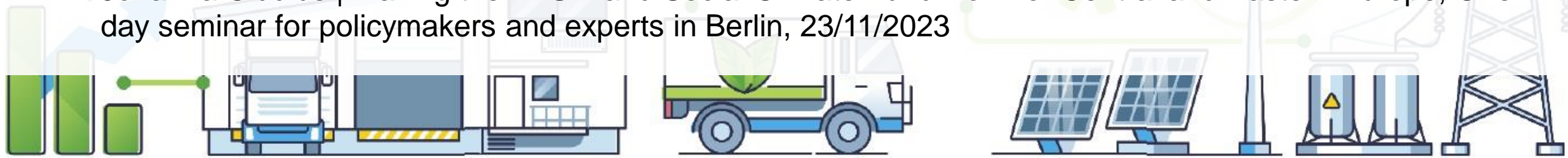




Identifying patterns of vulnerability to the ETS 2 carbon price

Impact and vulnerability analyses - key findings from our report

Johanna Cludius | Making the ETS 2 and Social Climate Fund work for Central and Eastern Europe, One-day seminar for policymakers and experts in Berlin, 23/11/2023



Key Findings from the EU level analysis

ETS 2 impacts

- Average impacts at a price of €70/tCO₂ will be limited, ranging from 0.3% of total expenditure in Sweden to 1.5% in Hungary.
- We expect the impact to be larger in lower-income Member States and for lower-income households within countries

Patterns of vulnerability

- Across a range of indicators, existing energy and transport poverty rates are larger in lower-income MS, especially related to energy poverty
- No „one-size-fits-all“ indicator is available and finding suitable indicators and data is especially challenging for transport vulnerability
- Energy and transport poverty and vulnerability correlate with income and – to some extent – with the urban rural divide



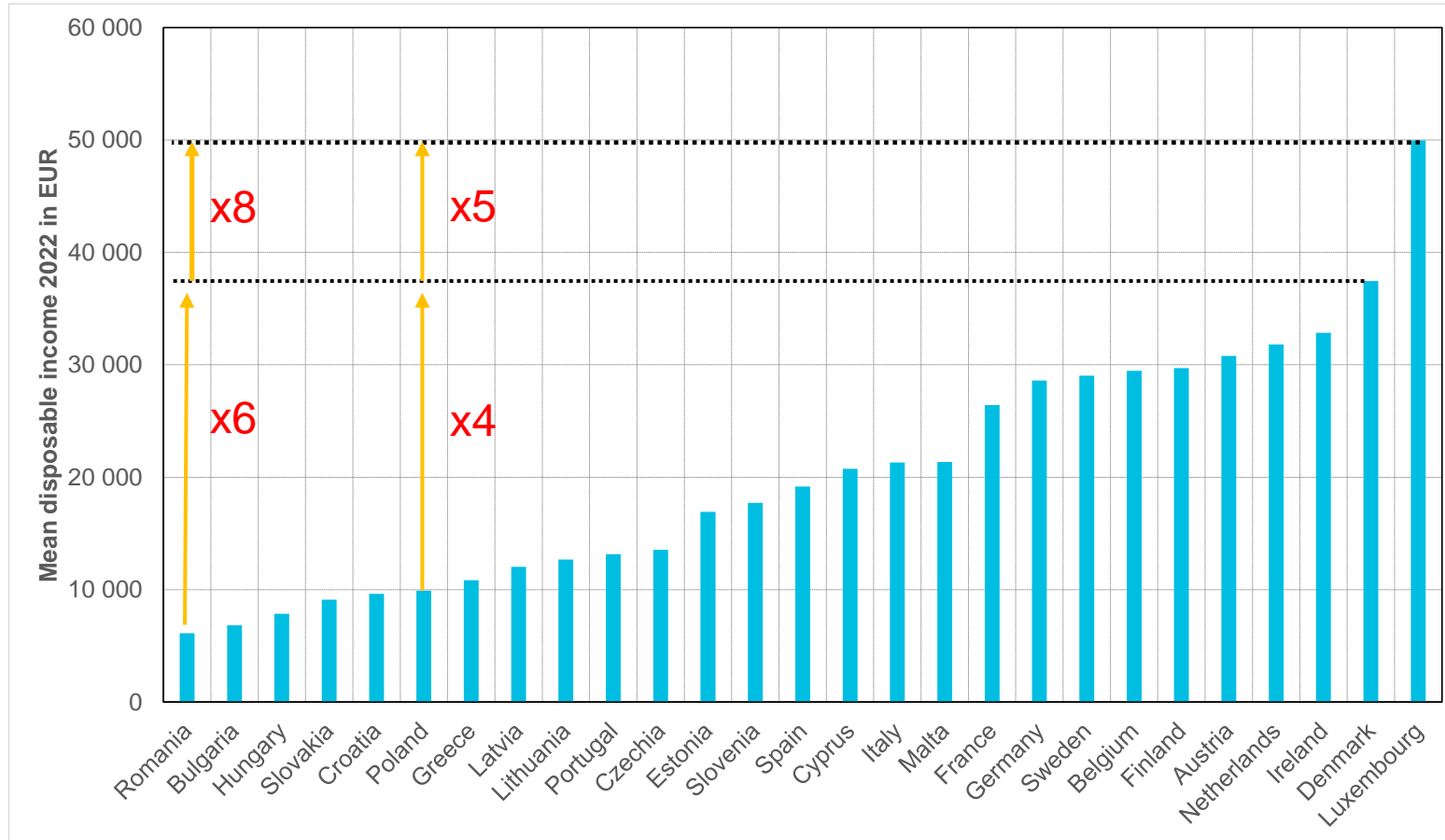
PUTTING THE ETS 2 AND SOCIAL CLIMATE FUND TO WORK

