Connections Reform

Call for Input:

Financial Instrument Proposal

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Background

**Problem Statement**

There is a clear and urgent need to reform Great Britain’s (GB) electricity connection process. Many project developers are currently waiting too long to connect to the network, and this is hindering our progress to deliver Clean Power 2030 and ultimately net zero. There are also projects in the queue that are holding capacity and then not progressing which is having a significant impact on the timely connection of other projects. Reforming GB's connection process therefore represents a significant opportunity for GB to drive growth and deliver on clean power.

**Connections Reform**

The Connections Reform programme aspires to deliver benefits for consumers by i) enabling more timely connections for projects in the best position to connect; and ii) establishing a more co-ordinated and efficient network design. This will support GB strategic goals. To achieve this, NESO are proposing a suite of reforms that will redefine the way we establish and manage the queue. This will be achieved through code modifications and the introduction of methodologies to implement:

* ‘Project readiness’ criteria (part of the newly proposed ‘Gate 2’ criteria) to be demonstrated before contracted parties are provided with confirmed connection dates and locations. This will enable applicants that meet **‘readiness’** criteria to progress more rapidly to connection. CMP427 was introduced in Q1 2024 to raise the bar to entry by establishing a Letter of Authority process.
* ‘Strategic alignment’ criteria (also part of the newly proposed ‘Gate 2’ criteria) to ensure that projects in the new connections queue are aligned to strategic energy plans[[1]](#footnote-2) such as Government’s forthcoming Clean Power 2030 Action Plan.
* Rights for the NESO to terminate contracted projects that are not progressing against agreed project milestones and demonstrating **‘readiness’** (this is live from the approved CUSC modification CMP376).

Overall, these changes will deliver for GB by optimising the queue, ensuring it is made up of the required technologies to achieve **net zero** with projects that are **ready** and **committed** to connect as per their agreements.

# Call for Input and How to Respond

NESO has been engaging with industry throughout the development of the proposals for Connections Reform. We are committed to listening to feedback and working collaboratively with our stakeholders, with formal consultations opening for the in-flight code modifications and methodologies in November.

NESO are considering the introduction of financial instrument to demonstrate projects’ commitment to queue connection, that would augment the connections reforms outlined in the background above. On 11 October 2024, we took an initial proposal for a financial instrument CUSC modification to the Transmission Charging Methodologies Forum (“TCMF”).[[2]](#footnote-3) One of the purposes of TCMF is to work with industry stakeholders to develop ideas for new modifications related to Charging and Connection matters and gain an understanding of their potential impacts. During and following the meeting, we received a lot of useful feedback from stakeholders.

We appreciate that our initial proposal would change the landscape for investors and developers. We therefore want to ensure that our initial proposal reaches and is understood by the widest range of stakeholders that may be impacted prior to formally raising the modification.

We would like to take the opportunity to invite further feedback on the Financial Instrument as we refine our proposal. This feedback will inform our views before taking a decision to raise a code modification.

Please send your responses to the questions listed below using the following teams form: [NESO Connections Reform: Call for Input on Financial Instrument Proposal](https://forms.microsoft.com/Pages/ResponsePage.aspx?id=U2qK-fMlEkKQHMd4f800lXGz_sjsTaFMrD-HCyG9H95UQkNSSEZQUTNISTE1TDVSS0hWRVVHVklNSy4u)[[3]](#footnote-4) by **22 November 2024**. For any questions that you do not wish to provide a view on, please enter N/A on the form. If you have any queries about out call for input, please send them to **box.financial.instrument@nationalenergyso.com**with the subject line “Call for Input: Financial Instrument”.

Case for Further Change and a Financial Instrument

NESO is concerned that there is a perverse incentive for developers/projects to speculatively enter the queue particularly due to the option value (real or perceived) of holding that position with a view to secure and sell on connection capacity and queue positions as tradeable commodities. Without further change, this could continue to be a problem even after the wider suite of reforms are implemented.

Stakeholders have highlighted that there are parties that add value to the connection lifecycle by bringing forward projects to various stages of maturity, before selling on to a new party to continue development. Our concern is with speculative accumulation of projects that are dormant or unsold and remain in the queue ahead of other more viable projects. Speculative projects will eventually be terminated if they fail to meet milestones, but even where projects stay in the queue for a short time, they are still holding capacity that could be allocated to a committed project. Other projects that are ready and committed may have been granted a later date as a result.

If unmitigated, there will be a detrimental impact to consumers, as well as project developers and wider investors in the GB energy system. With that in mind, NESO considers that further action is required to enable efficient transmission planning avoiding re-work and sunk costs.

