

Consultation on Net Zero Governance

A response to the Department for Business, Energy and Industrial Strategy Committee call for evidence on Net Zero Governance, submitted on behalf of the Supergen Bioenergy Hub and the University of Nottingham Energy Institute.

Authors and notes

Alison Mohr and Mirjam Roeder

NB. The following evidence primarily draws on our experience and expertise in the social, environmental, economic and governance dimensions of renewable energy systems, particularly bioenergy systems.

All enquiries should be sent to Alison Mohr alison.mohr@w3z.co.uk or Joanna Sparks j.sparks@aston.ac.uk.

Reference

Please use the following reference:

Supergen Bioenergy Hub and University of Nottingham Energy Institute response to Department for Business, Energy and Industrial Strategy Committee call for evidence on Net Zero Governance, 2021. Available online from <http://www.supergen-bioenergy.net/wp-content/uploads/2021/10/Net-Zero-Governance.pdf>.

Question 1. What are the key requirements for a governance structure that can deliver cross-Government climate action at the pace, scale and over the duration required to meet the carbon budgets and the 2050 net zero target?

a) Are the Government's existing net zero governance structures effective in this role, both in terms of coordination across Whitehall, and coordination with the devolved administrations and local and regional authorities?

- Governance refers to the structures, processes, rules and traditions that determine how people in societies make decisions and share power, exercise responsibility and ensure accountability (Cundill & Fabricius, 2010). This includes multiple possible modes of policy and decision making (e.g., hierarchical, market, network), and multiple possible actors (e.g., government, industry, research, civil society) across multiple levels (e.g., international, national, regional, local).
- Delivering cross-Government climate action at the pace and scale needed to meet ambitious carbon budgets and net zero targets will require societal support and

action at multiple levels, including individual and community, or net zero risks being an unrealised ambition and the policy gap noted by the CCC in its 2021 Progress Report to Parliament will not be bridged. However, the scale of the climate change challenge and of the action required for net zero is often perceived as an intangible, distant problem beyond the control of the individual.

- To bridge the net zero policy gap noted by the CCC, successful policy implementation will be reliant on addressing societal views and actions that are often context specific to do with scale (spatial and temporal), community values and priorities, perceptions of trust and equity (winners/losers), risks and benefits and the human dimension (who has a stake, when in the process, and to what end). Understanding of the specific context, local values and priorities, implementing fair processes and developing trust is best achieved through governance at the local and regional level through interactions and relationship building between local governance and supply chain actors and community members. Building equity into processes of systemic change requires instituting strong mechanisms that generate public benefits (Siddharth & Haarstad, 2020)
- A transition of this pace and scale needs to be led by government as we cannot expect individuals and households to switch away from fossil fuels without clear policy support. But individual and community action will require support through governance processes at the level of local and regional authorities. Effective coordination across Whitehall and with devolved administrations and local and regional authorities requires that attention be paid to the dynamic interrelationship between national government and local and regional authorities. Accelerating the speed and scale of implementation for distributed low carbon energy systems and enhancing their positive sustainability impacts, especially for the energy poor for whom sustainable energy is often not affordable, reliable or accessible (Mohr, 2018), is directly linked to the quality of local and national governance structures and their dynamic interrelationships. A key barrier to effective local/regional governance is a lack of devolved resources, and skilled and knowledgeable staff to help promote, implement and monitor local/regional low carbon energy systems, activities and practices.
- Working with communities is typically expected to better embed individual behaviour change, as well as generate social innovations and facilitate the consensual deployment of sustainable energy technologies (Walker 2011). The direct involvement of communities contributes to the successful implementation and social embedding of various forms of carbon reduction activity and practices (Mohr & Raman, 2013), including the use of low carbon technologies, the adoption of energy efficiency and conservation measures, shifts in consumption practices and in patterns of mobility (Walker, 2011).
- Devolved community carbon governance processes can help avoid the resistance and protest that remote governance structures or private development schemes can produce (Wustenhagen et al., 2007) because they tend to be more locally appropriate, more inclusive of local people and priorities and more locally beneficial (Rogers et al., 2008).

b) What alternative governance structures could be established to coordinate and deliver cross-Government action on climate change more effectively?

