

MEASURING AND ADDRESSING ENERGY POVERTY: METRICS, POLICIES, AND DISTRIBUTIONAL IMPACTS IN OECD COUNTRIES

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BACKGROUND

- Rising energy prices put pressure on household budgets, and create an affordability challenge for people and govts.
- But “who counts as energy poor” depends on the metric.
- It is also not just about high bills---it's about how **data definitions shape policy outcomes**. Misclassification risks leaving vulnerable groups unsupported, or wasting resources on households that don't need help.
- By choosing better metrics, govts can design fairer and more targeted responses in the energy transition.
- This study compares three leading definitions of energy poverty across Germany, the UK, and the US and how effective three policies are at reducing energy burdens.

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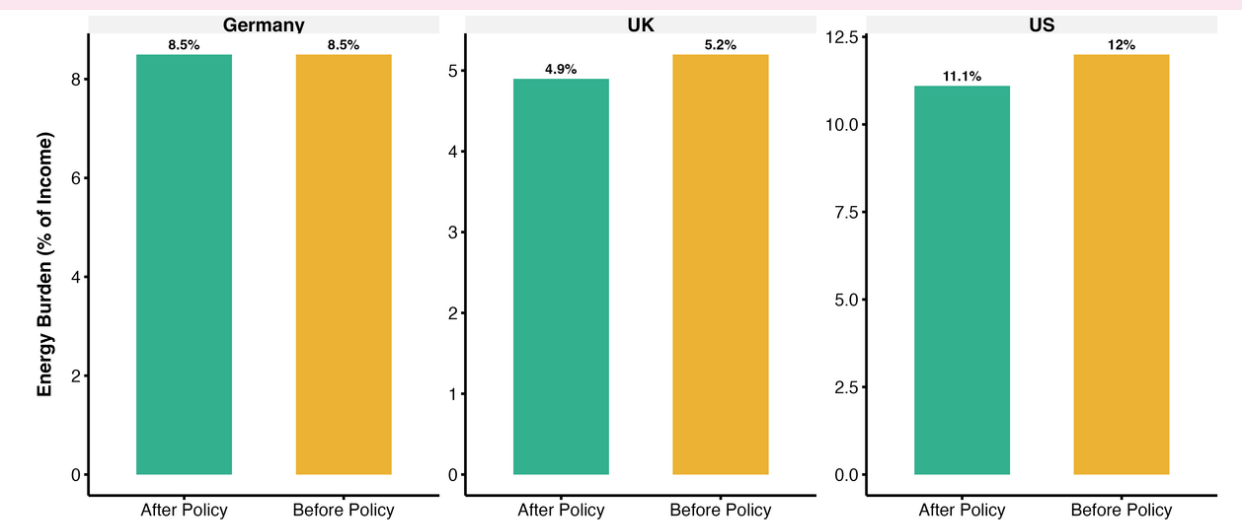
METHODOLOGY

- Three longitudinal panel datasets (2005 - 2023) for the UK (Understanding Society), Germany (SOEP), and the US (PSID).
- Compared three leading metrics
 - TPR (Ten Percent Rule) — households spending >10% of income on energy
 - LIHC (Low-Income, High-Cost) — below poverty line and above national median energy burden.
 - Double Median — households spending >2× median energy share.
- Evaluated policy impacts: income transfers, efficiency upgrades, tariff reforms.
- Intersectional lens: income decile, gender, tenure, rural vs. urban.

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INEQUALITY, POLICY ANALYSIS

Low-income, female-headed, racial-minority households living in inefficient homes are consistently the most disadvantaged, facing the highest energy burdens and the weakest policy support



Regression discontinuity analysis provides causal evidence of policy effectiveness – with only recurring WFP having any lasting effect

