

HOW DO INVISIBLE 'NON-ENERGY POLICIES' SHAPE ENERGY DEMAND?

Key points

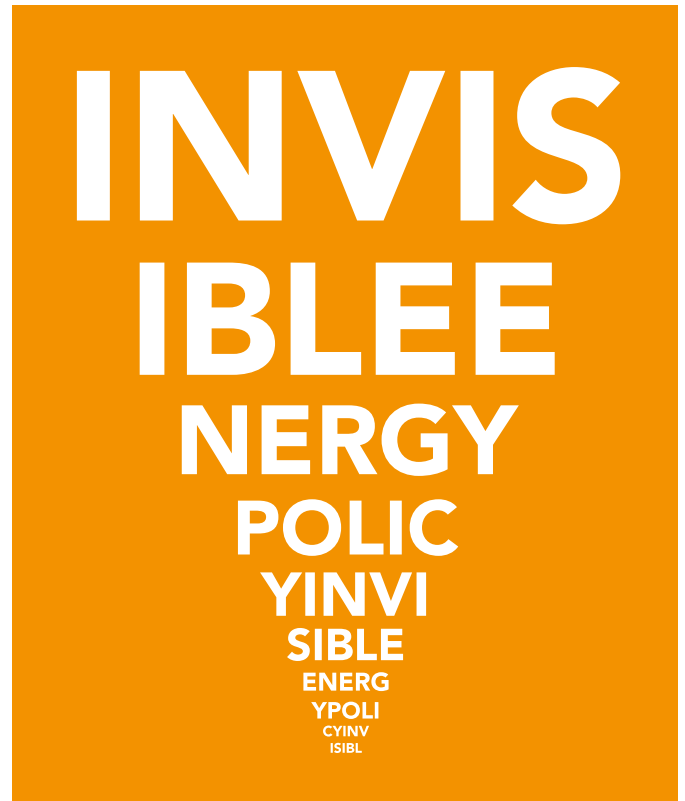
- Energy demand is not only shaped by policies that are explicitly about energy, but also by policies on trade, industry, employment, education, health and many other areas.
- These policies shape how people live, work and move around, often in ways that contribute to increasing energy demand.
- The effects of these 'non-energy' policies are rarely recognised by policy-makers, so we call them 'invisible policies'.
- By understanding the impact these non-energy policies have on demand, and the institutional processes that make these impacts 'invisible', we may be able to find new ways of reducing energy demand.

Introduction

The research investigated how energy demand is shaped by policies and institutional processes which are not explicitly about energy (for example, policies on growth, austerity, industry or welfare). These policies are often overlooked or ignored by researchers and policy-makers who focus exclusively on energy. With a better understanding of how non-energy policies and institutional processes shape demand, we may be able to identify new opportunities for reducing energy demand and carbon emissions. The research involved in-depth case studies of institutions within the UK Higher Education (HE) and health sectors, and combined interviews, documentary and statistical analysis.

Questions

- How do non-energy policies affect energy demand?
- How are matters of energy demand integrated (or not) into non-energy policy-making and planning, and with what effects on demand?



- How might the objective of energy demand reduction be 'mainstreamed' and more widely embedded in institutional policies and practices?
- How could non-energy policies be used to reduce energy demand?

Findings

The effects of non-energy policies can be relatively immediate and direct. For example, since 1997 UK health authorities have promoted single-bedroom hospital accommodation, to improve infection prevention and patient satisfaction. In some cases, switching to a single-bedroom layout has the direct effect of requiring more (temperature-controlled) space¹. But it can also indirectly affect technology use; for example, through installing more monitoring devices because patients are less visible to staff – thereby increasing electricity demand.

