

## Case studies on vulnerability indicators and national/local policies and measures

Insights from the EUKI project “Facilitating Socially Just Carbon Pricing Policies in Central and Eastern Europe”

Johanna Cludius, Alex Eden, Piotr Gutowski, Andreea Vornicu

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# Socially Just Carbon Pricing in Central and Eastern Europe

## European Green Deal --> Fitfor55 --> ETS 2

- Proposed EU-wide **carbon price** on road transport and heating fuels
- Potential social impacts - energy poverty and vulnerability
- How to design the policy to work well for people and gain their support?

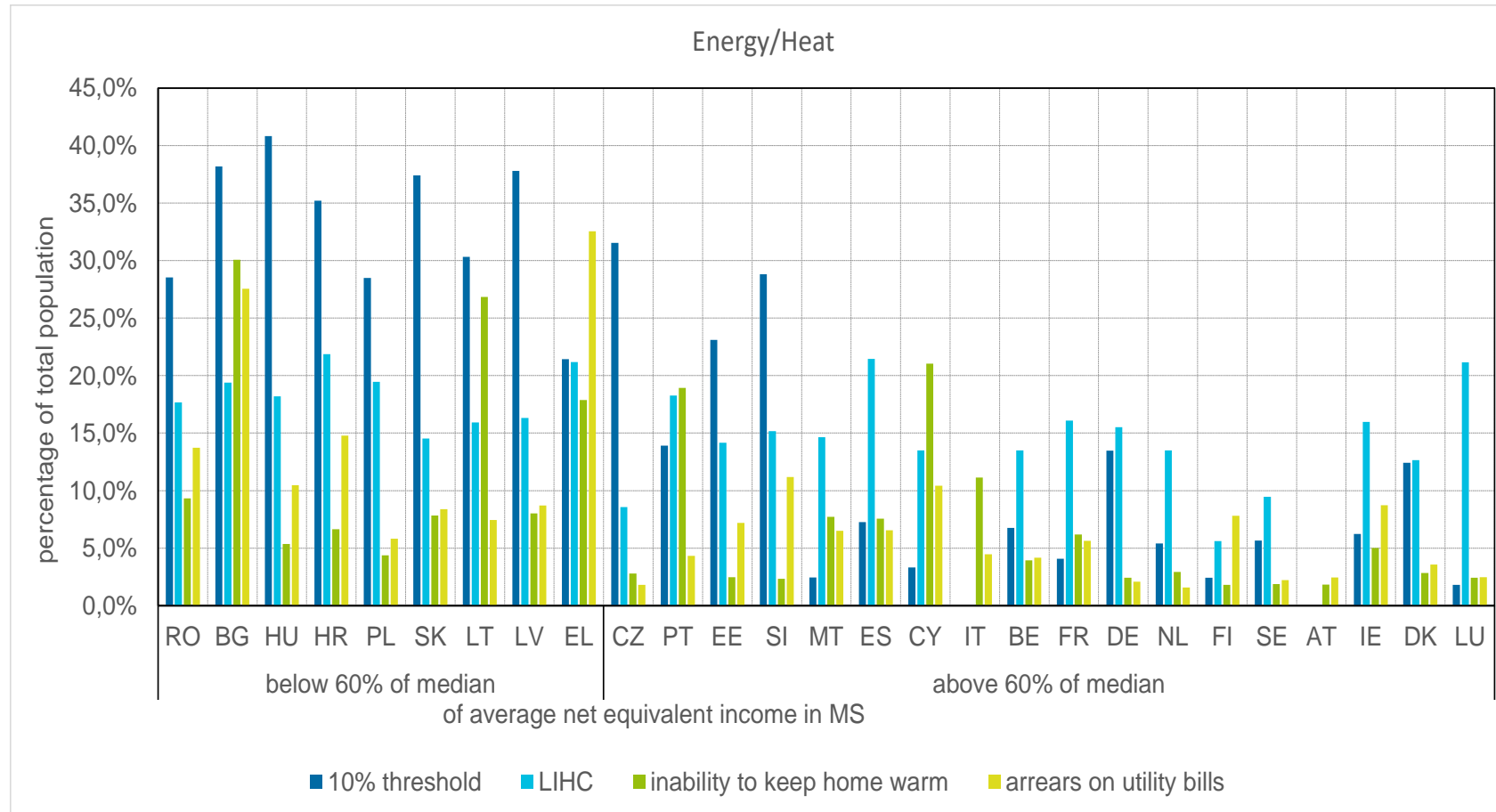
Analyse options — Engage stakeholders — Inform policy



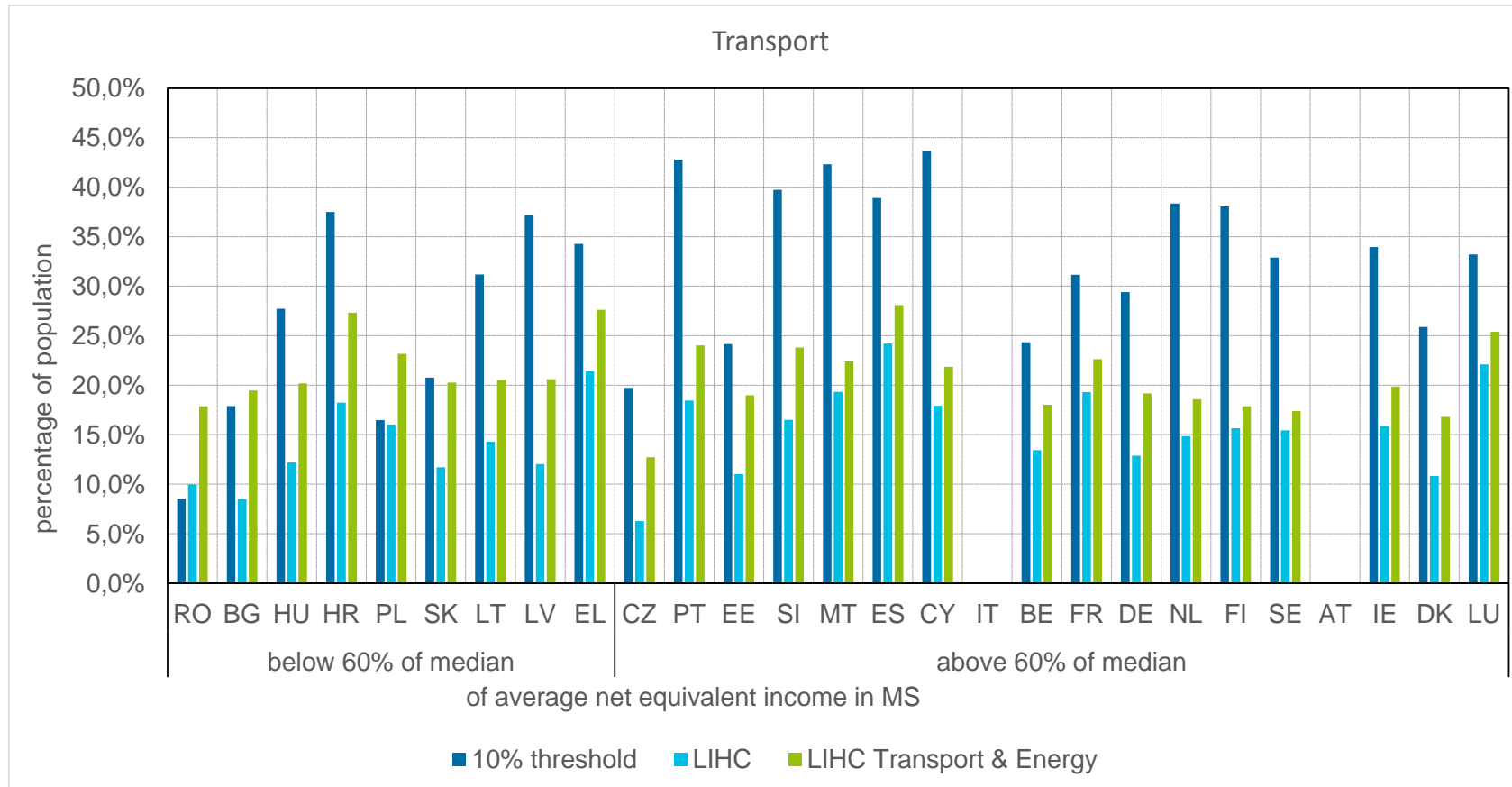
*Deep-dive analyses for Poland and Romania*



