

Regional training of *ODYSSEE-MURE*  
*Understanding energy efficiency*  
*indicators*

5. Benchmarking the energy  
transition: case of transport

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# Benchmarking the energy transition in transport

- Benchmarking the energy transition in transport has two objectives:
  - Identify countries with the best performance
  - Identify countries with the most promising trends.
- What performances are we talking about: all what contributes to reduce GHG emissions in the sector, which encompasses the following developments:
  - Improving the energy efficiency of transport modes;
  - Modal shift to more efficient modes (public transport, rail transport for goods);
  - Fuel substitution towards low carbon fuels (biofuels, electricity with no carbon emissions);
  - Lower mobility ( “sufficiency” )

# Content

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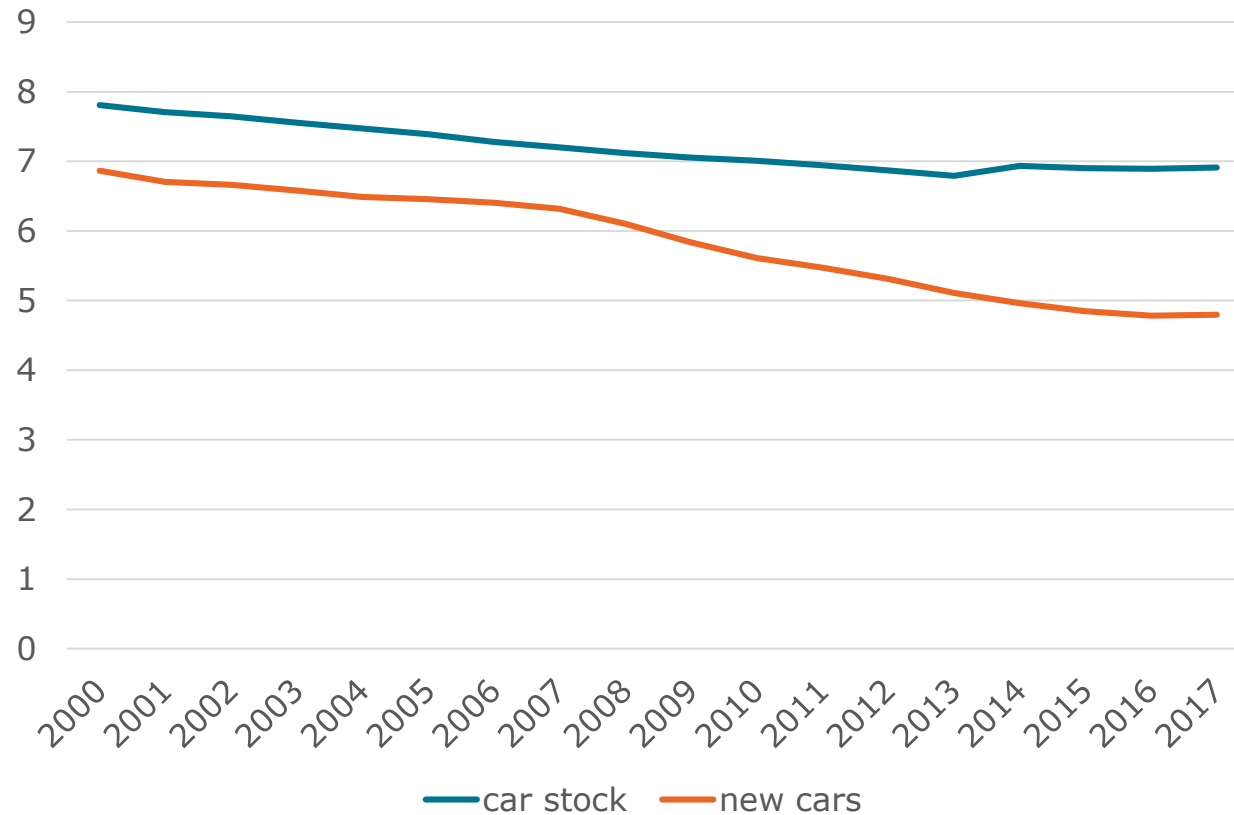


