CORA Cork Open Research Archive
Cartlann Taighde Oscailte Chorcaí

| | |
|---|---|
| Title | Towards a better understanding of energy poverty |
| Authors | Dunphy, Niall P.;Lennon, Breffní;Velasco-Herrejón, Paola |
| Publication date | 2023-12-01 |
| Original Citation | Dunphy, N.P., Lennon, B. and Velasco-Herrejón, P. (2023) 'Towards a better understanding of energy poverty', in P. V. Herrejón, B. Lennon, and N. P. Dunphy (eds)., Living with Energy Poverty. 1st edn. London: Routledge, pp. 275–281. Available at: https://doi.org/10.4324/9781003408536-27 |
| Type of publication | Book chapter |
| Link to publisher's version | 10.4324/9781003408536-27 |
| Rights | © 2023. The Authors. Open Access. This chapter has been made available under a CC-BY-NC-ND 4.0 license. - https://creativecommons.org/licenses/by-nc-nd/4.0 |
| Download date | 2026-10-31 02:49:30 |
| Item downloaded from | https://hdl.handle.net/10468/15455 |

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

# Living with Energy Poverty

## Perspectives from the Global North and South

Edited by Paola Velasco-Herrejón,
Breffní Lennon, and Niall P. Dunphy

**First published 2024**

**ISBN: 978-1-032-52818-2 (hbk)**
**ISBN: 978-1-032-52819-9 (pbk)**
**ISBN: 978-1-003-40853-6 (ebk)**

## Chapter 22

### Towards a Better Understanding of Energy Poverty

**(CC BY-NC-ND 4.0)**

**DOI: 10.4324/9781003408536-27**

**The funder for this chapter is EU's Horizon 2020 Research and Innovation Programme**

Routledge
Taylor & Francis Group
LONDON AND NEW YORK

earthscan
from Routledge

# Conclusion

# 22 Towards a Better Understanding of Energy Poverty

*Niall P. Dunphy, Breffní Lennon, and Paola Velasco-Herrejón*

## 22.1 Defining energy poverty

As we have seen in previous chapters, energy poverty can be succinctly described as the inability to access the levels of clean energy required for essential basic household energy services[1] such as heating, lighting, cooking, etc., which can constrain people's ability to live the life they value most. While linked, energy poverty is considered by many to be distinct from income poverty – Palmer et al. (2008) for instance, observe that not all those who are energy poor are necessarily income poor and that not all those under income poverty thresholds are in energy poverty. Rather than simply being about income level, energy poverty is a complex and dynamic condition resulting from the interaction of multiple factors for any given household, including energy availability and prices, income, building efficiency, appliance efficiency, specific household energy needs, and householder capabilities. The influence of these different factors varies from household to household and is strongly motivated by social context and economic conditions.

Energy poverty can manifest itself in households unable, for reasons of access and/or affordability, to source clean energy for necessities such as heat, light, cooling, cooking, and appliance use, or having to use an excessive portion of their disposable income to provide these essentials (Thomson et al., 2016). The condition results in cold and uncomfortable homes as well as indoor air pollution that has an important impact on well-being and quality of life standards globally. This phenomenon can lead to significant deteriorations in physical and mental health and premature deaths, in addition to more restricted lifestyles and social exclusion.

As mentioned earlier in the book, for the first time in decades, the number of households without access to affordable energy is increasing (Velasco-Herrejón et al., Chapter 1, this volume). Developing more effective responses to this social challenge necessitates a deeper appreciation of energy poverty and the different ways in which it manifests. While there has been some arguing for the importance of appreciating the lived experience of the energy poor (see, e.g., Middlemiss & Gillard, 2015; Middlemiss et al., 2018), much of the literature on energy poverty has tended to be quantitative in nature. A lot of the discourse has tended to focus on questions such as, what constitutes energy poverty? How can a household be deemed energy poor? How can the prevalence of energy poverty be quantified? Defining and measuring the phenomenon is, of course, vitally important for the design and evaluation of effective alleviation programmes, but on their own such numerically grounded perspectives are not sufficient to really understand energy poverty.

