Public engagement with energy system change

Public acceptability represents a major challenge for delivery of energy policy, in the UK and internationally. This article sets out three arguments about public engagement with energy transitions derived from research into public perspectives of whole energy system change. It argues for the need to consider values that underlay preferences, the importance of understanding problem and solution framings, and the significance of considering views on process as well as outcomes. Overall, insights are offered into how to better approach public engagement with energy system change.

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Introduction

At present, there is vociferous debate in the UK and internationally about how to achieve energy system change. The debates concern the need to address the sustainability of energy systems, while maintaining service provision in ways that are affordable. Of central concern in this is the extent to which various visions of energy system change will be acceptable to publics. Publics are deeply implicated in energy system configurations (e.g. as consumers and producers of energy, as active protesters or proponents of infrastructures), and will therefore be central to the successful implementation of change. Indeed, several commentators have posed that the development of a new social contract – i.e. an unspoken reciprocal agreement between state and citizenry – will be key to achieving change of the scale required [1, 2]. In this regard, public engagement is likely to be significant for a number of reasons - not least in developing understanding of public concerns and expectations about system change. This article sets out arguments arising from research that examined public acceptability of energy system change and addressed questions concerning how to build meaningful engagement that can aid in the delivery of successful transition processes.

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Public engagement: Debates and approaches

The research builds from existing debates about public engagement wherein it has been asserted that there is a need to consider the social dimensions of technological innovation in ways that move beyond so called 'deficit' thinking [3]. The 'deficit' approach has been extensively criticised for: 1) assuming the neutrality of information and privileging certain

forms of knowledge; 2) discounting the role of values, situational context, and other types of knowledge; and 3) framing publics as a problem in terms of their ignorance, trust or ambivalence, and engaging in order to correct rather than to reflect divergent perspectives [4].
In this context, a shift has been identified from a focus on information provision to more participatory and inclusive processes, which place emphasis on two-way dialogue and mutual learning. The rationale for these forms of public engagement tend to coalesce around two broad lines of reasoning: 1) involving publics in debating the path and nature of technological development is seen as a good thing in and of itself; and 2) opening up insight into public characterisations that can then be fed-back into key decisions or activities of scientists and engineers. The research and related assertions summarised here can be situated as having aims consistent with these two rationales.

Research methodology

The research aimed to gauge public views on, and contribute more widely to, the debates about public acceptability of energy system change. The project involved day-long deliberative workshops across the country and an on-line GB nationally representative survey to examine public views. A scenario tool ('My2050') developed by the Department of Energy and Climate Change and Sciencewise was utilised in both research phases [5]. In the remainder of the article we set out three key arguments pertaining to public engagement with energy system change that are based on the research findings.

Findings argument 1: Public values for energy system change

The first argument concerns the importance of thinking about the values which underlie peoples' preferences and help us to understand why preferences are the way they are, rather than simply what they are [see 6, 7, 8]. To illustrate this, our research shows that there is a strong public preference for solar energy (85% are favourable). The things which people value about solar energy are that is perceived as 'fair', 'just', 'clean', 'safe', 'renewable' and 'secure', and as delivering benefits in terms of 'affordability'.
However, we assert that if solar power was deployed and developed in ways that did not correspond with the underlying characteristics that people value, it would no longer fit with the public preference for this technology. To clarify, we might imagine a solar energy development supplying the UK but residing in North Africa, being revealed as causing local environmental contamination and land-use disputes. This 'version' of solar energy would not fit the public preference for this form of energy provision, as in this instance it would no longer be seen as 'fair', 'just' or 'clean'. That is to say, it is not solar energy per se that people are favourable toward but rather the ideals of fairness, cleanliness and so forth that they associate with the energy source. A major lesson from this analysis is that technologies currently regarded favourably or unfavourably can be formulated in ways more closely aligned with public values. For example, certain forms of bio-energy, namely grown for purpose bio-fuels provoke concerns about land conflicts, governance, regulatory failure, and pollution – these issues result in public uncertainty, ambivalence, and, in some cases, unacceptability of bio-fuels. However, it may be possible to envisage a development trajectory commensurate with the ideals that publics value through concerted and transparent efforts to ensure bio-fuels meet these concerns (for example, developing them in ways that do not put them in conflict with land for food production).