# Benchmarking of energy efficiency

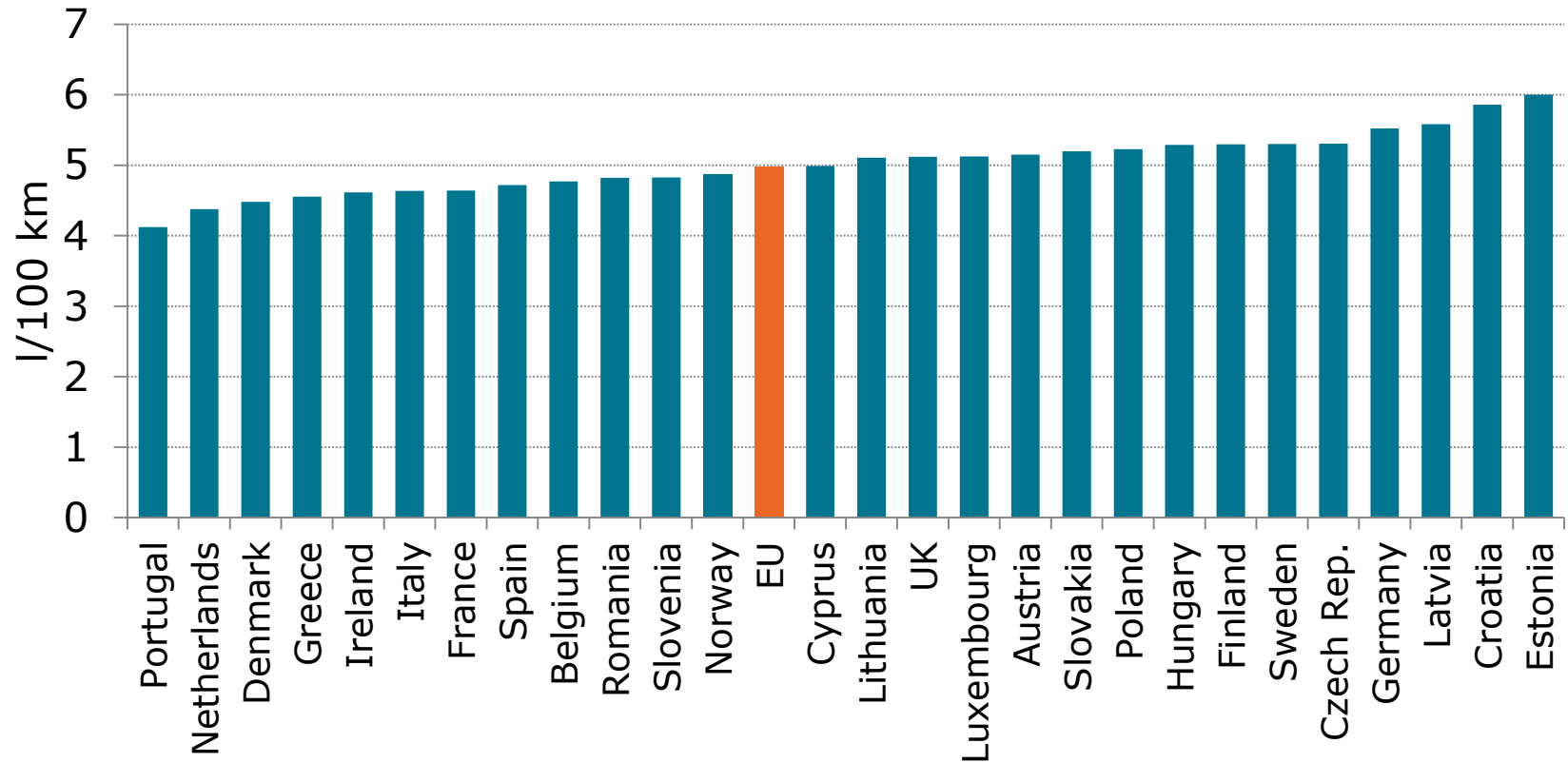
# Indicators of benchmarking of energy efficiency

- As cars represent about half of the transport consumption, a specific focus will be given to cars.
- The following indicators can be considered for cars:
  - l/100 km for new cars
  - l/100 km for car stock
  - goe/km
  - goe/pkm
  - gCO<sub>2</sub>/km
- For road transport of goods, the following indicator can be considered: goe/tkm
- For the transport sector as whole, ODEX is the right indicator.

