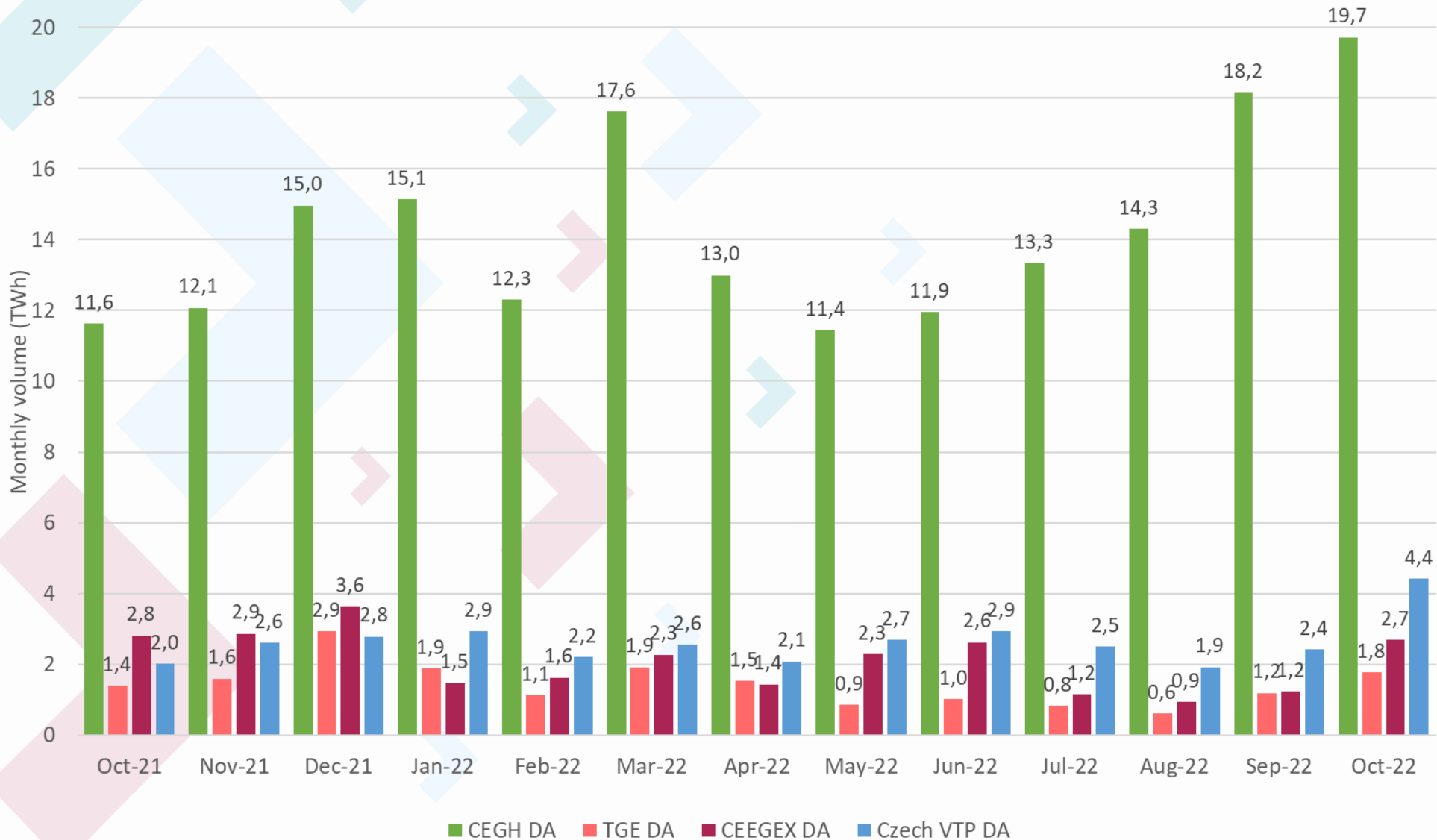


EXPERT OPINION:

- CEEGEX traded volumes almost reached 2021 October values despite Europewide visible demand destruction.
- Most probably the favorable TTF FM-spot spread - resulting from bearish prices - incentivized spot trading.
- Trading on spot markets was more profitable than allocating volumes from long-term supply contracts, which are mostly indexed to TTF FM with one month delay.
- The start of the new gas year might have also contributed to higher traded volumes.
- Injections continued at a high pace in October.

Regional scope DA markets

Source: CEEGEX, CEGH

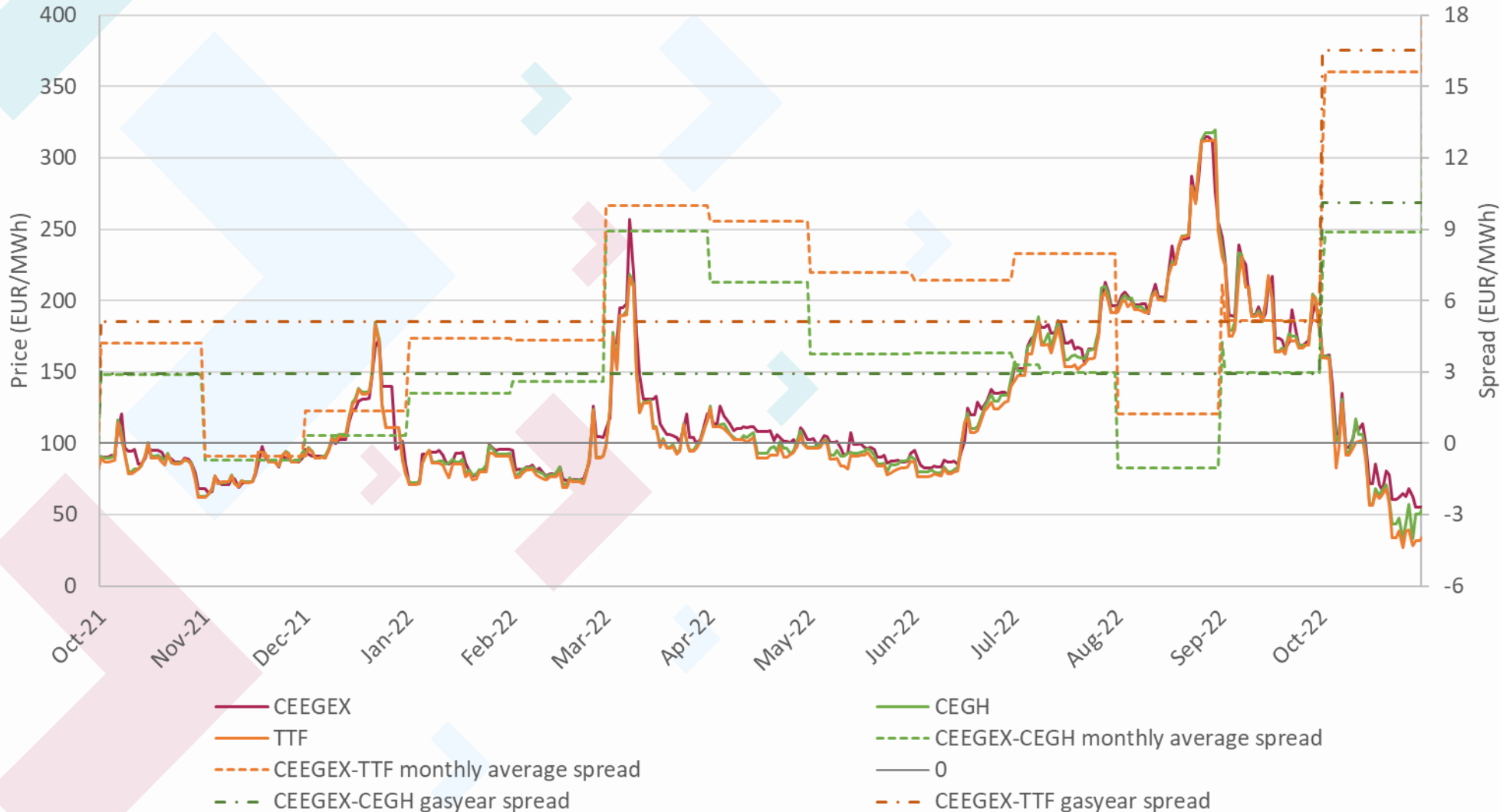


EXPERT OPINION:

- Similar increase in volumes was observable on other regional markets.
- CEGH reached highest traded volumes of the last 12 months.
- The increase in Austrian volumes might be in relation with changed direction of gas flows in October – from Italy to Austria.

