

Dear Mr Supria,

I am writing to respond to the BEIS Call for Evidence on 'Helping businesses to improve the way they use energy'.

This submission is made by the DEMAND Centre, and specifically by Dr Sarah Royston, of the University of Sussex, with input from Professor Jan Selby (University of Sussex) and Professor Elizabeth Shove (Lancaster University). The DEMAND (Dynamics of Energy, Mobility and Demand) Centre is one of six End Use Energy Demand Research Centres funded primarily by the Research Councils UK Energy Programme. DEMAND, which runs from 2013-2019, is co-directed by Professor Elizabeth Shove and Professor Gordon Walker at Lancaster University and involves researchers from 10 universities across the UK. More details are available at <http://www.demand.ac.uk>.

Based on research carried out by the DEMAND centre, I would like to provide input on two of the questions in the Call for Evidence, as follows.

Question 2: What are your views on the level of ambition and how we could measure our progress?

First, it is important to note the difference between energy use and energy efficiency. The Call for Evidence says "*We have set a stretching ambition to reduce business energy use by 20% by 2030. This is one of the single largest carbon saving measures in the whole CGS*" (p6). The Clean Growth Strategy itself states an ambition for businesses to "*improve energy efficiency by at least 20 per cent by 2030*" (p63) - which is not the same thing.

Increasing energy efficiency (per unit of output) by 20% might contribute to decreasing energy use, or it might not (if output increases). For example, a business may become more energy efficient but the gain may be offset by its growth, resulting in a net increase in energy use.

If the UK is to achieve absolute reductions in carbon emissions, as required by the Climate Change Act 2008 (at the same time as reducing energy costs) then we need to bring about absolute reductions in energy use.

Efficiency measures might play a part in reducing energy use, in some cases. However, focusing on energy efficiency, and not on actual energy use, can be counter-productive. Energy efficiency strategies often reinforce current expectations about the 'services' energy provides (including comfort, lighting, mobility, convenience etc.), not all of which are sustainable in the long run.

Focusing solely on energy efficiency often means ignoring longer-term trends in demand and shifts in what energy is actually used for¹.

We therefore welcome the statement of an ambition to reduce the energy *use* of UK businesses (as in the Call for Evidence), if this is indeed the intention. This is likely to involve challenging taken-for-granted ideas about 'normal' standards and services.

Question 3: What other measures and energy efficiency potential might be available to businesses to reduce energy demand?

Energy efficiency policies and frameworks (like the standards, financing and information policies mentioned in the Call for Evidence) affect how businesses use energy. But these are not the only kind of policy that affects this energy use. For example, the policy of implementing British Summer Time affects the amount of energy that businesses use, as do policies that govern the opening hours of businesses.

Research within the DEMAND centre has shown that policies in seemingly unrelated areas - often seen as "non-energy policies" - have major impacts on energy demand in a wide range of sectors. For example, our work on commercial offices has found that their energy performance is affected by the market's interpretation of quality and design standards (such as British Council for Offices guidelines), which inadvertently encourage the development of highly energy-demanding buildings².

The Call for Evidence mentions Higher Education institutions as having taken "*positive steps to reduce their energy consumption*" through targets (p23). However, our research has found that English HEIs' energy use has risen by 27% between 2001-02 and 2015-16³. Our qualitative research with sector professionals suggests that this may be partially associated with changes in HE funding policy during that time. Universities' finances now rely largely on attracting students, leading them to provide more luxurious (energy-demanding) facilities and longer service opening hours⁴. Efforts to reduce energy through efficiency measures are outweighed by this kind of sectoral change.

In a review of 13 different policy sectors we identified numerous additional examples of how non-energy policies affect energy use in the UK⁵. However, we found that there is a lack of rigorous analysis of the nature and extent of these impacts. We therefore recommend, as a first step, that BEIS help to address this by supporting research to identify and assess the effects of these non-energy policies on energy use (including use by business and industry).

¹ Shove, E. (2018) 'What is wrong with energy efficiency?', Building Research & Information Vol 46(7)

² Cass, N. (2017) 'Energy-related standards and UK speculative office development' Building Research & Information Vol 46(6)

³ Source: Analysis of HESA Estates data, available at <https://www.hesa.ac.uk/collection/c16042>, with 2001-02 data supplied by the Association of University Directors of Estates.

⁴ Royston, S. (2016) Invisible energy policy in Higher Education. Presented at the DEMAND conference, Lancaster, UK, 13-15 April. <http://www.demand.ac.uk/wp-content/uploads/2016/05/Royston-Invisible-energy-policy-in-HE.pdf>.

⁵ Cox, E., Royston, S. and Selby, J. (2016) 'The impacts of non-energy policies on energy systems: A scoping paper'. London: UKERC. <http://www.ukerc.ac.uk/asset/1B9BBB2F-B98C-4250-BEE5DE0F253EAD91/>

BEIS could then work closely with other decision-makers (both within and without government) to seek ways to mitigate the unwanted impacts of non-energy policies on energy demand, or even to use non-energy policies or strategies in creative ways to achieve demand reductions. For example, it is well-known that policies on land use planning can be used to minimise travel demand and the associated energy use. In the same way, BEIS could work with partners to identify new, creative ways to help business and industry use less energy, that go far beyond efficiency.

My colleagues and I are happy to provide further information about any of the points raised here, and I can be contacted at s.royston@sussex.ac.uk.

Yours sincerely,

Dr Sarah Royston

Research Fellow, University of Sussex
DEMAND centre
s.royston@sussex.ac.uk