IMPACTS, CONSIDERATIONS, AND OPPORTUNITIES
FOR EUROPEAN MEMBER STATES

<https://www.euki.de/en/euki-publications/policy-report-putting-the-ets-2-and-social-climate-fund-to-work/>

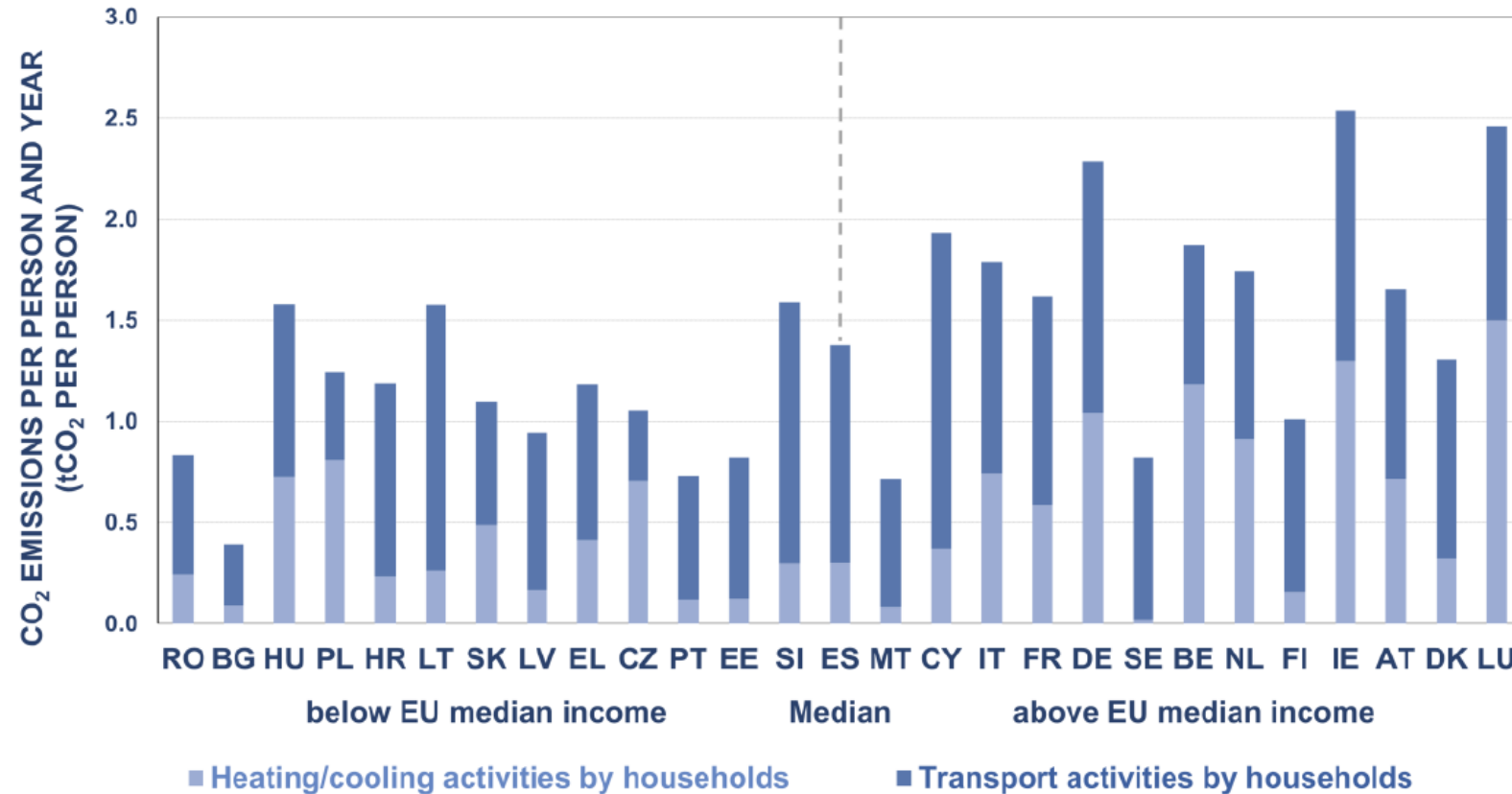
Expected impact of the ETS 2 at a price of 70 EUR/tCO₂

