

Energy markets in the European Union: Update on the energy crisis and recent developments



Market Analysis Team - Chief Economist Unit – Directorate-General for ENERGY

Summary

- The energy crisis, triggered by Russia's invasion of Ukraine, led to record-high wholesale gas and electricity prices.
- As the European Union energy sector transition to renewables, energy prices remain high.
- The Affordable Energy Action Plan aims to address this issue, for EU citizens and companies.

Market Analysis team – Chief Economist Unit in DG ENER

- Energy market monitoring trends.
- Assessment of energy policy impacts on markets.

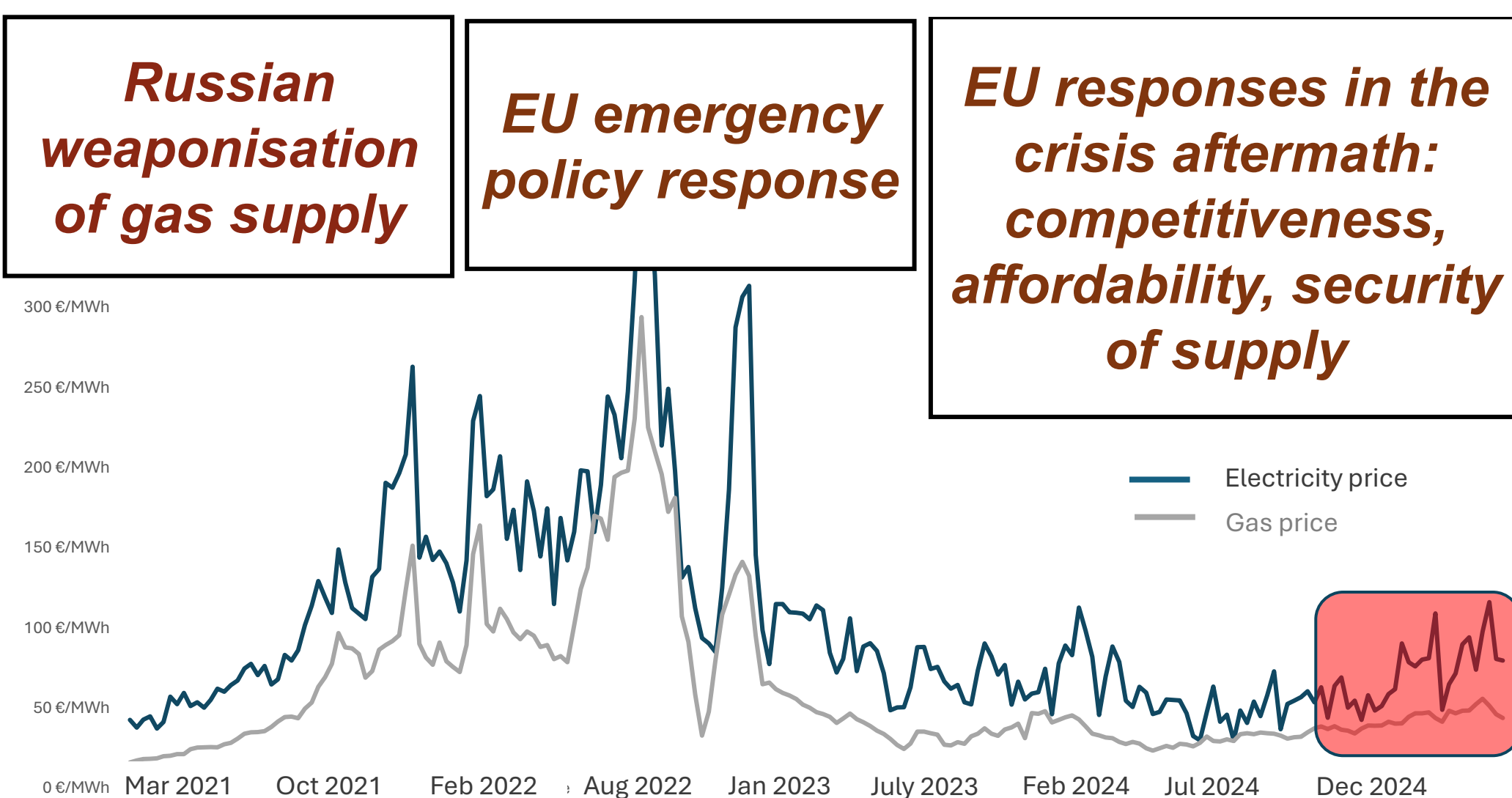
Update on the energy crisis

- EU energy prices 2023 and 2024 are much lower than in 2022, but still above pre-crisis levels, especially for retail markets.