We believe that additional financial obligations for those holding a place in the queue could increase the likelihood that all projects in the queue will connect as planned. This will avoid connection delays, wasted resources and inefficient allocation of scarce network capacity.

We understand that introducing additional financial commitments has the support of various stakeholders, with some considering raising code modifications for additional financial commitments themselves. The Connections Delivery Board[[4]](#footnote-5) has also discussed introducing financial criteria that projects holding a place in the queue could be required to meet. They considered that additional fees, charges or securities for projects in the queue could be appropriate.

Consequently, NESO took a recommendation to the September Connections Delivery Board to continue to investigate adapting the current Connections Reform proposals to include an additional financial requirement associated with securing a place in the future connections queue. NESO consider a robust overall package of reforms to be critical to delivering the required outcomes.

NESO’s Initial Proposal for a Financial Instrument

**Objective and Defect**

The aim of our initial proposal is to i) reduce the number of speculative projects in the queue; and ii) ensure that effort is only invested in planning and developing the system to accomodate projects that are both viable and committed to development.

The Defect we have identified is that the current User Commitment framework isn’t sufficient to ensure that only developers that are committed to development enter the connections queue.

**Initial Proposal:**

Our initial proposal is to amend Section 15: User Commitment of the CUSC to introduce a “Capacity Commitment Fee” set at a rate of £20k/MW.[[5]](#footnote-6) As the fee is on a per MW basis, our initial analysis suggests that it reflects the scale of an applicable project. Between acceptance of a Gate 2 contract offer and User Progression Milestone 7: Project Commitment,[[6]](#footnote-7) developers that are subject to User Commitment[[7]](#footnote-8) would be liable for the Capacity Commitment Fee on termination or reduction in Capacity prior to Milestone 7 being achieved.

Developers would have to post a security against the Capacity Commitment Fee, a “Capacity Commitment Fee Security” (“CCFS"), until they successfully demonstrate that the project has achieved User Progression Milestone 7: Project Commitment. After that, the Capacity Commitment Fee and associated liability would no longer apply. The security options outlined in Section 15: User Commitment Part 3, Para. 4, 5 & 6 would be applied to the Capacity Commitment Fee Security.

This Capacity Commitment Fee would demonstrate commitment to delivering the connection and capacity contracted for. The liability for this fee would provide assurance to NESO and Transmission Owners that those parties who accept a Gate 2 contract, are fully committed to connecting and utilising their allocated connection capacity.

**Netting off Cancellation Charge Secured Amount:**

So that the security requirements are not excessive, our initial proposal is to net off the Cancellation Charge Secured Amount (“CCSA”) from the Capacity Commitment Fee Security.[[8]](#footnote-9)

If a developer’s Cancellation Charge Secured Amount is less than the equivalent of £20k/MW multiplied by either their Transmission Entry Capacity (“TEC”), Developer Capacity (“DC”) or Interconnector User Commitment Capacity (“IUCC”); then:

CCFS = £20k/MW x (TEC, DC or IUCC) – CCSA

If a developer’s Cancellation Charge Secured Amount is equal to or greater than the equivalent of £20k/MW x (TEC or DC); then:

CCFS = £0

The netting off of the CCSA would mean that the total securities (CCSA + CCFS) required between acceptance of a Gate 2 contract offer and User Progression Milestone 7: Project Commitment will be at least equal to £20k/MW.

For the avoidance of doubt, we are not proposing to make changes to the way in which attributable (fixed or actual) and wider liabilities accrue, or the way in which those liabilities translate to the level of security required for the CCSA. Further, the CCSA will be netted off the CCFS regardless of whether the User has opted to fix their attributable liability or remain on the actual liability.

**Termination:**

Under our initial proposal, the Capacity Commitment Fee would apply on termination of projects between acceptance of a Gate 2 contract offer and User Progression Milestone 7. This could be exercised by choice or through the application of the provisions in the agreements, for example the queue management terms.

The NESO would draw upon the Capacity Commitment Fee Security if a developer does not pay the Capacity Commitment Fee upon termination of its connection agreement.

If a developer does not pay the Capacity Commitment Fee that it is liable for and if the Capacity Commitment Fee Security is less than the Capacity Commitment Fee, then the NESO would draw upon the entire security. Any difference between the total liability due and security held would be pursued by NESO.

**Capacity Reduction:**

If a developer’s TEC, DC or IUCC is reduced (again this could be exercised by choice or through the application of the provisions in the agreements) down to a revised TEC (“RTEC”), revised DC (“RDC”) or revised IUCC (“RIUCC”), then then the developer would be liable to pay a portion of the original Capacity Commitment Fee proportionate to the reduction in capacity as follows:

(£20k/MW x (TEC, DC or IUCC)) - (£20k/MW x (RTEC, RDC or RIUCC))

The NESO would draw upon the Capacity Commitment Fee Security if a developer does not pay the portion of the Capacity Commitment Fee that it is liable for upon capacity reduction.