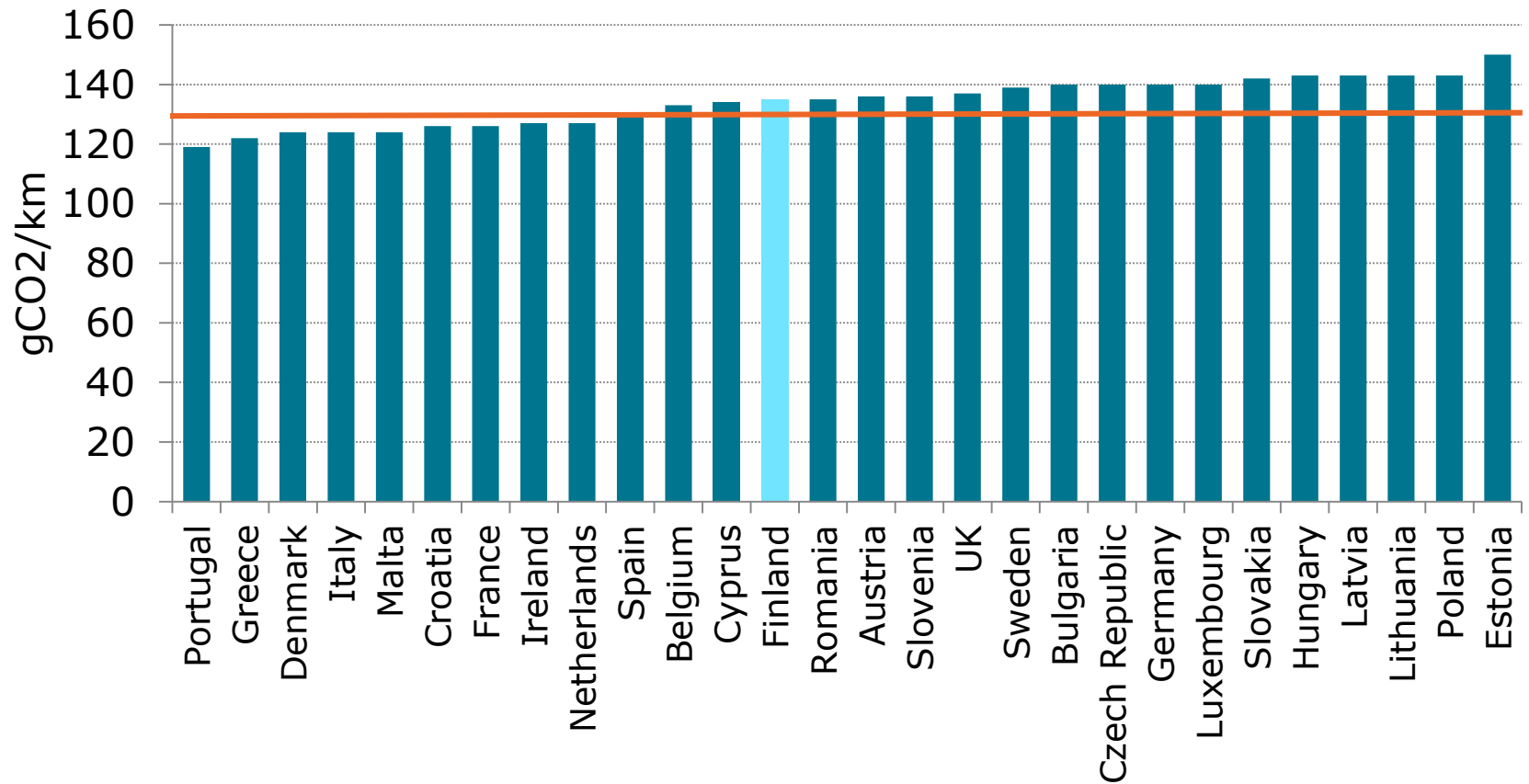
# Specific consumption of new cars (l/100 km) (EU)



