



GO MARKET

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HUPX GO Market Monitoring Report

COMPLETE EDITION

20/04/2023

Table of content

PRICE BENCHMARKS

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

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

Data collection for the benchmarks and data represented in this report closed on 20th April 2023, which implies prices calculations are completed until 18th April 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 (2σ) 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





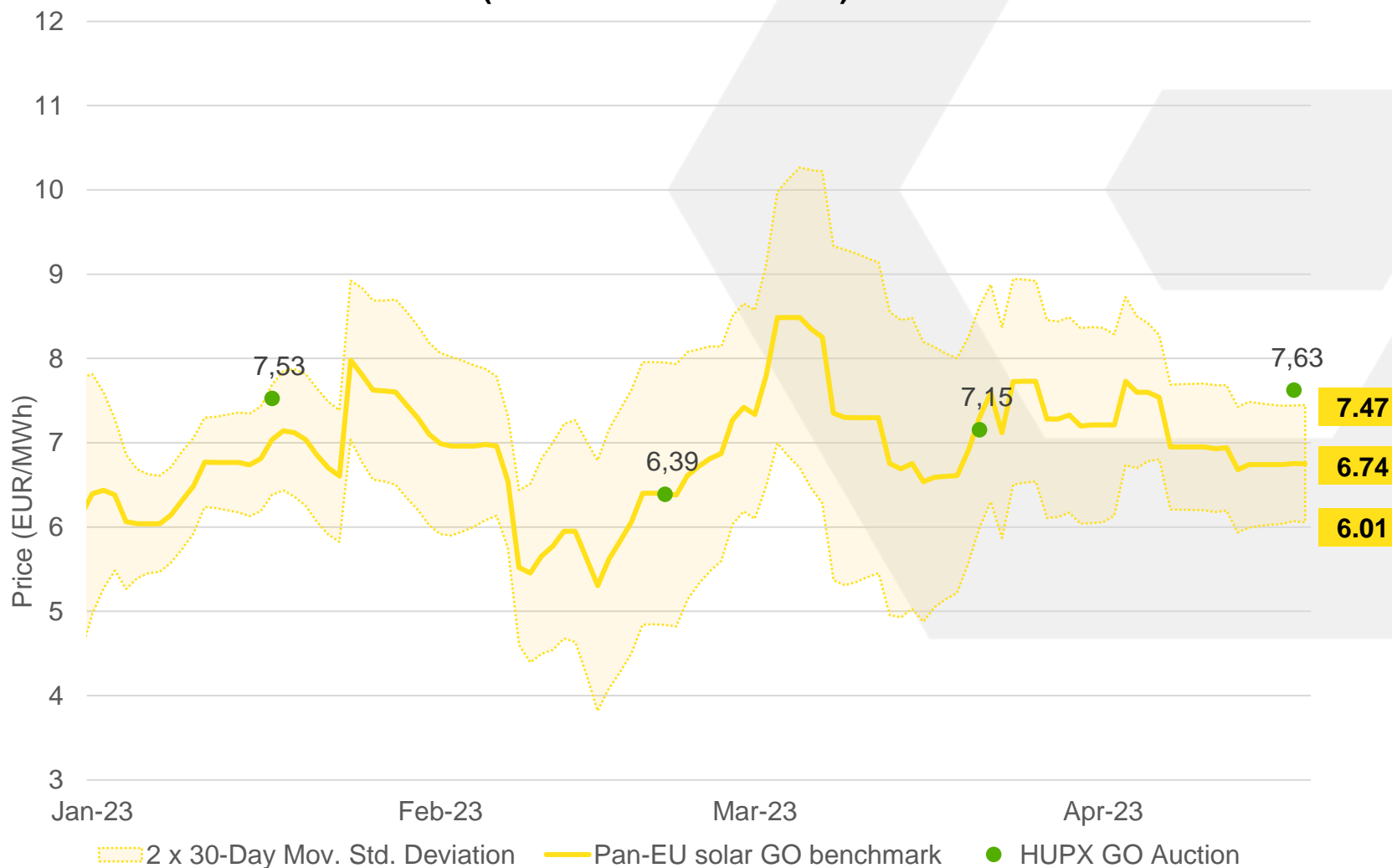
PRICE BENCHMARKS

SOLAR – WIND – HYDRO





Pan-EU solar GO benchmark and calculated volatility (01/01/2023 – 18/04/2023)