2022 mean disposable income in EUR



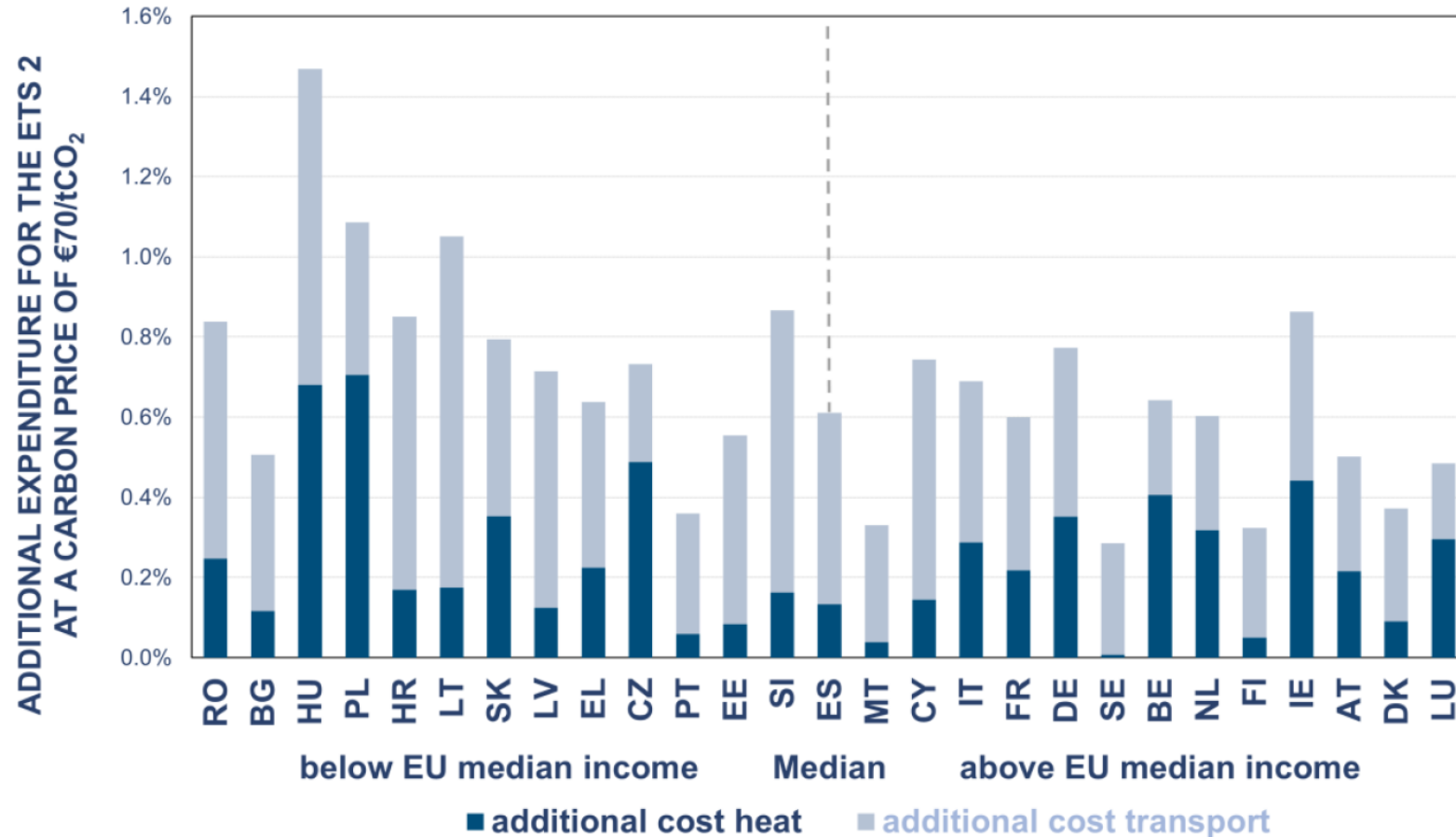
- Mean income levels in Romania are only one sixth of income levels in Denmark, one eighth of those in Luxembourg. Mean income levels in Poland one fourth of those in Denmark
- Income levels are an important driver in determining likely impact and vulnerability of an EU-wide, uniform carbon price

