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# **WHERE DO WE STAND IN THE ELECTRIFICATION PROCESS IN 2024?**

**András Mezősi, László Szabó**  
**REKK**

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# Upcoming actions after the Draghi report

- Targeted revision of the CO<sub>2</sub> standards of cars
- Clean industrial deal including specific plans for the automotive sector
- **Electrification action plan**
- Accelerated charging roll-out

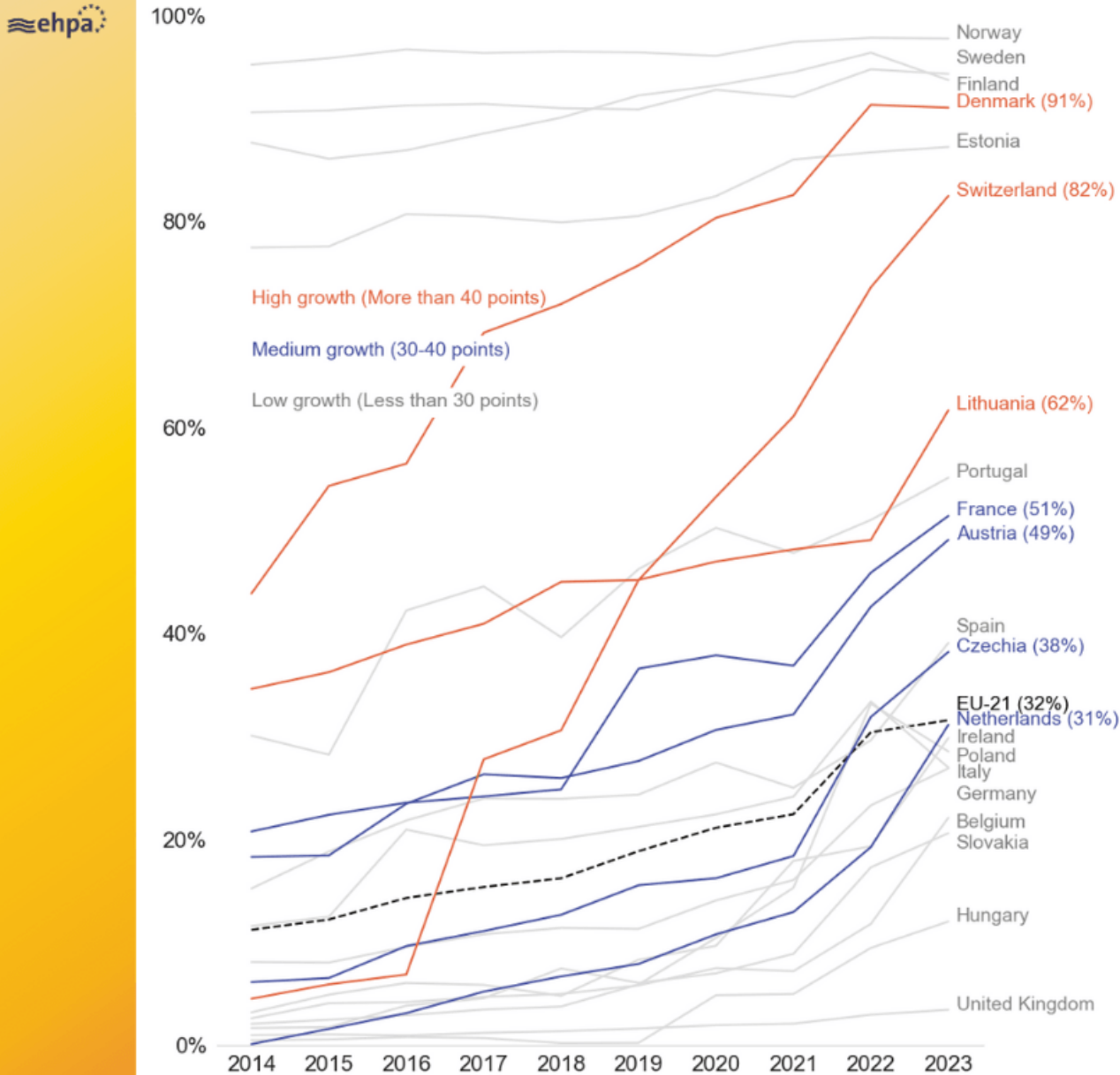
# Global Picture - 2023

Country	Electricity share	CO2 intensity of power generation
European Union	21,5%	0,26
United States	22,1%	0,34
China	27,9%	0,69
Eurasia	14,9%	0,71
Japan	29,5%	0,44
India	17,5%	0,73
Asia Pacific	25,0%	0,65

- Many regions have higher electrification rates than the EU – Japan, China, Asia Pacific, USA
- Although they are more carbon intensive than Europe

Source: IEA 2024

# Heat pump development

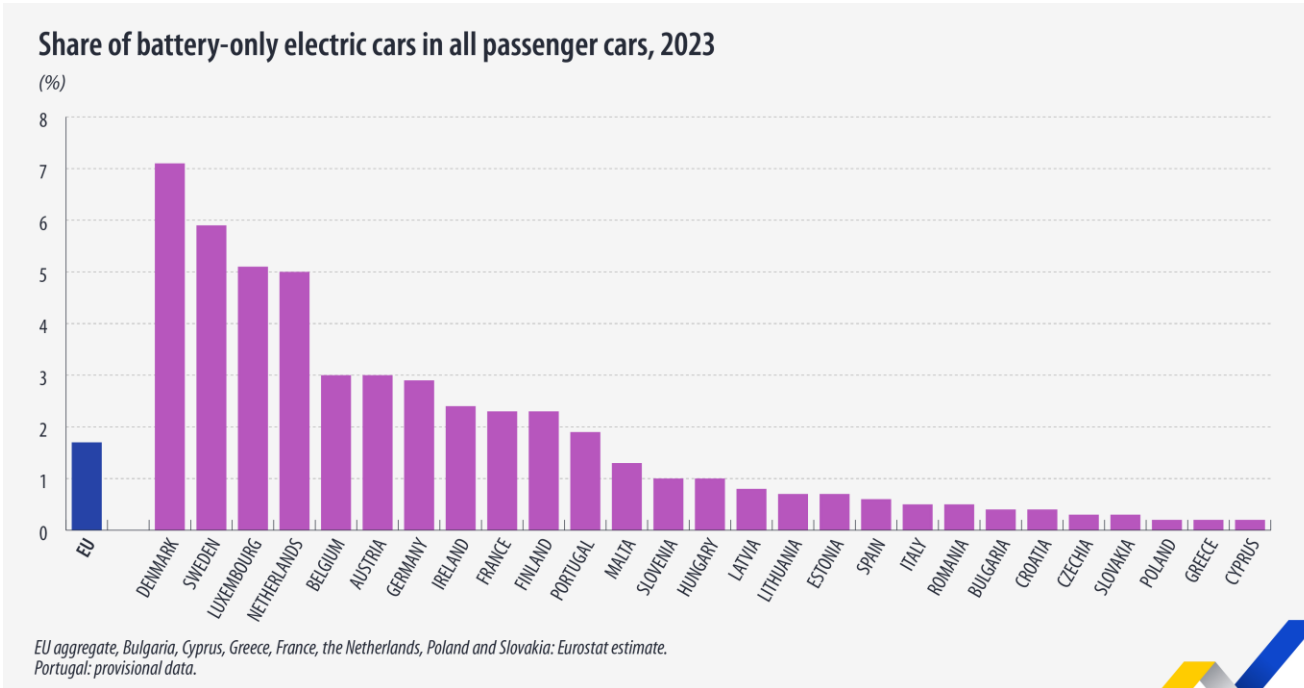


Heat pumps are gaining space heating market share

- Strong growth of heat pump installations in Europe in the last 10 years
- In 21 EU countries already 32% of new heating system are based on heat pumps
- CEE lags behind, although with varying gap
- Poland and Czechia are in the medium growth cluster
- Hungary, Slovakia are in the low growth cluster



