



James Norman  
Head of Connections Reform  
National Grid ESO  
Warwick  
CV34 6DA

By email: [box.connectionsreform@nationalgrideso.com](mailto:box.connectionsreform@nationalgrideso.com)

**28 July 2023**

Dear James,

**Re: NGESO Connections Reform Consultation, June 2023**

### **Introduction to RES**

RES is the world's largest independent renewable energy company with operations across Europe, the Americas and Asia-Pacific. A British company, at the forefront of renewable energy development for 40 years, RES is responsible for more than 123GW of renewable energy capacity and energy storage projects worldwide. RES is active in a range of renewable energy technologies including onshore wind, offshore, solar and energy storage.

In the UK, RES has developed and/or constructed 1GW of operating wind generation capacity. We provide support services (AM and O&M) to a global operational portfolio of 5.5W of renewable projects and energy storage for a range of third-party clients. We play a critical role in ensuring the provision electricity with our teams on the ground and in our 24/7/365 control centre responsible for keeping 10% (3GW) of the UK's operating renewable capacity running.

RES wants to play an active part in the UK's energy future, ensuring our projects contribute to decarbonising the energy system at least cost to the consumer, in line with RES' vision to be a leader in the transition to a future where everyone has access to affordable zero carbon energy. We therefore welcome this opportunity to respond to the NGESO Connections Reform consultation and we are happy for our response to be published. The headline messages of our response is set out in the Exec Summary

### **Executive Summary**

We very much welcome the June 2023 NGESO Connections Reform Consultation ("the Consultation"). We fully understand the drivers behind the need for change and that change must be progressed with the utmost urgency if we are to have a chance to meet 2035 decarbonisation and 2050 Net Zero targets. We generally support most of the key messages and recommendations set out in the Consultation however we also address each question posed individually in the main body of our response.

While not within the scope of the consultation we have the following comments to make;

**Transmission Infrastructure Emergency:** One of the key drivers of the current connection queue and also of one of the key threats to delivery of decarbonisation targets is the historical underinvestment in strategic transmission infrastructure. We understand that the Transmission investment and delivery process is not part of the scope of this consultation but it is critical that the reformed process should support (and not hinder) the delivery of essential new infrastructure.

**Net Zero Whole Energy System:** The FSO will be charged with enabling delivery of Net Zero on a whole energy system basis. The reformed connection process must be aligned with this objective. The current state challenges and inefficiencies that reside at the transmission / distribution boundary, which are reflected upon in the consultation, indicate that failure to properly consider the whole system aspect of the connections process could be catastrophic for delivery of our decarbonisation targets.

**Five Point Plan in Progress:** Whilst Net Zero compels us to ensure that the GB connections process enables decarbonisation of the whole energy system in the most efficient way possible, the reform process must recognise that the NGENSO 5 point plan is in progress and that this may reveal new issues or opportunities to be addressed in the enduring connections process. It is therefore imperative that the enduring arrangements provide for flexibility such that connections process is agile to adapt to future improvements or market changes.

With regards to the consultation itself, we have the following high-level comments to make which we go into more detail in our responses to questions below;

**Further consideration of Gate 2 being triggered by securing planning consent:** We propose that this should be subject to further discussion if it can be established that the ESO will conduct preliminary work on the connection prior to Gate 2 in accordance with the commitment to invest on anticipatory basis. CMP 376 will provide strict project development milestones which we believe should be used by TOs as an early signal for preliminary work. In the event that the TOs will not be able to conduct preliminary work on the connection using CMP376 milestones as a suitable investment signal then we would continue to support the proposal outlined in the Consultation of Gate 2 being linked to submission of application for planning consent.

**Generator Lead Connection Preliminary Work:** One of the most prominent potential barriers to effective operation of a reformed connection process is the ability of the NGENSO/FSO to manage / resource a significantly more iterative connection process. In light of this, we think there may be merit to discuss, as an industry, whether some aspects of early phase grid technical work that could be lead by generators. Such work could include early phase grid routing or point of connection assessment (assuming suitable transmission system data could be made available to conduct such work).

**Cancellation charges and securities:** Current user commitment methodology is not reflective of real risk of stranded investment by TOs. We acknowledge that this sits outside the scope of this consultation, we encourage NGENSO to review CUSC 15 to better align with real world risk of stranded investment in order to ensure that it does not remain a barrier to the delivery of the Net Zero whole energy system.