CO2 emissions per capita for heating and road transport of private households in 2019



- Large variation in CO₂ per capita emissions levels in the sectors covered by the ETS 2
- Per capita emissions generally higher in higher-income Member States
- Covered emissions from heating the home high in those Member States with a large share of fossil-fuelled individual boilers
- Covered emissions from road transport generally at least as high as those from heating

Additional expenditure for the ETS 2 at a carbon price of €70/tCO₂ and without accounting for changes in consumption



- Although covered per capita emissions are higher in higher-income Member States, the expected additional expenditure for the ETS 2 is higher in lower-income Member States
- Although per capita emissions in Romania are rather low, the expected impact in terms of additional expenditure, is large
- Per capita emissions in Poland are average, the expected impact is the second-highest amongst all countries

Summary of the impact analysis

- On its own, the ETS 2 shows characteristics of a regressive policy – while the average household in lower-income countries will pay less in absolute terms, these costs make up a larger share of their expenditures.
- This pattern is not just present at the household level, but also plays out at the level of EU Member States.
- It is therefore important and justified that the SCF not only targets low-income households, but through its income-related criteria it also directs a larger share of finances towards lower-income countries.



Exploring vulnerability in the context of the Social Climate Fund

Vulnerability, energy and transport poverty in the context of the SCF

- Measures financed by the SCF should target ‘vulnerable households, transport users, and micro-enterprises’ → But who are these vulnerable groups? How can we define, monitor and reach them?
- Key to the SCF definition of vulnerability is that this firstly (but not only) includes households that **already experience energy and transport poverty**. But while the SCF Regulation provides definitions for energy and transport poverty, it **does not determine which indicators should be used to measure these**.
- In the context of our report, we have applied indicators from the energy poverty literature and expanded them to transport poverty.

