Energy Security and Net Zero Committee – Flexible Grid for the Future – Call for Evidence

Combined response from CSE, Regen and the TCPA

24 August 2023

The Centre for Sustainable Energy (CSE) is a charity supporting people and organisations across the UK to tackle the climate emergency and end the suffering caused by cold homes. We do this by sharing our knowledge, practical experience and policy insights. We help communities and local councils to take effective action on energy in their homes, understand energy issues, set priorities, and put plans into action. We work with councils, communities and lobby government to ensure the planning system achieves a greener smarter, fairer energy system that works for everyone, to ensure that every building is zero carbon and liveable and that places are shaped for sustainable energy. Our vision is a world where sustainability is second nature, carbon emissions have been cut to safe levels and fuel poverty has been replaced by energy justice.

Regen is a not-for-profit centre of energy expertise and market insight whose mission is to transform the energy system for a zero-carbon future. We are leading strategists on the pathway to a zero carbon energy system, focused on analysing the systemic challenges of decarbonising power, heat and transport. We know that a transformation of this scale will require engaging the whole of society in a just transition.

The Town and Country Planning Association's vision is for homes, places and communities in which everyone can thrive. Our mission is to challenge, inspire and support people to create healthy, sustainable and resilient places that are fair for everyone.

All three organisations have national expertise in the energy and planning systems. All three are committed to accelerating the transition to a zero-carbon energy system and a safe sustainable world.

Does the current national and DNO grid deliver the capacity needed for the future and, if not, what are the solutions?

Preparing for a wave of consumer electrification

By 2035, 80% of vehicles on the road could be electric, and 41% of households could use electricity as their energy source for heating, significantly increasing electricity demand[1]. However, primary energy demand across all fuels for transportation and heating will fall due to the high energy conversion efficiencies of electric vehicles (EVs) and heat pumps compared to internal combustion engines and gas boilers.

[1] Regen Building a GB Electricity Network for Net Zero https://www.mcscharitablefoundation.org/regen-building-a-gb-electricity-network-ready-for-net-zero

Meeting the huge increase in consumer electricity demand will be a challenge for networks. A sustained approach from the government, Ofgem and networks will be required to ensure that consumers will be able to connect quickly and easily. A first crucial step is Government leadership through a commitment to the electrification of heat. It is increasingly clear from emerging evidence that hydrogen will have either a very limited role or no role at all in heating our homes. However, until the government makes a clear decision on hydrogen heating, it is difficult for networks to plan and invest for the electrification of heating through heat pumps.

Networks operators have developed plans and initiatives to ensure people can connect heat pumps and EV chargers without delays and at full capacity. They now need to ensure these plans are implemented and step up the pace of change. Ofgem has taken a gamble with net zero by cutting distribution network investment plans against their draft budgets. They must now ensure that networks can access budgets tied behind 'Uncertainty Mechanisms' before customers start seeing problems with connections.

Connecting onshore renewables and storage

Connecting a large volume of renewable generation and storage is critical to decarbonising power by 2035. Between 180 and 220 GW of grid-connected power generation capacity will be needed.

Developers are bringing forward storage and renewable projects at the scale we need, and there is a large pipeline of projects with grid connection agreements. However, new projects are now stuck behind a long queue with transmission system connection lead times of over 15 years.

Action is needed in three areas:

- The government must move to a regime whereby grid developments are coordinated ahead of new generation connections, in particular, ensuring the new Future System Operator is operationalised at pace with clear plan for grid investment.
- A streamlined and effective connections process for renewables and storage
- The ESO and DNOs need to put in place a new process to resolve transmission barriers to distribution connections resulting in long queues to connect.

Connecting Offshore and Large-Scale Generation

Net zero will not be possible without the rapid build of transmission projects that have already been approved for delivery by Ofgem. It is critical that these projects can now progress at the fast pace needed of between 6-9 GW per year by 2035.

Establishing the Future System Operator as a public body with a remit to oversee a clear strategic plan for the transmission network is a key step.

The supply chain must have sufficient capacity to deliver transmission network projects. The Nick Winser report sets out the scale of this challenge as countries across the world invest in their electricity networks and sets out the planning reforms needed to deliver grid infrastructure. We say more about the planning system below.

