

Lifting the Veil of Energy Ignorance: How to break fuel poverty in Hungary's coal region

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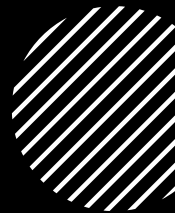
Outline

- Overview
- Energy poverty in Hungary
- The right to energy
- Conclusion





Research Questions



RQ1: Why does solid fuel (coal and biomass) perpetuate energy poverty and constrain wellbeing?

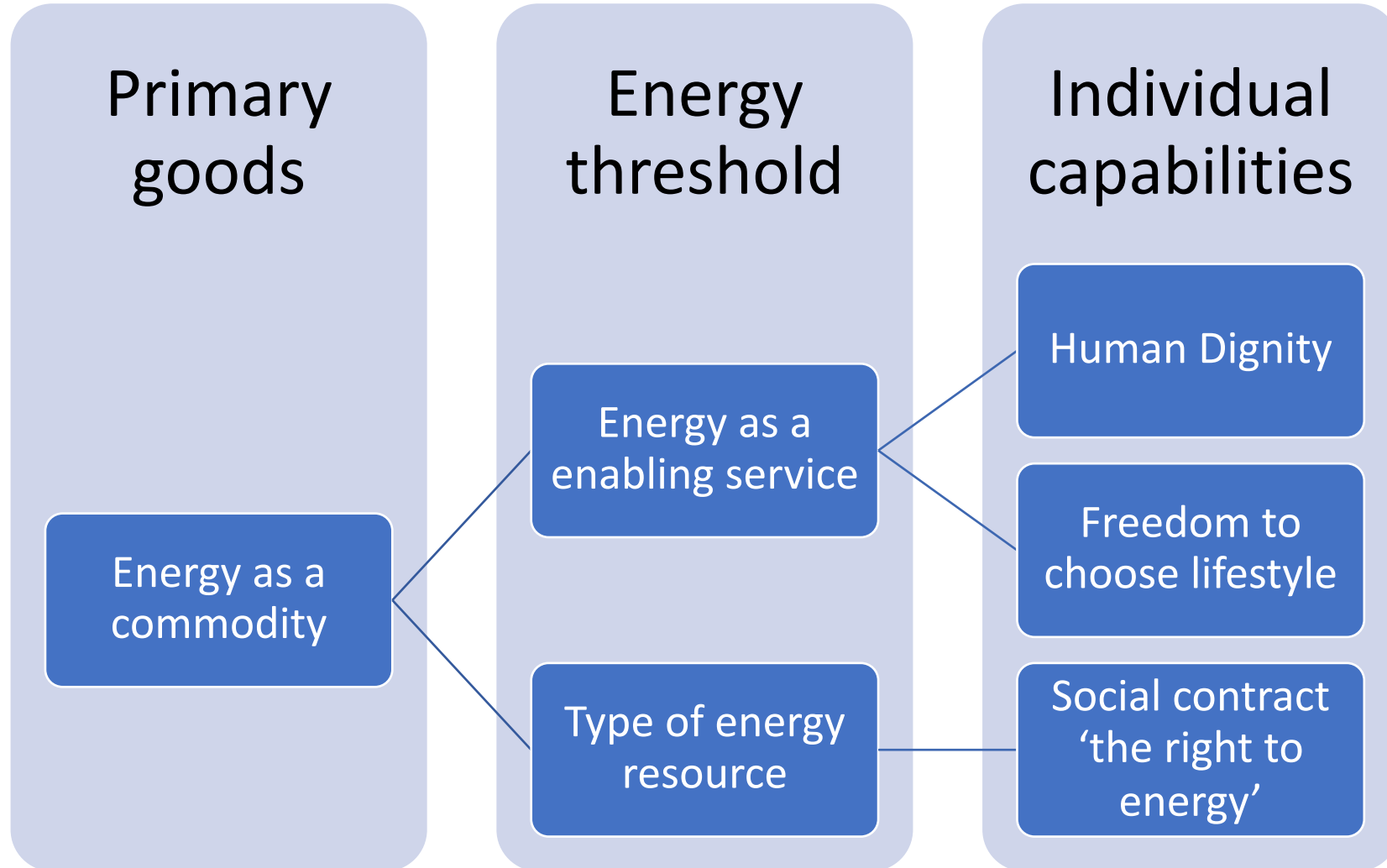


RQ2: Does energy as a commodity perpetuate a particular unjust energy transition?



RQ3: Does the social contract stipulate a right to energy?

The provision of the right to energy



'Double' Veil of ignorance (Rawls)

Society is subject to justice.

Do not know place in society

Choose principles without knowing their place in society

[double veil] Sections of society benefit from injustice perpetuated against others without their knowledge.