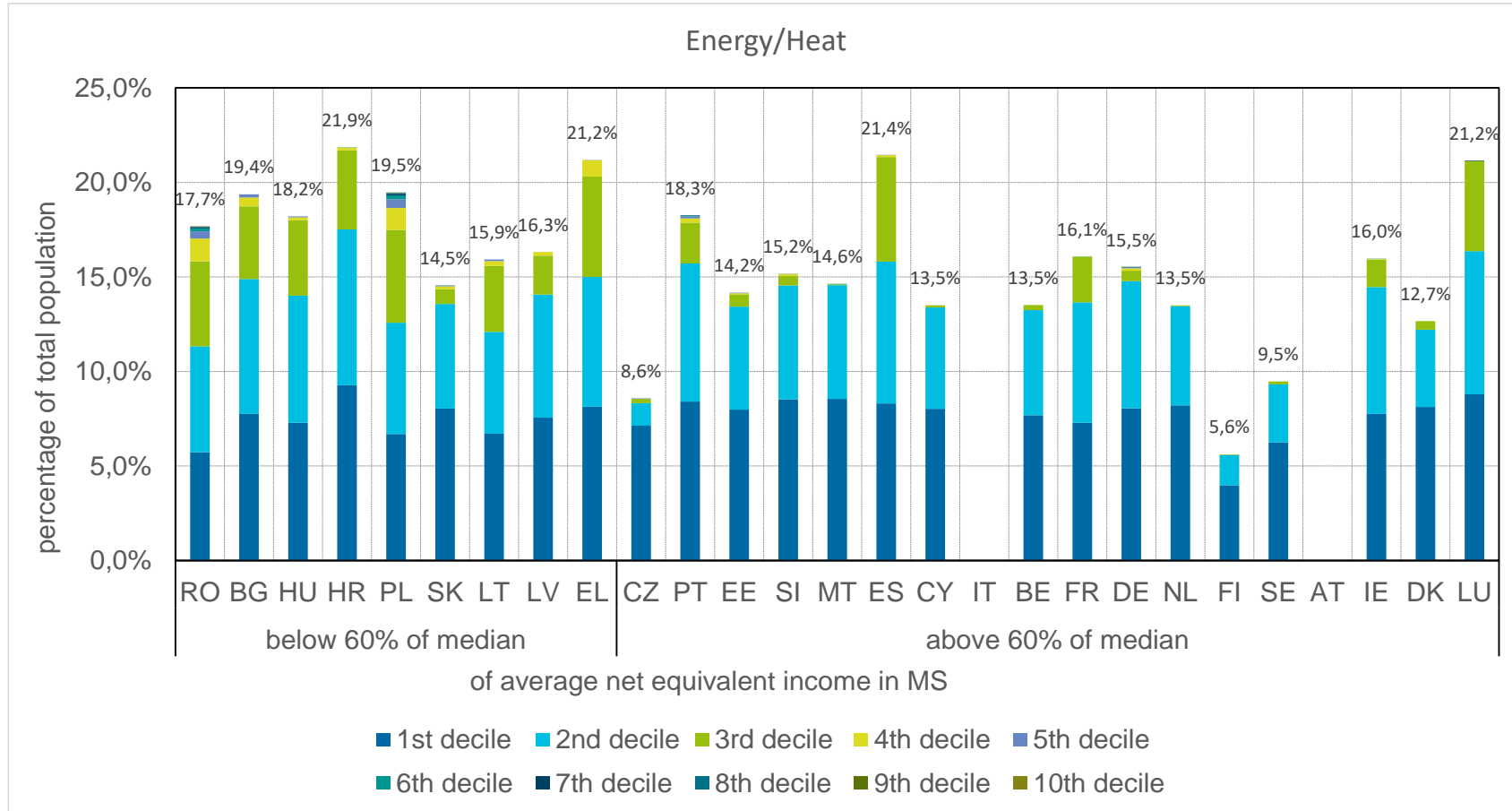
# Vulnerability related to energy and heat



