



ACER



European Union Agency for the Cooperation
of Energy Regulators

Highlights from gas balancing indicators

Dashboard update with gas year 2021-2022 data

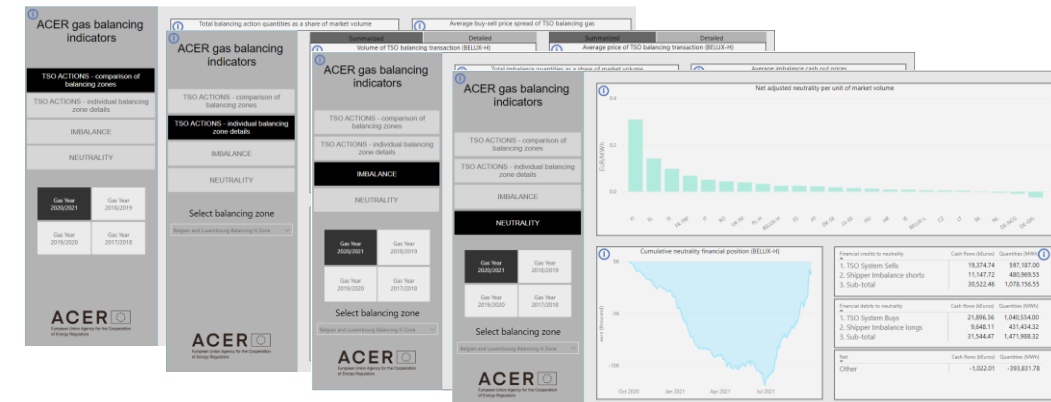
Publication date: July 2023

1. Background

- This year, the ACER's work focused on:
 - Calculating the indicators for the gas year 2021-2022.
 - Updating the dashboard by also including some additional functionalities (e.g. commenting boxes)
- The ZEN tool for data collection and calculation of the indicators is mature and stable.
- This presentation captures some of the highlights observed in the EU balancing systems in gas year 2021-2022:
 - Comparison among all balancing zones.
 - Comparison with previous gas year.

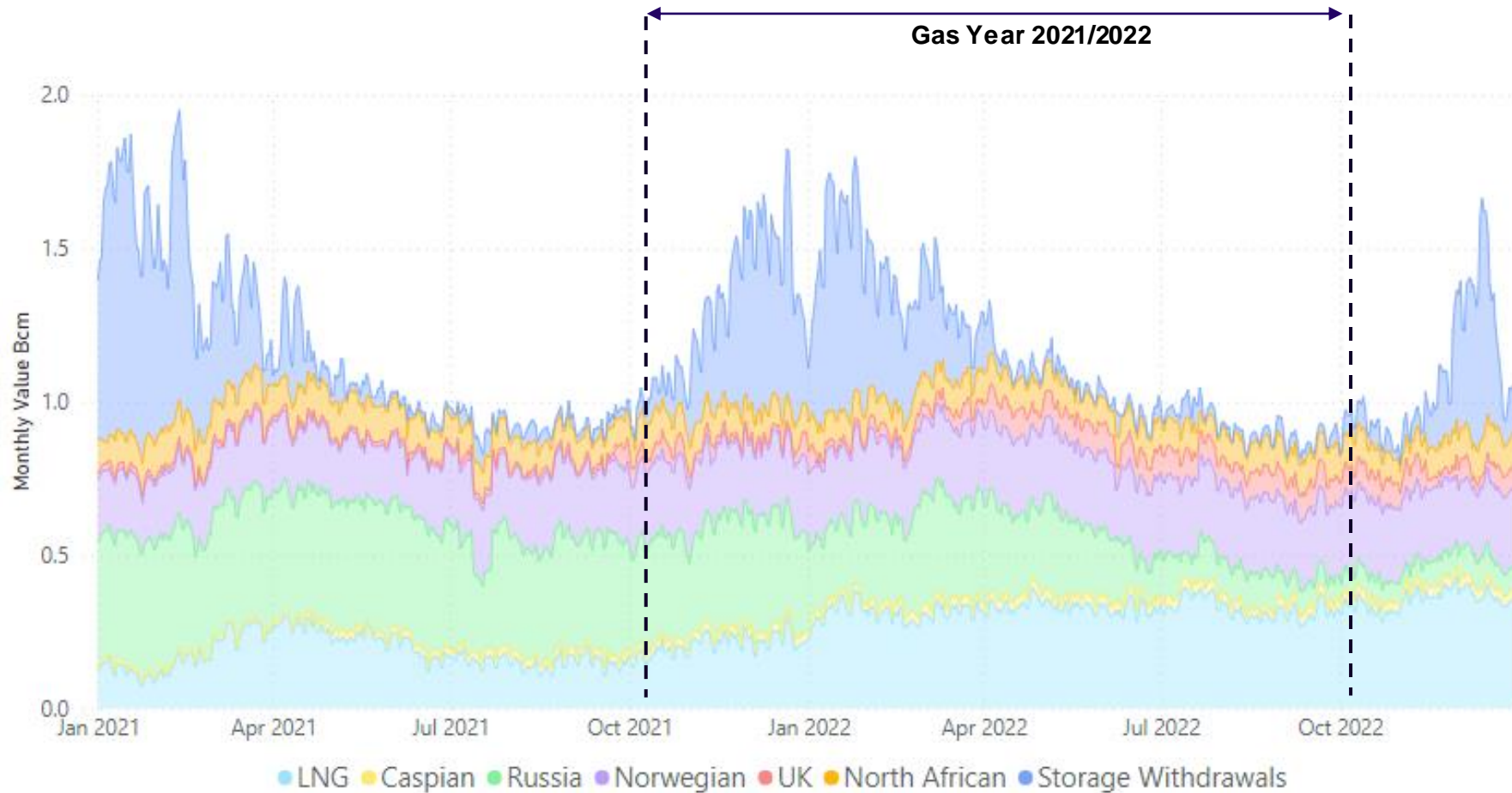
These slides explore key indicators developed within the **ACER balancing analytical framework***, highlighting extreme values.

1. Four indicators assess the residual role of the TSO, describing the levels, the frequency, and the prices concerning the **TSOs' buy and sell action**.
2. Three additional indicators describe the **network users' balancing activities**, looking at their imbalance quantities and prices, in order to understand the different incentives network users might face within the EU balancing regimes.
3. A graph representing **net adjusted neutrality** describes the net payments charged or credited to network users.



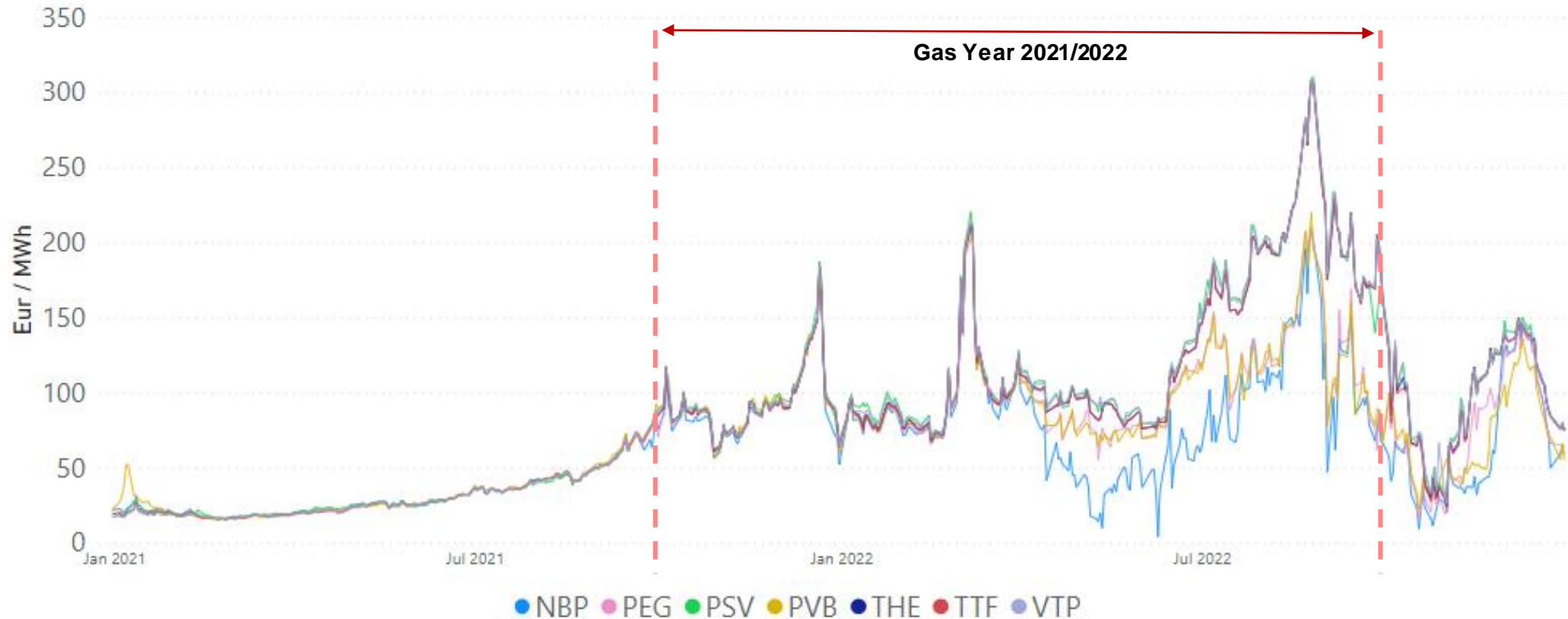
2. Wholesale market context

Import flows dynamics (2021-2022)



