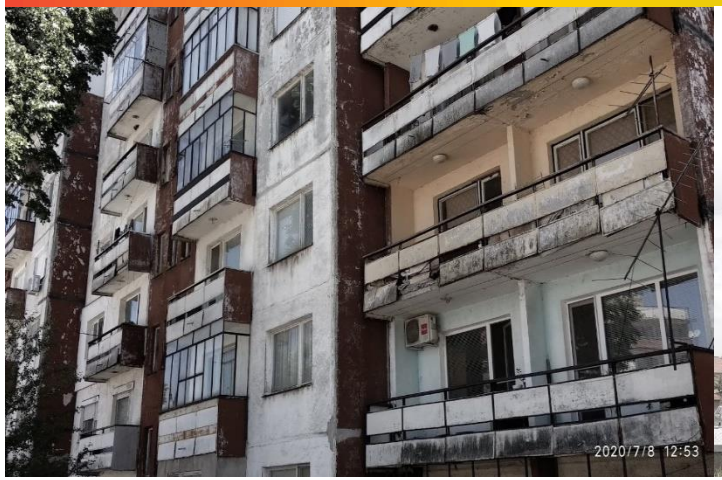
ENERGY POVERTY IN BULGARIA - ANALYSIS AND POLICY RECOMMENDATIONS



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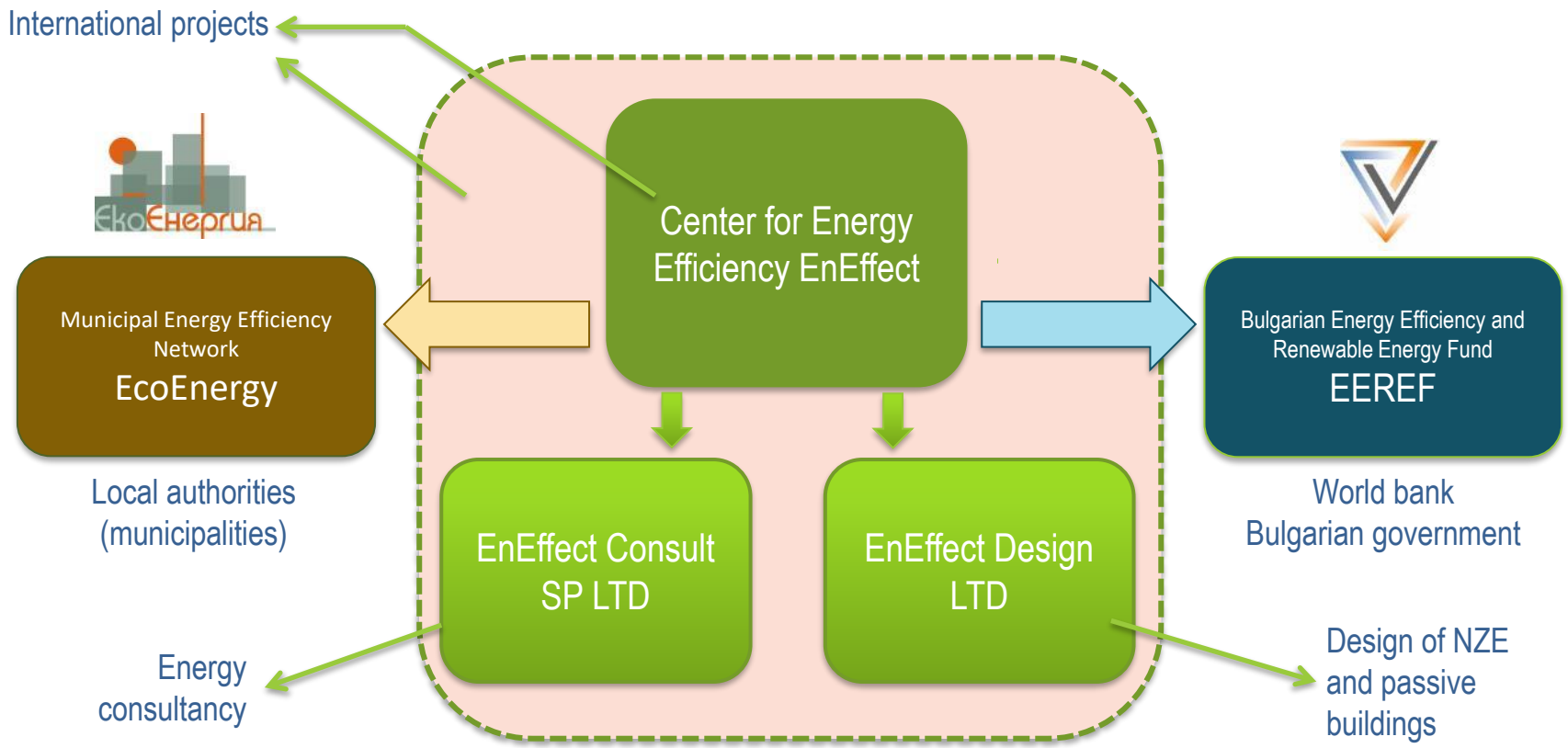
EnEffect

