

Industrial strategy: DEMAND centre response to consultation (April 2017)

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Approach

The DEMAND Centre offers a distinct research agenda for the study of energy demand. In order to respond to the questions raised by the consultation, we set out some key contentions which guide our approach to understanding how energy demand is constituted and how it changes. We then use these ideas to address the following questions.

Q27 What are the most important steps the Government should take to limit energy costs over the long-term?

Q34 Do you agree the principles set out above are the right ones? If not what is missing?

Key Contentions

1. Demand for infrastructure can be understood as an outcome of people's participation in a variety of social practices (e.g. a train might contain groups of travellers en route to a business meeting and others on their way to visit friends and family; likewise the electricity infrastructure enables cooking, TV watching, heating, and more). The performance of social practices depends on conjunctions of materials (such as infrastructures, appliances, vehicles and devices), meanings (such as keeping fit or reciprocity) and competencies (such as know how to web search or ability to cook)(Shove, Pantzar et al. 2012). Practices relate to each other in various ways including in how they are sequenced and organised in time. Some practices are highly synchronised (e.g. evening meals) and others are highly synchronised and co-ordinated (e.g. working in a company or attending school).
2. Practices evolve over time in part because the populations of those who enact specific practices (the 'carriers' of the practice) change (Watson 2012). Changes in practices – and thus in the role of infrastructures – is the result of more, fewer or different performances of social practices over time.
3. When materials, meanings and competences change then practices do too (e.g. on-line banking has been established through new digital infrastructures (web, mobile communications and mobile devices) and is becoming slowly more established as the meaning of money changes. However, there is no one form of on-line banking – different people do it in different ways (some only at home, only for certain functions and others via mobile phones). Engaging with these devices and infrastructures depends on a set of competencies which evolve over time and which are different across the population.
4. With relation to infrastructure more specifically, a focus on demand means a focus on the changing and varied characteristics of infrastructures in-use, and as integral to the conduct of multiple practices (Shove, Watson et al. 2015; Shove 2017).

5. Infrastructures support a diverse range of patterns of consumption but they are also integral to the conduct of practices (they figure as the materials of practice), meaning that they are part of the creation (and reduction) of demand. For example, it is uncontested that new roads generate additional (often referred to as 'induced') traffic (Goodwin) and that taking away capacity (either physically or via time of day restrictions) does not just lead to the redistribution of traffic but its reduction (Cairns et al.).

Implications for Q27 and Q34

The industrial strategy pays considerable attention to energy systems and infrastructures – but none at all to a symmetrical discussion of demand, that is of how much energy and mobility might be 'required' in society, or for what purpose, now or in the future. This is entirely missing as a topic of overt analysis or debate (Q34).

We know that infrastructures are implicated in making as well as meeting peoples' expectations and 'needs': so what imagined ways of life are inscribed within and implied by strategies like those that are set out, including adding a third runway, HS2, battery storage, broadband investment and so forth?

If we read the industrial strategy in reverse, that is if we read it with a view to the practices and ways of living that are implied, we are faced with a surprisingly underspecified vision of what people will be doing in the future at home, at work or in moving around (what kinds of jobs are in fact imagined, what ways of life, what does progress and prosperity actually mean?). The future picture that emerges is essentially more of the same – hence the ambition for more connectivity between places; more productivity, etc.

But we stress that these implicit visions of society are 'performative': they provide a template and a point of reference in relation to which the strategy is deliberately and tacitly oriented. This approximate map of what a functioning or flourishing Britain might look like has profound implications for the developing energy system and for shaping future demand (and hence for Q27).

As set out on p89 the energy trilemma of security of supply, affordability and lower carbon is 'updated' such that the lower carbon aspect is taken for granted – leading to a focus on the other two aspects. This is to radically underestimate the scale of the challenges involved in meeting future carbon budgets. However, the more immediate point is that this analysis makes no mention of the extent of present or future energy demand.

This is important in that the cost of providing a secure, low carbon and affordable energy system depends – quite a lot – on the total scale of provision that is imagined. If overall demand was significantly lower there would be a wider range of lower cost options to provide secure, affordable and lower carbon systems of energy provision.

The timing of demand is equally important. It is therefore vital to spell out what sorts of activities are imagined to be happening and when, in order to properly conceptualise the scale of the demand problem. An obvious example of this is the transport networks where most parts of the network are over capacity only for very small parts of the day. Is an industrial strategy one which presumes this will continue or asks whether there is scope to build an economy that does not require

infrastructure spend largely for peaks. This matters for many different sorts of infrastructures but can only be considered if there is a different approach to thinking about future demand.

Thus one obvious response to Q27 is to suggest that the government does all that it can - not to reduce energy costs as such, but to reduce demand. That is, to help envision and build a society which can flourish and prosper but that implies much less energy consumption, here and abroad.

The tension, and the irony, is that much of the rest of the industrial strategy implies escalating energy consumption (e.g. associated with digital expansion; more travel etc.). Awareness of these tensions is missing (Q34).