Regional prices and spreads

Source: CEEGEX, EEX, IEA

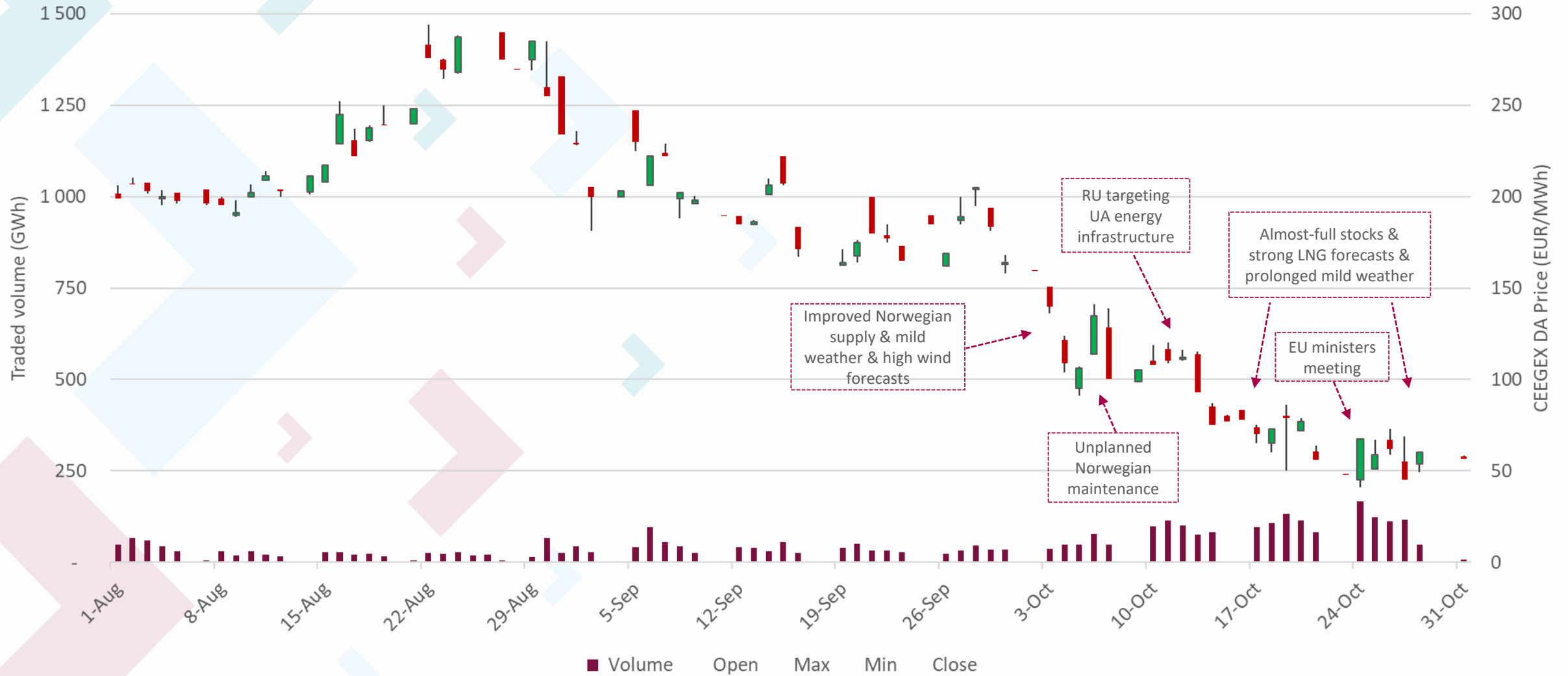


EXPERT OPINION:

- In October the CX-CEGH and CX-TTF spreads significantly widened.
- Around half of current Russian flows arrives to Europe via Hungary, while NW Europe receives most of its gas as LNG. Russian flows are currently associated with higher risk and this premium might be reflected in CX prices.
- Hungary and Latvia lag behind other EU countries in terms of storage levels. Higher injection demand in Hungary might add support to CX prices.

Japanese candles – last 3 months

Source: CEEGEX, ICIS, Montel



Disclaimer: This document contains analyst opinions, which don't necessarily represent the official views of CEEGEX or HUDEX.