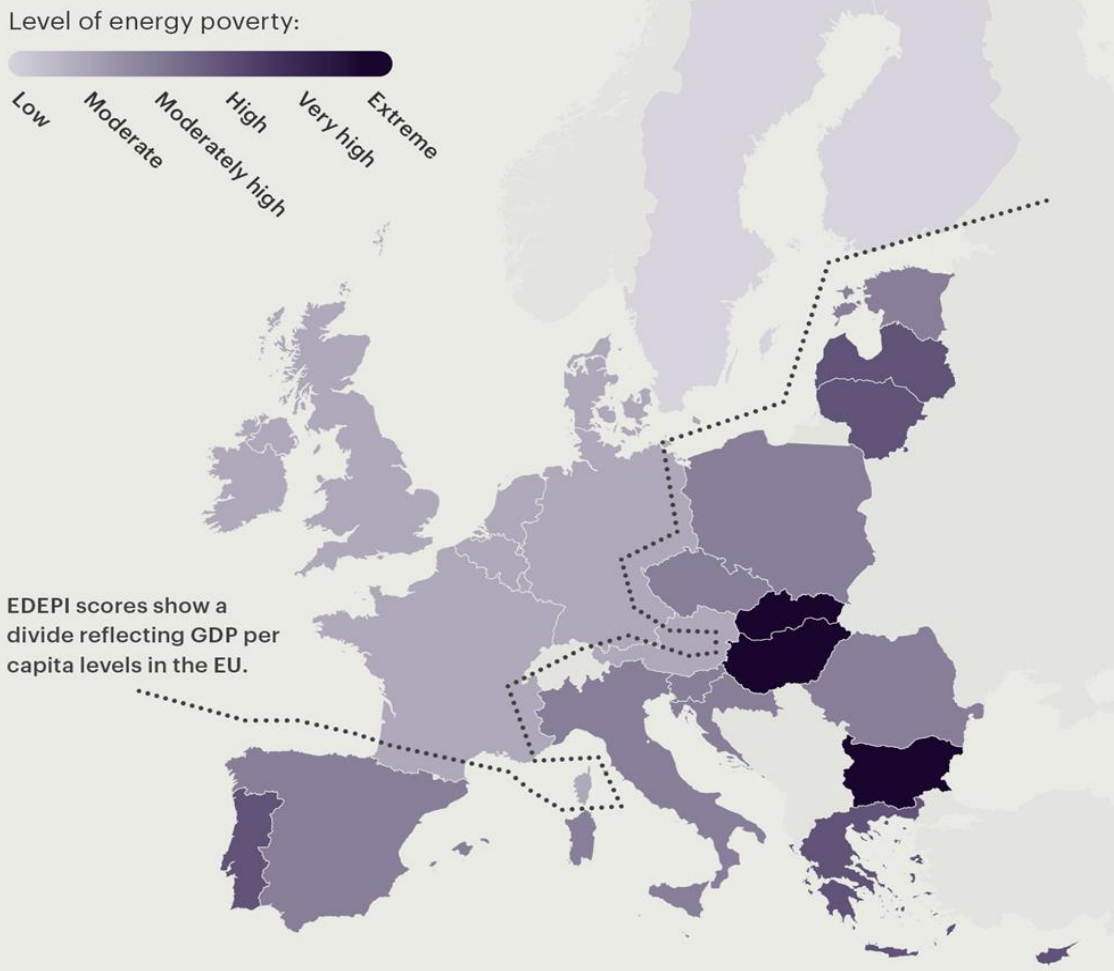

International projects
Center for Energy Efficiency EnEffect
Municipal Energy Efficiency Network
EcoEnergy
Local authorities (municipalities)
Bulgarian Energy Efficiency and Renewable Energy Fund
EEREF
World bank
Bulgarian government
EnEffect Consult SP LTD
EnEffect Design LTD
Energy consultancy
Design of NZE and passive buildings

