



GO MARKET

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# HUPX GO Market Monitoring Report

COMPLETE EDITION

22/02/2023

## Table of content

### PRICE BENCHMARKS

- Solar GO price benchmark
- Wind GO price benchmark
- Hydro GO price benchmark

### FUNDAMENTALS

- AIB Hub export and import flows in 2022
- Auctions within AIB countries in 2022

### TRADED VOLUMES

- Traded volumes of European organized GO auctions
- Solar traded volumes of European organized GO auctions
- Wind traded volumes of European organized GO auctions
- Hydro traded volumes of European organized GO auctions
- Offered and traded volumes of GO auctions
- HUPX GO Market snapshot

## Notes and methodology

For this report, price benchmarks are calculated for three different technologies and they represent a pan-European indication.

### Data input

HUPX calculates price benchmarks based on 2 types of inputs:

- OTC price benchmarks: Greenfact
- Organized GO market auction prices: HUPX, GME, EEX, ILR, CROPEX, OMIP, OKTE, EPEX

Data collection for the benchmarks and data represented in this report closed on 16th February 2023, which implies prices calculations are completed until 13th February 2023.

### Price benchmark and volatility calculation

The average of the OTC price benchmarks results a price for each day. If one or multiple auctions were organized on a day (D), the volume weighted average price (VWAP) of the relevant technology of the auction(s) is also part of the price formula in form of averaging. During this averaging the VWAP is taken into account with weights 100%-50%-25% for the respective days (D, D+1, D+2), in order to reflect the lingering impact of the auctions.

The double of the 30-day moving standard deviation ( $2\sigma$ ) is also indicated on the price benchmark charts in order to provide more details about the fluctuation of the price.

### Notes and disclaimer

HUPX reserves the right to change the methodology and the table of content.

This document may contain subjective elements, including the methodology, which don't necessarily match the official views of HUPX.

### Further information

Regarding questions and further information please contact [go.marketops@hupx.hu](mailto:go.marketops@hupx.hu)





