Public

Ref: FOI/25/177

National Energy System Operator
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5 December 2025

Dear requester

Request for Information

Thank you for your request for information which we received on 22 November 2025.

Request

You asked us:

...I'm approaching you as a member of the public interested in how the British National Grid is going to develop in response to the increased supply of sustainable energy, both currently planned and what is possible in the future. Now I imagine this involves a complete rethinking of the grid layout, designed as it was in the days of electricity supply mainly from large coal fired stations like Ferrybridge, mostly inland, and the occasional nuclear one on the coast. I looked at your website, and I expected to see prominently displayed maps of how it was and how it is planned to be. But there seems to be just a lot of discussion about the subject. Surely what we want is a plan of action? In some cases, urgent? It is reported widely for example that wind farms in Scotland have to be turned off at the same time as gas fired power stations in the south of England are started up because there is insufficient grid capacity to move electricity up and down the spine of the country. Is this correct? What is the plan to deal with it and other similar situations which will no doubt arise?

Our response

We have determined that your request for information meets the scope of the Environmental Information Regulations 2004 (EIR). This is because recorded information relating to Great Britain's energy system meets the definition of 'environmental information' provided at Regulation 2(1) of the EIR. The EIR require organisations subject to the legislation to respond to information

requests with recorded information held at the date the request was received, unless an exception provided by the legislation applies.

When we respond to EIR requests that ask for an opinion or ask a question, we can provide copies of recorded information that relate to that question. Although we aren't required to create new information to respond to an EIR request, we have tried to provide context below.

We understand that you are asking for recorded information in scope of:

- how the *'British National Grid'* is going to develop in response to the increased supply of sustainable energy, both currently planned and what is possible in the future i.e., how the national grid looks now and how it is planned to be
- situations where '*wind farms in Scotland have to be turned off at the same time as gas fired power stations in the south of England are started up because there is insufficient grid capacity to move electricity up and down the spine of the country*'. You have asked if this is correct and asked: '*What is the plan to deal with it and other similar situations which will no doubt arise?'*

National Energy System Operator (NESO)

NESO is an independent, public corporation responsible for planning Great Britain's electricity and gas networks, operating the electricity system and creating insights and recommendations for the future whole energy system. NESO is responsible for strategic network planning, identifying whole energy system needs and ensuring that the system can be designed and built accordingly.

You can find more information about NESO here: What we do | National Energy System Operator.

Strategic network planning

You have stated that you are interested in how the 'British National Grid' is going to develop and explained that you expected to see maps of how the Grid was and how it is planned to be on the NESO website.

NESO does not own or operate the electricity network infrastructure but moves high voltage electricity from where it is generated through the National Electricity Transmission System (NETS) using the infrastructure owned by three onshore transmission companies (TOs). The three onshore TOs are National Grid Electricity Transmission, Scottish Power Transmission and Scottish & Southern Electricity Networks Transmission. This high voltage electricity is passed onto the Distribution Network Operators (DNOs) which own the local networks and maintain the infrastructure connecting homes and businesses to the transmission network. There are also

several offshore developers that own the assets that connect offshore wind farms to the transmission or distribution network.

NESO is responsible for Strategic Planning, i.e., assessing Great Britain's future electricity supply and demand needs and designing a high-level coordinated network to meet those needs in a safe, efficient, and affordable way. This process involves assessing a range of different network options to ensure electricity can get to where it is needed, when it is needed. Network options are mostly provided by the TOs, and we work in close collaboration with them throughout this process. NESO provides economic recommendations that will enable the flow of electricity around the transmission system to facilitate the evolving energy landscape. NESO is not responsible for making the final decision on what, where, and when to invest.

The Electricity Ten Year Statement 2024 represents NESO's perspective on future transmission requirements and the capabilities of Great Britain's NETS based on our latest Future Energy Scenarios (FES). The ETYS 2024 enables us to understand the investment and development required to maintain a safe and reliable operational network, while achieving our zero-carbon ambition. Appendix A provides schematics and geographic layouts of the current NETS. Further information is available here: Electricity Ten Year Statement (ETYS) | National Energy System Operator.

Further information on strategic network planning can be found in the following links:

- Transitional Centralised Strategic Network Plan (tCSNP) | National Energy System Operator
- Centralised Strategic Network Plan (CSNP) | National Energy System Operator

The Beyond 2030 report (referred to in the tCSNP link above) suggests network recommendations throughout the 2030s. The report recommends around £58 billion in direct investment for offshore and onshore network upgrades. These upgrades will help connect an additional 21GW of offshore wind power, along with various other low carbon energy sources across Great Britain. The regional blueprint chapters each focus on a different region or country, showing the background behind the current electricity network in that area, how it fits into the national picture, and the required infrastructure we have identified.

Alongside the CSNP, NESO is also developing other energy transition programmes:

- Strategic Spatial Energy Planning
- Regional Energy Strategic Planning

You may also find helpful information on our offshore coordination page: https://www.neso.energy/about/our-projects/offshore-coordination.

Constraints

You have asked us if it is correct that *'wind farms in Scotland have to be turned off at the same time as gas fired power stations in the south of England are started up because there is insufficient grid capacity to move electricity up and down the spine of the country'.* You have also asked *'What is the plan to deal with it and other similar situations which will no doubt arise?'*

When there are physical constraints on the network (i.e., the network cannot physically transfer the power from one region to another), generators are asked to reduce their output to maintain system stability and manage the flows on the network. Generators are then compensated via a constraint payment.

- Further information on constraints is available here: What are constraints payments? | National Energy System Operator.
- Page 26 of the Beyond 2030 Report linked above provides further explanation, and constraints are referenced throughout the document in relation to network recommendation options.
- NESO leads a Constraints Collaboration Project. This project is intended to enable NESO and industry to work together to find solutions for thermal constraints. Further information is available here: Constraints Collaboration Project | National Energy System Operator
- A new Local Constraint Market (LCM) is also being trialled in Scotland to access new sources of flexibility to help tackle the rising constraint costs: Constraints Collaboration Project | National Energy System Operator

This concludes our response to your request.

Advice and assistance

As explained, NESO does not own or maintain the transmission network infrastructure or assets. Transmission Owners (TOs) are also subject to the Environmental Information Regulations 2004 (EIR). Specific design questions should be directed to the relevant TO – the map on page 13 of the Beyond 2030 report linked above illustrates their boundaries.

Next steps

If you are dissatisfied with our handling of your request, you can ask us to review our response. If you want us to carry out a review, please let us know within 40 working days and quote the reference number at the top of this letter. You can find our procedure here: Freedom of Information and Environmental Information Regulations | National Energy System Operator. The ICO's website also provides guidance on the internal review process: What to do if you are dissatisfied with the response | ICO.

If you are still dissatisfied after our internal review, you can complain to the Information Commissioner's Office (ICO). You should make complaints to the ICO within six weeks of receiving the outcome of an internal review. The easiest way to lodge a complaint is through their website: www.ico.org.uk/foicomplaints. Alternatively, they can be contacted at: Wycliffe House, Water Lane, Wilmslow, SK9 5AF.

Thank you for your interest in the work of the National Energy System Operator (NESO).
Regards,
The Information Rights Team, National Energy System Operator (NESO)