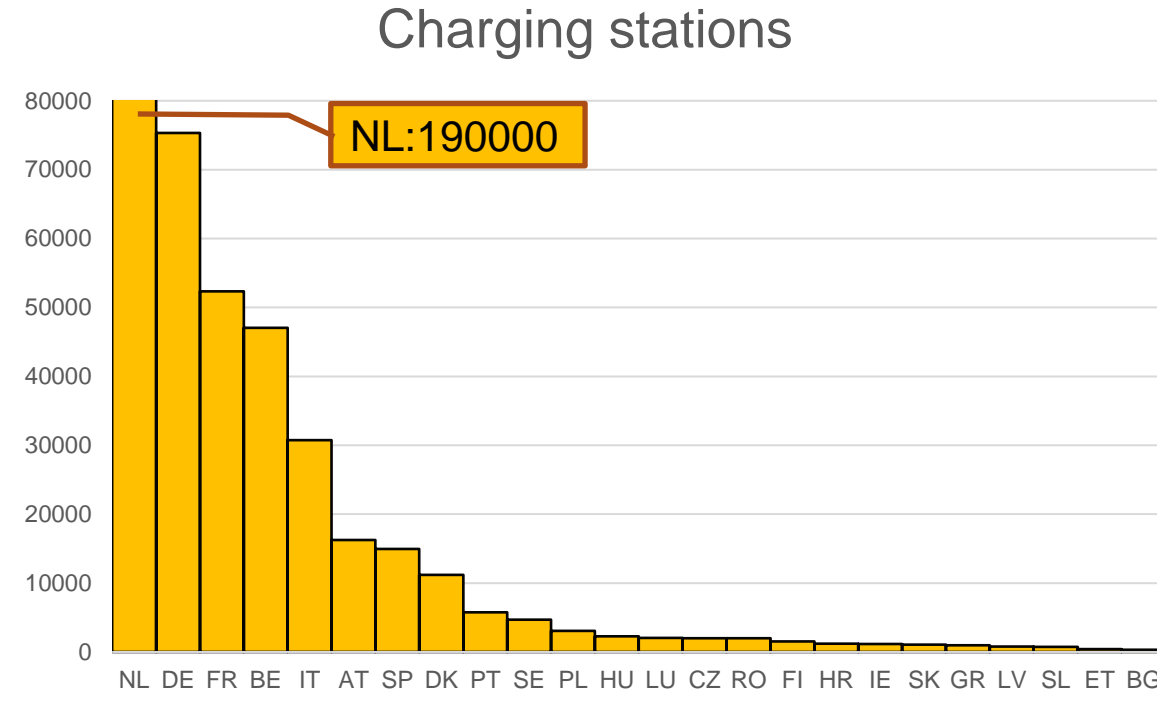
# E-mobility – Electric car uptake and charging stations



eurostat

Source: Eurostat, 2024

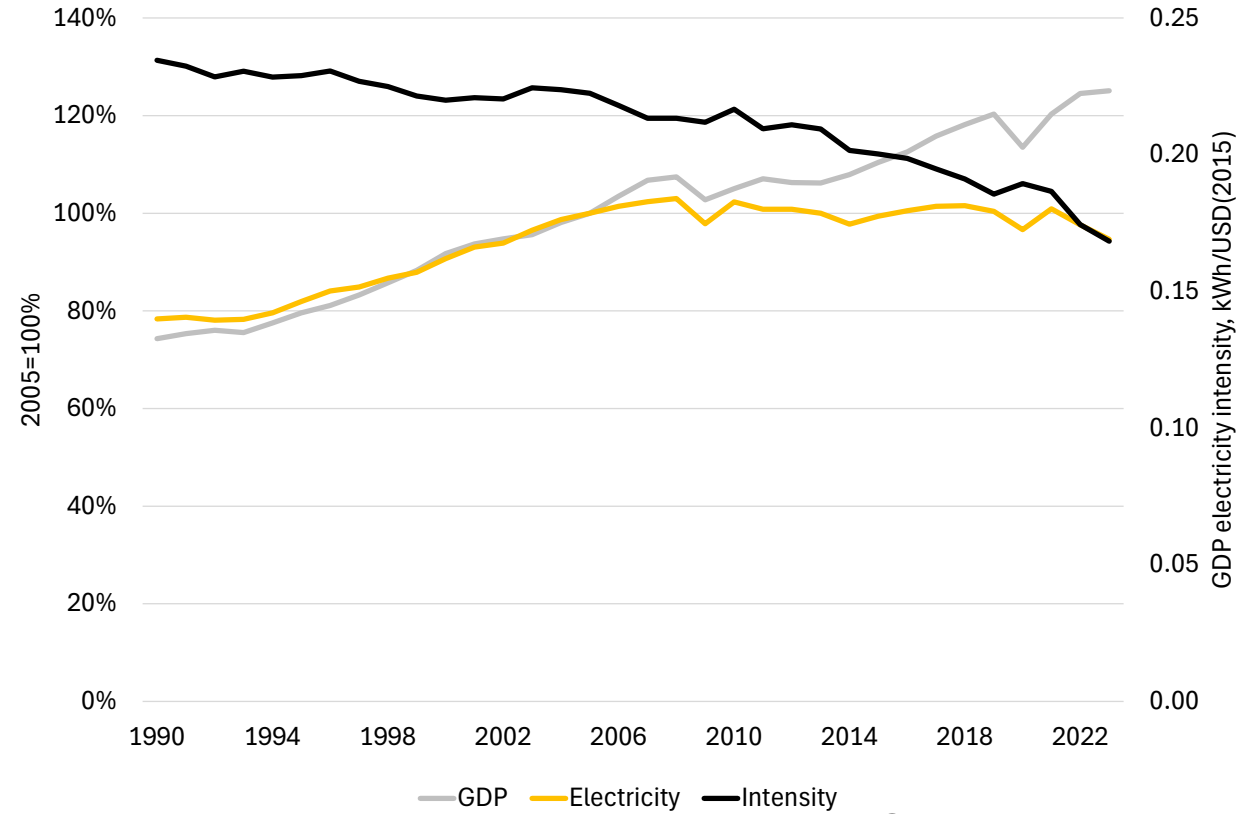
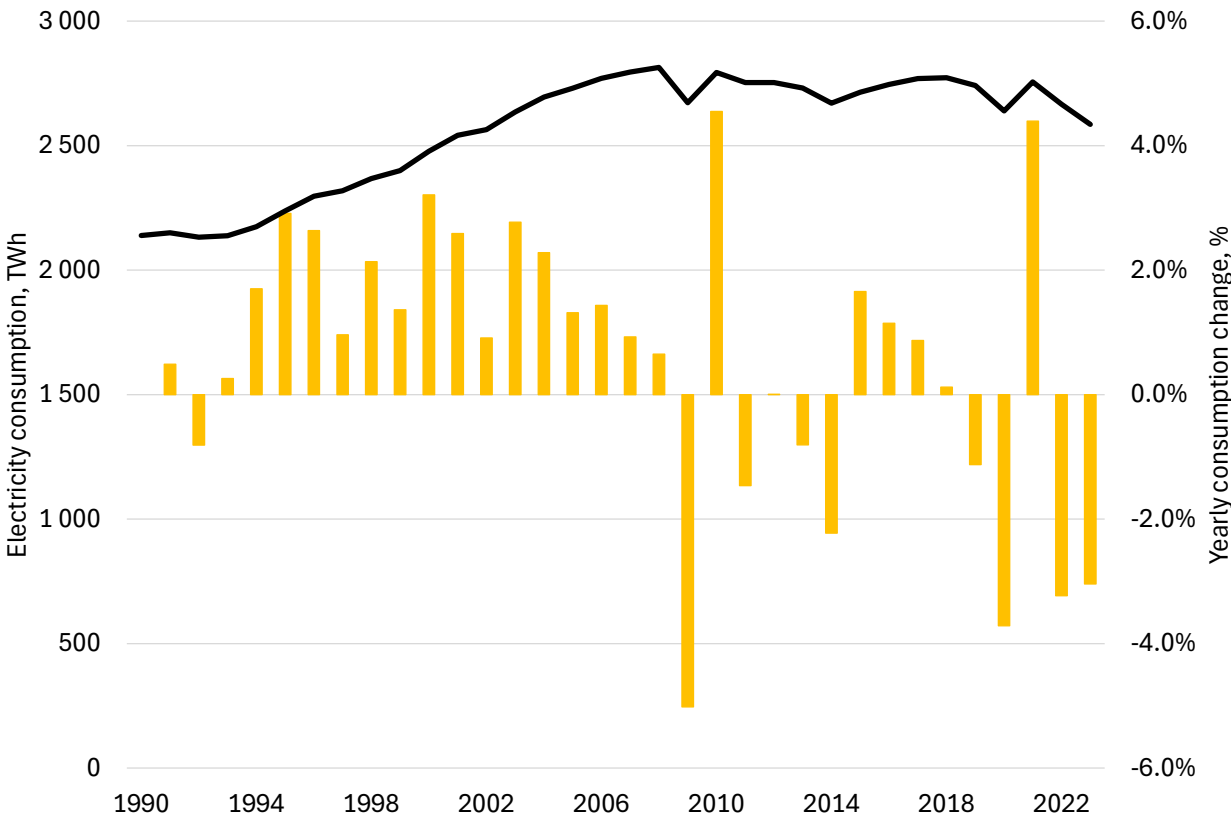
- HU, SL, Baltics are in the 'middle class'
- Other CEE lags behind, together with the Mediterranean countries
- Strong North-South-East differences



