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**Response to Ofgem's consultation on 'Getting more out of our electricity networks by reforming rights and forward looking charging arrangements'**

Thank you for the opportunity to respond to the consultation on reforming access and forward looking charges. National Grid's Electricity System Operator (ESO) is principally responsible for operating the GB electricity transmission system. The ESO is also the Code Administrator of the Connection and Use of System Code (CUSC) which holds the methodology for how transmission charges are set and billed, and is also responsible for setting and billing transmission charges to users of the system.

Access and forward looking charging arrangements are fundamental to how the electricity market works to meet the needs of network users within Great Britain. It is therefore essential that the commercial frameworks underpinning the electricity industry keep up with behavioural and technological changes in an increasingly decarbonised, decentralised and digitised electricity system. Current arrangements are increasingly disconnected with these developments in the electricity market. Our customers are telling us that this means increasing levels of volatility and unpredictability in their tariffs, inefficient signals for their investment and operation, and distortions between different users of the system. This is ultimately leading to inefficient outcomes and an increased cost to consumers.

As the ESO we see the need for reform to our network charging and access arrangements to realign the cost and benefit of users' actions with their charges. We believe that by reforming this key building block, enabling the electricity market to function effectively and efficiently, we will deliver real value to GB electricity consumers.

In order to achieve this, there are key questions that will need answers such as establishing the balance between cost reflectivity in driving competition and the ability for market participants to have stable and predictable charges to enable operational and investment certainty. We will continue to support industry through initiatives such as Charging Futures and are ready to lead industry development on any reform required that is wider than the scope of this consultation.

Practical implementation of the targeted work packages will also be crucial. The ability for Ofgem or the Charging Delivery Body to coordinate and prioritise those packages against the consumer value they will drive and the cost of implementation they incur could be an extension of the existing framework of Charging Futures which has the potential to drive delivery of reform in an efficient manner.

Yours sincerely



Cathy McClay  
Head of Future Markets

## National Grid ESO response to Ofgem's consultation on 'Getting more out of our electricity networks by reforming rights and forward looking charging arrangements'

**Question 1: Do you agree with the case for change as set out in chapter 2? Please give reasons for your response, and include evidence to support this where possible.**

We agree with the case for change set out in the consultation. As the Electricity System Operator (ESO) we have already seen a dramatic change in how the electricity system is being used and by whom.

It is fundamental for network access and forward looking charging arrangement to underpin the market in the right way to minimise network costs and deliver value to consumers.

**Question 2: Do you agree with our proposal that access rights should be reviewed, with the aim to improve their definition and choice? Please provide reasons for your response and, where possible, evidence to support your views.**

Given the scale of change in usage of the electricity system we agree with the need to use this opportunity to review the role of access rights in network charging so that we can ensure arrangements reflect how the system is being used. We believe that by reviewing the current arrangements, improving the definition and increasing choice we can enable more efficient use of the system.

This opportunity can also be used to ensure that there is an equal treatment of users across the whole system and therefore level the playing field between different types of user and forms of technology. We consider users of the electricity system to be parties that use or generate electricity at any point of the system; they may be directly liable for paying network charges to a network operator or do so indirectly via someone else such as a supplier.

**Question 3: Specifically, do you have views on whether options should be developed in the following areas as part of a review? Please give reasons for your response, and where possible, please provide evidence to support your views:**

- a) Establishing a clear access limit for small users, with greater choice of options (as considered under b) and c) below) above a core threshold – do you agree with our proposal in paragraphs 3.5-3.10 that this should be considered? Do you have views on how a core threshold could be set?
- b) Firm/non-firm and time-profiled access – do you agree with our proposal outlined in paragraphs 3.15-3.21 that these options should be developed?
- c) Duration and depth of access, discussed in paragraph 3.25-3.32 - would these options be feasible and beneficial?
- d) At transmission or distribution in particular, or are both equally important – as discussed in this chapter?

Access rights are a fundamental element of the relationship between electricity users and the system. When stable and explicit, they can bring certainty to both parties. Currently many users' rights of access to

the electricity system are not clear and the level of access given to users can be unpredictable from year to year, hour to hour.

Defining access rights for all users of the system gives clarity and certainty to these users of what their relationship with the system is. This allows current and future users to plan their approach to investments and how they use the system with more certainty. Who is classed as small and large users will also be crucial in order to avoid some of the perverse incentives we see today.

Clarifying access rights for small users is needed as some users become more dynamic in their usage of the system while others are inflexible and unable to engage with network charging. Defining a core threshold for all small users strikes a sensible balance with protecting the access of some users while giving opportunity for others to manage their usage to minimise overall system costs. An important aspect of this is ensuring that we avoid inadvertently disadvantaging vulnerable customers or other classes of user. To define the threshold level of core usage, consideration will also need to be given to the future use of the system when core usage may need to include the electrification of heat and transport. By 2040 we anticipate there could be 33 million pure electric vehicles<sup>1</sup> consuming 68TWh of electricity each year<sup>2</sup>.