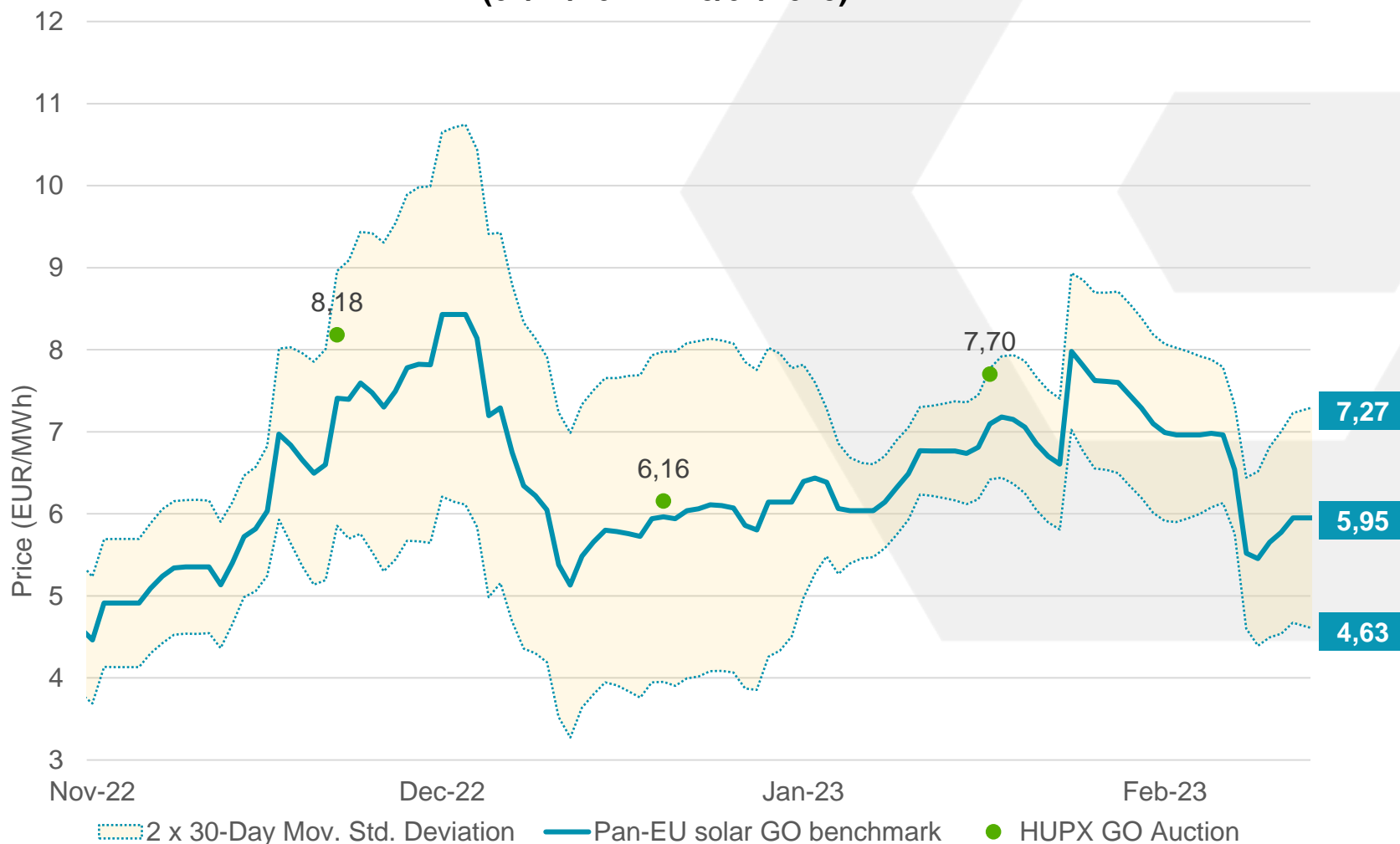
# PRICE BENCHMARKS

SOLAR – WIND – HYDRO





### Pan-EU solar GO benchmark and calculated volatility (01/11/2022 – 13/02/2023)

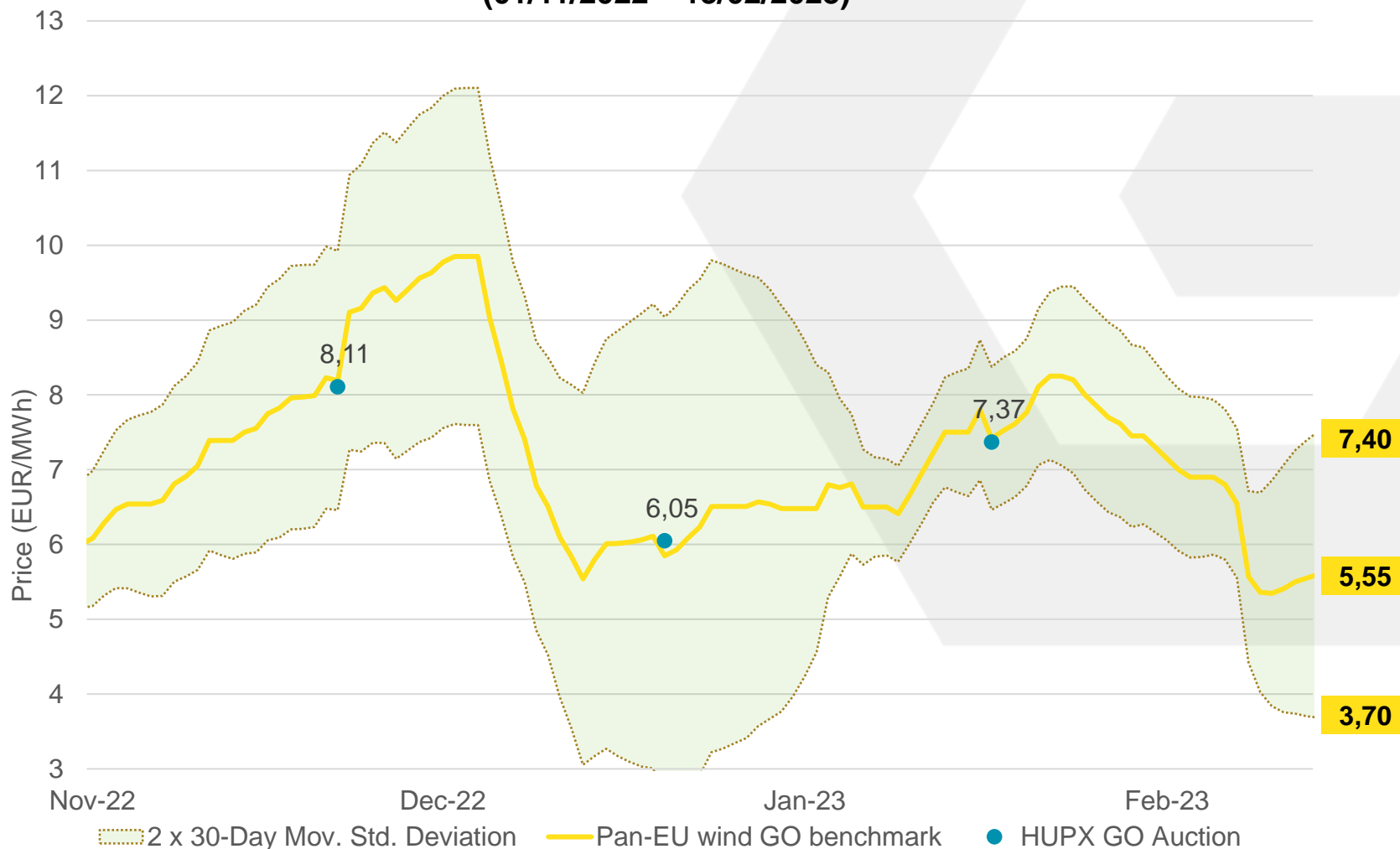


## Notes

- As in the past months solar GO volumes had the highest share on HUPX GO auctions, solar GO price benchmark was the most important for many market participant.
- Solar GO prices remained in the 6-9 EUR/MWh range in January.
- In February prices dropped again below 6 EUR/MWh mark, reaching 5,95 by the mid of February.
- Volatility increased in the last days, the double of the standard deviation grew to 1,32.