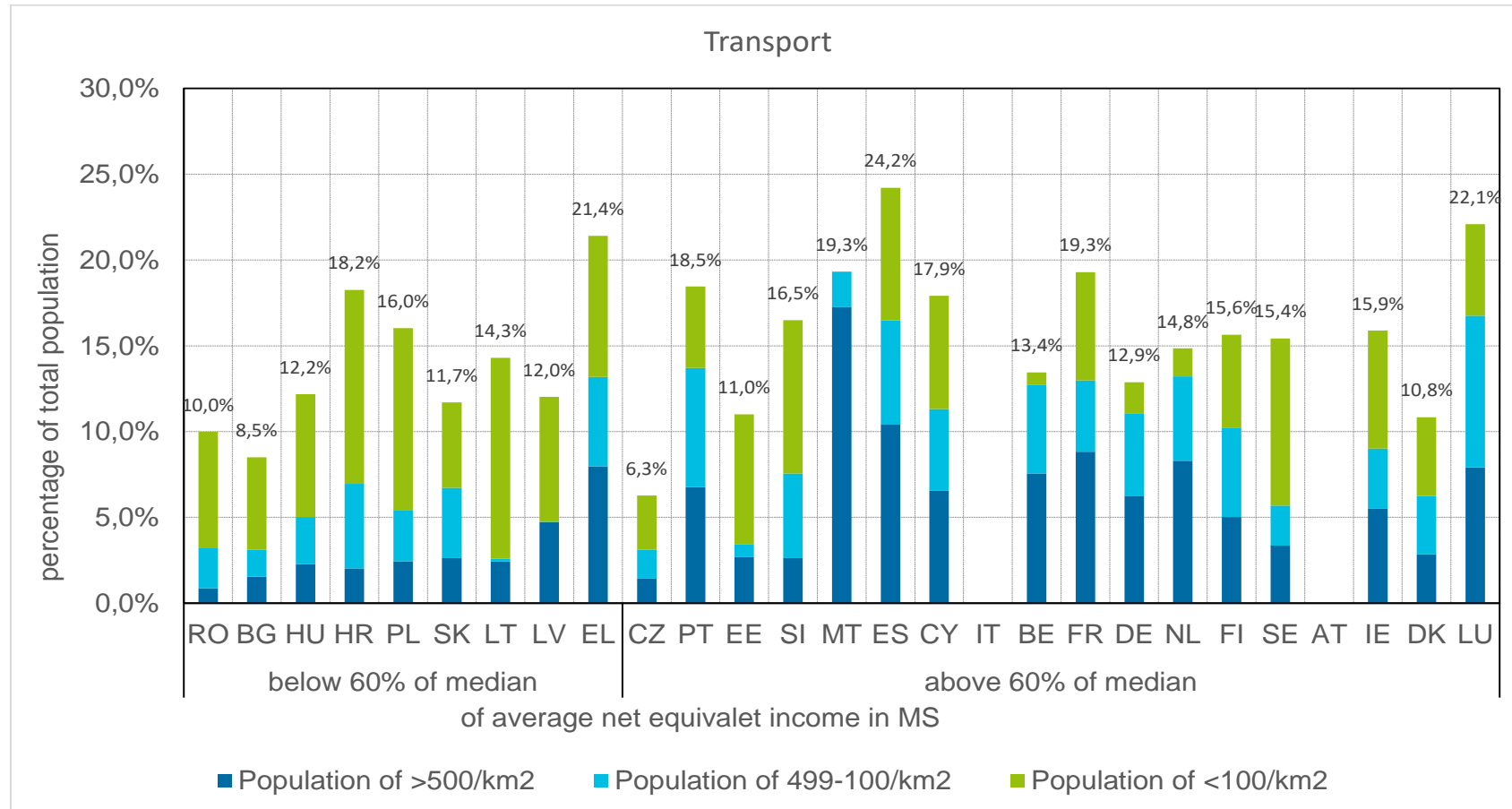
# Vulnerability related to transport



# Drivers of vulnerability in energy and heat



# Drivers of vulnerability in transport



# Case study: Poland

## Energy poverty indicators reported in Poland

**LIHC (Low Income High Costs)** – households with required fuel costs above the national median level and that were they to spend that amount, would be left with a residual income below the official poverty line

**2M** – households whose share of energy expenditure in income is more than twice the national median share (high share of energy expenditure in income)

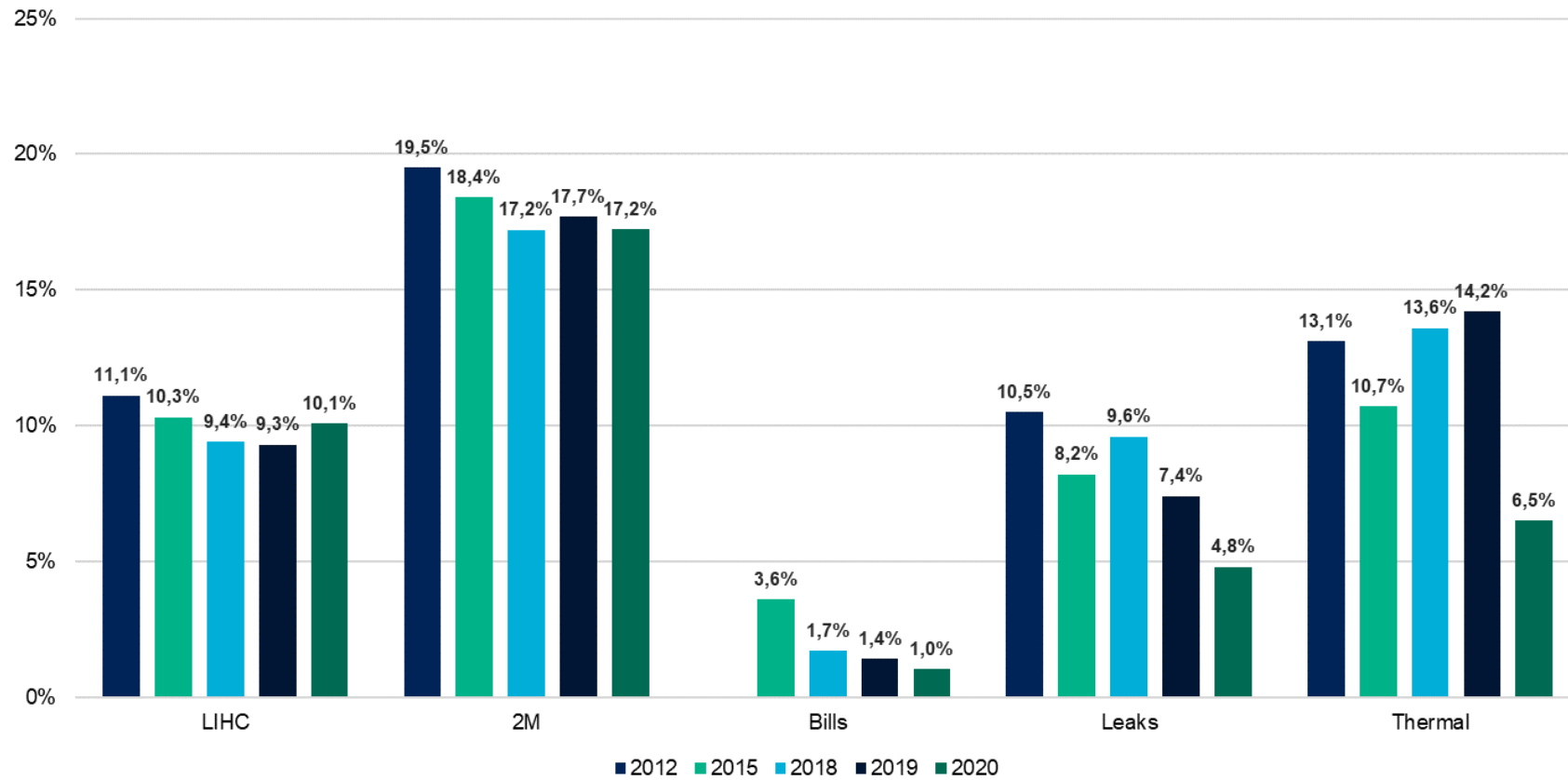
**Bills** – households having arrears on utility bills (inability to pay utility bills on time)