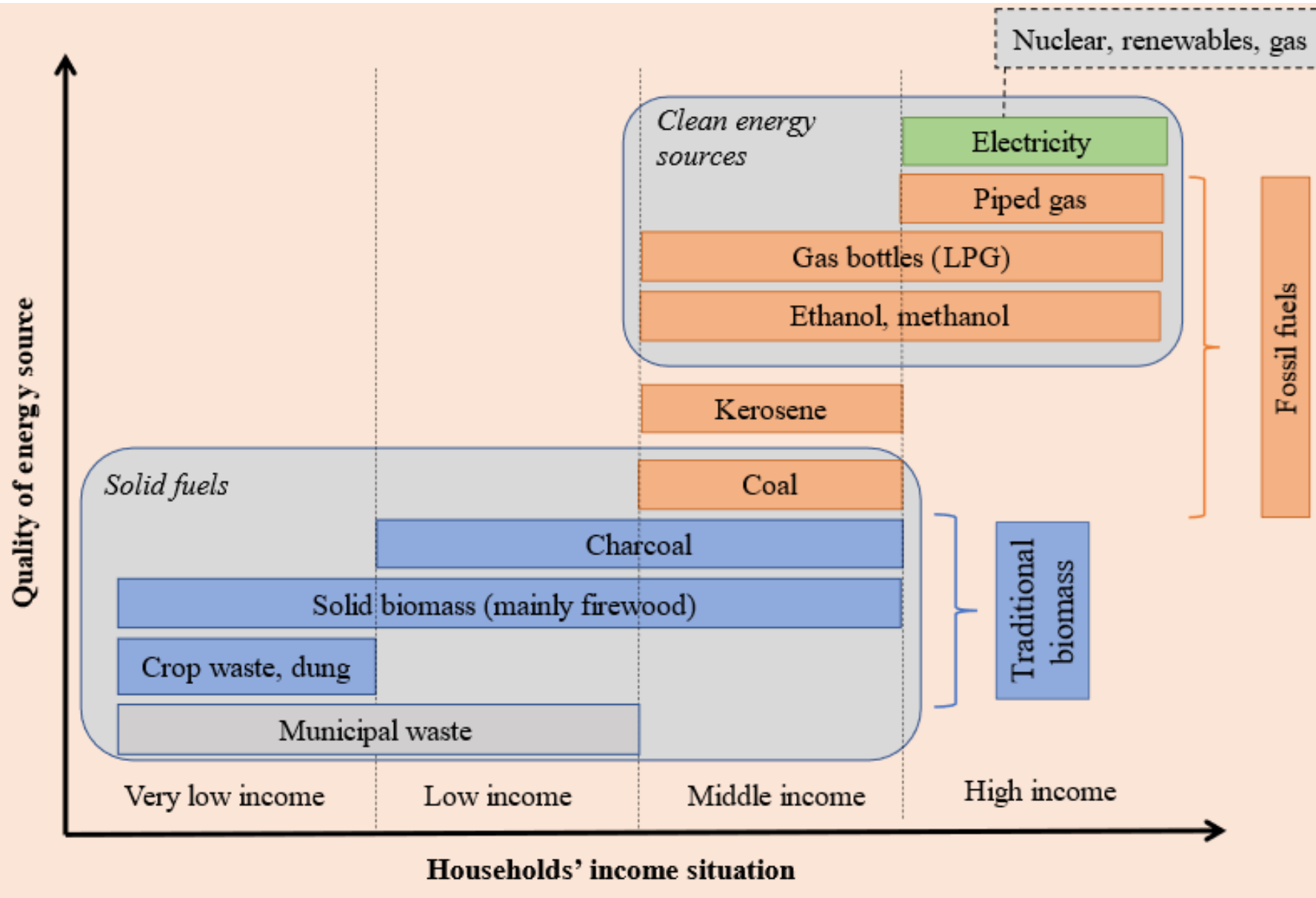


Energy Poverty

Energy Poverty is “an inability to realise essential capabilities as a direct or indirect result of insufficient access to affordable, reliable and safe energy services, and taking into account available reasonable alternative means of realising these capabilities.” (Day et al., 2016, p. 260)

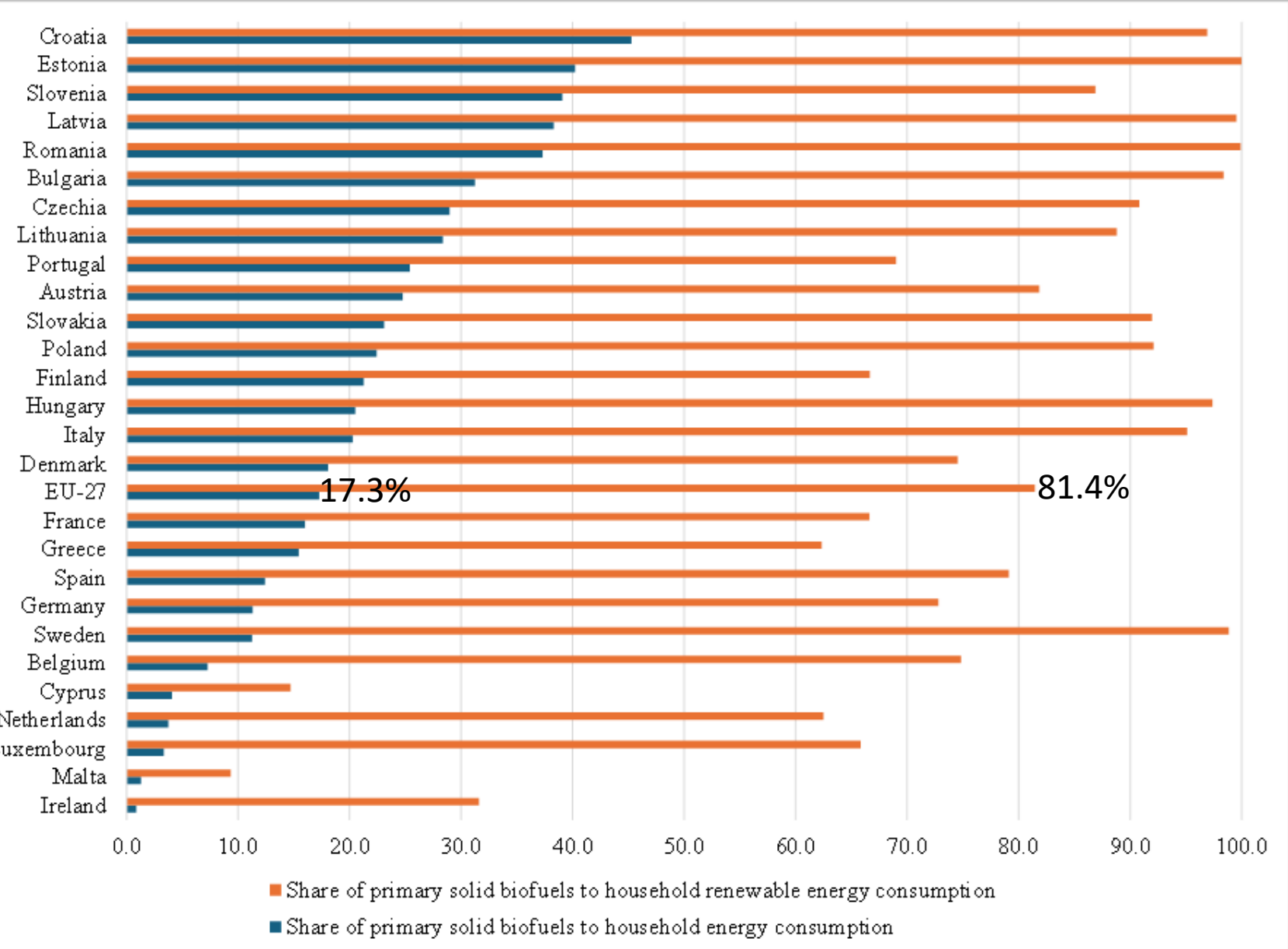
Case study: Northern Hungary

Energy ladder and energy stacking theory



Source: own compilation based on (Roser 2021; WHO 2006)

