European Research Council
Established by the European Commission

The University of Manchester

Manchester Urban Institute

EVALUATE

Energy poverty landscapes in the European Union: an academic perspective

Dr. Saska Petrova

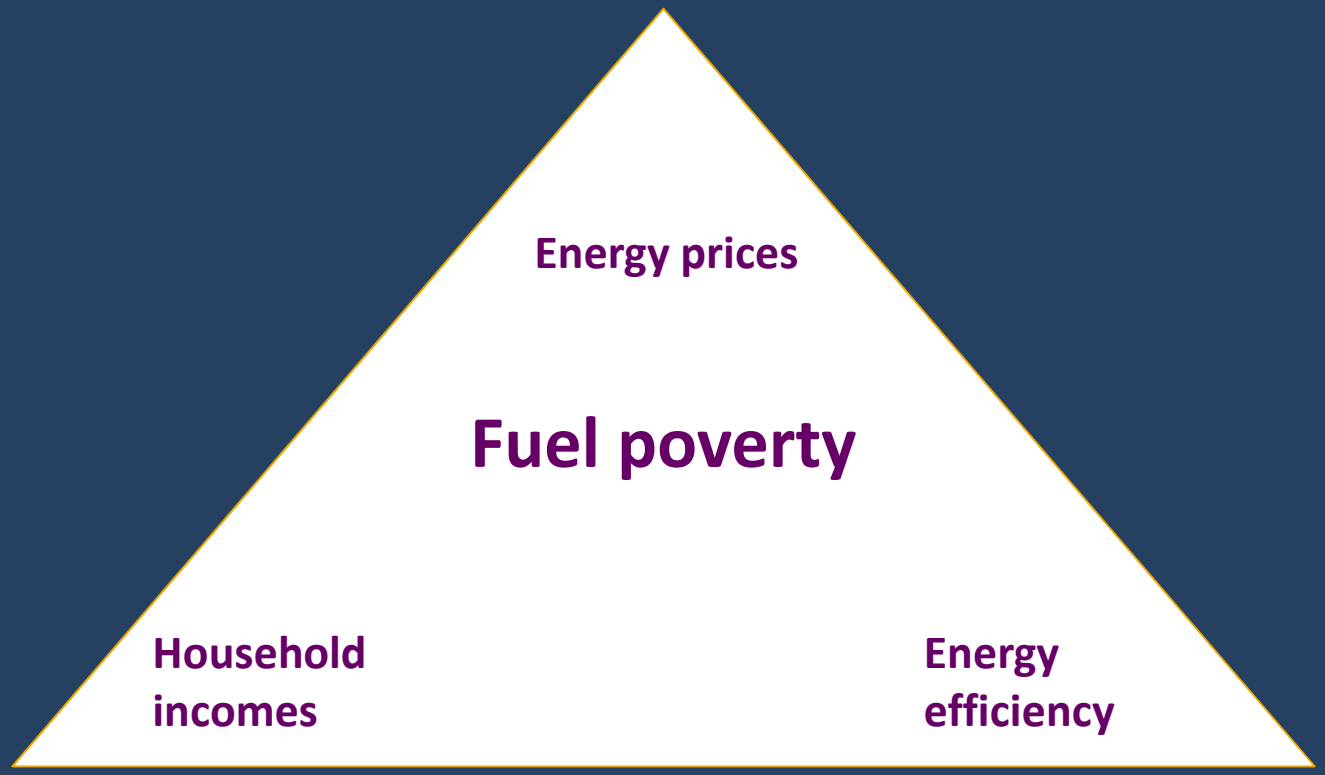
University of Manchester
Saska.petrova@manchester.ac.uk

A brief history…

- 1979 - British civil servants identified the issue
- 1991 - Brenda Boardman published her seminal book
- 2001 - Concerns first raised at the EU-level in an ECSC opinion document
- 2003 - Explicit recognition given to household customers in revised gas/electricity market directives
- 2009 - Energy poverty given legal recognition in 3rd energy package
- 2016 – ongoing Energy Union reviews, opportunity to further incorporate energy poverty measures

Defining energy poverty in Europe

When a household cannot afford domestic heating – and other energy services – in cases where it needed to spend more than 10 per cent of its income (Boardman, 1991)



