



Public prioritisation of energy affordability in the UK



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ABSTRACT

Much research has focused on the so-called ‘energy trilemma’ – i.e., three leading energy policy issues: energy security, affordability, and climate change mitigation. Whilst substantial understanding exists of why people support climate-friendly energy policies, little is known about why they think affordability is important. Particularly, what leads members of the public to identify this policy goal as more important than other objectives? Here, we examine this question via a nationally-representative survey of 2441 UK residents and demonstrate that concerns about personal costs explain a small amount of variation in the prioritisation of affordability as an energy policy goal; a range of other factors also significantly contribute. One such factor is beliefs about who is responsible for energy transitions. These findings suggest policy actions to address affordability concerns should go beyond energy prices, and include additional considerations such as distributive justice and equality.

1. Introduction

Substantial shifts in how energy is produced and consumed will be necessary to achieve the UK's 2008 Climate Change Act's mandate of an 80% reduction in greenhouse gas emissions by 2050 over 1990 levels (Foxon, 2013; Hammond and Pearson, 2013) and to approach the UNFCCC COP 21's even more ambitious goal of holding the increase in the global average temperature to below 2 °C above pre-industrial levels (UNFCCC, 2015; Loftus et al., 2015). Given the sizable costs associated with energy system transitions, ensuring energy remains affordable for people is a key policy goal in the UK and in many other countries where similar energy system transformations are taking place (Strbac et al., 2012; Pye et al., 2014; ETI, 2015; Ault et al., 2008; National Grid, 2015).

Furthermore, government interventions to facilitate energy system transitions will require public support, especially when transition costs are passed along to citizens via taxes or levies on energy bills (Vaze and Hewett, 2012; YouGov Cambridge Programme, 2014). Research has explored in depth why people support the energy policy goal of climate change mitigation, which is one third of the so called ‘energy trilemma’ – energy security, climate change, and affordability (Ding et al., 2011; Brügger et al., 2015; Dietz et al., 2007; Leiserowitz, 2006; Pidgeon, 2012; Brody et al., 2008; Heffron et al., 2015; Boston, 2013). However, little is known about what motivates the public to view affordability, one of the other central energy policy goals, as important. Some scholars have argued that the goals of climate change mitigation and energy

affordability are complementary, based on aggressive pushes for energy efficiency (Ürge-Vorsatz and Herrero, 2012). However, the few research efforts that assign a price to the costs of pathways for achieving a transition to a lower-carbon society in the UK reveal that most pathways come with non-trivial price tags (Pye et al., 2014; ETI, 2015). For example, three of the four official transition scenarios in the UK are estimated to cost between £350–500/resident/year more than the baseline scenario (not accounting for costs of climate change if no mitigation occurs; DECC, 2011). Even though the costs of experiencing unmitigated climate change could be considerably higher (Foxon et al., 2010), any immediate price increase might affect public perceptions of energy, and potentially influence public support for energy policies.

Increasingly, the UK has sought to fund environmental and social initiatives through levies on energy bills; in 2011, levies represented 6% of gas and electricity bills in the UK – by 2020, they are expected to account for 11% (Vaze and Hewett, 2012). Energy prices are also consistently a politically salient topic in the UK. For example, in a 2014 survey, 39% of respondents identified energy prices as one of the top three issues affecting the nation; it was the third leading issue, only behind the economy (59%) and immigration (49%) – in contrast, only 12% selected ‘environment’ (YouGov Cambridge Programme, 2014). Additionally, several high profile proposals to reduce energy prices have been forwarded by political parties (e.g., a windfall tax, breaking up energy companies, a price freeze on energy tariffs, requiring companies to put customers on the lowest tariff, and rolling back green levies; YouGov Cambridge Programme, 2014). The accompanying

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political and media rhetoric on the topic of affordable energy is often substantial; for example a survey suggesting that millions of elderly UK residents would be rationing heat (or food) to pay energy bills in winter 2015–2016 received much attention (Ellson, 2016).

Despite this rhetoric and occasional opinion polls, we know almost nothing about how and why members of the public perceive the issue of energy cost and affordability as they do. One might assume, as many media articles often do, that people predominantly care about affordability in terms of minimising financial costs to themselves. Indeed repeated surveys have shown that the public are concerned about energy prices (YouGov Cambridge Programme, 2014; Demski et al., 2014); for example, Demski et al. (2013) reported that 83% of their survey sample were very or fairly concerned that electricity and gas will become unaffordable for them in the next 10–20 years. As such, concerns about personal energy costs may be an important predictor for explaining people's perceptions of energy policy goals more generally. However, previous research also suggests that people's preferences for approaches to energy transitions are multifaceted and might encompass a range of other important values such as fundamental concerns about fairness and justice (Demski et al., 2015; Butler et al., 2013). This suggests that people's thoughts about the cost of energy, and the price of transitioning to a lower-carbon, more sustainable, and more secure energy system, might not only be dependent on a low personal price tag, but are also connected to conceptions of equitable cost sharing. For example, qualitative research by Butler and colleagues (2013) suggested that the distrust in UK energy companies might, in part, be connected to a perception that the companies pass on costs to consumers whilst increasing their own profits.