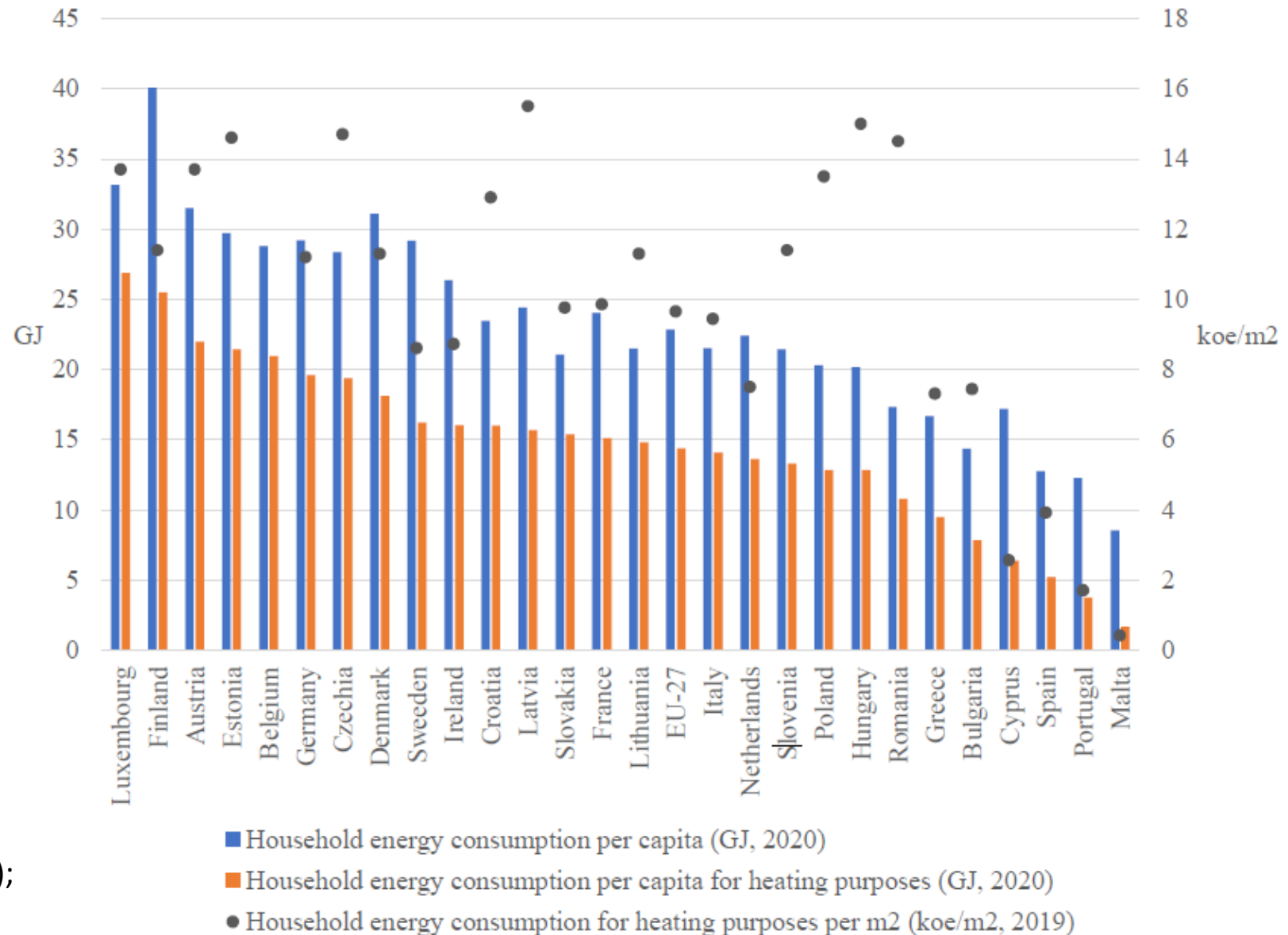
Share of primary solid biomass to household energy consumption and to household renewable energy consumption (EU-27, 2021, %)



Firewood trap!

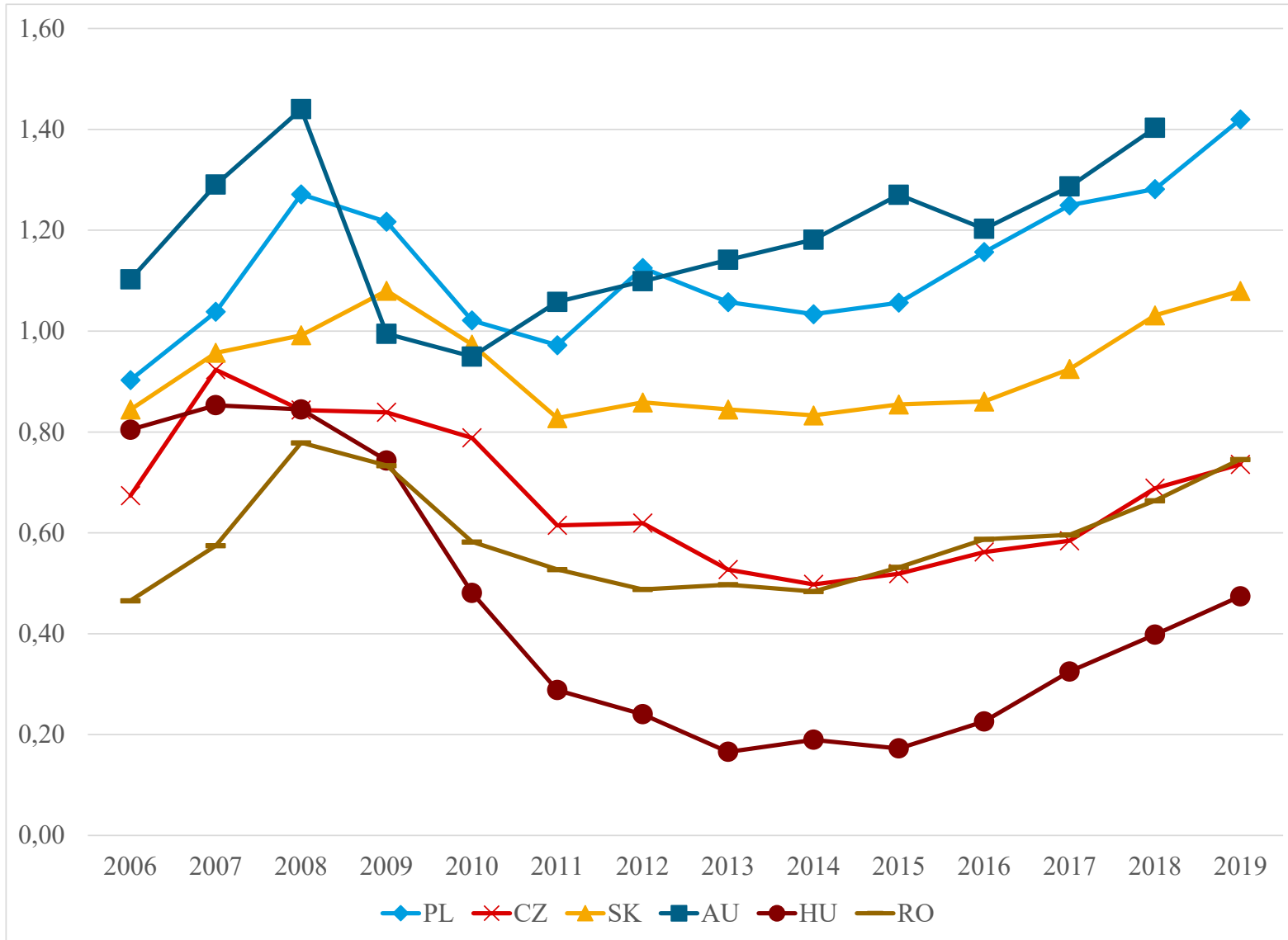
Source: Eurostat (2024)

