Public

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Dear requester

Request for Information

Thank you for your request for information which we received on 12 October 2025.

Your request has been considered under the Environmental Information Regulations 2004 (EIR) as we believe that information relating to our assessment of the electricity security of supply in Winter Outlook 2025/26 falls within the definition of environmental information as set out in Regulation 2(1) of the EIR.

Response

It is important to note that public authorities are required to respond to requests submitted under the Environmental Information Regulations (and the Freedom of Information Act 2000) with recorded information held at the time of the request. Requests framed as questions (e.g., that ask 'how', 'why' and 'if') are valid requests under the EIR/FOIA if a public authority holds recorded information that answers the question. There is no obligation to create information to answer a question if it's not already recorded.

Where we do not hold recorded information that specifically responds to the question asked, we have explained that no recorded information is held, but we have provided some background information or explanation which we believe is helpful.

We have provided our response to each of your questions below.

Questions 1 to 2

The published outlook for winter 2025/26 states that there is 60.6GW of derated capacity available to be used:

1. Please provide a breakdown of the capacity by each plant for those over 900MW and by type: Gas-fired (CCGT + OCGT); Nuclear; Onshore Wind; Offshore Wind; Solar PV; Battery Storage; Interconnectors; Biomass and Waste; Hydro; Other.

2. Please advise whether the generation is embedded within DNOs or is transmission connected as a breakdown by DNO or such other UK zoning as is readily available to NESO.

We confirm that we hold recorded information in scope of questions 1 and 2.

However, we are refusing to provide the specific breakdowns you requested under Regulation 12(5)(e) of the EIR. Information is covered by Regulation 12(5)(e) if:

- The information is commercial or industrial in nature;
- Confidentiality is provided by law;
- The confidentiality is protecting a legitimate economic interest;
- The confidentiality would be adversely affected by disclosure.

NESO's adequacy assessments draw on a variety of data sources including REMIT | Insights Solution data (regulation on wholesale energy markets integrity and transparency), Operational Planning Data (Operating Code No.2 or "OC2" data) and Capacity Market Registers. While public data informs the generation background of our assessment, market intelligence and information uniquely available to us as the system operator may inform the inclusion or exclusion of individual units from our base case.

We believe the requested information is commercial in nature as it relates to the availability of individual units and our use of this exception is primarily in respect of the potential consequence on market participants. Disclosure of the information may impact investors' views of the revenue potential of individual assets. This would adversely affect competition in the electricity market, ultimately impacting on consumers (including public service providers, individuals and businesses).

In our opinion, the requested information is confidential in law. NESO falls within the scope of the Utilities Act 2000 and Section 105 of that Act makes it a criminal offence to disclose information: a) obtained under the Utilities Act 2000 and any other key energy legislation such as the Gas Act 1986 and the Electricity Act 1989, subject to specific exceptions; and b) where the information

relates to the affairs of any individual or any particular business during the lifetime of the individual or so long as the business continues to be carried on.

NESO is also bound by confidentiality obligations in Paragraph 65 of the Electricity Market Regulations 2014 and the Grid Code (GC.12.1). Beyond this is also a common law duty of confidentiality based on the expectations of market participants. NESO has no explicit consent from market participants to share information which is not already in the public domain or required to be made public.

All exceptions in the EIR are subject to a public interest test.

NESO is mindful that the EIR requires us to apply a presumption in favour of disclosure when considering the public interest test. There is a public interest in NESO, as a public corporation, being accountable for our assessments and activities to deliver plans, manage, and run the energy system. There is a public interest in furthering public understanding of the costs and assumptions used in the development of energy policy, planning and investment. NESO recognises that there is a public interest in the security of energy supply. We publish our assessments of electricity security of supply and accompanying data workbook.

The public interest in the exception is in ensuring that no specific participant is materially disadvantaged through disclosing confidential commercial information. This ensures that there is a level playing field across all participants.

NESO has a public duty under our licence to facilitate competition within the energy market and there is a recognised public interest in allowing competition in the energy industry. Increased renewable generation is crucial to the Government achieving its net zero and clean energy targets and anything that unjustifiably inhibits the competitive development of that renewable generation runs counter to these goals.