# Specific consumption of new cars (2017)



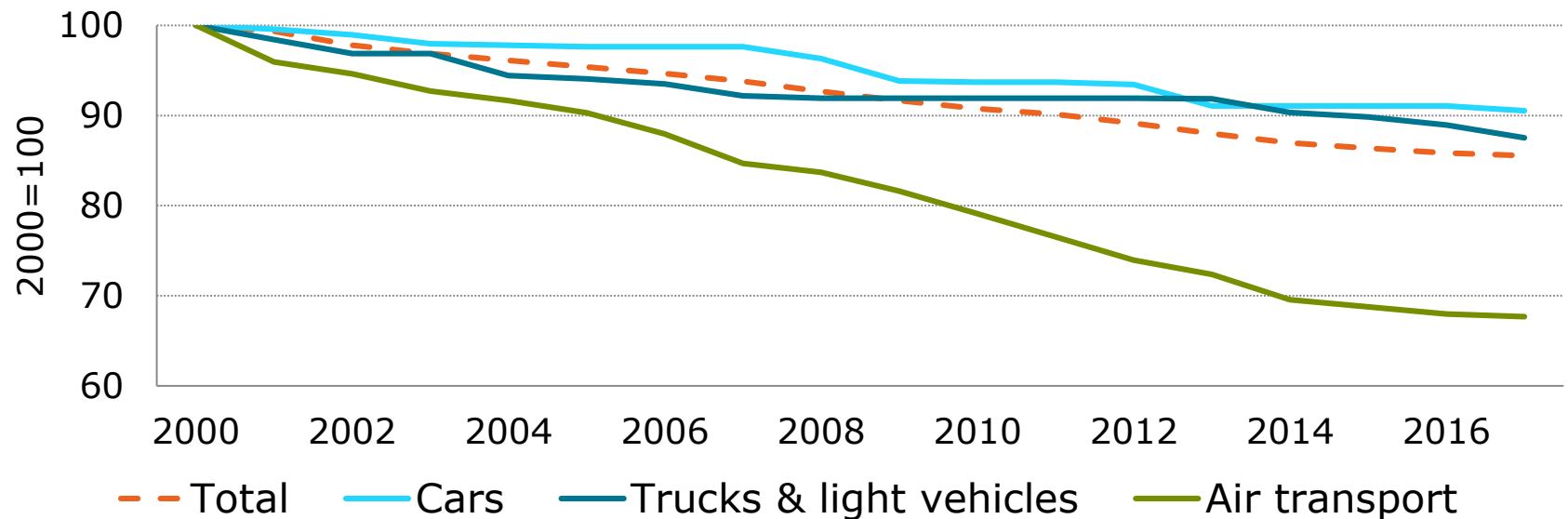
# CO2 emissions of new cars (2017)