Energy and transport poverty indicators applied in our report

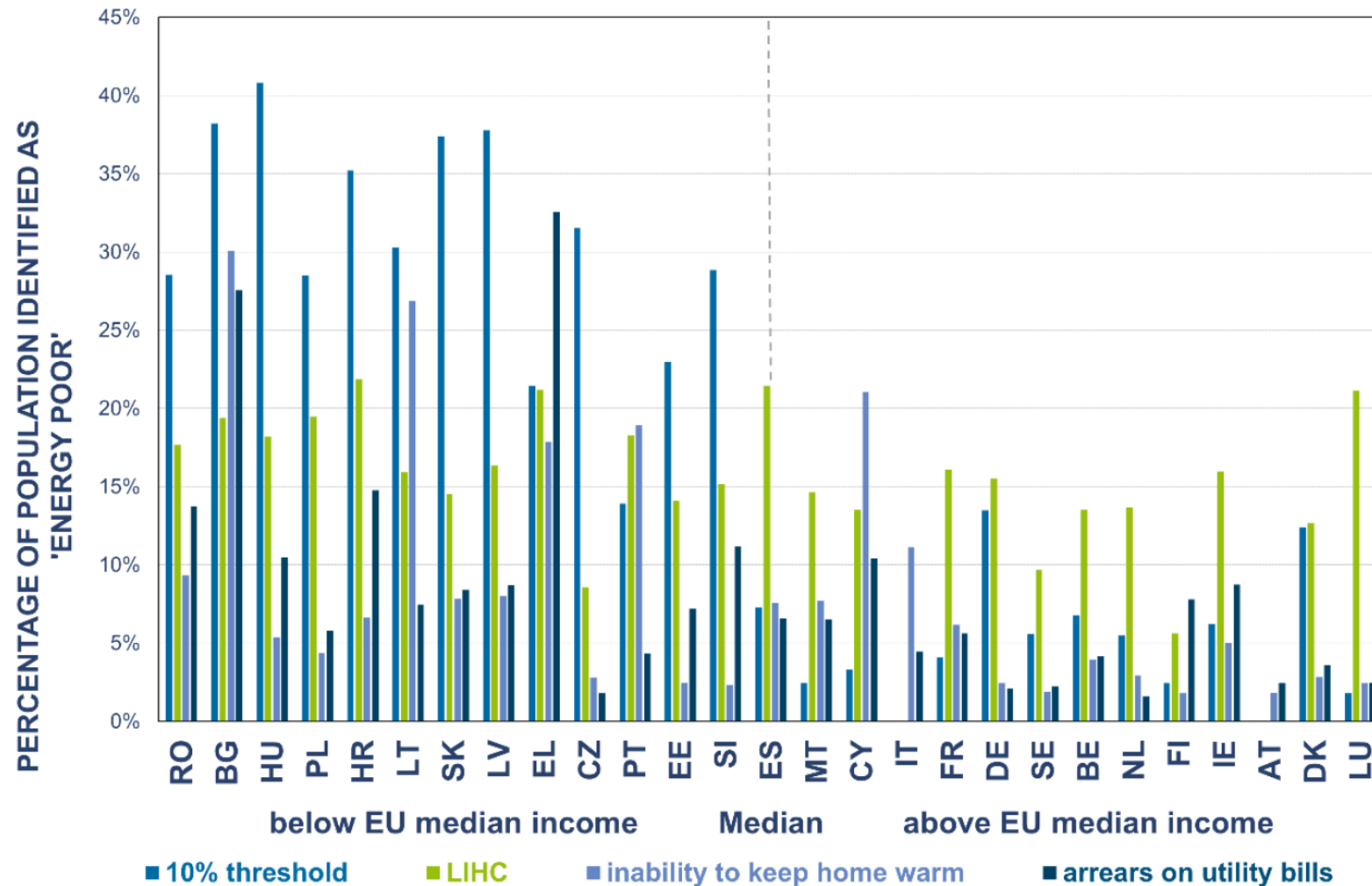
Self reported indicators (energy poverty only)

- Inability to keep home adequately warm
- Arrears on utility bills

Expenditure-based indicators (energy and transport poverty)

