

Nuclear Industry Association Response to the Energy Security and Net Zero Committee's 'A flexible Grid for the future' Inquiry.

The Nuclear Industry Association (NIA) welcomes the chance to respond to the Energy Security and Net Zero Committee's 'A flexible Grid for the future' inquiry.

The NIA is the trade association and representative body for the civil nuclear industry in the UK. We represent around 250 companies operating across all aspects of the nuclear fuel cycle.

Executive Summary

Nuclear is essential to the UK's energy security as our only source of clean, sovereign baseload power. Nuclear reactors are also capable of ramping their output up and down, as they have done in France for 40 years, to match changes in demand or in renewable output. It can be a critical source of flexibility for our future grid if required.

Nuclear currently supplies around 15% of our electricity from just over half a square mile of land, and according to United Nations' analysis, nuclear has the lowest lifecycle carbon, lowest land use, and lowest impact on ecosystems of any electricity source.¹

There is therefore an overwhelming public interest in bringing new nuclear power plants into operation, however, reforms to the planning systems are needed to hit our net zero targets. Crucially, we believe that a Net Zero Duty should be placed on all relevant regulators to ensure decisions proportionate to the urgent need for more low carbon energy.

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

- i. As noted by the National Grid, five times as much grid infrastructure will need to be deployed in the next seven years than has been in the last 30 years to roll out low carbon infrastructure.² There is thus a clear need to speed up the process for obtaining connections to the grid.
- ii. The sites for the next several nuclear projects have longstanding grid connections, but these will need to be upgraded in most cases to accommodate the higher level of capacity to be deployed.
- iii. The UK Government should thus take the following steps to help enable low carbon projects and deliver the capacity needed for the future:
 - Publish and adopt the new National Policy Statement for Energy Networks.
 - Establish a more strategic approach toward planning policy building on reforms to the National Planning Policy Framework.
 - Replace first-come, first-served model in grid connection queues with a system that considers achievement of project milestones.

2. Has the organisation of the National Grid proved a barrier to the installation of renewable energy sources, and if so what could be done to remedy this?

- i. No comment.

3. Should there be more innovation and devolution in the development of the Grid?

- i. No comment.

¹United Nations Economic Commission for Europe (2022), *Carbon Neutrality in the UNECE Region: Integrated Life-cycle Assessment of Electricity Sources*. Available at:

https://unece.org/sites/default/files/202208/LCA_0708_correction.pdf. Accessed: 24 August 2023.

²National Grid, 'We're engaging on our early plans to transform our network for net zero', 16 March 2023. Available at

<https://www.nationalgrid.com/electricity-transmission/were-engaging-our-early-plans-transform-our-network-net-zero>. Accessed: 22 August 2023.

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

- i. No comment.

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

- i. The planning system has become a critical source of uncertainty for nuclear new build, as well as other clean energy developments, that undermines the investment case for these projects. To meet the Government's 24 GW target, the planning system must approve 50% more capacity per year for the next 30 years than it has done in the past 15 years.
- ii. The NIA believes that the single most important thing the UK Government can do to facilitate the deployment of new nuclear is to place a Net Zero duty on all relevant regulators involved in the planning process, particularly the Planning Inspectorate, to ensure regulation is proportionate to the urgent need for more clean energy.
- iii. In the past, the Planning Inspectorate has recommended against the Development Consent Orders for both Wylfa Newydd and Sizewell C on minor environmental concerns despite acknowledging that these projects would make huge contributions to our clean power needs. The regulators must be instructed explicitly to make sensible and proportionate decisions.
- iv. The regulatory bodies involved in the planning, permitting, licensing and consenting processes must also be properly resourced to deliver more rapid development of new local infrastructure and make timely decisions on new build projects.

6. Would regional, or nodal, pricing of energy facilitate a more flexible development of Grid infrastructure?

- i. No comment.

7. What can be usefully learned from power transmission systems in other countries?

- i. In North America, Canadian electrical utilities are seen as pioneers in the field of transmission technology, which has allowed for the development of a successful clean energy programme.
- ii. HMG may consider examining the expansion of the Canadian power transmission in its considerations of building up the grid.
- iii. Countries all over Europe are launching major new nuclear programmes, which have been designed by state bodies, backed by state financing, and enabled by sensible planning reforms and grid expansions.
- iv. Unprecedented support from Government is thus needed to transform our new nuclear programme into successful projects.

Further Information

The NIA is happy to provide more context or any clarifications desired on the content of our response and to ask our members where appropriate for additional information that may be useful.

Please contact Lauren Rowe, Policy Analyst for the NIA, at Lauren.Rowe@niauk.org to do this.