The EU energy market prices on 28 Oct

Source: Refinitiv

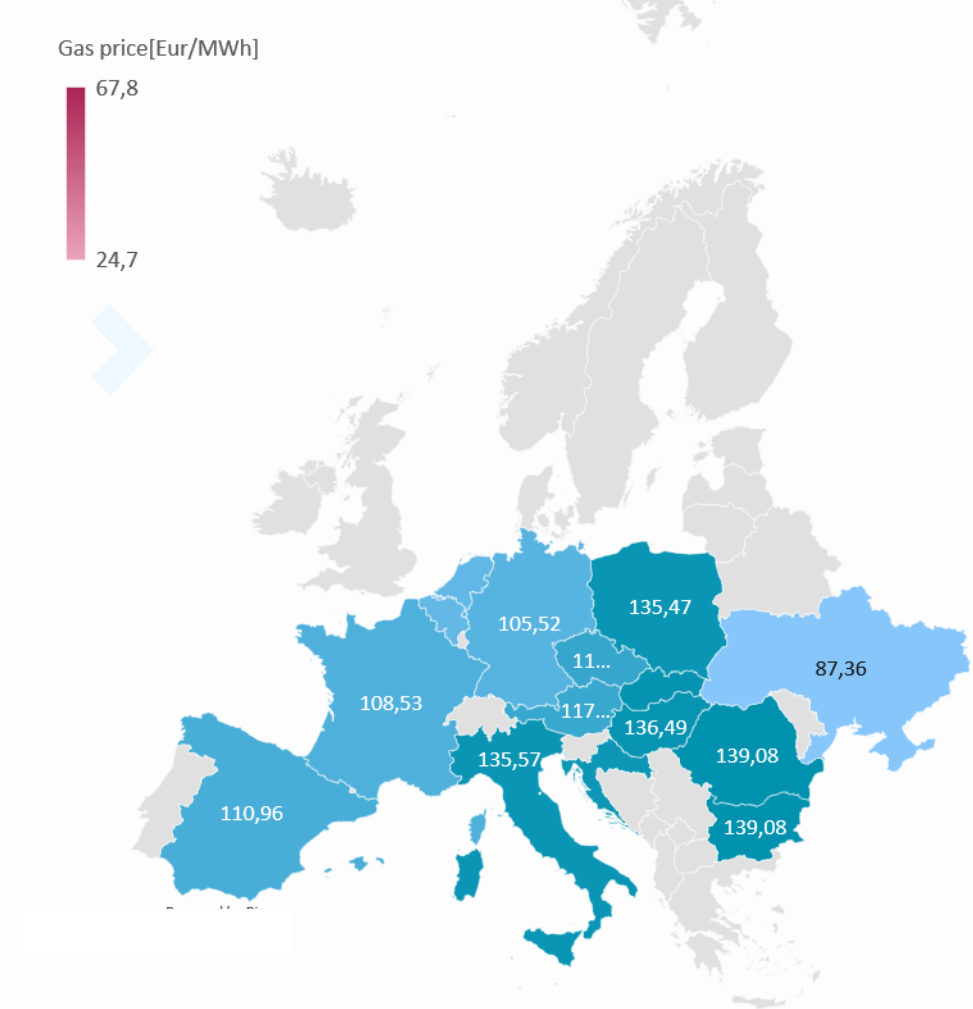
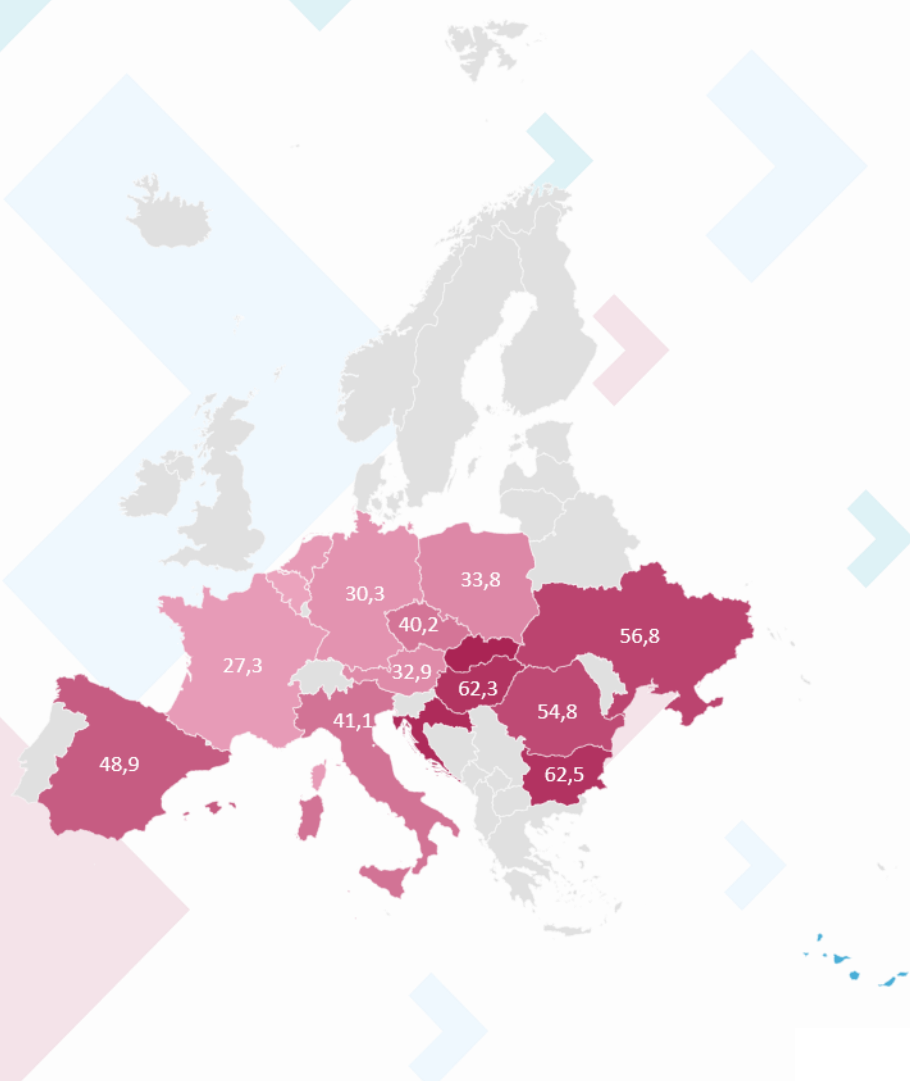
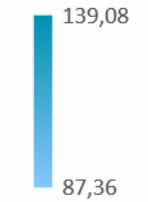
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2022.10.28.

Gas price[Eur/MWh]

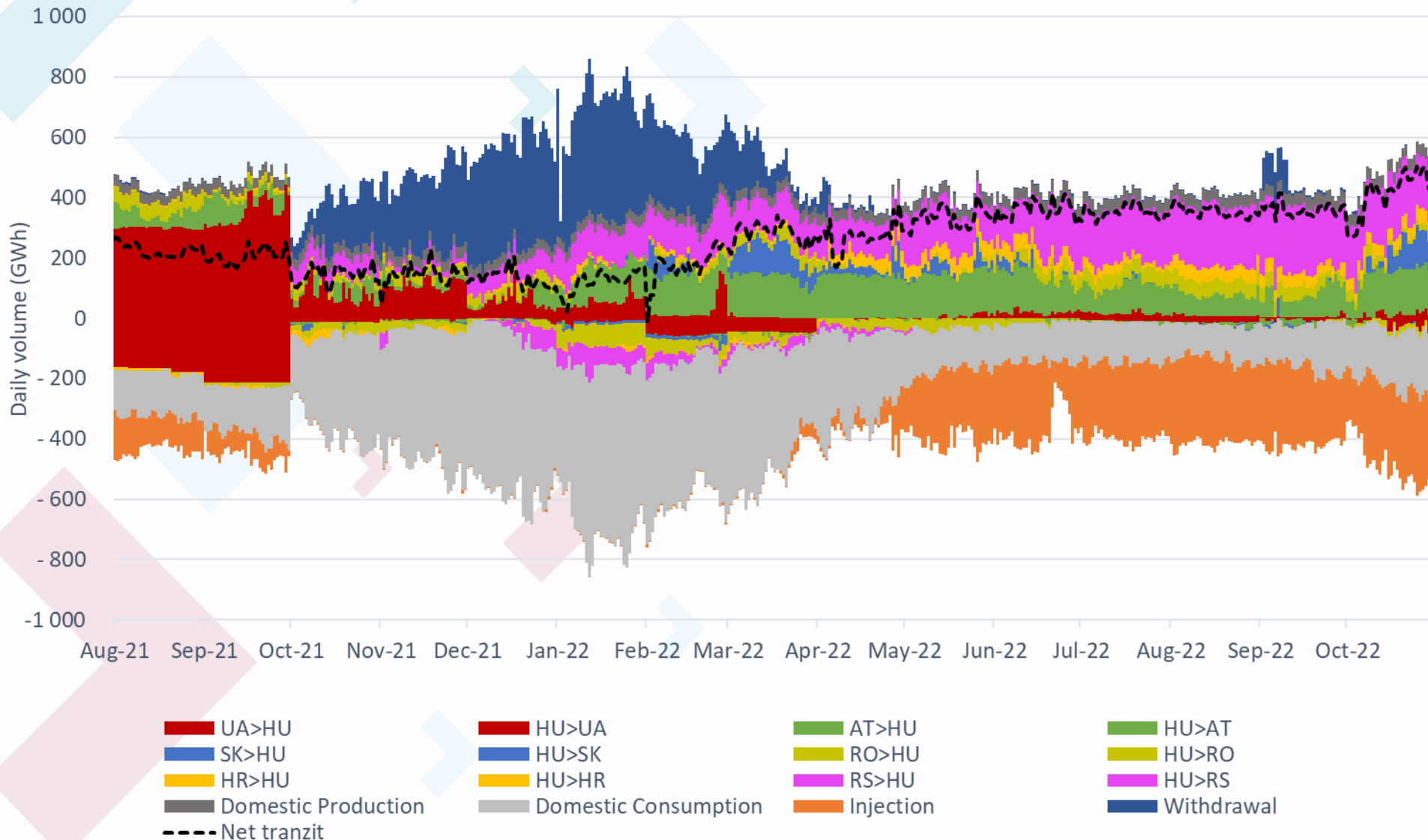


Electricity price[Eur/MWh]