Energy poverty in Europe

[The European Energy Poverty Index]

EDEPI scores show the majority of EU countries have 'moderately high' to 'extreme' levels of energy poverty among low-income households

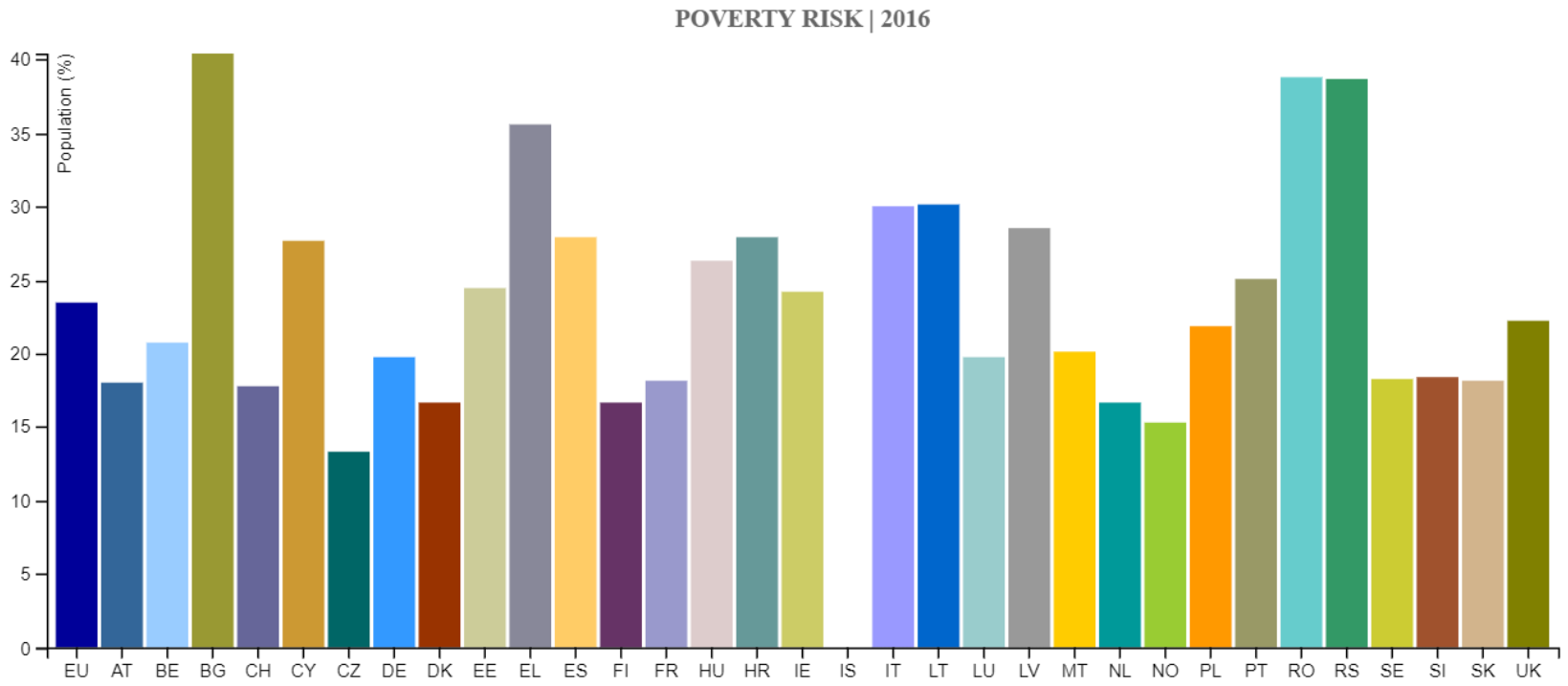
	Country	EDEPI Score
1	Sweden	95.4
2	Finland	85.6
3	Denmark	81.9
4	Austria	81.2
5	Luxembourg	80.9
6	United Kingdom	80.5
7	Ireland	79.3
8	Netherlands	78.1
9	Germany	75.8
10	France	73.3
11	Belgium	67.6
12	Spain	64.7
13	Romania	64.2
14	Poland	61.0
15	Czech Republic	60.2
16	Croatia	58.8
17	Malta	58.6
18	Estonia	58.0
19	Italy	52.1
20	Slovenia	51.3
21	Cyprus	46.2
22	Greece	43.7
23	Lithuania	42.4
24	Latvia	40.0
25	Portugal	36.7
26	Slovakia	8.4
27	Hungary	6.2
28	Bulgaria	0.7



Source: OpenExp, 2019.

