Public

Connections methodologies update

An overview of key process improvements and clarifications to the connections methodologies – November 2025

NESO
National Energy System Operator

Public

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Note: the following update is approved by Ofgem. For more information see Ofgem's letter dated 13th November 2025 under the title: "Re: NESO's amendments to the Connections Network Design Methodology to improve the connections process ahead of TMO4+ Gate 2 to Whole Queue formation"

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1. Context

1.1 At the National Energy System Operator (NESO), we recognise the challenges facing our connections customers and the need to fundamentally reform the electricity transmission connections process in order to deliver Clean Power by 2030, deliver value for consumers and growth across Great Britain.

1.2 On 15 April 2025 Ofgem approved[1] our ambitious 'TMO4+' proposals to reform the electricity transmission connections process to ensure that the mix of projects in the reformed connections queue best reflects Great Britain's (GB's) Clean Power needs in 2030, whilst providing an efficient transition and clear investment signal to 2035, so that we maintain efficient progress towards net zero. 'TMO4+' takes the form of a package of changes to relevant industry codes and three new 'connections methodologies' that, together with changes to the electricity system operator licence and relevant network company licences, set the regulatory and commercial framework for the reformed connections process.

1.3 Following Ofgem's approval, on 30 April 2025 we published "*Connections methodologies update - An overview of final amendments to the connections methodologies*" [2]. Ofgem approved this update to the connections methodologies on 15 May 2025.[3]

1.4 The three methodologies are:

- Gate 2 Criteria Methodology[4]
- Connections Network Design Methodology (CNDM)[5]
- Project Designation Methodology[6]

[1] https://www.ofgem.gov.uk/decision/decision-connections-reform-package-tm04

[2] https://www.neso.energy/document/359806/download

[3] https://www.ofgem.gov.uk/sites/default/files/2025-05/Updates%20to%20Connections%20Methodologies%20decision.pdf

[4] https://www.neso.energy/document/359776/download

[5] https://www.neso.energy/document/359781/download

[6] https://www.neso.energy/document/359786/download

1.5 In June 2025 we published the 'EA Timeline', which set out the detailed timeline for implementation of the 'Gate 2 to the whole queue' (G2TWQ) stage of our connections reform programme. This confirmed that the evidence submission window for transmission-connected projects would be open from 8-29 July 2025.

1.6 Following issues with the connections portal when submitting applications, we extended the evidence submission window so that it closed on 26 August 2025. We then published a revised 'EA Timeline' which sets out the new, re-baselined timeline for G2TWQ.[7]

Purpose of this document

1.7 As part of detailed design and delivery of G2TWQ since July 2025, including through working with our delivery partners (Transmission Owners and Distribution Network Operators[8]) we have identified several key process improvements that allow for more efficient implementation of G2TWQ. As part of our engagement with customers and other stakeholders we have also identified several key areas where further clarification of the methodologies is beneficial in order to ensure that the full range of technologies and project types are able to participate fully and with clarity within the G2TWQ process.

1.8 This document provides an overview of those key process improvements and key further clarifications.

1.9 We are submitting this update to Ofgem and publishing it, in order to provide clarity to stakeholders on the approach we are taking to implement G2TWQ. For the avoidance of doubt, we do not consider that these key process improvements or key further clarifications represent material changes to the connections methodologies.

1.10 As such, and subject to Ofgem's agreement, in line with paragraph 2.46(a) of Ofgem's decision on TMO4+[9], we do not intend to consult on these key process improvements or key further clarifications rto the connections methodologies.

[7] https://www.neso.energy/industry-information/connections-reform/connections-reform-timeline

[8] References to DNOs in this document also includes Independent Distribution Network Operators

[9] https://www.ofgem.gov.uk/sites/default/files/2025-04/Decision-on-TMO4-Reform-related-Modifications-to-Electricity-Licence-Conditions.pdf

2. Overview of key process improvements and key clarifications

2.1 The key process improvements and key clarifications fall into the following categories:

A. Changes to the sequencing or scope of activities

B. Further clarifications of specific sub-sections of the methodologies, which could potentially be interpreted differently

2.2 The sections below provide an overview of areas A and B above.

A. Changes to the sequencing or scope of activities

2.3 We have identified two areas in which we and our delivery partners are able to deliver process efficiencies, leading to more timely delivery of G2TWQ.

2.4 **These relate to the Transmission Owner' (TO) and Distribution Network Operator (DNO) 'advancement checks'** which occur during the *'Align the connections queue to the CP30 Action Plan'* activity as set out within 5.7.1 (page 31), 5.7.6 and 5.7.7 (page 32), 5.8.3 (page 34), and 5.25.5 (page 53) of the CNDM.

2.5 These 'advancement checks' ensure that the relevant TO or DNO identify any network limitations preventing advancement of a project from a current connection date of 2031+ into phase 1[10] of the reformed connections queue. These 'advancement checks' happen prior to queue

[10] For project technologies with permitted capacities set out within Government's CP30 Plan, phase 1 of the connections queue refers to projects needed by the end of 2030, in line with the permitted capacities set out within Government's CP30 Plan. For project technologies that do not have permitted capacities set out within Government's CP30 Plan, phase 1 of the connections queue refers to projects that already have connection dates before end 2030, or that request advancement to a connection date before end 2030, and that are capable of being advanced (as determined by the TO / DNO 'advancement check').

formation and prior to detailed network study to determine connection works and associated point of connection and connection date.