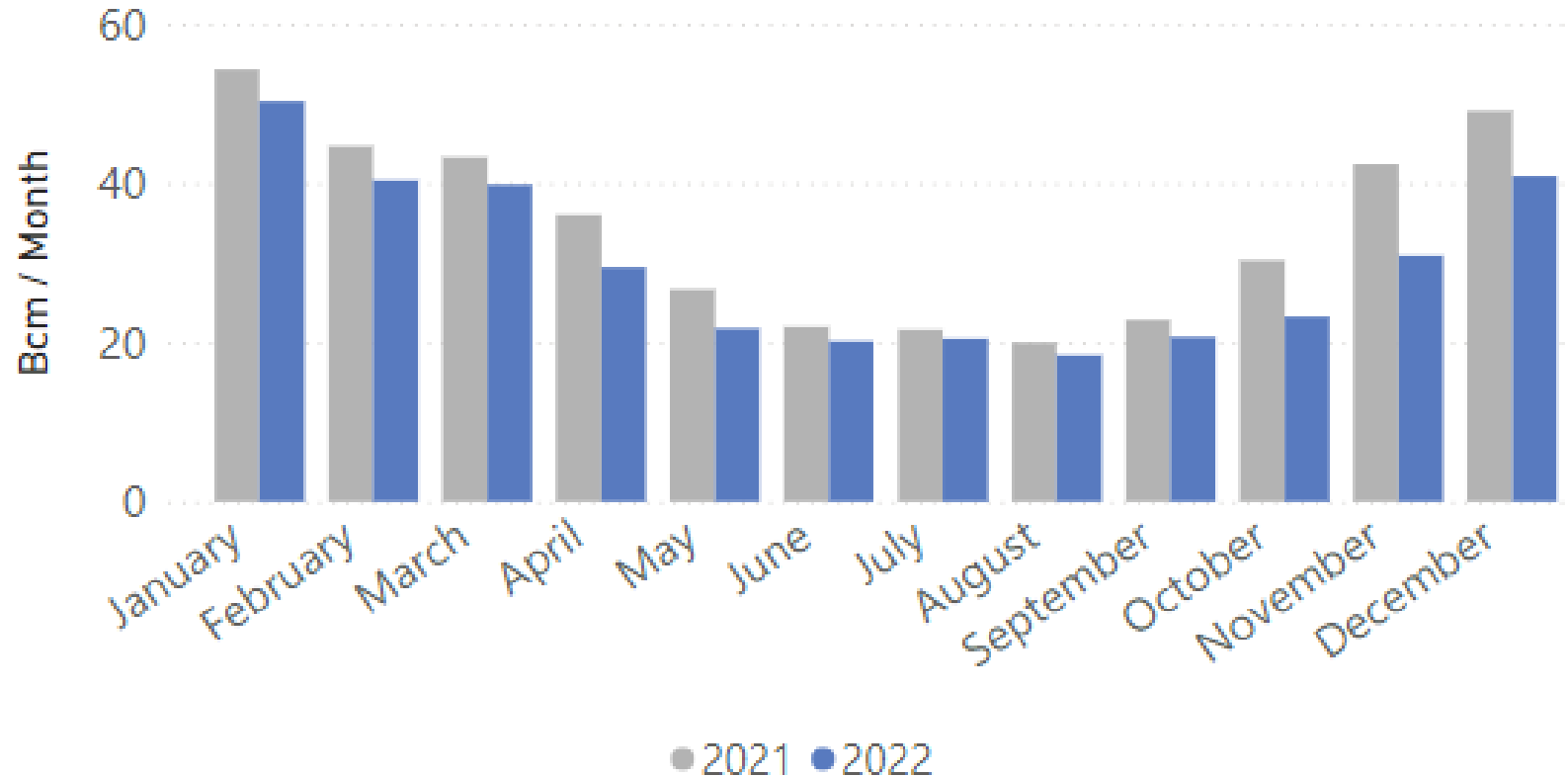
- In gas year 2021-2022 we observed a rapid change in flow dynamics, with a shift of flow from the historical **East-West direction** and increased inflows of **LNG**.
- These dynamics could have had an impact on the balancing markets that deserves an analysis.

Day ahead gas prices evolution (2021-2022)



- The tightness and uncertainty of supplies caused a **general price increase**.
- The price increase has also affected the balancing activity with a **generalized increase in prices** of balancing products and network users' imbalances (*to be shown in next slides*).

Gas Demand comparison (2021-2022)

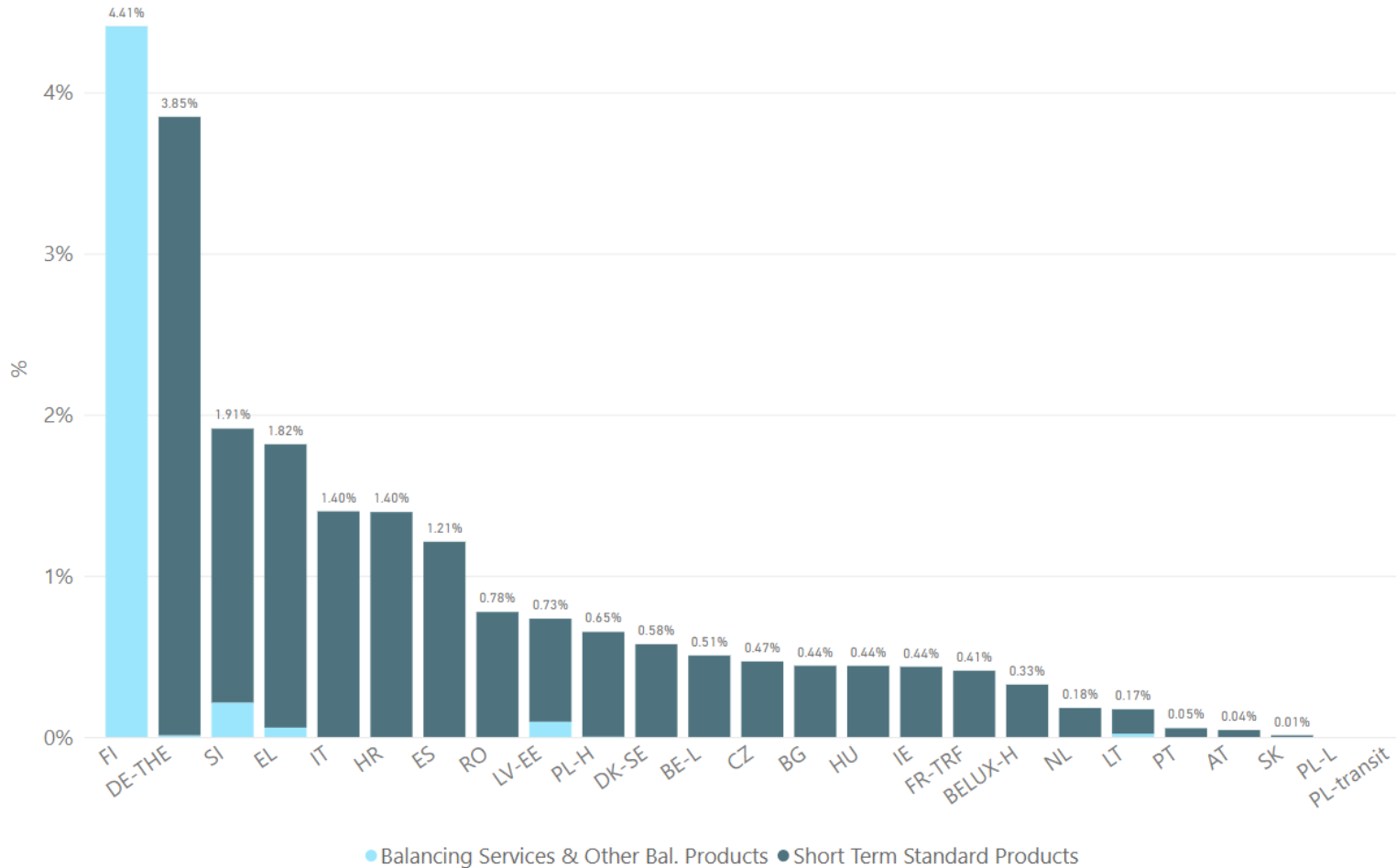


- High prices, mild winter temperatures, and demand containment policies contributed to a decrease in gas consumption during 2022 with respect to the previous year.
- Changes in gas demand could partly explain the dynamics of network users' imbalances and TSO's balancing actions, depending on national specificities.

3. Balancing analytical framework

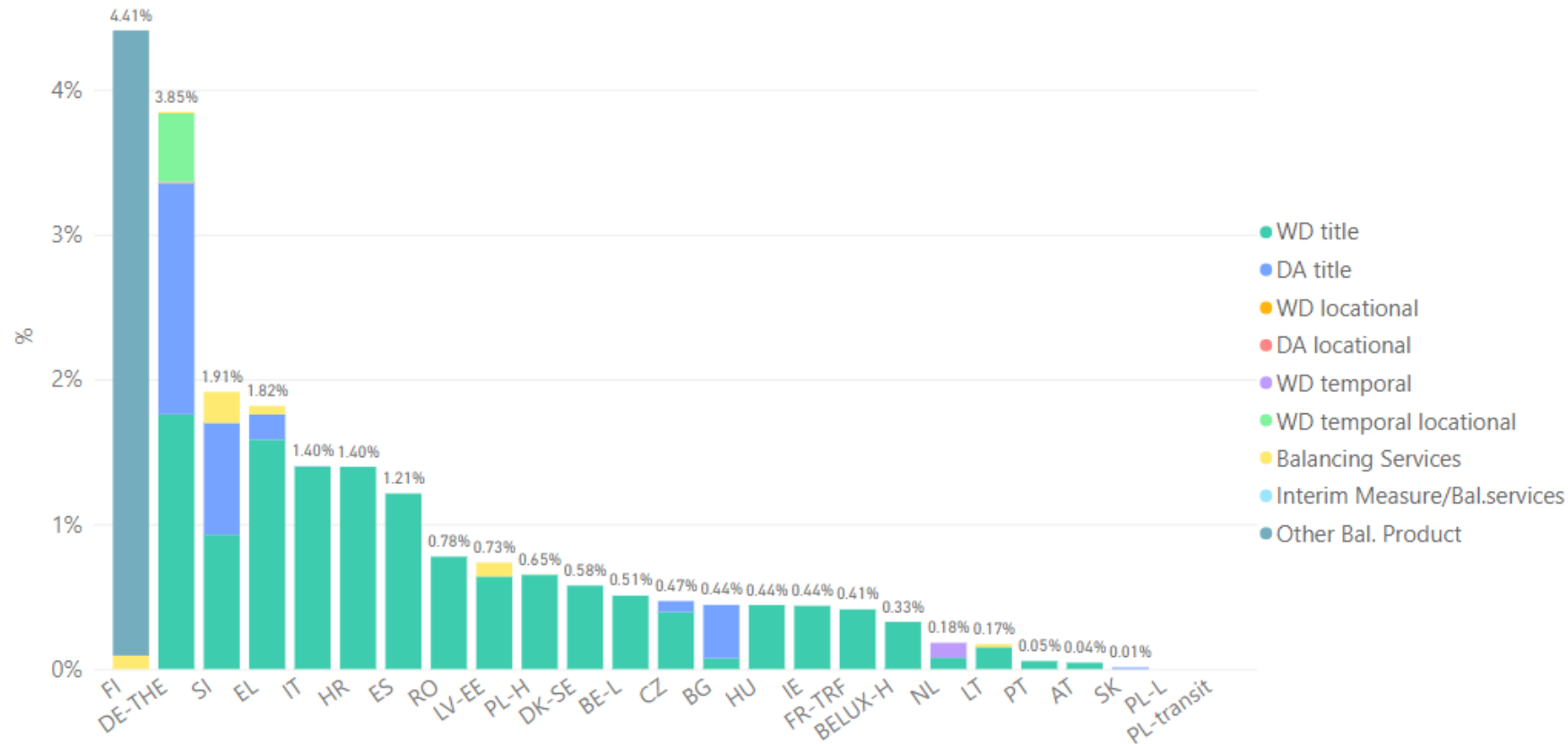
Gas year 2021-2022

Total TSO balancing actions quantities as a share of market volumes (GY 2021-2022)



