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Submission to the Net Zero Review Call for Evidence

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Opening remarks

In this submission we focus on the importance of people and places in delivering net zero. We draw on recent research on these areas emerging from a number of ongoing projects including ACCESS[1], a five year climate and environment social science project funded by the Economic and Social Research Council (ESRC); IDRIC[2], a cross-sectoral research programme focused on the decarbonisation of industrial clusters; and EnergyREV[3], a UKRI-funded multidisciplinary academic consortium providing coordinated research and innovation support across the Prospering from the Energy Revolution (PFER) programme.

We welcome the opportunity to respond to this Call for Evidence. We take as a starting point that decarbonisation has the potential to be both pro-business and pro-growth, and is increasingly well-aligned with security and affordability goals. We also agree that a focus on the economic co-benefits of decarbonisation is important. In our view, decarbonisation policy will need to engage with people and places in order to be successful. Conversely, policies that are place-agnostic and/or neglect the role of people and communities are likely to fail, even if they are considered cost-effective.

Response to selected consultation questions

2. What challenges and obstacles have you identified to decarbonisation?

A recent nationally-representative survey has demonstrated that there is clear public support for ongoing decarbonisation. However, we note that much of this support exists 'in-principle', and that support for specific interventions (e.g. locally-sited energy assets and associated infrastructure, domestic energy (including smart) technologies, domestic retrofit) will very much depend on context.

Smart local energy systems (SLES) have a role to play in energy system decarbonisation. These focus on the integration of low carbon generation, transport, heating and 'smart' (i.e. digital) technologies within geographically-defined 'local' communities[4]. They are potentially able to maximise flexibility within local energy systems while responding to local challenges (e.g. local grid constraints, building stock). However, our analysis of a nationally representative survey shows that several of key components within SLES are not yet in the public consciousness. For example, when asked what 'local energy systems' might mean, respondents emphasised a) local electricity generation (rather than, for example, heat and transport). There were, however very few mentions of low carbon

[1] Advancing Capacity for Climate and Environment Social Science (ACCESS), ESRC: https://greenfutures.exeter.ac.uk/access/
[2] Industrial Decarbonisation Research and Innovation Centre (IDRIC), UKRI : https://idric.org/
[3] EnergyREV: https://www.energyrev.org.uk/
[4] Ford, R., Maidment, C., Vigurs, C., Fell, M.J. and Morris, M., 2021. Smart local energy systems (SLES): A framework for exploring transition, context, and impacts. Link

heat or 'smart' technologies (or associated innovations such as demand side response), despite these aspects attracting increasing attention among industry and policy communities. This suggests that there remains a gap between the public, and government's understanding of decarbonisation, and a need for more tailored public engagement in some key areas. For more information see Soutar (in preparation)[5].

Related to this, there are examples where existing decarbonisation policy mechanisms have underappreciated and underemphasised the importance of public engagement. The Prospering from the Energy Revolution (PFER) programme for example sought to accelerate innovation in smart local energy systems. Within this programme, three 'Demonstrator' projects and 13 'Detailed Design' projects were established to show how integrated local systems can 'deliver power, heat and mobility to users in new and better ways'. Within the programme however, we found a lack of emphasis on engagement beyond narrow characterisations of people as consumers of new business models. Such framings neglect the role users and communities can play in helping to identify specific needs and to design solutions, and represent a missed opportunity in engaging people in multiple aspects of energy system change. More information can be found at Soutar et al (2022)[6] and Soutar & Devine Wright (2022)[7].

4. What more could government do to support businesses, consumers and other actors to decarbonise?

Adopt a place-based approach to decarbonisation.

The place-based approach offers two significant advantages. First, it provides conceptual and methodological tools to guide decarbonisation policies and actions in ways that are grounded in insights and data from social science disciplines. Second, it can assist with joining up diverse policy goals - mitigating climate change, enabling economic prosperity and reducing regional inequalities. Application of a place-based approach can inform strategy and planning for designated 'net zero' geographical areas such as Industrial Clusters and Freeports. For more information, see Devine-Wright (2022)[8].

29. How can we ensure that we seize the benefits from future innovation and technologies?

Embed public engagement within innovation policy

Programmes to develop and accelerate the adoption of low carbon technologies offer important opportunities for public engagement. Much of the progress towards energy system decarbonisation so far has taken place without meaningful public engagement. However, much more innovation will needed at the demand-side in order to decarbonise heat (e.g. through retrofitting buildings, electrifying heat, connecting to heat networks, or converting boilers and appliances to receive hydrogen), mobility (e.g. adoption of electric vehicles and associated infrastructures) and electricity (e.g. adoption of domestic generation, storage, and smart appliances). This implies that public engagement will become increasingly important.

While some public engagement might naturally emerge as a consequence of innovation, leaving engagement to specific technology developers may well result in narrow engagement practices focused on single technologies, and may result in a missed opportunities to engage the public around multiple technologies. Rather than expecting public engagement to emerge organically as part of innovation, government could do more to emphasise the importance of engagement within innovation policies and programmes. More information can be found at Soutar et al (2022)[6] and Soutar & Devine Wright (2022)[7].

Monitor and respond to unintended consequences of energy system digitalisation

Data and digital technologies are increasingly regarded as critical enablers for decarbonisation. However, energy system digitalisation opens up space for unintended environmental and related social harms. There is a need for

[5] Soutar, I, Devine Wright, P. et al. What do people expect from local energy systems? Evidence from a national survey in the UK (in preparation)

[6] Soutar et al (2022) Constructing practices of engagement with users and communities: Comparing emergent state-led smart local energy systems Link

[7] Soutar I & Devine-Wright (2022) How can Smart Local Energy Systems projects and policies engage more effectively with the public? Link

[8] Devine-Wright, P (2022) Decarbonisation of industrial clusters: A place-based research agenda. Link

policy and regulatory actors to closely monitor and respond to these risks as they emerge. For more information see Judson et al (2022)[9].

Draw on insights and data from the social sciences.

A common fallacy is that technologies are the answers to environmental problems such as climate change. However, tackling climate change cannot be achieved solely through technological breakthroughs or new climate models. We must build on the strong social science knowledge base to understand how to optimise the development and deployment of net zero technologies. Further, we need to design interventions that are both effective at reducing emissions and achieve wider societal goals such as wellbeing, equity, and fairness. All climate solutions will involve people in one way or another—as citizens, consumers, employers, employees, leaders, parents, investors, activists, and members of communities. People need both the motivation and the capacity to choose low-carbon technologies in homes and businesses; to make decisions about what their company does and how it does it; to create policies and laws on climate change; to encourage and protect biodiversity; to vote, protest and organise community responses; to change how they travel and what they eat and buy; and to talk to their children or parents about climate change. This means social scientists are critical to achieving 'net zero' and adapting to climate impacts. We invite BEIS to engage with the ACCESS project, which aims to increase the visibility, use and impact of social science in environmental policy making and practice. For more info, see Devine-Wright et al (2022)[10].

Yours sincerely

University of Exeter

[9] Judson et al. (2022) Energy democracy: A digital future? Link

[10] Devine-Wright et al. (2022). Placing people at the heart of climate action. Link