**Post Gate 2 queue should be dynamic:** As currently drafted, the current proposals allow for dynamic queue management only when all developers within a connection window batch keep their long stop date for connection. We are concerned that this inflexible approach to the queue could lead to unnecessary delays and non-cost reflective connection charges. There are existing circumstances where shovel ready projects may be able to energise sooner than others ahead of them in the queue, but because those in front were from an earlier application window for example, these shovel ready projects would be delayed or paying for network upgrades justified on grounds of projects that are not shovel ready.

**Connections Reform Transition:** There is a possibility that the commitment to a new reformed connection process may result in a flood of applications from potential system users seeking to apply under status quo

arrangements. We consider to NGESO to consider measures to avoid this outcome and to ensure that such applicants receive no advantage.

We are keen to engage further on connections reform and more broadly in relation to the UK's transition to net zero. We would be happy to answer any further questions on our evidence or provide additional information if required.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'P. Smart', enclosed within a thin black rectangular border.

Energy Networks Director  
E:patrick.smart@res-group.com

Responses to Consultation Questions.

1. *Do you generally agree with our overall initial positions on each of the foundational design options and key variations? Are there any foundational design options or key variations that we should have also considered?*

Yes and no, none that we can identify at this time.

2. *Do you agree with our initial view that the current issues with the connections process could potentially be addressed on an enduring basis through other, less radical, and lower risk means than the introduction of capacity auctions?*

Yes, absolutely. Auctions will only be effective in revealing what system users will be willing to pay for transmission capacity and would not offer a useful signal as to whether the connections process enables delivery of decarbonisation targets.

3. *Do you agree with our initial view that the reformed connections process should facilitate and enable efficient connection under either a market based (i.e. locational signals) or 'centralised' deployment approach (or an approach somewhere between the two) but not mandate which approach to follow.*

Given the extent to which FSO or any other central stakeholder is remote from the economics of renewable generation and flexibility projects, we struggle to see how centralised deployment of connections would best enable delivery of decarbonisation targets.

4. *Do you agree with our initial recommendation that TMA A to TMA C should all be progressed, irrespective of the preferred TMO?*

Yes, TMA A and B are essentially developments of support functions that exist today but which need to be done better if they are to deliver the foreseen benefits.

5. *Do you agree with our initial recommendation on the introduction of a nominal Pre Application Stage fee, discounted from the application fee for customers which go on to submit an application within a reasonable time period?*

Yes, provided the fee is a sensible balance of cost reflectivity and commitment to the process without presenting a barrier to effective competition.

6. *Do you agree with the importance of the TMA A 'Key Data'? Please provide suggestions for any other key data that you suggest we consider publishing at Pre Application Stage.*

Yes. We suggest that TMA A data should also include data on physical constraints (such as available of land to permit extension / development of major substations) at typical system pinchpoints such as GSPs in areas of high generation penetration.

7. *Do you agree with our initial recommendation with regard to TMA D (requirements to apply)?*

Yes, we agree. The requirement of a Letter of Authority from a relevant landowner is long overdue. The absence of such a measure has contributed to the build of grid queue that currently exists.

8. *Do you agree with our initial recommendation with regard to TMA E (determination of enabling works), including that it is right to wait until the impact of the 5 Point Plan is known before forming a view on whether further changes to TMA E are required?*

We do not agree with this recommendation. At the time of writing there is insufficient detail on the CPA aspect of the 5 point plan in order to form a view. Also, we welcome all measures to help bring about acceleration of new transmission infrastructure but such is the extent of historical underinvestment in this area that any acceleration is enabling catch up relative to the need of new grid to integrate contracted new renewables rather than being “Anticipatory”. It seems to RES that a scenario of transmission infrastructure actually being progressed in anticipation of new generation is some way off in the future. In light of this compelling need for acceleration of transmission investment, we think that it should be enabled in any reformed connection process.

9. *Do you agree with our initial recommendation with regard to TMA F (criteria for accelerating ‘priority’ projects)?*

We agree that TMA F3 should be progressed and that TMA F4 should not be progressed. We note the NGENSO intention to further develop TMA F1 and TMA F2. Whilst we understand that such measures could be considered to be in the best interest of enabling the delivery of Net Zero, we would urge caution against centralised in what is otherwise a predominantly market led process. The reformed Connection Process should support critical decisions by market players on investments in the GB energy market for many decades to come. Introducing the possibility of centralised intervention, either by NGENSO or by Government, may undermine confidence of those investors in the GB energy market.

