

## Alleviating Energy Poverty in Europe: Front-runners and Laggards

Ana Rodriguez-Alvarez<sup>1</sup>, Manuel Llorca<sup>2</sup>, and Tooraj Jamasb<sup>2</sup>

<sup>1</sup> Oviedo Efficiency Group (OEG), Department of Economics, University of Oviedo, Spain

<sup>2</sup> Copenhagen School of Energy Infrastructure (CSEI), Department of Economics, Copenhagen Business School, Denmark

**Energy poverty is a situation in which individuals are unable to adequately keep their homes warm or meet their basic energy needs at a reasonable cost.** In recent years, the public awareness of this social issue has greatly increased in Europe. It has indeed become a political priority since the 2018-19 approval of the Clean Energy for all Europeans Package (CEP) that addresses matters related to energy poverty such as energy efficiency or energy security. **However, despite the recognition of affordability as one of the pillars of sustainable energy transition, according to recent reports from the European Commission, approximately 34 million Europeans were considered as energy poor.** In the current spiralling prices of gas and electricity coupled with the impact of COVID-19 on economic activity, unemployment, and households' disposable income, this social policy issue is likely to gain more prominence in the near future.

First recognised in the UK during the 1970s, the concept of energy poverty (called fuel poverty in the UK setting) has been subject to different definitions based on objective, subjective approaches, or combinations of both, that offer alternative pictures of the issue. The main hurdles related to energy poverty do not only have to do with its description, but also with its lack of visibility and the subsequent limitations in identifying the 'target' households. Moreover, the estimation of the impact, in terms of health, wellbeing or others, the application of suitable actions to tackle the problem, and the evaluation of the success of the measures applied, also represent key challenges.

There is a growing literature that looks into different aspects of energy poverty. New methodologies that serve to explain not only the incidence of energy poverty but also describe and quantify the effect of the determinants that influence this type of poverty, help us evaluate the measures and instruments applied to mitigate it. In particular, comparative country studies enhance our understanding of causes and effects of energy poverty.

**In this new paper we propose a new approach to the analysis of energy poverty. We define a theoretical framework and an empirical model to estimate an efficient energy poverty frontier.**

The methodology, based on the definition of relative frontiers, is used

to estimate and explain the maximum potential reduction in energy poverty that a country can achieve given its income level, energy prices, energy intensity, and other country-specific features. It also allows better understanding and quantifying of the factors that facilitate or hinder achieving this potential, for instance, the effect of policies aimed at protecting individuals and households at risk of energy poverty.

**We apply the approach to a sample of 30 European countries during the period 2005-2018. The results show that countries with higher economic development and more egalitarian economies have a lower incidence of energy poverty, while higher energy prices exacerbate the problem. Moreover, social protection aids to households and individuals (in the form of benefits to those affected by issues such as disability, sickness/healthcare or social exclusion) have had a significant effect on reducing energy poverty. We show that this reduction has been a steady and general trend in almost all the countries analysed (Figure 1).** This implies that despite the negative effect of the economic cycle (including the financial crisis of 2008), it has been possible to identify the positive contribution of these aids to the general improvement in reducing energy poverty. **Energy efficiency, measured in terms of energy intensity, has also been effective in reducing energy poverty.** We can conclude that policies aimed at improving the financial situation of vulnerable groups, reducing energy prices and/or enhancing energy efficiency can help reduce energy poverty. On the other hand, we find that energy poverty worsens in urban areas.

It is therefore expected that measures expressly aimed at alleviating energy poverty will also be effective. In recent years, energy poverty has been mainstreamed into various EU directives and member state policies. Thus, several projects have been developed throughout Europe to alleviate energy poverty. For example, as part of the 2018 call of Horizon 2020 Energy Efficiency, three projects have been addressed with this aim (STEP – Solutions to Tackle Energy Poverty, EmpowerMed, and SocialWatt). Other examples are the abovementioned CEP and the European Green Deal that continues and

extends the CEP's objectives with the aim of making the EU economy sustainable, while the transition is just and inclusive.