This book project emerged from two engaging conference panels[2] that attempted to extend understanding of the lived experiences of household energy poverty in both developed and developing country contexts. The book builds on the dialogue that commenced from these panels

DOI: 10.4324/9781003408536-27
This chapter has been made available under a CC-BY-NC-ND 4.0 license.

and gives voice to diverse perspectives from across the Global South and Global North. In doing so, it offers insights into the reality of energy poverty and the experiences of the energy poor. The aim of this concluding chapter is to reflect on the perspectives forwarded and consider what they might mean for action on energy poverty.

## 22.2 Identifying energy poverty

Work within the EnergyMeasures project identified a gap between the macro- and meso-level analysis of energy poverty and the identification of individual energy poor households (See Dunphy et al., Chapter 2, this volume). There is a substantial discourse on defining and measuring the rate of energy poverty, but a dearth of literature on how to actually identify and engage households is in need of support. Identifying energy poverty and engaging with the energy poor is not an easy task; it is a sensitive private condition that is confined to the home (Thomson et al., 2017) and one with a significant amount of stigma and shame attached to it (Longhurst & Hargreaves, 2019). Indeed, the term 'energy poverty' itself while perhaps useful in encouraging policy-makers to take action, can be quite counterproductive when reaching out to those who may be suffering from it. In many socio-cultural contexts, poverty is quite simply a taboo issue.

There are three principal approaches to measuring energy poverty. The first of these are methods based on energy expenditure thresholds. Expenditure-based metrics include a high share of income expended on energy (e.g., twice the median expenditure) and insufficient energy spending among those who self-restrain so-called hidden energy poverty (e.g., one-half the median expenditure on energy)[3]. The second approach is the so-called 'consensual' method, involving self-reporting of living conditions (e.g., inability to heat or cool) and financial distress (e.g., arrears on energy bills). Such self-reporting approaches are often criticised for their basis in residents' perceptions and supposed subjectivity, but as Dunphy (2020) argues, this is in fact 'exactly the point' of such metrics, reporting on the lived experience as they do. Consensual methods do not necessarily mean over-reporting; for example, Scott et al. (2008) observe that the self-reported measure of energy deprivation in Ireland was less than half the official energy poverty rate. A third approach is needs-assessment modelling, where the emphasis is not on actual expenditure incurred but rather on the expenditure that would be required to achieve acceptable levels of warmth[4]. This approach, although rather resource-intensive, provides excellent granularity of data.

Notwithstanding the possible advantages of other approaches, energy poverty metrics based on expenditure have tended to predominate, with relative thresholds used as proxies for energy deprivation. This has been explained by some on the basis of the assumed objectivity of such data and its perceived superiority compared to consensual data (Sareen et al., 2020). The reliance on (certain) expenditure indicators is not without contestation, including in this volume. See, for instance, Ibáñez Martín et al. (Chapter 3) for a discussion of the limitations of such measures; Barrella and Romero's (Chapter 4) critique of the quantitative methods used in Europe; and Mejía-Montero and Soriano-Hernández's (Chapter 5) call for greater a methodological diversity in studies of energy poverty. In subsequent chapters, Gayoso Heredia et al. (Chapter 6) and Antadze (Chapter 7) discuss how they used qualitative methods (such as participatory action research techniques and video ethnography) in their explorations of energy poverty.

## 22.3 Appreciating energy poverty

Energy poverty is fundamentally a human condition. The various definitions of energy poverty speak of people being unable to access or afford sufficient energy to meet their basic service needs. Yet, much of the discourse around the phenomenon has focused on the 'energy' part of

the description and to a large extent disregarded the equally (if not more) important component, 'people's needs'. There is rightly an increasing acknowledgement of the value of understanding the lived experience of those who find themselves in energy poverty. For instance, Middlemiss et al. (2018) argue that the integration of knowledge from lived experience into policy and practice design simply gives better outcomes. Longhurst and Hargreaves (2019) concur, arguing that ignoring evidence from lived experience results in energy poverty policies that focus on narrow technical framings and neglect the important human-centric factors that shape everyday energy use.

