

Energy Poverty

Subjects: [Energy & Fuels](#) | [Social Issues](#)

Contributor: RECEP ULUCAK , RAMAZAN SARI

The term “energy poverty” usually refers to the lack of affordability or of access to basic energy services to meet one’s most common needs, such as lighting, cooking, heating and cooling.

energy poverty

fuel poverty

energy deprivation

fuel deprivation

1. Introduction

Energy plays a critical role in building a sustainable future—economically, socially, and environmentally. Energy poverty holds a similarly prominent position and covers certain economic, social and environmental issues that are underlined by the United Nations’ Sustainable Development Goals. Due to its multidimensional role in plans and policies for achieving sustainable development, there is a growing body of literature focusing on various aspects of energy poverty.

2. Facts about Energy Poverty

Bouzarovski and Petrova ^[1] define energy poverty as “the inability to attain a socially and materially necessitated level of domestic energy services”. However, in other definitions, the phrase generally refers to a lack of or limited access to the electricity and fuel required to sustain basic human needs that may differ because of climatic conditions, technological improvements, and country-specific social, cultural, political and environmental conditions ^{[2][3]}. Furthermore, the literature also extends the concept to cover meeting a variety of needs requiring energy, such as information and communication technologies, entertainment, education, transportation, commercial activities, and the running of home appliances ^{[4][5][6]}. Although these needs are caused by various dynamics and arise in different forms, in each case the affordability problem mainly stems from the lack of energy efficiency, low income levels, and high energy prices, all of which are major causes of energy poverty, as well as being related to the availability of energy sources ^{[7][8]}.

Energy poverty is a social, economic, environmental and health problem that is being accentuated by the economic crisis, climate change and advances in technology, resulting in a paradigm shift in production in general, and household energy consumption in particular. Due to this paradigm shift, the post-pandemic era seems to be adding new dimensions to energy services. Thus, energy poverty may well include a lack of socialization in circumstances where social media predominate as the means of interaction and communication between people, as well as inequality in education, as almost all means of education have been moved partly online and away from conventional methods in both developed and developing countries. Thus, energy poverty has become a critical

challenge for sustainable development and intersects with the sustainable development objectives of the UNDP [9]. There is no doubt that energy poverty has now become the main agenda of many governments, as well as of “the international sustainable development agenda” [2].

One initial reflection on how energy poverty is treated in the literature is the growth of research in how to close the gap between the lack of knowledge regarding the drivers of energy poverty and efficient energy policies. The concept of energy poverty was initially introduced by Isherwood and Hancock [10] at a time when the number of vulnerable households affected by economic crises grew, following the oil shock of the early 1970s. The first popular and agreed definition, the well-known “10% indicator”, was suggested by Boardman [11] and was based on utility bills.

One reason for the knowledge of this topic failing to produce efficient energy policies is the lack of a consensus over how to define energy poverty and, thus, the difficulty of tracking and monitoring it. There is little doubt that policies mitigating energy poverty will require a manageable and functional definition of energy poverty in order to be translated into policy development. In the EU, only five countries, the UK, France, Cyprus, Ireland and Slovakia, have official definitions of energy poverty and strategies to mitigate it [12]. Other countries have neither a definition of energy poverty nor a policy for dealing with it.

Various indicators are employed to measure, track, analyze and evaluate energy poverty in households. The 10% indicator [13], 2M indicators [14], minimum income standards [15], low-income-high-cost [16], after fuel cost poverty indicator [15][17] and hidden energy poverty [18] are based on household bills for various expenses [12]. There are also two indicators based on the self-reporting of household conditions, namely, the “EU survey on income and living conditions” and the “Survey on perceptions and statements from households” [12] (see [19] for a review). In examining previous studies, there is a need to identify the most influential studies, authors and journals that are active in this area, as well as the most frequently used keywords.

3. Conclusions

Our analysis has revealed that the issue of energy poverty has been mostly investigated in developed countries, leaving a need for investigation in respect of Asian, African and South American applications. This issue is of the greatest importance, since its solution serves the economic, social and environmental goals of sustainable development, although the Sustainable Development Goals partly consider the issue of affordable energy as a problem to which underdeveloped countries are mostly subject. However, this can be validated for both developed and developing countries, as has been shown by empirical research [20][21][22][23][24][25][26][27][28][29][30]. Therefore, the Sustainable Development Goals board should pay greater attention to the issue of energy poverty in their policy discussions and strategies. In addition, empirical investigation shows that micro-level data are required that can be gathered by household surveys and that may revise the poverty measurements, based on local dynamics and the purchasing power of people’s incomes. Therefore, underdeveloped countries should focus on alternative

measurements based on their local dynamics, in order to document energy poverty, as well as developing country-specific strategies to mitigate the adverse effects of energy poverty on people.