Consequences of energy poverty

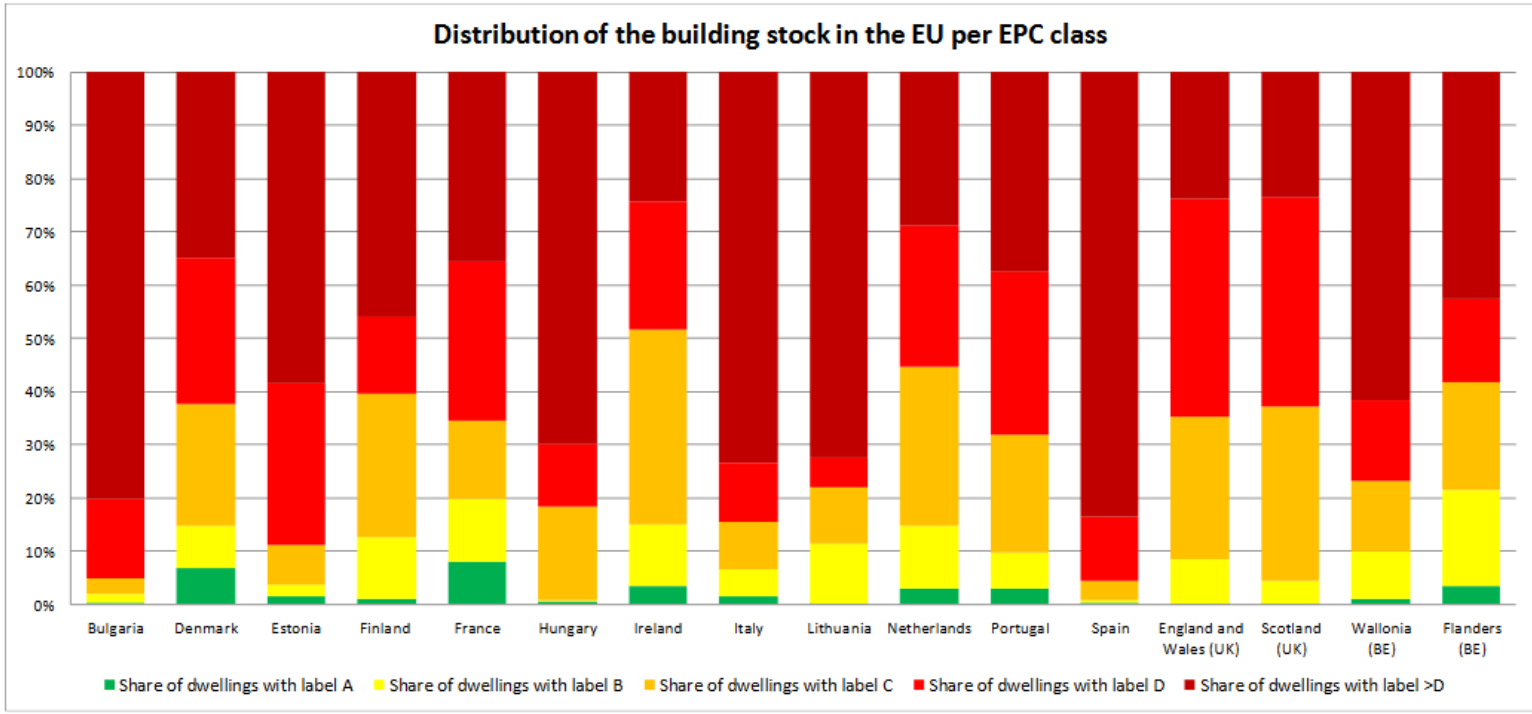
- poor health due to dampness, mold
- excess winter deaths and heat deaths
- air pollution
- vicious cycle of social exclusion



People at risk of poverty or social exclusion (% of population).
Source: EU Energy Poverty Observatory

Causes:
Inefficient buildings

- 97% of the building stock in Europe is not in the A category,
- Buildings represent 40% of the EU's energy use,
- The poorest live in the worst buildings.