Lived experience is a term that is increasingly used in the policy domain. While its meaning is almost intuitive, McIntosh and Wright (2019, 459–462) suggest that it is often used as the '*basis of knowledge or form of evidence, which is usually invoked without exploration or clarification about what the term itself might mean or imply*'[5]. Drawing from a range of literature[6] relating to experiential knowledge and its meaning, they suggest that lived experience can perhaps be understood as being '*rooted in the everyday and routine'*. They argue that lived experience is not necessarily unique, intimating that the intersubjectivity of daily life can be reflected in some forms of lived experience, which might be '*usefully understood as involving clusters of commonality'*. In this way, the researcher can find '*patterns and typical forms of behaviour and concerns*', which are useful in understanding social phenomena.

There are significant gendered differentials in patterns of energy use and energy-related practices, and women typically have a very different relationship with energy than men (Dunphy et al., 2017). These differences, combined with wider societal gender social norms and related societal structure, mean that women face a higher risk of energy poverty, are impacted more severely by it, and find it harder to escape from. Gendered experiences of energy poverty are explored by Jodoin and Mang-Benza (Chapter 8) in sub-Saharan Africa and by Stojilovska and Feenstra in Austria and North Macedonia (Chapter 15). Although studying in the Global South and Global North, respectively, both chapters support the need for women's voices to be heard on energy poverty and for their (specific) needs to be better reflected in policy and practice.

People suffering from deprivation of any sort, including energy poverty, find ways to make their condition less unbearable and cope with difficulties. These so-called coping strategies are typically not purposive-rational actions but generally reactive ways of responding to the issue at hand (Brunner et al., 2012). Araya et al. (Chapter 14), speaking of the Southern Cone region of South America, note that many coping mechanisms span generations and are perceived as normal skills to overcome the cold. However, Chard and Walker (2016) note that many coping mechanisms mean that households settle for adapting rather than recognising that their situation should be improved. Berger's (Chapter 13) observation that heat tolerance is used as a coping strategy in India irrespective of its health risks is illustrative of the potential issues arising from coping mechanisms. Stojilovska et al. (2021) furthermore observe that while some strategies can be empowering experiences for householders, supporting their participation in the energy transition, others can act to reduce household resilience and keep them locked into energy poverty. Robert (Chapter 12) made an interesting point noting that not everybody has the agency to deploy effective coping strategies, illustrating how energy poverty impacts groups differentially.

It is important to understand the specifics of energy poverty in a particular setting. Cultural norms, socio-economic environments and the socio-political context combine to influence the occurrence of energy poverty and its impact on the citizenry. David and Koďousková (Chapter 9), for instance, analysed the reactions of vulnerable households transferred to a 'supplier of last instance'. They noted that many householders did not have the skill set to navigate offers from potential suppliers or apply for benefits, which left them poorly equipped to respond to difficult market conditions. Setyawati (Chapter 10) drawing on the lived experiences of street

vendors in Indonesia, showed that even among vulnerable energy users, there is a hierarchy of needs that impacts levels of resilience and empowerment. Mohlakoana and Wolpe (Chapter 11) reflecting on energy poverty in South Africa, comment that economic policies since democracy that might have been expected to improve matters actually slowed or even prevented a redistributive transformation of the energy system.

## 22.4 Addressing energy poverty

As we have discussed throughout this volume, energy poverty is a multi-faceted phenomenon that can hypothetically at least be addressed through multiple approaches. Infrastructure can be constructed, high energy costs can be subsidised through social tariffs (see, e.g., Giuliano et al., 2020), low incomes can be supplemented, for example, social welfare fuel allowances (see, e.g., Pillaia et al., 2022); poor quality buildings can be improved through grants and green loans (see, e.g., Bertoldi et al., 2021), capabilities can be enhanced, etc. All of these approaches can be deployed individually or in combination and can be realised through an appropriate and coherent mix of policy and practice initiatives.