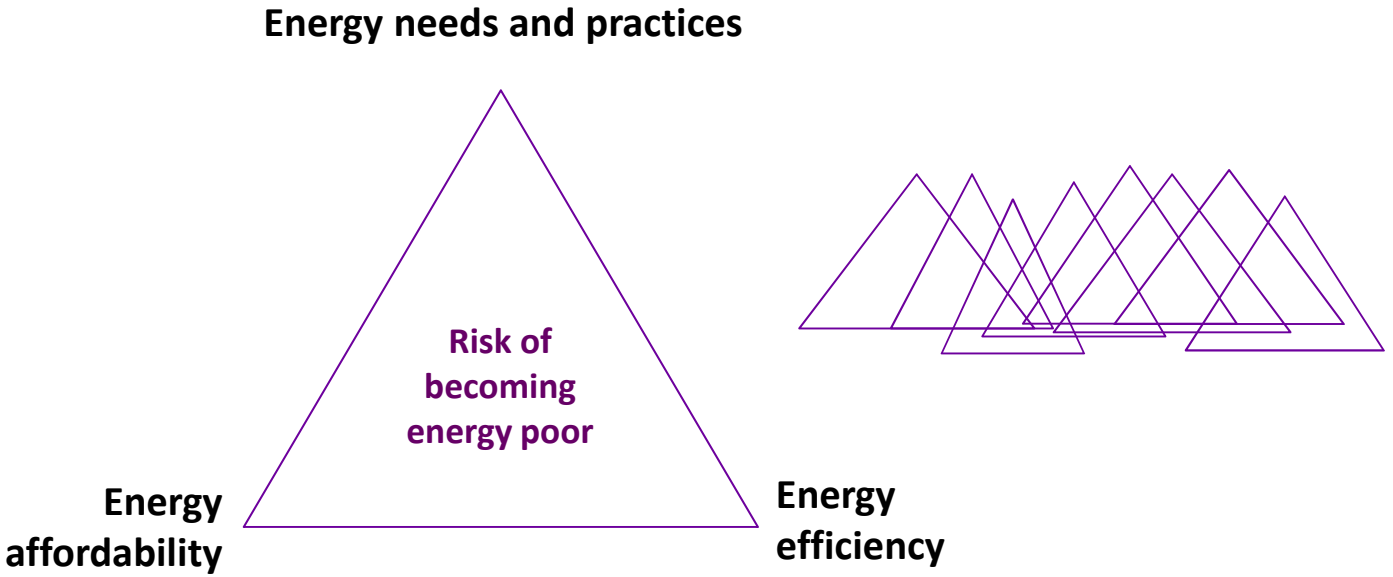
The UK definition

Fuel poverty in England is measured by the Low Income High Costs definition, which considers a household to be in fuel poverty if:

- they have required fuel costs that are above average (the national median level)
- were they to spend that amount they would be left with a residual income below the official poverty line

Energy vulnerability

When a household is unable to secure materially- and socially-necessitated levels of domestic energy services (Bouzarovski and Petrova, 2015)



A common energy poverty definition in the EU: pros and cons

Arguments in favour of a common EU definition	Arguments against a common EU definition
1. Higher political visibility and public awareness 2. Development of a common language around the problem 3. Ability to devise standardized statisics and measures 4. Opportunities for integration with different policy domains	5. Energy poverty has multiple components, therefore a common definition will erase complexity 6. Prioritization of only one group of vulnerable people versus others due to targeting inaccuracies 7. Inability to incorporate region- and country-specific differences

Sources: (Bouzarovski et al., 2012; Deller, 2016; Fellegi & Fulop, 2012; Healy, 2004; Kapteyn et al., 1988; Thomson et al., 2016)

Key drivers of energy poverty

Factors	Component
Access	Poor availability of energy carriers appropriate to meet household needs.
Affordability	High ratio between cost of fuels and household incomes, including role of tax systems or assistance schemes. Inability to invest in the construction of new energy infrastructures.
Flexibility	Inability to move to a form of energy service provision that is appropriate to household needs.
Energy efficiency	Disproportionately high loss of useful energy during energy conversions in the home.
Needs	Mismatch between household energy requirements and available energy services; for social, cultural, economic or health reasons.
Practices	Lack of knowledge about support programmes or ways of using energy efficiently in the home.