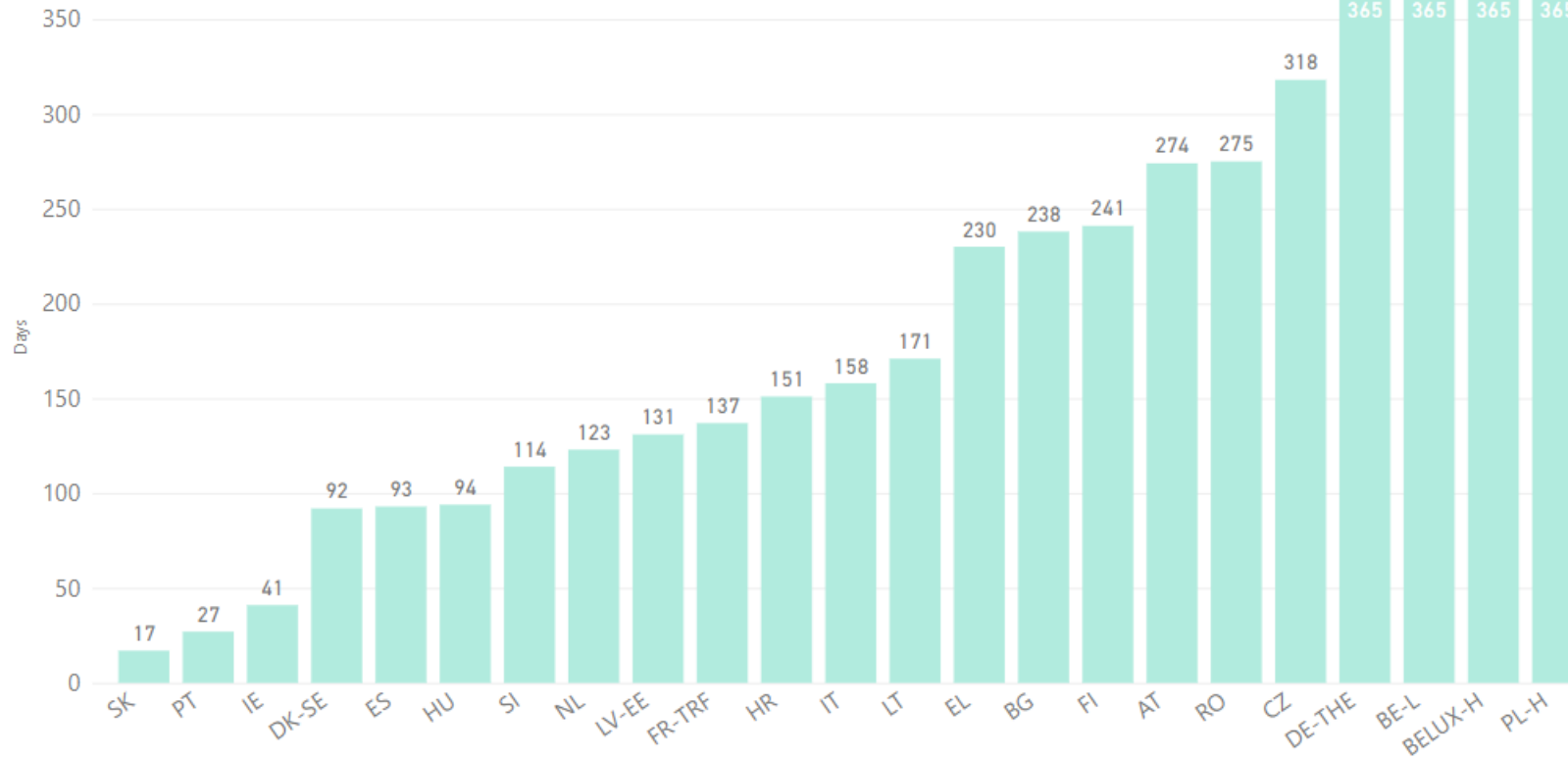
- The use of TSO balancing actions varies considerably between zones, even when normalized values are compared.
- Slovakia and Austria have the lowest values of respectively 0.01% and 0.04%, whereas Finland and Germany have the highest values, respectively 4.41% and 3.85%.
- Poland-L and Poland-T zones did not show balancing actions.

Total TSO balancing actions quantities as a share of market volumes (GY 2021-2022)



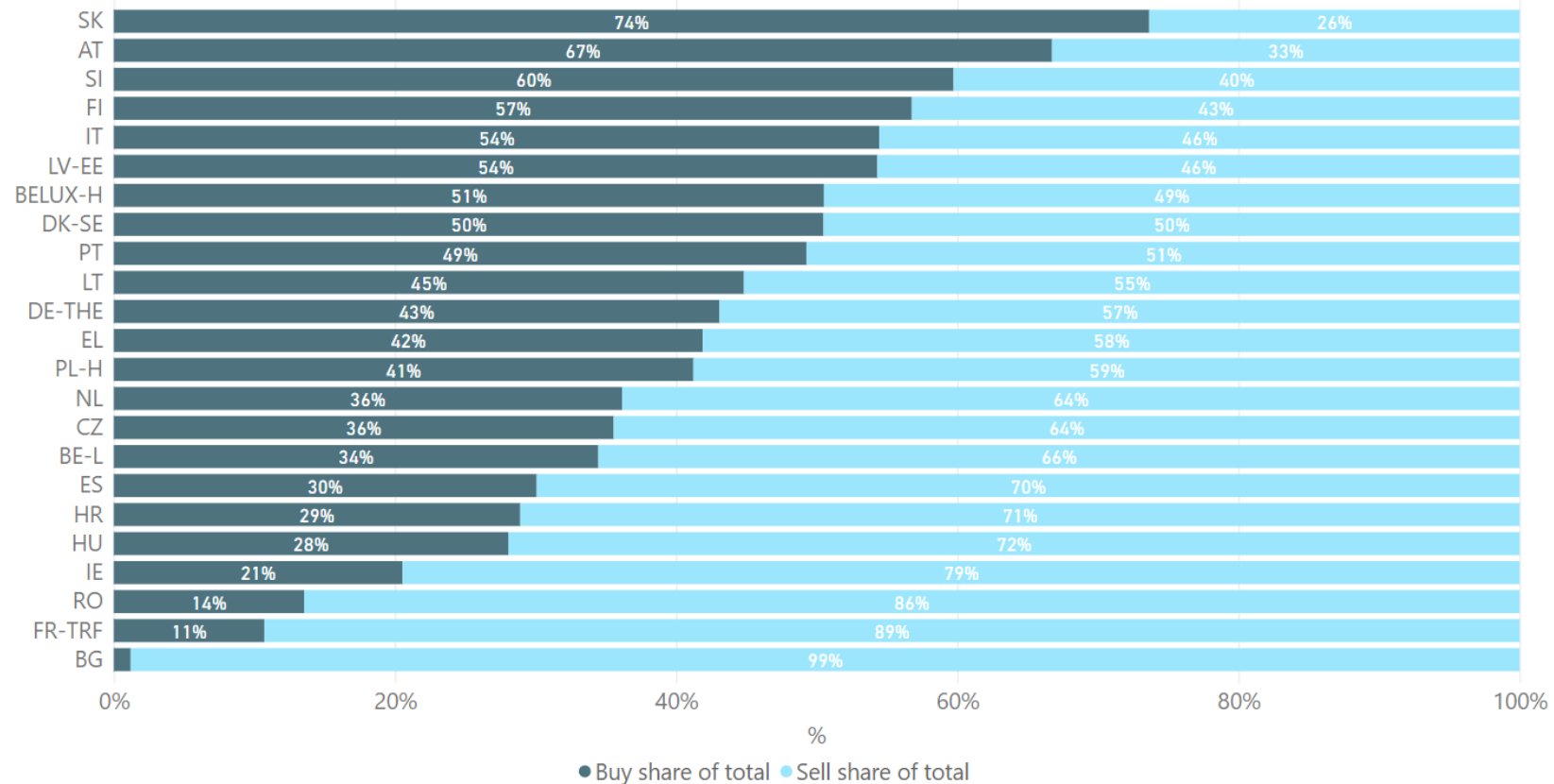
- The majority of the actions taken by TSOs happened through **within-day** title products, followed by **day-ahead** title products.
- The use of **balancing services** was residual.
- The EU average of this indicator in GY 2021-2022 was **1.12%**, compared to **1.25%** in GY 2020-2021.
- This small variation possibly shows no tangible effects of the gas crisis on the TSO's balancing activities.

Number of days when balancing actions took place (GY 2021-2022)



- The number of days in which balancing actions took place is very heterogeneous, showing that different approaches to balancing can generate very different frequencies of balancing actions.
- Four zones (Germany, BELUX-H, Belgium-L and Poland-H) resorted to balancing action every day of the gas year.
- On the contrary, Slovakia, Portugal, and Ireland reported balancing actions for 17, 27, and 41 days respectively.
- The total sum of days was **4385** in GY 2021-2022, nearly a 10% decrease compared to the **4996** days in GY 2020-2021.

TSO split between buy & sell actions (GY 2021-2022)



- Different levels of asymmetry in the TSO's balancing actions were observed, but in the majority of cases, the systems were leaning towards a **long position** making **sell actions** necessary from the TSO.
- Comparing GY 2021-2022 to GY 2020-2021, it is possible to notice **increased use of TSO sell actions** from **48% to 58%** on average.