Arguably, the most cost-effective and sustainable solution to energy poverty is reducing energy demand, primarily through building renovation and upgrading appliances. While acknowledging there is a social need for other types of support (if only as a bridging measure), governmental expenditure on subsidising energy costs (e.g., social electricity tariff in Belgium, free basic water and electricity services in South Africa) and supplementing income (e.g., fuel allowance in Ireland) remains very high, not least because that's what voters want. In keeping with an energy demand-oriented approach, Dervishi et al. (Chapter 18) present an assessment of the prevalence of energy poverty in housing stock in Tirana and highlight the vulnerability of households while also providing potential passive retrofitting measures for its resolution.

Noaman El Sherbini and Lippert (Chapter 19) conduct discourse analysis on EU member states' National Energy and Climate Plans (NECPs). They consider whether the NECPs demonstrate ambiguity, complexity, and/or multidimensionality in the way that energy poverty is expressed in terms of language and framing. They suggest changing the nature of the energy poverty diagnosis from measuring and defining to one that aims to identify the 'vulnerable consumer', reasons for their vulnerability, and measures to tackle specific types of vulnerability[7]. These types of on-the-ground supports are very well received in energy-vulnerable communities. Our experience in the EnergyMeasures Project demonstrates that building trust and developing relationships are central to engaging with a community on energy; working through a trusted gatekeeper is a great way of kick-starting initial engagement. Kenner et al. (Chapter 16) describe neighbourhood energy centres in Philadelphia, USA, which assist energy-poor households through a support programme involving budget counselling, service referrals, energy conservation workshops, and assistance with applications for energy aid programmes. Such centres provide an important network of embedded, flexible, and responsive care actors, alongside the existing stratified and ossified government support structures.

Innovation is a key part of tackling energy poverty, but it does not have to involve high technology. Boateng et al. (Chapter 21), for instance, explored the use of wood fuels in Ghana, examined possible uses of cleaner alternatives for cooking, and considered how these would affect rural livelihoods. Taking account of technological availability, costs, and socio-cultural aspects, they propose the use of improved cookstoves as a first step in the pathway to introducing LPG. Cornelis et al. (Chapter 17) discuss the experiences of two electrification projects in Africa.

The first is a top-down innovation in Burkina Faso that aims to prevent power outages through an optimisation solution based on smart metres and the Internet of things. It will prevent local overloads through smart demand management, sharing the power the grid can handle among consumers according to their needs and means – leading to more sustainable consumption practices based on resource sharing. The second is a bottom-up innovation. In Northern Madagascar, in the absence of national grid links, the deployment of a local nanogrid[8]-based system coupled with an innovative 'energy as a service' business model has disrupted the traditional consumption paradigm where consumers purchase services provided by the electricity services rather than the electricity itself.

Feelings of fairness or justice are key to the acceptability of decisions by public authorities and others with power. A key element of this justice (albeit one that is often side-lined) is recognition. Recognition justice calls for acknowledgement of differences while achieving social equity in procedures and outcomes. This requires appreciating social differences and can be concerned with re-valorising unjustly devaluated identities[9] (Fraser, 2007). Schlosberg (2004) notes that it may present itself not only as a failure to recognise but also misrecognise. Cultural and institutional processes of disrespect that devalue some people more than others are at the centre of misrecognition (Velasco-Herrejón et al., 2022). Lamonaca and Batel (Chapter 20) empirically examine the role of recognition justice in social housing within smart city projects in the Global North (Bolzano, Italy). They highlight the role of symbolic and psychosocial aspects in promoting inclusive and democratic accountability, and the importance of addressing misrecognition as a means of empowering citizens to enable a more active and autonomous energy citizenship, is also noted.