Source: EEA



# Energy efficiency trends for transport in the EU (ODEX)





# Benchmarking modal shift

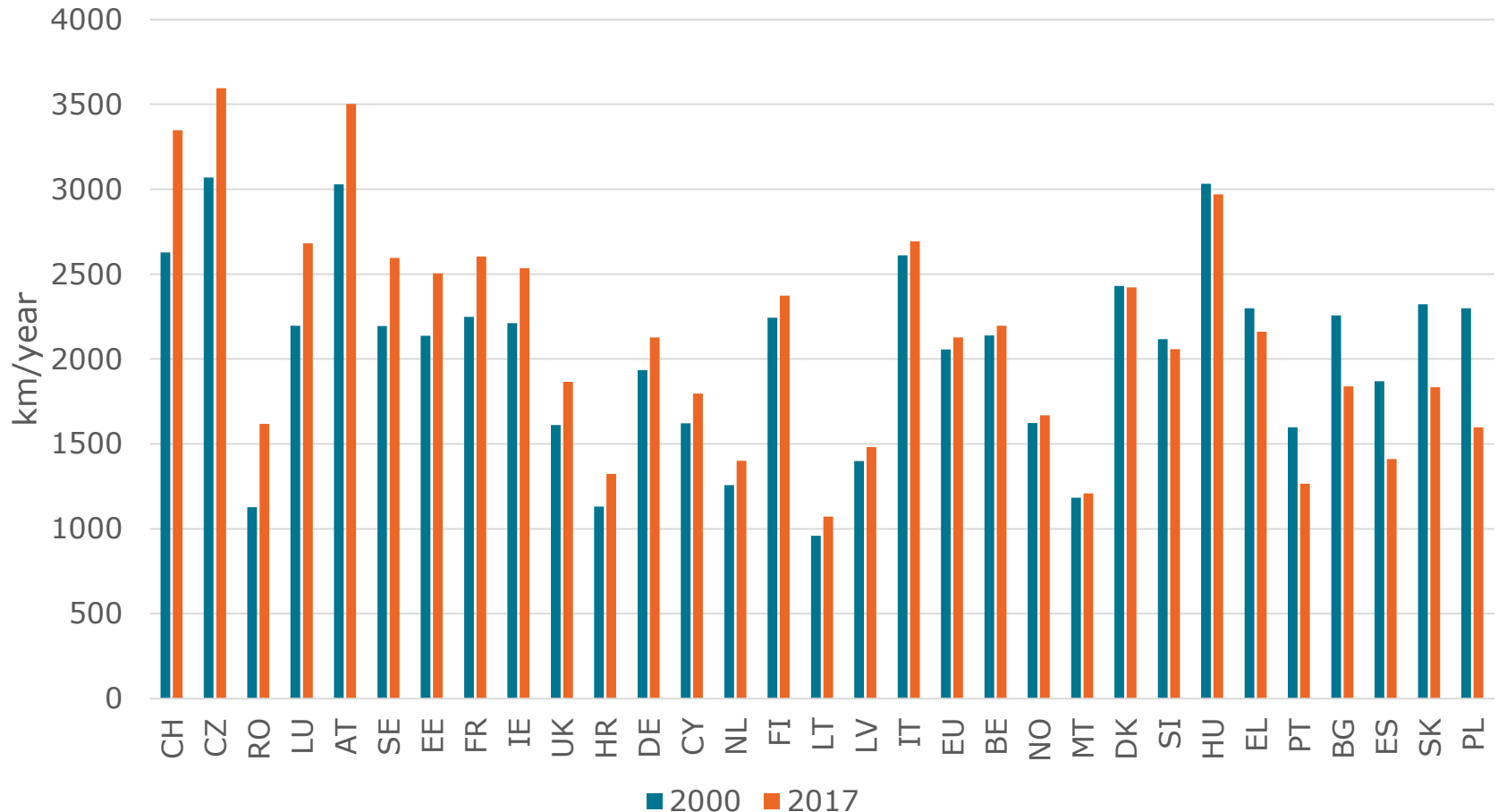
# Indicators of benchmarking of modal shift

- Two indicators for passenger transport:
  - Mobility in public transport (km/year/capita)
  - Share of traffic by public mode
- For transport of goods, the indicator is the share of traffic by rail and water.

# Mobility in public transport

Around 2000 km/year on average at EU level with The Czech Rep. and Austria leading with 3500 km/year.

