

Email to:

connections@ofgem.gov.uk

14 March 2025

Dear Ofgem Electricity Connections Team,

Response to TMO4+ Connections Reform Proposals – Code Modifications, Methodologies & Impact Assessment consultation

Scottish Renewables is the voice of Scotland's renewable energy industry. The sectors we represent deliver investment, jobs and social benefits and reduce the carbon emissions which cause climate change. Our 360-plus members work across all renewable energy technologies, in Scotland, the UK, Europe and around the world. In representing them, we aim to lead and inform the debate on how the growth of renewable energy can help sustainably heat and power Scotland's homes and businesses.

RenewableUK members are building our future energy system, powered by clean electricity. We bring them together to deliver that future faster; a future which is better for industry, billpayers, and the environment. We support over 500 member companies to ensure increasing amounts of renewable electricity are deployed across the UK and access markets to export all over the world. Our members are business leaders, technology innovators, and expert thinkers from right across industry.

Industry has long called for reform of the connections process to efficiently connect the renewable energy projects needed to support economic growth and achieve climate targets. Scottish Renewables and RenewableUK welcome the UK Government's Clean Power 2030 Action Plan (CP30) and the National Energy System Operator's (NESO) TMO4+ Connections Reform.

While DESNZ's endorsement and Ofgem's swift decision-making are key to implementing the new process and delivering projects at pace, concerns remain about the process. Some areas of the reform have not been afforded the necessary attention or due diligence and are subsequently jeopardising legitimate projects and targets. The Action Plan provides much-needed clarity, but constraining the UK to overly rigid capacities risks undermining the investment needed to achieve the renewable energy capacity required by 2035. To reach our climate targets, it is paramount that as many legitimate, deliverable projects as possible are encouraged to develop.

Our primary area of concern and where we urgently request NESO to revisit is its capacity allocations for onshore wind and solar across GB to 2035. The assumptions underpinning these calculations are flawed and inherently misaligned with the existing project pipeline for both technologies. As CP30 stands, it undermines investment in onshore renewables in Scotland and requires a highly improbable quantity of projects in England and Wales. CP30 must reflect the realities of the project pipeline out to 2035 to maintain developer confidence, capitalise on the significant investments already made in project development and support further investment. The inaccuracy of data informing these decisions is prevalent in other areas of reform and adequate mechanisms must be in place to limit the extent of unintended consequences as solutions are developed at an unprecedented pace.

Furthermore, the 2035 capacities combined with Protection Clause 3 do not account for projects that submitted planning before December 20, 2024, and will not receive planning consent until after CMP435 implementation. This will result in a significant number of wind projects finding themselves not protected and with little likelihood of being assessed as within the cap when planning consent is received. Some projects submitted a Section 36 (S36) in 2023 or earlier and will not have consent until after the closure of the CMP435 evidence window (assuming Q2 2025). Based on RenewableUK's Energy Pulse Data Base (EPDB), there are almost 4GW of onshore wind projects currently in planning in Scotland that would be at risk through the current reform design.

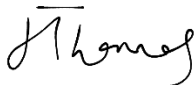
Likewise, as noted from NESO's highly attended webinar on Protections on March 5, 2025, a re-submission of planning invalidates eligibility for a protection, yet resubmission of a Section 36 may be required to revise the Wind Turbine type, for example, given the specifications used at the time of initial application may no longer be available. We seek clarity on whether a similar restriction will thus exist for S36 amendments even if there is no increase in contracted TEC. Currently, the protections alongside the capacity allocations do not appear to provide a fair or equitable route for onshore wind and solar in Scotland.

Within our response, we have highlighted several additional areas that require greater consideration for investor confidence, including appropriate strategy behind substitutions across and between zones, future application windows, incentivising TEC reduction and a formal resolution process, among others. While the anticipated implementation of Connections Reform will afford certainty for those receiving a Gate 2 offer, developed projects contributing to longer-term targets must be safeguarded to avoid an investment hiatus.