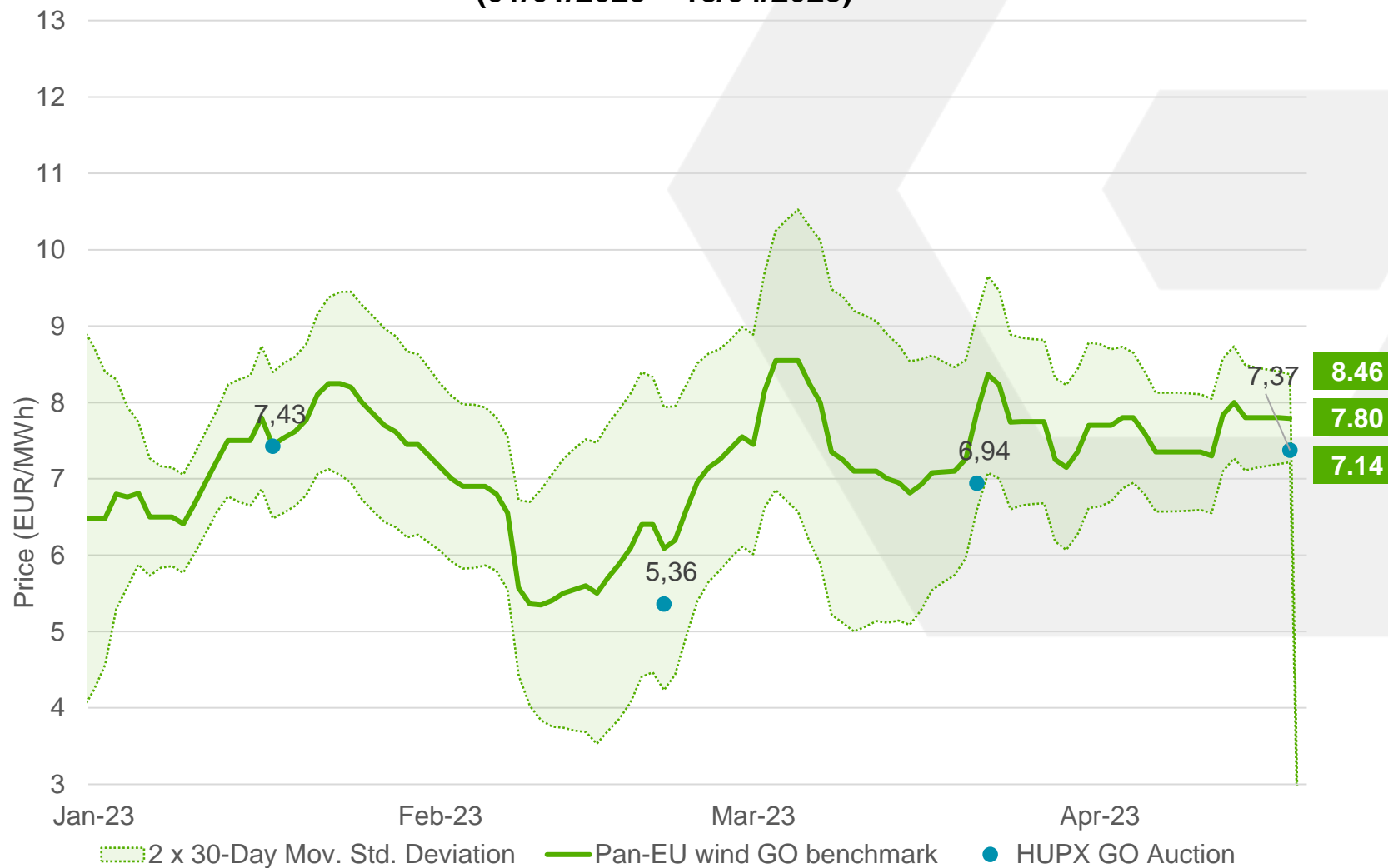
Notes

- After the compliance deadline of 31st March, in April solar GO prices remained calm compared to the high volatility periods of previous months.
- Solar GO prices stayed at a similar level in the middle of March and middle of April, 6.74 EUR/MWh.
- In February and in March the HUPX GO Auction solar prices were in line with the benchmark prices.
- Volatility decreased significantly; the double of the standard deviation reached to 0.73.





Pan-EU wind GO benchmark and calculated volatility (01/01/2023 – 18/04/2023)