10. *Do you agree with our initial recommendation with regard to TMA G (queue management)?*

We agree that Proactive Queue Management (PQM) should not be progressed further at this stage, such intervention would be likely to undermine investor confidence. We support progression of Reactive Queue Management (RQM) however we reserve judgement on RQM+ until the definition of a “priority project” has been clarified.

11. *Do you agree these four TMOs present a reasonable range of options to consider for a reformed connections process?*

As of now, yes.

12. *Do you think any of the four TMOs could be materially improved e.g. by adding, removing or changing a specific aspect of the TMO? If so, what and why?*

We have no specific suggestions in this area at the present time.

13. *Are there any important TMOs we have missed?*

None that we can identify at the time.

14. *Do you think ‘Submit Consent’ is too early for Gate 2 in TMO2 to TMO4? If so, what milestone should be used instead and why?*

RES understands that Gate 2 is where the TO will start to develop final connection design. We would highlight that, in the All Island market, the CRU recently published a call for evidence on Ireland’s Connection Policy to which RES highlighted our concerns with using Planning Consent as a pre-requisite to the connection application process. RES’s main concern with the current connection policy in Ireland is that the grid application process commences after project planning consent which results in lengthy timelines from development to energisation of projects. We understand that the broad structure of the TMO4 approach should avoid that outcome by allowing projects to commence the grid application process much earlier but with appropriate project integrity criteria set to deter speculative applications.

Regarding the definition of TMO4 as proposed in the Consultation, we suggest that it would be worth further consideration of Planning Consent as the Gate 2 milestone. This is because it would help to ensure that NGESO / TO resources are targeted on the connection of shovel ready project. However, this should **only** be the case if the ESO / TOs can provide confidence that preliminary work will start on the connection prior to Gate 2. The new CMP 376 milestones (once implemented) will provide clear project development milestones which we believe could be used by TOs as an early signal of commitment to justify early phase studies. If NGESO and the TOs can not commit to conducting early phase studies triggered by CMP376 milestones then we would support the NGESO proposal of the Gate 2 milestone being submission of an application for planning consent.

*15. Do you agree that TMO4 should be the preferred TMO?*

We understand why NGESO has identified TMO4 as the preferred option. We can see how a fixed recurring Window permits the undertaking of efficient holistic design and that window would be more efficiently applied at Gate 1 rather than Gate 2, when a project needs to be considered on its individual merits given its progress through its own development cycle. We think that a 12 monthly Gate 1 connection application window is too infrequent and that NGESO should consider application of a 9 monthly window with the ultimate objective of increasing frequency to 6 monthly once the process has been properly established.

We note that there is no queue management within application windows at Gate 1 under TMO4. Given the early stage nature of development of such projects, we think this is fine. However, with regard to Stage 2 projects, our understanding of the TMO4 process is that it will allow for dynamic queue management only when all developers within a connection window batch keep their long stop date for connection. We are concerned that this inflexible approach to queue management could lead to unnecessary delays and non-cost reflective connection charges. This will give rise to circumstances where shovel ready projects may be able to energise sooner than others ahead of them in the queue, but because those in front were from an earlier application window and their long stop date cannot be moved, these shovel ready projects would be delayed or paying for network upgrades justified on grounds of projects that are not shovel ready. This perpetuates a flaw in the current state connection process, which affects an existing consented project in our portfolio. We would be delighted to discuss this example with NGESO directly if that would be helpful.

We would also note that the benefits that NGESO has identified for TMO4 (and for the other TMOs) would seem to be based on critical assumptions around implementation and ongoing operation. Key amongst these assumptions is resourcing and operational systems. Without adequate resourcing and suitable operating systems, TMO4 may introduce even more delay and inefficiency than Status Quo. Resourcing needs to be a key feature of the next stage of development of TMO4.