Publishing the Strategic Spatial Energy Plan (SSEP) as quickly as possible should be the upmost priority to avoid an extended investment hiatus on projects that will be critical for net-zero and to replace any attrition that occurs ahead of 2035. However, in the interim and on an enduring basis, NESO must provide indicative regional technology capacities that give a minimum ten-year horizon to signal locational need. Ofgem highlights the positives of such an approach for setting clear investment signals that invite market participation and increased competition. Thus, NESO should accordingly adopt an indicative 2040 horizon with the opportunity for future refinement of the most distant figures.

Scottish Renewables and RenewableUK would be keen to engage further with this agenda and would be happy to discuss our response in more detail.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'H Thomas', with a horizontal line above the first letter 'H'.

Holly Thomas

**Grid & Systems Policy Manager
Scottish Renewables**

BESS WHE.

Barnaby Wharton

**Director, Future Electricity Systems
RenewableUK**

Package of reforms

Q1: Do you consider that the TMO4+ reforms as a whole advance the objectives that we identify? Do you support the TMO4+ package of reforms as a whole? If not, please explain why not. Please feel free to cross-refer to answers provided in response to questions on individual elements of the reforms, as set out below. Minded-to Decisions – Code Modifications CMP434

Broadly, yes. See below answer to Q5 for detail.

Q2: Do you agree with our minded-to position to approve WACM7 of CMP434?

No. Please see below answer to Q5, as CMP435 WACM1 has the same drawbacks.

Q3: Do you expect the Pause for market self-regulation and information published in the Gate 2 Register would lead to a different approach taken by projects?

We don't expect enough of a difference in approach to warrant the delay. However, there is a strong industry appetite for the Existing Arrangements (EA) Register—see answer to Q5.

Q4: Do you have any further remarks, comments or concerns with our minded-to position that you would like us to take into account?

See below answer to Q5 for detail.

CMP 435

Q5: Do you agree with our minded-to position to approve WACM1 of CMP435?

WACM1 was originally drafted ahead of the first review of methodologies and protections that have been subsequently iteratively developed, as well as the publication of CP30. Thus, its inherent value must be scrutinised within the context of these changes. Since its conception, the decision for strategic alignment has been introduced, and the motivations steering Connections Reform have progressed considerably. Thus, we urge Ofgem to view the alternative and its adequacy in providing clarity for projects in line with these changes.

The relative success of WACM1 in affording Gate 2 qualified applicants the opportunity to assess the viability of their projects in light of a revised queue relies on robust, high-quality data to provide strong evidence for developers to make informed decisions via the mechanism of self-regulation. However, data surrounding connections has historically proven weak, as highlighted in our recent response to the [connections end-to-end review](#). If projects are not provided with sufficient detail of a connection's associated liabilities, for example, they could unknowingly face insurmountable costs that could cause them to withdraw after deciding to accept. Projects need a certain level of detail around the point of connection and the associated liabilities for WACM1 to serve as a useful and meaningful function to make informed decisions around the future of their projects; a technology capacity per zone queue may likely be insufficient.

Furthermore, to reduce the administrative burden on TOs producing Gate 1 offers, projects should be able to assess whether they wish to receive a Gate 1 offer or withdraw with no penalty (as would be the case with a Gate 1 offer). Without this step, projects would be incentivised to have Gate 2 offers lapse into a Gate 1 offer, at which point they would no longer be expected to pay liabilities. The benefit of WACM1 would be limited to allowing projects to drop out earlier, but potentially at a higher cost and thus, of limited benefit.

TOs will already be operating at near maximum capacity to process and issue an enormous number of contracts, and introducing a pause that will result in a revision of some contracts necessitates additional time. If TOs are not afforded adequate time to revise these offers and timescales are thus condensed even further, there is a risk that offer quality will be detrimentally impacted as engineering and other assessments cannot be completed. With customers wanting certainty and confidence as early as possible, the process must be designed to accommodate the time needed to meet such demands.

Despite the unknown benefit of WACM1 and WACM7, there is a strong industry appetite for an EA Register and greater data transparency to facilitate self-regulation. For projects that have met Gate 2 Readiness Criteria and strategically align, additional information would allow them to confirm their position, choose to accelerate and make more informed investment decisions. We would therefore encourage Ofgem to retain the merits of WACM 1 that remain relevant to the current context, i.e., provision of data via an EA register, which would also serve to build clarity around future application windows and question the value of a pause. The recent pause to connections and modification applications should serve as an example of the complexity and potential for unintended consequences to be considered against forecast benefits.