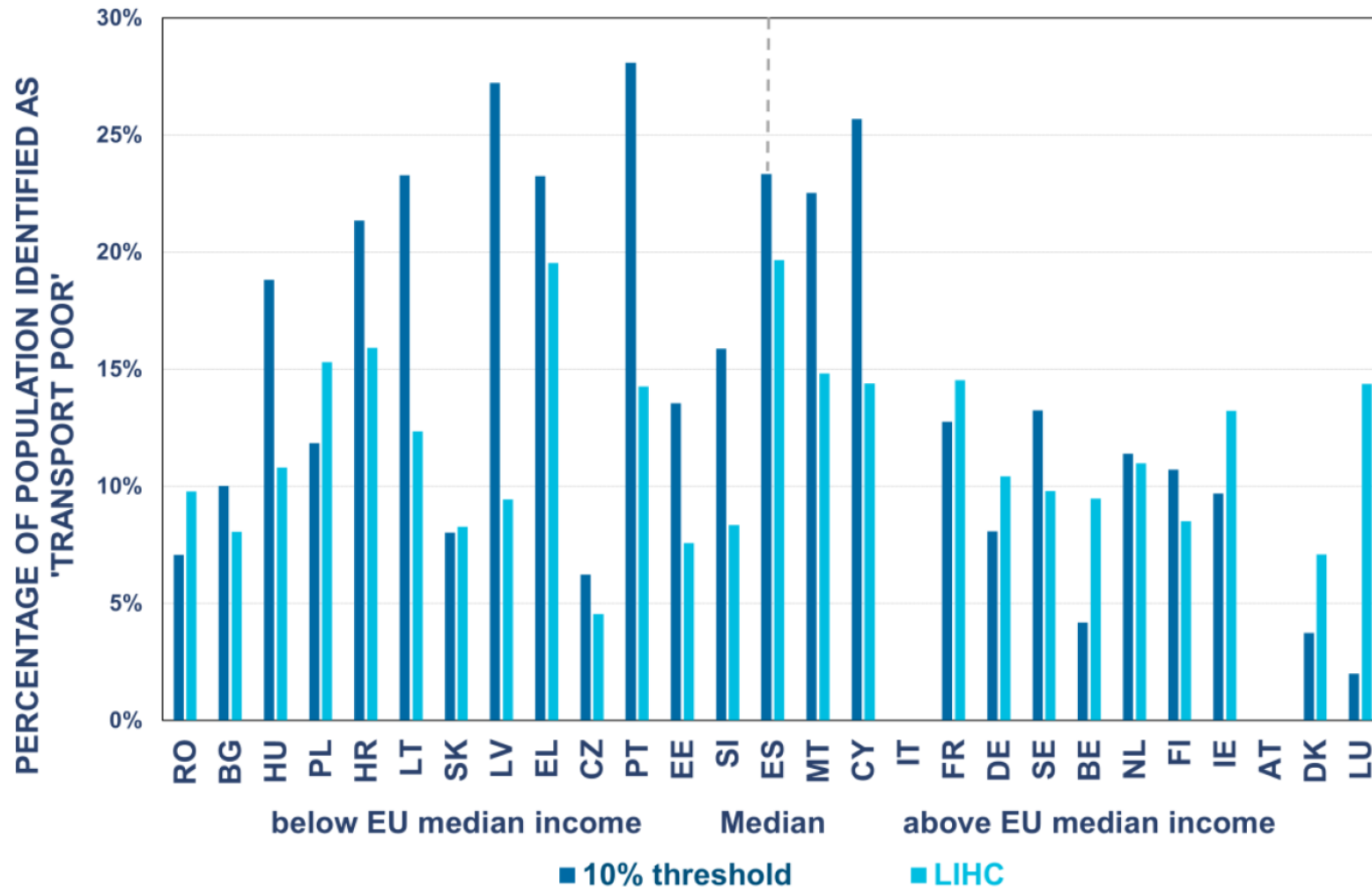
- Low income high cost (LIHC): Household falls below the poverty line after paying for energy / transport
- 10% threshold: Households expenditures for energy / transport require them to spend more than 10% of their budget