Household energy consumption per capita and household energy consumption per capita for heating purposes (EU-27, 2020, GJ), and household energy consumption for heating purposes per m² (koe/m², 2019)



Source: own compilation based on Eurostat (2022); ODYSSEE-MURE (2022)

Renovation rate in some selected countries of the CEE region, (% , 2006-2019)

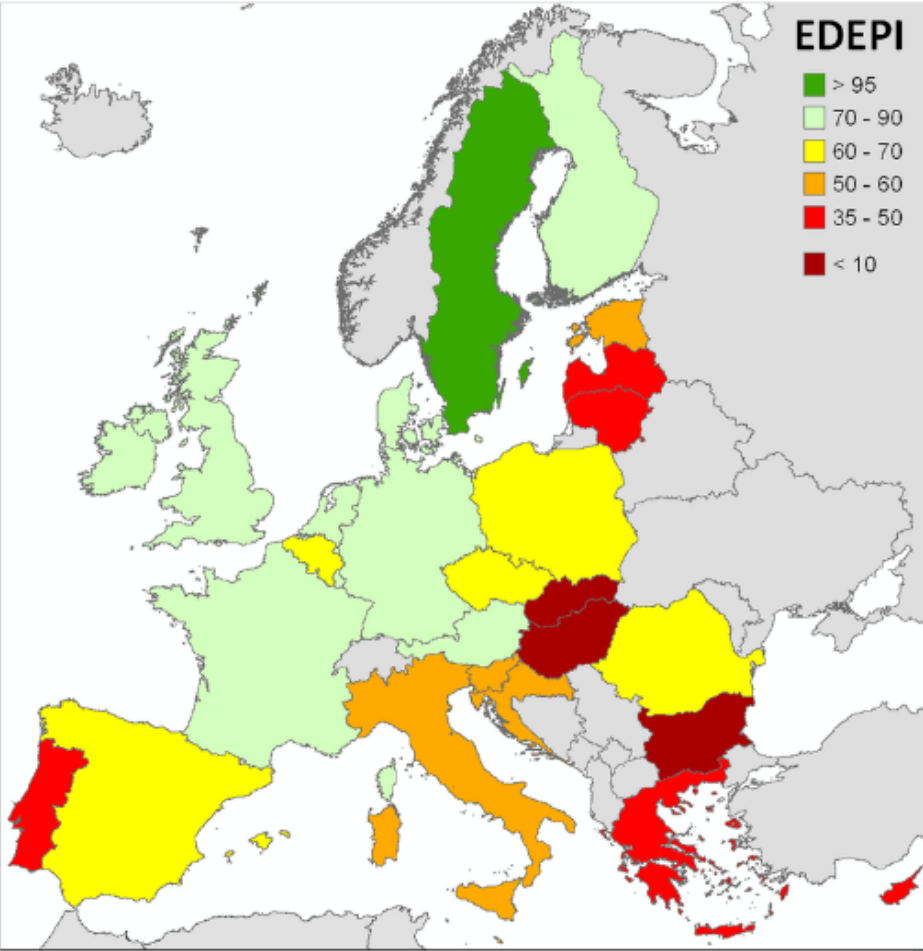


Barriers in energy efficiency improvements:

- rebound effect: it is a phenomenon; an increase in energy efficiency may lead to less energy savings than would be expected by simply multiplying the change in energy efficiency by the energy use prior to the change
- lock-in effect

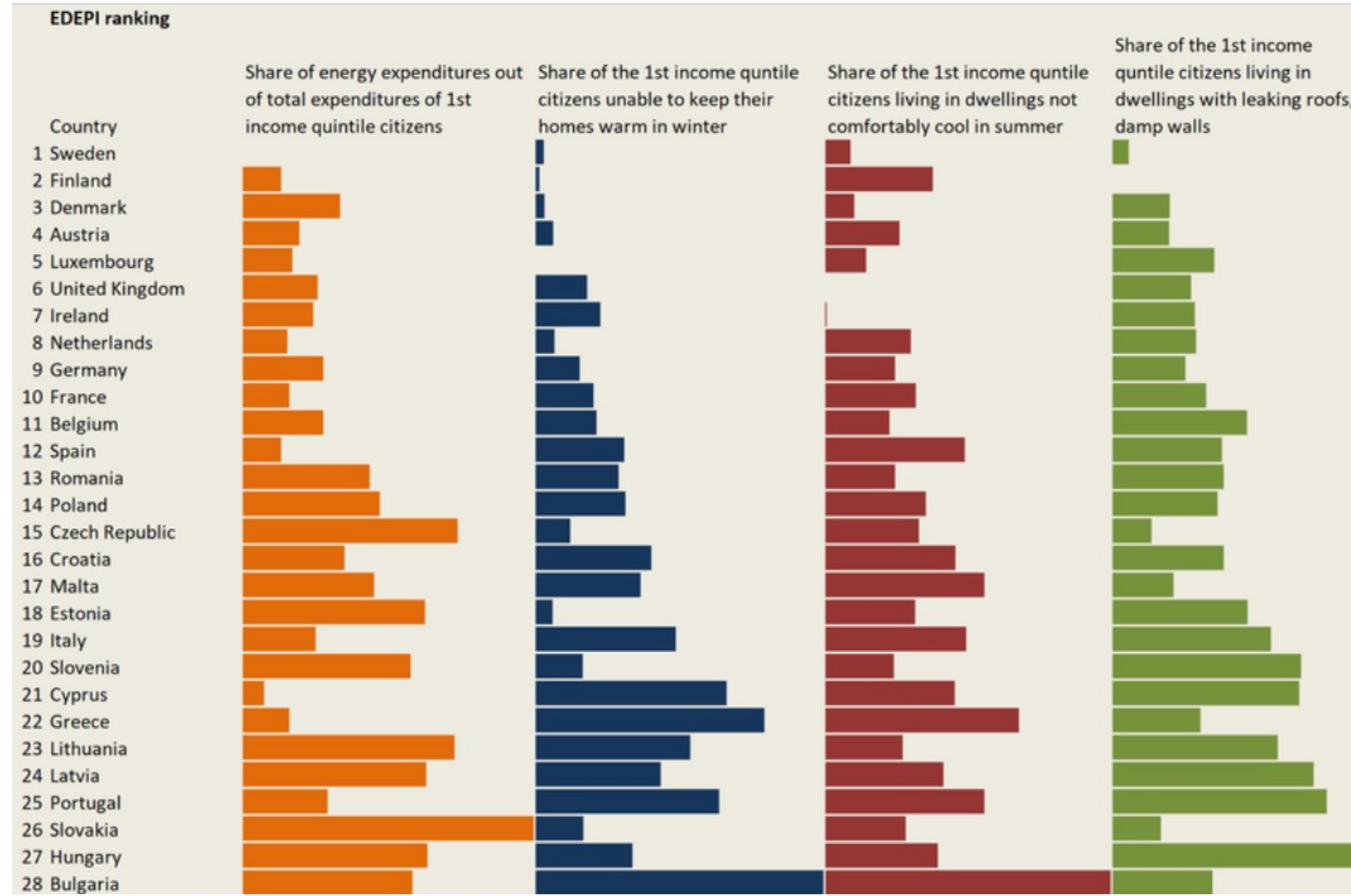
Source: own compilation based on MNB (2020)