Q6: Do you expect the Pause for market self-regulation and information published in the EA Register would lead to a different approach taken by projects?

We do not see a benefit from the pause; industry has not indicated that this will usefully drive decisions on withdrawal before the subsequent Gate 2 Offers. However, there is strong appetite for the EA Register, which adds transparency, builds confidence in the process and supports better business planning.

Q7: Do you have any further remarks, comments or concerns with our minded-to position that you would like us to take into account?

We are disappointed that Ofgem has decided not to accept the WACM2: DNO Submission Requirement, which was developed with robust industry and DNO engagement. We welcome the recognition of its core intention in the proposed changes to license obligations but believe the proposed new licence condition 12A requires strengthening to meaningfully address our concerns over the fair and equitable treatment of embedded customers.

The original WACM2 proposal's suggestion was to replace the wording of 'reasonable endeavours' in the CUSC to include all applicable Embedded Projects that provide a valid Gate 2 compliance application or submission of evidence within the Gate 2 Application Window (transmission window) as part of the DNO/transmission connected iDNOs' fully completed Gate 2 application to NESO. This wording has remained in condition 12A, where DNOs are expected to ensure that 'applicants that have met the Gate 2 Criteria are progressed as soon as is reasonably practicable and in accordance with the timeframes and processes specified in the CUSC and Connections Methodologies'. As Scottish Renewables and RenewableUK previously advocated, enforcing a raised bar for DNOs is vital to ensure that embedded customers do not 'miss' a Gate 2 window and that parties are held to the same standard of requirements.

The expected volume of Gate 2 submissions combined with the absence of a guaranteed, standard timeframe puts projects at risk of significant connection delay outside their control. We are eager to work with Ofgem and NESO on the requirements to ensure they are designed adequately to deliver timely actions and optimal delivery from the DNOs for Embedded Users.

Likewise, we are disappointed that WACM6 has not been adopted and disagree with the assessment of its lack of potential added benefit. Whether eventually codified or not, reviewing the methodologies after 12 months with evidence and feedback would offer a critical point of reflection on the various unknowns currently existing within the processes. One such example of this can already be observed in the development of protections within Gate 2 that have been interpreted in various ways and are already causing unintended consequences as a result of their expedited drafting process.

CM 095

Q8: Do you agree with our minded-to position to approve the Original Proposal?

Q9: Do you have any further remarks, comments or concerns with our minded-to position?

Minded-to Decisions – Connections Methodologies

Q10: Do you agree with our assessment, conclusions, and Minded-to Decision to approve the three Connections Methodologies? Please consider in your response our assessment against the proposed objectives for each Methodology as consulted on as part of the licence changes. If you do not agree, please share your views on (a) the objectives you think the Methodology does not meet and (b) the changes you think are needed to better facilitate the proposed objectives.

We are broadly supportive of the decision to approve all three Connections Methodologies but retain concerns around the need for their review, as aforementioned in answer to Q7.

Impact Assessment

Q11: Do you agree that we have, to a reasonable extent, identified and understood the potential impacts of TMO4+, including in particular the impacts on size and makeup of the queue and network build and connection dates?

NESO needs to clarify several outstanding areas for potential impact within the TMO4+ reform package. We also believe a significant negative impact has been overlooked, notably within some of the set capacities.

Challenge to set capacities

We want to draw Ofgem's attention to our primary concern over the set capacities for onshore wind and solar out to 2035 and their contradiction with the current pipeline of projects in development, particularly in Scotland. The balance between Scotland, England and Wales for both technologies' deployment is based on flawed assumptions that, if left unrectified, will unintentionally curb investment and jeopardise our climate targets.

The proposed deployment of onshore wind in England and Wales is unrealistically ambitious. Currently, 3.8GW of onshore wind is operational or under construction in England and Wales, with the Action Plan requiring an additional 12GW of projects to be operational by 2035. The current pipeline of projects in development, planning, or consent and due to be commissioned 2030 is 2.7GW, based on RenewableUK's Energy Pulse Database.

