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# Reflecting on personal and professional energy stories in energy demand research

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#### ABSTRACT

As researchers involved in projects to reduce energy demand within buildings we may differ in our discipline, approach and epistemology; however we all share in common our experiences of energy demand within our own homes and workplaces. This paper centres on our status as 'insiders' in the research we conduct, exploring its potential impact on the stories of energy we tell through our research. The paper considers ways in which we may craft more creative stories of energy demand by being reflexive researchers, seeking out the 'productive moment of friction' where universalising science meets particular personal experiences. Perspectives on the value of so-called 'anecdote', along with issues of representativeness are discussed. Ultimately the paper argues for greater recognition of and more explicit attention to the relationship between the stories of energy we experience in our own lives, and those we tell through our research. It does so in the hope of encouraging an acceptance of the partiality of all knowledge, a practice of pluralism, and thus opportunities to move beyond dominant discourses in policy, industry and academia of what is necessary in order to reduce the demand for energy in our buildings.

#### 1. Personal and professional stories

Complex or 'wicked' problems, such as energy demand in buildings, are increasingly being tackled through interdisciplinary or transdisciplinary research, bringing together teams of building engineers, computer scientists, psychologists and social scientists, plus if transdisciplinary, policy-makers and practitioners [56,14]. It has been suggested that such research should encourage us 'to think more creatively and widely about how to imagine response options' [57 p.46,emphasis added] and that through it 'new energy realities' can be 'purposely created through the clash of rival energy experiments and agendas' [16 p.10,emphasis added]. Others challenge us with the fact that 'doubt and contradiction rather than certainty are seen to be generative of social change' [66] and urge us to seek out 'that productive moment of friction where universals and particulars meet' [67,p.20]. This paper looks not outwards to the potential creativity of interdisciplinary and transdisciplinary research, but rather inwards, to ourselves as researchers, focusing not on the differences between our disciplines but the commonalities between us through our common experiences as householders and employees, engaging with energy in our own homes, workplaces, and beyond. The paper extends the ideas above to consider the 'clash' of views and the 'doubt and contradiction' which may arise from reflecting on the relationship between our 'particular' personal experiences of energy and our 'universal' professional expertise as energy researchers. It seeks to learn from the 'productive moment of friction' between these two ways of knowing energy, and suggests that this may lead to more 'creative' research responses and thus future 'energy realities' and 'social change'. In other words, it seeks to promote reflexive research which takes into account the necessarily messy nature of engagements with energy (as we all experience in our own lives), but which it may be argued is seldom accounted for fully in our research. It thus responds to calls for energy research and policy to better deal with energy related social practices [25–27] and to incorporate lay knowledge and the public (of which researchers are a part) in more transformative ways [3,28,29].

My previous research with academics who explore the possibilities of transforming energy demand through digital innovations [1] suggests that the relationship between the personal and the professional is tacitly recognised and thus implicit in much energy research. Whilst presenting my findings to a room of around 40 energy researchers at the BEHAVE 2016 conference, I asked the question 'have you ever reflected on your own personal experiences of energy use in your professional research roles?', to which all present put their hand up, indicating that they had. Some readers may express concern at this and see the inclusion of what some might refer to as 'anecdote' as problematic. Others may welcome the 'reality check' offered through this and see it as productive. Others still may already reflect on such personal experiences in structured and conscious ways throughout their research. This

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paper goes on to consider such perceptions and to discuss issues of representativeness, generalisability, and bias. The aim of this paper is not however to side with any particular perspective; rather it hopes to inspire *explicit* attention to the relationship between personal and professional engagements with energy, and to consider how it may be harnessed productively in energy research. Whilst reflecting on our personal stories of energy is inherently an individual task, there is a common effort involved in accounting for these in the stories of energy that we tell through our research.

This paper hopes to complement those in this Special Issue by highlighting not the stories of others, but rather those of ourselves as researchers - both from our private lives and through the public research we conduct. Our personal stories provide us with a grounded understanding of our own particular engagements with energy, whilst the professional stories we contribute to through our research provide us a channel through which to influence the experience of others. Both our personal and professional stories of energy thus deserve critical attention, particularly given the importance of researcher positionality and the need to recognise the partiality of science. Further, our personal and professional stories deserve to be considered together, given that in theory and in practice they intertwine in ways which make them inseparable. The weaving of personal and professional stories of energy in energy demand research raises methodological, ethical and epistemological concerns, and thus this paper should be of interest to many across energy research, policy, and practice.

This commentary paper focuses firstly on researcher positionality and the partiality of science, secondly on so-called anecdote and issues of representativeness, and thirdly and finally on practical ways in which to promote reflexive research.