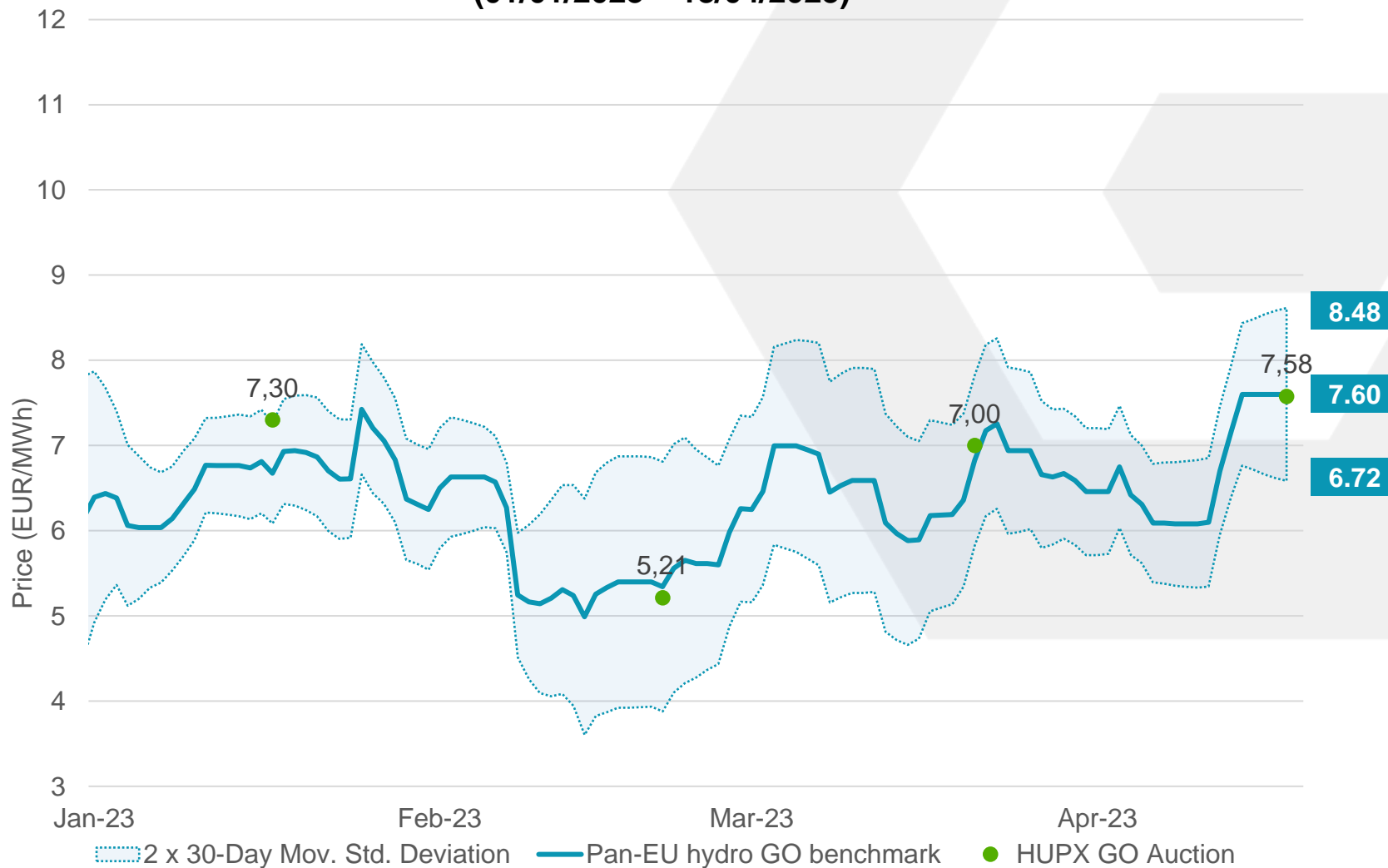
Notes

- Wind GO prices were notably higher in the first half of April compared to solar and hydro GO prices.
- The HUPX GO Auction prices of the wind GOs were lower in the last two months compared to the benchmark prices.
- Last wind GO price stood at 7.8 EUR/MWh in the middle of April.
- Volatility decreased further in the past 30 days; the double of the standard deviation was 0.66.





Pan-EU hydro GO benchmark and calculated volatility (01/01/2023 – 18/04/2023)



Notes

- Hydro GO price reached its highest value in the last 3 months.
- Price level is still in line with the key levels of previous months, i.e., between 5-8 EUR/MWh range.
- In April prices rose significantly, by the middle of the month hydro GO prices reached 7.6 EUR/MWh.
- Volatility of the hydro GO prices increased to 0.88, which is the highest among the three benchmark technologies.