What changes should be made to the planning system to enable it to increase the use of renewable energy?

The UK is legally committed to reducing emissions to net zero by 2050. Logically, this means not increasing fossil fuel extraction, in time retiring all carbon emitting generation and increasing renewable generation to meet all our energy needs. Significantly, our wider decarbonisation strategy is dependent on electrifying heating, transport, and industry.

Therefore, we can only decarbonise our society if we first decarbonise our electricity system and significantly increase the amount of renewable energy generated to meet these new demands.

The over-riding importance of increasing renewable energy deployment is not set out in the relevant sections of the NPPF, which have not been significantly updated for many years, except in respect of increasing restrictions on wind deployment.

The Climate Change Committee (CCC) commissioned the Centre for Sustainable Energy (CSE) and the Town and Country Planning Association (TCPA) to conduct research[2] into the barriers and opportunities to delivering climate mitigation and adaptation through the spatial planning system. We surveyed local planning authorities on the effectiveness of the planning system in addressing different aspects of climate mitigation and adaptation. Only 20% of survey respondents felt the system was extremely or somewhat effective in addressing renewable energy generation, with 65% stating that it was not very effective or not at all effective. 15% were neutral or didn't know.

We would suggest the following changes:

Onshore Wind

The government should remove the planning barriers to the cheapest renewable energy source of all, onshore wind, which experienced a 97% reduction[3] in deployment following the Written Ministerial Statement in 2015.

The changes to the planning regime for onshore wind proposed in the 2022 Levelling up consultation[4] would potentially, slightly open up the opportunities for onshore wind developments to come forward. However a higher bar is still set for new onshore wind than for other energy developments. All options set out in the consultation require significant extra effort from local communities or local councils compared with simply submitting a conventional planning application, as is possible for all other forms of energy generation, including new fossil fuel generation.

Furthermore, local planning authorities are poorly placed to identify locations that are truly likely to be technically suitable for onshore wind, lacking the knowledge base and expertise. Given the

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[2] Spatial planning for climate resilience and Net Zero (CSE and TCPA, for Climate Change Committee) - www.theccc.org.uk/publication/spatial-planning-for-climate-resilience-and-net-zero-cse-tcpa/#:~:text=The%20Climate%20Change%20Committee%20(CCC,local%20authority%20level%20in%20England.

[3] https://www.rtpi.org.uk/blog/2023/march/dr-rebecca-windemer-do-we-need-new-onshore-wind-farms-in-england/#:~:text=This%20is%202.7%25%20of%20the,the%20removal%20of%20financial%20subsidies.

[4] Which would enable communities to bring forward wind developments through Local Development Orders, Neighbourhood Development Orders and Community Right to Build orders and allowing local planing authorities to identify suitable areas for wind within Supplementary Planning Documents. www.gov.uk/government/consultations/levelling-up-and-regeneration-bill-reforms-to-national-planning-policy/levelling-up-and-regeneration-bill-reforms-to-national-planning-policy

urgent need for all forms of renewable energy, the widespread support for onshore wind, and the harm that arises from fossil fuel extraction, this is illogical and unnecessary.

Feedback from the renewables industry is that the changes proposed to the wind planning regime will not give the sector or investors the confidence to pursue new schemes. Without removing footnote 54 of the National Planning Policy Framework (NPPF), the onshore wind pipeline is likely to remain very low.

Positive Strategies to Maximise Renewables

The government should ensure that all local authorities have positive strategies to maximise renewable generation. The NPPF (paragraph 155) already includes this wording but there's little guidance on what such a strategy should include, and we have yet to see a planning inspector challenge a council meaningfully on this requirement. In many cases what is ultimately adopted is a *passive (and sometimes negatively worded) policy*, rather than a positive strategy.

An earlier edition of the NPPF also stressed the responsibility on all communities to contribute towards the generation of renewable energy. This text should be reinstated.