Source: Electromaps, 2024

- The Netherlands built 1/3 of charging stations
- CEE has more sparse e-charging infrastructure
- In HU cheap home charging is one barrier

# Electricity consumption in EU27 – Main trends

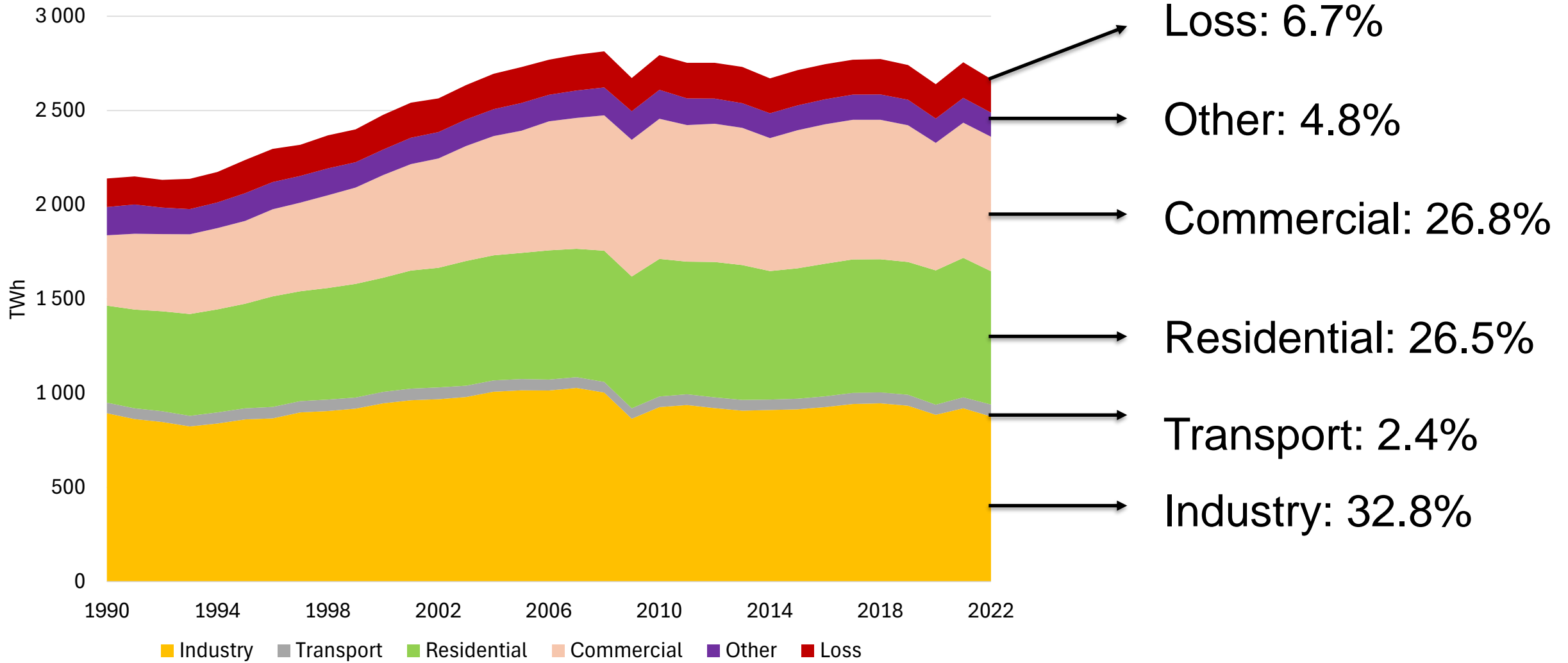


Source: Eurostat

- Until 2007 the average yearly electricity consumption growth was 1-1.5%
- The yearly increase started to decrease from 2005
- From 2005 no increasing trend is visible

- The GDP-electricity consumption co-movement was very strong until 2005
- However, from 2005 the GDP growth is still positive in average, but the electricity consumption growth has been stagnating