Findings argument 2: Understanding public framings of energy transitions

The second argument asserts that public engagement is required at the stage of problem formulation, as opposed to only at the point of deciding solutions. This is based on the premise that how problems are understood has profound implications for the kinds of solutions that are appropriate, possible, or desired. With respect to energy system change, the research highlights how publics formulate their own problematisations of the energy system and reasons

for why it requires transformation. These are related to policy and expert framings but also differ in many respects, with implications for how people perceive the appropriate solutions.

To give an example, climate change is one of the major policy imperatives for energy system change, and although climate change is incorporated in public views as one reason for change, it represents just one element within a much wider set of concerns related to environmental degradation and human/nature relations. Policies that fail to engage with this understanding of the problem risk presenting narrow solutions that do not account for public perspectives and may therefore result in contestation. To illustrate this we use the example of Carbon Capture and Storage (CCS). Although CCS might address some concerns around climate change, when broader environmental concerns are drawn into the framing, it no longer constitutes a solution because it represents a continued use of fossil fuels and other forms of environmental degradation (e.g. production of effluence and the need to store 'waste' carbon).

As such, our research shows that public framings of energy transitions are much broader and subtler than those presented in policy contexts. Public framings include additional concerns around social justice, fairness, quality of life and the environment more broadly. We argue that engaging with the wider concerns publics bring to bear on energy transitions will help create solutions that are more acceptable to society.

Findings argument 3: Public engagement with processes of energy system change

A final argument concerns the need to pay attention to how publics perceive processes of development, implementation, governance, and regulation in relation to energy system change. For example, in the case of development and implementation, whether such processes include genuine and early community engagement also forms an important part of public preferences and attitudes.

Within our research the importance of responses to processes became particularly apparent with regard to perceptions of different actors in energy transitions, and their perceived responsibilities in delivering change. Take, for example, the role of energy markets, which were perceived as not operating in ways that would ensure desirable transitions that would be inclusive of public concerns/values. Indeed, publics were doubtful that the market could deliver change that would ensure a fair price for all consumers, given the profit-motivations of energy companies and lack of transparency in the cost of energy. This has implications for the acceptability of some mechanisms for financing energy system transitions, including adding costs on to consumer bills. This, then, raises fundamental questions about the role of regulation and different actors' responsibility for ensuring energy transition processes are delivered in ways that are commensurate with, and inclusive of, broader societal interests and concerns.

As such, our research shows that it is vital to pay attention to public values to energy system change in relation to processes in addition to outcomes. By doing so, insights into processual issues, and possibilities for mitigating against these, can potentially be found.

Conclusions

In this paper we have set out three linked arguments pertaining to public engagement with energy system change. We will now briefly draw together some insights based on these findings. First, it is our contention that it is vital to consider the values underlying observed public preferences to be able to inform the development of robust energy policies that are more responsive to the concerns of publics.

Second, we argue that it is vital to engage with publics as early as possible to account for public values in a meaningful way – preferably at the problem forming rather than the solution stage. Indeed, we suggest that publics can offer valuable broader, yet subtler, framings, which in turn could help develop energy policy imperatives that take into account wider sustainability concerns.

Finally, we have highlighted that public perspectives must be considered not only in terms of outcomes,

but also in terms of the processual issues involved in energy transitions. Not doing this would risk ignoring other vital dimensions that, in addition to values associated with specific components of the energy system, underpin public preferences for energy system change.

Although adhering to the lessons these three arguments encapsulate would not guarantee the absence of public contestation, we suggest they are essential in engendering a more inclusive and fuller engagement process. Something that is perhaps essential if the UK and global society are to successfully develop transitions to alternative energy futures.

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