## 22.5 Conclusion

Appreciating the experiential knowledge of energy poverty is vital for any attempt to alleviate it. To this end, this volume aimed to expand collective understandings of energy poverty and deepen recognition of the phenomenon by engaging with the lived experiences of energy-poor households across different contexts. Drawing contributors from the Global South and the Global North broadened the analysis of the condition through the supply and demand sides, as well as through outcomes such as energy services, capabilities, and (in)justices. This provided a wide analysis of the drivers of energy deprivation at the household level and the risks and vulnerabilities people face as a result, facilitating a useful dialogue on the nature of energy poverty and one that we hope speaks to diverse audiences.

## Acknowledgement

This work has been conducted in the context of the EnergyMeasures Project funded by the European Union's Horizon 2020 Programme for Research and Innovation under Grant Agreement No. 894759. Further information about the project can be found at https://doi.org/10.3030/894759.

## Notes

1 This description draws from Brenda Boardman's (2010) characterisation of energy poverty from over a decade ago, albeit with her emphasis on affordability expanded to 'inability to access' (which inherently includes affordability).
2 Development Studies Association Conference 2022, Panels 12a & 12b on *'Understanding the lived experiences of energy poverty in the Global North and South'*.

3 The two expenditure-based metrics outlined above relate to absolute spend, a related approach would be as Hills (2011) suggests using a combination of expenditure over the median level and residual income below the official poverty line.
4 Such as the Irish Government's 2016 review of residential energy (SEAI, 2018, p. 37).
5 Although they do acknowledge an assumed meaning of living through phenomena, e.g., in qualitative longitudinal research.
6 Ultimately, focusing on three areas of work, which offered the most insights, namely: phenomenology, feminist theory and ethnography.
7 In this respect they concur with the approach forwarded by Dunphy et al. (Chapter 2, this volume).
8 This 'bottom-up approach' will involve interconnection of several nanogrids within a village-wide balancing microgrid.
9 Relating to identities such as gender, sexuality, life stage, race, and ethnicity.

## References

Bertoldi, P., Economidou, M., Palermo, V., Boza-Kiss, B., & Todeschi, V. (2021). How to Finance Energy Renovation of Residential Buildings: Review of Current and Emerging Financing Instruments in the EU. *Wiley Interdisciplinary Reviews: Energy and Environment*, 10(1). https://doi.org/10.1002/wene.384

Boardman, B. (2010). *Fixing Fuel Poverty: Challenges and Solutions*. London: Earthscan.

Brunner, K. M., Spitzer, M., & Christanell, A. (2012). Experiencing Fuel Poverty. Coping Strategies of Low-Income Households in Vienna/Austria. *Energy Policy*, 49, 53–59. https://doi.org/10.1016/j.enpol.2011.11.076

Chard, R., & Walker, G. (2016). Living with Fuel Poverty in Older Age: Coping Strategies and Their Problematic Implications. *Energy Research and Social Science*, 18, 62–70. https://doi.org/10.1016/j.erss.2016.03.004

Dunphy, N. P., Revez, A., Gaffney, C., Lennon, B., Ramis Aguilo, A., Morrissey, J. E., & Axon, S. (2017). *Intersectional Analysis of Energy Practices*. A research report of the ENTRUST H2020 Project. https://doi.org/10.5281/zenodo.3479295

Dunphy, N. P. (2020). Review of Methods of Identifying Energy Poor Households. A Research Report of the EnergyMeasures H2020 Project. https://doi.org/10.5281/zenodo.6867434

Fraser, N. (2007). Feminist Politics in the Age of Recognition: A Two-Dimensional Approach to Gender Justice. *Studies in Social Justice*, 1(1), 23–35. https://doi.org/10.26522/ssj.v1i1.979

Giuliano, F., Lugo, M. A., Masut, A., & Puig, J. (2020). Distributional Effects of Reducing Energy Subsidies: Evidence from Recent Policy Reform in Argentina. *Energy Economics*, 92, 104980. https://doi.org/10.1016/j.eneco.2020.104980