2024 EU average prices

Commodity	Price	Year-on-year percentage change
Wholesale gas	34 €/MWh	-16%
Retail gas	104 €/MWh	-8%
Wholesale electricity	74 €/MWh	-22%
Retail electricity	242 €/MWh	-7%
Oil	81 \$/bbl	-2%
Coal	104 €/MWh	-13%
CO ₂ allowances	65 €/tCO ₂	-22%

- Tightening of gas and electricity wholesale markets at the end of 2024 due to higher consumption and supply uncertainty (end of Russian gas transit via UA) and below-average wind generation.



Source: ENER Chief Economist (based on S&P Global Platts)

- Gas and electricity prices are closely linked: Gas often sets the marginal price¹, driving electricity prices.



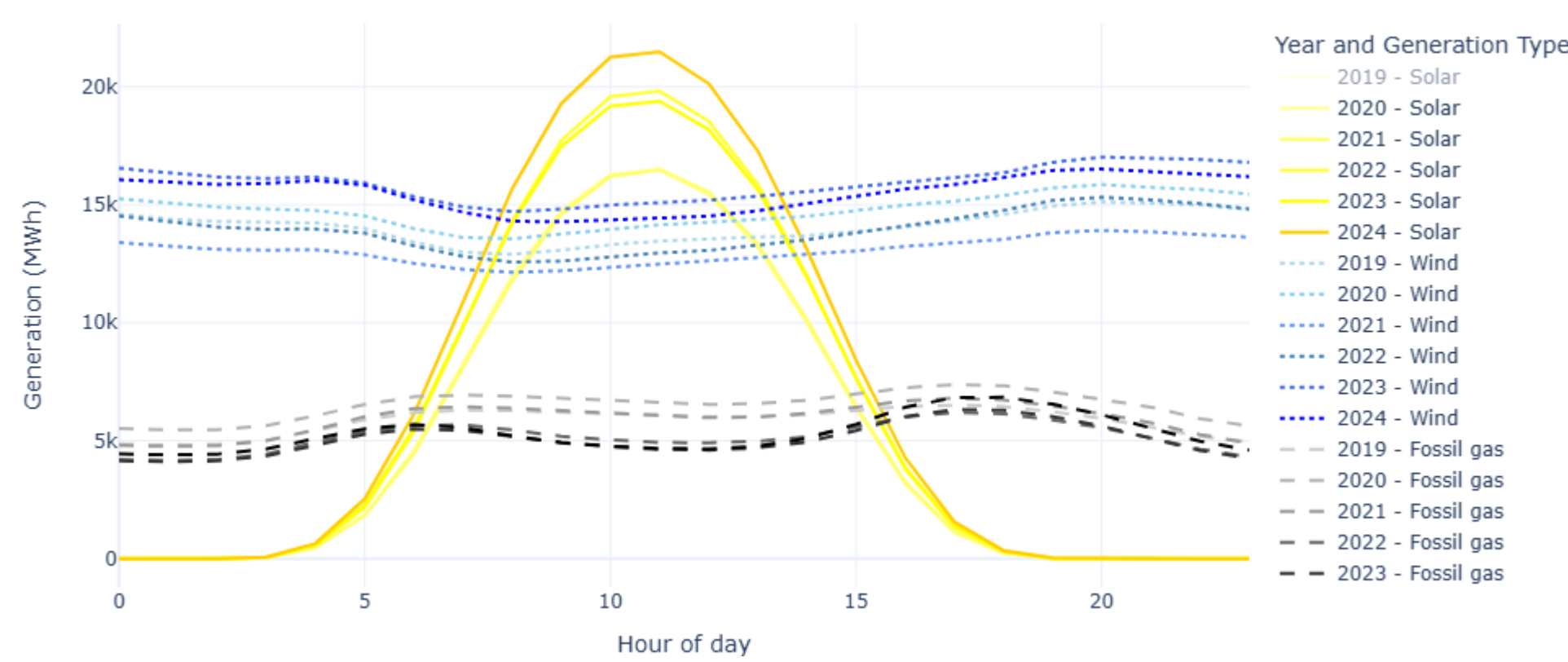
Source: ENER Chief Economist (based on ENTSO-E and S&P Global Platts)

- The link between gas and German wholesale electricity prices (day-ahead) is less straightforward in 2024.