# Electricity consumption mix, EU27



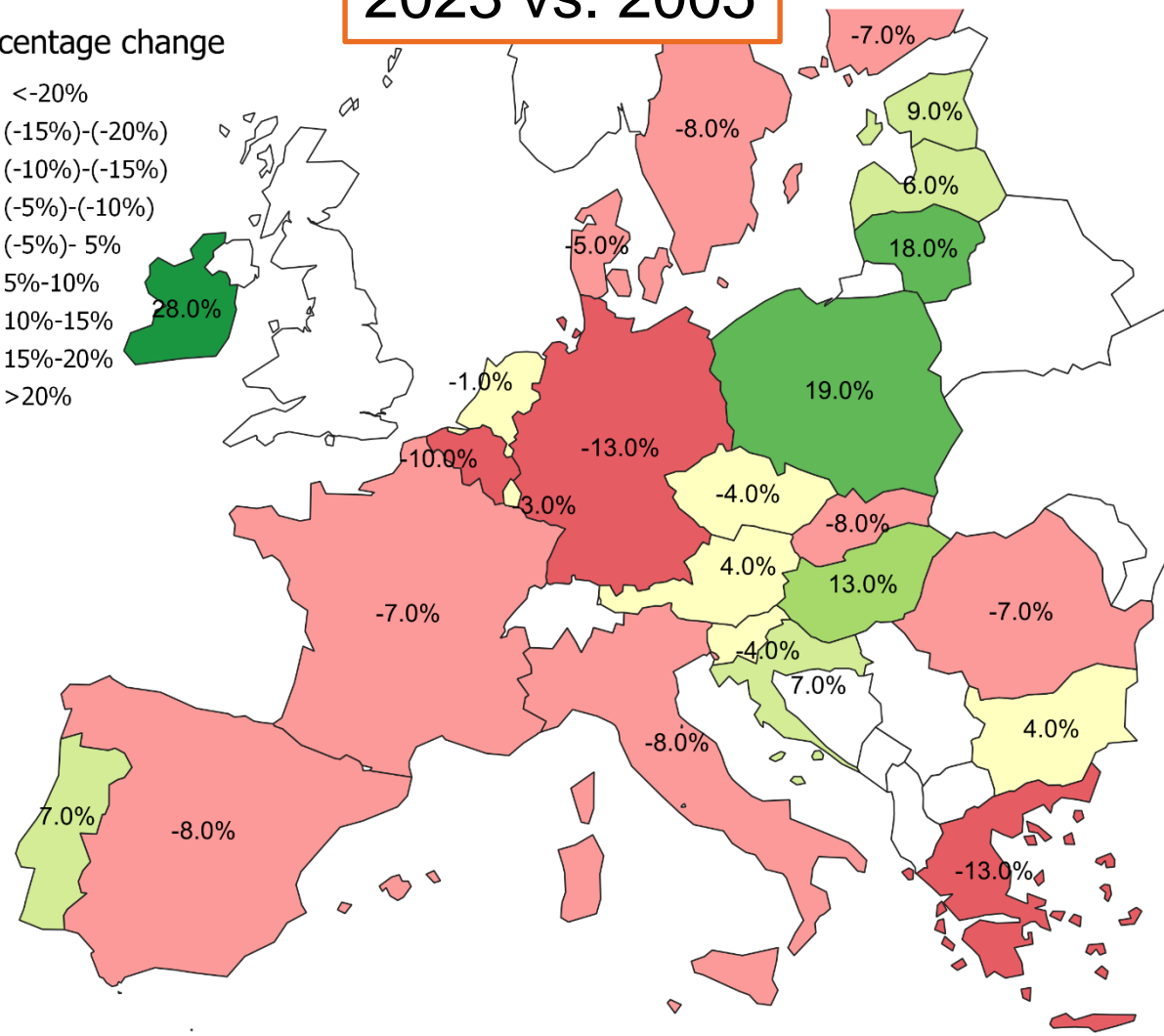
Source: Eurostat

# Strong differences in consumption trends among the EU countries

2023 vs. 2005

Percentage change

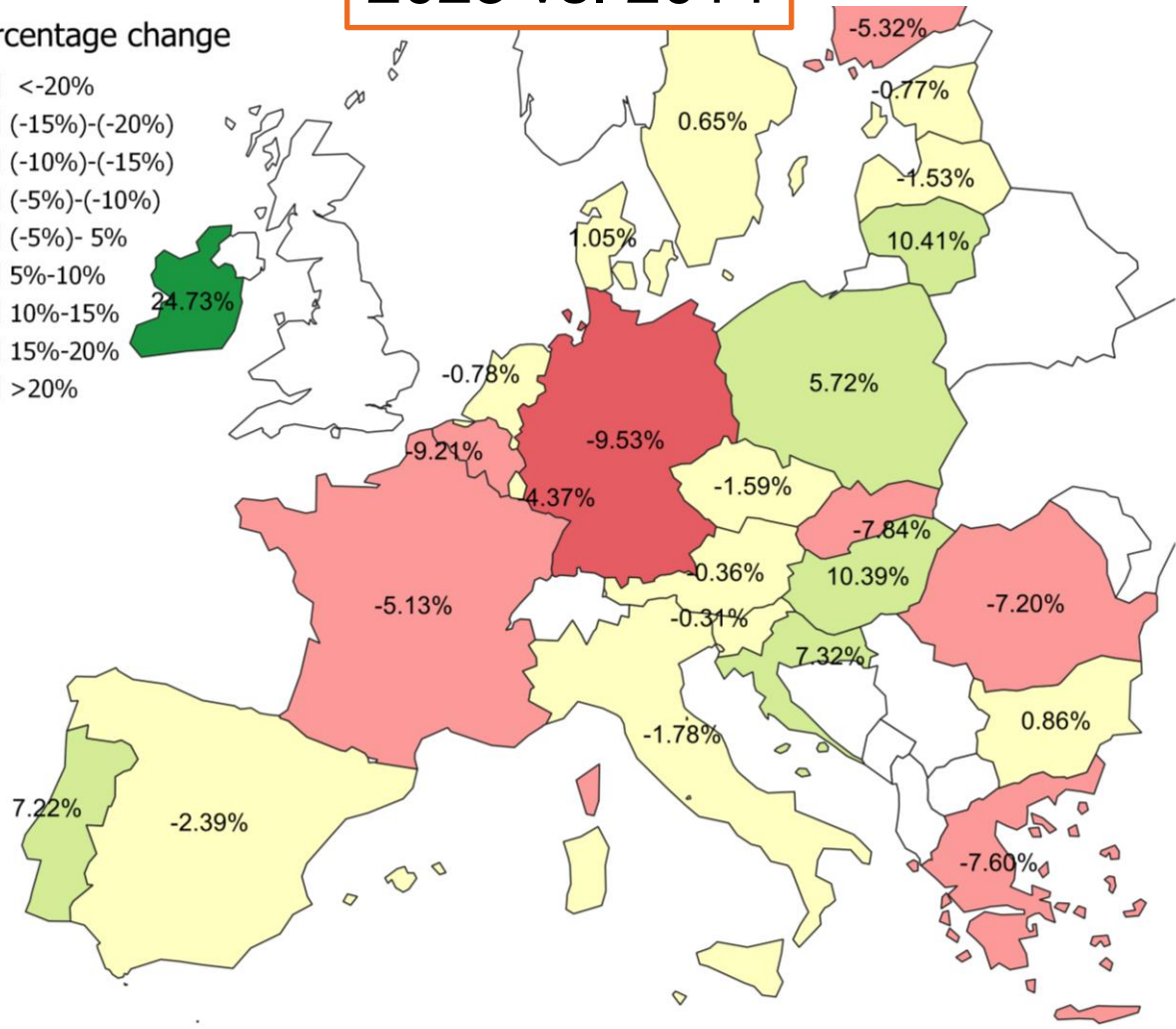
- < -20%
- (-15%) - (-20%)
- (-10%) - (-15%)
- (-5%) - (-10%)
- (-5%) - 5%
- 5% - 10%
- 10% - 15%
- 15% - 20%
- > 20%



2023 vs. 2014

Percentage change

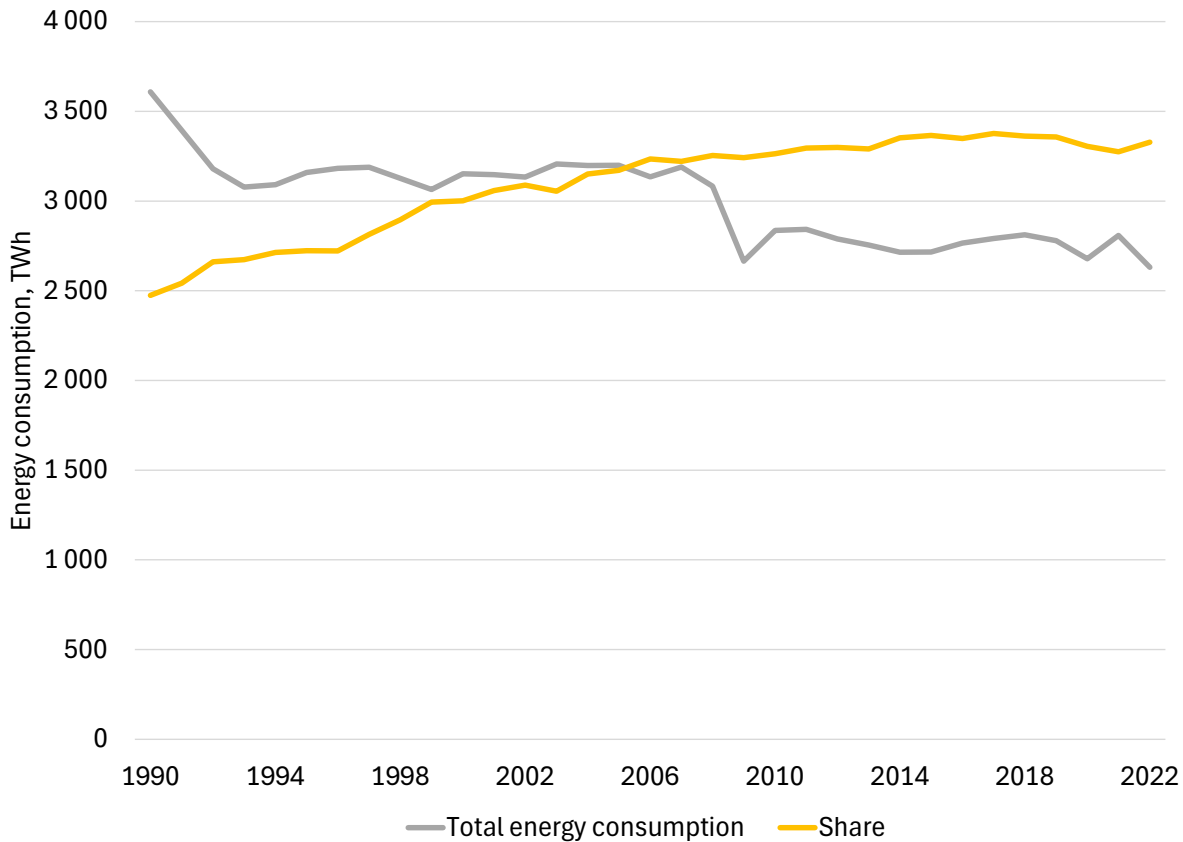
- < -20%
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- > 20%