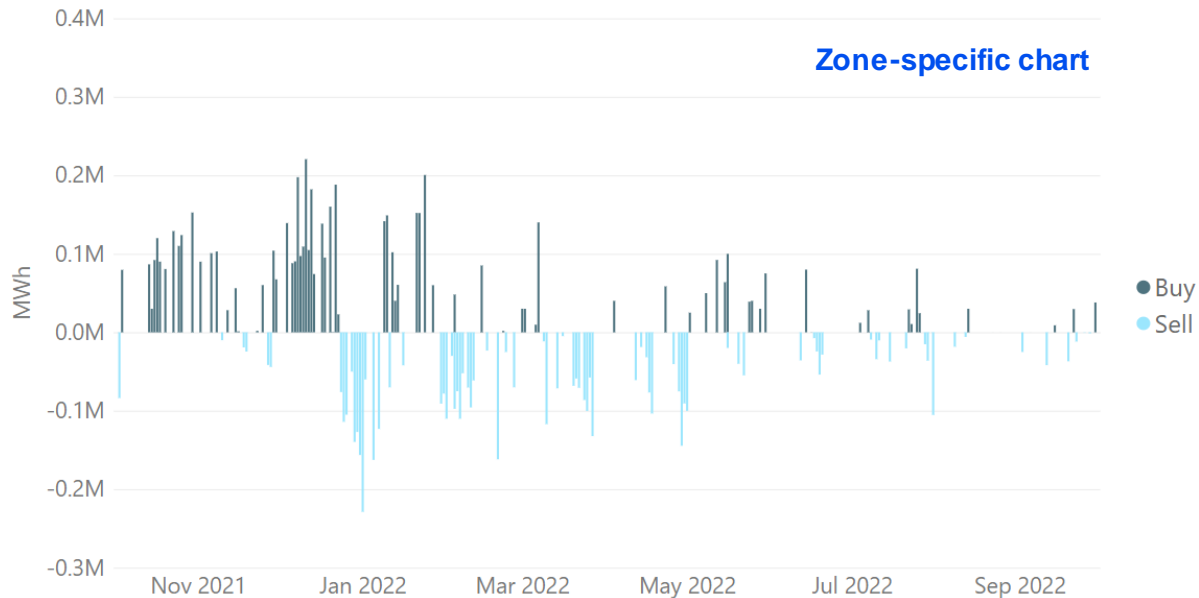
Average buy & sell prices of TSO balancing actions (GY 2021-2022)



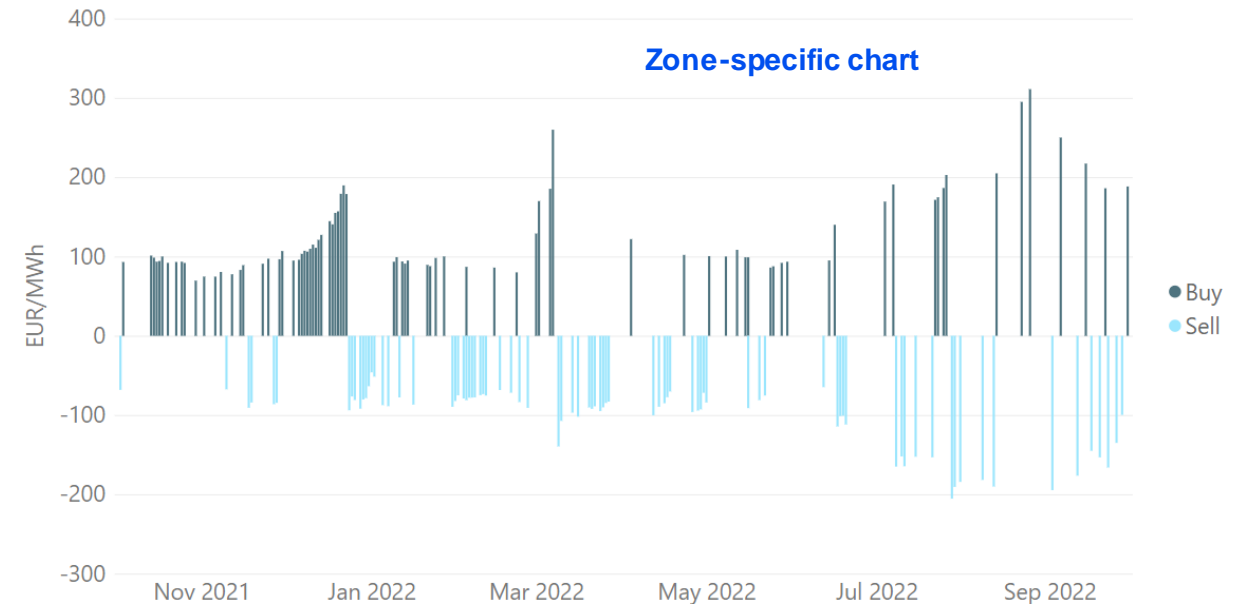
- TSO's balancing gas prices have increased between **3.5** and **4** times.
- This increase was similar to the DA product sold on the wholesale TTF market (**+356%** on average, year on year)

Hints on the average balancing prices calculation

Volume of TSO balancing transactions (GY 2021-2022)

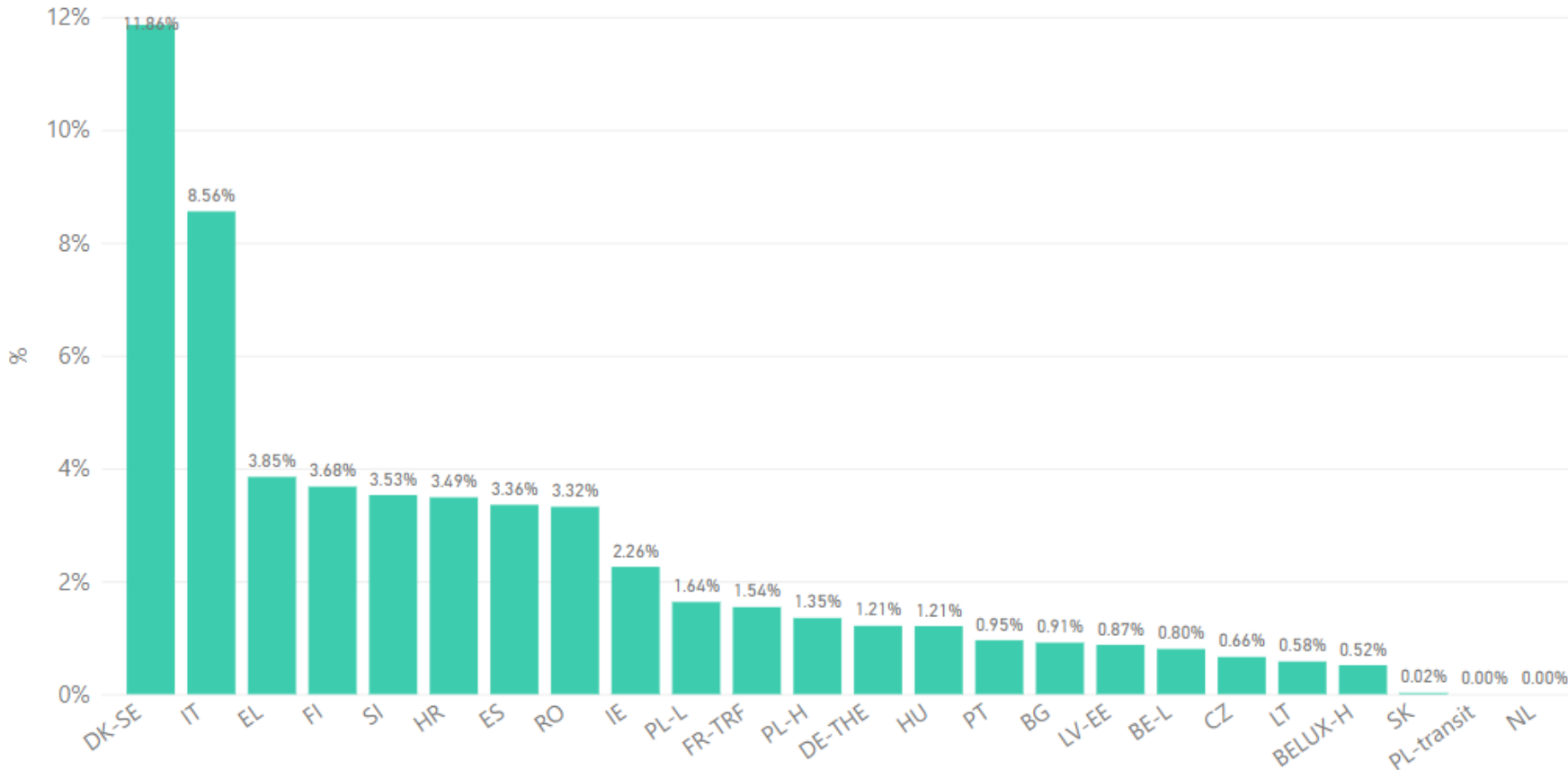


Average price of TSO balancing transactions (GY 2021-2022)



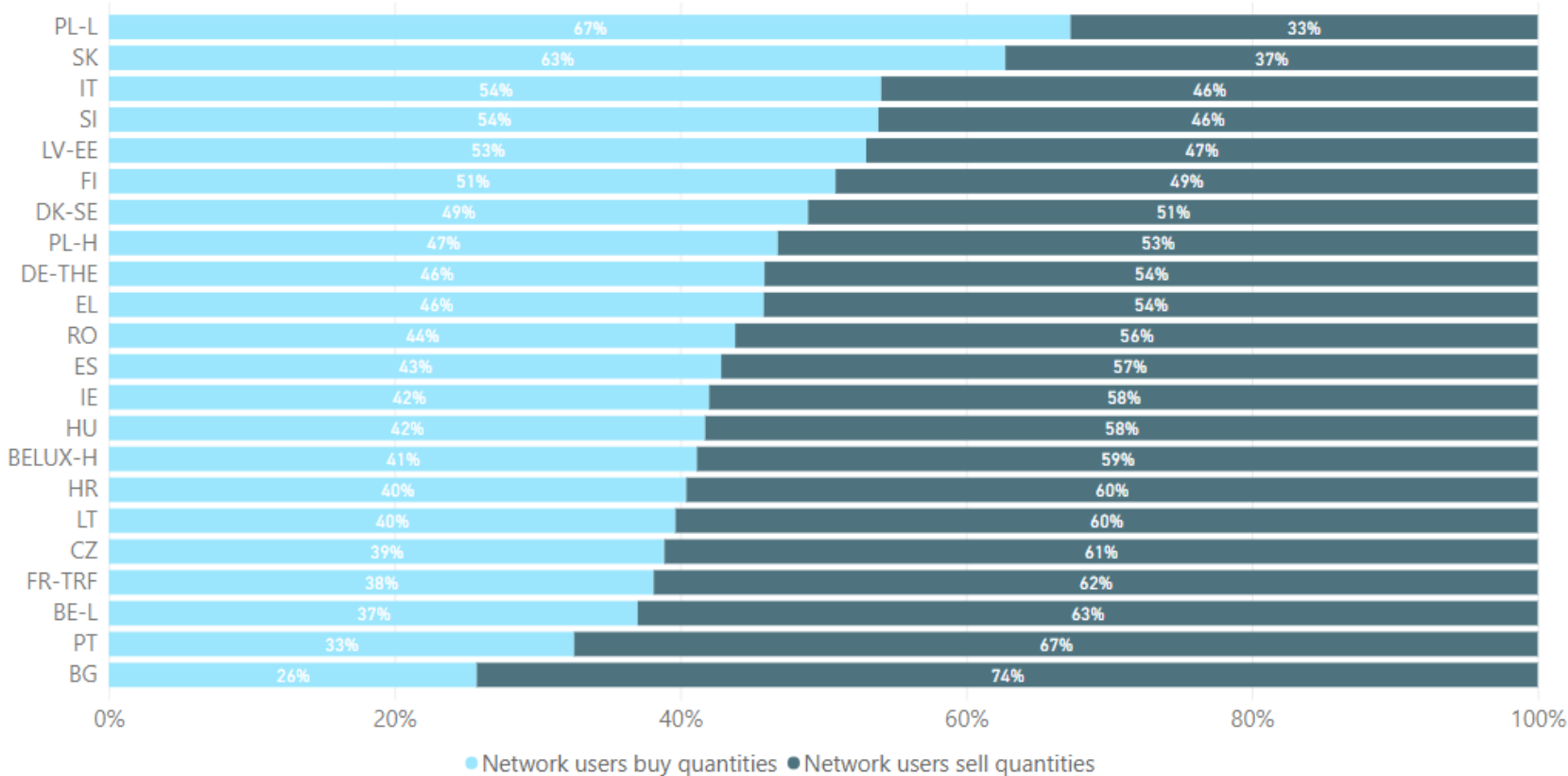
- This slide gives an example of the **high variation** of TSOs balancing actions (occurrence, price, volume, and direction) during the year.
- The price and volume variations across the year help to show how the TSO-side of the neutrality account builds up.