*16. Do you agree with our design criteria assessment of the four TMOs? If not, what would you change any why?*

As noted in the response to Q.15, the scoring on slide 7 of the Consultation assumes suitable resourcing and efficient operation. For example, under the Design Objective "Quicker Connections for projects progressed on their merits", there is a case for saying that TMO2 scores better than TMO4 because it does not include an application window. We understand NGESO's argument that an application window enables more co-ordinated and efficient design that should result in more timely delivery of enabling works but there is also significant risk that, if not adequately resourced, this aspect of the process could introduce significant delay. Adequacy of resourcing is a very significant assumption and requires more detailed consideration in the next stages of the consultation process.

*17. What are your views on the stated benefits and key challenges in relation to TMO4?*

We understand the reasoning behind the assumed benefits and challenges. Other than to reiterate the criticality of suitable resourcing in order to realise these benefits, we would make no further comment at this stage.

18. *Do you think that there is a better TMO than TMO4? Whether that be TMO1 to TMO3, as presented, a materially different option, or a refined version of one of the four TMOs we have presented?*

Other than to highlight points made in responses to Q.15, Q.16 and Q.17, we would not propose a better TMO at the time of writing.

19. *Do you agree with our views on DNO Demand in respect of the TMOs?*

No response.

20. *Do you have any views on the appropriate mechanism to incentivise accurate forecasting of requirements and avoid more RDC than is necessary being requested by DNOs?*

In terms of the appropriate mechanism to incentivise accurate forecasting of requirements by DNOs, we do not have a clear view at this stage, however we would emphasise that All reforms must be considered on a whole energy system basis. In light of this we encourage NGESO to try to achieve equivalence with which ever process is landed upon for transmission direct connections.

21. *Do you agree with our views on the process under which DNOs apply to the ESO on behalf of relevant small and medium EG which impacts on or uses the transmission system, including that (under TMO4):*

*i. DNOs should be able to request RDC via application windows to allow them to continue to make offers to EG inter-window; and*

*ii. resulting offers should be for firm access until relevant EG has reached Gate 2 (at which point they can request advancement and an earlier non-firm connection date)?*

We think this makes sense but suggest that it may be many years before DNOs can realistically request RDC given current shortfall of transmission capacity. In relation to EG that seeks a direct contractual relationship with NGESO through a BEGA, we assume that such EG will be expected to apply within the relevant Application Window as per directly connected generation. RES would like clarification on this point.

22. *Do you agree that directly connected demand should be included within TMO4 and that the benefits and challenges are broadly similar as for directly connected generation?*

Yes.

23. *Do you agree that TMO1 to TMO3 would require a separate offshore process, and that this would result in material disbenefits?*

Yes.

24. *Do you agree that TMO4 is the most aligned to the direction of travel for offshore projects? If not, why?*

Yes.

25. *Other than the Letter of Authority differences are there any other TMAs which have specific offshore considerations?*



No response.

*26. Do you agree with our views on network competition in the context of connections reform, including that TMO4 is the option which is most aligned with network competition as it includes the most design time at an early stage in the end to end process?*

Yes, we agree.

*27. Do you agree with our initial recommendation related to each of the TMAs within this chapter? If so, why? If not, what would you change and why?*

We generally agree with these initial recommendations. In respect of TMAs we particularly support review of User Commitment and we propose that this review should not be confined for changes required to align with reformed connection process. We think that status quo does not accurately reflect the sharing of actual risk of stranded investment in transmission infrastructure and is a potential barrier to effective competition in electricity generation.

*28. Do you agree with our current views in respect of the implementation period?*

We encourage implementation at the earliest opportunity but accept that 2025 represents a suitable target at this time.

*29. Do you agree with our current views in respect of transitional arrangements? What are your views on how and when we should transition to TMO4?*

We think that effective roll out of the 5 point plan should facilitate something of a natural transition. We also think that any transition arrangements established should be sufficiently flexible such that experience / improvements learnt from 5 point plan can be taken into account.

*30. What further action could Government and/or Ofgem take to support connections reform and reduce connection timescales, including in areas outside of connections process reform.*

Shortfall of transmission infrastructure is currently the main obstacle to achieving 2035 decarbonisation and 2050 Net Zero target. We welcome the various measures initiated over the last 12 months designed to address this position (e.g. ASTI, planning reform, co-ordination of supply chain) however we encourage NGESO, Ofgem and DESNZ to fully commit to these measures and to continue to consider any other measures that will enable delivery of essential new transmission infrastructure.