NESO is the designated independent system operator and planner under the Energy Act 2023 and must remain independent, fair, and consumer focused. Disclosure could erode trust within the sector, hampering NESO's role and our ability to drive forward reforms and initiatives that would bring benefits to consumers and to the environment.

Having weighed up these public interest arguments, our opinion is that the balance of the public interest lies in maintaining the exception and withholding the information requested. It would not be in the public interest for us to act in a manner that conflicts with our responsibilities regarding the promotion of competition in the market and delivering consumer value.

Whilst we cannot provide the specific information requested, the Capacity Market Register (which is available via the NESO data portal, here) is comparable to the data used in our assessment. This data may be sufficient to meet the purpose of your request.

Question 3

3. Please advise whether some of the embedded generation is excluded at the beginning of a forecasted, prolonged wind drought because it is reserved under national planning for zone-level black-starts. If so please annotate the particular plants excluded on the foregoing list, or if this is confidential, please estimate the total capacity which would thereby be excluded when aggregated to transmission level broken down only to that connected to DNO and connected to transmission.

We confirm that we hold recorded information in scope of questions 3.

No generation is excluded from the base case de-rated margin in expectation of a prolonged period of low wind, or due to holding a balancing service agreement (including restoration services).

Questions 4 and 5

The 2025/6 planning document does not mention duration in its de-rated margin. However Hydro generation has limited natural storage which once depleted is dependent on river flow/long-term rainfall for replenishment; diesel and biomass require the physical delivery of fuel by road/train; batteries and pumped storage hydro require recharge.

4. For each of these 'duration-limited' plant types forming the total derated capacity, please tabulate the durations, in hours, during which they can contribute to the capacity margin.

5. Do the terms for 'Contracted Capacity' or Demand Reduction include terms that define their energy delivery in MWh and a duration at the contracted MW capacity?

We confirm that we do not hold recorded information in scope of question 4.

Capacity is de-rated using statistical de-rating factors based on historical performance over extended periods. These de-rating factors represent the expected long run available capacity rather than specific operating durations. This is expressed as an equivalent firm capacity (EFC), rather than a duration, where EFC is the amount of perfectly reliable baseload capacity that could be replaced by another technology, such as wind or battery storage, while maintaining the same level of system reliability measured by LOLE.

The de-rating factor refers to the ratio of the EFC to the installed (nameplate) capacity of a given technology. As such, the EFC is not static but varies with and is sensitive to overall system

conditions and the nature of the stress events that the system may experience. These stress events are determined under a range of possible demand, weather and operational conditions and the intermittency or duration-limited nature of various technologies is accounted for by modelling thousands of scenarios, including low-wind, high-demand conditions and supply-side shocks.

For question 5, we are unable to provide a response without clarification of your request as we are not clear what information you are seeking. We have provided further information in the advice and assistance section below to help you to clarify your request.

Regulation 12(4)(c) of the EIR allows for a public authority to refuse a request where it is formulated in too general a manner. This exception applies where a request is unclear or open to more than one interpretation and the public authority has provided advice and assistance to help the requester to provide clarification.

This exception is subject to the public interest test in the EIR. However, the Information Commissioner recognises that it is difficult to conduct a public interest test when a public authority is unsure about what the requester is after. The Commissioner therefore takes the position that the public interest in maintaining the exception will outweigh the public interest in disclosing what may be the wrong information.

Question 6
Wind drought is a well established characteristic of wind supply in the UK and Europe; many academic papers have identified that periods of wind scarcity can last for multiple weeks, also sequences of shorter consecutive periods may have cumulative effects.

6. During long periods of scarcity of wind it can be expected that the dominant CCGT, diesel and biomass plant will be required to run at high load factors to provide national demand, plus recharge of pumped storage and batteries. This high intensity running is a different duty to its typical 'two shifting' pattern which raises the question of whether the assumed availability factor of the plant and its staff degrade with wind drought duration. Is this taken into account by NESO planning? If so, how?

We confirm that we do not hold recorded information in scope of question 6.

NESO does not have evidence to suggest that prolonged operation of CCGT, diesel, or biomass plant at higher load factors during low wind periods materially degrades their availability or staffing capability. Therefore, this is not explicitly factored into our base case de-rated margin.