The Action Plan proposes 21.2GW of onshore wind in Scotland by 2035. Currently, 10.7GW of onshore wind is operational or under construction in Scotland. The current pipeline of projects in development, planning, or consent and due to be commissioned 2030 is 12.5GW. This results in 2GW

of onshore wind in development in Scotland and due to be commissioned by 2030 not being eligible for connection

Consequently, the plan halts the ongoing development of 11.2GW of Scottish projects, with multiple GW worth of projects already being jeopardised by the uncertainty. The UK wide onshore wind target is 37GW by 2035 and if we deliver the entire existing pipeline in Scotland, England and Wales, we would realise 39GW of deployment. However, this figure and the UK-wide target assume minimal attrition of projects in the pipeline, which does not align with the historical, realistic progression of projects and risks the missed delivery of our onshore target.

Furthermore, the plan lacks adequate consideration of projects that would look to repower, which would typically increase a project's generation output and be subsequently curbed by capacity caps in the current models. Refusals on project expansions and any resulting decommissioning could further undermine government targets and cause additional negative consequences, including redundant ancillary infrastructure and increased environmental impact from constructing a new wind farm elsewhere to compensate for the lost electricity generation.

The same issue is true for solar where set capacities in Scotland do not correlate with the existing pipeline of legitimate projects, causing developed investments to be abandoned. The assumptions that have led to the set capacities for the north of Scotland transmission-connected solar projects (100 MW) are flawed. The unequal split between the north and south of Scotland and the split between transmission and distribution connected projects is detrimental to large-scale solar. This subsequently risks achieving the clean power ambitions of tripling solar energy.

Otherwise, in NESO's recent webinar on Protections, clarity was given around projects in Town & Country Planning (T&C) benefiting from appeals to Protection 3; however, there is no such route for projects in the S36 planning process. As there is currently no statutory timeline for a S36 decision, the process can take anywhere between 2-4 years with the average time from application to decision, as of the adoption of National Planning Framework 4 (NPF4), averaging 38 months, dropping to 29 when there is no Public Local Inquiry (PLI).

Despite engaging early in planning, projects caught in this process that have invested millions in development and planning will now be at risk due to an artificially imposed gate closure deadline for a planning decision. While we're aware of the oversubscription of BESS projects, we believe onshore wind requires different treatment to ensure needed projects are not unnecessarily culled.

Revising or providing more flexibility between these country capacities as soon as possible is vital to ensuring that TOs can plan the network strategically, as is the core intention behind Connections Reform. Such disparity with the existing pipeline risks TOs designing a network that neglects a wealth of projects that TOs are already cognisant of and that are poised to deliver for our upcoming climate targets.

Clarity of process

Relating to clarity of process, industry is looking for more information on a number of areas to fully understand the functioning of the new process. At present, it is unclear how substitutions will be made in and between the respective capacity zones to manage attrition in the most efficient, strategic manner. The current process implies that the subsequent project in the queue would replace any project that withdraws ahead of it.

However, some of the capacity zones are considerable in size and this default process could easily lead to inefficiencies. A more logical, strategic approach would be to consider the next projects in the queue that are also closest and/or have a similar set of Construction Planning Assumptions (CPAs) to replace capacity more efficiently to meet our climate targets. To rationalise this approach and save significant cost to consumers, NESO needs to gather more granular data from the network operators around their capabilities in delivering different substitution scenarios. TOs/DNOs could provide NESO with relevant information on the timescales associated with several potential substitutions, including the next in the queue, to give clarity around what would be most cost and time-effective for more efficient substitutions, with NESO making any final decision. Such an approach would align more closely with Connection Reform's underlying ambition for prioritising the most strategically useful and deliverable projects.

We are also requesting more information around how substitutions across adjacent zones would be managed, particularly clarity around the exact process within the CNDM to permit flexibility between transmission and distribution in overlying and adjacent zones. We support Ofgem's acknowledgement of the sensible and necessary nature of enabling this flexibility to safeguard against attrition and 'that rigid adherence to zonal capacity limits does not result in outcomes that run counter to achievement of Clean Power by 2030.'

In addition to zones, industry needs greater clarity on the next application window following the gate 2 to whole queue this summer and how it will operate. Investor confidence hinges on window certainty and yet, we question the value and additional opportunity to be provided by this. If the capacities to 2035 are to be allocated this summer, there is only value in an additional window if there is considerable attrition, which some members of industry are sceptical of.