If a developer does not pay the Capacity Commitment Fee that it is liable for and if the Capacity Commitment Fee Security is less than the Capacity Commitment Fee, then the NESO would draw upon the entire security. Any difference between the total liability due and security held would be pursued by NESO.

Once the developer has paid the amount that it is liable for, the Capacity Commitment Fee would be recalculated in line with its revised TEC, DC or IUCC.

**Application to those on Final Sums**

Our initial proposal is limited to those in scope of CUSC Section 15: User Commitment. Users that are not captured by the CMP192 security methodology secure on the basis of final sums. Customer parties who secure on a final sums basis are:

* Distribution Network Operators (DNOs); and
* Directly Connected Demand.

The final sums methodology stipulates that the customer party would secure all spend associated with their project as it progresses. We are therefore of the view that the security requirements of the final sums methodology provide a material financial commitment to development and sufficient assurance of commitment when allocating connection capacity. In addition, the scale of the generation/storage queue is disproportionately higher than that for directly connected demand.[[9]](#footnote-10) Therefore, we do not believe that there is the same issue with speculative projects on the demand side, or that there is a need to introduce additional financial requirements to parties on final sums at this time.

**NESO Cash Position:**

Any money recovered through the Capacity Commitment Fee that is not associated with a cost incurred by the NESO would be redistributed to network users via Balancing Services Use of System (“BSUoS”) charges. [[10]](#footnote-11)

**Methodology used to calculate the Capacity Commitment Fee :**

The following two-part methodology was used to calculate the size of the Capacity Commitment Fee.[[11]](#footnote-12)

1) Estimating a conservative lifetime NPV per MW of a committed and connecting energy project to ensure that the magnitude of the financial instrument would not turn committed and connecting NPV’s negative.

This was calculated by applying a low-end estimate of target outperformance (0.5%) over the expected cost of capital for an archetypal onshore wind, offshore wind, solar PV, and battery project. This produced an NPV per MW for each of the four technologies, with the lowest being £16k/MW for a battery. The NPV per MW was then converted into a maximum value that could be required of developers as a security against the Capacity Commitment Fee (assuming that projects that successfully reach development are not charged the fee). This conversion was done using a range of (real, pre-tax, project-level) cost of capital estimates and durations of time that the security is required for. This showed that a deposit of more than £52k/MW could turn the NPV of committed and connecting projects negative.

2) Estimating the NPV per MW that a speculative developer might expect to earn across their portfolio and setting the magnitude of the Capacity Commitment Fee at a level that turns this NPV per MW negative.

This was calculated by modelling the NPV per MW of a speculative project as follows:

* Assume that the developer incurs the minimal costs needed (application fee and land costs) to progress to Gate 2. The project then has a probability “$x$” of being sold onto another developer that will proceed with development. The minimal investment cost is lost with a probability of “$1-x$”.

This produced a range of NPVs per MW for speculative projects which varied by technology (onshore, offshore, solar PV, battery) and the probability of successfully developing or selling the project.

The magnitude of a Capacity Commitment Fee was then set by determining a value that would turn the NPV per MW of speculative projects negative (noting that it shouldn’t exceed the value established in part 1). We assumed that the probability of a speculative project being sold or developed was c.60-70% as reasonable estimate of the upper bound probability. This produced a value for a Capacity Commitment Fee in the range of £20k-36k/MW.

# Questions

In your response, please note the type(s) of asset(s) that you own/operate/represent, as well as the size of those asset(s) and if your response is to be treated - in whole or in part - as confidential.

* Q1: Please indicate whether you are either i) broadly supportive of our initial proposal for a financial instrument; ii) supportive of a financial instrument in principle but believe that our initial proposal requires further changes; or iii) believe that a financial instrument in any form is the wrong solution. Please explain.
* Q2: What consequences do you anticipate from introducing a financial instrument in the form that we have proposed? Please explain your response.
* Q3: Do you agree that only parties that are currently subject to User Commitment obligations should be subject to the new requirement? Are there any additional parties that it should be applicable to? Or should there be any exclusions? Please explain.
* Q4: Please detail any existing financial security requirements you believe should be considered in the development of a financial instrument modification.
* Q5: Do you see any risks[[12]](#footnote-13) to the profitability or financial viability of your projects arising from the introduction of the financial instrument? If so,
	+ Please explain what those risks are, their cause and whether they are technology dependent;
	+ If possible, please provide a ranking of those risks in the order of their likely magnitude; and
	+ Outline any mitigations for those risks that should be considered.