Sources: (Bouzarovski & Petrova, 2015)

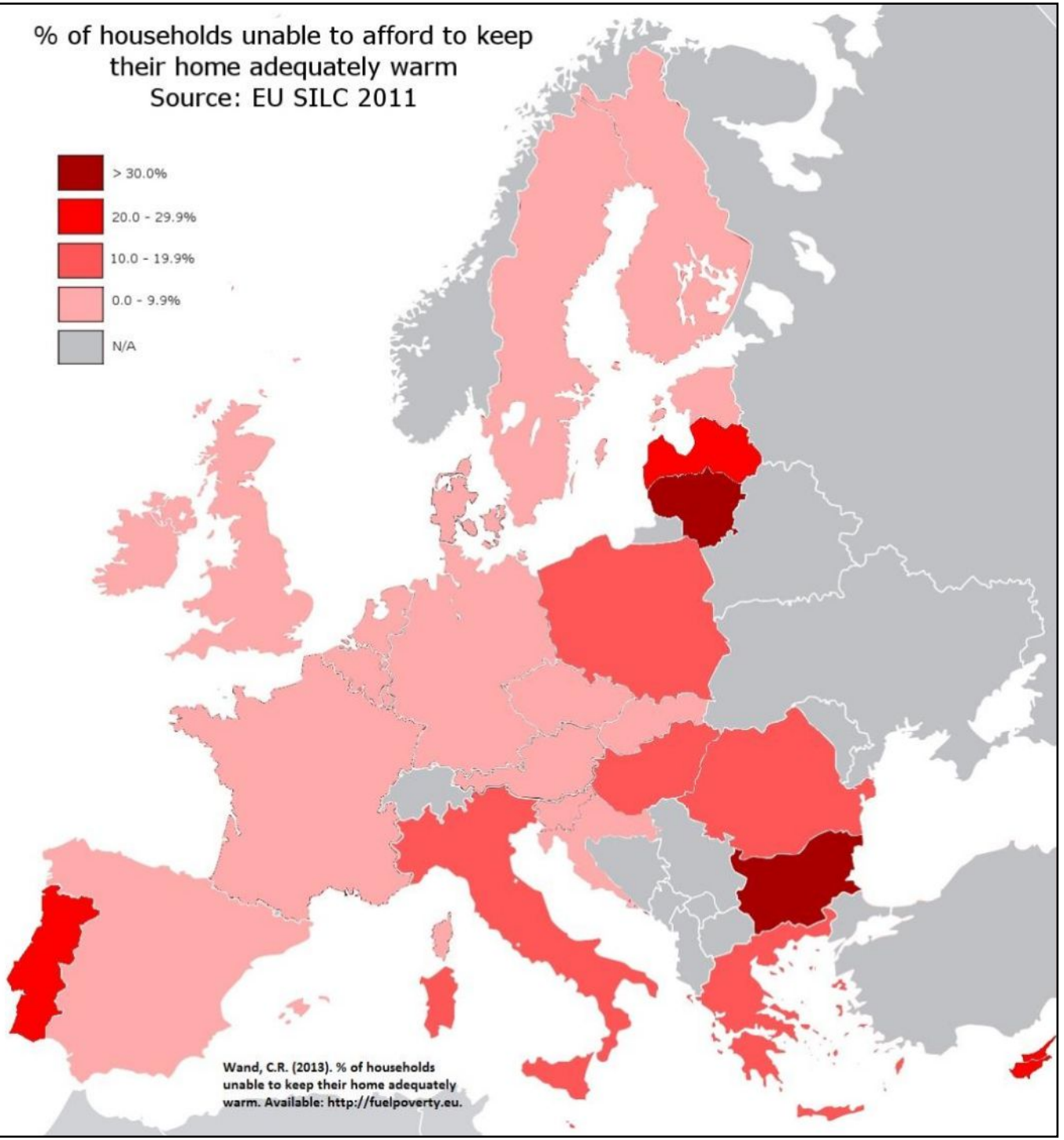
Geographies of energy poverty in Europe

EU data context:

- No dedicated survey of energy poverty
- The EU Statistics on Income and Living Conditions:
  1) Ability to afford to keep the home warm
  2) Leaking roof, damp, and/or rot in home
  3) Arrears on utility bills in the last 12 months
- The Household Budget Surveys
  - Provides actual expenditure data at national level
  - Not currently standardised across Europe