Member States' progress in alleviating domestic energy poverty (2019)



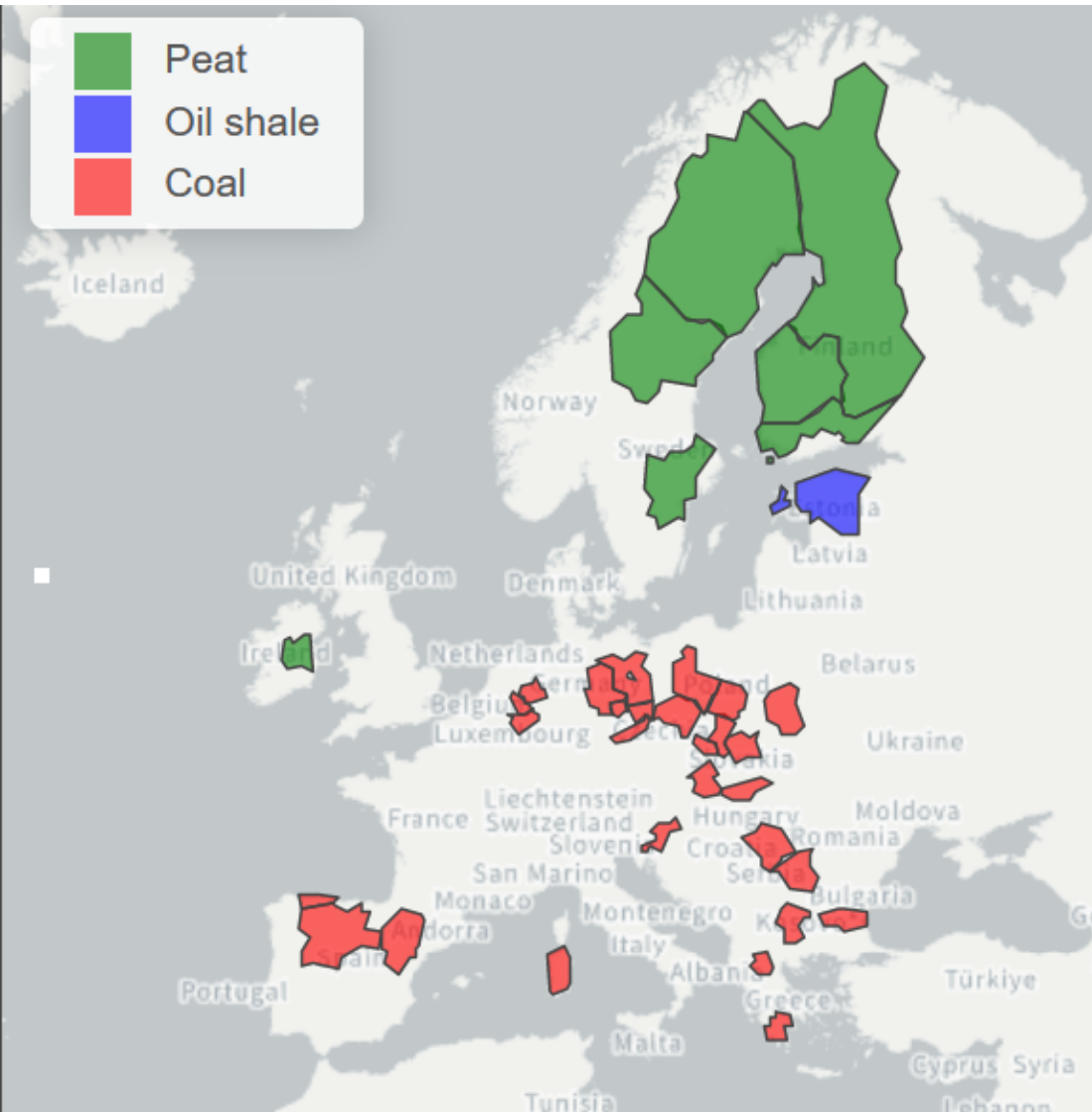
Source: European Energy Poverty Index 2019

Impact of each dimension of domestic energy poverty on European Domestic Energy Poverty Index (EDEPI) ranking (2019)



- CEE: bad combination of high energy costs, inadequate household income and obsolete housing stock.