Acceleration of the energy transition

- Renewables are helping to reduce expensive gas demand power generation.
- Gas prices would still set the electricity price 55% of the time by 2030¹, as fossil fuel displacement is a gradual process.

Generation from fossil gas, solar PV and wind on a typical day in Germany

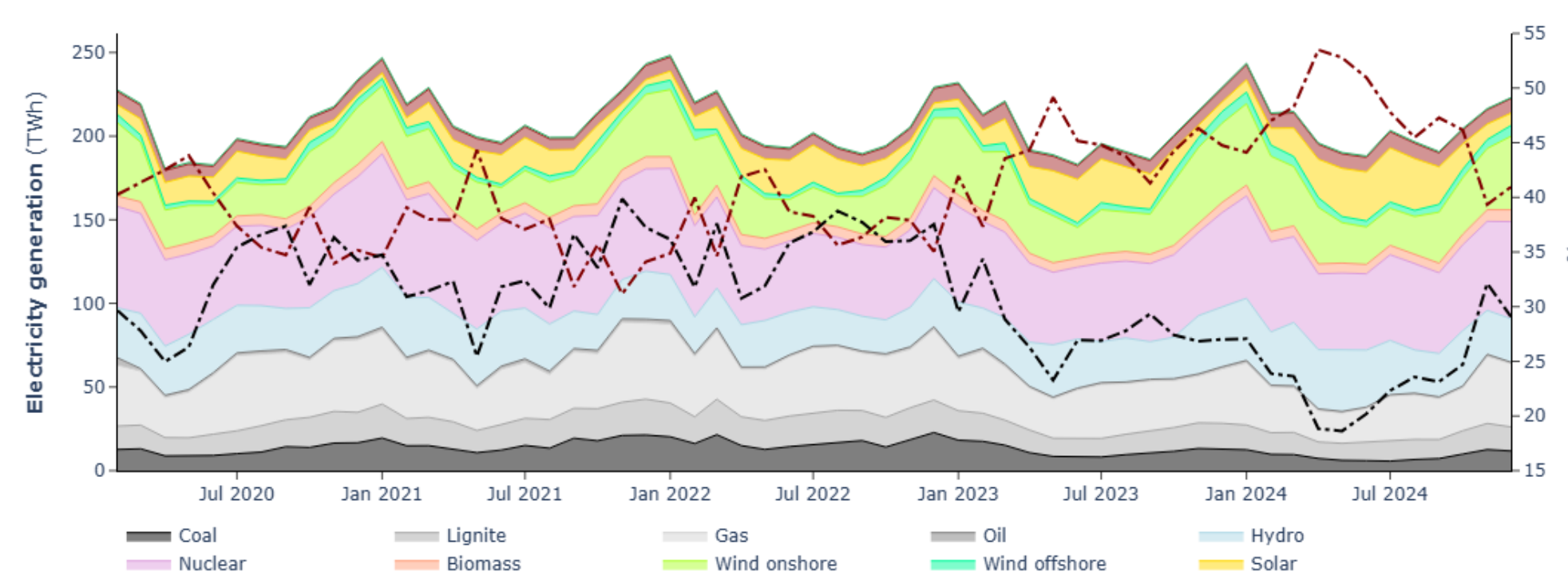


Percentage deviation from daily electricity price in the German market