Share of population identified as energy poor according to four indicators



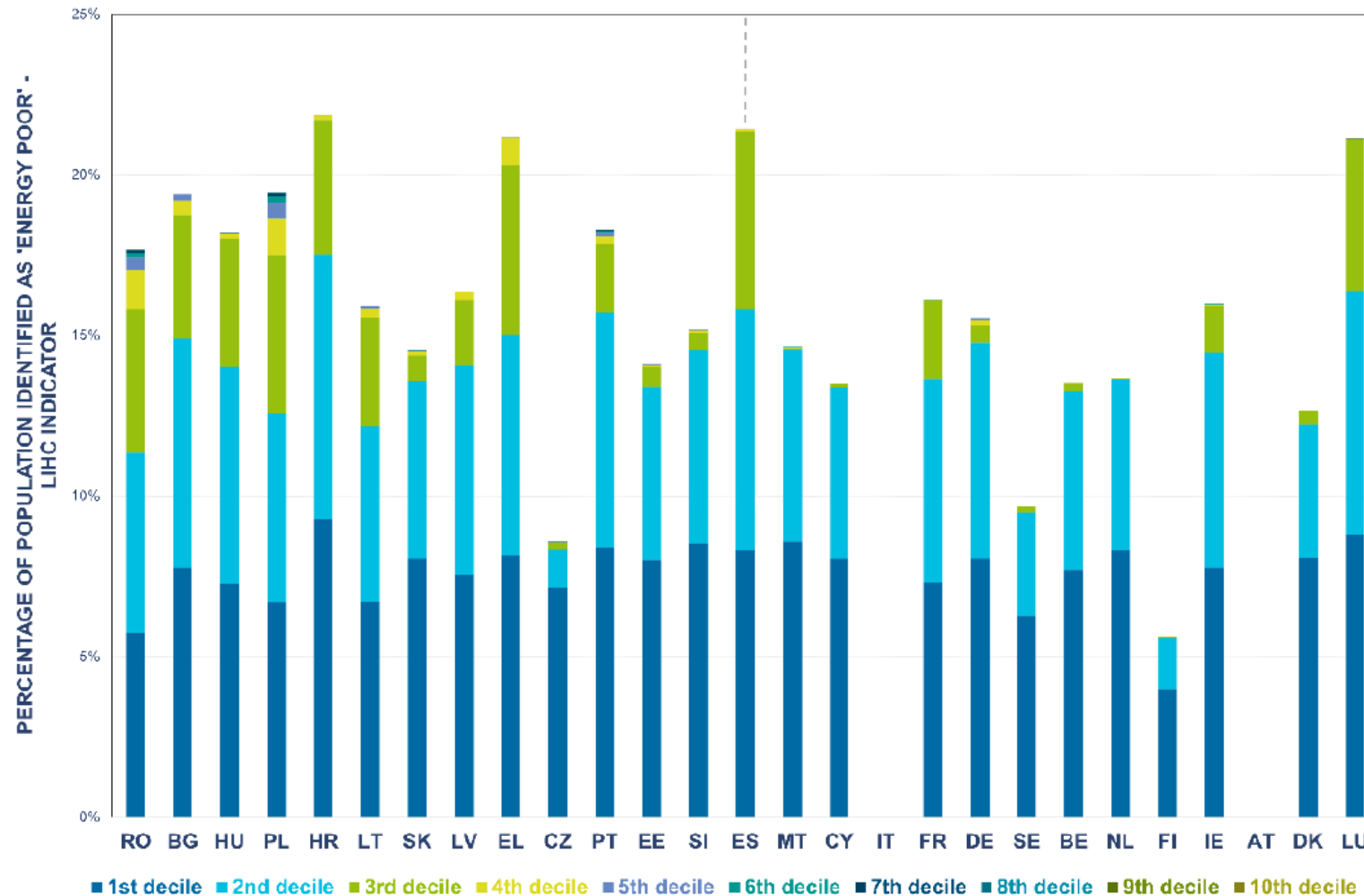
- 10% threshold indicator is particularly high in lower-income Member States, indicating that 30-40% of the population spend more than 10% of their budget on heat and electricity
- The LIHC indicator is more stable between countries
- The self-reported indicators show a large variation between MS, but are generally higher in lower-income MS (both indicators especially high for Bulgaria)