TRADED VOLUMES

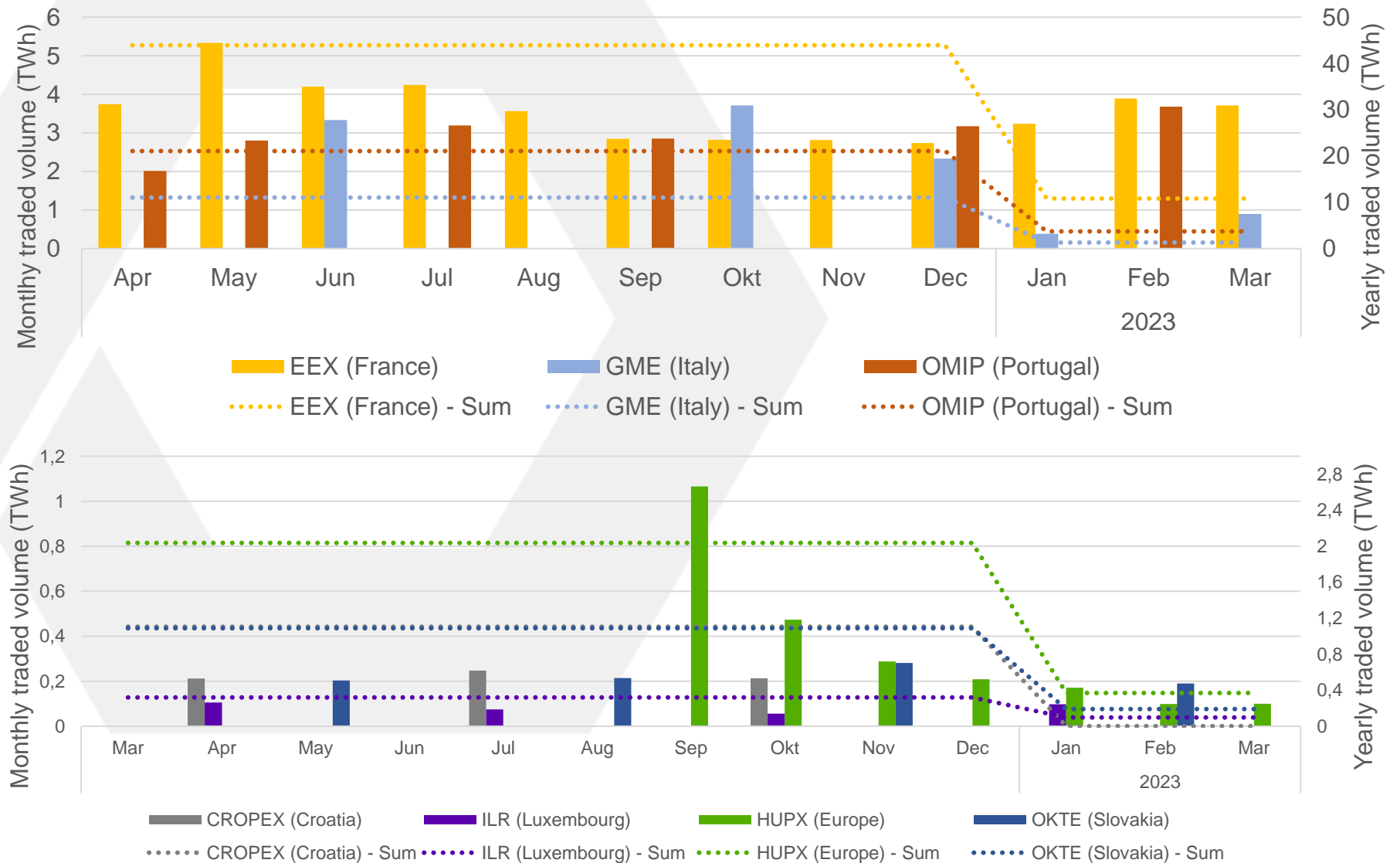
EUROPEAN ORGANIZED GO MARKETS



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**. In 2023, these exchanges still have the most significant role.
- In 2023, **HUPX** still upholds its leading role considering volume being above 360 GWh