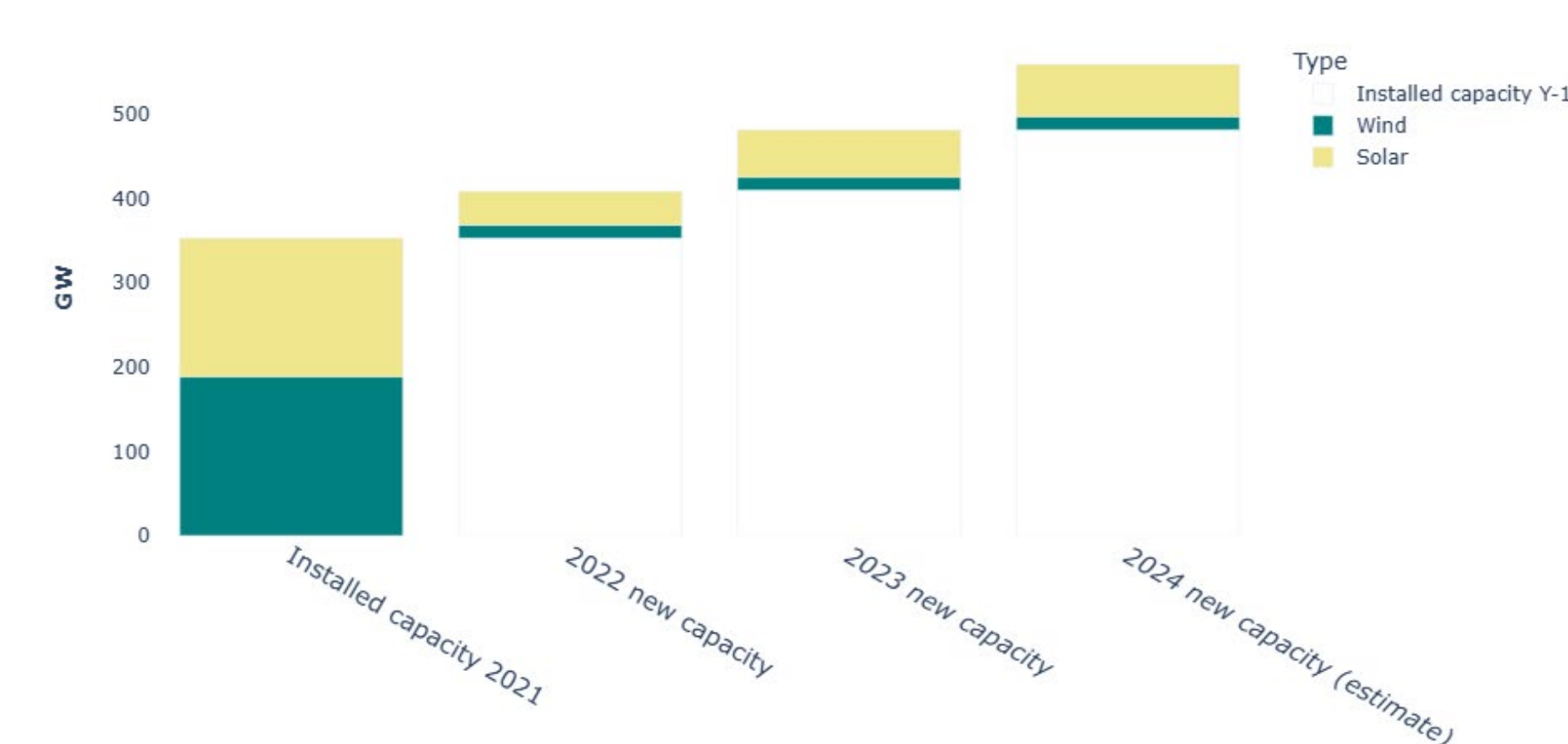
Source: ENER Chief Economist (based on ENTSO-E)

- The share of renewables in the EU power mix is rising to 47% (2024) from 44% (2023) and 38% (2022).



Source: ENER Chief Economist (based on ENTSO-E)

- Variable renewable capacity is growing fast.
- An estimated 77 GW of new solar PV and wind capacity was added in 2024.