**Leaks** – households living in dwellings with a leaking roof, damp walls, floors, or foundations; or rot in the window frames or floors

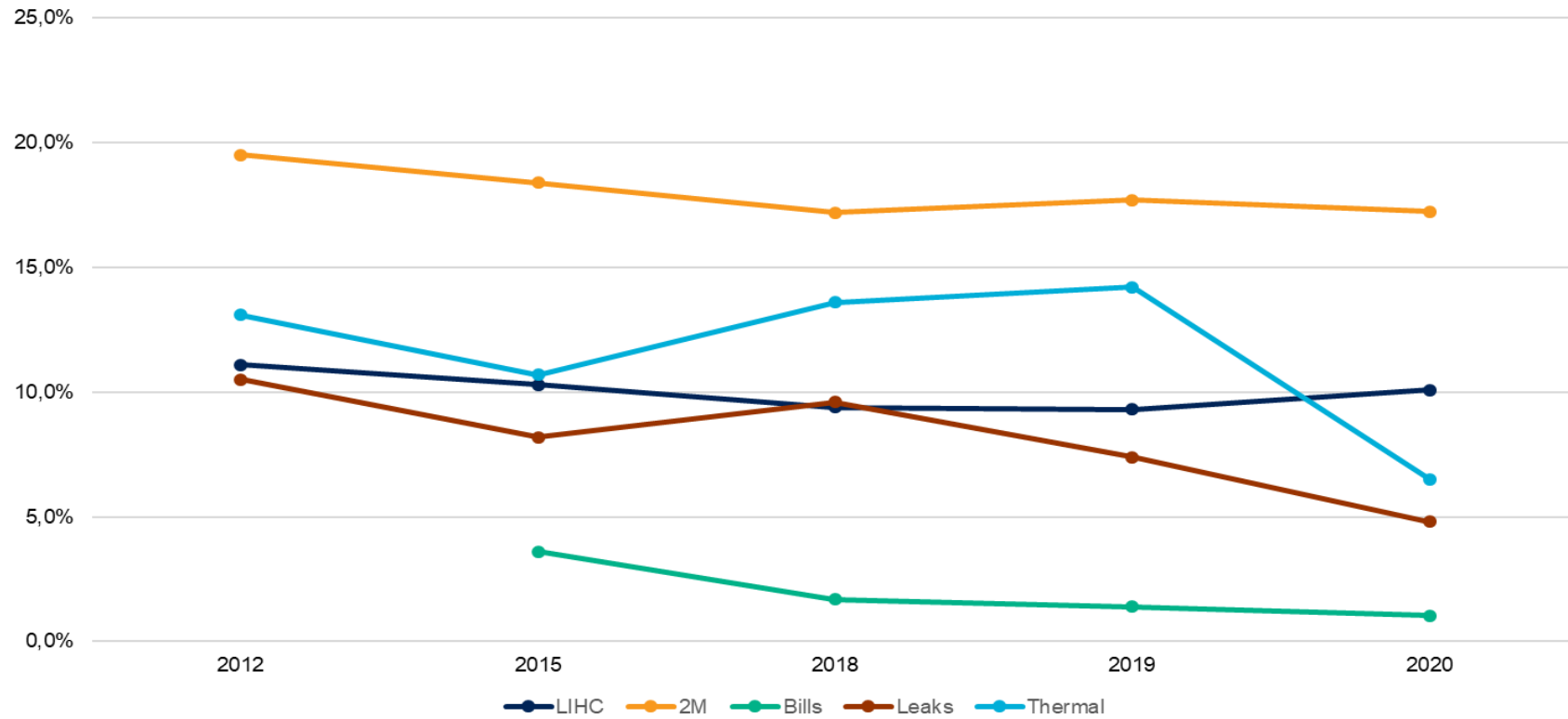
**Thermal** – households not able to keep their home adequately warm (unsuitable thermal comfort in winter)



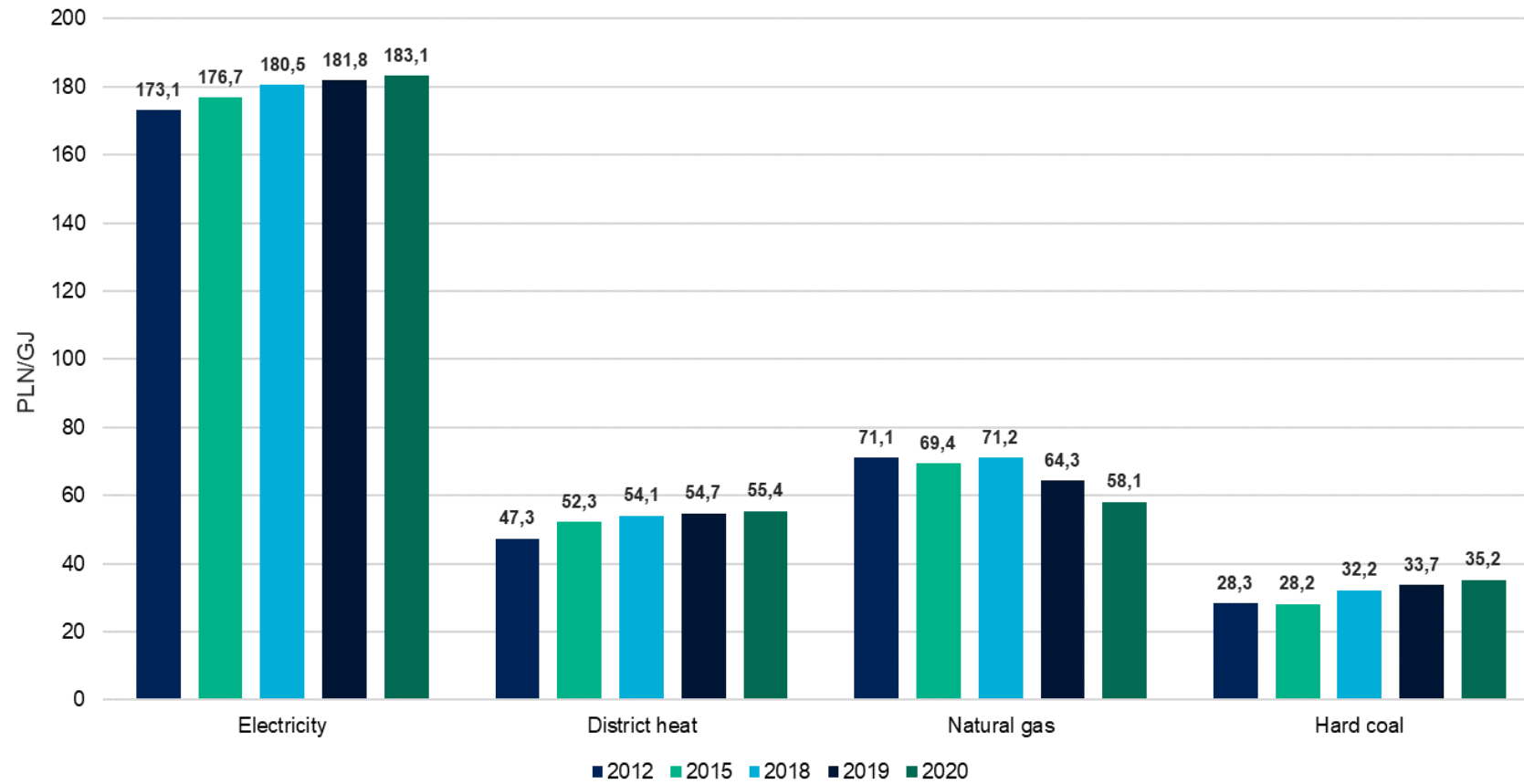
# Values of selected energy poverty indicators in Poland between 2012 and 2020