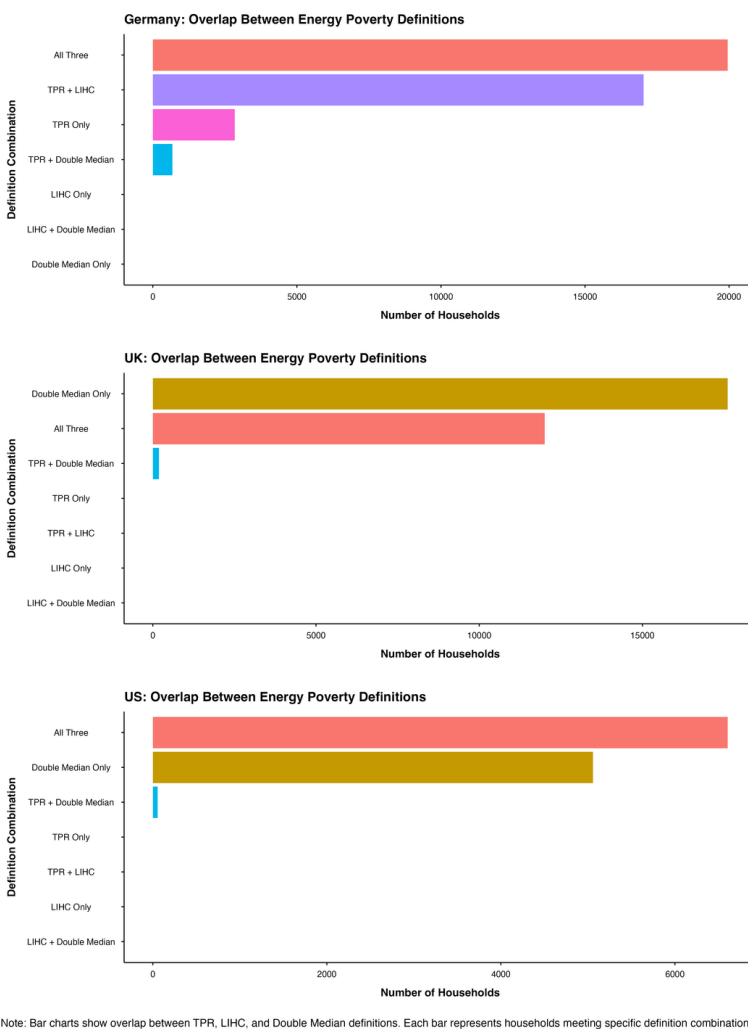
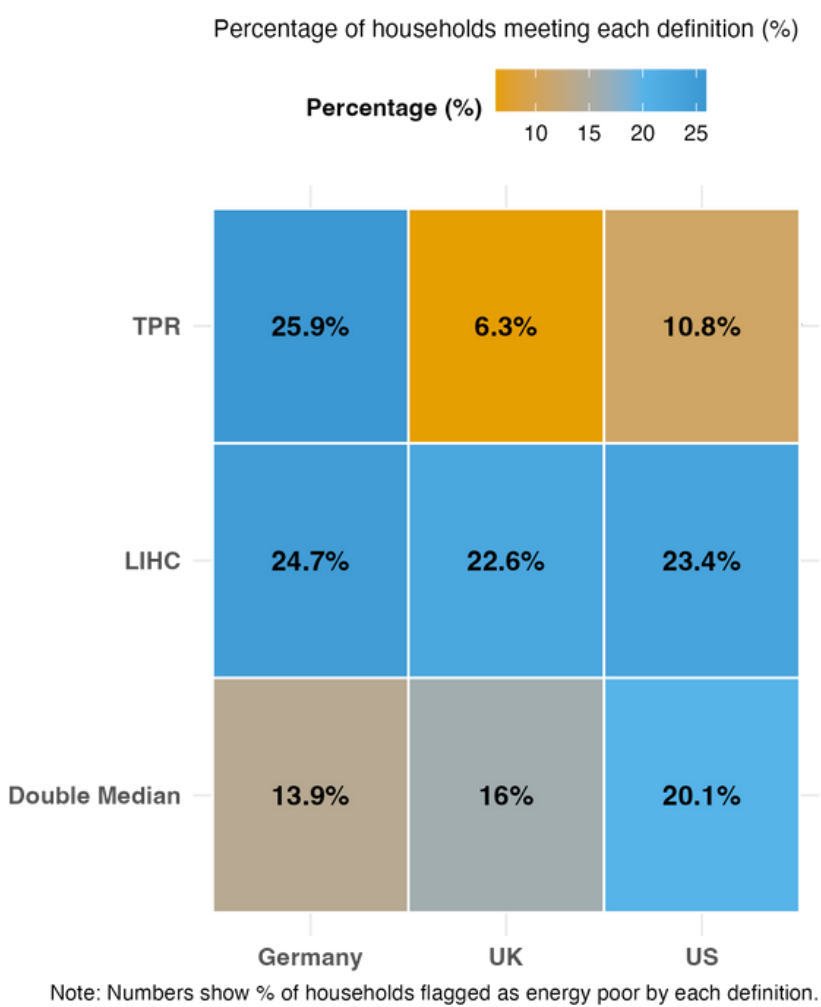
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FINDINGS

- **Metric choice matters:** TPR identifies more households overall, but risks “overcounting.” LIHC narrows focus to poorest but misses middle-income households with high burdens. Double Median highlights relative disadvantage but undercounts the very poor.
- **Overlap is low:** Few households are classified the same way across all metrics.
- **Equity dimension:** Renters, single-led households, and women-headed households face disproportionate burdens.
- **Policy performance:** Income transfers reduce burdens quickly but temporarily. Efficiency measures (e.g., insulation) reduce burdens more sustainably but unevenly. Combined approaches perform best, cutting burdens and improving equity.

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MEASURES



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NEXT STEPS

- **Equity focus:** Incorporate intersectional indicators (gender, tenure, rural–urban) into standard monitoring metrics.
- **Dynamic policy evaluation:** Test long-run effects of combined efficiency + income-support policies using panel data and quasi-experimental methods.

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