References

1. Bouzarovski, S.; Petrova, S. A global perspective on domestic energy deprivation: Overcoming the energy poverty-fuel poverty binary. *Energy Res. Soc. Sci.* 2015, 10, 31–40.
2. Pelz, S.; Pachauri, S.; Groh, S. A critical review of modern approaches for multidimensional energy poverty measurement. *Wiley Interdiscip. Rev. Energy Environ.* 2018, 7, e304.
3. Streimikiene, D.; Lekavičius, V.; Baležentis, T.; Kyriakopoulos, G.L.; Abrhám, J. Climate Change Mitigation Policies Targeting Households and Addressing Energy Poverty in European Union. *Energies* 2020, 13, 3389.
4. Nussbaumer, P.; Bazilian, M.; Modi, V. Measuring energy poverty: Focusing on what matters. *Renew. Sustain. Energy Rev.* 2012, 16, 231–243.
5. Sovacool, B.K. The political economy of energy poverty: A review of key challenges. *Energy Sustain. Dev.* 2012, 16, 272–282.
6. Martiskainen, M.; Sovacool, B.K.; Lacey-Barnacle, M.; Hopkins, D.; Jenkins, K.E.H.; Simcock, N.; Mattioli, G.; Bouzarovski, S. New Dimensions of Vulnerability to Energy and Transport Poverty. *Joule* 2021, 5, 3–7.
7. Awaworyi Churchill, S.; Smyth, R. Ethnic diversity, energy poverty and the mediating role of trust: Evidence from household panel data for Australia. *Energy Econ.* 2020, 86, 104663.
8. Okushima, S. Gauging energy poverty: A multidimensional approach. *Energy* 2017, 137, 1159–1166.
9. UNDP. *Delivering Sustainable Energy in a Changing Climate: Strategy Note on Sustainable Energy*; UNDP Publishes: New York, NY, USA, 2016.
10. Isherwood, R.M.; Hancock, B.C. *Household Expenditure on Fuel: Distributional Aspects*; Economic Adviser's Office, DHSS: London, UK, 1979.
11. Boardman, B. *Fuel Poverty: From Cold Homes to Affordable Warmth*; Belhaven Press: London, UK, 1991.
12. Castaño-Rosa, R.; Solís-Guzmán, J.; Rubio-Bellido, C.; Marrero, M. Towards a multiple-indicator approach to energy poverty in the European Union: A review. *Energy Build.* 2019, 193, 36–48.
13. Boardman, B. *Fixing Fuel Poverty: Challenges and Solutions*; Routledge: London, UK, 2010; ISBN 9781844077441.

14. Schuessler, R. Energy Poverty Indicators: Conceptual Issues; ZEW Discussion Paper; 2014; Available online: <https://ftp.zew.de/pub/zew-docs/dp/dp14037.pdf> (accessed on 10 August 2021).
15. Moore, R. Definitions of fuel poverty: Implications for policy. *Energy Policy* 2012, 49, 19–26.
16. Hills, J. The Problem and Its Measurement: Interim Report of the Fuel Poverty Review; Case Report 69; Centre for Analysis of Social Exclusion: London, UK, 2011.
17. Heindl, P. Measuring Fuel Poverty: General Considerations and Application to German Household Data; Centre for European Economic Research: Berlin, Germany, 2014.
18. Rademaekers, K.; Yearwood, J.; Ferreira, A.; Pye, S.; Hamilton, I.; Agnolucci, P.; Grover, D.; Karásek, J.; Anisimova, N. Selecting Indicators to Measure Energy Poverty; Final Report for European Commission, DG Energy: Rotterdam, The Netherlands, 2016.
19. Che, X.; Zhu, B.; Wang, P. Assessing global energy poverty: An integrated approach. *Energy Policy* 2021, 149, 112099.
20. Thomson, H.; Bouzarovski, S.; Snell, C. Rethinking the measurement of energy poverty in Europe: A critical analysis of indicators and data. *Indoor Built. Environ.* 2017, 26, 879–901.
21. Thomson, H.; Snell, C.; Bouzarovski, S. Health, well-being and energy poverty in Europe: A comparative study of 32 European countries. *Int. J. Environ. Res. Public Health* 2017, 14, 584.
22. Papada, L.; Kaliampakos, D. Measuring energy poverty in Greece. *Energy Policy* 2016, 94, 157–165.
23. Bouzarovski, S.; Tirado Herrero, S. Geographies of injustice: The socio-spatial determinants of energy poverty in Poland, the Czech Republic and Hungary. *Post-Communist Econ.* 2017, 29, 27–50.
24. Meyer, S.; Laurence, H.; Bart, D.; Lucie, M.; Kevin, M. Capturing the multifaceted nature of energy poverty: Lessons from Belgium. *Energy Res. Soc. Sci.* 2018, 40, 273–283.
25. Scarpellini, S.; Rivera-Torres, P.; Suárez-Perales, I.; Aranda-Usón, A. Analysis of energy poverty intensity from the perspective of the regional administration: Empirical evidence from households in southern Europe. *Energy Policy* 2015, 86, 729–738.
26. Urpelainen, J. Energy poverty and perceptions of solar power in marginalized communities: Survey evidence from Uttar Pradesh, India. *Renew. Energy* 2016, 85, 534–539.
27. Okushima, S. Measuring energy poverty in Japan, 2004–2013. *Energy Policy* 2016, 98, 557–564.
28. Petrova, S.; Gentile, M.; Bouzarovski, S.; Mäkinen, I.H. Perceptions of thermal comfort and housing quality: Exploring the microgeographies of energy poverty in Stakhanov, Ukraine. *Environ. Plan. A* 2013, 45, 1240–1257.

29. Zhang, D.; Li, J.; Han, P. A multidimensional measure of energy poverty in China and its impacts on health: An empirical study based on the China family panel studies. *Energy Policy* 2019, 131, 72–81.
30. Maxim, A.; Mihai, C.; Apostoaie, C.M.; Popescu, C.; Istrate, C.; Bostan, I. Implications and measurement of energy poverty across the european union. *Sustainability* 2016, 8, 483.

Retrieved from <https://encyclopedia.pub/entry/history/show/35737>