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Conceptualising energy use and energy poverty using a capabilities framework

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HIGHLIGHTS

- We apply the capabilities approach of Amartya Sen and Martha Nussbaum to conceptualising why energy is used and needed.
- We propose a definition of energy poverty based on the capabilities approach.
- We argue that this understanding integrates approaches to energy poverty from global North and South contexts.
- The proposed definition of energy poverty is multi-dimensional.
- This understanding opens new conceptual space for interventions to alleviate energy poverty.

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ABSTRACT

In this article we conceptualise energy use from a capabilities perspective, informed by the work of Amartya Sen, Martha Nussbaum and others following them. Building on this, we suggest a corresponding definition of energy poverty, as understood in the capabilities space. We argue that such an understanding provides a theoretically coherent means of comprehending the relationship between energy and wellbeing, and thus conceptualising energy deprivation, that makes sense across settings including both the global North and South: a coherence which has previously been lacking. At the same time, it has the flexibility to be deployed in a way that is sensitive to local contexts. Understanding energy use in the capabilities space also provides a means for identifying multiple sites of intervention, including some areas that are currently largely overlooked. We argue that this is advantageous for attempts to address energy poverty in the context of climate change and imperatives for the containment of aggregate energy consumption.

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1. Introduction

The specification of what constitutes the basis of a good, sufficient and just life remains enduringly – and maybe necessarily – elusive and contested. Undoubtedly though, most attempts to specify what such a life should involve, explicitly or implicitly include some form of access to energy resources as a necessary underpinning. For some commentators, the whole history of human ‘progress’ and development has been inextricably bound up with the availability and consumption of energy in more intensive forms and ever greater amounts (White, 1943, Mumford, 1967; Sørensen, 2012). Whilst we are now living in a time where the many downsides of intensive energy resource exploitation are

clearly apparent, the positive association between energy consumption and well-being is enduring. Accordingly, across global contexts, the accessibility and affordability of energy for citizens and households is a great concern. Policies, programmes and campaigns position energy consumption as an essential need or right that should be provided for, and the lack of this as a form of deprivation that should be addressed.

Our objective in this paper is not to challenge the positioning of energy consumption as a necessary element of what constitutes a good and sufficient life. We do though want to suggest that a more careful and systematic understanding can be developed of the relationship between energy consumption, energy services and what energy services enable or produce. This is needed, we argue, in order to better recognise how energy and well-being are interconnected, and therefore deepen how notions of energy poverty, energy vulnerability or energy precariousness are understood.

Currently there is a significant disjuncture between approaches

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to conceptualising and monitoring the relationship between energy and wellbeing in different parts of the world, particularly between more developed and less developed regions. Despite sometimes similar terminology such as ‘energy poverty’ being deployed, these areas of work have tended to progress separately and with little cross referencing (Bouzarovski and Petrova, 2015), which might signify missed opportunities for developing more fundamental understanding. More than that, concerns over energy poverty in more developed regions can be seen as serving to sustain if not increase levels of energy consumption, thereby conflicting with the global need for a reduction in energy use and associated carbon emissions; whilst global objectives for restricting energy consumption can, in parallel, be seen as in conflict with the needs of much of the Global South to extend energy infrastructures and access to energy services (Sen, 2014). A coherent framework allowing comparable analysis across contexts might be valuable in achieving a better understanding of distributions and inequalities across different scales from regional and national to global and thus allow situations and claims in one context to be placed within the context of another. The aim of this paper is to propose such a framework, which we do by using the capabilities perspective pioneered by Amartya Sen and Martha Nussbaum (Sen, 1992, 1993, 1999; Nussbaum, 2000, 2003, 2011). This builds on our previous work (Day and Walker, 2011; Day, 2012; Walker and Day, 2012) where we argued that the capabilities perspective provided an advantageous framework for understanding what energy is for, and thereby to conceive of energy vulnerability. Here we set out a detailed explanation of how this applies and why the capabilities framework provides a comprehensive approach, with potential for both integrating other perspectives and understanding them in relation to each other. Based on this we propose a capabilities-based definition of energy poverty which may be used as the basis for assessing the situations of households across a wide variety of regional contexts.

