



Short communication

The energy cultures framework: Exploring the role of norms, practices and material culture in shaping energy behaviour in New Zealand



Janet Stephenson^{a,*}, Barry Barton^b, Gerry Carrington^a, Adam Doering^a, Rebecca Ford^a, Debbie Hopkins^a, Rob Lawson^a, Alaric McCarthy^a, David Rees^c, Michelle Scott^a, Paul Thorsnes^a, Sara Walton^a, John Williams^a, Ben Wooliscroft^a

^a University of Otago, New Zealand

^b University of Waikato, New Zealand

^c Synergia, Auckland, New Zealand

ARTICLE INFO

Article history:

Received 24 March 2015

Received in revised form 28 March 2015

Accepted 30 March 2015

Keywords:

Energy behaviour

Energy culture

Mobility culture

Interdisciplinary

ABSTRACT

The energy cultures framework was developed in 2009 to support interdisciplinary investigation into energy behaviour in New Zealand. In this paper, we discuss the framework in light of 5 years of empirical application and conceptual development. The concept of culture is helpful in seeking to better understand energy behaviour because it conveys how behaviours are embedded within the physical and social contexts of everyday life, and how they are both repetitive and heterogeneous. The framework suggests that the energy culture of a given subject (e.g. an individual, a household, a business, a sector) can be studied by examining the interrelationships between their norms, practices and material culture, and how these, in turn, are shaped by external influences. We discuss the key theoretical influences of the framework, and how the core concepts of the framework have evolved as we have applied them in different research situations. We then illustrate how we have applied the framework to a range of topics and sectors, and how it has been used to support interdisciplinary research, in identifying clusters of energy cultures, in examining energy cultures at different scales and in different sectors, and to inform policy development.

© 2015 Elsevier Ltd. All rights reserved.

1. Introduction

The energy cultures framework [1] was originally developed to fill the need of our research team for an integrating model to support multidisciplinary inquiry into energy behaviour – a need repeatedly expressed by the research community [2–4]. With a team that included researchers from the physical sciences, economics, law, psychology and sociology, it was necessary to develop a heuristic, or mental shortcut, whereby team members could communicate using a shared language, could readily grasp the complexity of behavioural drivers, could see where their discipline could contribute to a context-rich understanding of behaviour, and could assist in integrating findings. The resulting framework took cues from multiple theories and explanations of behaviour, and aimed to bridge the divide between research traditions centred on

the individual and those focused on wider social and technological influences.

In this paper we discuss the framework in light of 5 years of empirical application and conceptual development by the energy cultures research team. The concept of energy culture is consistent with the relatively recent shift to theorising energy behaviour in relation to its wider social and material context [5–7]. In its applications we have begun to appreciate that a cultural lens, as suggested by Sovacool [8], is indeed useful in examining questions such how conventions about energy use become cemented or change over time, the role of normalisation in consumption patterns, and opportunities for changing seemingly habitual behaviour.

Since 2009, the energy cultures research team has applied the framework in a variety of contexts and scales. Our initial 3-year research programme, involving an interdisciplinary research team of five members (Energy Cultures 1), examined household energy behaviours relating to space heating and hot water heating. This was succeeded by a 4-year programme (Energy Cultures 2) that studies opportunities for more efficient energy behaviours in businesses and households, and also how to stimulate adoption

* Corresponding author. Tel.: +64 3 479 8779.

E-mail address: janet.stephenson@otago.ac.nz (J. Stephenson).

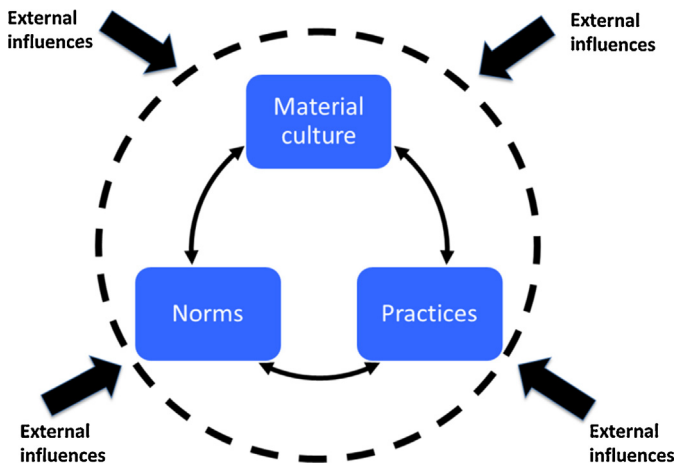


Fig. 1. The energy cultures framework.

of more energy-efficient transport. Energy Cultures 2 involves a 15-member multidisciplinary team which includes the original five team members.¹ Other smaller research projects that use the energy cultures framework have also been undertaken by team members, including studies of timber companies' use of drying technologies, the usefulness of different methods of providing home energy advice, household adoption of photovoltaic systems, and uptake of solar lamps in Vanuatu.