Individual policies and wider policy agendas both matter for trajectories of demand. A growth agenda often contributes to increasing demand (unless growth can be 'decoupled' from energy use). Liberalisation agendas in secondary education, aviation markets and international trade have also been associated with increasing energy demand². Our research found that the recent liberalisation of HE funding in England and Wales (with reduced state grants and increased tuition fees) made student experience and recruitment a priority for universities, leading them to increase investment in new

facilities, larger and more luxurious accommodation and 24-hour libraries – all demanding more energy. Simultaneously, the funding shift caused universities to prioritise attracting research funding, which often demands energy-intensive scientific equipment. These changes (among others) have contributed to a 3% rise in the sector's energy consumption over the last decade³. Institutional processes also matter for how energy demand is understood and managed. Energy issues are often 'siloes' so, for example, university and hospital energy managers are typically excluded from decision-making about organisational plans for income growth, estate expansion, privatisation and so on. They are expected to meet carbon targets using only technical efficiency improvements (or supply-side measures), with no impact on the patterns of demand that underpin 'business as usual'.

Significance

There is little knowledge of the impacts of non-energy policy on energy demand². This project opens up an important new agenda for research and policy.

Traditionally, policy-makers have drawn a distinction between 'energy' and 'non-energy' matters, and non-energy decision-makers (at all levels) have paid little attention to the consequences of their actions for energy demand. Our findings show how and why these boundaries matter. For example, targets for reducing energy consumption sometimes conflict with other organisational goals. More fundamentally, the relation between changing patterns of demand and organisational priorities and processes is often overlooked. Knowledge about how these issues are handled helps us think about how institutional boundaries could be drawn differently.

This 'energy'/'non-energy' split also means that energy research has tended to take non-energy policies (and the demands they create) for granted, seeing social and technical changes (like urban expansion, aviation growth or digitalisation) as inevitable, rather than being an outcome of deliberate intervention². Similarly, the Committee on Climate Change uses projections of future demand in its models, but rarely questions how policies drive/limit these trends⁴. Our findings highlight the importance of assumptions about future demand and the non-energy policy areas to which these relate. This kind of review and analysis is essential if we are to challenge escalating demand.

Implications

Increasingly, transport planners recognise that demand for transport (and the fuel it uses) is created by policies relating to town-planning, school choice and so on, and the same logic should apply to all forms of energy use. Policy-making in every sector, and from the local to international level, could include consideration of how rules, regulations, standards and procedures might, directly or indirectly, affect energy demand. We can learn from the parallel example of health, where policy-makers now recognise that outcomes like life expectancy are affected by many policy areas, such as transport, safety at work and tax policies that affect diet and smoking.

Building on this, energy demand reduction could be 'mainstreamed' in the same way that many organisations have aimed to integrate issues like Equalities and Health & Safety. This means considering where energy demand fits into institutional structures, roles, responsibilities and remits, and how these could be redesigned. It means reviewing organisational processes, including planning, target-setting and monitoring, to see how energy demand reduction objectives fit into these goals. This will focus attention on tough choices about whether existing plans, such as plans for growth are compatible with energy demand goals.

Efforts to reduce demand are often limited to a narrow set of technical efficiency measures, but understanding invisible energy policies opens up more challenging and wide-ranging possibilities for intervention in organisations from universities, hospitals and businesses to government departments. Once we understand how policies are driving changes in activities (like teaching, nursing, manufacturing, regulating etc.), we can ask difficult but important questions about how, where, when and why these impact on energy demand, and we can seek new ways of working that help rather than hinder progress towards energy demand reduction.

¹ West, P., McDonagh, S., Burke, S. and Trueman, P. (2010) *Evaluation of Single Room Ward at Hillingdon Hospital: Literature Review*. Report to the Department of Health.

² Cox, E., Royston, S. and Selby, J. (2016) *Impact of Non-energy Policies on Energy Systems*, UKERC.

³ Data source: *HESA Estates Management Record*, 2005-06 and 2015-16

⁴ UK CCC (2015) *The fifth carbon budget: the next step towards a low-carbon economy*. UK Committee on Climate Change, London.