**Pan-EU wind GO benchmark and calculated volatility  
(01/11/2022 – 13/02/2023)**



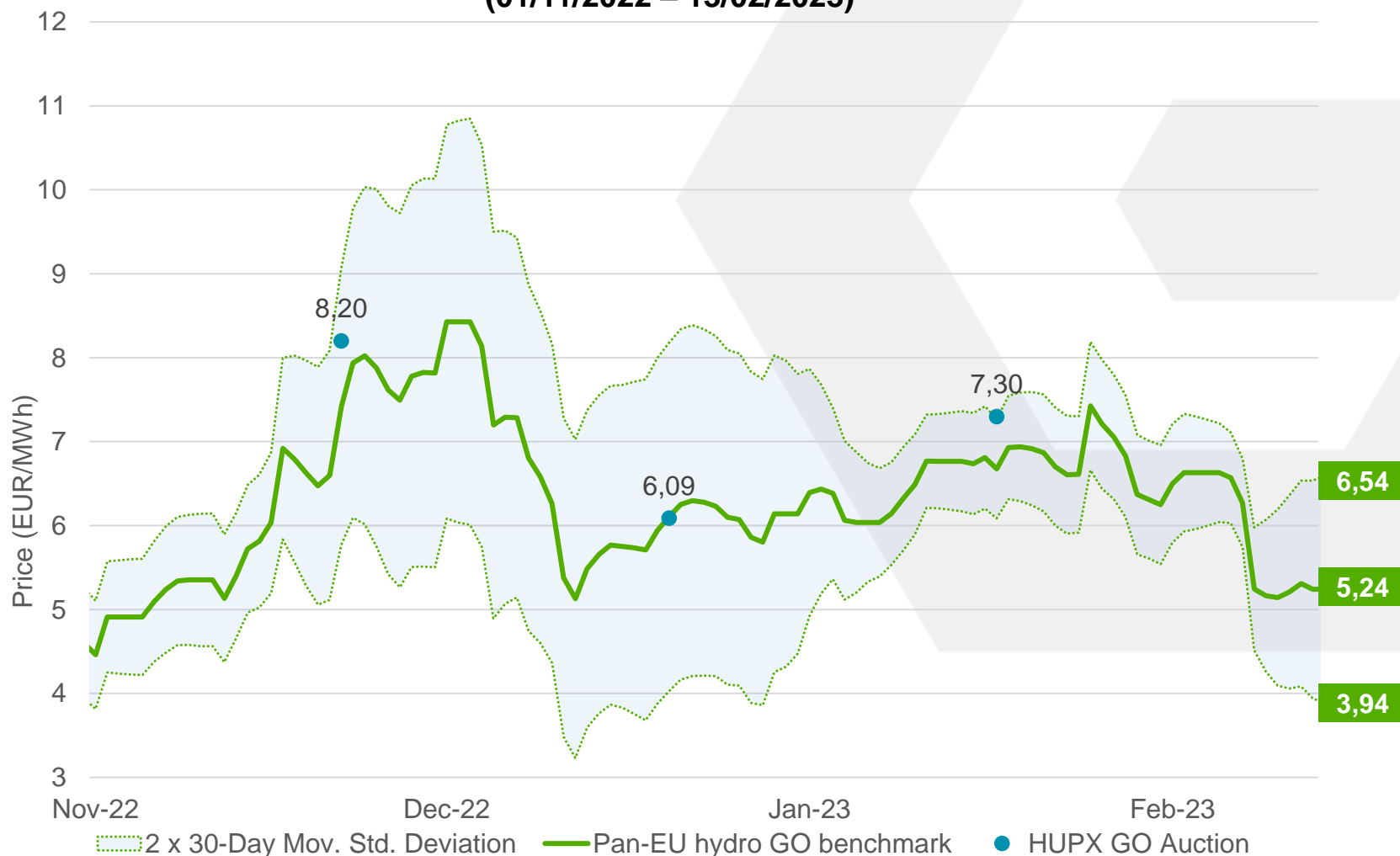
## Notes

- Wind GO prices showed different patterns compared to solar GO prices, especially in November with reaching local maximum value twice.
- HUPX GO auction prices for wind technology were much more in line with the price benchmark compared to solar GO benchmark.
- Wind GO prices remained in the 6-9 EUR/MWh range in January.
- In February prices dropped below 6 EUR/MWh mark, reaching 5,55 by the mid of February.
- Volatility increased in the last days, the double of the standard deviation grew to 1,85.





### Pan-EU hydro GO benchmark and calculated volatility (01/11/2022 – 13/02/2023)



## Notes

- Hydro volumes in Hungary and via the HUPX GO auctions were lower compared to other technologies.
- Hydro GO benchmark showed similar characteristic to solar GO benchmark in the past couple of months.
- Hydro GO prices remained in the 6-9 EUR/MWh range in January.
- In February prices dropped again below 6 EUR/MWh mark, reaching 5,24 by the mid of February, which is the lowest compared to solar and wind technologies.
- Volatility increased in the last days, the double of the standard deviation grew to 1,30.