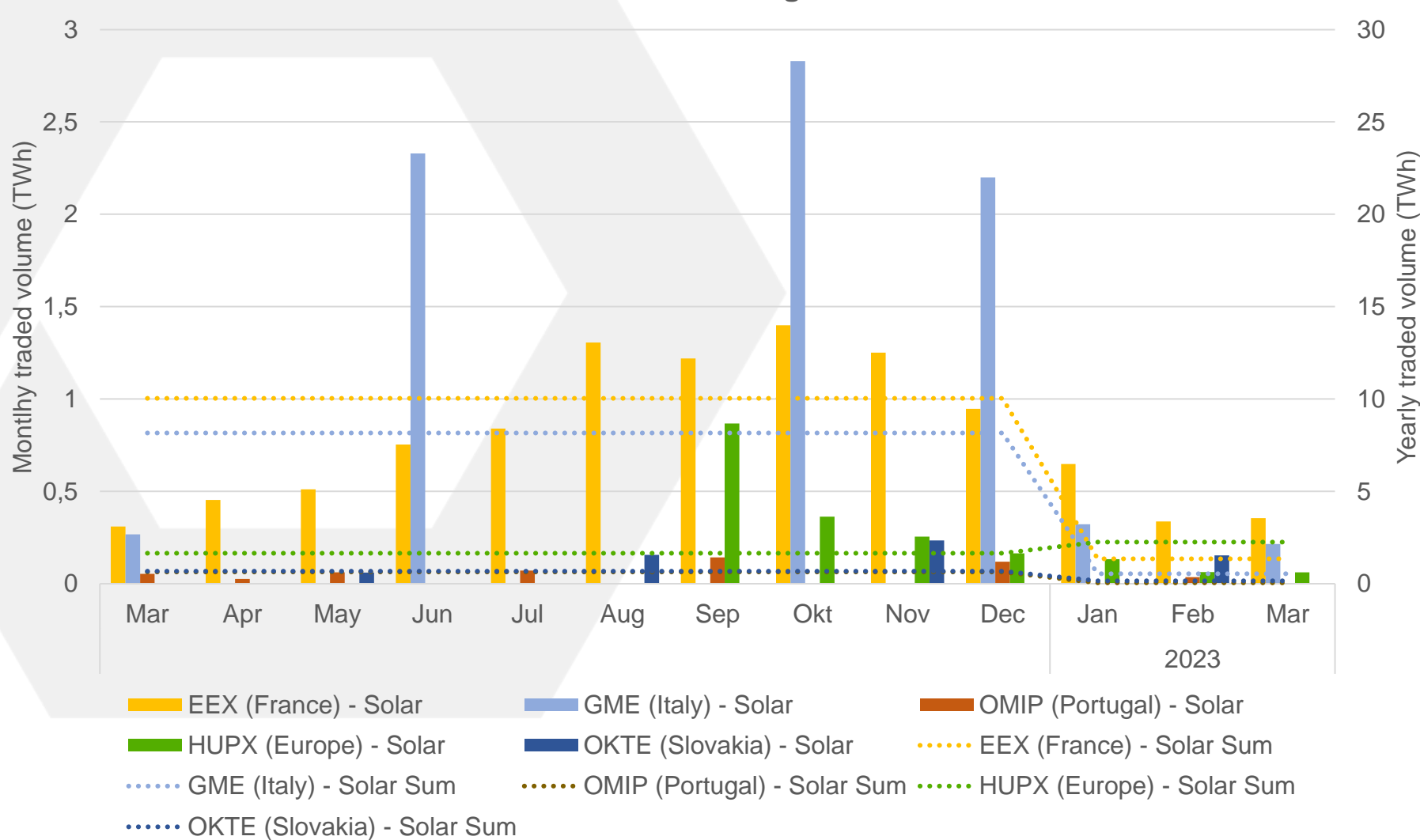




Notes

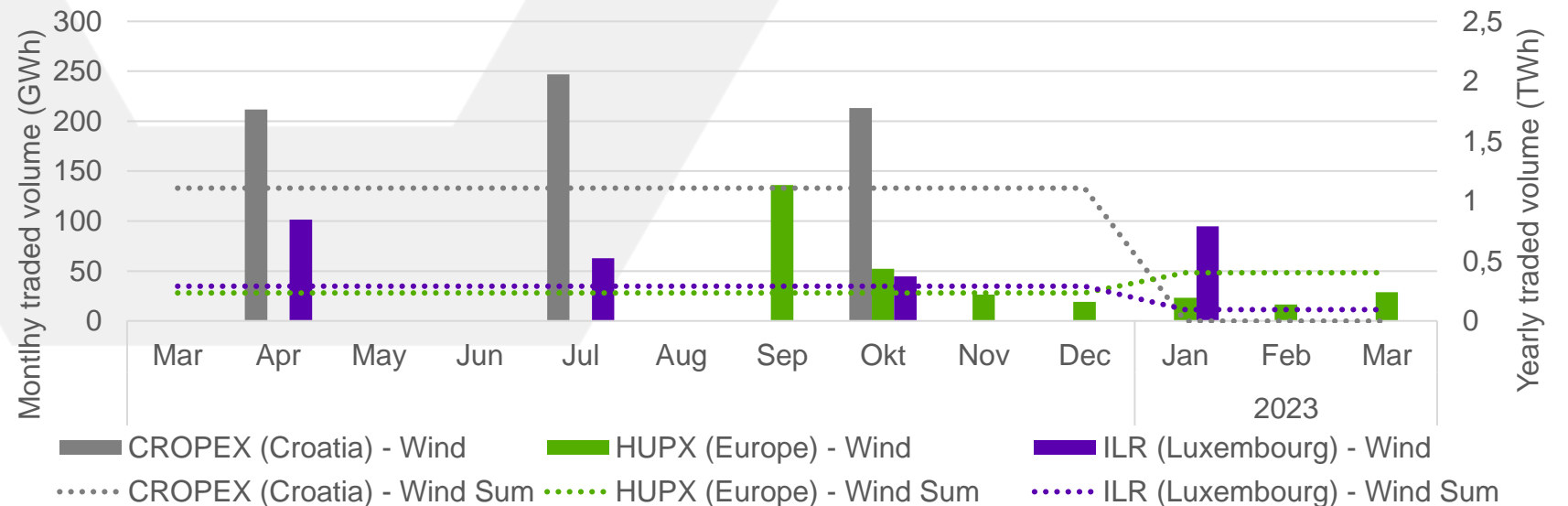
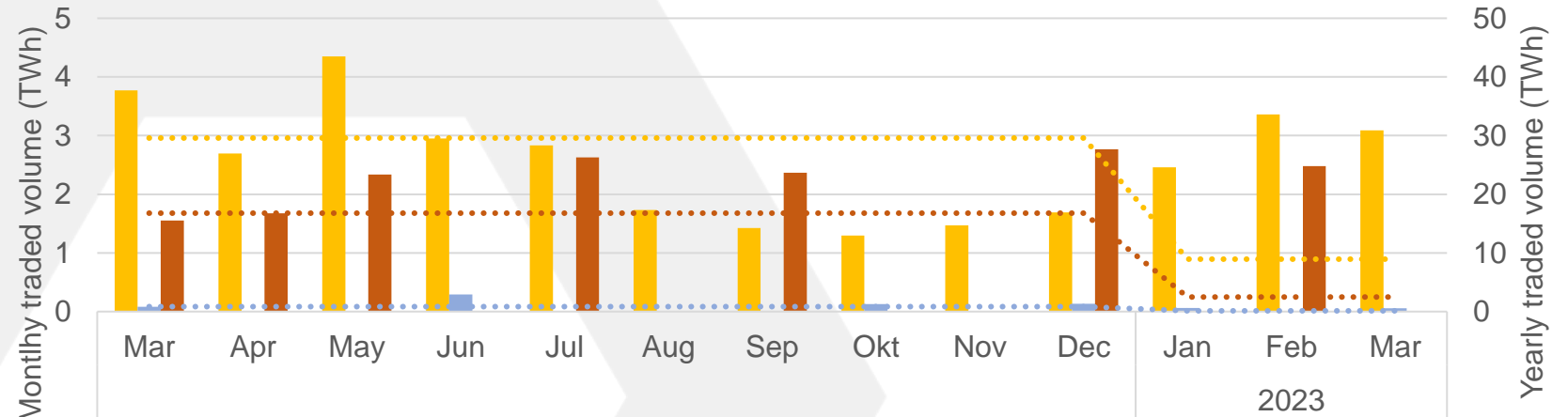
- Among the smaller organized markets, Hungary had the highest solar GO volume, therefore overtook OMIP and became the third largest.
- Even less Solar GOs were issued in March with 62 GWh.
- March brought low Solar GO volume again for GME.

