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Editorial: The contemporary landscape of Fuel Poverty research

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Fuel poverty research can be understood as the study of issues associated with the plight of households and individuals who cannot, due to a combination of a low income, an energy inefficient home and high fuel costs, heat their home to an adequate level and who may therefore experience a range of negative consequences including poorer physical and mental health and wellbeing, poorer life chances and financial exclusion (Marmot Review Team, 2011). The problem of fuel poverty continues to grow as an increasing number of households struggle to afford to consistently heat their homes to the minimum temperature required to maintain health. The consequences of this are severe and the winter of 2014/15 saw excess winter deaths reach their highest winter levels since 1999/00 in the UK (ONS, 2016) and evidence suggests that around a fifth of these 43,500 deaths were attributable to cold homes and were therefore entirely preventable. Similar patterns were recorded in other European countries including Portugal, Hungary and Spain (Euromomo, 2015).

In light of the failure to alleviate fuel poverty in the UK- despite the commitments of successive governments to eradicate it- (National Energy Action, 2015) and its emergence as a recognised phenomenon in many other countries around the world, fuel poverty arguably now represents a more salient research topic and pressing policy challenge than ever before. As a result of over two decades of research and campaigning (mostly focussed on the UK) (Walker et al, 2013), those seeking to contribute to the resolution of the problem whether through research, policy development or practice benefit from a more comprehensive understanding of the dynamics of fuel poverty than ever before. At the same time they will also have to grapple with an increasingly complex research and policy landscape characterised by increasing recognition of the interrelationships between fuel poverty and agendas allied to, inter alia, carbon reduction, economic development, housing provision and welfare reform. They will also have to work to reconcile the fundamentally intertwined issues of fuel, water and food poverty (United Nations, 2014).

Fuel poverty has been recognised as a concept for over 40 years, being the focus of activism since the 1970s yet has only been recognised as an important research topic for a much shorter time (Walker et al, 2013). Brenda Boardman's seminal book 'Fuel Poverty', published in 1991, appeared to signal a watershed moment following which there appeared greater acceptance of the need to understand the problem in much greater detail. Also, from this point the concept began to achieve worldwide recognition. In response to the growing international recognition of the social injustice of fuel poverty (Walker and Day, 2012), a now substantial community of

researchers has emerged who collectively seek to better understand, inform and challenge responses to the problem.

Although the UK- not least thanks to Boardman- has been at the forefront of the fuel poverty debate for many decades, the problem is now recognised and researched in many other countries and regions around the world, some of which are not traditionally associated with cold homes such as Spain and Portugal, for example (Euromomo, 2015). The broadening of the concept to incorporate access to the energy services required for comfortable and healthy daily living (whether this is achieved through heating or cooling), through the concept of 'energy poverty' has also drawn countries such as Australia more prominently into the debate (Nance, 2013). In this sense and many others, the debate around fuel poverty has evolved considerably since it began in earnest in 1970s Britain. At this time the intrinsic relationship between issues of home heating and climate change would have been poorly appreciated. Within the contemporary debate we can no longer consider issues of adequate home heating and cooling in isolation of parallel (and potential opposing) campaigns aimed at reducing energy consumption and reducing the carbon emissions associated with housing. These tensions will profoundly shape the debate in the decades that follow and present a considerable challenge to the next generation of fuel poverty researchers and policy makers (Walker et al, 2013).

The burgeoning international community of fuel poverty researchers is showcased in this special issue, which features contributions from scholars based in Chile, France, New Zealand, Spain, South Korea and the USA, as well as the UK. Although the widening international community of fuel poverty researchers indicates that the problem shows no sign of abating or being effectively remediated, it also represents a positive development in the sense that the problem is being recognised, researched and attempts made to tackle it across a range of different countries and contexts. Another key benefit of this international research community is that it enables the exchange of a large volume of diverse intelligence, methodological innovation and policy solutions that may eventually lead to the eradication of the problem. In this vein, it is very much an aim of this special issue to contribute to the facilitation of a genuinely international debate about fuel poverty; how we research it and ultimately resolve it. In this sense, the special issue endeavours to support and showcase the work of a number of important fora aiming to facilitate this critical dialogue between fuel poverty researchers across the world, including the Fuel Poverty Research Network and the EU Fuel Poverty Network. Many of those publishing papers in this special issue are active contributors to those networks.