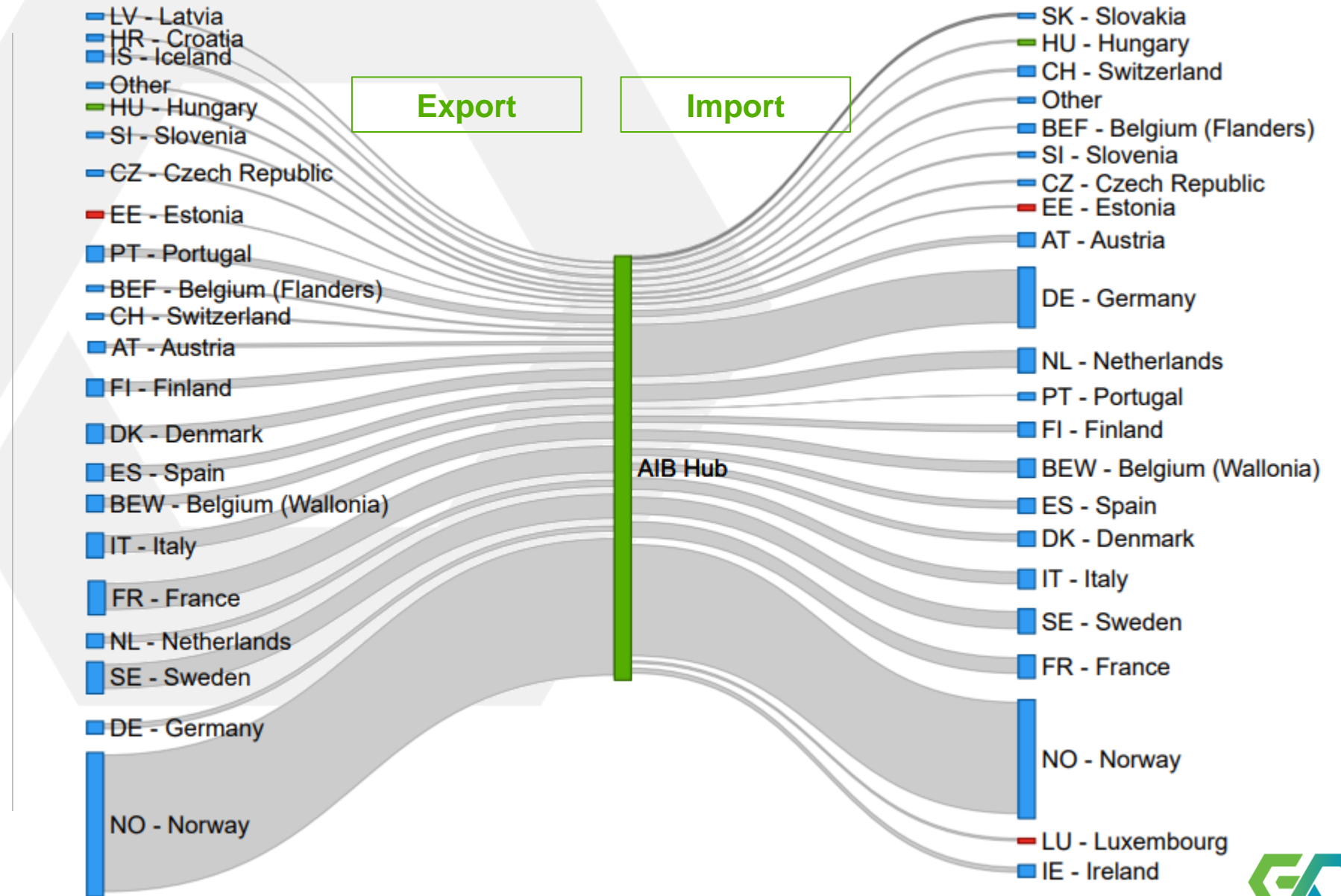
# FUNDAMENTALS

AIB



## Notes

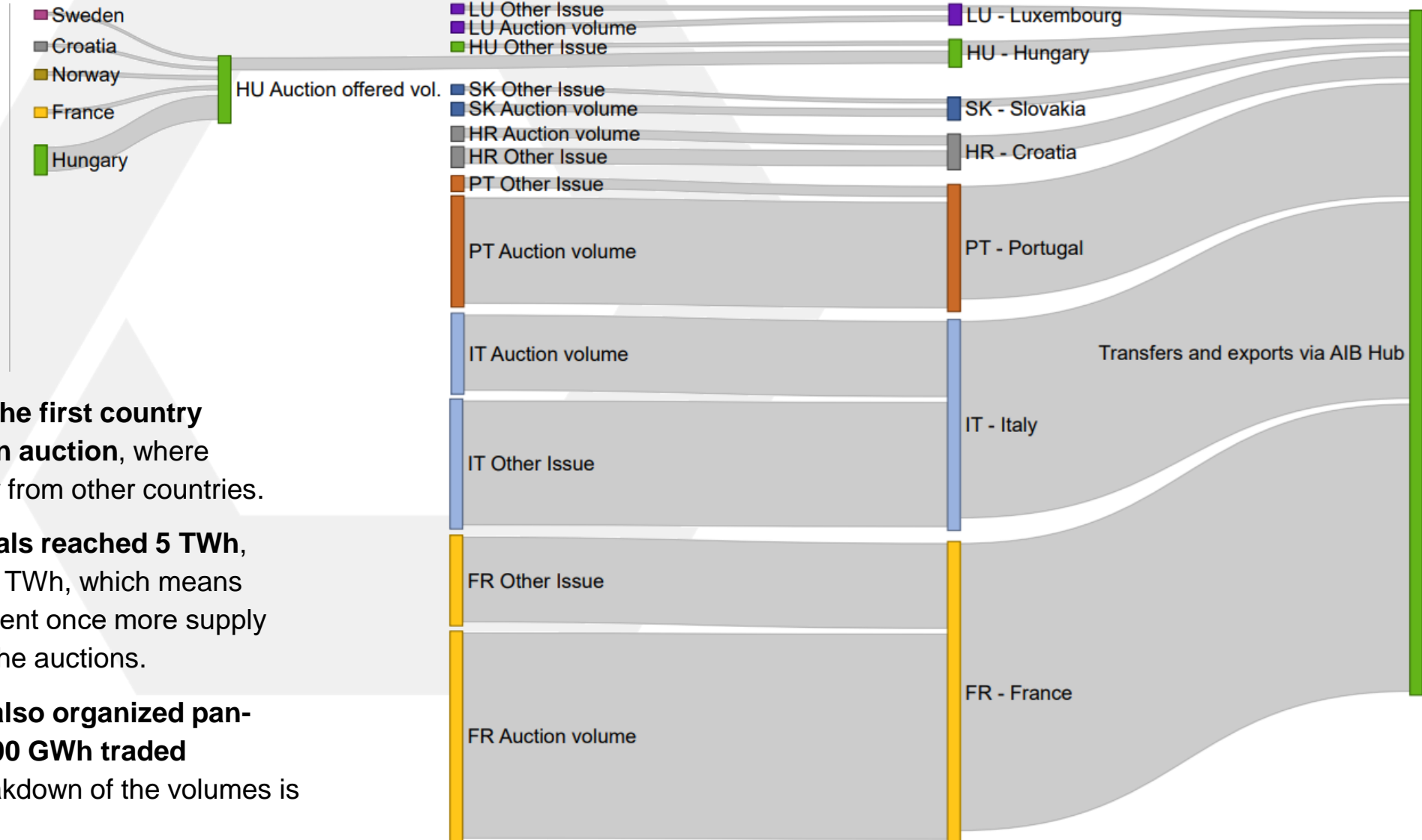
- Transactions via the AIB Hub almost reached **800 TWh** in 2022 until November.
- Compared to 2021 **almost every country increased the import and export volumes** via AIB Hub with a few exceptions (EE, LU).
- **Hungary (MEKH) became in AIB member in 2022**, yet the impact on the GO supply side was moderate, which was similar to the neighboring countries.
- **Norway remained the incumbent registry**, while the **German import was a significant** element on the demand side.





## Notes

- In 2022 **auctions took a vital role in the supply side of the GO market**, in many countries auction related GO issue was higher than the rest of the GOs issued.
- The Hungarian **HUPX was the first country organizing a pan-European auction**, where volumes come transparently from other countries.
- **HUPX GO auction collaterals reached 5 TWh**, while the traded volume is 3 TWh, which means there's a room for improvement once more supply and the demand match via the auctions.
- After HUPX, French **EPEX also organized pan-European auctions with 300 GWh traded volumes** (the historical breakdown of the volumes is not publicly available).