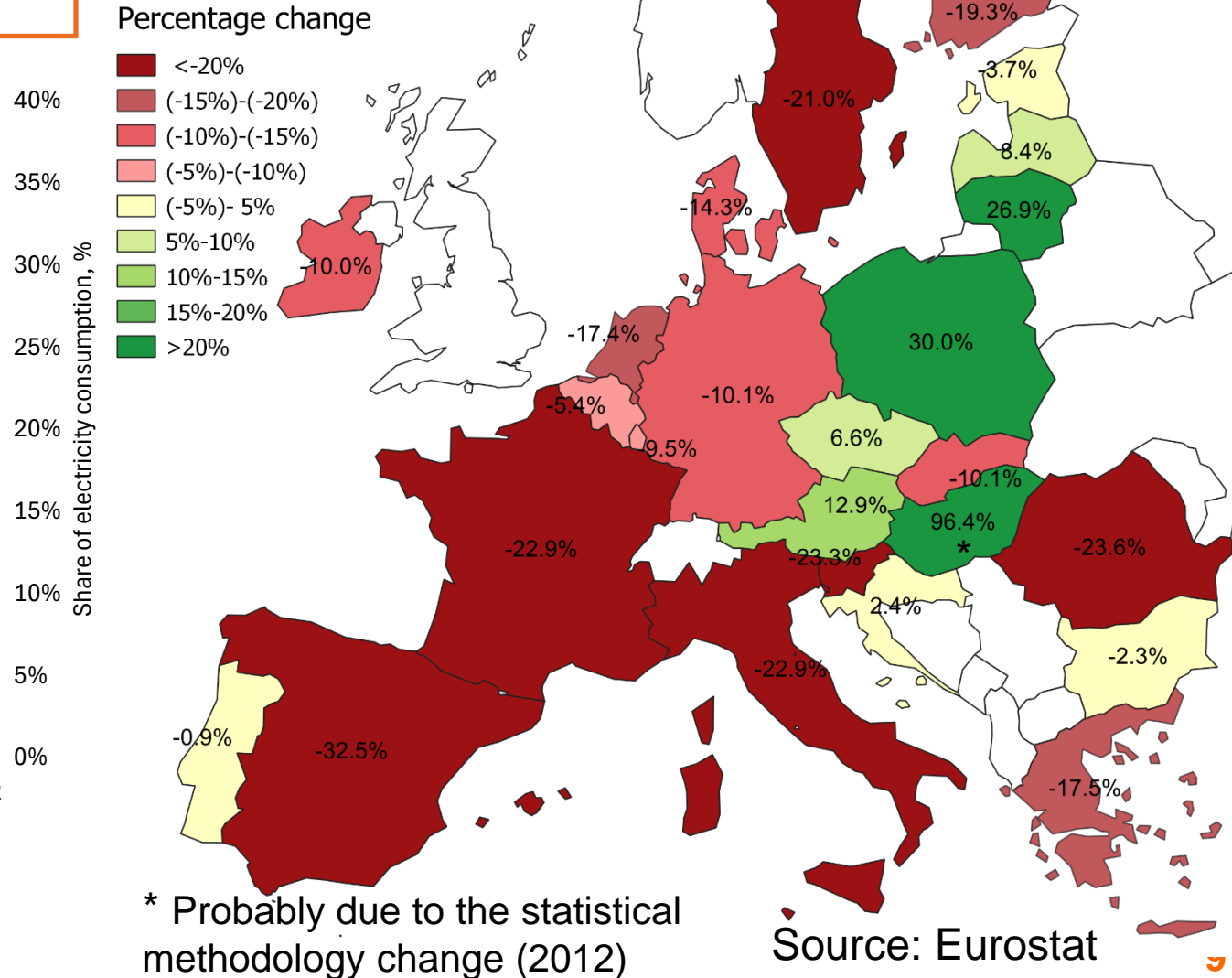


# Electricity consumption - Industry

Electricity consumption and electrification in the industry sector, EU27

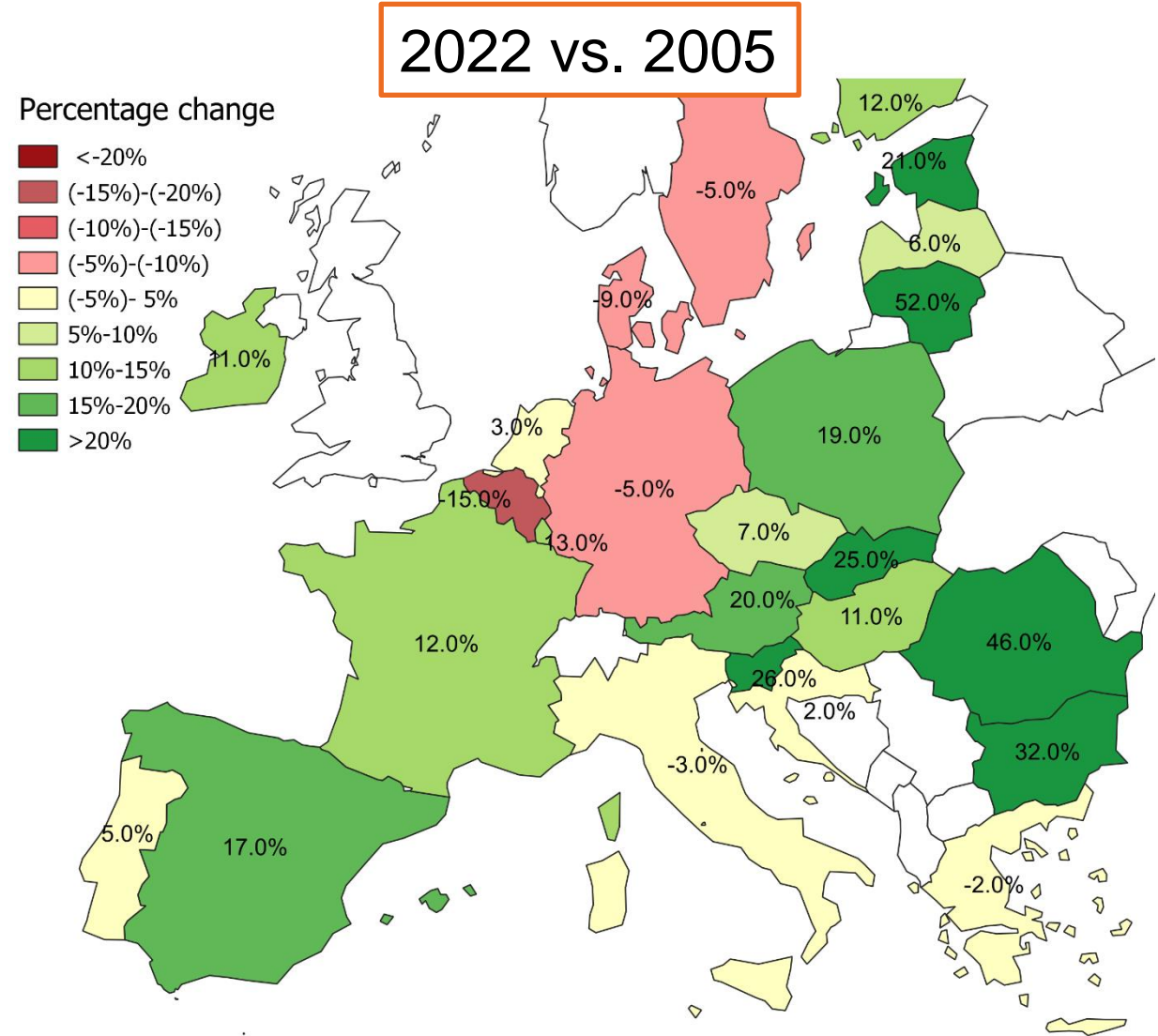
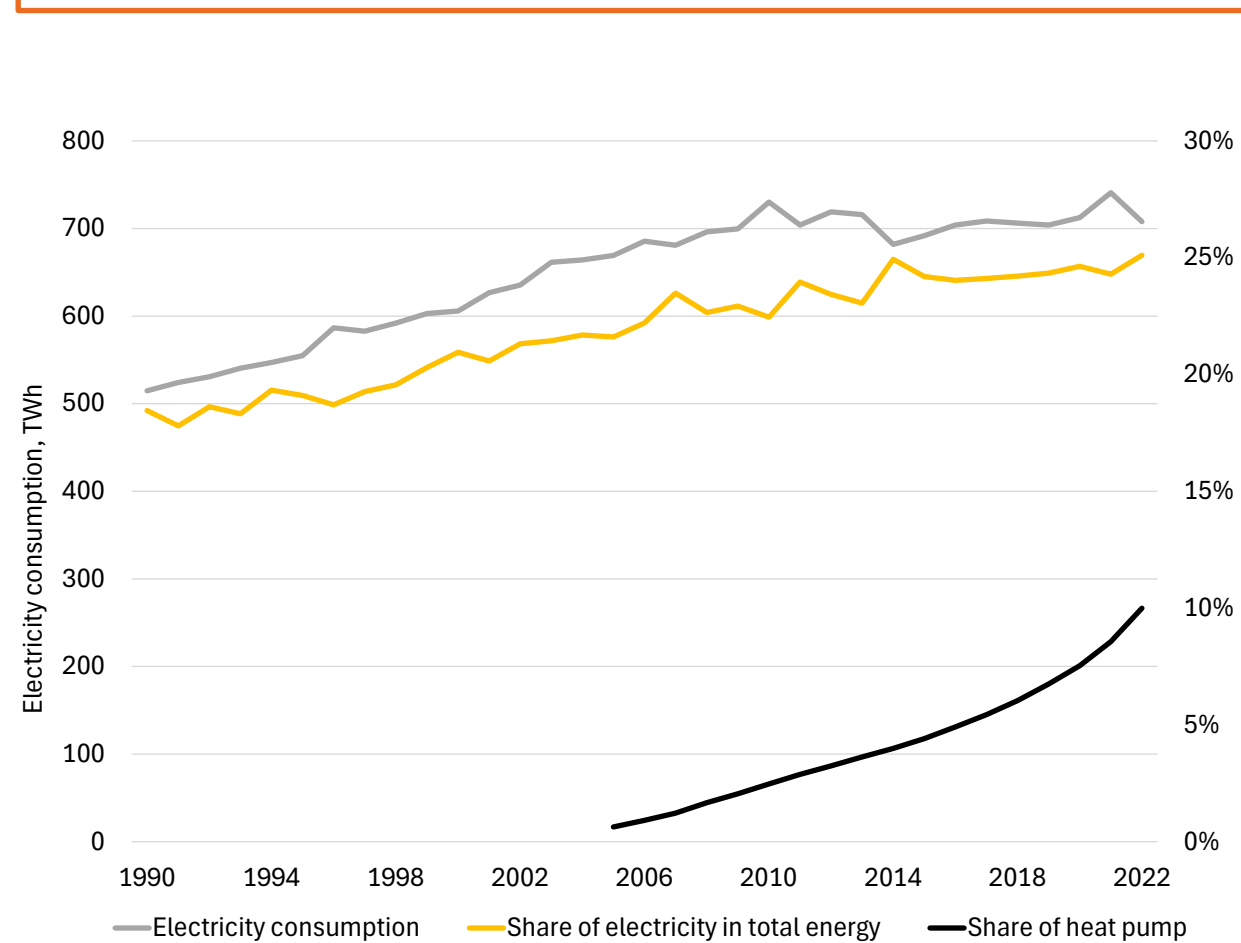