Total Imbalance quantities as a share of market volumes (GY 2021-2022)



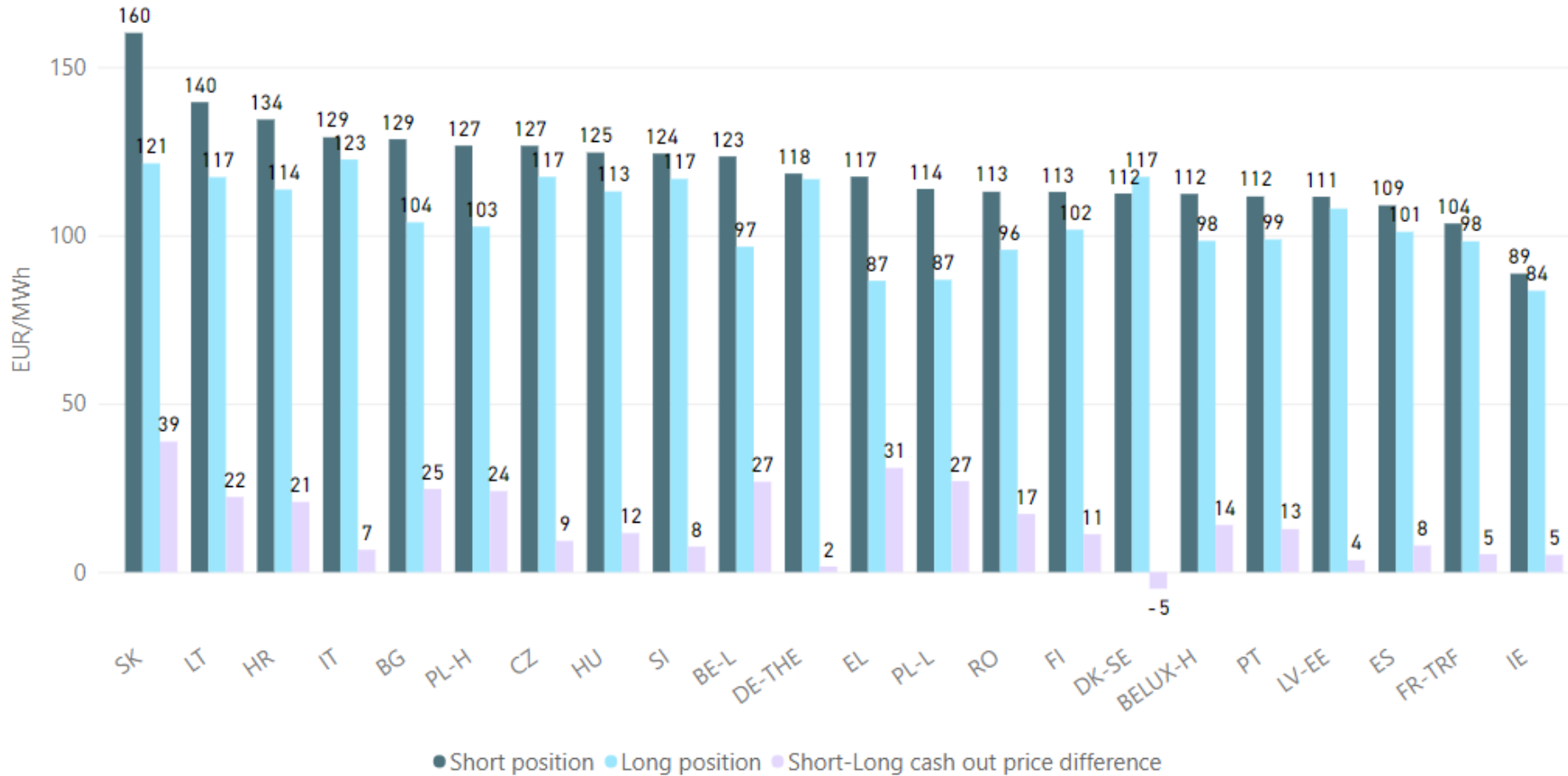
- Differences in the applied balancing regimes can help to explain the heterogeneous levels of imbalance cash-out quantities observed.
- In particular, Denmark-Sweden and Italy had the highest values: 11,86% and 8.56% respectively.
- Most values ranged between 4% and 0.5%.
- The average total imbalance quantities as a share of market volumes slightly increased to **1.99%** in GY 2021-2022, compared to **1.83%** in GY 2020-2021.

Network users short & long imbalance quantities as a share of total imbalances (GY 2021-2022)



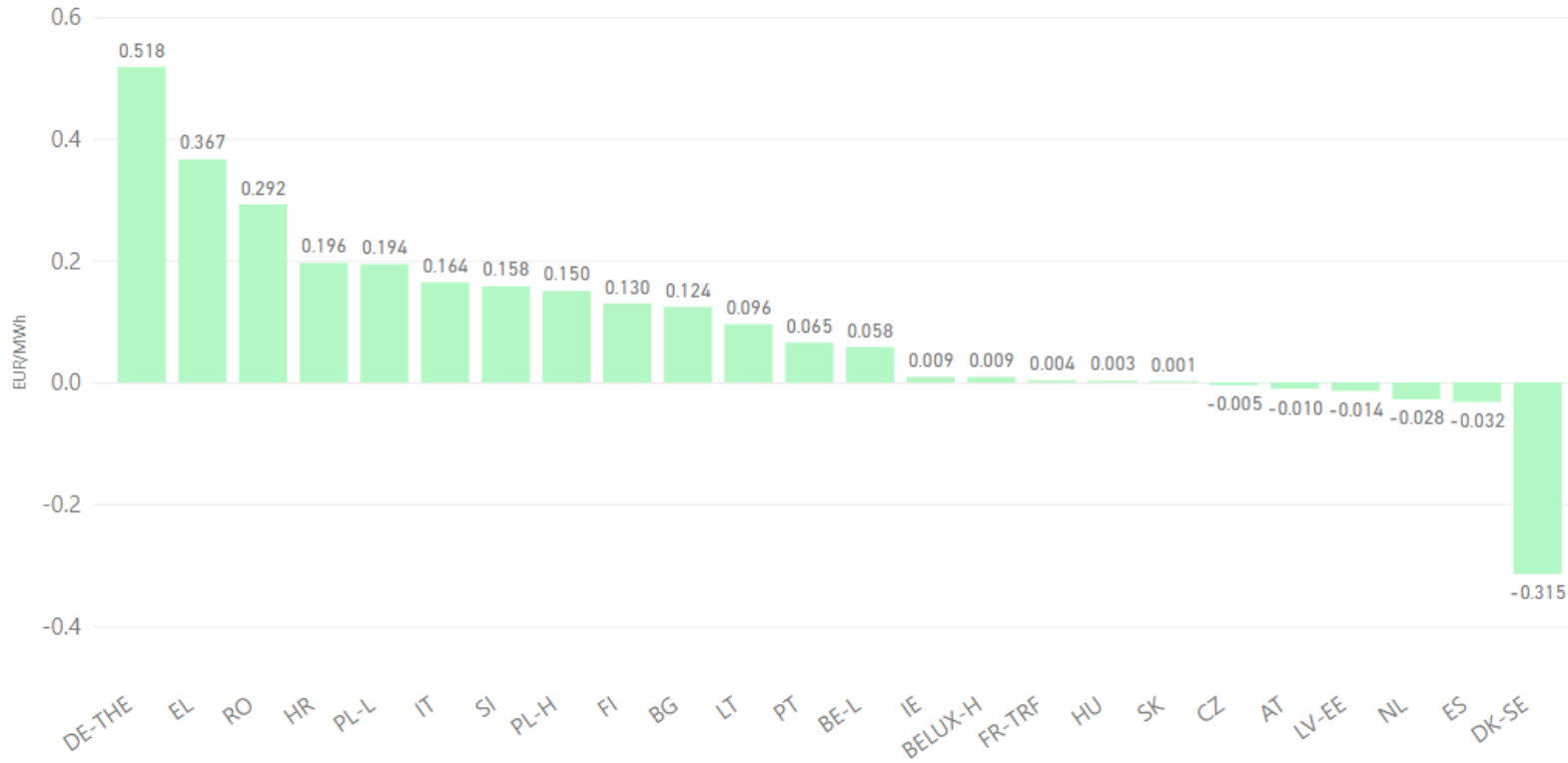
- Most countries were reasonably close to 50% with exceptions at the two extremes.
- Network user's imbalance **long positions have increased** with respect to previous gas year from **47% to 52%** on average.
- In a context of high prices and supply scarcity, this tendency appears counterintuitive: further explanation (e.g. demand reduction) on the causes of TSOs and network user's behaviour could be investigated.

Average imbalance cash out prices (GY 2021-2022)



- Short and long imbalances cash-out average prices increased around **3.8** times.
- Again, this increase is similar to the DA product sold on the wholesale TTF market (**+356%** on average, year on year).