# TRADED VOLUMES

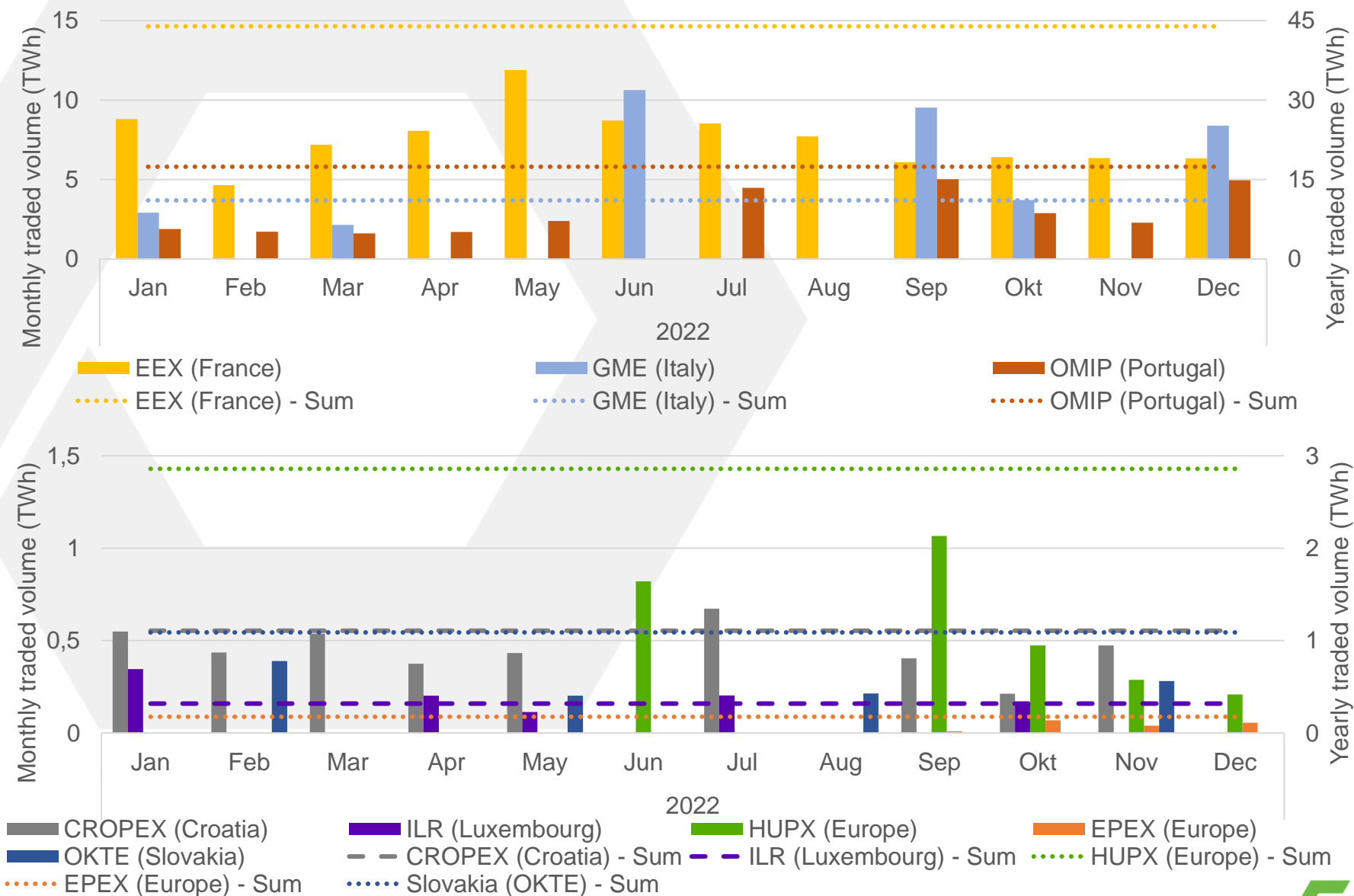
EUROPEAN ORGANIZED GO MARKETS



# Traded volumes of European organized GO auctions

## Notes

- In line with the large domestic renewable production of France, Portugal and Italy, **EEX, OMIP and GME** were the largest organized GO markets in Europe in 2022.
- Among the smaller ones **HUPX GO market was the largest**, which has been launched just in the middle of 2022 and reached almost 3 TWh.
- Traded volumes of **CROPEX and OKTE** were similar, just above 1 TWh, while ILR and EPEX remained smaller.