Thus, the next available opportunity to apply would likely be once the Strategic Spatial Energy Plan (SSEP) is published at the end of 2026, outlining capacities out to 2050. Some members believe in the value of developing a clear, additional queue formed of those that don't initially receive a Gate 2 offer to bolster confidence in and provide clarity over the replacement of any attrition. To stabilise investor confidence ahead of Connections Reform and in the interim to SSEP, we encourage NESO to provide greater certainty around future windows.

Offshore coordination

Regarding the need for clarity of process and offshore coordination, NESO needs to avoid creating further uncertainty for developers if it is to maximise progress towards our CP30 ambition. Thus, we believe the gated design process should not revisit the outcomes of the HND and the HNDFUE, in terms of projects' status as radial or coordinated. For advanced projects that have already invested significant work and capital such as in developing cable routes, carrying out requisite survey work, arranging contracts with landowners, developing planning applications and conducting community consultation, protections around pre-agreed Point of Connection (PoC) must be given. These should only be amended if developers are happy to accept a change of connection point in order to advance their connection date. Unilateral decisions by NESO to change connection points at this stage in development would not only negate significant work that has been undertaken, including with local communities, but also damage the financial viability of projects and pose significant delay.

Q12: Do you agree that we have, to a reasonable extent, captured and understood the potential impacts of TMO4+ on different user types, including generation, storage and demand

customers across transmission and distribution, as well as consumers, NESO and network companies?

As aforementioned in our [response](#) to the SSEP's draft methodology consultation, the recent reforms do not consider hybrid and co-located projects.

Connections Reform similarly does not accurately include tailored measures for this project type with export-only projects deemed as generation technology and those with import capability simply classed as battery. Given the immense oversupply in the battery queue, this treatment will render many hybrid projects redundant despite their demonstrable benefit in reducing constraints for hybrid sites. A fair and logical process needs to be developed for such projects to avoid unnecessarily penalising valuable innovation that offers considerable consumer savings.

An important benefit of TMO4+ is the better prioritisation of network company resources, facilitating CP30. Hybrid and co-located projects offer natural efficiency and coordination of network use, an organic benefit that the Minded To solution entirely ignores.

In addition, the process interface between distribution and embedded projects as part of Connections Reform remains ambiguous, as previously mentioned in our responses to the methodologies and end-to-end review consultations. With distribution-level projects representing most projects in the queue, developers and DNOs urgently need more information on the process, including timelines and how they align fairly with those introduced at the transmission level.

Q13: If you are a developer who has one or more connection agreements that may be affected by TMO4+, do you have feedback on how your contract may be affected and what impact this would have on your business? Please provide as much detail as possible (including confidentially if desired), including as to the likelihood of being affected (positively or adversely); the reasons for this (e.g. opportunities for acceleration, failure to meet Gate 2 Criteria); and the extent of any likely or potential financial or other impact.

N/A.

Q14: Do you agree that we have, to a reasonable extent, identified and understood all the potential costs of implementing TMO4+?

Q15: Have we, as accurately as possible, identified and understood all the potential benefits of implementing TMO4+?

Q16: Are there any unintended consequences of TMO4+ that we have not identified?

Appeals process

At present, there is no formal resolution process to appeal decisions made regarding a project's Gate 2 status. Industry is already concerned about the expectation that NESO will process significant amounts of contracts in a constrained timeframe with relatively limited resources, and issues encountered by the recent pause on connections have already proven this, as highlighted in [Scottish](#)

[Renewables' recent open letter](#). NESO must therefore create an avenue for decisions to be challenged and a suitable process that avoids project delay for challenges that prove to be successful.

Renewable energy projects are unique in nature and most cannot be entirely standardised due to variable characteristics. The bespoke nature of projects combined with an unknown level of expertise in planning/leases across NESO's processing team and a historically low quality of connections data means a clear appeals route to contest incorrect decisions is vital.

If a formal resolution process is established, it must be designed to prevent a project's connection date from being delayed. At minimum, the opportunity for feedback, questions, and/or a conversation will take time. While the entire queue process cannot be placed on hold, projects must not be penalised if an incorrect decision has been made, and an original connection date must be retained.