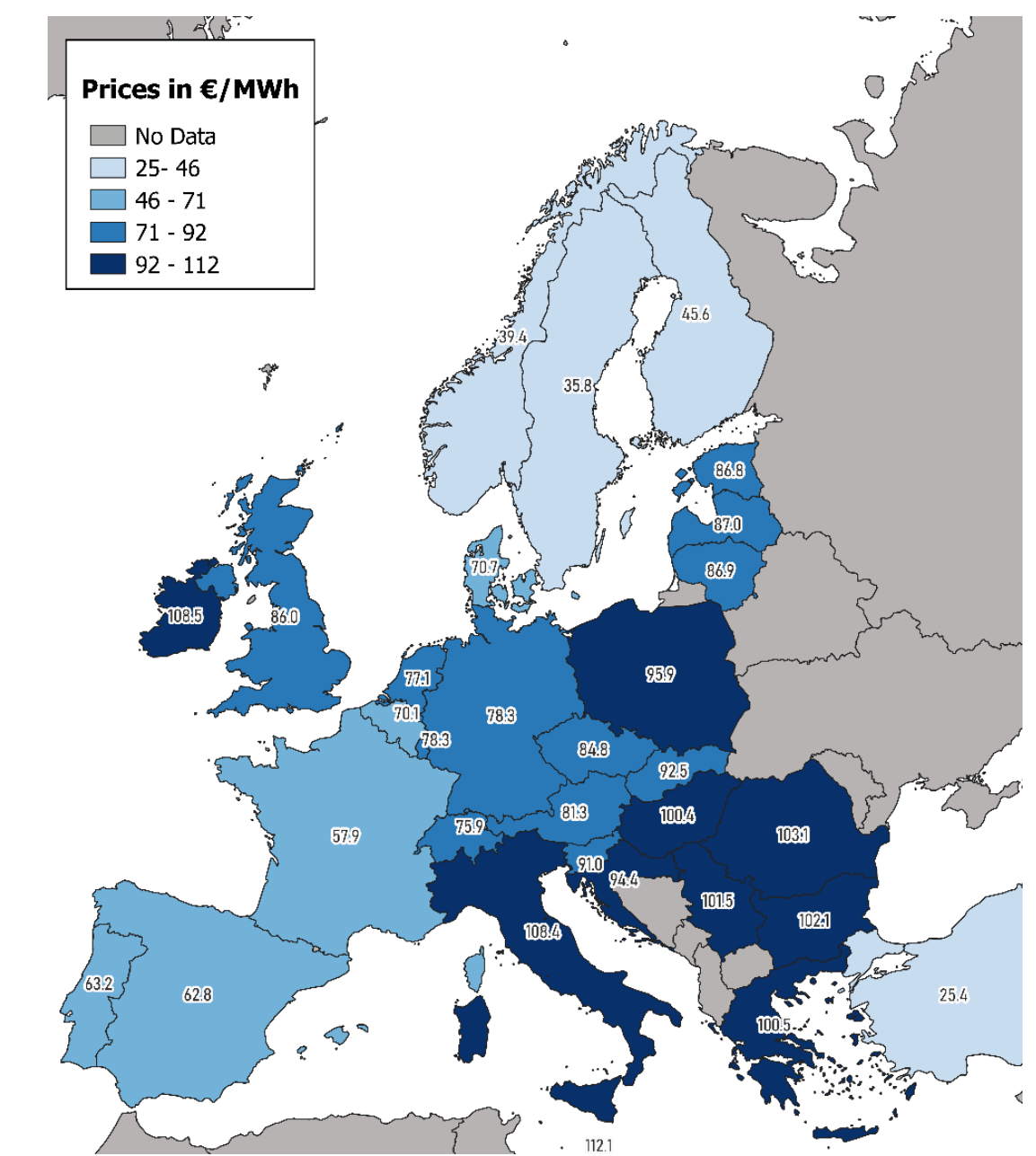


Source: ENER Chief Economist (based on Eurostat, SolarPower Europe and WindEurope)