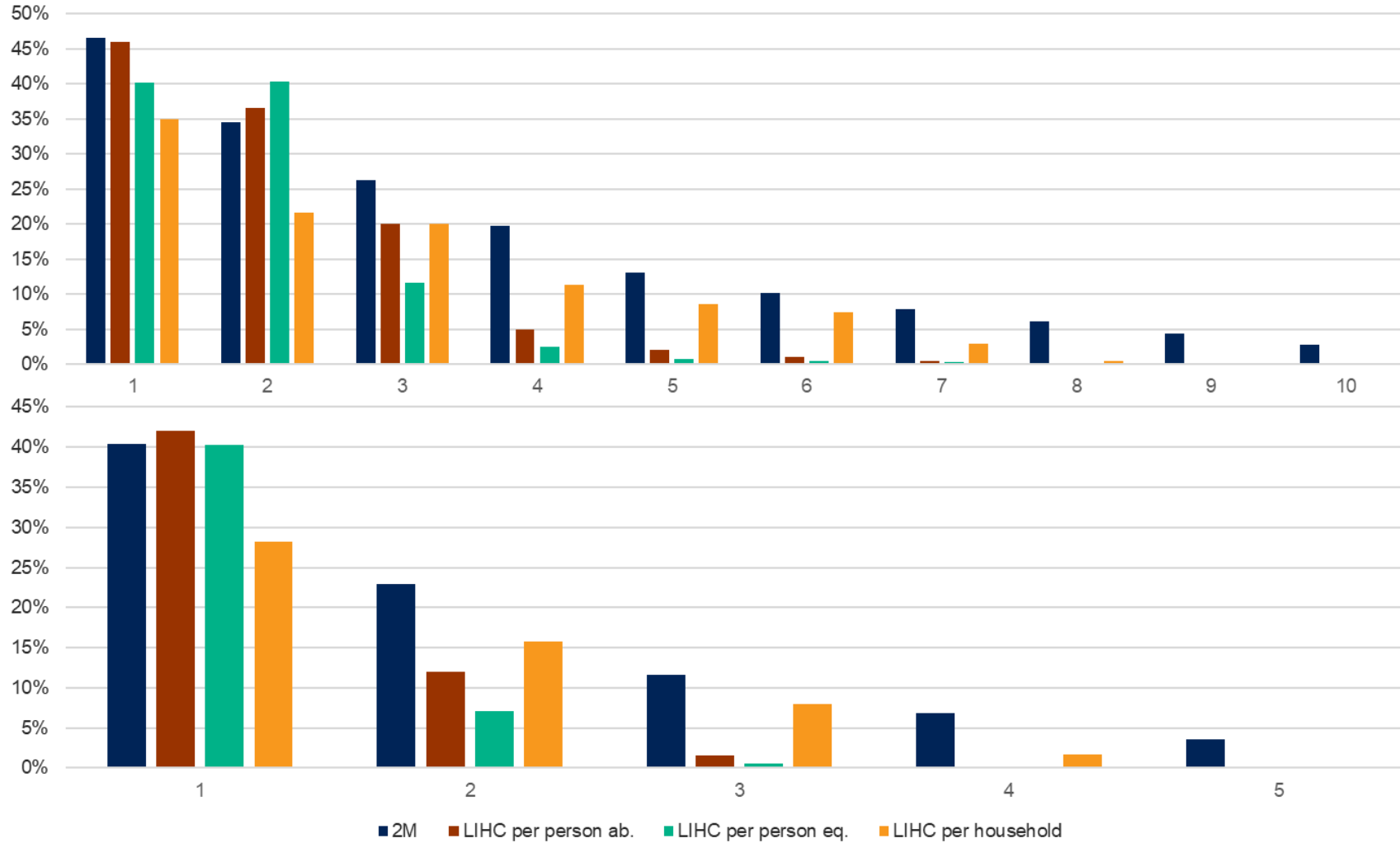
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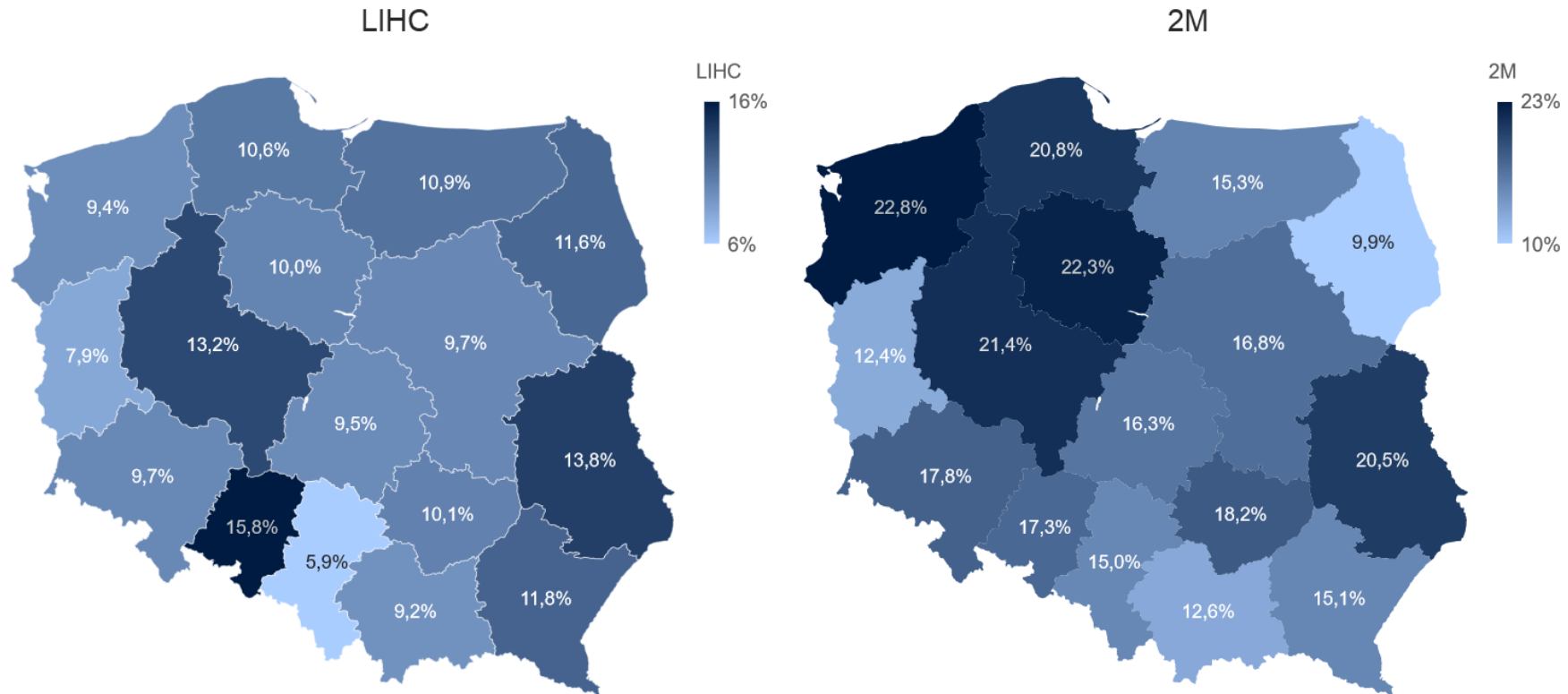
# Prices of common energy carriers in Poland between 2012 and 2020