Coal+ regions in the European Union



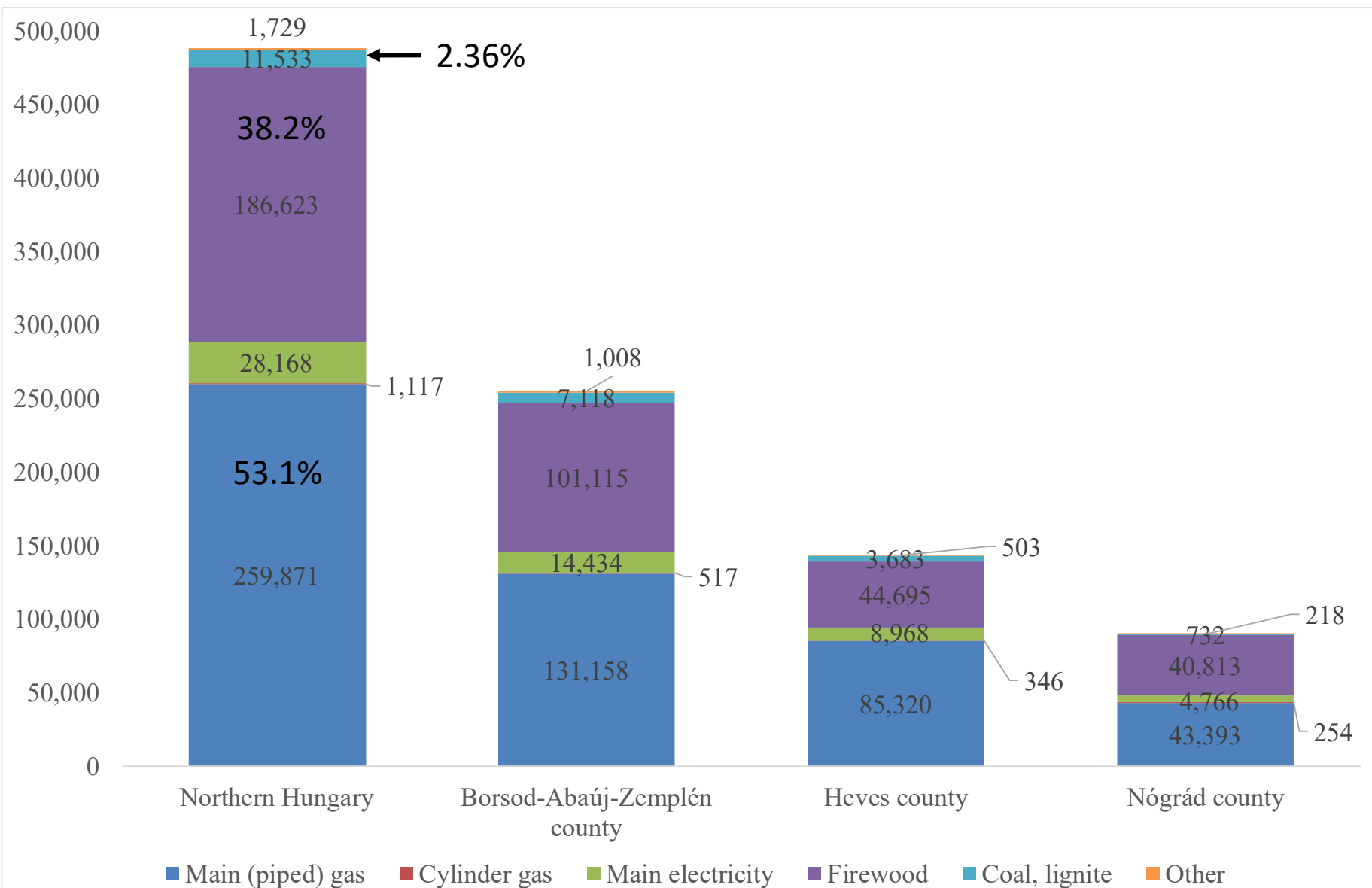
- „No person and no place left behind” – putting words into actions
 - European Commission: „citizens and workers will be affected in different ways and not all Member States, regions and cities start the transition from the same point or have the same capacity to respond”.
- Actions taken:
 - ‘Initiative for Coal Regions in Transition’ (2017): assisting the transition to a low-carbon economy.
 - Just Transition Platform → supporting and providing assistance to them.
 - Just Transition Fund → it ensures the financial stability that is needed to achieve the goals and accelerate the energy transition across the European Union.
 - Coal+ regions → 36 NUTS-2 regions
 - The basic criteria for these NUTS-2 regions, was having at least 100 jobs in coal, peat or oil shale extraction in 2018.
 - Coal and carbon-intensive regions → Slight revision → NUTS3 level

Source: European Commission (2023)

Northern Hungary – case study

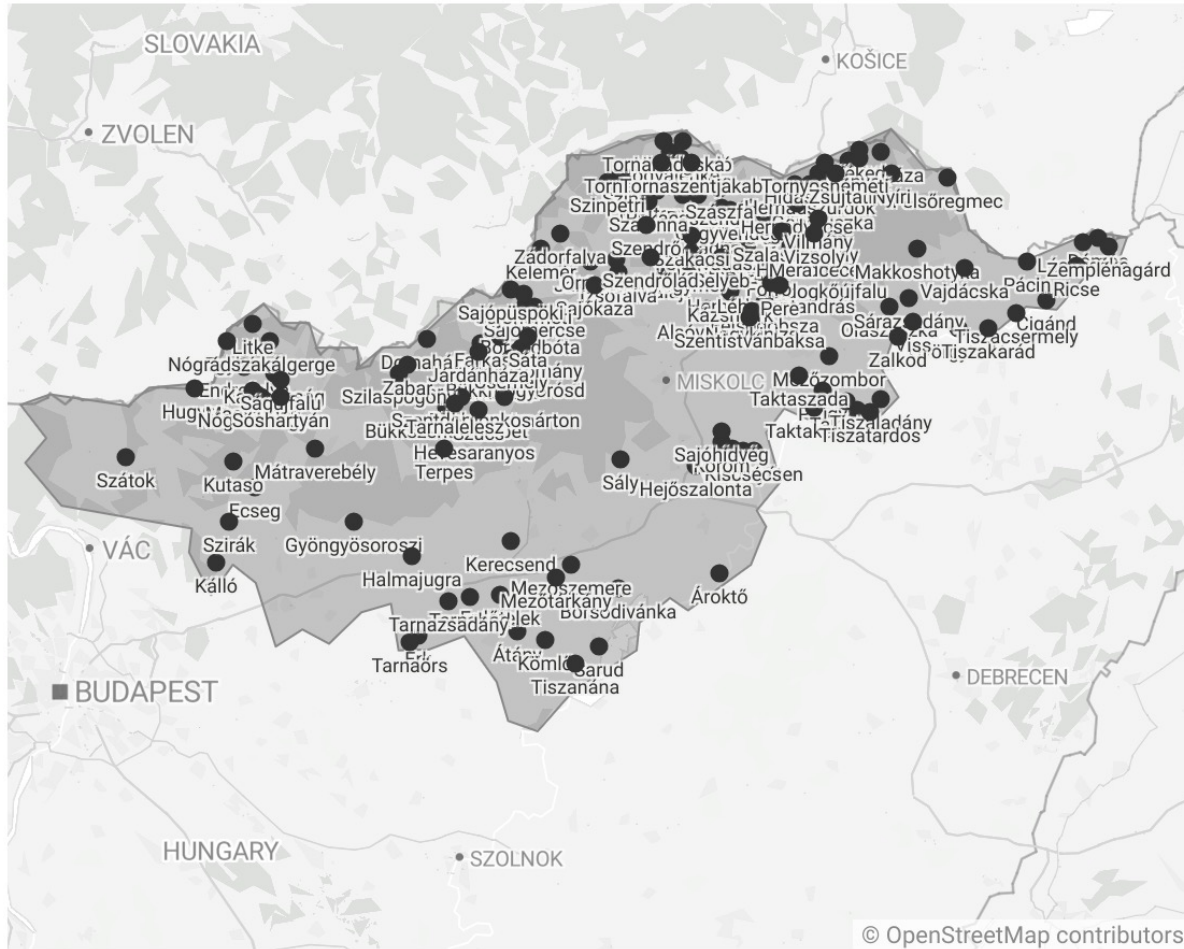
- Strong industrial heritage → before the regime change it was the center of the iron and steel industry.
- Northern Hungary is the biggest loser of the political transition, the region was hit hardest by the collapse of heavy industry and agriculture.
- Its GDP used to exceed the national average, but it is now less than two-thirds (69.3% in 2019) of the national average.
 - The GDP per capita is 3.936.000 HUF (~10,906 EUR).
- The rural areas of the region are characterized by fragmented settlement structure and in many settlements, agriculture is the only source of employment.
- The average settlement size is smaller than nationally, due to the high number of small villages in the region's isolated basins. Totally there are 610 settlements in the region, including 40 cities.
- Municipalities with a population of less than 1,000 inhabitants make up 35% of the settlements (half of them have less than five hundred inhabitants), a much higher proportion than the national average.
- Total population (2019) is 1.13 million people.