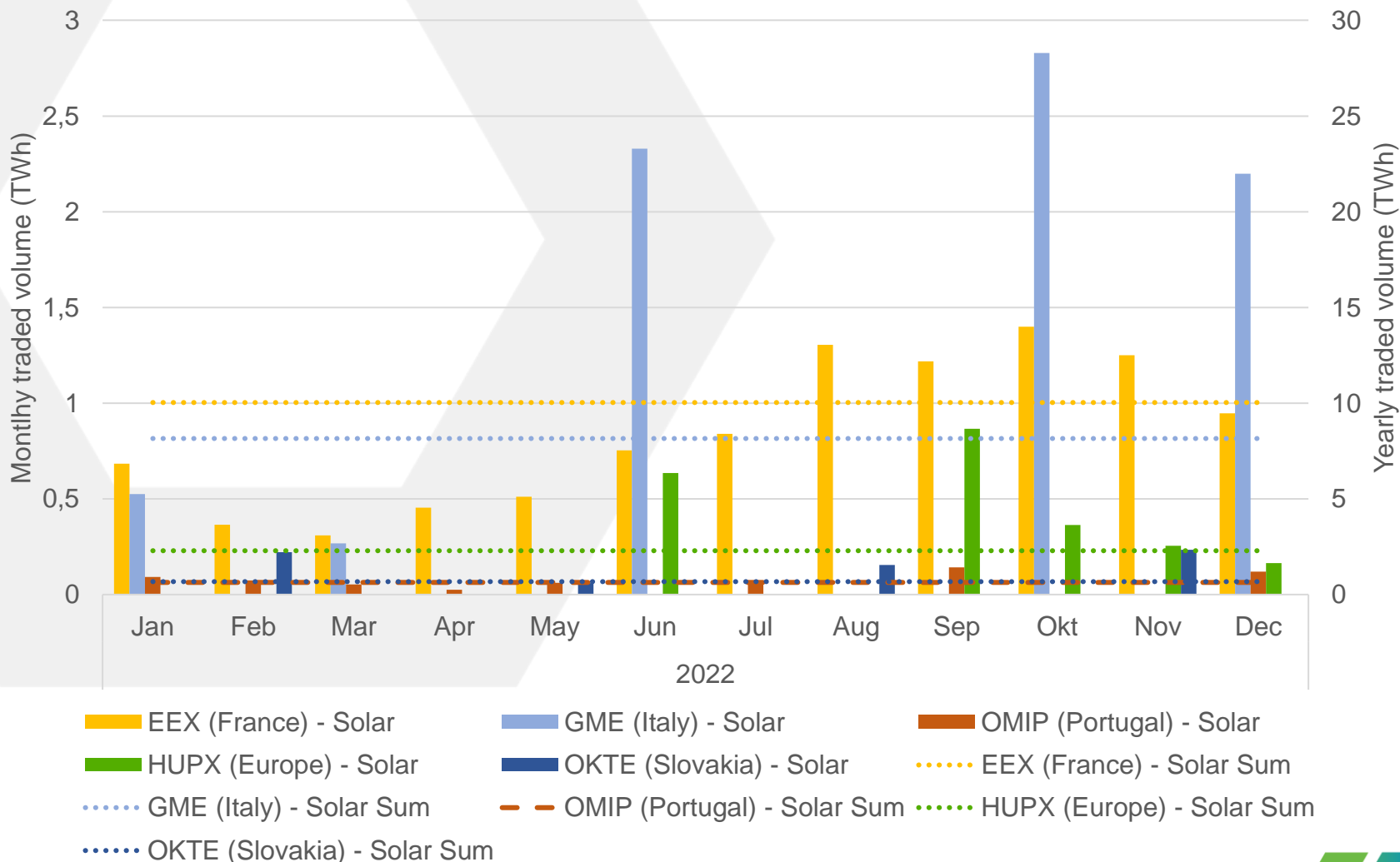




## Notes

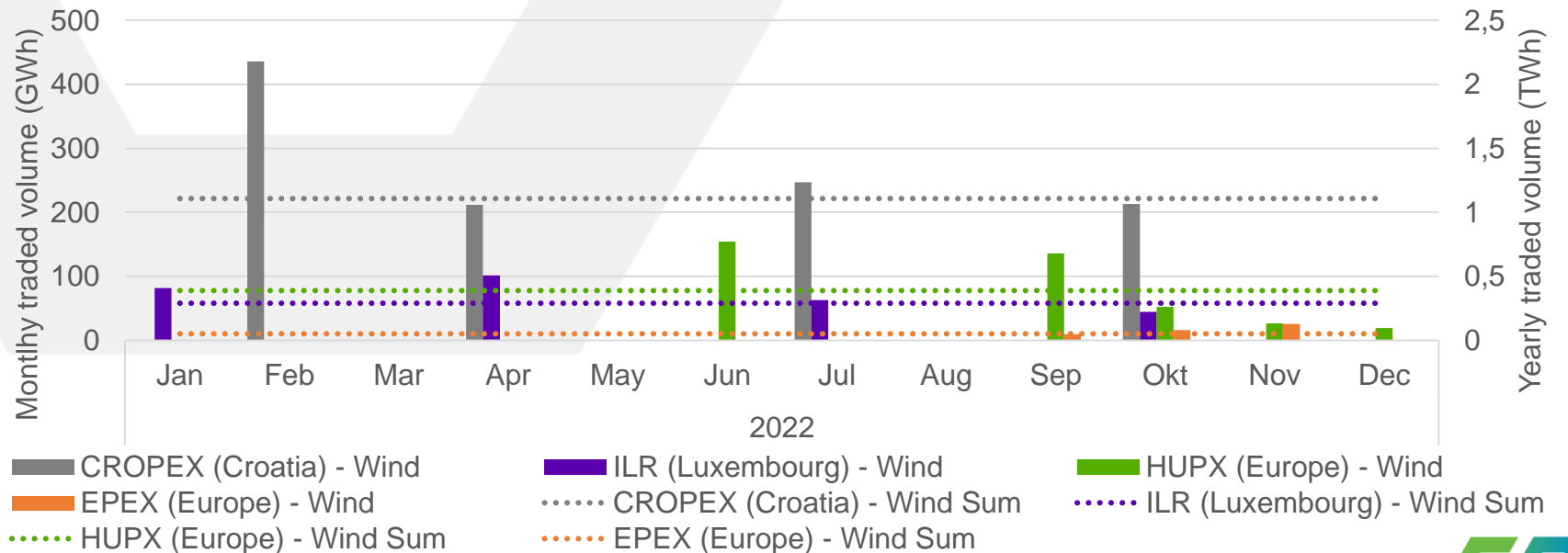
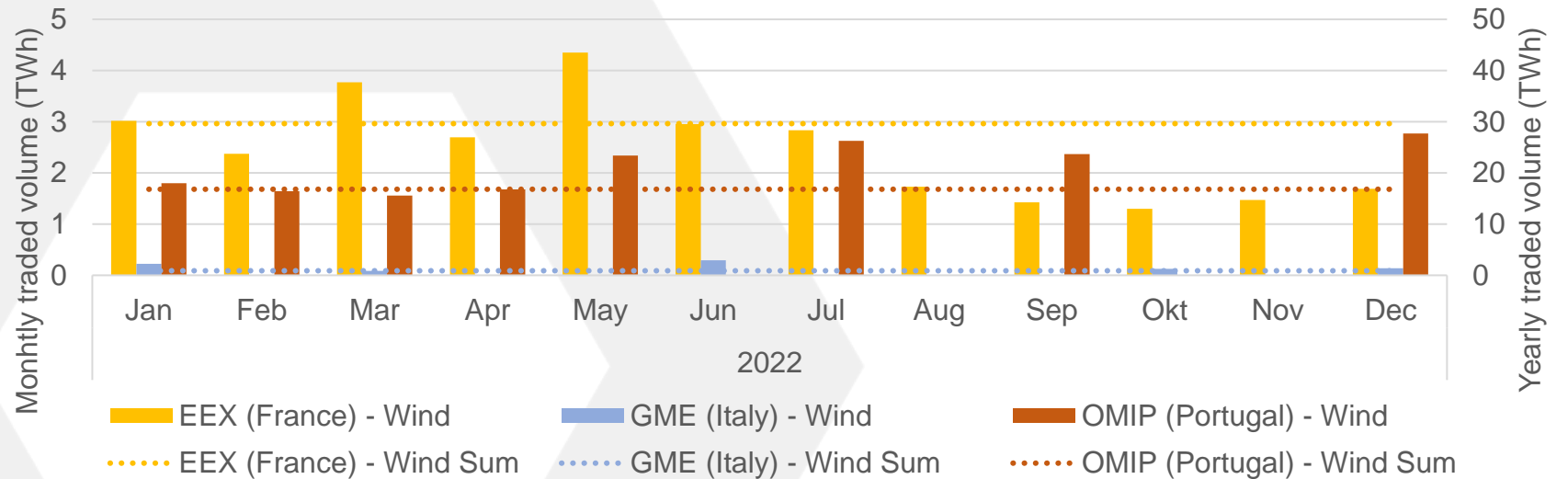
- **Solar GO volumes highly reflect the seasonality of solar production** with an offset of 2-3 months (GO issue after production).
- **Solar GO volumes at EEX and GME were similar, around 10 TWh in 2022.**
- **Among the smaller organized markets, Hungary had the highest solar GO volume, therefore overtook OMIP in that category.**
- Solar GOs are the most prominent Hungarian GO technology type, **76% of all GOs traded was solar at HUPX.**

