Working Paper 18: The Dynamics of Demand: thinking about steering

Louise Reardon, Greg Marsden and Elizabeth Shove

A discussion paper for participants in the change and steering stream of the DEMAND conference, April 2016

The aim of this discussion paper is to provide some context, and hopefully inspiration, for the presentations and discussion at the conference stream on change and steering.

Our interest in steering runs to the heart of the DEMAND Centre. The centre is interested in how and why energy demand changes (see the Change discussion paper), and takes as its starting point the view that energy is not demanded as an end in itself, but as a means to the doing of many social practices. If we as researchers are to harness our knowledge of these changes in order to have an influence on (reducing) energy demand, we need to understand the means by which demand for energy is reproduced and shaped and how these processes might be 'steered' to create less energy-intensive practices.

We start with a discussion of what is meant by steering and introduce some of the main theoretical approaches that underpin this concept. We then consider some of the challenges that arise in trying to investigate processes of steering and the implications of these in the context of energy demand reduction.

What do we mean by steering?

The term 'steering' is contested. In various dictionaries it is defined as deliberate action (on the part of an actor) to direct something (a vehicle or course of action). In the governance literature this is how steering is understood in the main; with such definitions implying that structures of formal power and/or influential individual agency are important for determining outcomes. Policy implementation is a deliberate act which has the intention of affecting change in some dimension. Policy implementation is also established as a legitimate sphere of inquiry. It is however, limiting to focus on policy implementation alone when thinking about steering energy demand for various reasons including the following:

- The implementation of an individual policy is a complex process and it is therefore critical to consider the interactions of multiple policies, their layering and interaction over time. Issues such as the rising or fading of the importance of policies as external circumstances change and the creation (intended or otherwise) of new policy nexuses are not often in view.
- The very nature of our conceptualisation of demand means that what is seen by policymakers to be 'energy policy' in fact covers a very small area of the terrain relating to the evolution of demand.
- End-user practices are not simply the result of exogenous policy prescriptions or individual agent acting on a system, but rather evolve endogenously over time along with changing social meanings, technologies, resources and competencies. The relationship between the "pulling of the lever", or the tiller (in the case of steering)

and the "response of the system" is not obvious, and is likely to vary from case to case.

For DEMAND, the concept of steering has to be broader. In this context, efforts to understand how science, technology and society co-evolve provide a useful point of reference (Rip and Van der Meulen 1996; Rip 1998).

The metaphors of steering developed within this field come from long standing interest in how research funders and patrons, including the state, or universities, direct creative scientific innovation without being 'captured' by inherently unruly scientists and their agendas. By implication it's the science funders who have their hand on the tiller and who do the steering. The boat represents good science that addresses relevant societal problems. The water, and the eddies it contains, represent the flow of knowledge: tugged in multiple directions by various submerged currents and competing scientific interests not all of which are aligned with those of the state/funder.

This understanding of steering – as opposed to managing or directing – is consistent with an interest in complex, emergent systems. As in a sailing dinghy, steering is an uncertain and interactive process, calling for constant modulation to maintain a steady course. In all of this, reflexivity is key, as is the point that steering occurs within a context that is constantly changing, in part because of the effort to steer: as Rip explains "the notion of 'steering' with its implication of an agent and an object to be steered is of course misleading since the steering agent is part of an evolving system, including the object and himself" (Rip 2006).

The question of how the course (or the goals) are defined and set is a topic of some discussion. In a world of multiple actors with greater or lesser focus on the direct energy implications of what happens, goal ambiguity and change become a critical point of interest. Rather than being separate from the process of steering however, these questions are integral to it, meaning that goal negotiation and reflection becomes part of the inquiry.

Whilst the discussion above helps characterise processes of steering, it is necessary to find ways into understanding the processes by which demand is changing and to trace, track and interpret the importance (for better or worse) of variously deliberate acts which influence that demand.

How do we get at 'steering' methodologically?

The fluid and complex dynamics within which steering processes occur mean there are a several important methodological nettles to grasp. The first is where to begin empirical investigations into steering – how to trace or 'see' the process. If we understand end-user energy practices as continuously on the move (or open to change), is it even possible that a steering process can have a 'beginning' that can in turn provide the starting point for an investigation? The majority of policy studies/governance research that examines steering still tends to focus on a policy; be it the enactment of a new policy, the effect of a policy over time, or activity associated with a particular policy. Part of the reason for this is likely to be that since steering is hard to 'see'; policies provide a focal point for empirical attention because by their very nature, policies are designed to have some sought of after affect. If the policy is new, its introduction also provides a neat starting point for empirical

investigation. However, if we make a policy the focus of investigation we are at risk of overlooking much of what is engrained in our understanding of steering; including the recognition that policy is not exogenous to the process, but rather is part of it.

Methods that focus on a policy (of a government, organisation or whatever) typically assume that there is some intention inherent in steering. This intention (or ability to act) can be conceived of in many ways – due to power, resources, ability to shape discourse, or frame the context for action. However, intention is itself hard to grasp, and methods of conceptualising intention affect the way we interpret empirical data.