Type of heating, use of fuel in the occupied dwellings (Northern Hungary, 2022)



Source: KSH Census (2023)

Settlements in Northern Hungary, that are highly exposed to the risk of energy poverty

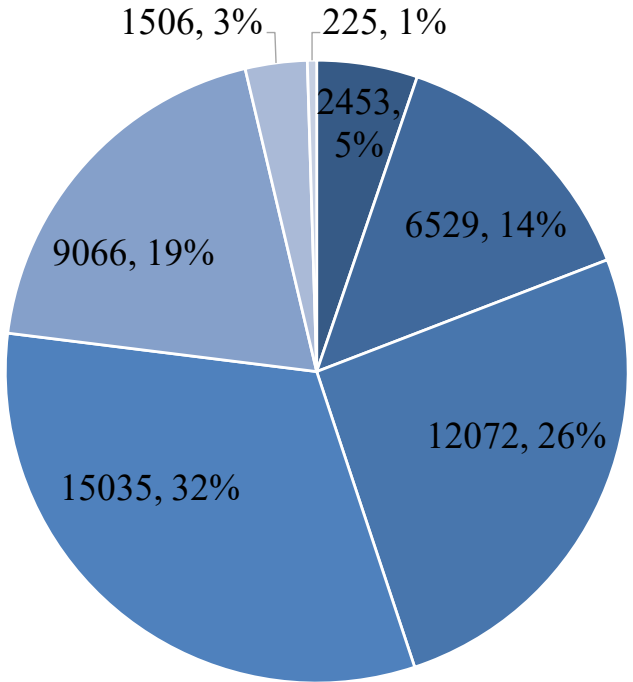


	Population in all settlements (2021)	Population in the selected settlements (2021)	Share of population in the selected settlements to the population in all settlements (2021, %)
BAZ	626,477	188,356	30.0%
Heves	289,938	53,236	18.4%
Nógrád	185,649	33,546	18.1%
Northern Hungary	1,102,064	275,138	25.0%

Indicators:

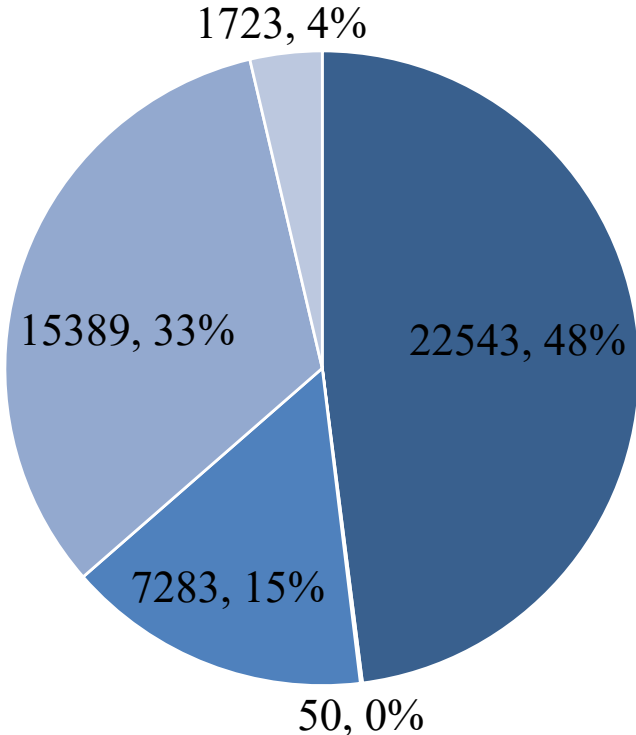
- consolidated tax base per capita (<80% of regional median)
- number of personal income taxpayers per 100 inhabitants (<50)
- heating fuel is firewood or coal or household waste (>regional average)

Dwellings by period of construction in the selected settlements (2022)



- before 1919
- between 1919-1945
- between 1946-1960
- between 1961-1980
- between 1981-2000
- between 2001-2010
- after 2010

Material of outer walls in the selected settlements (2022)



- Brick, stone, manual walling element
- Panel
- Middle or large block, cast concrete
- Adobe, mud, etc. with solid basement
- Other

Source: KSH Census (2023)