#### 2. Researcher positionality and the partiality of science

This paper takes seriously the importance of our positionality as researchers; a concept which bridges the somewhat artificial dichotomy between the 'professional' and the 'personal'. Our positionality reflects our relationship to that which we research and may incorporate our gender, race, age, language, job, or our status as 'insider' or 'outsider', amongst other things [41–43]. At a general level (more on this below) we may be considered as 'insiders' in our research, in that we all live in homes in which we use various forms of energy for example. This is important as positionality relates not only to our direct encounters with research participants (for example householders in a research casestudy with whom we may be able to bond given our own personal experiences of energy), but also in how we conceptualise an issue, how we conduct our research, and how we attempt to intervene in policy and practice. The recent Special Section in ERSS on the influence of social science in energy policy [44,15-17] draws attention to the importance of shifting positionalities, in that case associated with moving jobs from policy to academia and how that enables an understanding of the opportunities for impactful social science. Others draw attention to the importance of gender in energy research [45] and we may imagine many other important facets of our relationship to that which we research, including our own personal experience of fuel poverty, of domestic or community solar panel installations, of living off-grid, or of relying on improved cook-stoves if coming from many places within the global South. Whilst as energy researchers we have our professional relationship to energy, we cannot escape our personal relations to it

Given the importance of positionality, I wish to divulge my own with respect to energy demand research. I am a human geographer who conducts qualitative social science research into the conservation of nature in the natural environment and of energy in the built environment. For the last 3 years I have helped to manage the TEDDINET network (www.teddinet.org), supporting interdisciplinary teams involved in researching the potential of digital innovations in reducing energy demand in the UK. I have found fascinating the casual ways in

which these researchers draw on their own experiences when discussing energy demand, for example, the way their son takes hours in the shower, or how their grandfather cannot for the life of him grasp digital technologies. And yet I see very little evidence of these insights in their research and they are generally dismissed merely as 'anecdotes'. This led me to conduct the empirical research from which this commentary paper emerges [1]. I must also 'confess' to being personally rather uninspired by energy technologies in my own home - leaving the quantitative monitoring of energy use to my biomass-heating engineer husband! For me, monitoring and managing energy at home arises from my embodied, everyday interactions with the house and my family over time, drawing 'simply' on energy know-how [2]. It is also the result of a conscious choice to live in a small house that is easy to heat and to ensure our electricity and heating needs come from renewable sources. As a researcher, I adopt a constructivist epistemology, believing in the partiality of all knowledge - and as a consequence the politics of science; an issue to which I know turn in relation to the weaving of personal and professional stories of energy.

Research does not merely report objective facts and factors about energy demand within our homes and workplaces; rather it is actively involved in creating, sustaining, and at times challenging, dominant narratives and discourses around society's engagement with energy. Science is neither a neutral observer nor a conveyor of a singular 'truth' [4], being structured instead by disciplinary training, by academic career imperatives of publishing and 'impact' creation, and by shifting funding foci and opportunities. Viewing research as a socially, culturally and politically constructed process allows the field of Science and Technology Studies (STS) to explore the mechanisms and relationships which sustain science and the authority of scientific expertise in wider society [5-7]. Anthropologists and other social scientists seek to understand the role of professionals, including researchers, and their power to (re)create particular material conditions based on discursive disciplinary claims and associated 'evidence' [8-10]. Critical scholarship draws attention to the dominance of particular disciplines within various fields - for example the elitism associated with engineering and economics in energy research, and the associated exclusion of the wider social sciences; as much debated within this journal [11-17].

A shift towards valuing a plurality of disciplinary knowledges and methodological approaches is evident within the progression and focus of research on energy demand, although some would suggest it has not yet gone far enough. Research which seeks to help reduce and manage the demand for energy within our homes and workplaces has since the 1970's been dominated by a positivist energy efficiency paradigm focused on a physical-technical-economic model (PTEM) of energy demand reduction [13,12,18]. Prevailing narratives in academia, policy and industry converge on the utility of interventions and (increasingly) digital technologies to help building users to understand their energy consumption and reduce it through changes in their behaviour; for example through the roll-out of smart-meters to monitor domestic energy use in many Western countries. Critics of such attitude-behaviourchoice or 'ABC' approaches [19] point however to their simplistic assumptions about the relationship between knowledge, attitudes and behaviour, suggesting that they fail to account for either contextual factors or the socio-technical nature of energy demand [20]. Rather than focus on knowledge alone i.e. on energy literacy [21,22], others draw attention to its interplay with energy know-how [2,23] and the importance of relational experiences of trust in the provision of information on energy [24]. Many draw on theories of social practice to provide a nuanced understanding of everyday 'practices-that-use-energy' [25-27], hoping they will counter the 'smart utopia' offered up through increasingly ubiquitous smart energy technologies [27]. Yet others draw our attention to the partial and political ways in which the public is invited to participate in research on issues such as energy demand, calling for an opening-up of opportunities to include lay knowledge and the public in more reflexive and transformative ways [3,28,29].

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