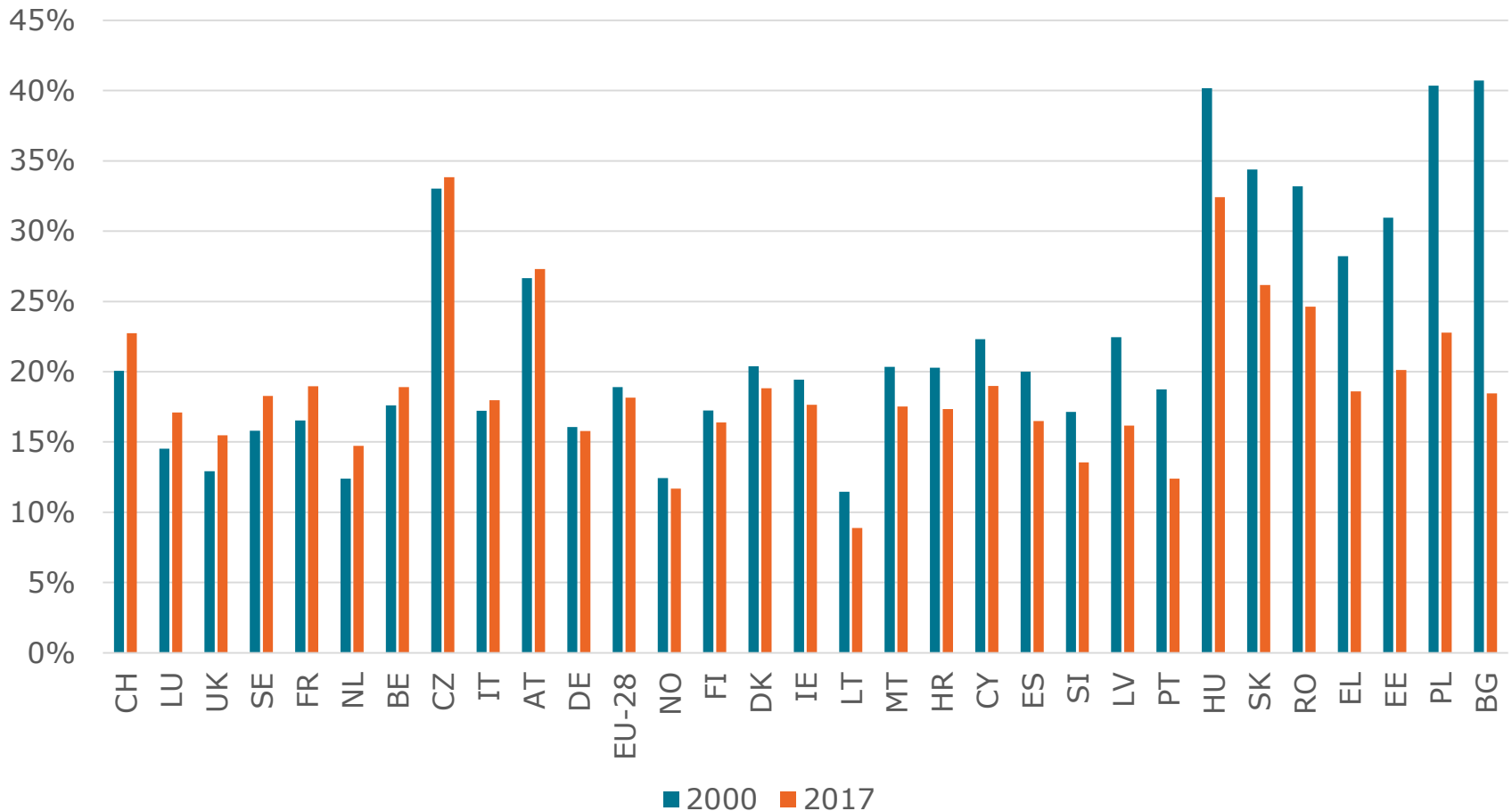
Since 2000, small decrease at EU level (-1 pt), and fastest increase in Luxembourg, UK (+3 pts), followed by Sweden and France (+2 pts).



# Share of public transport

Around 2000 km/year on average at EU level with The Czech Rep. and Austria leading with 3500 km/year.

Since 2010, small progression at EU level and fastest increase in Czech Rep., Romania, Luxembourg and Austria (~+ 500 km)