Hungarian gas market balance

Source: AGSI, FGSZ

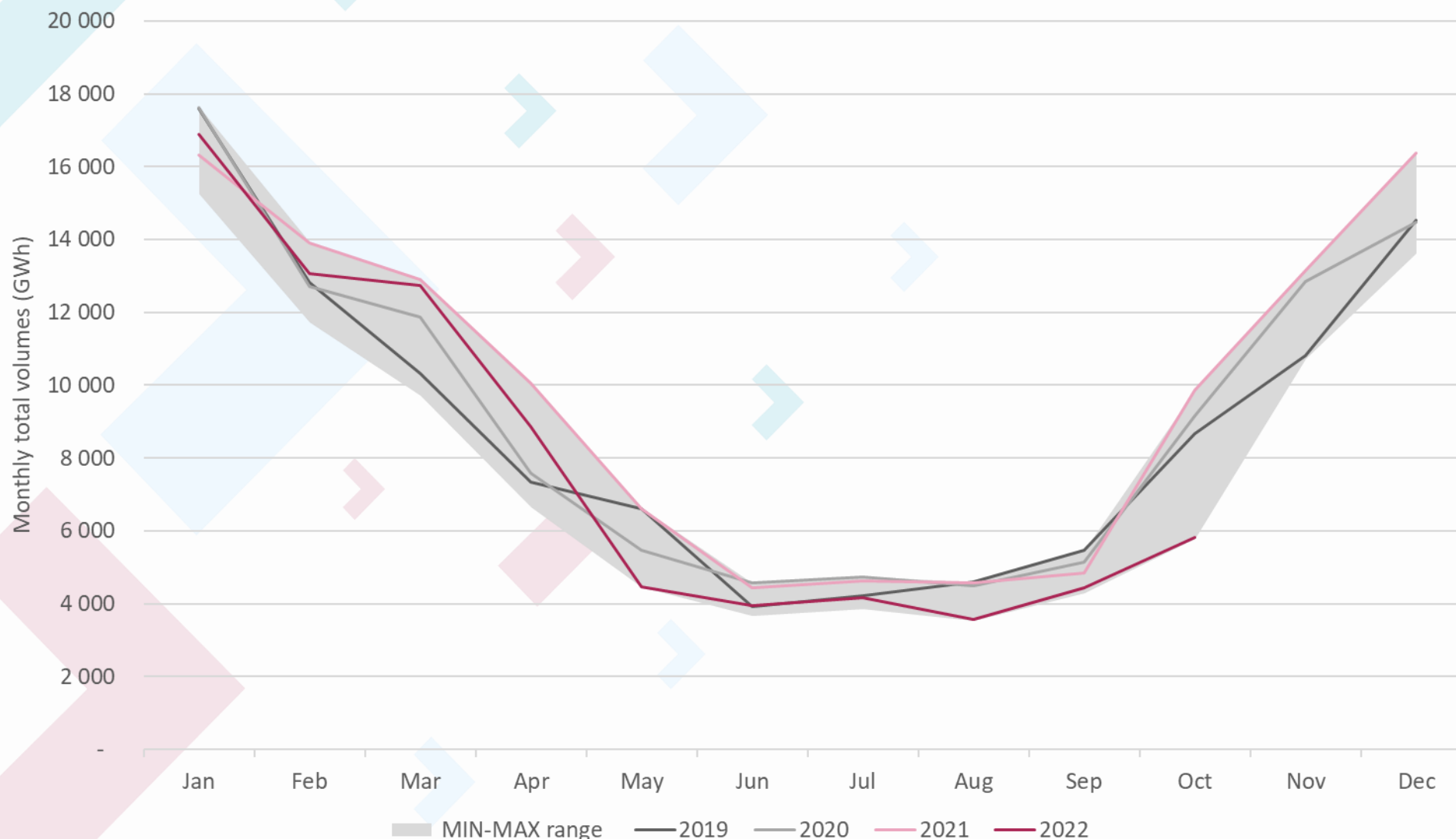


EXPERT OPINION:

- Domestic consumption increased in October, but it was way below 2021 October values (see separate story).
- Injections continued at a higher pace and there were no withdrawals despite of the „traditional” start of the heating season.
- In October imports reached their highest level in 2022 which is equivalent to the historical volumes including former high Ukrainian transit.
- Flows from RS are becoming the dominant import route and AT volumes also increased. HR and RO imports slightly decreased. SK imports reappeared.

Domestic consumption

Source: AGSI, FGSZ, ICIS, IEA, MEKH

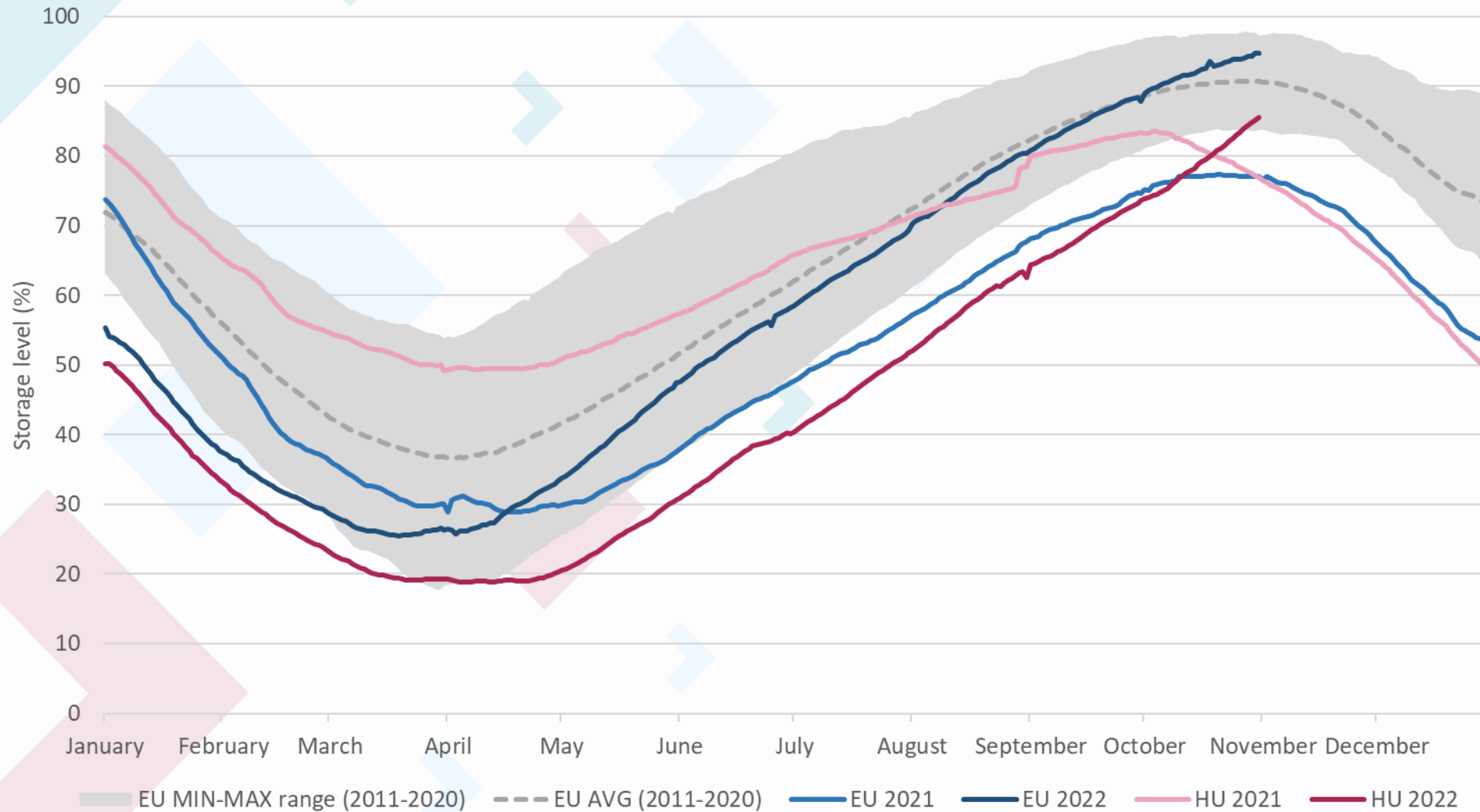


EXPERT OPINION:

- Hungarian domestic consumption started to increase in September, still Q3 usage is well below the 2019-2021 average.
- In October milder weather contributed to gas savings.
- In 2021 Hungarian domestic consumption grew by 12% in comparison to 2020, when COVID lockdowns curbed energy usage.
- Since May, the consumption fell even below 2020 values.

Gas storage level in EU and HU

Source: AGSI, ICIS, MEKH



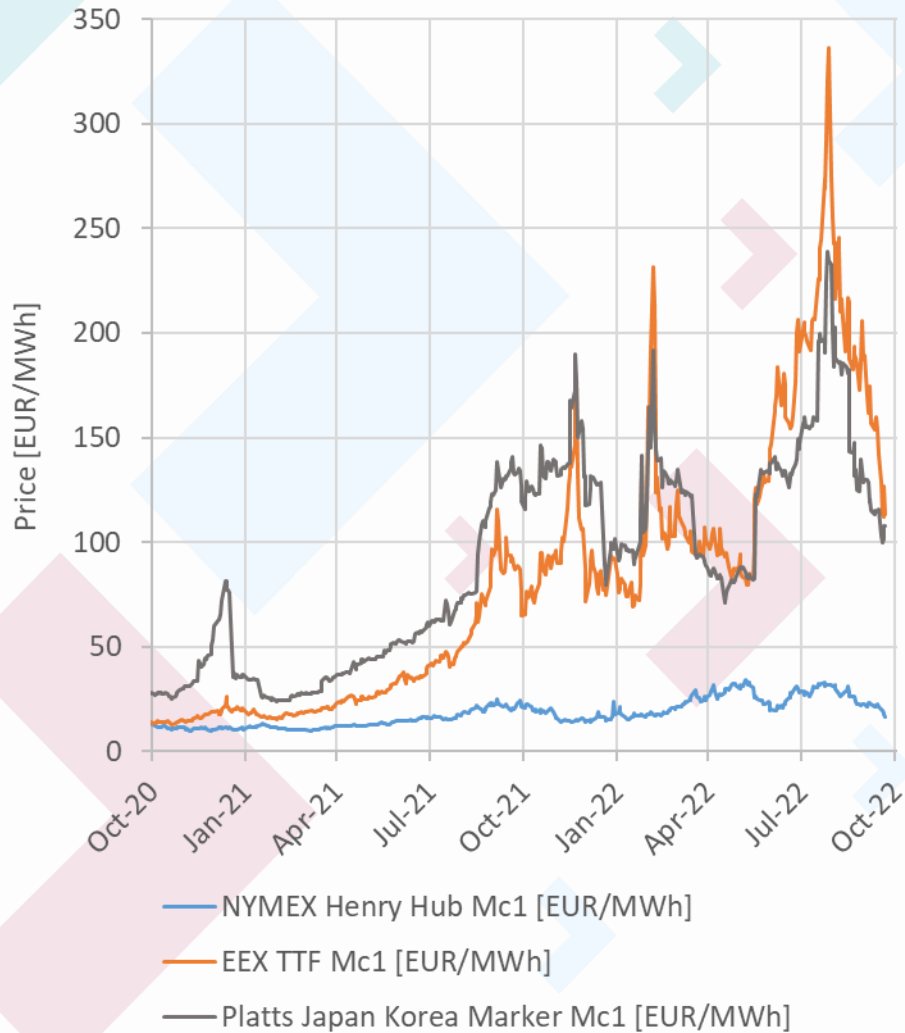
EXPERT OPINION:

- European aggregated storage levels exceeded 90% by the end of October approaching the highest values of the last 10 years.
- Hungarian storage levels exceeded 80% of the total storage capacity.
- Maintaining adequate storage levels for the winter is key to ensure the security of gas supply even by the end of the heating season.

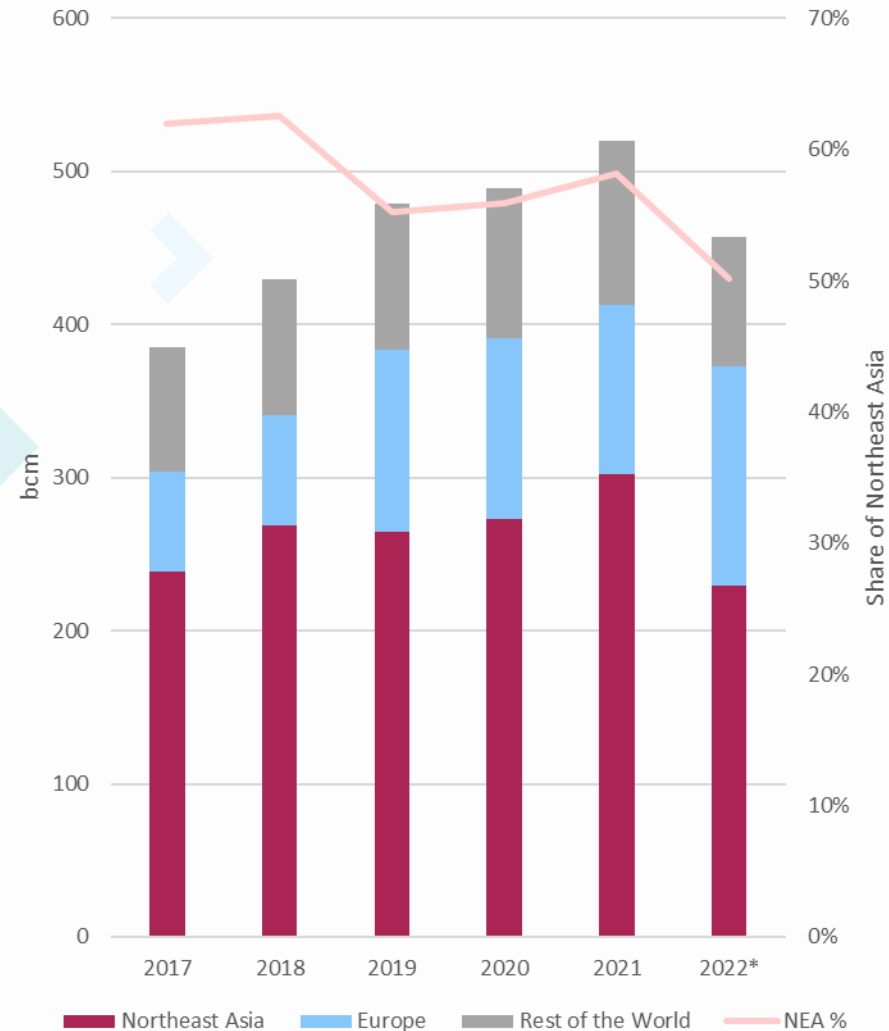
Northeast Asia, the main competitor of the EU's LNG demand