### Solar GO traded volume on organized GO markets



## Notes

- In 2022 alone the wind GO volumes of EEX were as high as the traded volume of any other organized GO market.
- While GME is a big GO exchange, wind GO volumes were insignificant in Italy.
- CROPEX volumes were strongly supported by wind GOs with more than 1 TWh in 2022.
- 11% of the Hungarian GOs traded were wind via HUPX.



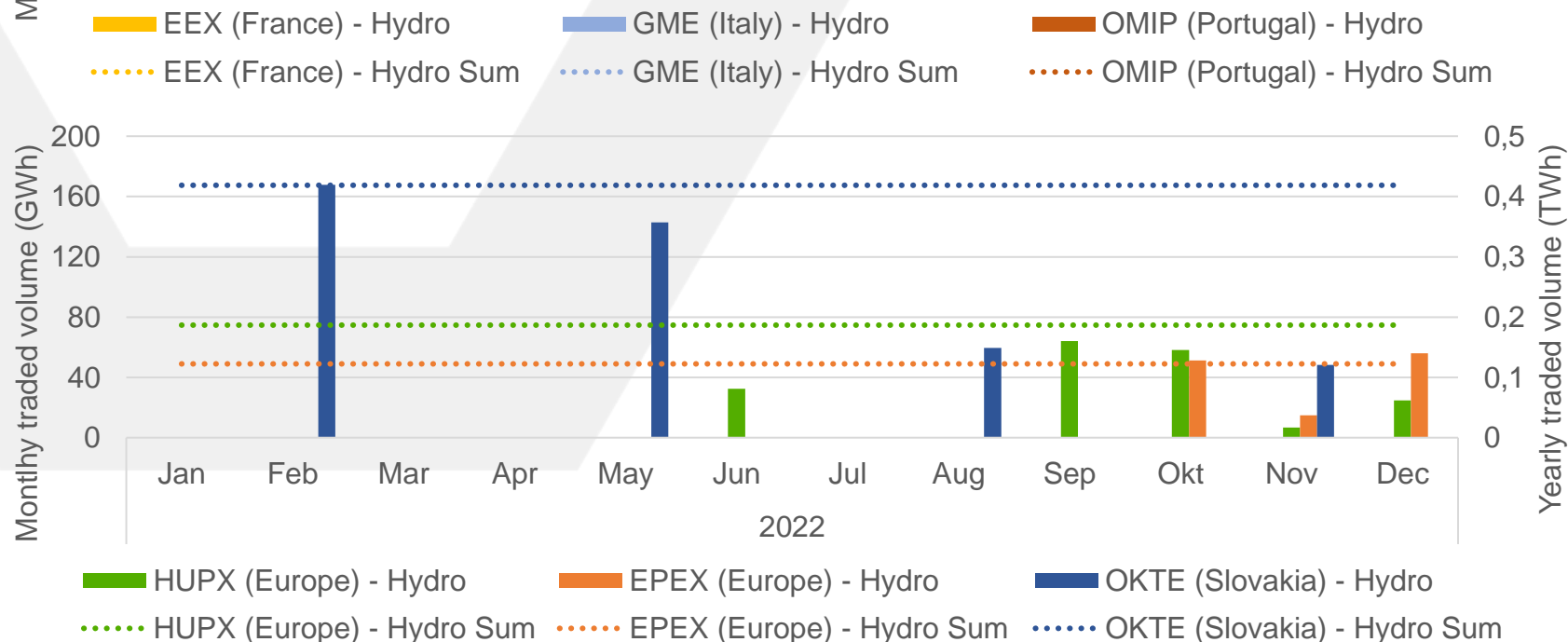
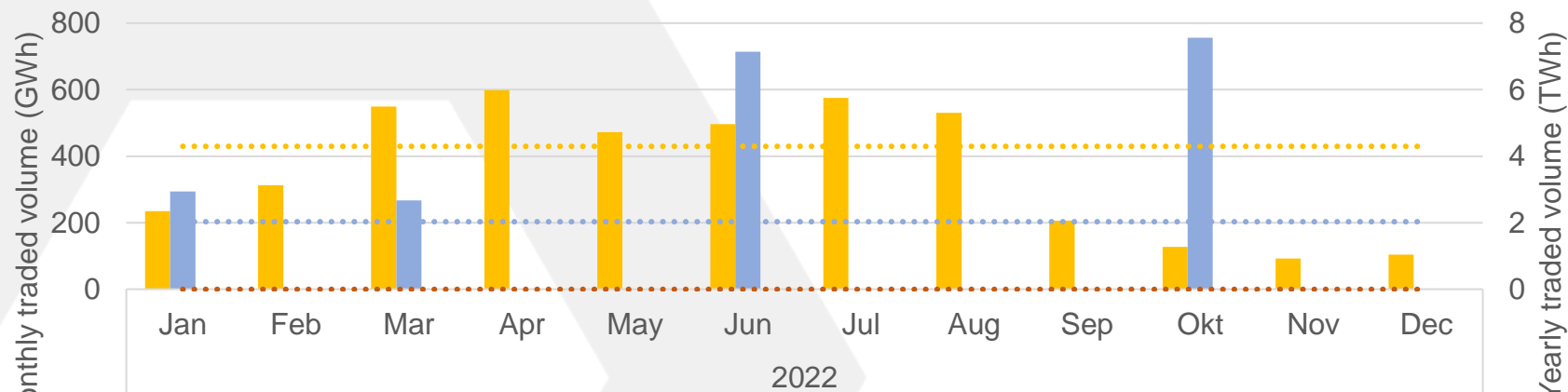