Distribution of the building stock in the EU per EPC class
Source: BPIE

Definitions:
Types and limitations

- Although energy poverty is partly driven by low household incomes and many low income households are energy poor, **energy poverty does not completely overlap with economic poverty**
- **Addressing the consequences** (for example, whether the household is able to heat in winter or whether the health of its members is poor)
- **Addressing the causes** (for example, measuring the energy efficiency of a building and equipment to see if a household will have to pay more than average energy costs to achieve adequate comfort)
- **A combination of both?**

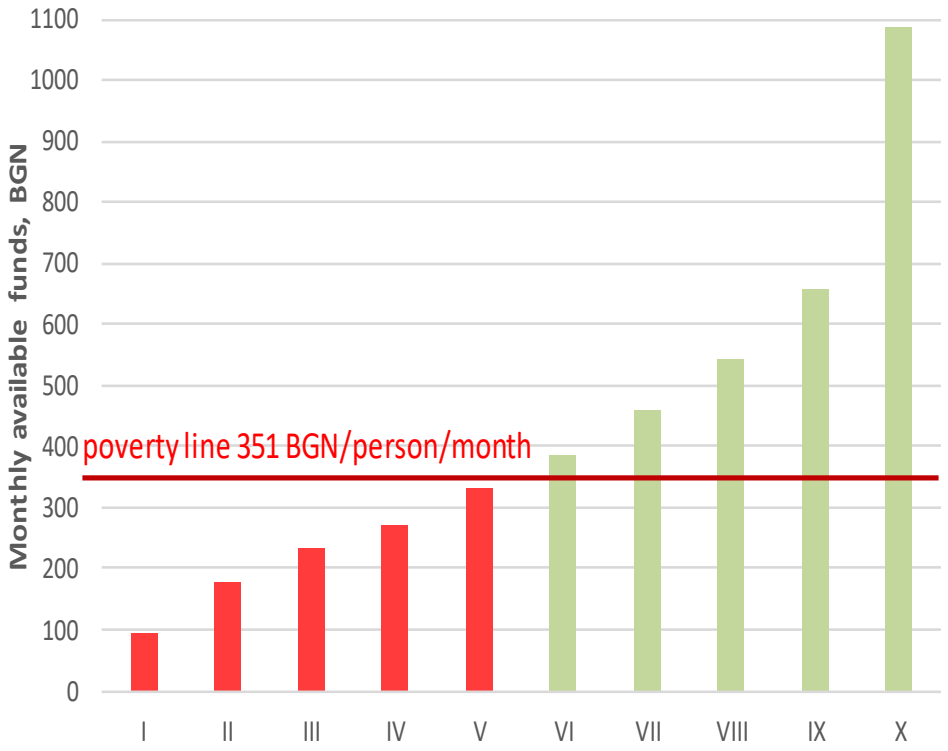
Bulgaria:
Policy contradictions

- For the 2020-2021 heating season, the funds allocated by the state in support of its social policy amount to nearly BGN 125 million (EUR 66.3 million) for end-use energy subsidies, used mainly for purchasing **bad-quality wood and coal**.
- At the same time, the municipal funding programs for improving the **air quality** aggravated by the same coal and wood are worth over BGN 100 million for the period 2014-2020.
- In parallel, EUR 1 billion were invested in **renovation of multifamily residential buildings** since 2015 in a 100% grant scheme, without any prioritization of beneficiaries addressing energy poverty or air quality issues.

Current renovation policies

- “National Programme for Energy Efficiency of the Multifamily Residential Buildings”
- 100% financing since the beginning
- Renovation to energy class C (240 kWh/m^2/a primary energy)
- Total budget of 1 billion Euro
- 2022 contracts concluded
- 5000+ expressions of interest
- 96% of the eligible buildings left outside the programme with no access to financing
- No support for single-family buildings