Renewable Energy policies should be comprehensive, clear, and enabling. Good policies (for example policy RE1 of the Cornwall Climate Change DDP[5]) explore all the technically feasible renewable energy technologies and set out suitable criteria for each, and identify suitable locations for these technologies where possible. They also mention climate change, support community energy initiatives, and set out targets for deployment, ideally informed by local pathways to net zero. Such positive policies provide surety and predictability for the renewable energy industry. Planning policies which set out in principle support and a long list of entirely negative criteria should no longer be found sound. The most helpful councils publish their renewable energy capacity studies as map layers that the public (and renewable energy developers) can interrogate.

Local authorities should be provided with support and guidance to develop positive strategies to increase renewable energy, including steps beyond the statutory planning system. Neighbourhood plans should also be encouraged to address climate change and accelerate the rollout of renewable energy.

Preventing further Fossil Fuel Extraction

Increasing renewable energy deployment is only helpful in mitigating climate change if we simultaneously cut fossil fuel use and leave the remaining fossil fuels in the ground. The NPPF needs urgent review to ensure it aligns with our climate commitments.

As discussed in greater detail in our report for CCC, councils require a clearer policy framework and methodology indicating how they should assess the carbon emissions from development proposals to ensure they are compatible with the climate change act, including in terms of their cumulative impact. Significant individual proposals for fossil fuel extraction and processing can lock in high emissions for decades.

Offshore fossil fuel proposals and extraction licences should be should also be carbon audited to ensure they are compatible with our emission reduction commitments.

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[5] Cornwall Climate Change DPD - www.cornwall.gov.uk/media/uxgjk4jn/climate-emergency-dpd.pdf

Nurturing Public Support for the Expansion of Renewable Energy

Community support and acceptance is needed to speed up the planning process. National and local government should convene debate about renewables and encourage civic society to do the same. Such engagement can nurture informed consent and create the conditions in which ambitious policies can be written and the pipeline of projects can be grown.

CSE has created Future Energy Landscapes (FEL)[6], an open-source approach to community engagement. FEL is a way of involving local communities in *how* and *where* renewable energy development gets developed around them. It considers the types and scales of renewable energy that communities might find acceptable, the potential landscape impacts they might accept, and the benefits they can derive.

It has been remarkably successful in building support for expanding renewable energy generation, including onshore wind. In 10 recent FEL consultations:

- Nine communities identified the potential to meet their community's total annual electricity demand entirely from local renewable sources
- Four identified support for sufficient renewable energy deployment to generate 400% + of their community's electricity demand.
- Seven communities expressed majority support for onshore wind projects.

The FEL process is effective because:

- It localises the issue of decarbonising the energy system - how can this parish deploy renewable energy to meet its energy needs? What might be acceptable around here?
- It builds on strong narratives that increasing local renewable energy generation can support local self-sufficiency, independence and resilience.
- It builds energy literacy and has the potential to break down opposition – enabling people to have more nuanced views.
- It brings the public into trade-offs between renewable energy generation and landscape impacts, enabling communities to build up a renewable energy strategy that they would support.

It suggests that given this kind of approach, most rural communities could be entirely self-sufficient in local renewable electricity generation, meeting all their needs for electricity from local renewable sources. It demonstrates that community scale renewable energy generation has huge potential to enhance democratic participation in planning and deliver benefits to local communities.

This spring CSE trained 200 participants, including councils and community groups. We are now supporting groups to run a further 16 events using our resources, subject to them accessing funding. We would like to scale this nationally.

There is considerable scope for local planning authorities, Net Zero Hubs and other trusted local organisations to run these processes to inform planning policy and spin off projects.

Support Networks for Community Energy

[6] Future Energy Landscapes Methodology – CSE - www.cse.org.uk/my-community/community-projects/future-energy-landscapes-community-consultation-method/

An important dimension of building public support for this expansion is enabling communities to develop their own generation projects. Government should give more support to the community energy sector.

In CSE's Future Energy Landscape project, 9 of the 10 communities identified support for sufficient renewable energy deployment to meet and exceed their community's demand for electricity from local renewable sources. Most respondents in these communities felt satisfied about their area generating more electricity than it consumes, however in all cases this was subject to the community benefitting from hosting this infrastructure.