In principle, we support the development of options for access rights to give large users choice in how they use the system. When developing options, there are a number of trade-offs and questions that exist and will need to be answered before options are introduced. We will use the following principles to guide our views.

- Options for different types of access rights will be offered alongside different charges. The difference in these charges will need to reflect the increase or decrease in costs incurred for investment in and operation of the system.
- Users need to be able to anticipate how their choice of access right will affect their access to the system. For example, a user choosing a 'non-firm' access right needs to be able to accurately predict how frequently and for how long they will lose access to the system.
- Increasing choice means increasing complexity of network charging. The choices available to users and the impact on charges need to be understandable for all users to be able to make informed and efficient decisions.
- There must be a real choice between two or more options. If the economics of a choice mean that there is realistically only one outcome, then there is little benefit for increased complexity.
- Choice should be available to all users of the system regardless of where or at what voltage they connect at.

When considering what options to develop for access rights we believe that firmness of access and time-profiled access could offer valuable choices for users and should be progressed.

Short term access rights are currently available to generators seeking Transmission Entry Capacity (TEC). Currently, users most commonly consider and make use of this option at the beginning and end of their asset's lifecycle. This is when a new user may be able to connect sooner or an existing user may be able to extend their asset's lifetime by having entry capacity for a period of less than a year such as during a peak season.

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<sup>1</sup> National Grid Future Energy Scenarios, Data Workbook: Figure 4.18

<sup>2</sup> National Grid Future Energy Scenarios, Data Workbook: Figure RT1

Our customers already make use of this option and we would support the development of short term access rights for all users of the system alongside consideration to make the option as easy to utilise as possible.

We are open to development of a multi-year, fixed duration access product but are currently uncertain on the benefits. When planning and assessing investment requirements for the transmission system we will use our view of future system usage. A user having a fixed duration access product does not give significantly more certainty for this process; particularly if users can be confident in extending their access. We can however see benefit to a user if the fixed period has a fixed charge for the same period. This however could result in different users, with the same effect of the system, being exposed to different signals which does not happen in current transmission charging. There is precedence for this in the electricity market within the Capacity Market.

When users connect, and purchase an access right, we consider them to have access to the whole system. As the Electricity System Operator, we maintain this access to the whole system so that users can make use of the GB wholesale electricity market. 'Local' access arrangements could be offered to users but this would be a significant change to current arrangements and market principles. We think that signalling to network users on how they can help to meet the needs of the local network, and therefore minimise cost on the system, could be delivered more simply through forward looking charges.

We believe that a key benefit of current reform of network charging is to create a level playing field for all users connected to the GB electricity system. By reviewing both transmission and distribution we will leverage lessons learnt across the whole system and bring consistency to access arrangements. This would also simplify the number of options available to users enabling a better understanding of their choices and increase the likelihood of efficient outcomes. This is especially important as we are looking at creating new choices for users.

**Question 4: Do you agree with the key links between access and charging we have identified in table 1? Why or why not? Do you think there are other key links we have not identified? Where possible, please provide evidence to support your views.**

We agree with the key links identified in table 1.

**Question 5: Do you agree with our proposal that targeted areas of allocation of access should be reviewed? Please give any specific views on the areas below, together with reasons for your response. Where possible, please provide evidence to support your views:**

- a) Improved queue management as the priority area for improving initial allocation of access, as outlined in paragraphs 3.41-3.44?
- b) Not to consider the potential role of auctions for initial allocation of access as part of a review at this time, as discussed in paragraph 3.44?
- c) To review the areas outlined in paragraphs 3.45-3.48 to support re-allocation of access?

We agree that there is benefit in reviewing the role of queue management in access allocation. While this work is important to progress, in the context of other reform considered in this consultation we do not consider it to have the highest priority. One aspect that we see having the greatest opportunity for improving current arrangements is aligning queue management principles and processes across all

networks. Currently we see different approaches for users looking to connect to different network companies.

There may be a benefit from the introduction of targeted auctions in specific circumstances but agree that this should not be taken forwards at this time. We have some fundamental concerns with the use of auctions in the initial allocation of all access rights. If inefficiencies still exist in initial access allocation following the conclusion of this reform, we agree that it may be beneficial to consider what role auctions could offer in more detail.

We support the development of mechanisms to allow all users of the system to trade access rights in order to allow a more efficient use of existing capacity. This work must consider how we avoid the introduction of incentives for parties to capacity hoard and game the price of access rights.

The establishment of use it or lose/sell it arrangements could go some way to mitigate this in certain circumstances but this may have limited feasibility to do fairly. In particular, the ability for a party to force the withdrawal of a user's access right could be very disruptive for the user and increase investor risk.

**Question 6: Do you agree that a comprehensive review of forward-looking DUoS charging methodologies, as outlined in paragraphs 4.3-4.7, should be undertaken? Please provide reasons for your response and, where possible, evidence to support your position.**

We agree with the need for launching a comprehensive review of forward looking charging within distribution use of system charging and support the scope of this to cover both the Common and Extra High Voltage Distribution Charging Methodology (CDCM and EDCM). Distribution networks, as with the electricity system as a whole, have seen a significant shift in use. We are seeing the decarbonisation of generation, heat and transport alongside technological developments increasing the level of both demand and generation connected to distribution networks. This is resulting in some situations that did not previously exist such as generation dominated areas of distribution networks. The combination of increasing levels of connection with different types of user has the potential to significantly increase overall network costs if use of system charging is not aligned with the costs being incurred by networks.