Hills, J. (2011). *Fuel Poverty: The Problem and Its Measurement. Interim Report of the Fuel Poverty Review*. London: London School of Economics and Political Science. Available at: https://bit.ly/42CePwU

Longhurst, N., & Hargreaves, T. (2019). Emotions and Fuel Poverty: The Lived Experience of Social Housing Tenants in the United Kingdom. *Energy Research* and *Social Science*, 56, 101207. https://doi.org/10.1016/j.erss.2019.05.017

McIntosh, I., & Wright, S. (2019). Exploring What the Notion of "lived Experience" Offers for Social Policy Analysis. *Journal of Social Policy*, 48(3), 449. https://doi.org/10.1017/S0047279418000570

Middlemiss, L., & Gillard, R. (2015). Fuel Poverty from the Bottom-up: Characterising Household Energy Vulnerability Through the Lived Experience of the Fuel Poor. *Energy Research* and *Social Science*, 6, 146–154. https://doi.org/10.1016/j.erss.2015.02.001

Middlemiss, L., Gillard, R., Pellicer, V., & Straver, K. (2018). Plugging the Gap Between Energy Policy and the Lived Experience of Energy Poverty: Five Principles for a Multidisciplinary Approach. In *Advancing Energy Policy* (pp. 15–29). Cham: Palgrave Macmillan. https://doi.org/10.1007/978-3-319-99097-2_2

Palmer, G., Macinnes, T., & Kenqay, P. (2008). *Cold and Poor: An Analysis of the Link between Fuel Poverty and Low Income*. London: New Policy Institute.

Pillaia, A., Tovar Reaños, M. A., & Curtis, J. (2022). *Fuel Poverty in Ireland: An Analysis of Trends and Profiles*, ESRI Working Paper No. 729. Dublin: Economic and Social Research Institute. http://hdl.handle.net/10419/265908

Sareen, S., Thomson, H., Tirado Herrero, S., Gouveia, J. P., Lippert, I., & Lis, A. (2020). European Energy Poverty Metrics: Scales, Prospects and Limits. *Global Transitions*, 2, 26–36. https://doi.org/10.1016/j.glt.2020.01.003

Schlosberg, D. (2004). Reconceiving Environmental Justice: Global Movements and Political Theories. *Environmental Politics*, 13(3), 517–540. https://doi.org/10.1080/0964401042000229025

Scott, S., Lyons, S., Keane, C., McCarthy, D., & Tol, R., 2008. *Fuel Poverty in Ireland: Extent, Affected Groups and Policy Issues*. ERSI Working Paper No. 262. Dublin: Economic and Social Research Institute. https://bit.ly/3MqHgs2

SEAI. (2018). *Energy in the Residential Sector – 2018 Report*. Dublin: Sustainable Energy Authority of Ireland.

Stojilovska, A., Yoon, H., & Robert, C. (2021). Out of the margins, into the light: Exploring energy poverty and household coping strategies in Austria, North Macedonia, France, and Spain. *Energy Research and Social Science*, 82, 102279. https://doi.org/10.1016/j.erss.2021.102279

Thomson, H., Bouzarovski, S., & Snell, C. (2017). Rethinking the Measurement of Energy Poverty in Europe: A Critical Analysis of Indicators and Data, *Indoor and Built Environment,* 26(7), 879–901. https://doi.org/10.1177/1420326X17699260

Thomson, H., Snell, C., & Liddell, C. (2016). Fuel Poverty in the European Union: A Concept in Need of Definition? *People; Place and Policy*, 10(1), 5–24. https://doi.org/10.3351/ppp.0010.0001.0002

Velasco-Herrejón, P., Dunphy, N.P., Lennon, B., & Quinlivan, L. (2022). *Citizen perceptions of energy justice*. A research report of EnergyPolities an SEAI RD&D funded project. https://doi.org/10.5281/zenodo.7352699