It is important to clarify that a wind drought does not automatically and would not normally result in gas fired or other thermal plant running continuously at high load factors. The GB Capacity Market secures capacity across a diverse mix of technologies, in order to ensure that the system can maintain security of supply even during extended periods of low wind output. Our modelling accounts for a wide range of weather conditions, including cold and still scenarios, and demonstrates that the system remains within the Reliability Standard under these conditions.

Question 7

7. A Dunkelflaute event can affect much of northern Europe thereby reducing the ability of the UK to be supplied by the French (4GW / 2.84 Capacity Market), Danish (1.4GW / 0.88CM), Belgium (1GW / 0.65CM) and Dutch (1GW / 0.66CM) interconnectors. If this occurs in the same year as low reservoir storage in Norway then its supply via the 1.4GW / 0.882CM North Sea link may be preserved for its home market or to prioritise Europe over the UK in practice, if not in contract. Meanwhile the UK, or suppliers within the UK, may have obligations to supply up to 0.5GW to each of Northern Ireland and the Republic of Ireland. Is there a risk that a Force Majeure is declared thus radically reducing the supply from Europe? Are these factors taken into account by NESO planning?. If so, how and over what wind drought durations?.

We confirm that we do not hold recorded information in scope of question 7.

The Department for Energy Security and Net Zero (DESNZ) ensures Reliability through the GB Capacity Market, which secures sufficient capacity across a diverse mix of technologies and locations. This mechanism is designed so that, even under low wind conditions across Europe, the system can meet demand within the national Security Standard.

The de-rating factors used for interconnectors in the Winter Outlook are based on the de-ratings in the Capacity Market, which are determined by the DESNZ but are informed by recommendations from NESO with the support of a panel of technical experts).

NESO models an array of different sensitivities in which the supply and demand balance in European markets is shifted to assess the impact of potential uncertainties in interconnected markets. These sensitivities are run for 34 different historical weather years and hundreds of randomly selected plant forced outages to assess plausible variants in weather dependent energy system variables and uncertainties in plant availabilities. In total, the full set of modelling results comprise approximately 17,000 full year simulations and almost a million simulations focused on tight periods. These sensitivities allow exploration of a wide range of credible drivers of stress conditions that could affect the magnitude and reliability of interconnector flows.

The sensitivities are designed to reflect market specific short-term (operational) risks and longer-term (strategic/structural) changes. This includes weather-driven stress events such as

prolonged low wind conditions coinciding with cold spells across Europe (producing simultaneous conditions of elevated demand and reduced renewable output). The types of risks identified are therefore already reflected within, and managed through, the derating factors which informs the target capacity recommendation for the Capacity Market. Within our Winter Outlook analysis we also consider the ability of the electricity system to meet the Reliability Standard under a range of sensitivities including scenarios in which a further 2 GW or 4 GW of derating generation or interconnector flows are unavailable.

Full details of the Pan-European modelling approach, modelling scenarios, and sensitivities are published in the Electricity Capacity Report (ECR) and the ECR 2025 Methodology and Assumptions Workbook.

Question 8

8. Page 19 of the winter outlook published in October states "This is an increase of 0.3 GW from the previous winter, reflecting the addition of the Greenlink interconnector – a new 0.5 GW link to Ireland, commissioned in Q1 2025 – which secured a Capacity Market agreement in that year's T-1 auction. Page 21 states "We expect" Great Britain to export to Ireland and Northern Ireland under typical conditions. Please would you explain the background to these two statements which on first reading appear contradictory if they are expected by both GB and N Ireland to run simultaneously. Does it assume Kilroot runs at full capacity when GB needs it?

We confirm that we do not hold recorded information in scope of question 8. However, we can provide the following background information which you may find helpful.

The statements on pages 19 and 21 of the Winter Outlook reflect two different operating conditions:

- Typical conditions: Under normal circumstances, Great Britain often exports electricity to Ireland and Northern Ireland. This is driven by the typical difference in prices between market and system conditions.
- Stress conditions: During a GB system stress event, interconnectors with Ireland are expected to import to Great Britain in line with their Capacity Market obligations.

Interconnectors are modelled according to these Capacity Market commitments. NESO undertakes detailed modelling to advise DESNZ on the plausible contribution of interconnectors during stress events. This modelling, published in the Electricity Capacity Report, explores a wide range of sensitivities and thousands of randomly drawn plant outage scenarios. Importantly, these scenarios do not assume that specific plants, such as Kilroot, will be available when GB needs them; rather, they reflect probabilistic system behaviour.