- Governance has a central role to play in putting end-users at the center of the UK energy transition to enable engagement, gain meaningful consent and to build legitimacy and trust. In a decentralised energy system, the emphasis shifts from supply side to demand side, bringing to the fore the people who create demand and the places in which they live and work (Hoggett, 2017). This requires rethinking the role of people as active users or empowered 'energy citizens' (Ryghaug et al., 2018) rather than passive consumers of energy services and supply. Governance must shift away from top down technocratic and centralized structures towards bottom up consensual and legitimate change that seeks to give citizens an active voice and role within the energy system. Governance arrangements shape the design and implementation of regulations, markets and institutions and therefore shape and influence which actors, technologies, approaches are encouraged, undermined or excluded. Much of the current governance framework is built around the 'old' centralised fossil energy supply system and its powerful actors. Alternative governance structures that are fit for purpose will require institutional reform that focuses on end user preferences, facilitating local markets, open and transparent access to data, greater coordination in and across levels of governance, long-term policy stability, transparency and legitimacy in policy-making (Hoggett, 2017).
- Governance structures must also be sensitive to context. Effective governance solutions will be dependent on social intelligence on energy access, public awareness, fuel preferences and energy behaviours and social practices in different parts of the UK. Bottom-up, user- and stakeholder-led social intelligence gathering processes such as the 2020 Climate Assembly UK are therefore important for ensuring the representation of multiple actors and their voices and low carbon priorities and preferences in energy system decision-making. The Climate Assembly UK reported strong agreement that people in different parts of the country should be offered different zero carbon solutions and allowed to choose the best technologies for their needs, highlighting that social acceptance of some technologies may not be automatic (Climate Assembly UK 2020). Public acceptability is contingent upon numerous contextual factors including cost, performance and convenience, perceptions of safety and equity, awareness of the need to decarbonize certain aspects of everyday life (such as household heating), effectiveness in tackling climate change and improving energy security, and personal and social judgements about the legitimacy of proposals by more or less trusted stakeholders seeking to develop and implement low carbon schemes (Mohr & Raman, 2013).

c) What metrics should the Government use to measure their progress towards net zero?

- Quantitative metrics alone are insufficient to map and measure progress towards net zero. Achieving a sustainable societal transition to net zero must strike a balance between all aspects of sustainability: environmental, economic and social. Balance cannot be achieved through measurement of economic value or environmental impact alone. A sustainable transition must embrace a diversity of expert and

stakeholder inputs, multiple solutions and non-economic values (Hadley Kershaw et al., 2021). Such qualitative inputs highlight the importance of asking value-based questions about the kind of future society we aspire to, including which renewable resources, processes or products should be used and where, which problem framing and assumptions should guide the transition, who is included in the agenda-setting, research and development and who else could/should be? (Raman et al., 2015).

- For example, bioenergy with carbon capture and storage (BECCS) is seen as a mainstay of IPCC and CCC modelling underpinning the 1.5°C and 2°C pathways critical to achieving net zero. These modelling scenarios are reliant on the sustainable production and sourcing of biomass that will require strong sustainability governance across multiple levels, for example: internationally, to ensure that any imported biomass is sustainable in terms of transport emissions, equitable working conditions and land use; nationally, in terms of significant investment and policy support to encourage innovation and investor confidence; and locally, in terms of processing emissions and creating a favourable socio-economic context for farmers to allocate time, land and resources to growing energy crops.
- A key governance challenge is that sustainability impacts tend to be location specific, so distribution of risks is an issue. Yet UK modelling of BECCS assumes a system of international trade in biomass commodities, often presented in impersonal and overarching terms. It is important to understand how global networks are linked to local nodes where their impacts are experienced and sometimes resisted (Raman & Mohr, 2014). For example, equity and social justice questions of uneven distribution of impacts related to where biomass has come from, which regions have borne the negative impacts, and which have benefitted are important considerations for sustainable governance (Raman & Mohr, 2014). Moreover, separating the emission and removal of CO₂ spatially across regions and countries and temporally across generations further increases the ethical implications in terms of inter- and intra-generational justice (Thornley & Mohr, 2018). Poor understanding on the dynamic interrelationship between multi-level governance processes risks public controversy, unsustainable supply chains and/or inequitable distribution of benefits and burdens.
- Often assumptions made in technical models don't stack up in real world situations. For example, modelling marginal land has been a central device for policymakers to quantify how much marginal land might be available as a resource through which the UK can meet its climate change and carbon reduction targets. Dedicated energy crops were expected by UK policy and academic modelling to be deployed across large swathes of UK marginal lands in response to farm and market level incentives (Helliwell, 2018). But whether land is deemed marginal or not is not just a matter of biophysical assessment of land suitability. Embedding multiple, including qualitative, perspectives when framing policy and modelling categories is important. Helliwell (2018) has shown that policy understandings didn't map onto the understandings of land held by farmers expected to adopt the crops. Consequently, policy incentives either did not acknowledge or incentivise farmers to overcome barriers to adoption arising from farmers' cultural values, farm infrastructures and machinery and existing practices.

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About Supergen Bioenergy Hub

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The Supergen Bioenergy Hub works with academia, industry, government and societal stakeholders to develop sustainable bioenergy systems that support the UK's transition to an affordable, resilient, low-carbon energy future.

The hub is funded jointly by the Engineering and Physical Sciences Research Council (EPSRC) and the Biotechnology and Biological Sciences Research Council (BBSRC) and is part of the wider Supergen Programme.
Grant: EP/S000771/1