2022 vs. 2005



# Electricity consumption – Households

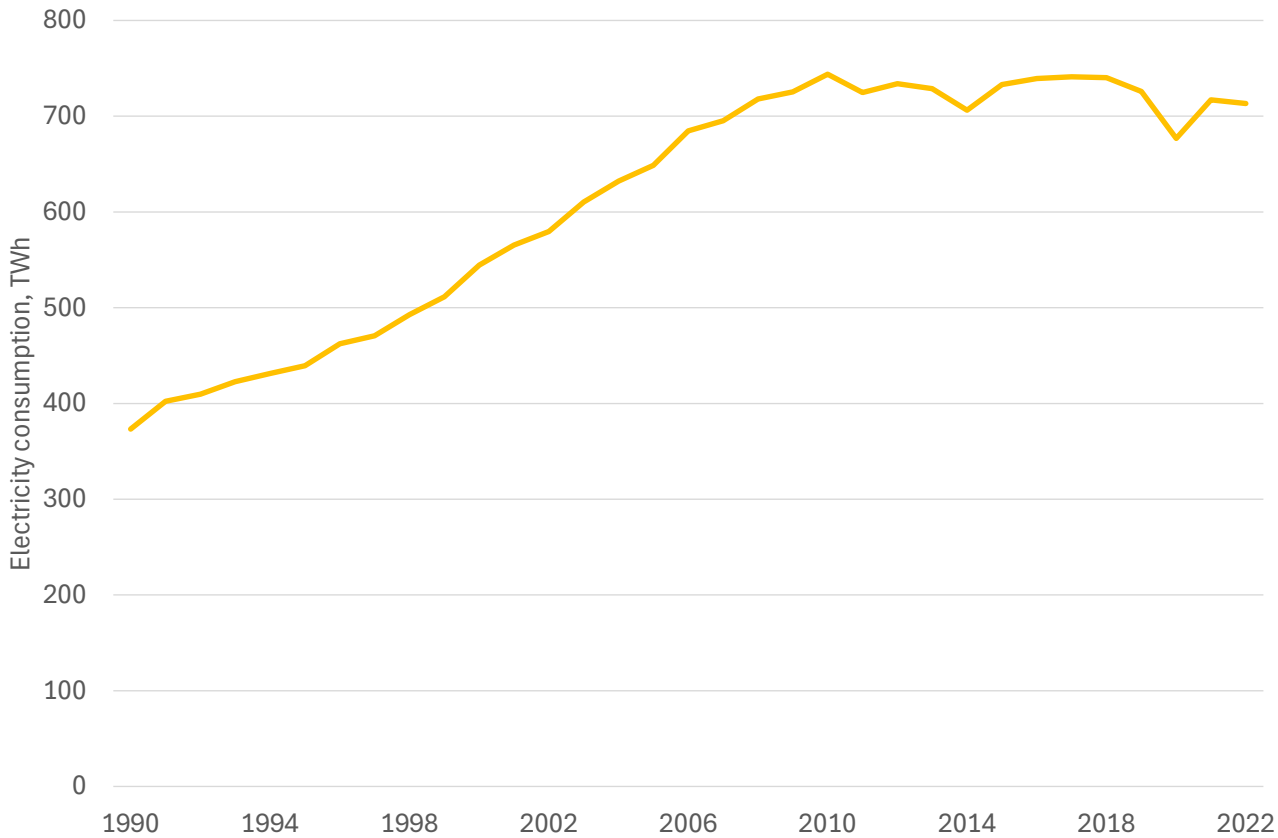
Electricity consumption, electrification and share of heat pumps, EU27