Question 9

A UK wide blackout or rotational blackouts by region to protect the overall network will affect the availability of generation plant.

9. Embedded generation connected into a 'Demand Reduction' disconnected region will no longer be available to meet transmission level national demand. Not that this is a fundamentally different cause of derating than Question 3 above. Is this also taken into account by NESO planning? If so, how?

The focus of the Winter Outlook is to assess system adequacy at the national level. It does not consider locational constraints on the system. This is consistent with the design of the GB Capacity Market, which is the primary mechanism to ensure capacity adequacy in GB.

Sensitivities in the Winter Outlook explore variations in demand and generation availability, which implicitly capture the impact of reduced embedded generation at a national level.

In recent years NESO working with industry has introduce Demand Control Rotation into the Grid Code, Operating Code 6 (OC6) GC0176. Demand control in this scenario would be carried out at the 11KV level which means most commercial embedded generation (normally connected at 11kV, 33kV and 132kV) would not be impacted.

Question 10

10. Lack of electricity in specific regions may affect the ability of refineries to produce the fuels needed for diesel generation and other supplies to the energy system; creating a cumulative negative feedback loop. Are the sustainability of these secondary but vital infrastructure assets taken into account by NESO planning for long duration wind droughts? If so, how?

We confirm that we do not recorded information in scope of question 10.

The focus of the Winter Outlook report is on electricity system adequacy rather than fuel supply chain resilience, which falls outside of the scope of this modelling. Currently NESO modelling does not take into account the sustainability of these vital infrastructure assets to regional power disruptions, however following the outage of Heathrow airport, leading to the NESO Review of the North Hyde Substation Outage in March, we made several recommendations to HMG on the energy resilience of critical national infrastructure.

Question 11

11. In the situation where rolling blackout by region for Demand Reduction (DR) is activated then the ability to unload woodchips (for biomass plants) at the port and the transport of OCGT distillate, diesel and woodchips could be compromised. Is this taken into account by NESO planning for long duration wind droughts? If so, how?

We confirm that we do not hold recorded information in scope of question 11.

The focus of the Winter Outlook report is on electricity system adequacy rather than fuel supply chain resilience. As noted above, our analysis shows that margins are adequate and the system reliable under a range of credible weather scenarios, including enduring periods of low wind generation and that a wind drought does not equate to a period of system stress or imply a risk to the adequacy of supplies in any specific region or a risk to the wider energy system.

As noted above, currently NESO modelling does not take into account the sustainability of these vital infrastructure assets to regional power disruptions, however following the outage of Heathrow airport, leading to the NESO Review of the North Hyde Substation Outage in March, we made several recommendations to HMG on the energy resilience of critical national infrastructure (CNI), which would include transport CNI.

Question 12
12. Does NESO credit wind with an EFC value, if so what is the value and how is it used in winter energy and capacity planning?

We confirm that we hold recorded information in scope of question 12.

Wind is credited with an Equivalent Firm Capacity (EFC) value. For winter 2025/26, this is 4,096 MW, as set out in the data workbook accompanying the Winter Outlook. The EFC represents the de-rated capacity of the wind fleet and is used in the de-rated margin calculation. The ratio of the wind EFC to the total installed capacity of wind is the wind de-rating factor, which is 13%.

This concludes our response to your request.

Advice and assistance

In terms of clarifying question 5 of your request, we would need you to explain what you mean by the terms 'Contracted Capacity' and 'Demand Reduction'. These specific terms are not used in our Winter Outlook 2025/26 report and we are therefore unsure what information you are seeking.

In considering any future request that you may wish to make, focussing your request on specific recorded information would make it more manageable for us to respond to under the legislation. Requests that ask for an explanation can only be responded to under FOIA/EIR if the answer to the specific question has already been recorded. We have been unable to supply recorded information for some of your questions, but in this case have attempted to provide some explanation outside of the FOIA/EIR obligations which we hope has been helpful.

The Information Commissioner has published guidance for the public on how to access information from a public body under the FOIA and EIR: How to access information from a public authority | ICO.

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)