In the current study, we sought to identify the extent to which members of the British public prioritise affordability as an energy policy issue and to understand what attitudes, beliefs, and values are associated with such a prioritisation. This focus is an important addition to research which, to date, has extensively examined public perceptions of other energy policy issues, for example, why people are interested in climate conscious government policies (Whitmarsh et al., 2011; Lorenzoni et al., 2007). Yet, little research has explored reasons for the general public raising affordability as an energy policy priority. In addition, previous research has tended to examine public attitudes towards energy policy goals such as climate change, energy security and affordability in isolation of each other (e.g. Sovacool, 2016; Demski et al., 2014; Steentjes et al., 2017); here we examine relative importance directly by asking which policy goal people consider a priority. Although people may legitimately express high concern about a range of energy system issues simultaneously (Butler et al., 2013), different policy issues can compete for public attention, particularly when played against each other in political discourse. If we know the extent to which and why the public is concerned about affordability, carefully designed policies might be better able to address those concerns and focus attention on other relevant policy goals.

In the following sections, we explore public perceptions of energy policy issues with findings from a survey of public perceptions of transformations to the UK energy system. Our aims are twofold: (1) we examine to what extent members of the public prioritise the policy issue of affordability compared to other energy policy issues, and (2) we identify factors that predict why people do or do not prioritise affordability. By doing so, we produce a number of insights into public perceptions of energy costs and affordability that require further attention in research and policy-making.

2. Methods

A UK national survey was conducted by Cardiff University to examine public perceptions of the UK energy system and its future development. The questionnaire included questions on perceptions of a wide range of issues germane to energy system change and energy futures. Questions relevant to the current analysis are presented in

Section 2.2. Data were collected online from 2 to 12 August 2012.¹

2.1. Sampling

A nationally-representative quota sample of the British population (i.e., England, Scotland, and Wales) aged 18 years and older completed the online survey (n = 2441). Panellists were recruited from the Ipsos MORI Access Panel using an email invitation containing information about the length of survey and available incentive points. Quotas were set according to population averages for key socio-demographic variables including gender, geographic region, age, and employment status. Quota data were based on Labour Force Survey statistics from 2006.

The survey had a drop-out rate of 22%, (evenly distributed across all sections) which is in line with surveys of this kind (length and topic). When using online quota sampling, response rates are not calculated because non-response cannot be easily defined. As such demographic information should be consulted instead (Dillman, 2007). The exact procedure and demographic profile of the population is documented in more detail in Demski et al. (2013).

2.2. Measures and analysis

The results section (Sub-Section 3.1) examines responses to two questions measuring the extent to which people prioritise and ascribe importance to a range of energy policy issues, including that of affordability. The introductory text and first question were:

The UK government is currently thinking about how our energy system (i.e. how energy is supplied and used) will change over the next 40 years. It is argued that changes in our energy system are needed for a number of reasons, including the outdated and declining state of the existing energy system, the need to tackle climate change by reducing carbon emissions, and the importance of having a secure and continuous supply of energy in the future.

Below are some of the issues to think about. Please indicate which two you think are the most important, ranking them as the most important and second most important.

Response options:

1. *Changing the way we produce energy (being less reliant on coal, gas and oil),*
2. *Affordable energy prices,*
3. *Energy independence for the UK (i.e., not having to rely on buying energy from other countries),*
4. *Helping to prevent climate change,*
5. *Reducing the amount of energy we use as a country,*
6. *Avoiding blackouts and fuel shortages,*
7. *Don't know.*

The second question, asked later on in the survey, included response options to directly test people's prioritisation of the three key energy policy issues within the energy trilemma:

Below are listed three key energy priorities for the UK government. Please rank them in terms of importance, where 1 = 'most important' and 3 = 'least important'.

Response options:

1. *Keeping energy bills affordable for ordinary households,*

¹ It is important to acknowledge that British public perceptions and prioritisation of energy policy goals might change in the future (after the survey was conducted), nonetheless, the dataset provides a unique opportunity to analyse the relative importance that people assign to different energy policy goals (whereby other surveys often only ascertain their perceived importance independent of one another).

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