Source: Eurostat and EHPA

# Electricity consumption – Tertiary sector

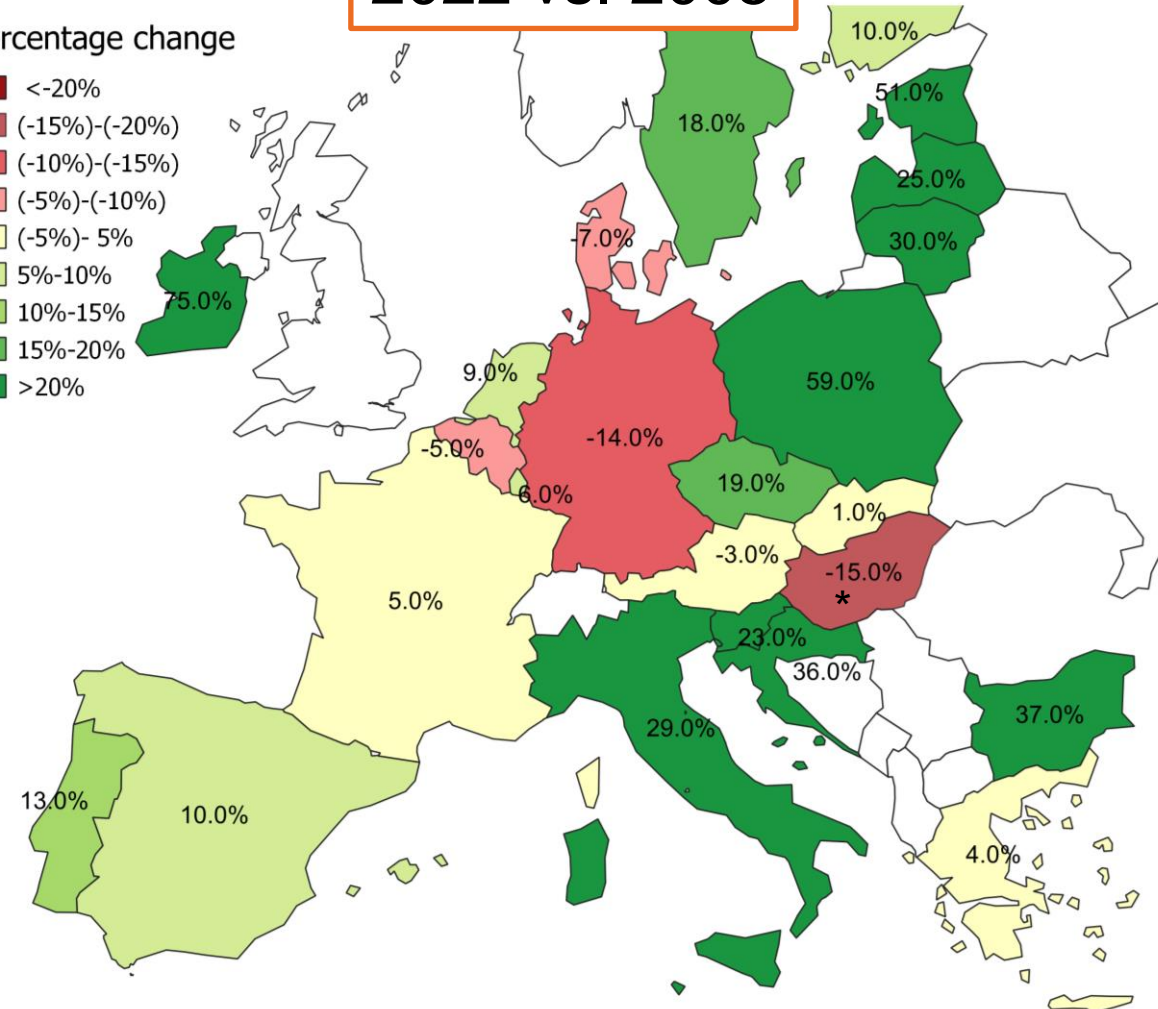
Electricity consumption of the tertiary sector, EU27



2022 vs. 2005

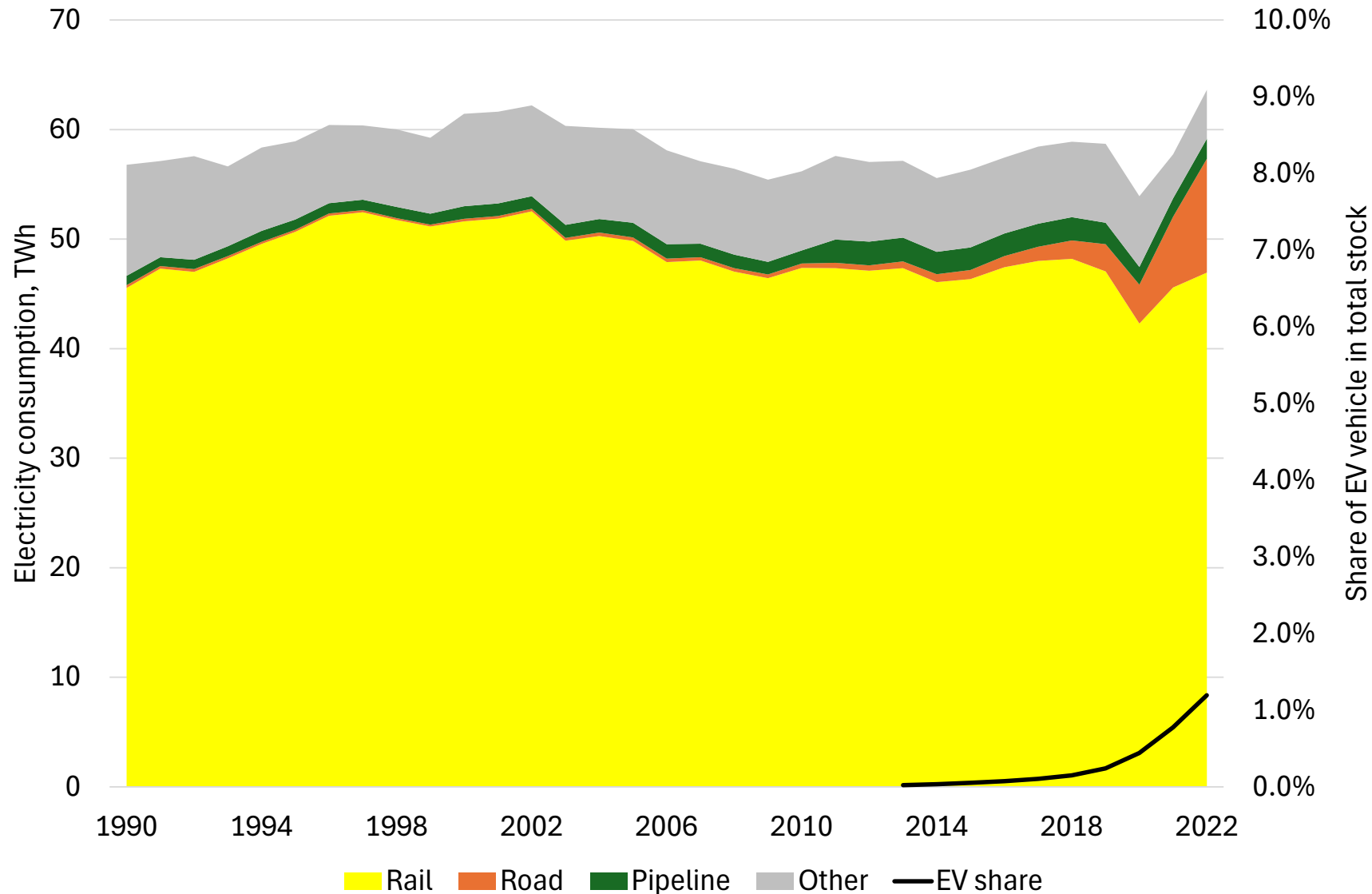
Percentage change

- <-20%
- (-15%)-(-20%)
- (-10%)-(-15%)
- (-5%)-(-10%)
- (-5%)- 5%
- 5%-10%
- 10%-15%
- 15%-20%
- >20%