The international fuel poverty research community is truly multidisciplinary in nature straddling sociology; medicine and public health; engineering; geography; architecture and planning; urban studies; economics and business. Each of these disciplines- and the researchers within them- brings a different approach to the exploration of the problem of fuel poverty, influenced by the dominant methodological traditions and established research themes within their fields. For

example, the likes of Brenda Boardman and Christine Liddell- who have done so much to shape the field- emanate from geography and psychology respectively and prominent New Zealand academic Philippa Howden-Chapman approaches the study of fuel poverty from an epidemiological perspective. This disciplinary diversity is reflected in this special issue where building scientists; architects and engineers are published alongside social scientists and public health specialists, united in their concern for the same societal challenge.

As a consequence of its interdisciplinary nature, the study of fuel poverty is also characterised by a diverse methodological landscape. In particular, a schism is evident between those researching the problem from a positivist perspective and those employing methods more closely allied to phenomenology, with the balance skewed towards the former approach. For example: research to quantify the extent of fuel poverty has involved the analysis of existing secondary data, whereas- more rarely- others have explored the lived experiences and consequences of living in cold homes using more ethnographically inspired qualitative approaches. Mixed methods studies are rare and quantitative and qualitative accounts are seldom united to form a rounded account of problem and solution. In this sense, whilst the diverse and multidisciplinary nature of fuel poverty research is a real strength of this emergent field, it has- at the same time- led to the creation of a fragmented evidence base that can prove difficult for those charged with the resolution of fuel poverty in policy and practice to navigate.

With this in mind, a key aim of this special issue has been to showcase the breadth of approaches to fuel poverty research emanating from a growing international community of fuel poverty researchers and in doing so, to promote awareness of the range of disciplinary areas influencing contemporary fuel poverty research. Overcoming established disciplinary and methodological siloes represents a considerable challenge for the future of the field and may be key to offering those in policy and practice the clarity and comprehensive insights that they need to fully understand and respond effectively to the problem.

It is our hope that this special issue contributes in some small way to laying the foundations for a more integrated body of evidence in relation to the causes, consequences and potential solutions to fuel poverty, thus increasing the scope for academic researchers to contribute to the development of appropriate and effective policy responses.

The papers featured in this special issue showcase the richness of the field and the significant potential that exists for learning across different countries, contexts and disciplines. Collectively the papers highlight the complexity of the fuel poverty problem and how different methodological approaches can reveal new and different facets to the phenomenon or cast them in new light.

The paper by Mould and Baker (2017) poses a significant challenge to established approaches to understanding the geographies of fuel poverty. It reveals how the application of analytical techniques developed in other geographical contexts reveal previously hidden geographies of fuel poverty in Scotland. In doing so, a host of assumptions are challenged and the findings call into question the validity of established methods of identifying and measuring fuel poverty and the policy responses based on these approaches. Thomson et al (2017) similarly seek to pose a robust challenge to the status quo within the field, highlighting the limitations posed by a lack of appropriate data, indicators (and consensus) to inform the conceptualisation and measurement of energy poverty in Europe. They argue that these shortcomings within the field represent an obstacle to the progression of research in the field and to the development of sensitive, well informed and carefully targeted policy responses. The paper goes on to take a constructive and pragmatic stance by assessing statistical options for monitoring energy poverty and proposing ways of improving existing data. As with Thomson et al (2017), Tirado Herrero (2017) challenges the dominance of mono-indicator metrics of energy (fuel) poverty and proposes a need to adopt multiple-indicator approaches to measuring the issue. Through a thorough review of extant measurement frameworks, Tirado Herrero highlights the limitations of these methodologies; noting that the commonly perceived superiority of income/expenditure based indicators is misplaced. Instead a move towards multiple, diverse measure of domestic energy deprivation are needed.