Source: S&P Platts, EEX, Refinitiv

World LNG benchmark prices



World LNG import

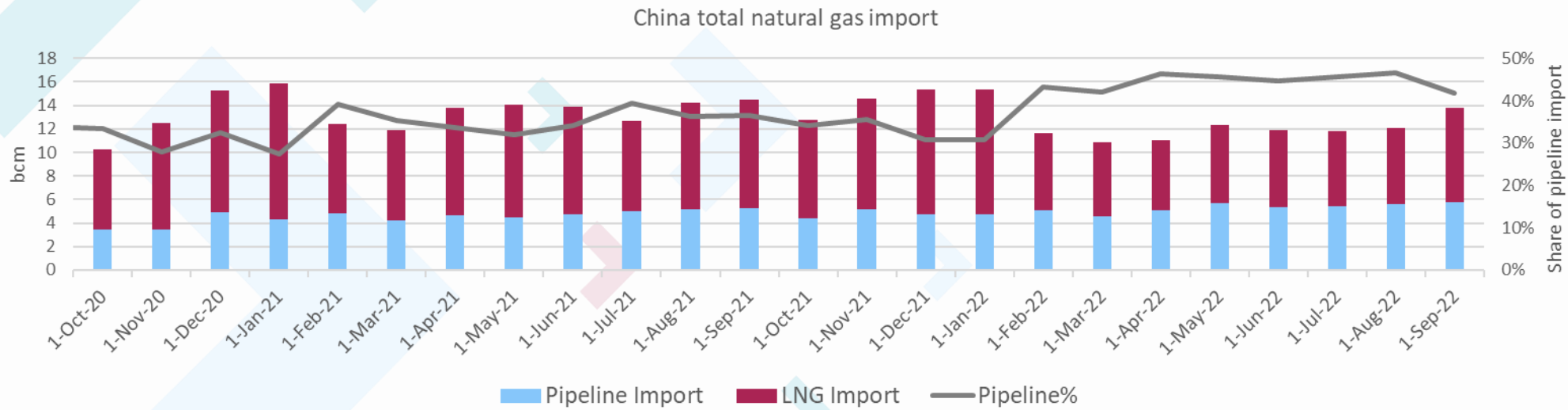


EXPERT OPINION:

- The EU is trying to replace the missing Russian gas on the European market by increasing imports of LNG.
- This has already led to price competition between Europe and Asia in 2021.
- The two huge markets are competing for available LNG supplies and the high European gas prices are currently attracting more ships.
- As a result, Europe's weight in world LNG imports has increased, while Asia's share has decreased.
- It cannot be ignored that since both markets are competing for available LNG, the evolution of Asian demand could strongly influence the European price level and vice versa.

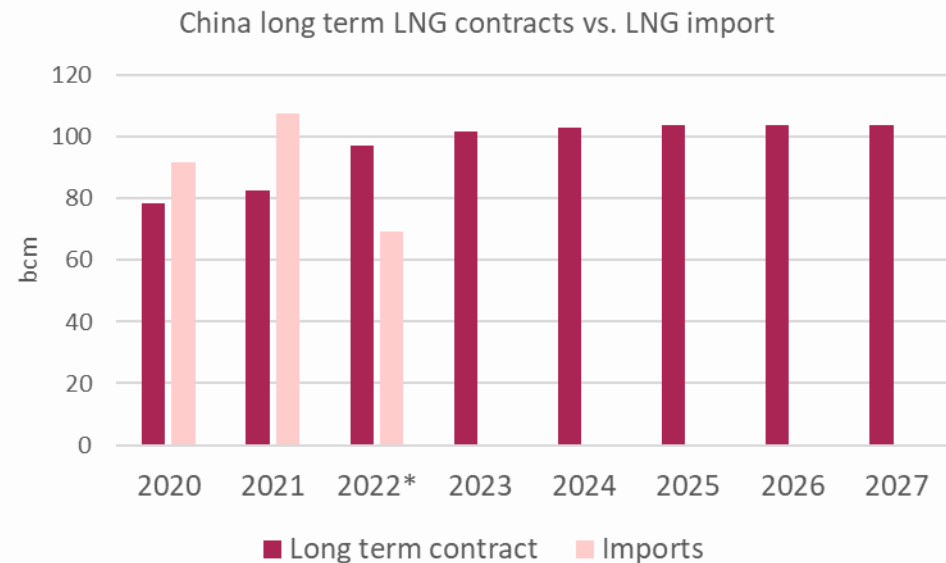
China the TOP LNG importer of 2021

Source: Refinitiv



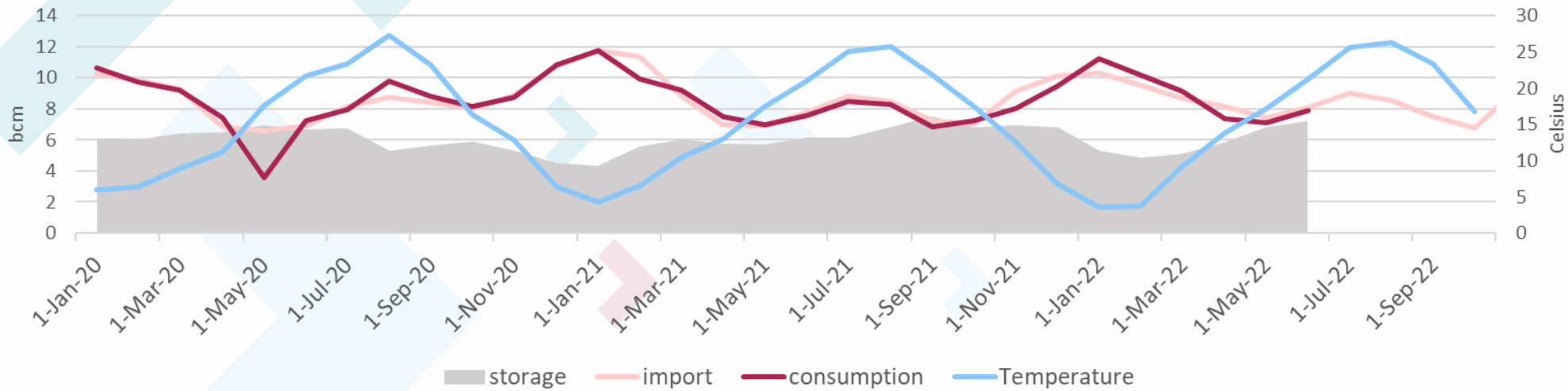
EXPERT OPINION:

- An important driver of Asian demand is Chinese LNG or natural gas imports. China is the world's second largest economy and in 2021 China was the world's largest importer of LNG. Its energy demand is significant and its demand for natural gas is expected to continue to grow in the future due to the Coal to Gas policy.
- In 2021, it imported more LNG than it had covered by long-term contracts and therefore bought significant volumes on the spot market.
- However, so far this year, it has imported less LNG than it has covered by long-term contracts. In parallel, the share of pipeline gas imports is expected to increase.
- It is unlikely to exceed last year's LNG imports this year. Instead the importance of pipeline gas will increase.