Energy poverty in the EU

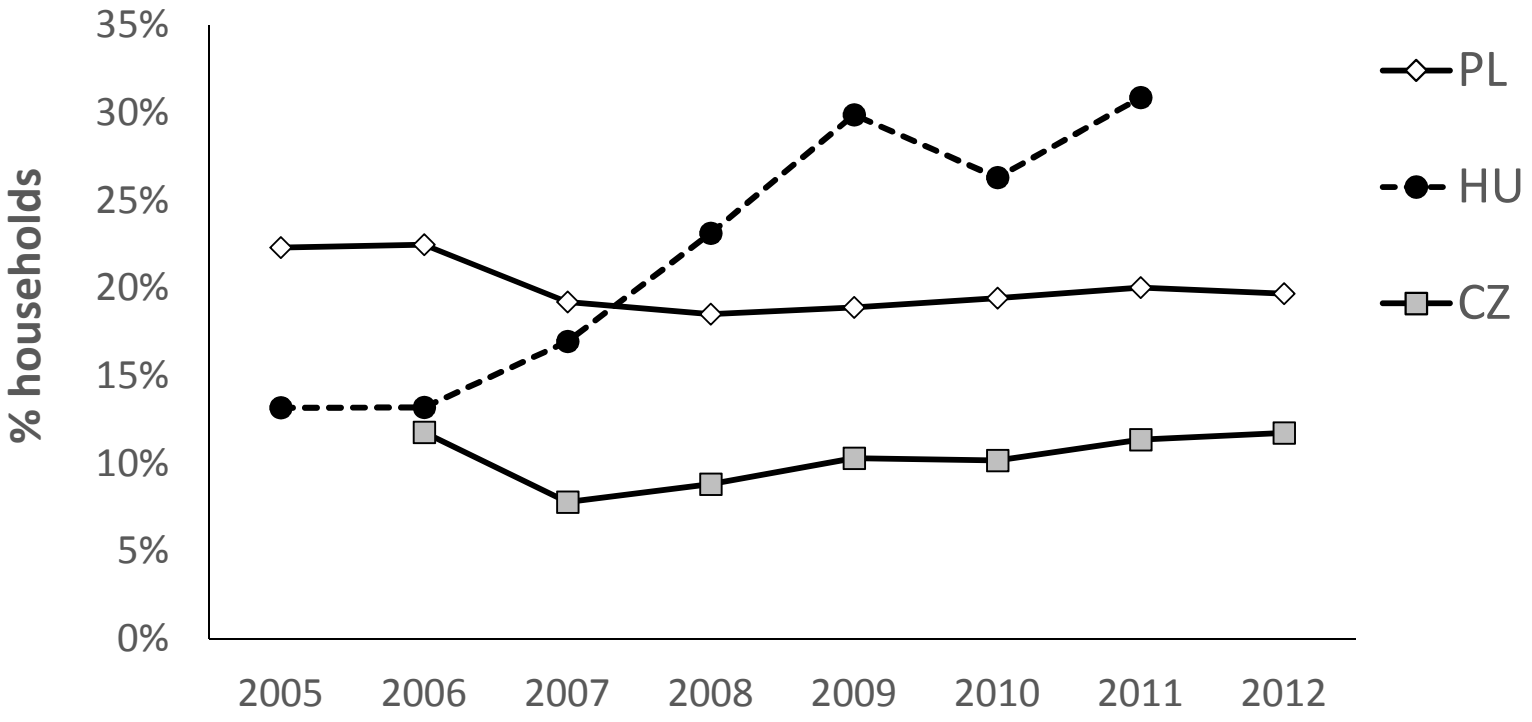
- **52 million + households** in EU27 (Thomson, 2015)
- The lack of a common definition means that there is no official figure about the extent of energy poverty in Europe
- Southern and Eastern member states most at risk



Energy poverty in post-socialist CEE

Czech Republic vs Hungary vs Poland

Percentage of households spending **more than 20% of their income** on domestic energy (equivalised units), 2005-2012



Bouzarovski and Tirado Herrero (2016)