Energy prices and competitiveness

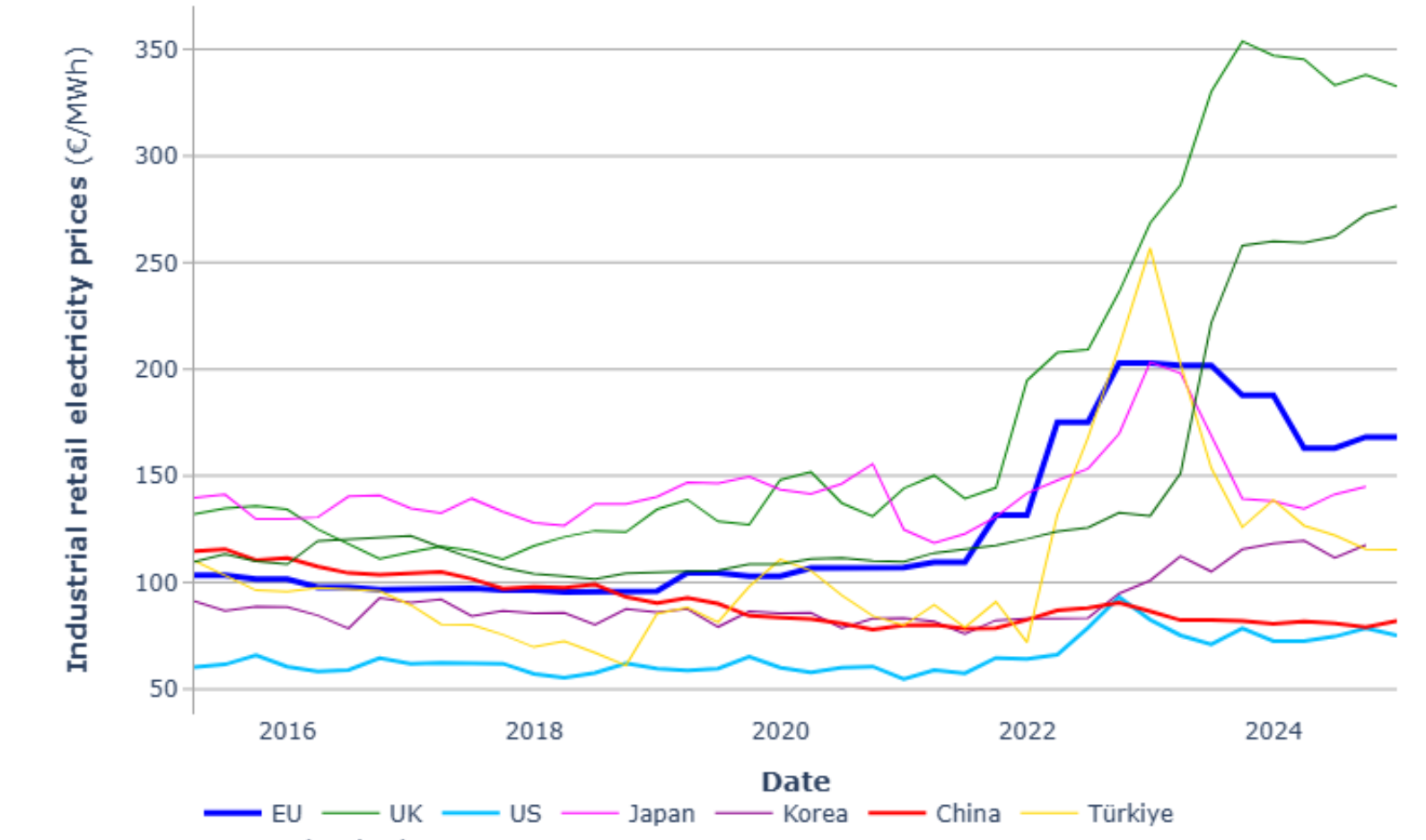
- Electricity wholesale prices in the EU: persistent regional disparities.
- Price decorrelation between Southern Eastern Europe and Central Eastern Europe regions and Western European bidding zones during summer 2024.