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.
- The share of wind GOs increased to 29% in Hungary in March up from 17%.



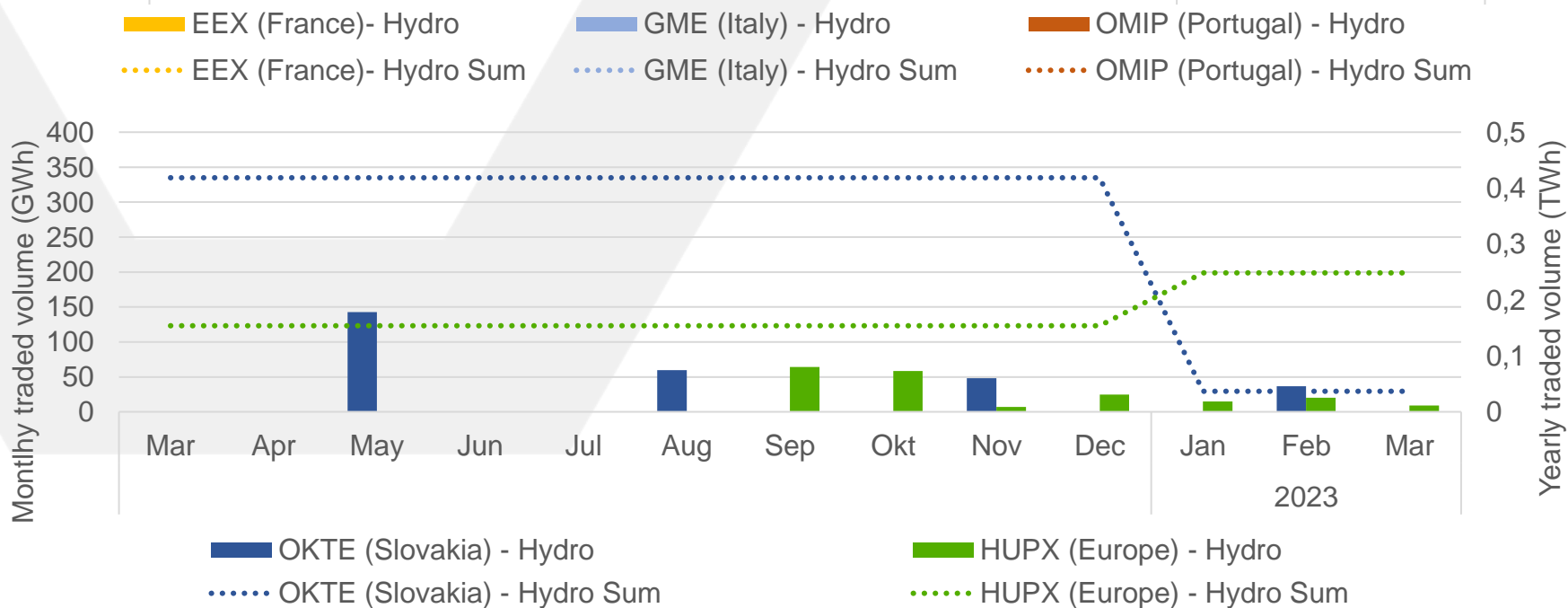
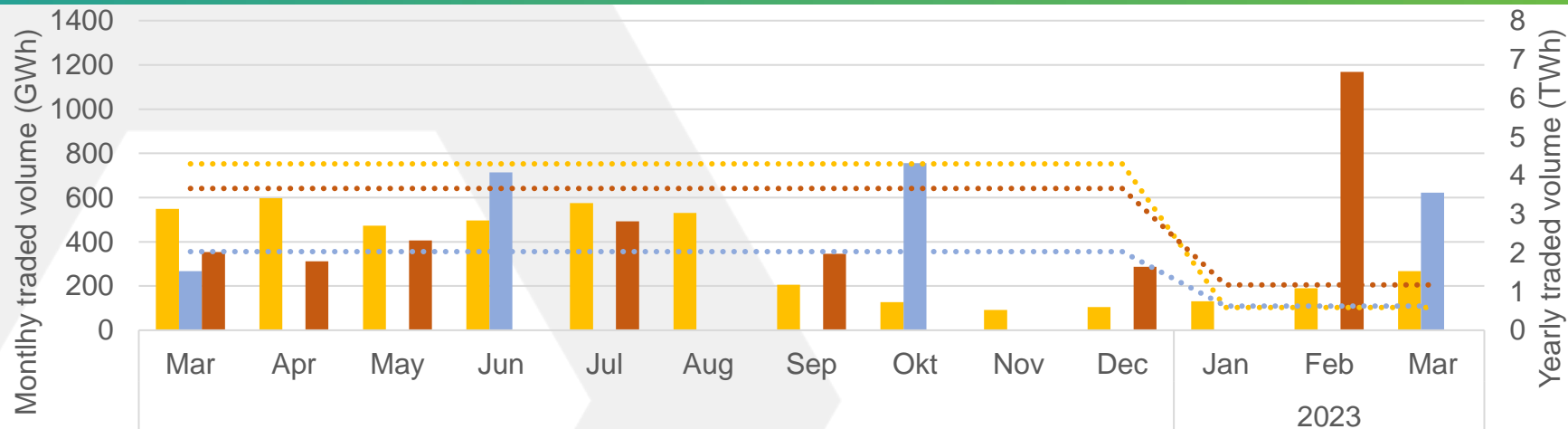