**Questions regarding developers’ approaches to financing the instrument**

The following questions will help us understand the financial impact that the instrument may have on developers:

* Q6: Please let us know how much you typically spend on DEVEX,[[13]](#footnote-14) identifying this by technology? Can you also let us know how much of a premium you would expect to pay on top of this if you were acquiring a Ready to Build (RTB) asset?
* Q7: Please explain how you fund your DEVEX? As part of this, can you also comment on the point at which you would expect to secure debt finance (if at all)?
* Q8: Do you expect that you would be able to raise finance to cover the cost of the financial instrument? If so, what sort of finance would this be and what sort of cost do you expect that it may have?

**Questions regarding parameters that we have included in our modelling**

The below questions will help us sense-check the assumptions used in our analysis:

* Q9: What is the typical cost of capital (real, project-level, pre-tax) that you use to perform an “all-in” financial assessment of a project (i.e. from development through to end of operation)? How much higher would the cost of capital be for just the development stage (which we define as covering all costs and activities prior to the start of construction)?
* Q10: Do you agree that a 0.5% outperformance on cost of capital (project level) is a reasonable lower-end outperformance that developers would target? If not, what would it be?
* Q11: What proportion of all projects that make it to Gate 2 do you expect to fail – i.e. to drop out of the queue? Do you expect the drop-out rate to differ materially by technology, and if so, how?
* Q12: The speculative project archetype is a developer that incurs the absolute minimum amount of costs needed to secure a connection agreement. Do you have a view on:
	+ the proportion of speculative projects that get to Gate 2 that are likely to result in successful project development and how this compares to the proportion for non-speculative projects?
	+ the typical resale value (ideally by technology type and on a per MW basis) that such a speculative project may be able to command from selling the connection agreement?
1. These strategic alignment criteria also include a route into the new queue for projects that were not known at the time of the strategic energy plan or that are otherwise outside the scope of the strategic energy plan. [↑](#footnote-ref-2)
2. The slide pack presented at TCMF can be found at the following address: https://www.neso.energy/calendar/adhoc-session-transmission-charging-methodologies-forum-tcmf-11102024 [↑](#footnote-ref-3)
3. The teams form is available at the following address: <https://forms.microsoft.com/Pages/ResponsePage.aspx?id=U2qK-fMlEkKQHMd4f800lXGz_sjsTaFMrD-HCyG9H95UQkNSSEZQUTNISTE1TDVSS0hWRVVHVklNSy4u> [↑](#footnote-ref-4)
4. <https://www.energynetworks.org/publications/duplicate-of-connections-delivery-board-meeting-minutes-may-2024> [↑](#footnote-ref-5)
5. The methodology used to derive that figure is set out in a section below. More details can be found in the TCMF presentation at the following address: <https://www.neso.energy/calendar/adhoc-session-transmission-charging-methodologies-forum-tcmf-11102024> [↑](#footnote-ref-6)
6. Further detail on the User Progression Milestones are provided in the following document: <https://www.neso.energy/document/294156/download> [↑](#footnote-ref-7)
7. For the avoidance of doubt, this includes Users that sit in the following categories: i) a Power Station directly connected to the NETS in respect of which there is a Bilateral Connection Agreement with The Company; ii) an Embedded Power Station in respect of which there is a Bilateral Embedded Generation Agreement with The Company; iii) a Distribution System directly connected to the NETS in respect of which there is a Construction Agreement associated with Distributed Generation; and iv) an Interconnector directly connected to the NETS in respect of which there is a Bilateral Connection Agreement with The Company. [↑](#footnote-ref-8)
8. For the avoidance of doubt, our initial proposal is that the underlying liability would still be £20k/MW between acceptance of a Gate 2 contract offer and User Progression Milestone 7: Project Commitment. [↑](#footnote-ref-9)
9. c550GW (see slide 7 of the following document: https://www.neso.energy/document/330106/download)

of transmission-connected generation, interconnection and storage vs. c20GW of transmission-connected demand [↑](#footnote-ref-10)
10. At TCMF, we proposed that redistribution could be facilitated via TNUoS charges. Our updated view is that it would be more efficient to do this via BSUoS. [↑](#footnote-ref-11)
11. We note that we are considering adjustments to this methodology based on the feedback received at the TCMF as well as any responses we receive to this Call for Input. [↑](#footnote-ref-12)
12. For example, the period in which the financial commitment is required, the value of the financial commitment required during that period, or the conditions around the liability. [↑](#footnote-ref-13)
13. For the sake of clarity, we define DEVEX as all expenditure undertaken prior to the start of construction. [↑](#footnote-ref-14)