Energy prices and competitiveness



Source: ENER Chief Economist (based on ENTSO-E, S&P Global Platts)

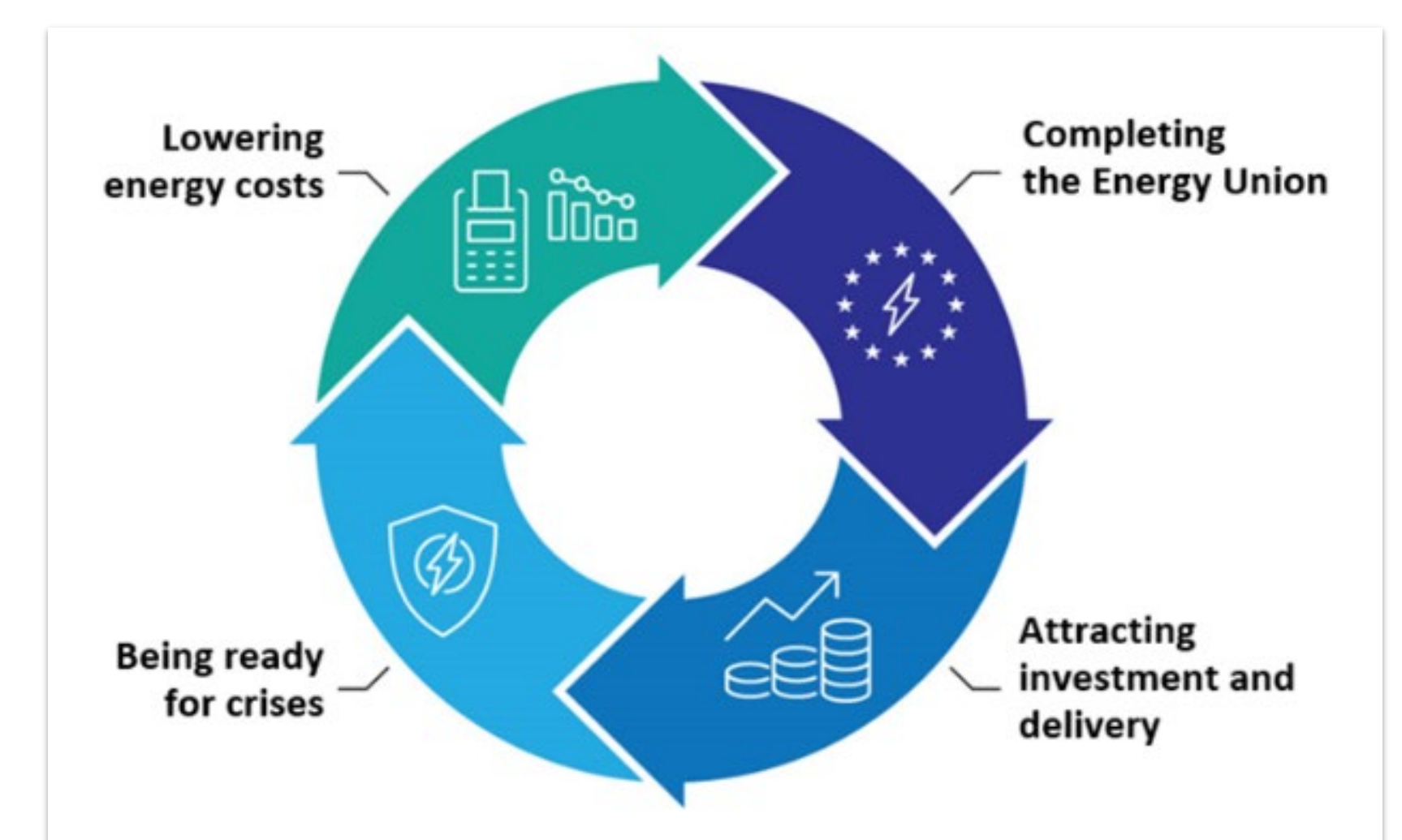
- Industrial retail electricity prices are still high - Competitiveness challenge.
- Energy is essential for EU's competitiveness vis-à-vis other regions. The price gap has been structural but worsened after the crisis.



Source: ENER Chief Economist (based on Eurostat (EU), EIA (US), DESNZ (UK), IEA (Japan, Korea, Switzerland and Türkiye), CEIC (China))

EU energy policy response

- Draghi report: Competitiveness of EU industry.
- Clean Industrial Deal: Affordable Energy Action Plan (with short- and long-term actions).



References

(1) Gasparella A., Koolen D. and Zucker A., The Merit Order and Price-Setting Dynamics in European Electricity Markets, European Commission, Petten, 2023, JRC134300.

Disclaimer

(*) The views expressed in this technical assessment do not necessarily represent the official position/views of the European Commission.

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