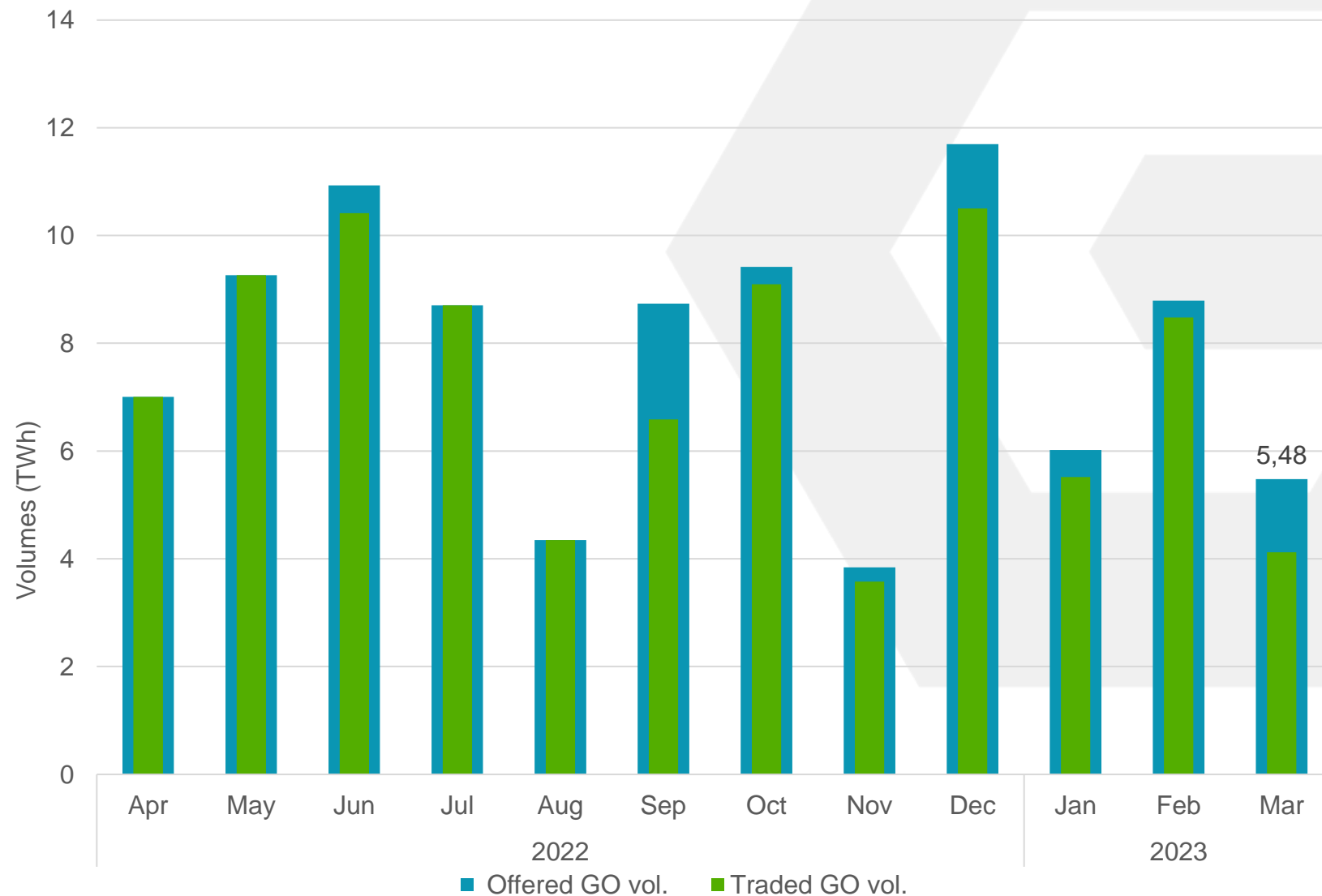
Volumes of European organized GO auctions – Hydro

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Notes

- **The Portuguese auction** brought a **record high volume** in terms of **hydro GOs**.
- **Hydro GOs are more relevant at OKTE** compared to other technologies.
- **The hydro GOs were lower in rate** in March on HUPX at **9%**.