For example, the DEMAND project on office buildings shows that some of the standards that have become integral to the way such buildings are produced have their origins not in government policy or regulation, but are instead devised by the 'industry' itself. The practice of following these standards (whatever their content, and regardless of their origin) has become self-reproducing. This works in several spheres at once. The standards, which are based on guidelines developed by the British Council for Offices carry weight because they are produced by what is taken to be an authoritative organisation within a wider network of interests and actors: developers, valuers etc. Failing to comply with BCO standards is consequently interpreted as failing to provide marketable office space. While there is no obvious moment of government intervention, the government is arguably intervening in a hands-off way, for example, through facilitating legal arrangements, institutional systems and relationships on which the office-property market depends. In other words, the government is enabling the office building sector to shape markets in a particular way – it is steering the market through a policy of non-intervention.

Even if we can determine intentions (which arguably we could do through discussion with key organisations and agents in the networks we are interested in) it is illogical, given the understanding that practices change within a complex system of interactions, to suppose that intention is a necessary feature of steering.

The issue here is that unintentional steering is even harder to trace than intentioned steering because any act (or non-act) may have potential consequences be it three, thirty or three hundred steps removed from the initial event.

This brings us to the notion of 'invisible energy' policy that some within DEMAND are now investigating. The idea here is that a policy, such as defence, may not have any explicit and/or intentional energy policy (apart from say to increase efficiency in its buildings and operations) but that other activities (the procurement of its weaponry, for example) may steer energy intensive practices and thus have implications for energy demand. The decision to procure Trident or a new aircraft carrier will lock in decades of associated practices and energy consumption.

The notion of intended and unintended action compounds the more common place difficulties of empirical investigation; how far we cast the net in our investigation of steering – not only in terms of the starting point of investigation, but also the time scale we should focus on, and what we define as 'relevant' empirical data. Indeed the understanding of steering as more nuanced than intervention or management, and the potential to

conceptualise steering in ways that are dissociated from specific presents further challenges in defining the scope of investigation and the time-scales involved.

In focusing on the short term (maybe on a policy change for example) we may miss more important long terms trends. Linking back to the discussion paper on Change, there may be different levels of steering that interact to create or to stifle change at different scales of practice.

A handful of cross cutting questions

This document is designed to generate discussion. These are some of the questions it raises for us, and that you might want to add to, react against or reflect on in your presentations and papers.

- Given the complexities of interactions that enable steering, how or in what way is it possible to identify opportunities to shape energy practices?

- What aspects of energy practices are the most amenable to being steered?

- What concepts of steering do our empirical studies lead us to, and vice versa? Are we concerned with points of intervention, elements of importance or confluences of processes?

- When we study explicit demand reduction interventions what gets included and what of importance is missed or excluded?

- When we study non-energy or implicit interventions or influences what space exists for raising or changing the terms of the debate in that process?

- Institutions are always on the move. What can we understand from the evolution of institutions and their changing relation to demand reduction as a topic?

- What approaches exist to bring actions of the here and now together with the longer-term processes of change which contributed the conditions for the actions?

Abstracted abstracts

Note: these paragraphs are loosely based on contributors' own abstracts, but we have edited them – sometimes ruthlessly - to highlight methods and approaches to understanding steering. Apologies in advance.

Louise Reardon and Greg Marsden: Steering the Demand for Energy: Understanding the Role of Governance in Shaping and Changing Energy-Intensive Social Practices

This paper asks what opportunities there are for government and governance to reconfigure the practices upon which carbon reduction depends and is an attempt to begin a conversation between the governance literature and concepts from social practice theory.

Katy Roelich: Path dependency in energy governance – can it help to explain change in energy demand?

This paper will explore the significant role that policy path dependency plays in locking us in to current practices and constraining the nature and rate of change in energy demand. It will focus on the constraints created by systems of governance and will consider an empirical case study in UK energy governance.

Elizabeth Shove: Steering by accident: unintended governance strategies in action

This paper will discuss the results of the Japanese 'Cool biz' programme. It argues that the programme succeeded in reducing energy intensive practices, but not at all in the way that was intended. Following the policy through to its effects on daily life demonstrates the need for a situated account of change and influence.

Catherine Butler: Welfare policy, practice and energy demand

This contribution explores some of the methodological challenges involved in analysing the relationship between policy and practice, and how policies can steer energy demand. The paper will include a discussion of different ways of thinking about welfare policy impact and outline an approach to examining the ways that policy shapes practice, with implications for energy demand.

Jan Selby, Sarah Royston and Elizabeth Shove: Invisible Energy Policy in Higher Education

This paper introduces the Invisible Energy Policy project (mentioned above) and presents initial findings from the higher education sector. It compares energy and non-energy policies in the same sector, and provides some insight into how these are enacted 'on the ground'.

Joeri Naus and Gert Spaaragen: **Conceptualising a Domestic Energy Transition: the case of smart grid pilot projects in the Netherlands**

Using concepts from practice theory, this paper adds to a discussion of 'steering' by exploring the ways in which householders might be engaged in energy transitions: are they steering or are they steered?

Gregoire Wallenborn: **The mechanic regime of bodies**

This paper explores how practices can be steered through utilisation of a practice theory approach that looks at machines, bodies and their linkages through diverse interfaces and infrastructures. The paper outlines the implications for steering under both mechanic and experimental regimes.

References

Rip, A. (1998) "The Dancer and the Dance: Steering in/of Science and technology", in *Steering and Effectiveness in a Developing Knowledge Society*, Workshop proceedings edited by Rip, A., University of Twente. Lemma, Utrecht. Available at: http://doc.utwente.nl/34715/1/REPOS3__.pdf

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Rip, A. and Van der Meulen, B. J. (1996). "The post-modern research system." *Science and public policy* 23(6): 343-352.