This process must involve some escalation, even if initially limited to questioning. NESO needs to establish an appropriate appeals process or provide clarity by at least July, when projects start receiving offers.

Project Commitment Fee and TEC rationalisation

Overall, Scottish Renewables and RenewableUK believe the revised Project Commitment Fee (formerly known as the Financial Instrument) is much improved from the former version and appreciate the consideration of industry feedback. However, the fee should focus on project commitment and development and not penalise projects for rationalising TEC, primarily when this benefits the system and aligns with the core motivation for Connections Reform.

There are many legitimate and rational reasons why a project would reduce TEC when developing, such as supply chain, planning, geography, and energy density criteria changes. As most projects will enter Gate 2 without planning consent, changes to the final project design are inevitable. However, the process at present incentivises developers to retain TEC amidst the host of changes that arise throughout development up until the point of energisation, where it is cheapest to make any reductions. Ofgem's TEC amnesty served as an isolated opportunity to surrender TEC but does not satisfy the natural evolution of project development with gradual reduction due to necessary design changes.

As significant effort is being put into Connections Reform and unlocking capacity within the queue, NESO is neglecting the opportunity to seize an additional 10-15% network capacity typically held as surplus on projects as they progress. The process needs to rationalise grid capacity to avoid the unintended consequence of projects unnecessarily hoarding TEC. We urge NESO to review this element of the new process by introducing interspersed windows in line with project development that act as an opportunity to periodically rationalise TEC, supported by evidence of the project development process. This would promote better industry practices that unlock available capacity quicker.

TCSNP2-Refresh Alignment

With the outputs of the TCSNP2-Refresh assessment expected in January 2026, network projects must be aligned to the revised connections queue following the Gate 2 to Whole Queue process and any outstanding HND/FUE impact assessment decisions. Projects within the Refresh need to take account of the most up-to-date inputs through thoughtful coordination for efficiency of network design, as well as to meet TO licence obligations. As such, we recommend that the relevant Price Control Deliverable (PCD) outputs, which are currently expected for June, be delayed to September when there is greater visibility of connections and offshore coordination plans. Before strategic planning, TO outputs followed a similar timeline by responding to the former NOA outputs to which the Electricity System Operator would subsequently react to in January. Avoiding delay is paramount; thus, inputs submitted after the finalisation of key information help optimise the efficiency of network design.

Assessment of advancement requests

We are concerned that, at present, there is an absence of a sufficient assessment process for determining projects' ability to meet requested advancement dates and the potential negative repercussions if this is not developed more thoroughly.

Within Paragraph 2.28 of the Minded to Decision on the CNDM, it states that the Authority is 'minded to agree that applications for advancement should only be undertaken for projects that are genuinely capable of achieving an accelerated date'. However, the CNDM does not define how NESO will assess whether a project is genuinely capable of achieving any advancement date offered.

From member conversations with NESO, we understand that projects will only be advanced where this does not result in them failing to meet Queue Management (QM) Milestones; however, we do not believe this is a sufficient means of assessment given the complexity of offshore wind projects and their long development times. For example, QM requires projects to submit for consent 48 months ahead of Contracted Completion Date, but any commercial scale offshore wind farm would be required to apply for consent significantly earlier than that point. Securing consent earlier would be vital for ensuring it would be subsequently able to secure a CfD for the appropriate Delivery Year, secure the necessary commitment from suppliers (particularly given current lead teams for critical components), and to reach a final investment decision (FID) in time to align construction with the completion of transmission connection.

Our concern stems from the fact that the advancement of one or more projects has the potential to negatively impact others. As set out in our concerns around offshore coordination design changes under Q11, any changes to projects' connections points to allow other projects to advance would have a significant negative impact on both costs and project progression.

As such, we believe that there needs to be further means of analysing/interrogating the project delivery plan and critical path of any offshore wind project requesting advancement to ensure that the project is genuinely capable of delivering by its potential new connection date. To this end, we believe there is a requirement for NESO to provide more clarity of what type of supporting documentation should be provided and will be accepted to allow projects to provide a credible view of being 'genuinely capable' of meeting any advancement date requested.