In a similar vein to Baker et al, Ezratty et al (2017) seek to transfer methodological approaches to the study of fuel poverty between countries and contexts. The physical and monetary health costs associated with fuel poverty are the focus of their work. The paper reports the findings to emerge from their successful application an English approach to estimating the health costs associated with energy inefficient housing to the French context.

The theme of the health consequences and additional healthcare costs associated with fuel poverty is continued with **Cronin de Chavez et al's** paper which seeks to demonstrate the value of combining environmental measurements (such as measurements of temperature and humidity within the home) with insights into the lived experiences of fuel poverty garnered through in-depth qualitative interviews with occupants. The paper distils a series of methodological lessons from across six discreet mixed methods studies that employed these approaches in tandem. A number of benefits to the approach are identified and it is argued that this mixed methods approach supports triangulation and therefore the generation of more robust empirical insights into the realities of living in cold homes and the behavioural responses of occupants.

The advocacy of mixed methods approaches continues with the paper by **O'Sullivan et al** (2017). Here the authors closely echo the sentiments underpinning this special issue when advocating more mixed method, policy-oriented research in the field of fuel poverty arguing that such an approach is particularly well suited to

investigating such a complex and multi-faceted policy problem. They contend that such an approach will be critical in galvanising growing national and international political interest and policy recognition of fuel poverty.

The contribution to the special issue from **Grey et al** (2017) at The Welsh School of Architecture strikes a different tone arguing for more diversity of methodological approaches to the study of fuel poverty and specifically for a larger number of qualitative (and particularly participatory and longitudinal) studies within the field. This, they argue, will broaden and enrich our understanding of the dynamics of the problem. More specifically they seek to understand how lived experiences of fuel poverty are impacted by energy efficiency improvements to the physical fabric of the home. This paper adds to an existing body of literature which reveals that physical energy efficiency improvements within the home can deliver a wide range of benefits for fuel poor occupants that go beyond those espoused or intended.

Also exploring the role of physical building design and its impact upon fuel poverty, Perez-Fargallo et al (2017) develop a Fuel Poverty Potential Risk Index (FPPRI), designed to calculate the probability of a household falling into fuel poverty whilst considering the applicability of adaptive comfort. The intention of this measure being to influence the early stages of social housing design. It makes an interesting contribution to the Fuel Poverty debate, adding to the limited literature on Fuel Poverty in South America and providing a detailed analysis of how different climatic, spatial, building orientation and urban context factors impact upon the likelihood of a household to be fuel poor.

Qualitative approaches to understanding fuel poverty are the focus of Butler and Sherriff's (2017) paper, which appraises the potential of Interpretative Phenomenological Analysis to elicit rich insights into lived experiences of fuel poverty. The benefits and limitations of the approach are discussed with reference to a study of young fuel poor adults undertaken in Salford, UK- an under researched group disproportionately affected by fuel poverty. Both policy and methodological lessons are proffered.

Together the papers provide a rich account of current methodological thinking and innovation in the field and provide a pertinent illustration of the increasing diversity of the field in terms of the methodologies being employed and piloted, the disciplines that are engaging in the debate and the increasingly international nature of fuel poverty research. The papers also individually and collectively enrich our understanding of the dynamics and geographies of fuel poverty through the contribution of new empirical data to the field. Certain themes emerge consistently across the papers, such as the calls for more methodological diversity, the transfer of methodologies between countries and contexts and the importance of deepening our understandings of the lived experiences of fuel poverty. Overall, the call for continued innovation in order to harness the positive potential of currently strong

policy and political interest in fuel poverty is resounding and should be heeded by the growing community of fuel poverty researchers.

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