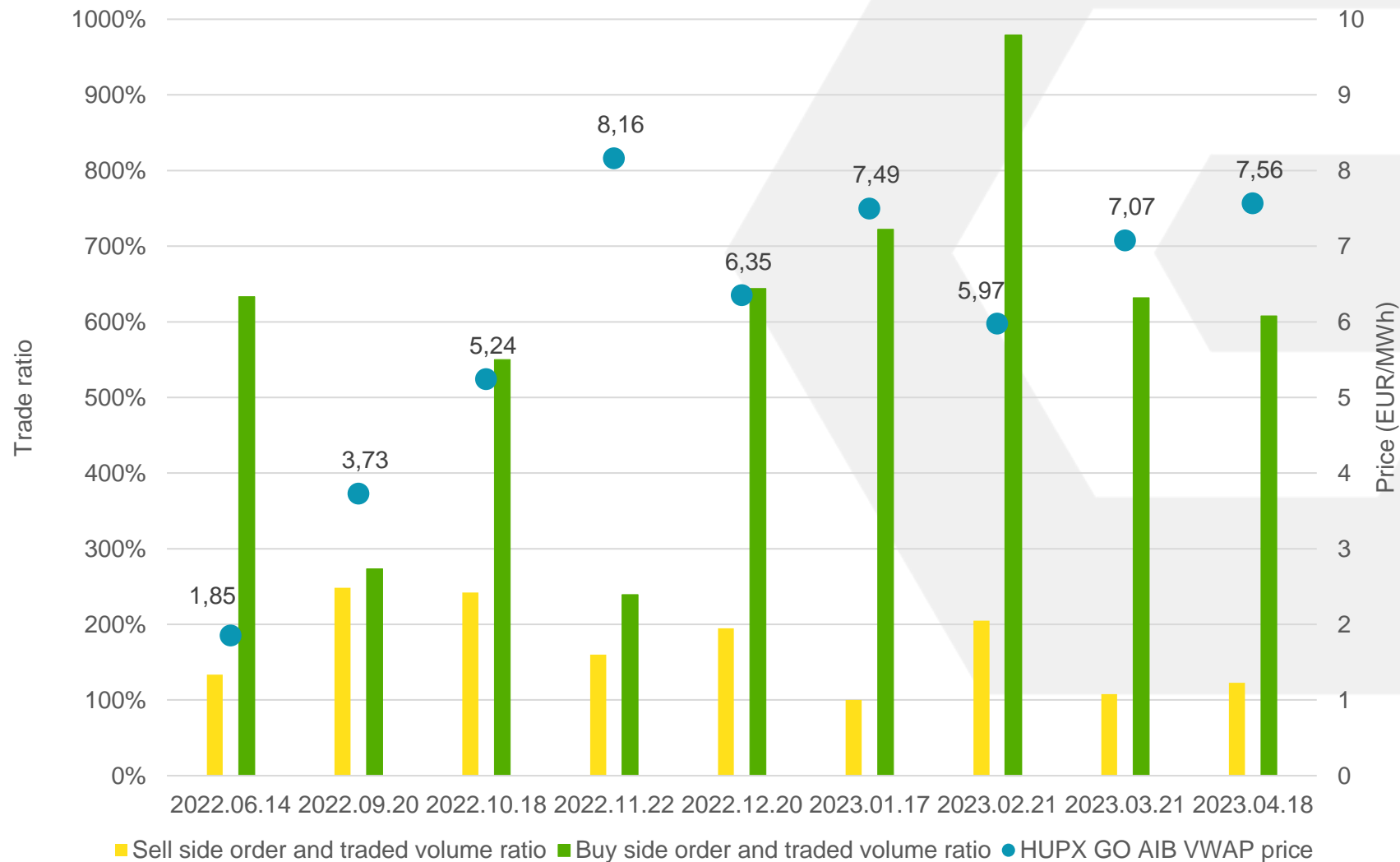


Notes

- On many organized GO market auctions 100% of the offered GOs were sold. This indicated the strong demand for GOs even though the prices rose significantly.
- In March, the trade ratio was lower than a 100% again.
- 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.



Bids and offered volume ratios, prices of HUPX GO Auctions



Notes

- The VWAP increased even more in April to 7.56 EUR/MWh.
- The overdemand was at a similar rate as in March.

How to participate?

More information:

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

Next auction

23rd May 2023

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