Japan

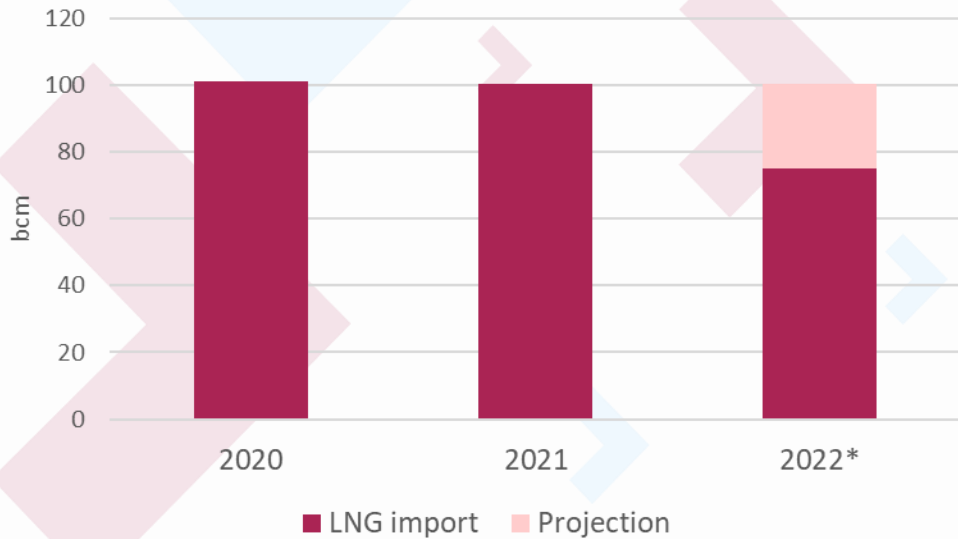
Source: ICIS, JOGMEC, Argus, Reuters, Refinitiv



EXPERT OPINION:

- In the case of Japan, the key issues are storage, preparation for winter and consumption. Unfortunately, these data are only available until June
- Although time series data were not provided, METI reported that in October the level of Japanese storage was above the 5-year average.
- However, a bill passed by the Japanese government in October allows for the possibility of restricting gas consumption in case of tight supply.
- A cooler than expected winter could encourage Japanese buyers to pay higher prices for LNG, which could push up prices in Europe.
- Based on JOGMEC reports the prices in the first half of november were on a downtrend due high storage level.

Yearly LNG import of Japan

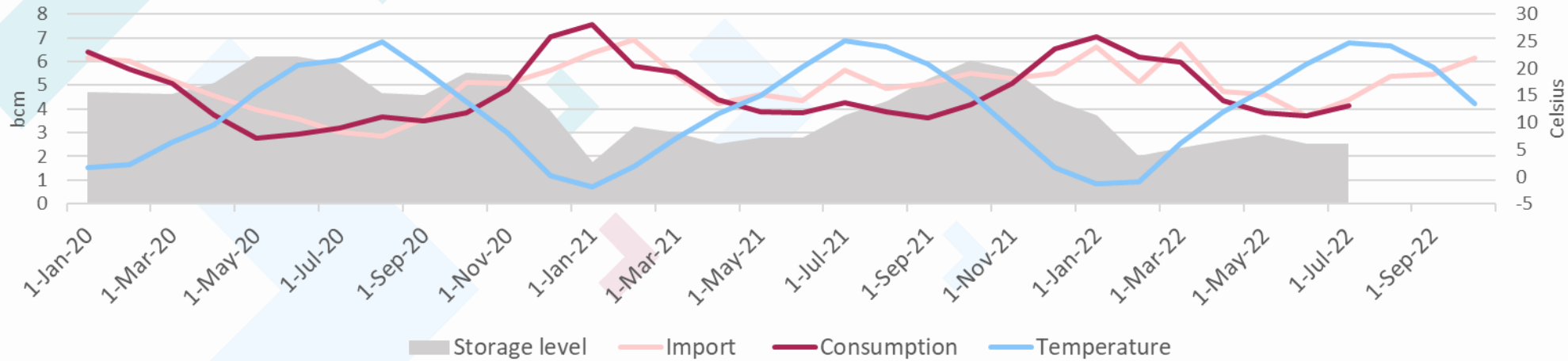


Japan long term LNG contracts vs. LNG import



South Korea

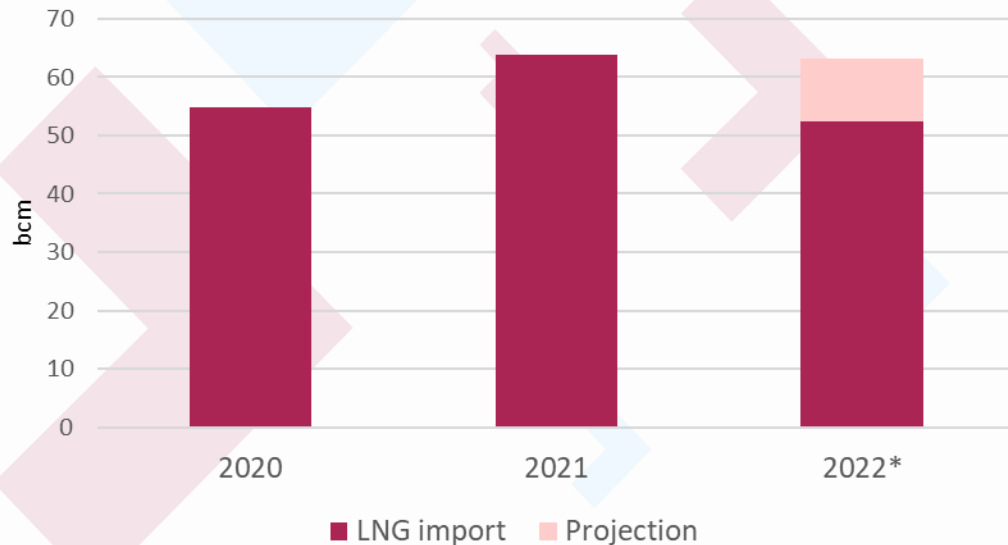
Source: Refinitiv, S&P Platts, ICIS, JOGMEC



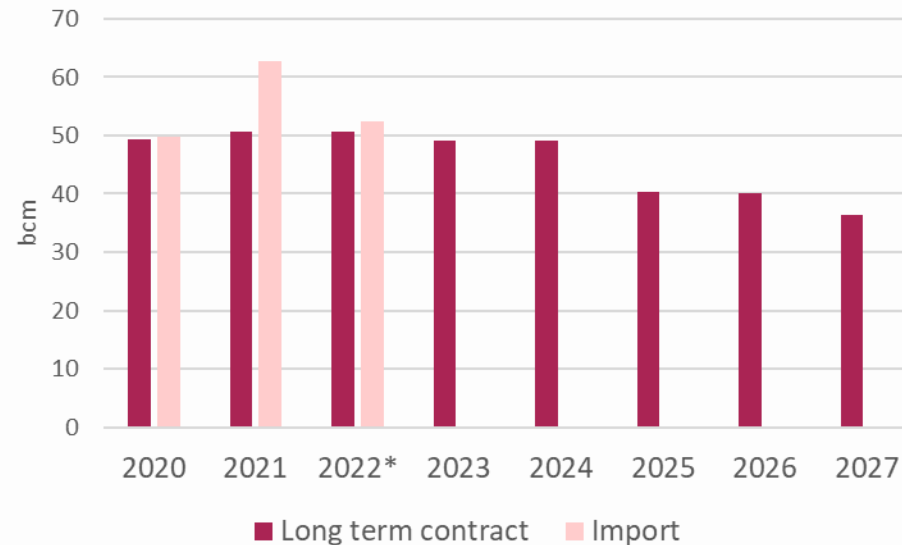
EXPERT OPINION:

- South Korea has a smaller LNG demand than Japan or China, but is still a significant player.
- In the summer months, storage levels remained low compared to previous years, while consumption did not exceed imports.
- In November, market reports suggest that storage levels are already high, supported by increased imports in the autumn months.
- Long-term contracts generally do not cover their total LNG demand. By October 2022, imports had exceeded this.
- Based on past years' data, their LNG demand is expected to increase in January and February when temperatures are at their lowest.