# Energy poverty indicators in Poland by deciles and quantiles in 2022



# LIHC and 2M indicators in Poland by voivodeship in 2020



# Energy-related support measures in Poland

## Anti-inflationary shields 1.0 and 2.0:

- reduction of VAT rates on electricity, motor fuels, natural gas, district heat, fertilisers and basic food products;
- reduction of the excise duty rate on electricity and motor fuels, exemptions from retail sales tax, and special gas tariffs for selected consumers.

## One-off transfers:

- shielding allowance for households conditioned by income and determined by size of the household and type of heating system;
- coal allowance for households with hard coal as the primary heat source;
- allowance for households with other primary heat sources.

## Price caps:

- electricity price cap in 2023;
- heat prices compensation system addressed to households, non-tariff heat producers and selected consumers in 2022/23.

## Ongoing programmes:

- “Clean air”;
- “My heat” and “My electricity”;
- “Warm Apartment”.

# Case study: Romania

## Definition of Energy Poverty / Vulnerability

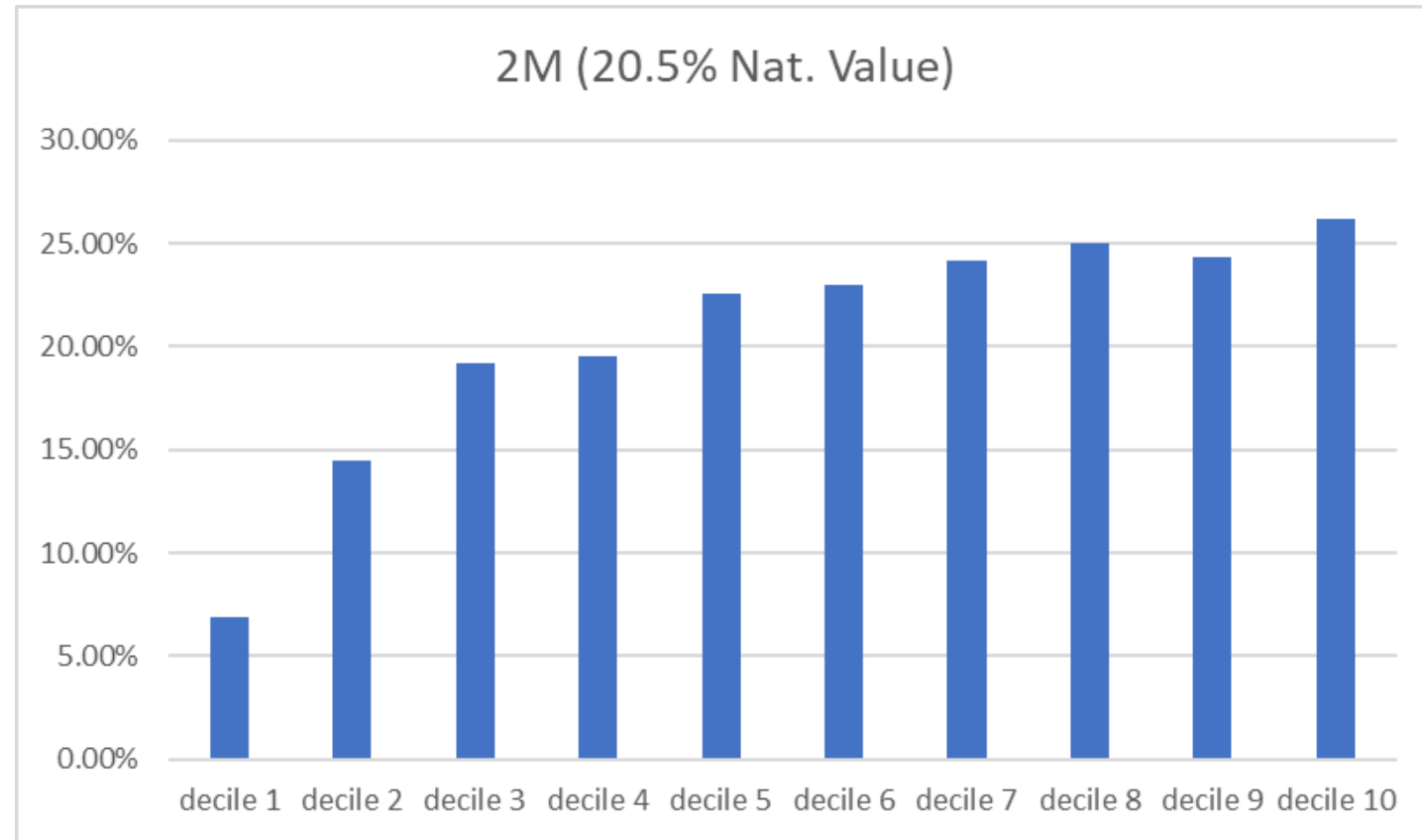
*"Energy poverty occurs when energy bills represent a high percentage of consumers' income, affecting their capacity to cover other expenses. It can also occur when consumers are forced to reduce the energy consumption of their households, and consequently, this affects their **physical and mental health and well-being**. Additionally, low household incomes, inefficient buildings and appliances, and specific household energy needs contribute to the challenge." - EPAH, 2022.*