2.6 Following engagement with TOs and DNOs, we have decided that it is more efficient to move these 'advancement checks' from step 5 in the '*Align the connections queue to the CP30 Action Plan*' activity as set out within 5.7.1 (page 31), to being carried out before step 1 of the '*Align the connections queue to the CP30 Action Plan*' activity as set out within 5.7.1 (page 31). This is to remove the 'advancement checks' from the critical path for queue formation and ensure that any delay in the 'advancement checks' would not result in a delay to queue formation. As such it allows more time to carry out 'advancement checks' as these can start earlier and be done over a longer timescale, and not just within the period of step 5 of the queue formation process.

2.7 Carrying out these checks earlier has no impact on the outcome of the checks or the queue formation process outcome as the nature, methodology and outcome of the checks remains the same as it would have been if these had been undertaken in step 5 of the queue formation process.

2.8 In addition to carrying out the 'advancement checks' earlier, we have also agreed with DNOs that a specific 'DNO maximum advancement date' (5.8.3 of the CNDM, page 34) is not required as part of 'advancement checks'. Instead, the DNOs will, like the TOs, only indicate where a project cannot be advanced from a current connection date of 2031+ into phase 1, as this is the only advancement check that impacts queue formation. This ensures that the DNO 'advancement checks' mirror the approach for the TO 'advancement checks'. It means that there is no requirement at this stage for DNOs to carry out detailed engineering studies to determine a specific advancement date, that are not necessary at the queue formation stage of the G2TWQ process. As

such, by reducing the scope and complexity of the DNO 'advancement checks', it removes them from the critical path for queue formation and ensures that any delay in the DNO 'advancement checks' would not result in a delay to queue formation.

2.9 Reducing the scope of the DNO 'advancement checks' in this way has no impact on the outcome of the checks or the queue formation process outcome as the nature, methodology and outcome of the checks remains the same.

2.10 Finally, we have included **'Reactive Compensation' within the scope of the listed technologies in the CNDM (5.4, page 26) and Gate 2 criteria (6.3, page 45) that are not in scope of the CP30 Plan and that therefore automatically meet the Gate 2 Strategic Alignment Criteria** (under Strategic Alignment Criteria (d)).

2.11 Reactive Compensation is the process of managing reactive power in electrical systems to improve efficiency, stability, and voltage quality. Reactive Compensation projects have 0MW capacity and provide significant electricity system benefits by allowing NESO to manage reactive power more efficiently, thereby reducing system constraints and costs to consumers and sometimes reducing the need for network build.

2.12 Reactive Compensation technology was not included as a technology with permitted capacity in Government's CP30 Plan. Government set out in its CP30 Plan that "*For technologies not included within the pathways, or generation connecting from outside GB, NESO should separately consider the correct route through the connections process to facilitate timely connections for these projects, as appropriate*".

2.13 Reactive Compensation is a 'clean' technology[11], and given the benefits it provides, we consider that it is in the interests of GB consumers that Reactive Compensation projects are deemed to have met the strategic alignment element of the Gate 2 criteria (under Strategic Alignment Criteria (d)). Further, this would not reduce the permitted capacities available for other technologies. This follows the approach already used for wave, tidal, non-GB generation, geothermal generation, run-of-river hydropower and transmission-connected demand.

2.14 For the avoidance of doubt, Reactive Compensation projects still need to meet the Gate 2 readiness criteria in order to be eligible for a Gate 2 offer.

2.15 This approach was communicated a few weeks before the G2TWQ submission window closed. Note that this also applies to projects categorised as 'Synchronous Compensation', which also fall under the 'Reactive Compensation' technology term.

B. Further clarifications of specific sub-sections of the methodologies, which could potentially be interpreted differently

2.16 We have identified three areas of the methodologies which could potentially be interpreted differently. We set out below how we are interpreting each area, and why.

Phase 2 permitted capacities calculation

2.17 Section 5.4.12 (page 27) of the CNDM sets out that "*For the 2031 to 2035 phase* [ie phase 2]*, NESO and DNOs will use the 2035 Regional capacity breakdowns for each zone and technology and deduct the relevant*

[11] ie it does not contribute materially towards greenhouse gas emissions

2030 regional capacity breakdown from this to determine the permitted capacity against which to align the existing queue."

2.18 We have decided that the available phase 2 permitted capacity for each CP30 technology equals the upper bound of the stated CP30 Plan "2035 FES-derived Capacity Range" for 2035, **minus** the **actual Phase 1 allocation** after rebalancing and substitutions, **minus** the **current built capacity**.

2.19 This ensures that the permitted capacity for phase 2 for each CP30 technology is calculated under the same logic and approach as the permitted capacity for phase 1 (as phase 1 permitted capacity for each CP30 technology equals the upper bound of the stated CP30 Plan "DESNZ 2030 'Clean Power Capacity Range" for 2030, minus the current built capacity).