Net adjusted neutrality per unit of market volumes (GY 2021-2022)



- This indicator shows whether the operation of the balancing regime was generating a **surplus** or a **deficit**, giving insights on the balancing regime's performance.
- Remarkably higher prices than in GY 2020-2021 have contributed to higher deviations from **net zero positions**.
- Lower total market volumes could have partially offset the deviations from net zero positions.
 - More detailed conclusions require further investigation of the national case, which is out of the scope of this analysis.

4. Conclusions

1. Overall, the overview of these selected indicators seem to show that the **EU balancing system have responded well to the gas crisis.**
2. **Balancing prices** (TSOs and network users' activity) have shown dynamics broadly comparable to the wholesale gas markets (with TTF taken as benchmark).
3. **Balancing volumes** have not shown significant changes compared to the pre-crisis GY.
4. The higher-price context has resulted in **higher net neutrality positions.**
 - Further analysis at national level may investigate if this created any undesired consequences, which were by the way not reported so far by NRAs during the technical discussions within ACER.

Thank you



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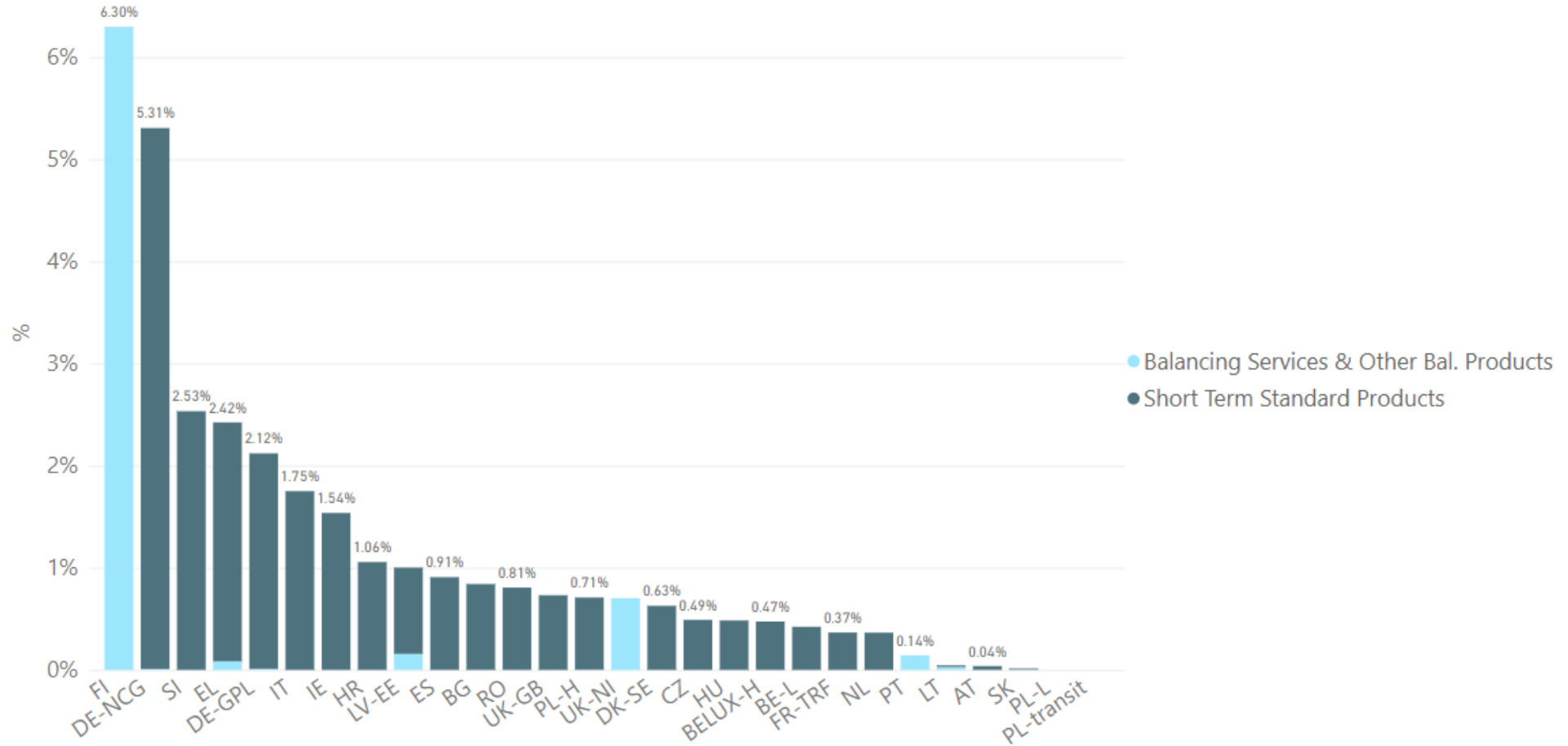
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ANNEX

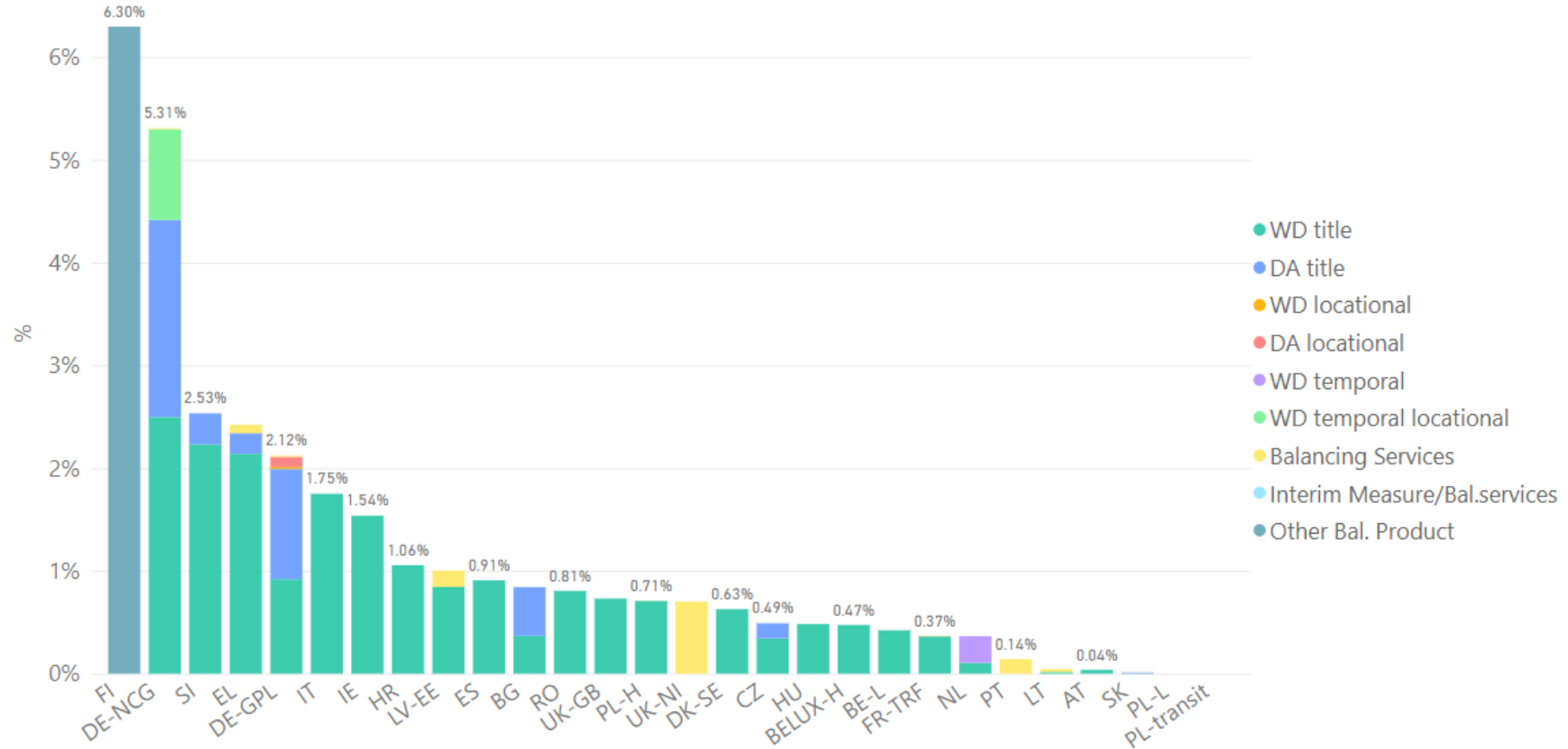
Charts for gas year 2020-2021 (“pre-crisis”)

To help the visual comparison with GY 2021-2022

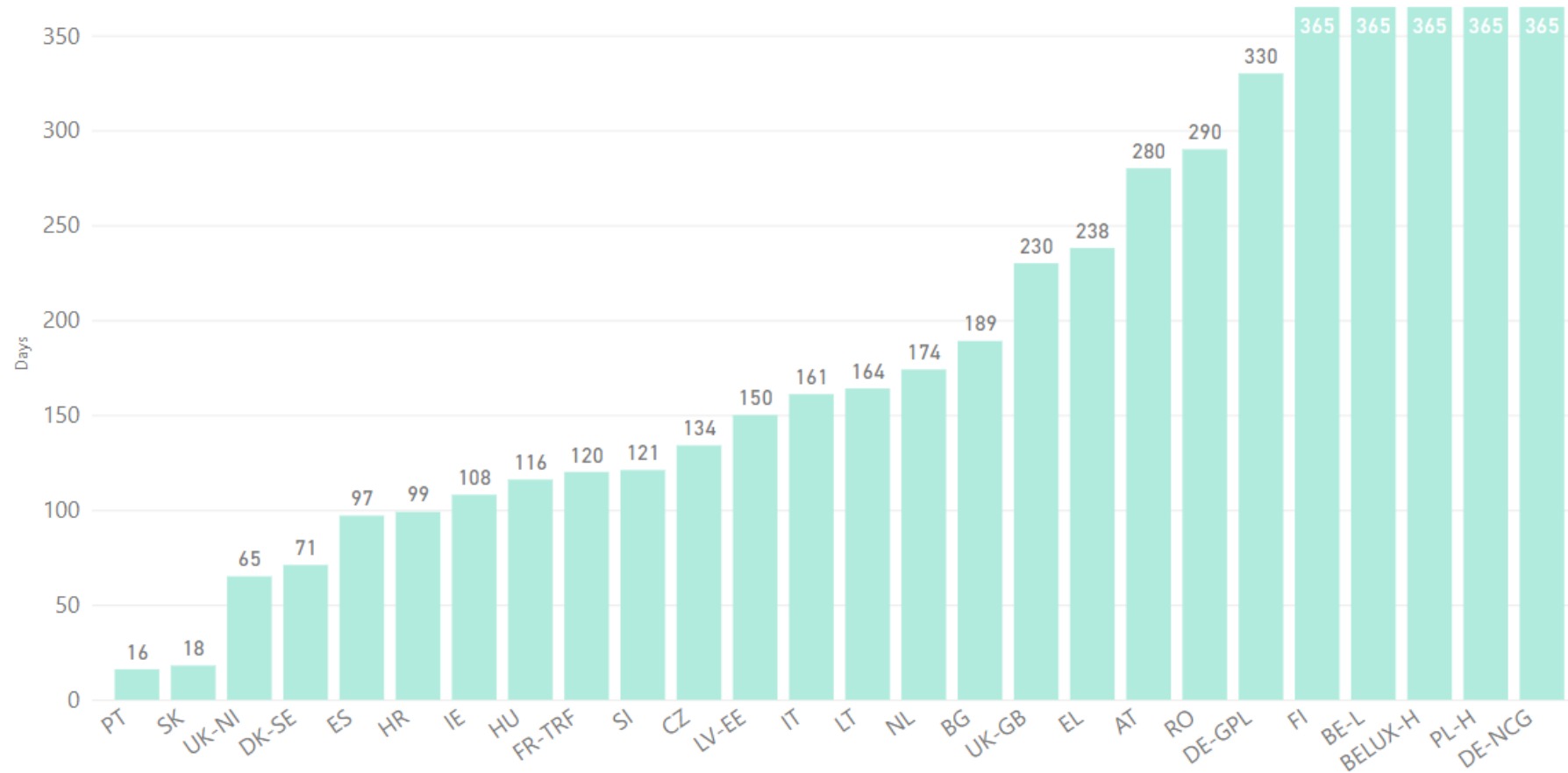
Total TSO balancing actions quantities as a share of market volumes (GY 2020-2021)