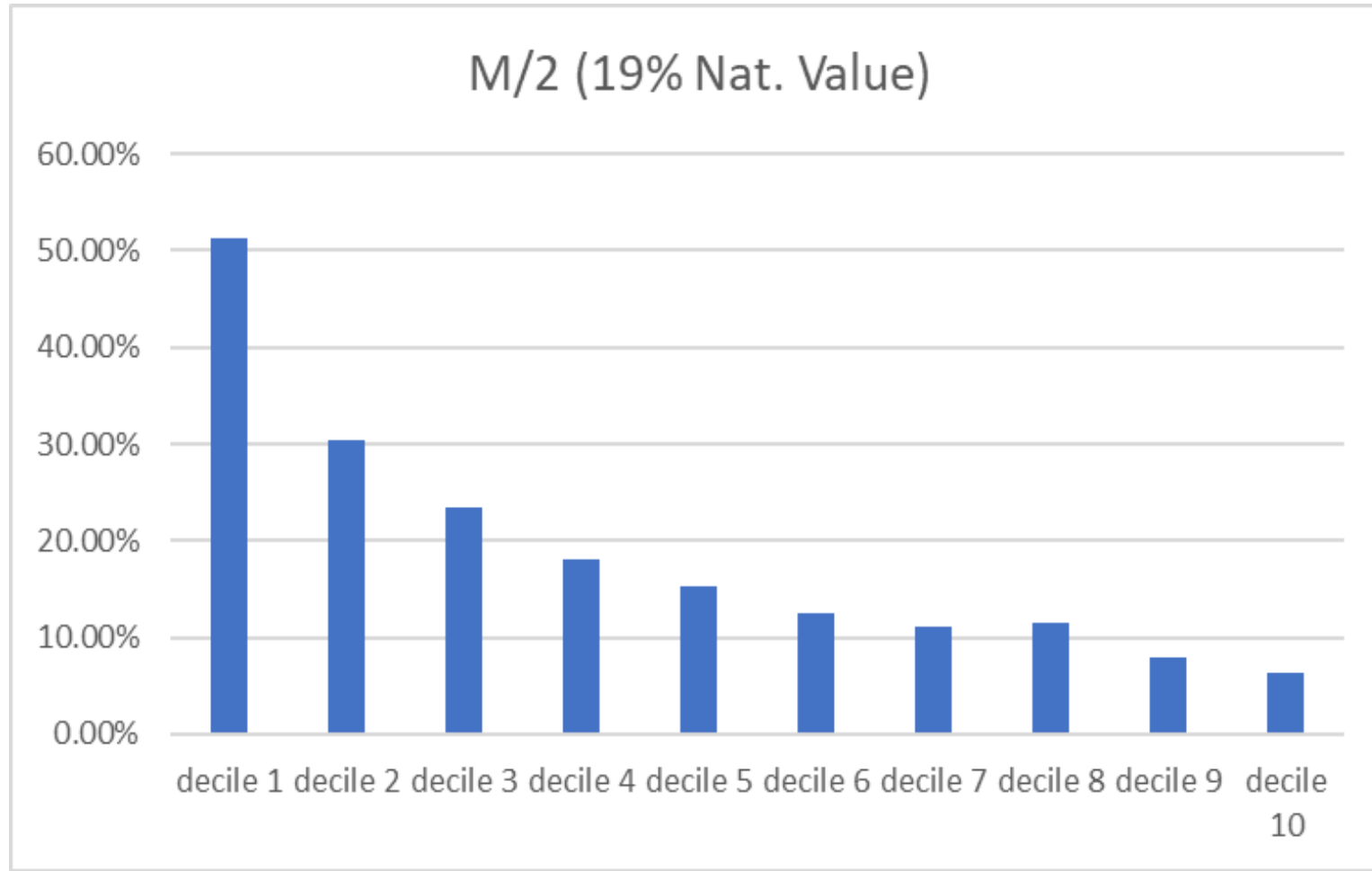
# Quantification of vulnerability indicators

Indicator	Value (source, year)	What do they say?
2M	20,5% (HBS, 2020)	The household spends more than the double of the national median on energy bills.
M/2	19% (HBS, 2020)	The household spends less than half on energy bills than the national median (hidden energy poverty)
LIHC	10,5% (HBS, 2020)	The household falls below the poverty line after paying the energy bills and spends more than the national median on the bills. („Low Income, High Cost“)
10%	33,3% (HBS, 2020)	The household spends more than 10% of their income on energy bills.
AFCP	25,8% (HBS, 2020)	The residual income after paying the energy bills falls below the poverty line
Presence of mold	10% (EUSILC, 2020)	Presence of mold or excessive moist around the roof, windows, etc.
Delays in paying the utility bills	13,9% (EUSILC, 2020)	Arrears on the utility bills in the past year
Temperature in the household	10% (EUSILC, 2020)	Inability to maintain the house warm