2. Key theoretical influences

In developing an integrative framework, the challenge was to achieve a structure and key concepts that were consistent with established theories, readily understandable across a multidisciplinary research team, and general enough to be applicable to diverse circumstances. We were attracted by the concept of culture as a basis for thinking about energy behaviour as it is familiar to most people, regardless of their disciplinary background, and because it helps situate behaviour within a wider context of influences. In everyday conversations, the term 'a change in culture' is often used to refer to the observed need for a fundamental shift in how people think and behave in relation to energy.

As a distinctive set of shared beliefs, values, behaviours, and artefacts [9], the concept of culture is also usefully multi-scalar: one can refer to the culture of a family or of a business, and equally to the culture of an industry sector or a nation. There are also subcultures within any wider culture, with characteristics that distinguish them from the overarching culture. The concept of culture is also relational, inviting consideration of how a culture 'both creates and is reinforced by its material objects' [1, p. 6123]. The framework, which will be described more fully in the following section, represents the 'energy culture' of any given subject (e.g. an individual, household, firm, business sector) as the interactions between that subject's norms, practices and material culture. A subject's energy culture may be partially self-determined, but is likely also to be shaped by external influences that are beyond their direct control (Fig. 1). Energy culture proved to be an idea that was quickly grasped by members of our multidisciplinary team and provided an access point to more nuanced understandings of behaviour and behaviour change.

In addition to the concept of culture, the framework was particularly influenced by system thinking, structuration, and practice

theory. Systems approaches have been successfully applied to help understand complex interactions in physical, biological and social systems, as well as systems that include all of these characteristics [10,11,50]. The energy cultures framework was influenced by the notion that the properties of any part of a system depend on its role and interrelationships within the system. Systems are also nested, each with different levels of complexity, and with emergent behaviours that are not evident at other levels. Systems researchers highlight the importance of applying multiple methods to understand complex systems [12] and the value of systems approaches in identifying points of intervention to achieve change [13].

These ideas are reflected in design and application of the energy cultures framework, so that in relation to any given energy culture, we are interested in the interrelationships between norms, practices and material culture, and their mutual causality [14] in either reinforcing the status quo or in shaping a changed energy culture. In addition, the framework invites consideration of the relationships between external influences and any of the elements of an energy culture that may have a role in constituting, reinforcing or destabilising that culture.

Another key influence in the development of the framework, itself influenced by the systems approach, is structuration theory [15]. Developed as a theory of how social systems maintain and reproduce, Giddens differentiates between the ability of people to act as relatively free agents, and on the constraining influences of social, financial and political structures, while acknowledging that both are simultaneously and continuously in interplay with each other. Deriving from the same sociological tradition, practice theory takes an interest in how everyday activities are influenced by the broader structures of society. Practice theory emphasises the role of infrastructure and objects as "necessary components of many practices" [16, p. 252], and has been widely applied to questions of sustainable consumption, including behaviour giving rise to household energy use [17,18,48,51].

The foremost aim in developing the framework was to enable different disciplines to work together using a common language and an integrating model. In this sense, it offers a relatively simple set of concepts that are consistent with the above contextualised approaches to understanding behaviour.

3. Energy culture

Energy culture itself was not defined in our 2010 paper, although we did offer the (non-definitive) statement that the energy cultures framework "characterises energy consumption behaviour as the interactions between cognitive norms, material culture and energy practices" [1, p. 6125]. Having repeatedly applied the framework in a research context, it has evolved to become more generic, so that one key difference is that we now refer to energy behaviour, rather than 'energy consumption behaviour', reflecting a broad interest in the behaviour of actors in all parts of energy systems. We would now say that energy behaviour is strongly influenced by the interactions between norms, practices and material culture, as well as by the external influences that form the context in which these interactions are situated.

As introduced above, the concept of energy culture can be considered at many scales and in many domains – from that of individuals or households, to the energy culture of a business sector or a nation. At each of these scales, we suggest that the relevant actors will have a distinctive system of knowledge and belief, with definable material culture, practices and norms, which is where the transactions that form their energy culture are founded. Energy culture is also shaped by the broad spectrum of influences which lie outside of the actors' direct control. The 'boundary' (in systems terms) of a given culture is determined by the norms, practices

¹ Disciplines include consumer psychology, economics, engineering, human geography, law, management, marketing, physics, psychology, sociology, statistics and system dynamics.

Download English Version:

<https://daneshyari.com/en/article/6558799>

Download Persian Version:

<https://daneshyari.com/article/6558799>

[Daneshyari.com](https://daneshyari.com)