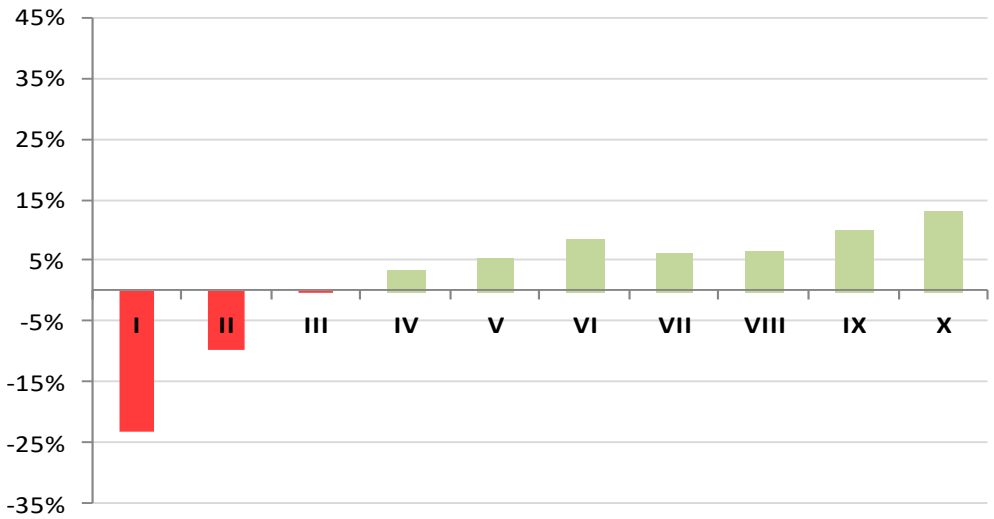
Bulgaria: risk of energy poverty

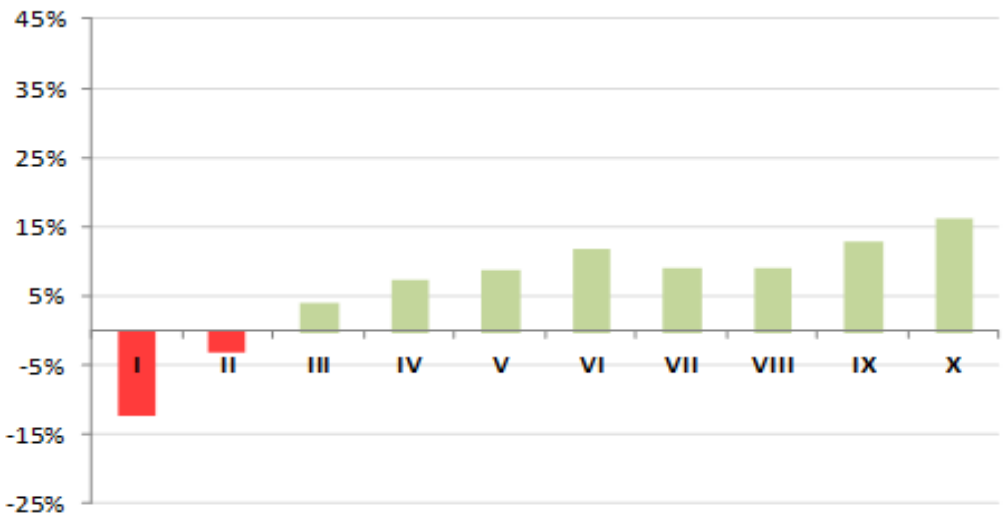


Available funds per household member after paying for the costs of "adequate heating", BGN/month

- Poorest households heavily dependent on fuel subsidies
- Air quality issues increasingly attracting public attention
- Huge potential for energy efficient renovation of the building stock
- Needs to transform the existing finance schemes using excessive grant components towards more sustainable instruments
- A recent policy brief by EnEffect outlining local policy actions