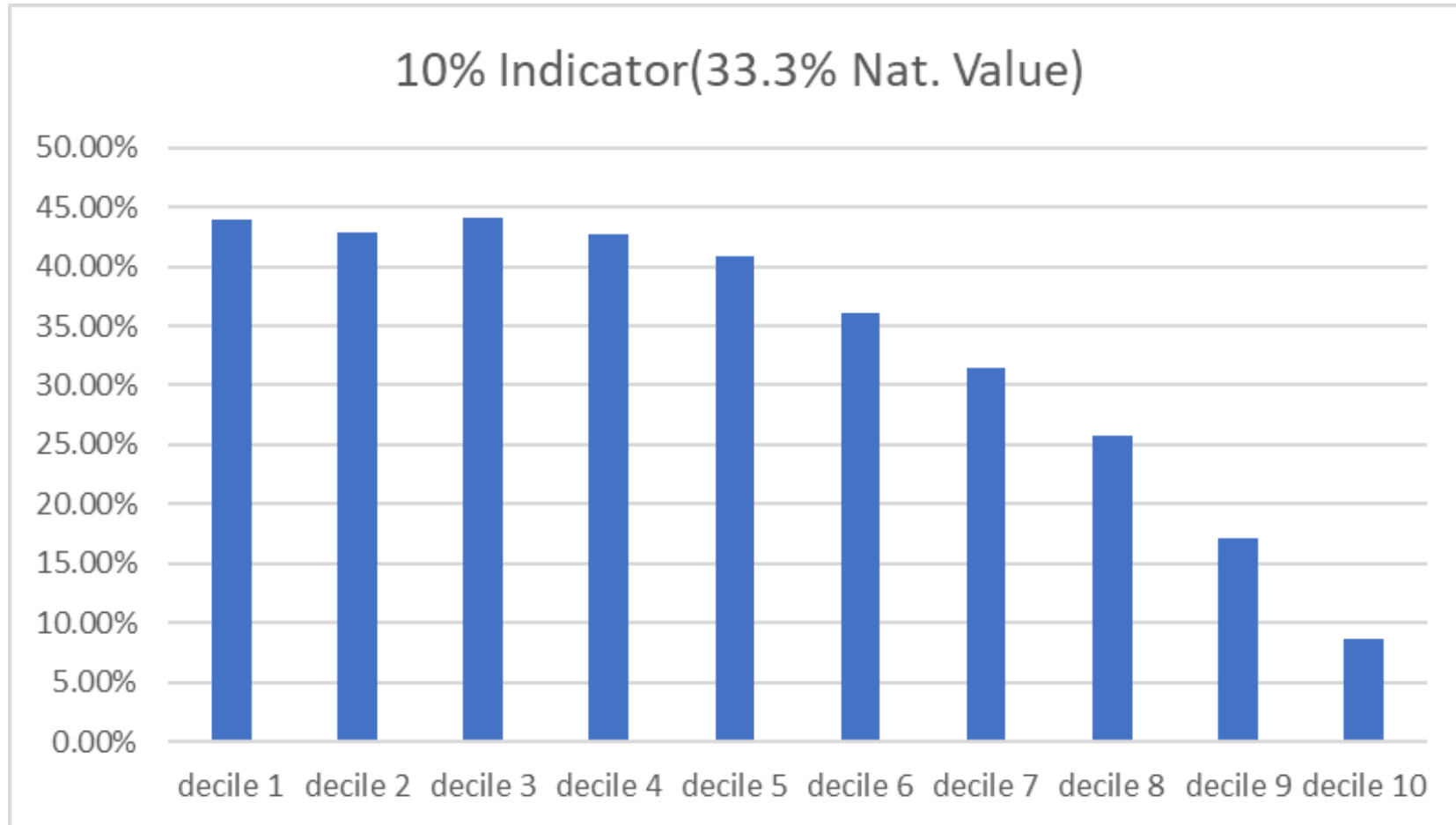
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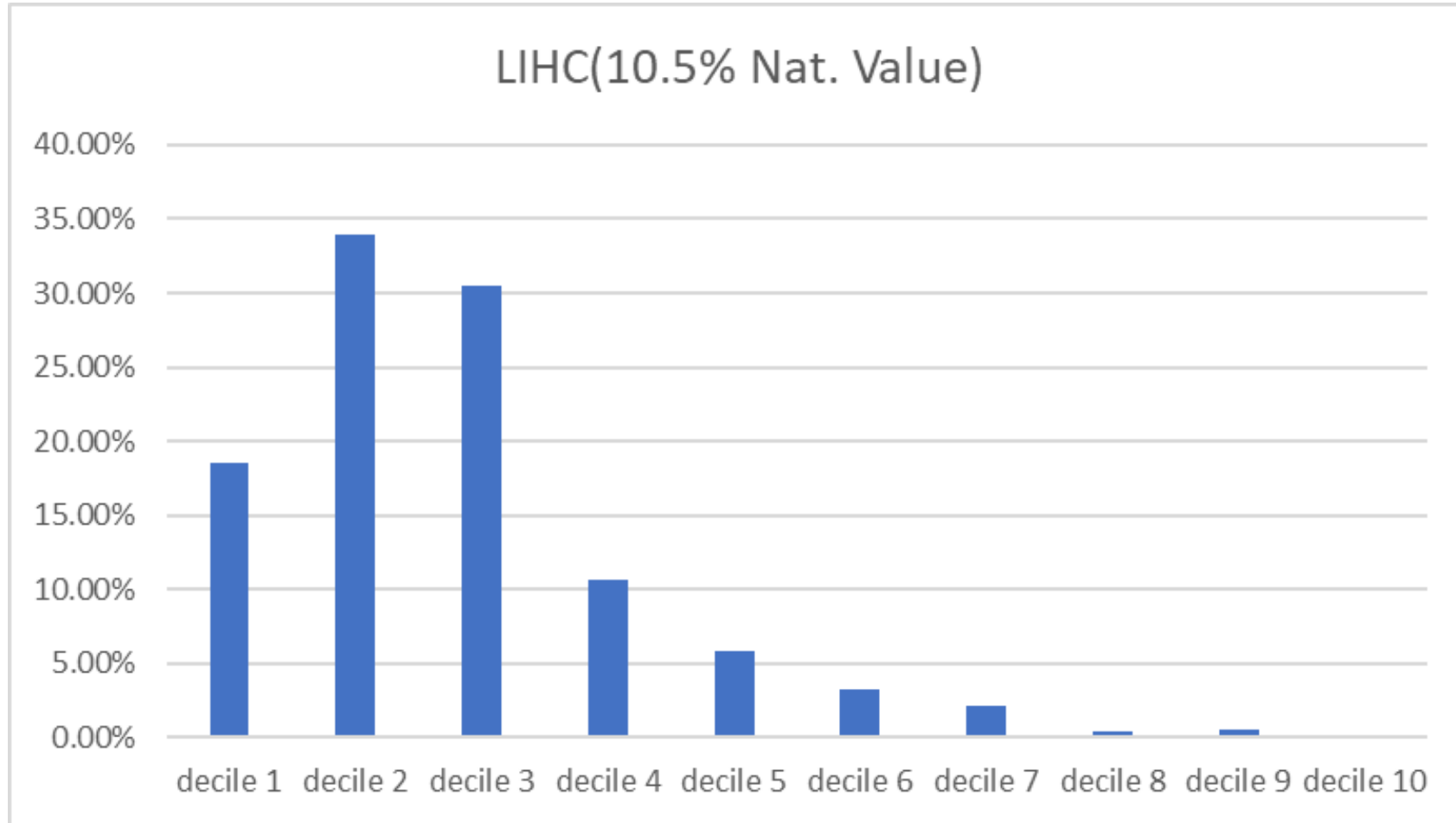
# Quantification of vulnerability indicators



# Quantification of vulnerability indicators



# Quantification of vulnerability indicators



## Transport Data

HBS data on transport may not be the most reliable source of analysis for transport poverty in Romania.

According to HBS (2020), only 30% of the Romanian households own a car.

AFCB – 20.2%, (HBS, 2020) - The residual income after paying the transport costs falls below the poverty line (including public transport and car costs).

LIHC – 40.3% (HBS, 2020) - The household falls below the poverty line after paying the energy bills and spends more than the national median on the transport cost. („Low Income, High Cost”).

## Energy Poverty related measures

*The Vulnerable Consumer Law* – heating subsidies for the low-income households. Not all the households in need receive these subsidies (around 200.000 households received in the 2021-2022 winter season). Other energy supplements (gas, electricity and wood, but the sums are rather irrelevant).

*Compensation and Price Cap Mechanisms* – these are blanket measures and while they target an important proportion of vulnerable consumer, they may discriminate actually the most vulnerable households – the ones that use electricity for heating, as they don't have any other reliable energy source. In the actual cap price mechanism, these households may be totally exposed to market prices.

*Cash transfers and food vouchers for low-income groups*

*Governmental subsidies for gasoline and local authorities intervention*

*Energy Efficiency Programmes*, but they don't target the most vulnerable households directly.

## Conclusions and points for further investigation

- Develop more advanced vulnerability indicators
- Explore data limitations and how to deal with them further
  - Inconsistencies between EU and national data
  - „Unrealistic“ values in the data
- Explore how these indicators can be more consistently applied in policy making



Thank you for your attention!

Do you have any questions?