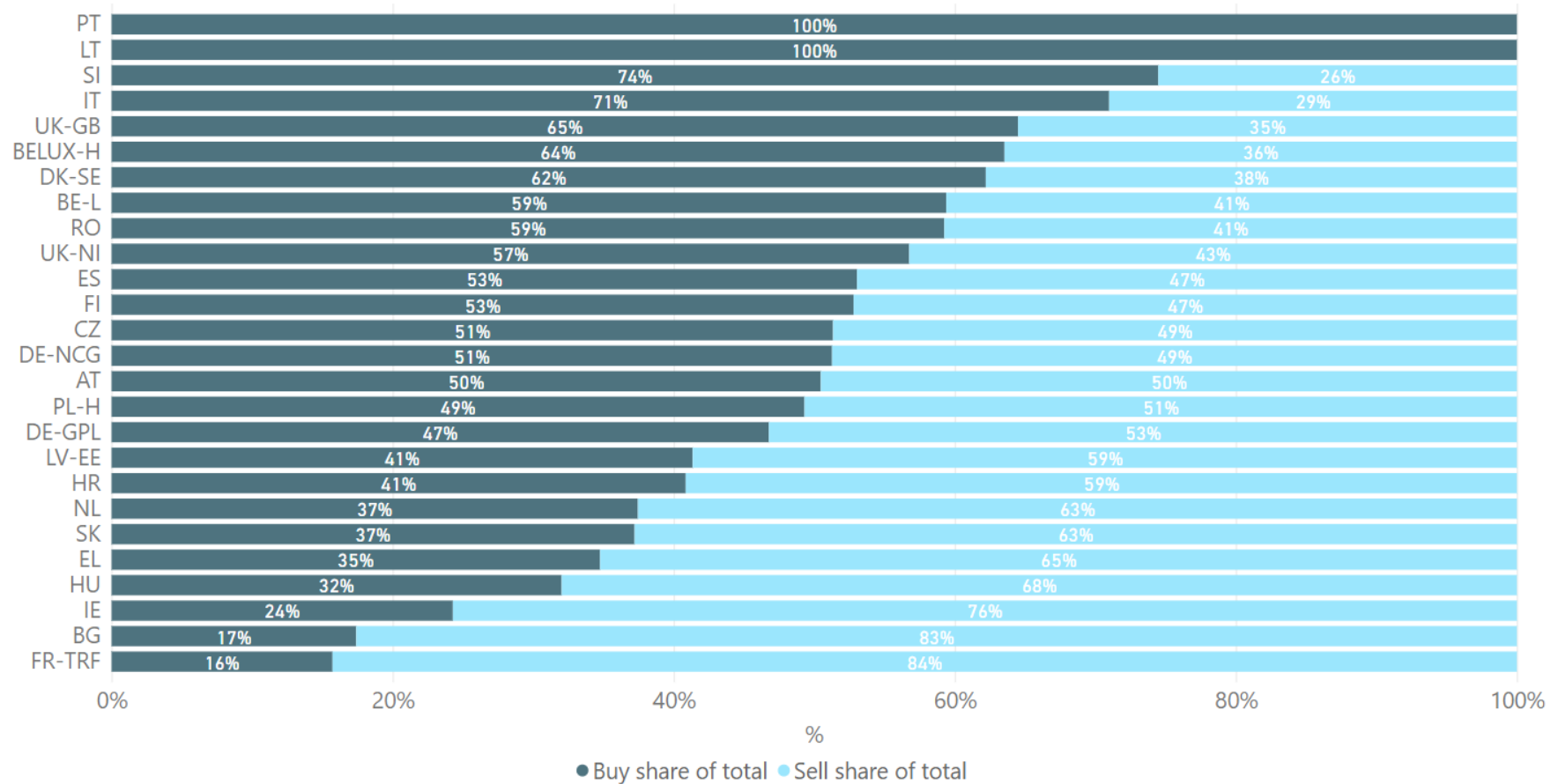
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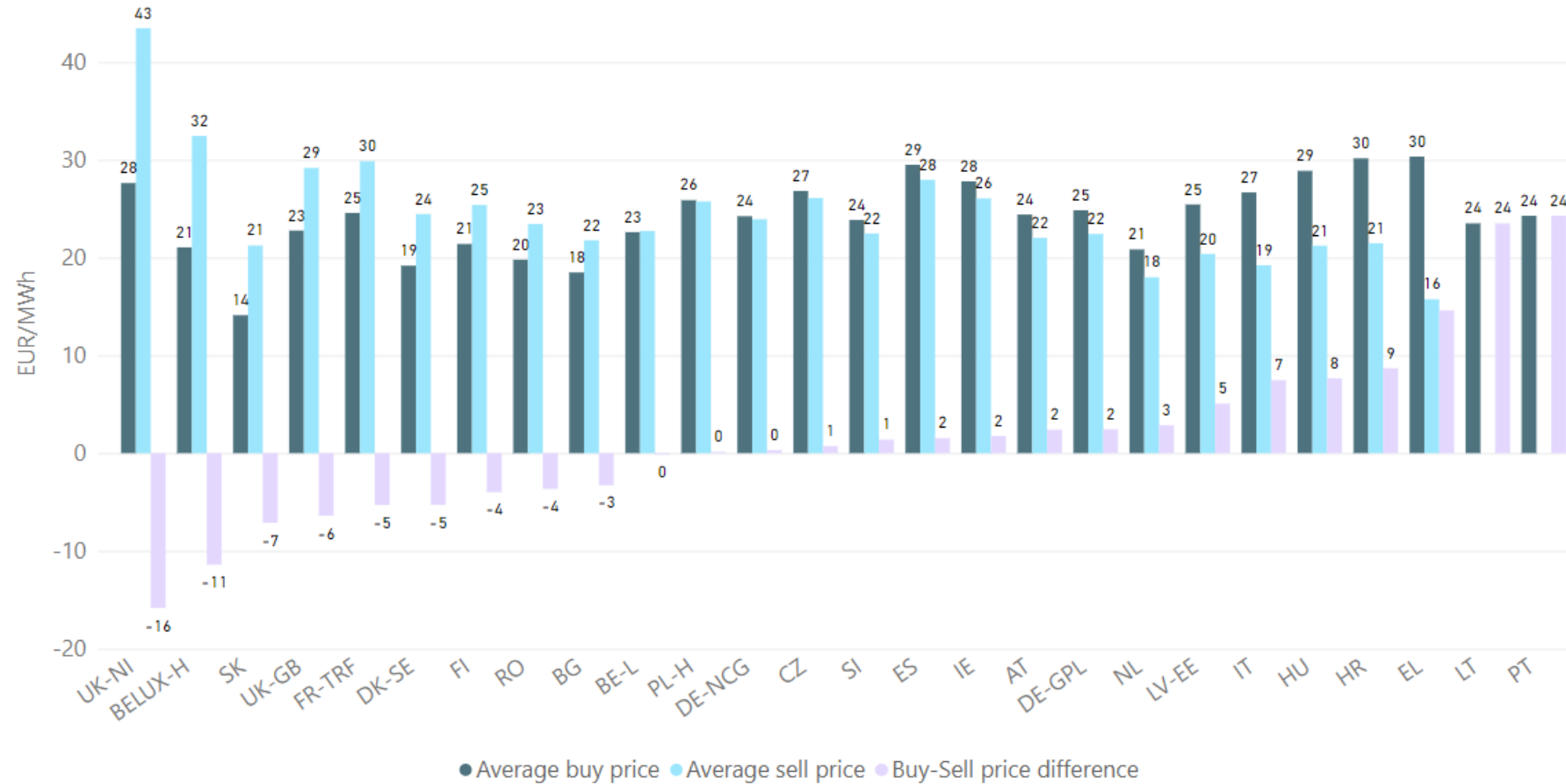
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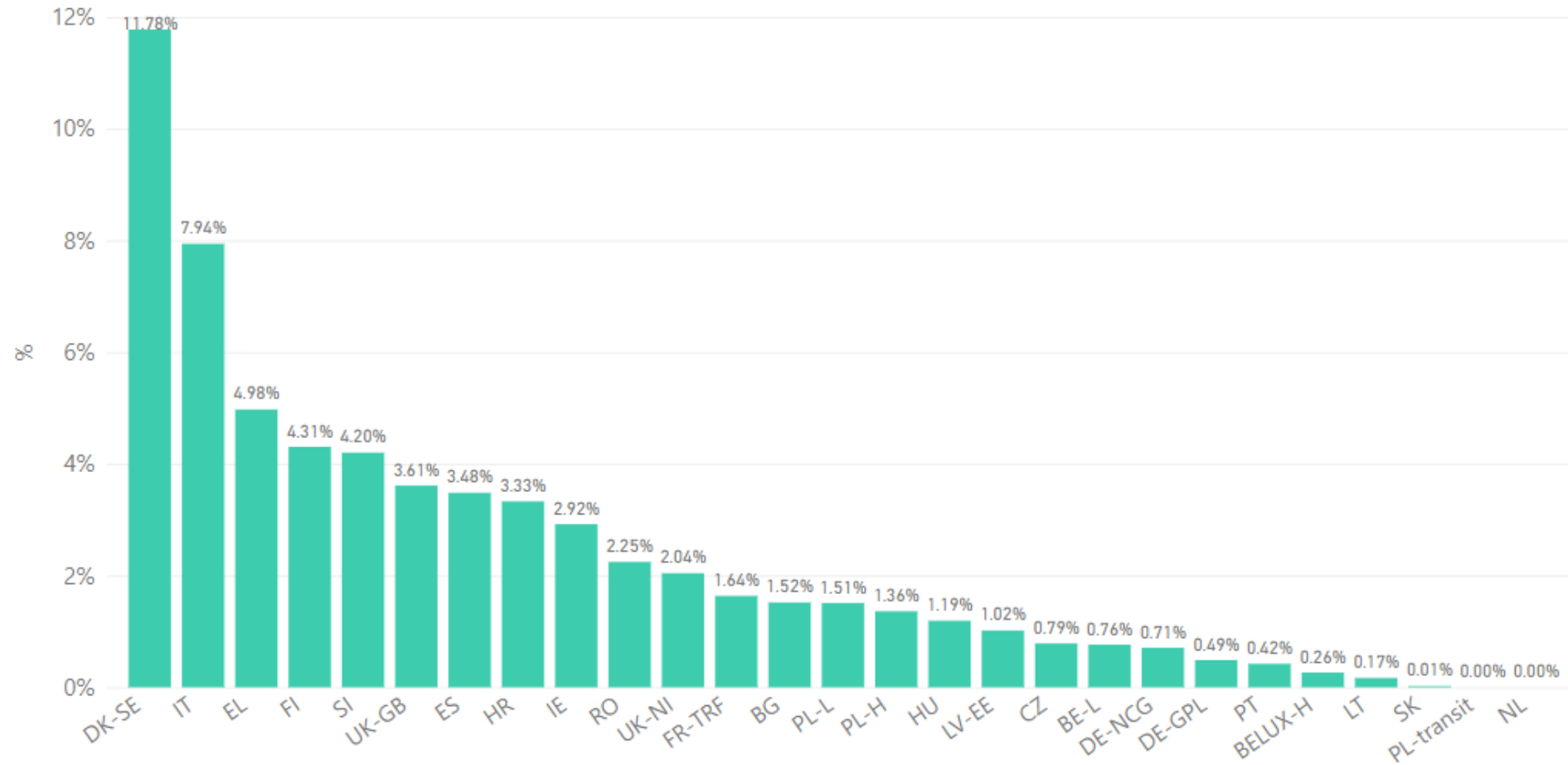
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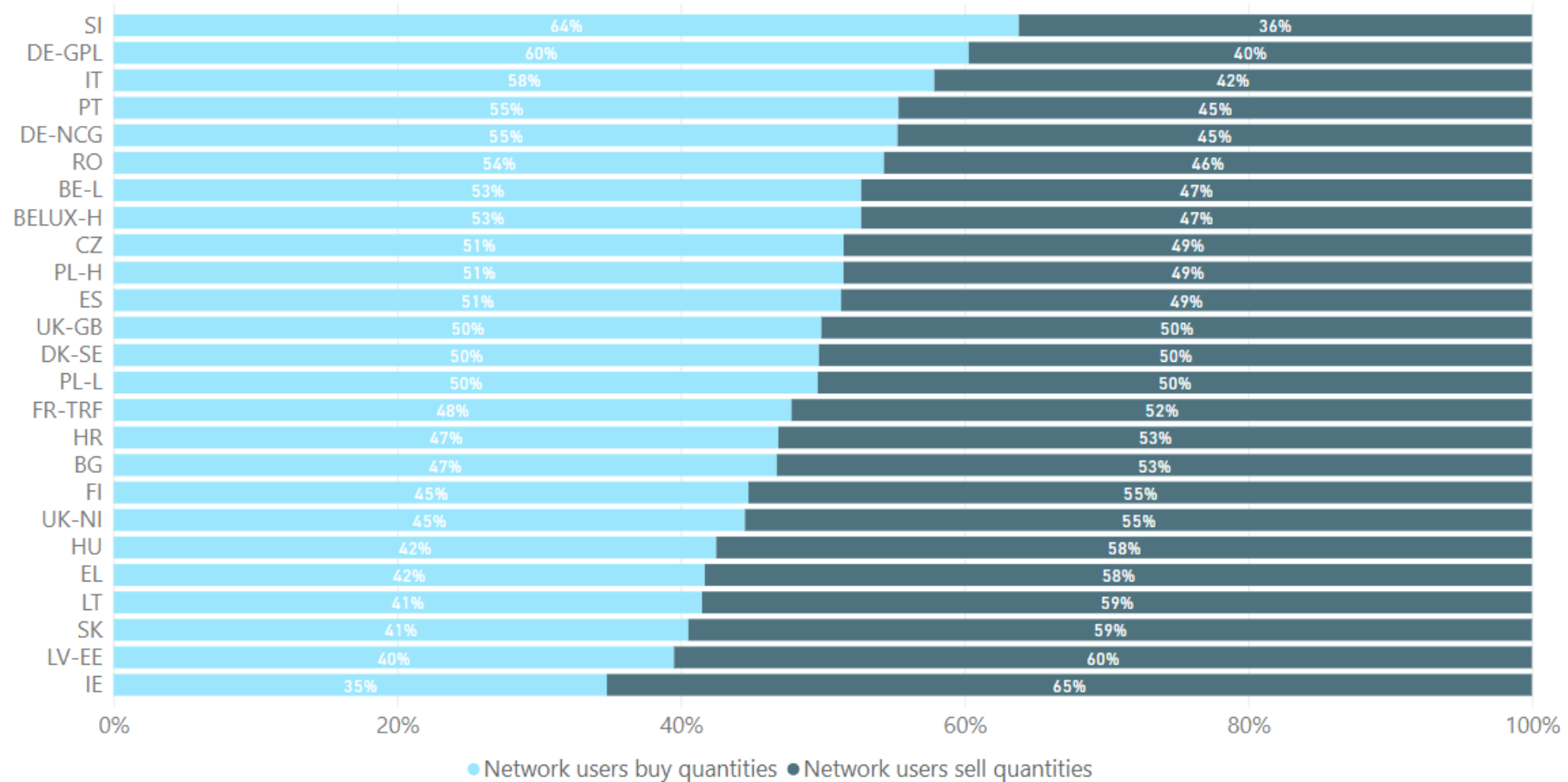