Moreover, the recent health crisis has brought an unprecedented economic crisis affecting the entire population, with special incidence on the most vulnerable groups. Therefore, due to the consequences of the COVID-19 pandemic, both energy and income poverty are expected

to become more acute in the near future. Against this background, repairing the short-term damage of the crisis, in a way that also involves investing in the long-term future, has become a priority for the EU. This is the centrepiece of the NextGenerationEU and the Recovery and Resilience Facility European programmes. Member states will be able to use this instrument to carry out sustainable infrastructures and the renovation of the existing housing stock.

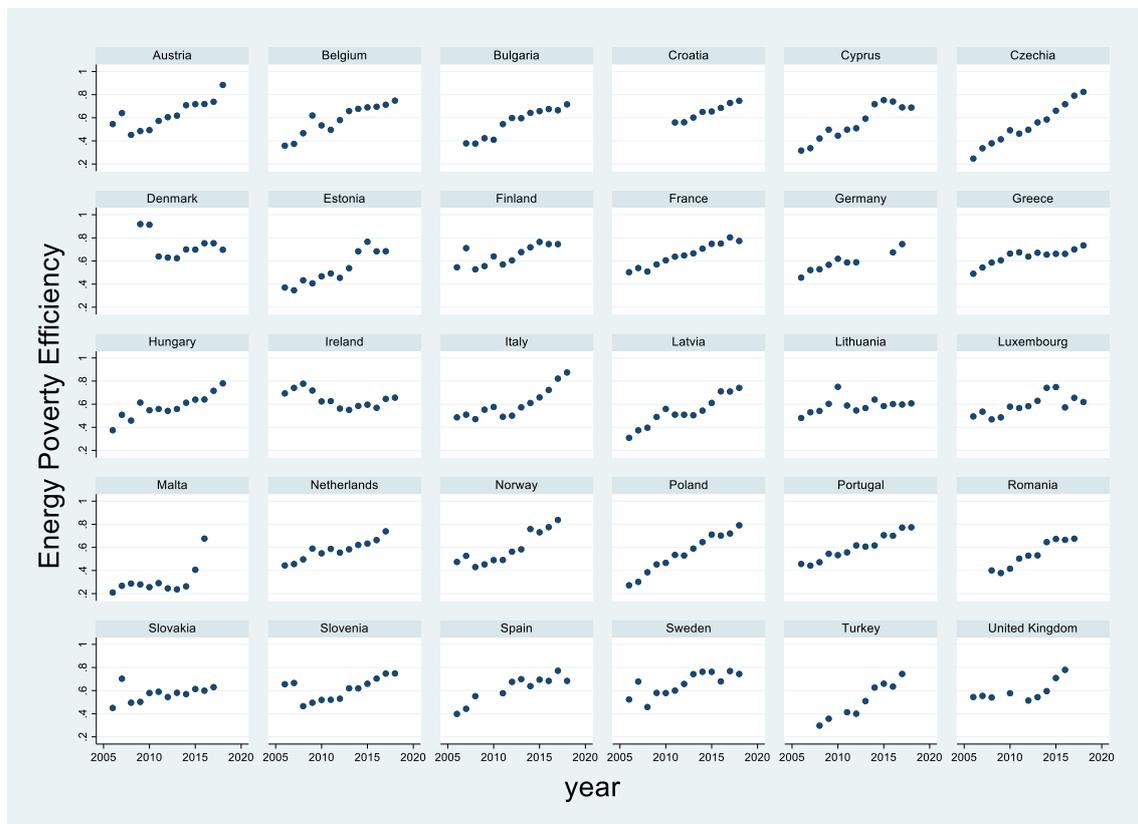


Figure 1. Evolution of Energy Poverty Efficiency by Country

**References:**

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