# Volumes of European organized GO auctions – Hydro

GO MARKET

## Notes

- In 2022 hydro GO volumes were lower compared to other technologies, yet the French and Italian auctions brought dominant volumes.
- Hydro GOs are more relevant at EPEX and OKTE compared to other technologies.
- In the Hungarian market ~7% of the traded GOs are hydro.



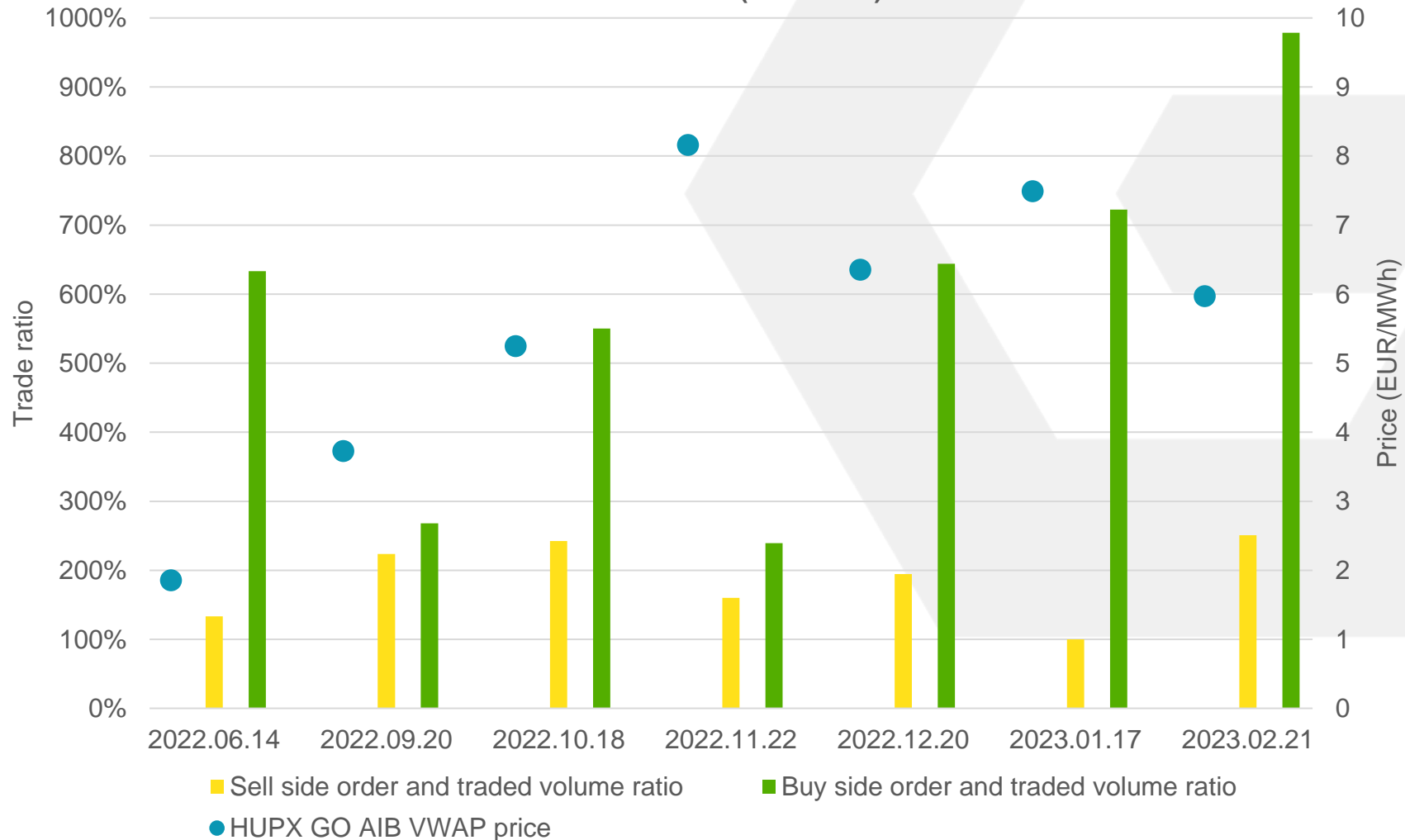


## Notes

- In the last 9 out of 12 months 100% of the offered GOs were sold on the organized GO market auctions. This indicated the strong demand for GOs even though the prices rose significantly.
- In January the trade ratio dropped from 100% driven by GME and HUPX GO auctions.
- This was in line with the high and volatile prices as demand and supply couldn't match in many cases.
- Chart shows only those auctions, where offered volume data is publicly available, i.e. EPEX is excluded.



Traded and offered volumes of HUPX GO Auctions (GWh) and HUPX AIB index (EUR/MWh)



## Notes

- In February on the HUPX GO Market the **overdemand reached new highs**, meanwhile the **offered volumes** again came from **multiple countries**: Spain, Croatia, Finland and Hungary.

## How to participate?

More information:

<https://hupx.hu/en/go-market/members-and-admission>

## Next auction

21st March, 2023

<https://hupx.hu/en/go-market/next-auction>