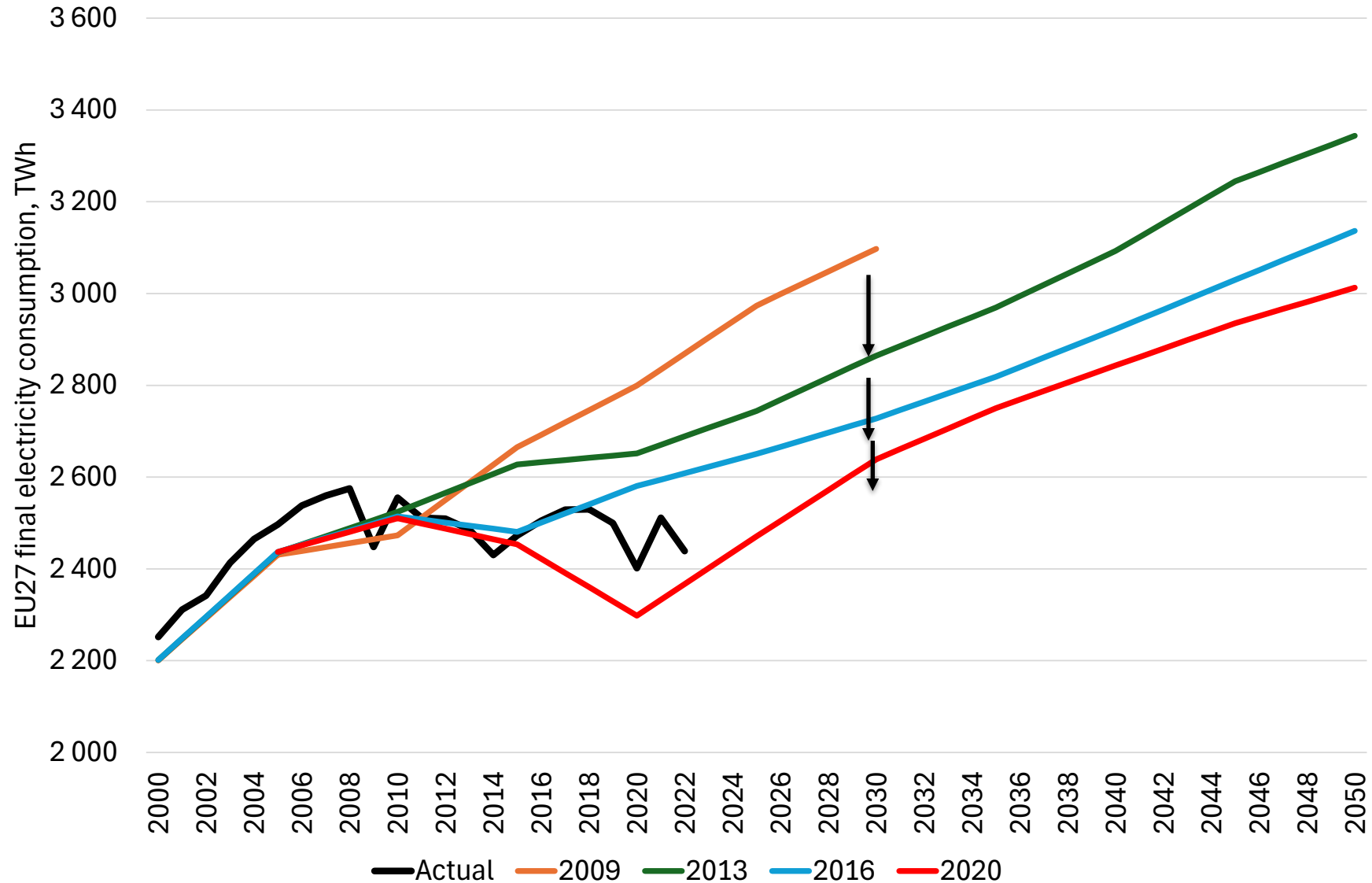
\* Probably due to the statistical methodology change (2012)

# Electricity consumption – Transport sector



Source: Eurostat

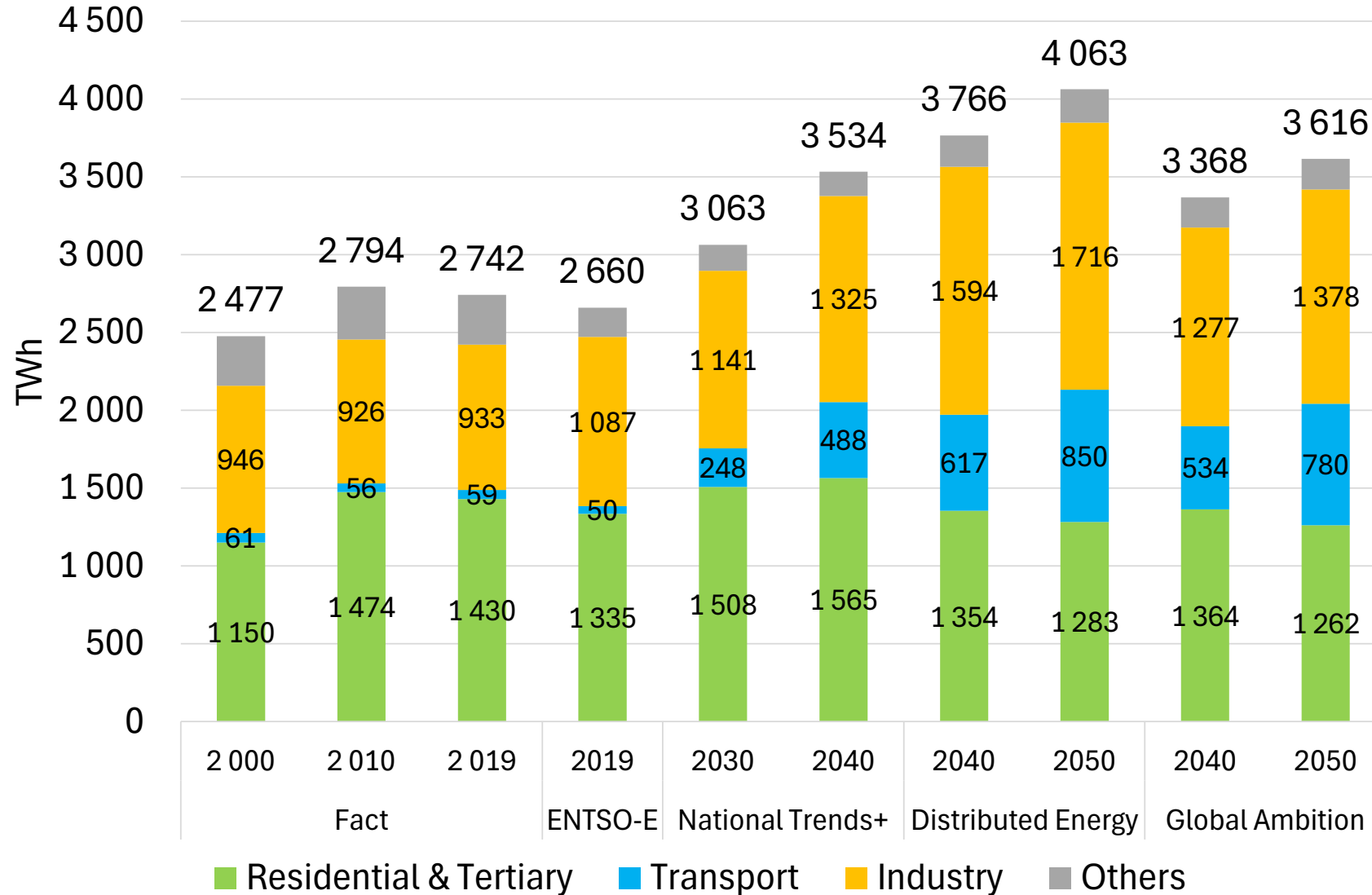
# Are forecasts always too optimistic?



Source: Eurostat Commission official forecasts on the Reference scenarios



# ENTSO-E detailed forecasts



Source: ENTSOs 2024 Scenario Report and Eurostat

# Summary

- Electrification processes started already in both e-mobility and heating applications in the last eight years. But probably we are in the initial phase of the ‚usual‘ S shape curve of technology uptake, consequently the impacts in electricity consumption are hardly visible
- This could be due to many factors, e.g. increasing energy efficiency improvements and other energy saving measures, also the high price environment and GDP growth
- Long term growth in power consumption is mainly expected in transport. Heating is a more complex question: strong growth could be balanced by high energy savings in heat demand. Industry could be a strong driver of electrification
- For DSOs: the electrification process has started, but no increase yet in the total consumption – so no increase in rate base. At the same time hot-spots, bottlenecks appear in many places with strong demand growth locally which needs to be handled
- There are very heterogeneous developments sector-wise and geographically as well
- Many CEE countries are lagging behind in e-mobility and heat pump developments

**THANK YOU FOR YOUR ATTENTION!**