Energy consumption in the selected settlements

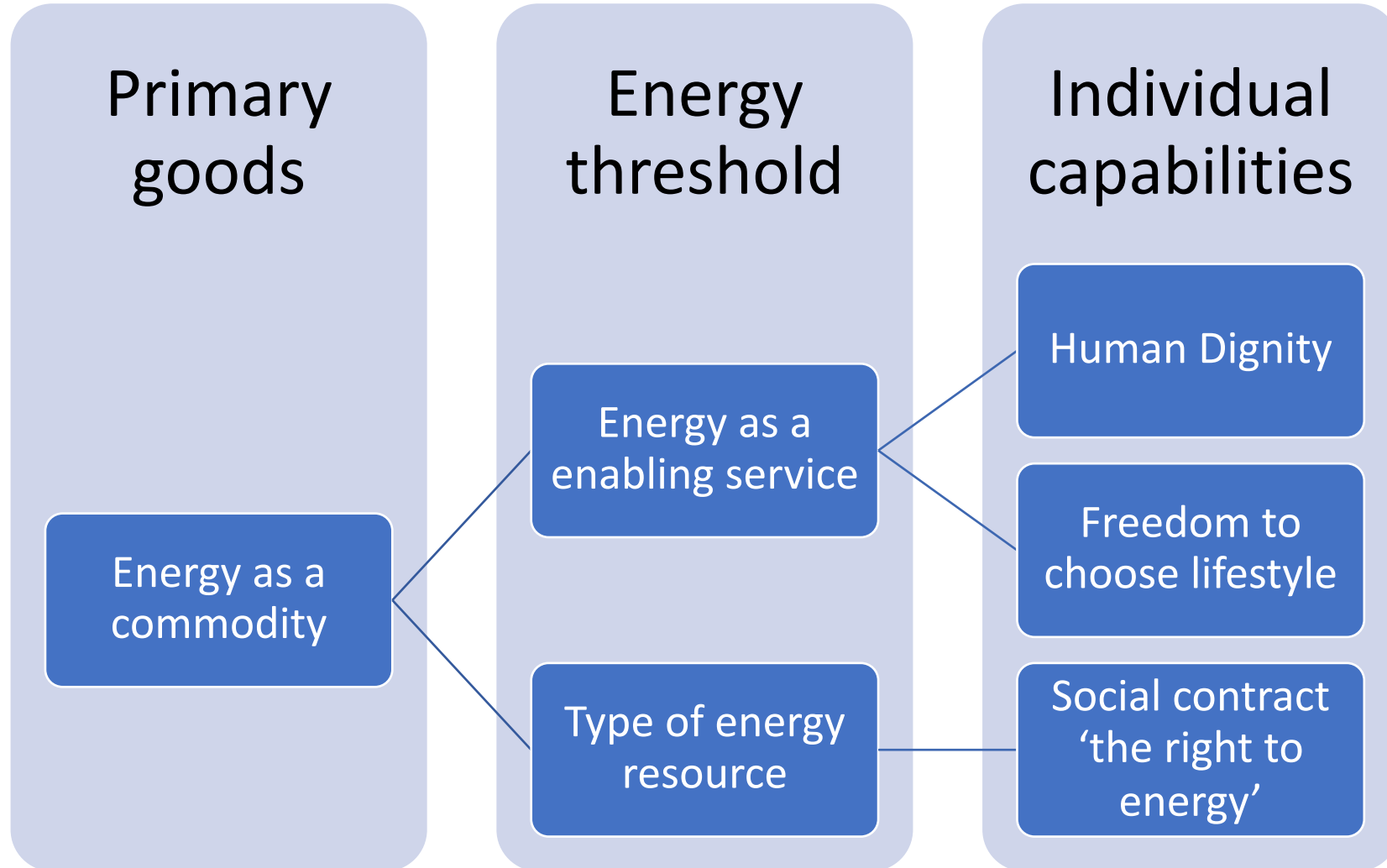
- Insufficient use of energy:
 - The number of household electricity consumers per 100 inhabitants is 42.31 (in the region it is 52.35)
 - The volume of electricity supplied to households per inhabitant is 977 kWh (1150 kWh for the region, and 1270 kWh for the country)
- Significant presence of wood, coal and waste in heating
 - The proportion of municipal waste collected from the households in these settlements averages 17.21% (20.75% in the region).
 - The proportion of dwellings heated with wood and coal is high in the selected settlements, 58.63% and 3.67% respectively.



Energy as a
right or
commodity?



The provision of the right to energy



RQ2: Does energy as a commodity perpetuate a particular unjust energy transition?

Energy as a Commodity (and primary good)

- Primary goods (Rawls): rights, liberties, powers, opportunities, income and wealth
- Limitation: Universalist approach may not reflect real-life experiences of injustice (Wood and Roelich, 2020, p. 9)

Money and warmth as a primary good



Energy as a service is bought



Fuel poverty linked to income



Energy expended linked to energy in/efficiency and money available



Redistribution of primary goods necessary to alleviate energy poverty

RQ3: Does the social contract stipulate a right to energy?

- Definition of social contract:
Consent to state authority, **limiting freedoms in exchange** for state's protection of rights, security and "provision of public goods and services" (Jiglau et al., 2024, p. 1327)

Capabilities approach

Freedom to achieve a range of 'functionings' (health, political, education) that support human dignity.

The "deprivation of capabilities constitutes an injustice."

The "capacity to convert primary goods into meaningful outcomes in their life".

Energy Threshold: A commodity vs. a right

Energy as a commodity



Energy as a right

- Alleviating energy poverty needs to span whole energy system, not just on the consumption of energy (Bouzarovski and Simcock, 2017, p. 646)
- Focus on the experiences and capabilities of individuals
- Energy service accessed or achieved [or denied] (Day et al., 2016, p. 257)

Theory/concept	Description
Primary Goods (Rawls)	Primary goods: Income and wealth determine lifestyle
<i>Minimum threshold of energy consumption and type of fuel</i>	<ul style="list-style-type: none"> ● <i>Human dignity (Nussbaum)</i> ● <i>Social contract – Sovereign rights</i> ● <i>Quality of energy services: Energy ladder and stacking</i>
Capabilities of individuals (Sen and Nussbaum)	Meet basic needs for freedom to achieve capabilities such as health, education, and political involvement

Conclusion: The double-veiled energy threshold

Energy as a 'doubled-veiled' commodity

Single veil
Do not know the full price/cost of energy as a service

Double veil
Below an energy threshold human dignity and capabilities are infringed

Above a threshold without effective distribution energy consumption is unjust

Energy as a right

- Social contract stipulates the provision of energy services
- The right to dignity requires the right to energy services
- To achieve capabilities, freedoms, and functionings, a set level of consumption is necessary

	Sovereign rights of individuals	Justice lens
Primary Goods (Rawls)	Energy experienced as a secondary service (electricity to power car and heating)	Income and wealth determine lifestyle
Minimum threshold of energy consumption	Social contract	Social basis of self-respect (Rawls) Energy is a commodity
	The right to energy	Human dignity (Nussbaum) Energy is a service
Capabilities of individuals (Sen and Nussbaum)	Basic capabilities: Primary energy resource experienced as a primary good (e.g. using wood or coal for heating and cooking)	Recognition justice and Distributive justice

Type of justice	Institutional actions (Rawls) - universal justice	Energy poor households (Sen & Nussbaum- capabilities and functionings) - particular justice
distributional	Access to universal services, such as energy, health, and education	Freedom to choose which services to utilize to achieve a particular capability
procedural	Delivery and protection of energy services through institutions - utility-based approach	Level of well-being achieved by individuals
cosmopolitan	Equity for all - foster global change in a universal framing	Right to exercise universal human rights
recognition	Identification of groups with distinguishing features, such as: ethnic, social or gender differences	Unique local solutions difficult to distinguish from outside