Yearly LNG import of S. Korea

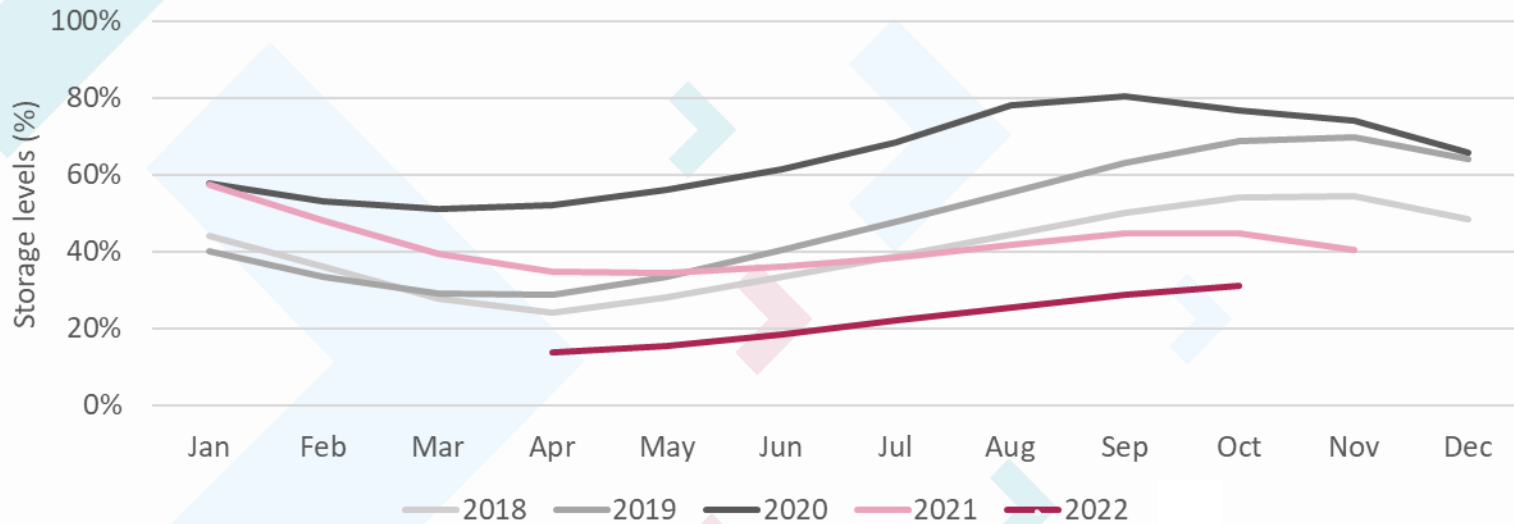


S. Korea long term LNG contracts vs. LNG import



Ukrainian storages

Source: AGSI, ENTSOG, ICIS, Lexology, Montel



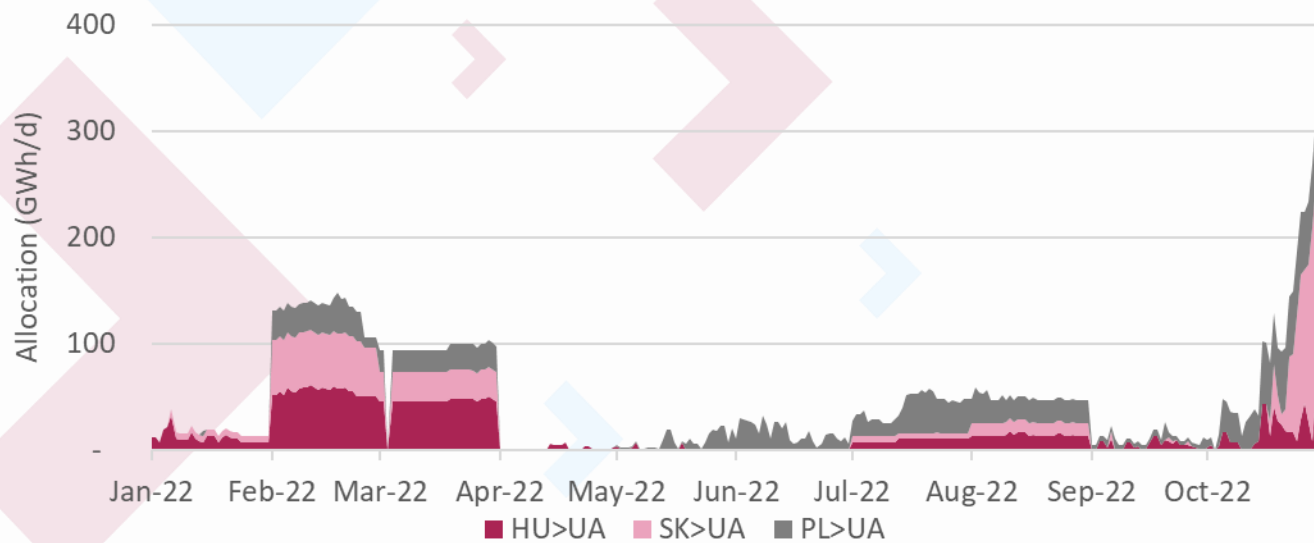
12 UGS facilities

3rd largest (after US and RU)

33bcm storage capacity

EXPERT OPINION:

- UA has ~33bcm of gas storage capacity, which is currently filled to 1/3, significantly below previous years' levels (EU ~100 bcm, D ~23bcm, HU ~6bcm).
- Since 2017 UA offers customs warehouse regime for extended gas storage by foreign gas traders.
- Non-resident companies suspended activities in UA as a result of the war.
- In October imports into UA from HU, PL and SK significantly rose.
- Bearish gas prices and almost full EU storage sites encouraged injections into depleted UA storages.



Energy Market Interventions - EC proposals

Sources: EC, Euractiv, Lexology



- In advance of the **European Council meeting on 20-21 Oct** the Commission published a **draft Regulation on enhancing solidarity through better coordination of gas purchases, exchanges of gas across borders and reliable price benchmarks** in order to address excessively high and volatile gas prices.



- **The proposals included:**

- **Gas Market Correction Mechanism:** the EC proposed a temporary **"dynamic price corridor" at the Dutch TTF** as a last resort used only to tackle "extreme natural gas prices". EC proposed also a **collar aimed to protect energy traders from large intraday price movements**, and so reduce the collateral requirements triggered by them.
- **New benchmark for LNG:** development of a **separate LNG price index** "to ensure a representative benchmark for LNG imports not influenced by Russia's manipulation". The EC's proposal would **give ACER the power to collect same day trading data for LNG imports**, including bids, offers and trades that specify delivery or are delivered into the EU. All companies involved would have to report such data, regardless of there were based
- **Temporary Joint Purchase of Gas:** The EC proposed that **EU countries aggregate their demand and coordinate their gas buying** specifically to fill gas storages next year.
- **Demand reduction:** a key element in the proposal is to put more efforts to cut gas demand. This could include making the **EU's voluntary goal to cut its gas demand by 15% this winter mandatory by triggering an EU emergency alert.**
- **Solidarity obligation:** Member States would be able to trigger a solidarity request if gas-fired plants critical to electricity system adequacy are at risk of not getting critical gas volumes. This is an **expansion of the current solidarity protection obligation.**



- **EU energy ministers** have expressed **strong support for joint gas buying** and supported the EC's proposal to ask ACER to **develop an LNG price benchmark**, but remained **divided on possible gas price caps** after a council meeting in **Luxembourg on 26 Oct**.