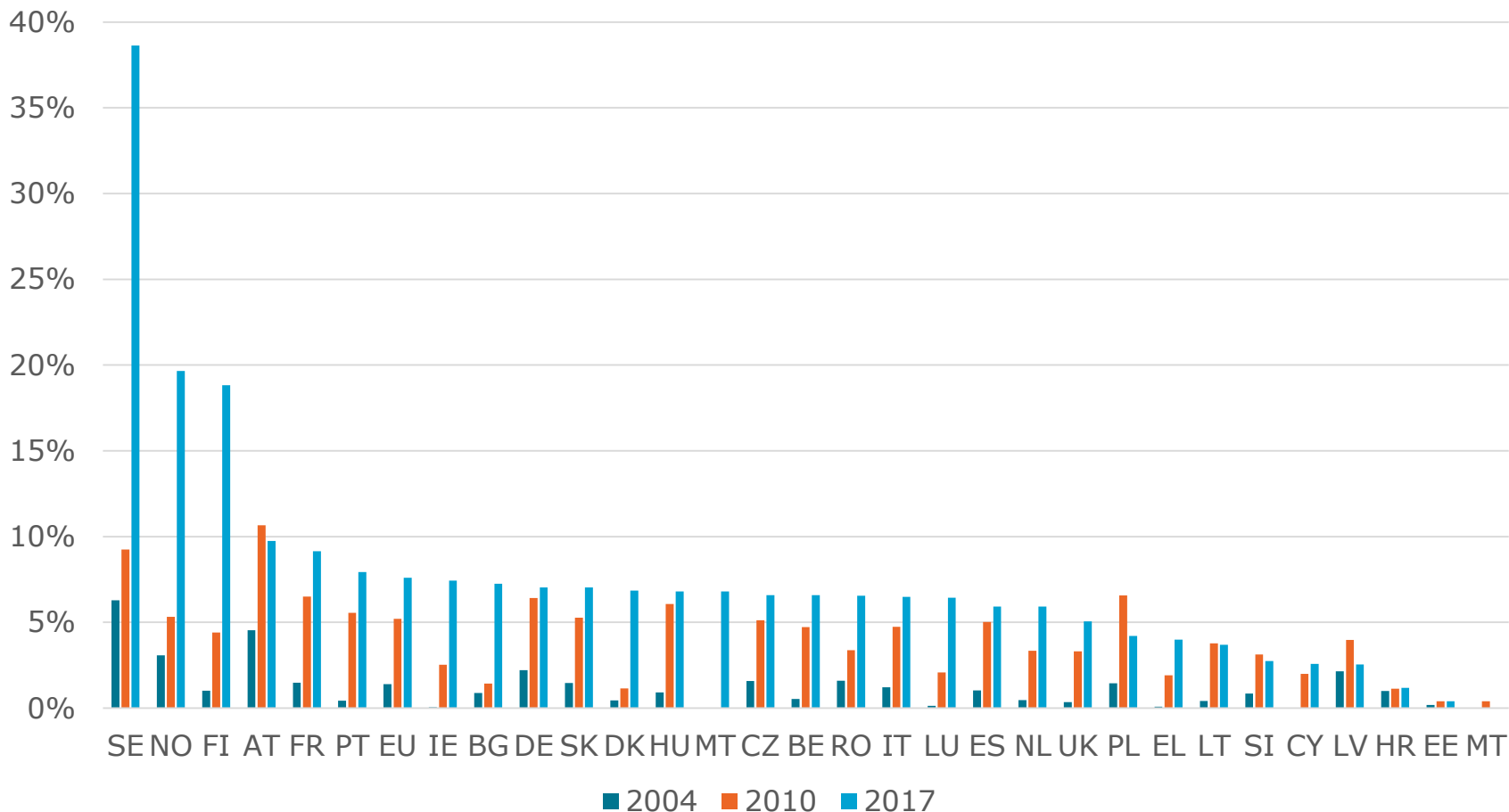
# Benchmarking of fuel substitution towards low carbon fuels

# Indicators of benchmarking of energy substitutions

- The following indicators can be considered :
  - Share of biofuels and electricity in transport consumption
  - Share of passenger traffic by electric mode