The discussion that follows moves through a number of stages. We first review different ways in which the relationship between energy consumption and well-being have been framed and articulated within academic analysis, advocacy work and policy measures, moving from global North to global South contexts. We next introduce the capabilities approach of Sen and Nussbaum, which we suggest can provide the core of a framework for conceptualising what energy is needed for. We then think through energy poverty from this perspective and consider the opportunities for interventions that it suggests. We conclude by reviewing the advantages and implications of the capabilities-informed framework that we have proposed. In order to bound the scope of the paper to some degree, and because domestic settings are the main focus of energy poverty and energy and development work worldwide, we develop our argument in relation to forms of energy use taking place in homes, therefore excluding for example transport related energy use and energy use in non-domestic work contexts. Nevertheless, the framework we suggest has the potential to be developed beyond this scope.

2. Energy and well-being in the UK and other more developed regions

The general relationship between energy use and well-being has long been articulated, permeating for example the period of electricity grid expansion in more economically advanced countries during the first half of the 20th Century (Hughes, 1993; Nye, 1999; Harrison, 2013). However, beginning in the UK in the 1980s, concerns about the detrimental impacts of the under-consumption of energy gathered momentum, expressed through the language of ‘fuel poverty’, and garnering policy, civil society campaigning

and research attention. In the UK, this agenda has always been dominated by concerns about the affordability of *heating* specifically, linked with anxieties about the public health effects of cold homes. Annual ‘excess winter deaths’ statistics for the UK show every year a peak in the number of deaths during winter months that run to the tens of thousands (Office for National Statistics, 2014). This peak is far larger than many countries with colder climates, a fact which is generally attributed to the poor energy efficiency of the UK housing stock, making houses expensive to heat. Following the influential work of Boardman (1991) and after much activist campaigning, a definition of fuel poverty was established in UK policy in 2001 as a household needing to spend more than 10% of their income to achieve a satisfactory heating regime, (as well as other energy services – although this addendum is often overlooked in much of the discourse around fuel poverty: Simcock and Walker, 2015). This was revised in 2013 in England to a new ‘low incomes high costs’ definition, whereby to be classified as fuel poor, a household must have a relatively energy inefficient home, and stand to be left in relative income poverty as a result of paying fuel bills assuming they heat their home to the recommended regime (Hills, 2011). Policy to combat fuel poverty in the UK has accordingly focused to some extent on relieving affordability, through a limited number of direct payments to older person and some low income households specifically to help with winter heating,¹ and to a greater extent on improving the energy efficiency of people’s homes.² The detrimental outcomes of living in fuel poverty are implicit rather than explicit in official formulations, but the logic of the discourse points to both poor health and reduced income to meet other needs.

The UK’s framing of ‘fuel poverty’ has been influential and is reflected in research and policy on energy and wellbeing in other developed economies. Researchers in New Zealand have also focused on housing energy efficiency and the affordability of heating, linking this with a similar problem to the UK of excess winter deaths and hospitalisations (Howden-Chapman et al., 2012; Viggers et al., 2013; O’Sullivan et al., 2012). In Europe, fuel poverty has been researched using the EU survey data on households’ ability to heat the home, occurrence of damp and mould, and energy bill arrears (e.g. Healy and Clinch, 2002; Thomson and Snell, 2013). Other research in post-soviet Europe has also concentrated on the affordability of heating services, linking problems with poor quality housing (Buzar, 2007; Tirado Herrero and Üрге-Vorsatz, 2012; Petrova et al., 2013); as has post-crisis research in Greece (Santamouris et al., 2013). In terms of official framings, Ireland, with similar climatic and housing issues to the UK, has defined fuel poverty as ‘the inability to afford adequate warmth in a home, or the inability to achieve adequate warmth because of the energy inefficiency of the home’ (Office for Social Inclusion, 2007 p67) and again, concerns centre on the health effects of cold and damp housing (Healy and Clinch, 2004; McAvoy, 2007). France’s policy definition defines ‘energy precariousness’ as a person encountering ‘particular difficulties in their accommodation in accessing the necessary energy supply to satisfy basic needs, due to inadequacy of financial resources or of housing conditions’ (De Quero and Lapostolet, 2009 p16, translated). Although less directly focused on heating, this reproduces a similar understanding, and research in France has also focused on dwelling and heating efficiency and affordability (Dubois, 2012).

A minority of European research concerned with energy affordability has looked beyond heating as the energy service of

¹ E.g. the Winter Fuel Payment, Warm Home Discount and the Cold Weather Payment <https://www.gov.uk/browse/benefits/heating>.

² Currently via the Green Deal and the Energy Company Obligation programmes <https://www.gov.uk/energy-grants-calculator>.

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