Therefore, if renewable energy deployment is to be increased it is vital to support community energy projects in coming forward. It is also important to ensure that communities secure tangible benefits from commercial developments including enabling community shared ownership of commercial schemes.

Ambitious, innovative community energy projects spring up where there are local support networks. In Bristol where the Ambition Energy wind turbine was developed, Bristol Energy Network provided ready access to a range of experts they could call on to support their project and in the early stages CSE gave them free planning support. However, around the country these sort of support networks don't always exist. Government should offer further free support through the Net Zero Hubs.

Funding for the risky development phases of community energy projects

Government should make the re-opened Community Energy Fund permanent.

The re-opening of the fund is welcome, but overdue. These sorts of funds offer loans and grants to cover the early risky development phases of community energy projects. The Rural and Urban Community Energy Funds supported many community energy groups in professionalising and scaling up their ambitions and enabled the Ambition Energy wind project to happen. The closure of these funding streams stifled the community energy sector.

Access to land – e.g. leasing out council's land.

Local Government and other public bodies should lease out their land for community energy projects.

Access to land is often a barrier to community energy projects coming forward. The much-quoted community owned wind turbine erected in Avonmouth was delivered on land belonging to Bristol City Council. Officers from Bristol City Council worked with the group to review all the councils land holdings to find a suitable site. Other local authorities and public bodies should do the same.

Community shared ownership of commercial projects

Communities need to secure tangible benefits from commercially owned schemes. The Government undertook research into the potential for shared ownership through the shared ownership taskforce and in 2014. This produced a report setting out a clear framework to facilitate a voluntary approach to increasing shared ownership of commercial onshore renewable developments. In the 2015 government response, it was identified that shared ownership 'can represent new ways for communities and industry to work collaboratively and constructively together on the ground to the benefit of both'. This recommendation needs to be implemented.

CSE found that for the local communities they engaged with, the community benefits arising from envisioned projects were inseparable from the relevant planning considerations. For the public, who

develops, owns and benefits from a renewable energy project is likely to have a significant impact on how it is seen locally and whether it is supported through the planning process.

Therefore, in the absence of policy which enables local planning authorities to differentiate between commercial and community owned schemes, it is important that other mechanisms support community energy and shared ownership projects in coming forward.

Is our planning system able to deliver more rapid development of new local infrastructure?

Local Authority planning

Overall, there needs to be increased support provided to Local Planning Authorities to ensure that they are able to manage the expected increase in renewable energy planning applications. In particular, we need to see a dramatic improvement in community engagement processes to help build public support. Part of this will involve ensuring that local authorities have the necessary skills to be able to assess new forms of applications e.g. for battery storage / repowering applications etc.

Onshore Wind

The current planning policy has stalled the onshore wind industry in England. The removal of footnote 54 would greatly speed up the deployment of this technology through provide industry and communities with the confidence to submit onshore wind applications. Proposals to slightly open up the routes through which onshore wind developments can come forward are a step forward but are not sufficient.

Local Area Energy Plans (LEAP)

A fundamental constraint on speeding up renewable energy deployment is access to the grid, so much so that in some places grid capacity is the predominant determining factor for where projects are developed, sometimes leading to adverse landscape impacts.

Local Area Energy Plans can help local planning authorities and Distribution Network Operators co-ordinate the expansion and management of the grid.

LAEP's can help distribution network operators to better understand the likely pace and location of planned renewable energy expansion within a local authority area, better informing their decisions on infrastructure investment and grid reinforcement. Local Area Energy plans can also provide Local Planning Authorities with robust data to underpin their policies and strategies, to set realistic but challenging deployment targets and to understand where the grid has capacity to support further deployment.

Distribution Network Operators (DNOs) carry out Distribution Future Energy Scenarios[7] (a methodology developed by Regen) to guide their planning of the networks. These already integrate local authority plans, where available, into their scenarios. However, most areas do not have LAEPs or equivalent plans. If the government supported and funded all local planning authorities to carry out LAEPs this would enable a much clearer link from local energy planning to energy infrastructure

[7] https://www.regen.co.uk/area/distribution-future-energy-scenarios/

planning. The introduction of a Regional System Planner could then further build on this collaboration between DNOs and local authorities.

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