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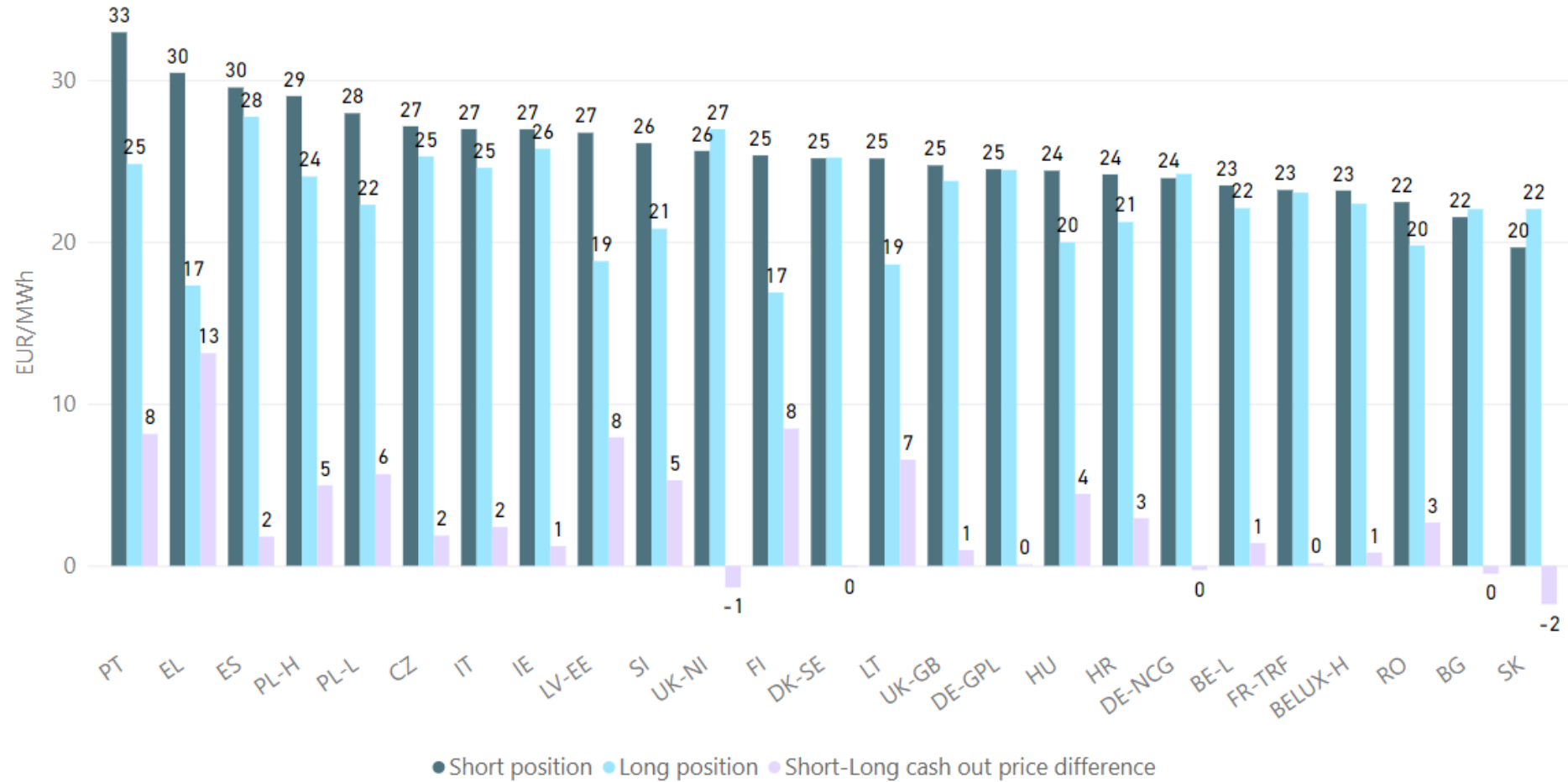
Total imbalance quantities as a share of market volumes (GY 2020-2021)



Network users short & long imbalance quantities as a share of total imbalances (GY 2020-2021)



Average imbalance cash out prices (GY 2020-2021)



Net adjusted neutrality per unit of market volumes (GY 2020-2021)