A geographic typology of energy poverty and transitions

Macro region	Western and Northern Europe	Central, Eastern and Southern Europe
Public recognition	Well-established in the UK and Ireland, officially and widely acknowledged in France. Less visibility in other countries.	Historically limited public recognition, recently rising to the top of the social agenda in austerity-hit countries.
Socio-demographic extent	Typically concentrated within a limited section of the population with energy affordability problems.	A systemic condition, affecting both low- and middle-income strata.
Relationship with energy transitions	Energy poor households have been adversely affected by price increases associated with low-carbon energy transitions, but are benefiting from energy efficiency improvements associated with the process.	Dynamics of crisis-induced austerity and post-communist transformation are adding new levels of complexity to the energy poverty implications of low-carbon transitions, which are themselves less pronounced in this region.
Principal drivers	Low incomes, high energy prices, inefficient homes, disproportionately high energy needs.	Variable by country. Largely same as Western and Northern Europe but also involving questions of housing tenure and infrastructural access to adequate energy sources.

Source: (Bouzarovski & Tirado Herrero, 2015)

Conclusions

- Energy poverty has been defined in different ways, which makes it **difficult to assess** the total number of people affected by the problem in the European Union
- Estimates range between **50 and 160 million people**
- A common definition may help **standardize policy and increase political visibility** but also runs the danger of **erasing social, demographic and regional complexities**
- Principal causes of the problem include **high energy prices, low incomes and energy efficiency**, but **forms of infrastructural provision, household energy needs, housing ownership and policy, and the ability to access adequate support** also matter
- There is unequivocal evidence to suggest that **Southern and Eastern member states** are most affected by energy poverty, although the problem is present in a substantial number of Western European countries
- The effect of energy transitions on energy poverty is complex, and depends on **pricing, fiscal and public planning policies**

Further readings

- Bouzarovski, S., & Cauvain, J. (2016). Spaces of exception: governing fuel poverty in England's multiple occupancy housing sector. *Space and Polity*, *20*, 310–329.
- Bouzarovski, S., & **Petrova, S.** (2015). A global perspective on domestic energy deprivation: Overcoming the energy poverty–fuel poverty binary. *Energy Research & Social Science*, *10*, 31–40.
- Bouzarovski, S., **Petrova, S**., & Sarlamanov, R. (2012). Energy poverty policies in the EU: A critical perspective. *Energy Policy*, *49*, 76–82.
- Bouzarovski, S., & Tirado Herrero, S. (2015). The energy divide: Integrating energy transitions, regional inequalities and poverty trends in the European Union. *European Urban and Regional Studies*, doi: 10.1177/0969776415596449.
- Bouzarovski, S., & Tirado Herrero, S. (2016). Geographies of injustice: the socio-spatial determinants of energy poverty in Poland, Czechia and Hungary, doi:10.1080/14631377.2016.1242257.
- Bouzarovski, S., Tirado Herrero, S., **Petrova, S**., & Ürge-Vorsatz, D. (2015). Unpacking the spaces and politics of energy poverty: Path-dependencies, deprivation and fuel switching in post-communist Hungary. *Local Environment*, doi: http://www.tandfonline.com/doi/abs/10.1080/13549839.2015.1075480.
- Buzar, S. (2007). *Energy Poverty in Eastern Europe: Hidden Geographies of Deprivation*. Aldershot: Ashgate.
- **Petrova S**, Torres Garcia M, Bouzarovski S (2016) Using action research to enhance learning on end-use energy consumption: Lessons from reflective practice. *Environmental Education Research*. DOI: 10.1080/13504622.2016.1144177.
- **Petrova S,** Posová D, House A, Sykora L (2013) Discursive framings of low-carbon urban transitions: The conflicting geographies of 'satellite settlements' in the Czech Republic. *Urban Studies* 50: 1439-1455 (1.592);
- **Petrova S**, Gentile M, Mäkinen IH, Bouzarovski S (2013) Perceptions of thermal comfort and housing quality: Exploring the micro-geographies of energy poverty in Stakhanov, Ukraine. *Environment and Planning A* 45:1240-1257 (1.604);

EVALUATE – Energy Vulnerability and Urban Transitions in Europe project

www.urban-energy.org

- Five-year ERC funded project, 2013 – 2018
- To establish the driving forces of urban energy poverty in the post-socialist states of Eastern and Central Europe
- To determine which types of households are vulnerable to the condition
- Focusing on 4 cities: Skopje, Budapest, Prague, Gdansk.

European Research Council
Established by the European Commission

The University of Manchester

EVALUATE

Thank you!

saska.petrova@manchester.ac.uk
www.urban-energy.org
@curemanchester