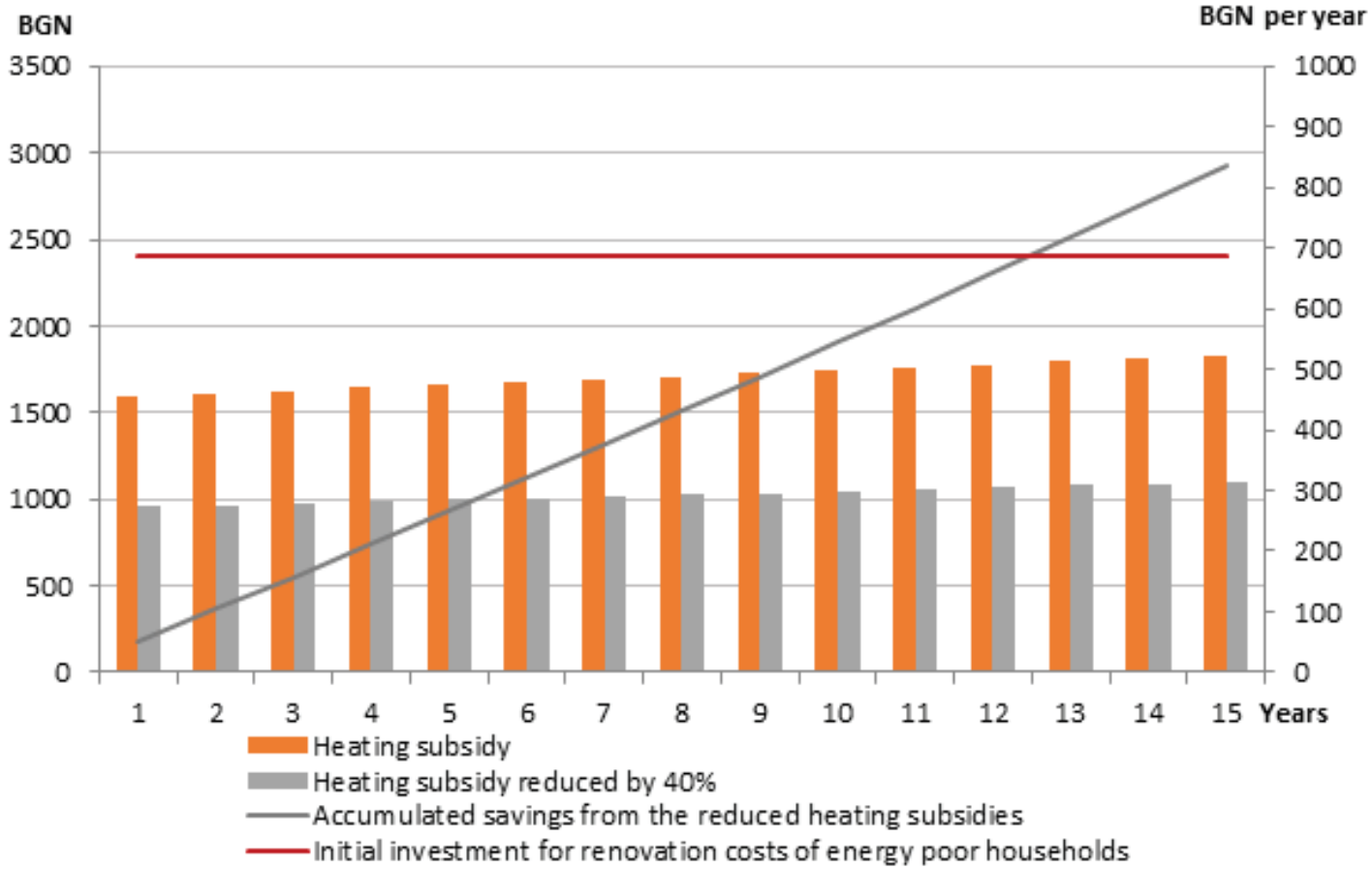
Potential of deep energy retrofitting





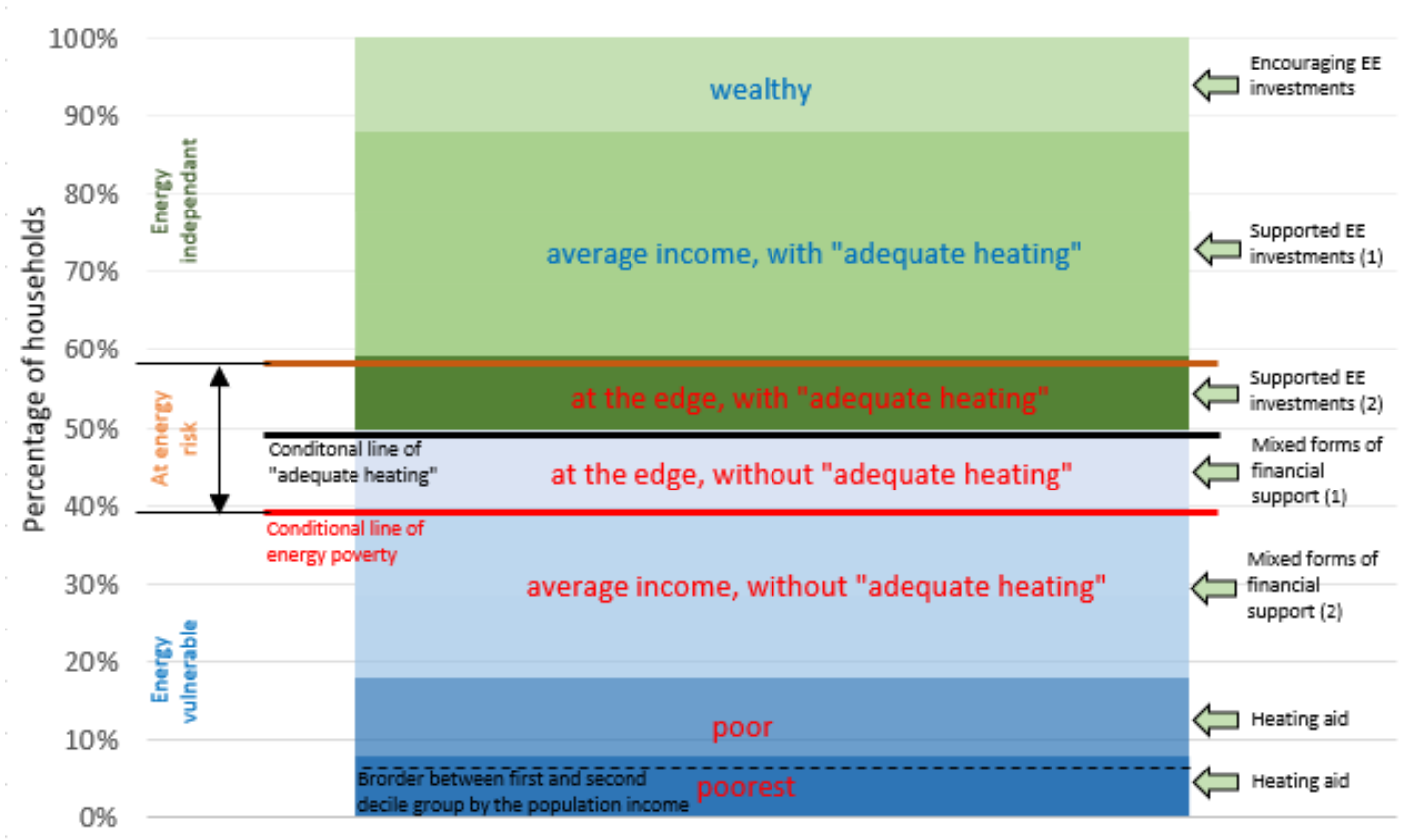
Difference between average monthly income and average monthly total expenditure if providing "adequate heating" of 65 m^2 residential area after renovation to energy class B and class A renovation

Transforming fuel subsidies



Expected impact on public spending by redirecting 40% of target heating aid to finance the equity of energy poor households in renovation programs with 80% grant component and potential energy savings of 40%

Differentiated support measures



Possible renovation approaches for different energy poverty levels

Glimpses from Central and Eastern Europe

- Selected cases:
  - Kredex, Estonia
  - Energy efficiency program, Latvia
  - Modernization programme, Lithuania
  - Microfunding, North Macedonia
  - Saving at Home II, Greece
  - Stop Smog, Poland
- Outstanding barriers
  - Lack of continuity
  - No targeting of the “energy” component
  - Limited access

Policy recommendations

- Long term vision and continuity
- Exploiting synergies of policy action and matching of financial instruments
- Capacity building for local authorities and actors
- Monitoring and evaluation
- Streamlined awareness raising campaign at national and local level

Next steps: ComAct

- Develop useful definitions applicable in different conditions
- Develop financial mechanisms to provide access and involve energy poor households
- Provide a list of suitable technical measures based on extensive energy auditing practice
- Involve local communities in renovation policies and actions
- MEASURE!

https://comact-project.eu/

Next steps: EnergyMeasures

- ✓ Work with municipalities, housing associations and other relevant actors to assess how current institutional contexts affect efforts to alleviate energy vulnerability
- ✓ Support energy poor householders with low-cost energy measures and empower them to change their energy-related behaviour
- ✓ MEASURE!

https://energymeasures.eu/

Supported by:
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
European Climate Initiative EUKI
based on a decision of the German Bundestag

Next steps: Congregate

- MEASURE!
- Measure the energy consumption and internal comfort parameters in different types of buildings and different households
- Analyse the impact of the renovation measures and the attitudes of the households
- Investigate the opportunities to develop energy cooperatives in public-private partnership mode

Thank you for your attention!

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