# Share of renewables in transport consumption

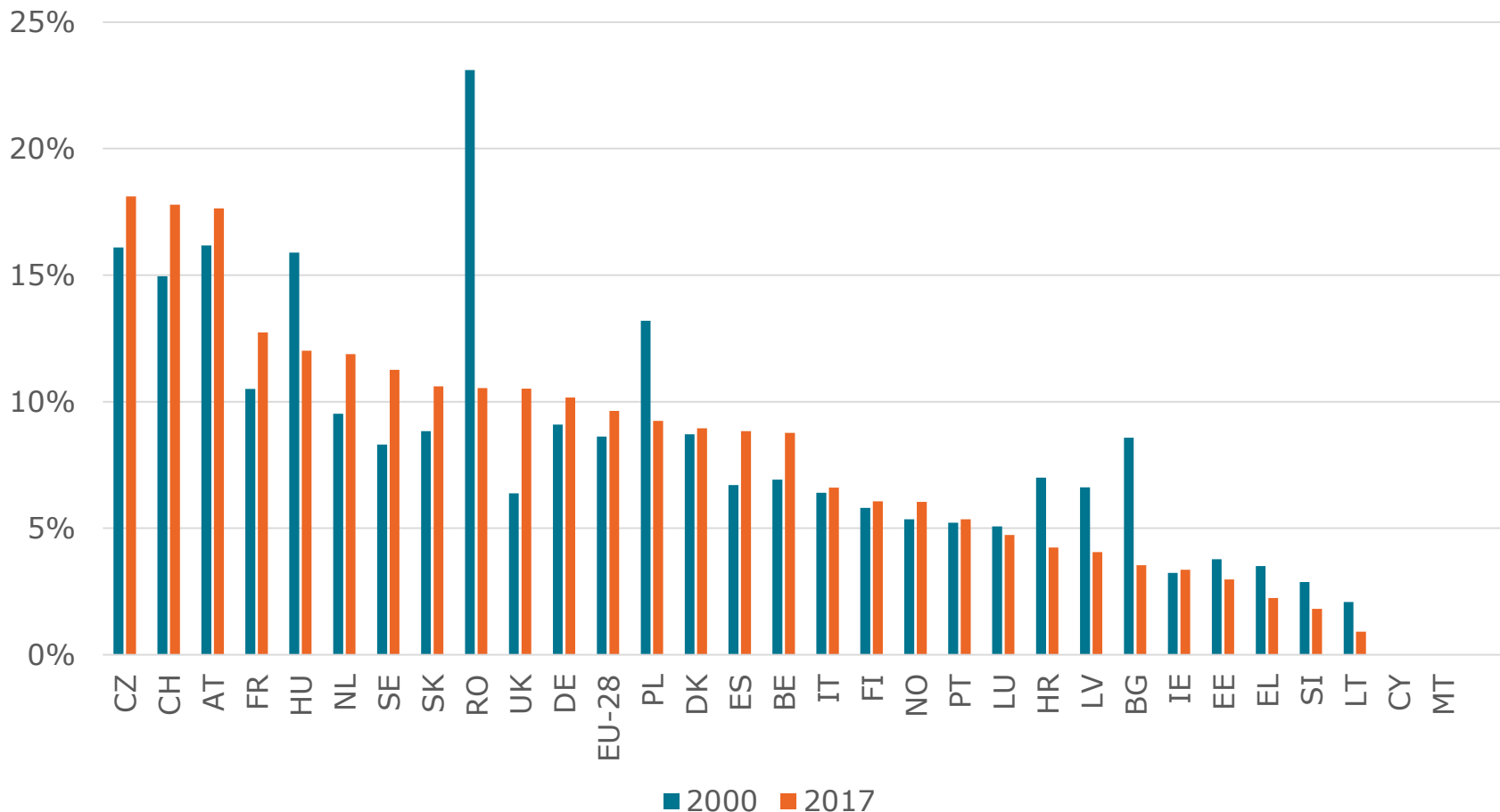
- Sweden is by far the leader as to the penetration of renewables (almost 40%), followed by Norway and Finland, around 20% (7.6% at EU level).
- Highest progression since 2010 in the same countries





# Share of passenger traffic by electric mode

- Around 18% of passenger transport by electric modes in The Czech Rep., Switzerland and Austria (10% at EU level).
- Highest progression in UK (+4 pts), followed by Switzerland and Sweden; +1 pt at EU level.





# Benchmarking of mobility

# Indicators of benchmarking of transport mobility

- The following two indicators can be considered :
  - Passenger mobility
  - Transport of goods per unit of GDP

# Total passenger mobility

- Low passenger mobility in Romania , Slovakia and Poland (~7000 km/year/capita) against twice more in countries with the highest level and an average of 12000 km/year at EU level
- Lower mobility in 2017 than in 2000 in Spain (-800 km), Netherlands, Belgium & UK (-650 to 450 km), and, to a lower extent, Italy (-200 km).

