

Energy Poverty

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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.

Keywords: 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.

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