2.20 It also ensures that accurate actual (not predicted) capacities for phase 1 are used to determine permitted capacities for phase 2.

0MW Onshore wind transmission zones in Phase 1

2.21 Government's CP30 Plan sets out zonal permitted capacities for transmission and distribution-connected projects for onshore wind, solar and batteries. For some onshore wind transmission zones, the CP30 Plan sets out that there is 0MW of capacity for end 2030[12].

2.22 Before we start the queue formation process, we establish the current built capacity for each CP30 technology so that we can subtract that built capacity from the upper bound of the stated CP30 Plan "DESNZ 2030 'Clean Power Capacity Range" in order to determine the permitted capacity for phase 1 for queue formation purposes (as described in the sub-section above).

[12] specifically zones T3: Northern England; T5: Midlands; T6: Central England; T7: East Anglia; T9: South West England; T10: South England; and T11: South East England

2.23 For onshore wind, solar and batteries, we establish the current built capacity for each technology in each of the transmission and distribution zones and subtract it from the onshore wind, solar or battery 2030 figures in Tables 2 and 4 of the CP30 Plan.

2.24 If the current built capacity for onshore wind is greater than 0MW in any of the zones where there is 0MW of capacity for end 2030 in the CP30 Plan, then we do not want the built capacity in that zone to count towards "rebalancing" (as described in section 5.14 of the CNDM). If that built capacity did count towards rebalancing then this would cause us to seek to rebalance the 'oversupplied' capacity in a 0MW zone by removing capacity from another zone. This would reduce the permitted capacity within the other zone and would therefore reduce the opportunities for projects to secure a phase 1 queue status in that other zone.

2.25 In order to mitigate this risk. we are therefore setting the permitted capacity for the 0MW onshore wind zones to be equal to the built capacity. This will ensure that no capacity is removed from another zone during rebalancing as a result of any built capacity in a 0MW onshore wind zone.

Import / export only storage systems

2.26 Within the CNDM para 5.11 (page 36), which applies to G2TWQ, and para 7.8.1 (page 75), which applies to future CMP434 connection windows, set out that "*Hybrid projects will be managed according to how they interact with the system. If a hybrid project comprising of storage and an additional generating technology intends only to export to the transmission system (i.e. import capacity is behind the meter), it will only be considered as contributing towards the permitted capacity total for the additional generating technology. If a hybrid project comprising of storage and an additional technology (or technologies) intends to both import and export to the transmission system, it will be considered as contributing to the permitted capacity totals for both storage and the additional technology (or technologies).*"

2.27 In other words, where an export-only energy storage system is co-located with generation, the energy storage system will therefore pass strategic alignment.

2.28 The methodology is silent on how an 'import-only' energy storage system will be treated as it only refers to 'export-only' storage and generation. However, following the same logic of behaviour and impact on the system, an energy storage system that is co-located with demand and that only imports directly from the network should not contribute to the energy storage system permitted capacity.

2.29 For the avoidance of doubt, this means that where an import-only energy storage system is co-located with demand, the energy storage system will not contribute towards the permitted capacities for the relevant energy storage system technology (battery or LDES) and will therefore pass strategic alignment.

2.30 In both cases (export-only storage system with generation; and import-only storage system with demand) NESO will set the export or import capacity (as appropriate) of the energy storage system at 0MW.

2.31 This approach to import only energy storage systems and demand was communicated a few weeks before the G2TWQ submission window was closed.

Queue ordering for Technologies Out of Scope of the CP30 Plan

2.32 Para 5.7.1 (page 31) of the CNDM covers queue formation for G2TWQ. Steps 3 and 4 and the associated diagram in Figure 10 set out that projects will be:

- assigned a phase, based on their contracted connection date, or advancement date where requested (step 3); and then
- the order of the remaining projects will be based on progress / planning status (ie 'protected', 'planning consent submitted', and 'land-rights only').

2.33 Para 5.6.4 (page 30) of the CNDM sets out that "*...projects will retain this 'planning sort' for the 2035 phase* [ie phase 2]"

2.34 This arrangement explicitly refers to technologies in scope of the CP30 Plan and that have an associated permitted capacity. We intend that this approach to queue ordering, including the 'progress / planning sort', will also apply in the same way to technologies that are out of scope of the CP30 Plan. This means that projects in technologies that are out of scope of the CP30 Plan will also be assigned a phase, based on their contracted connection date, or advancement date where requested; and then the order of the remaining projects will be based on progress / planning status (ie 'protected', 'planning consent submitted', and 'land-rights only').

2.35 This aligns with the wording of para 5.10.1 (page 36) of the CNDM, which sets out that "*Transmission connected demand and other 'out of scope' technologies (listed in the table in Figure 8* [page 26]*) that have met the Gate 2 Readiness Criteria will be deemed to have met the Gate 2 Strategic Alignment Criteria. These projects will be sorted into Phase 1 or Phase 2 depending on their contracted connection date or requested advancement date*".

2.36 It also aligns with the general intent of the G2TWQ process, which is to sort the new queue order of projects based on progress / planning status.