Share of population identified as transport poor according to two indicators

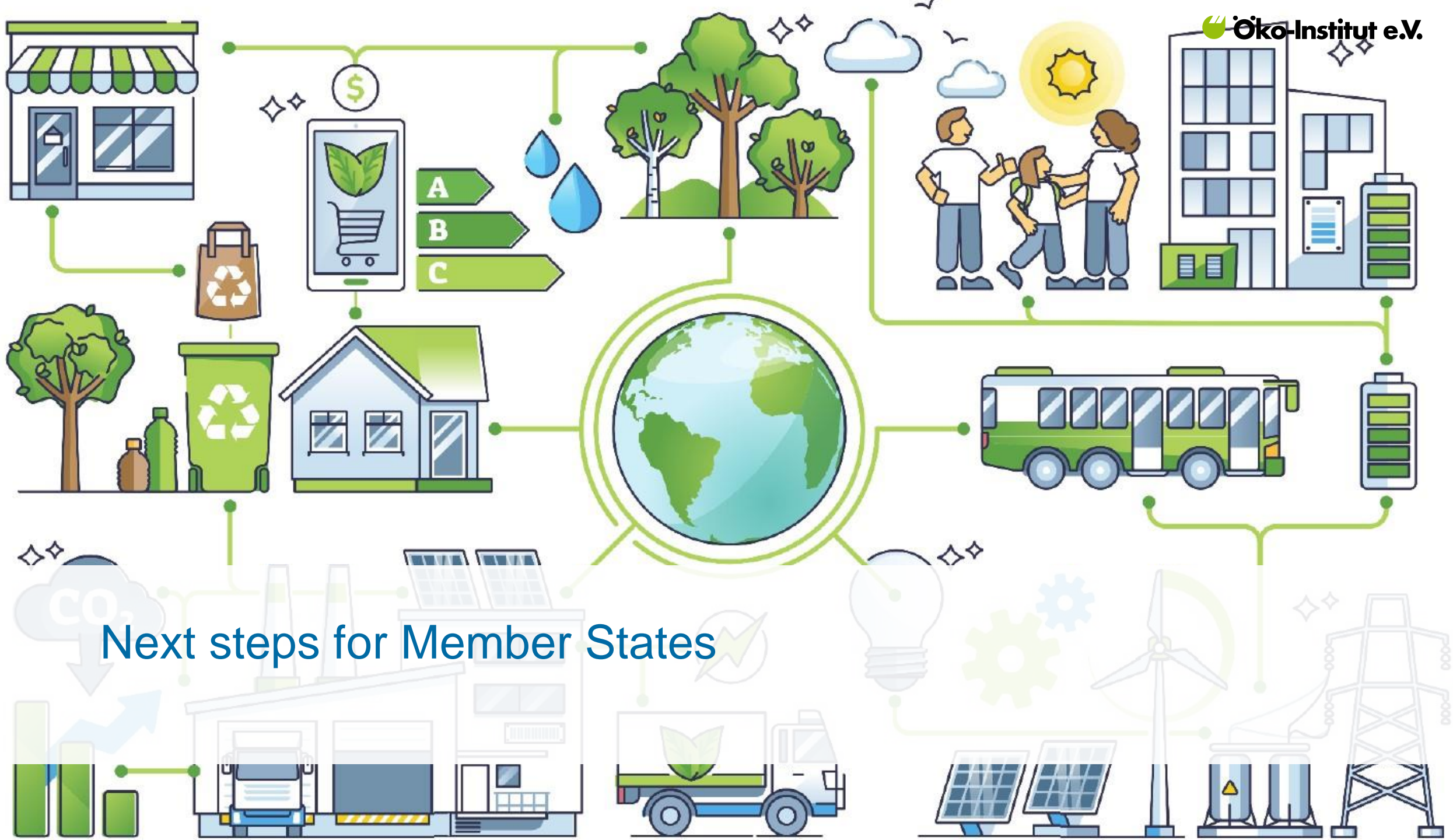


- In most Member States, between 10% and 25% of the population spends at least 10% of their income on transport fuels and services. In Latvia, Portugal, and Cyprus the share of the 'transport poor' population is greatest, exceeding 25%.
- According to the LIHC indicator, high costs for transport fuels and services are an excessive burden for between 5% and 15% of the population in most Member States. The share identified by the LIHC indicator is highest in Croatia, Poland, Greece, and Spain.

The relationship between vulnerability and income in EU MS for the share of the population identified as 'energy poor' according to the LIHC indicator



- According to the LIHC indicator, energy poverty is prevalent in the bottom 20% of the income distribution.
- In lower-income countries the bottom 30% are affected and sometimes also middle-income households, especially in Poland and Romania.
- This result also holds for transport poverty.



Next steps for Member States in defining, monitoring and targeting vulnerable groups

- Since vulnerability is **context and country specific**, it is up to the Member States to decide on the most suitable definition and indicators. Some Member States already monitor the issue and report as part of the **NECPs**. Since our report has been published, the Commission has published a new **Energy Poverty Recommendation** that can be helpful.
- **Traditional energy poverty indicators can be a good starting point**, but it is important to check how they can be used in targeting the measures to be financed by the SCF.
Transport poverty indicators are still in their infancy (good practice: UK)
- **Targeting direct income support and green investments** requires striking a balance between accuracy and administrative burden. Especially related to investments, geographic factors such as housing type, location, and access to services may need to be taken into account.
- Although limitations exist, **national and local data** are likely to be more rich and detailed than EU-level data. In addition, **new data** can be gathered.



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