In addition to maintaining this alignment with costs being incurred, this is an opportunity for industry to consider how best charging can be designed to give clear operational and investment signals for users and deliver behavioural changes that reduce overall network costs.

We feel that the progression of this work is very closely related to other work packages looking at developing definitions and options for small and large users' access rights. There need to be strong links between the development of these work packages to ensure the final set of network commercial arrangements will facilitate efficient overall outcomes.

**Question 7: Do you agree that the distribution connection charging boundary should be reviewed, but not the transmission connection boundary? Please provide reasons for your response and, where possible, evidence to support your position.**

Our initial view is that the transmission connection boundary is a separate consideration and should not be reviewed within the scope of the SCR. We do remain cognisant of the need to have alignment between treatment at distribution and transmission and while we have not received any feedback from our stakeholders expressing a view that the boundary should be changed, we continue to listen to our customers on whether a review of the transmission connection boundary should be instigated and what changes should be considered.

In principle, a review of the distribution connection boundary is appropriate but only if conducted in conjunction with a review of locational use of system signals, in order to avoid unintended consequences, and to ensure appropriate cost socialisation. With increasing levels of generation connected to lower voltages, we believe that closer alignment between networks' connection charging methodologies is appropriate to ensure that all network users receive appropriate signals, and that there is consistency in arrangements. This will allow both transmission and distribution connected users to operate equally in competitive markets. It is still possible to differentiate between the distribution and transmission networks but it is important, in our view, to maintain clarity to all connectees, and to consumers as to what is being paid for and by whom. We believe that if charging regimes are to be aligned across transmission and distribution, the current approach of distribution connectees paying for reinforcement works at the next voltage level should be reviewed, with an opportunity to mirror the 'wider' use of system element of transmission network charges and recoup this spend through use of system charges rather than in the connection charge itself. This would help ensure some consistency across networks, but would also remove an unnecessary (dis)incentive to connect at one point or another

In terms of the boundary itself, we would suggest that any review is done alongside any work on firmness of access and securities given the intrinsic link between these subject areas.

**Question 8: Do you agree that the basis of forward-looking TNUoS charging should be reviewed in targeted areas? If you have views on whether we should review the following specific areas please also provide these:**

- a) Do you agree that forward-looking TNUoS charges for small distributed generation (DG) should be reviewed, as outlined in paragraphs 4.19-4.23?
- b) Do you consider that forward-looking TNUoS charges for demand should be reviewed, as outlined in paragraphs 4.24-4.27?

**Please provide reasons for your response and, where possible, evidence to support your position.**

We consider that any review of locational Transmission Network Use of System (TNUoS) charges should be focused on specific areas, and support Ofgem's proposal to look specifically at the treatment of distribution connected generation. As outlined at the recent Judicial Review of the Authority decision to approve CMPs 264 & 265, generators connected to the distribution network do not only confer a benefit on the system and it is appropriate that all network users face costs and/or credits which appropriately reflect their effect on the network.

We do not consider embedded generation as negative demand and therefore agree that the treatment of distribution connected generation within TNUoS charging should be reviewed. For TNUoS charging purposes, as of 1 April 2018 we use a gross charging methodology (where all SVA imports and exports are measured and charged independently) as a result of CUSC CMPs 264 & 265, and BSC changes P348 & P349. We note that there has also been a recent change to the SQSS such that from a system design/security perspective, embedded generation output is not considered 'negative demand' but is instead treated as another flow on the network. We believe that this treatment is appropriate.



As outlined in our response to Q6, we are mindful of the potential overlap in approaches between the Targeted Charging Review (looking at residual), and this work on locational capacity charging, but we do agree in principle with the notion of moving away from triad. Any solution should reflect not only developments in this SCR, but also the work on residual charging and settlement reform, to ensure that the potential consumer benefits from settlement reform can be delivered by Suppliers.

**Question 9: Do you agree that a broader review of forward-looking TNUoS charges, or the socialisation of Connect and Manage costs through BSUoS at this time, should not be prioritised for review? Please provide reasons for your response and, where possible, evidence to support your position.**

As outlined in Q8, we are comfortable and support a focused review of TNUoS charges within the scope of the SCR. We continue however, to be mindful that significant wider elements of transmission charging may need to be developed alongside the development of the SCR. We believe that as the ESO, we are in a strong position to lead on items of work on transmission charges that are outside the scope of the SCR. Development of wider elements of transmission charging could take the form of a code modification or could make use of a targeted taskforce to establish a clear problem statement and scope for a subsequent code modification.

We believe that a holistic package of work on the Balancing use of System (BSUoS) charge needs to be taken forwards and feel that the ESO can have an important role in leading any wider review of TNUoS forward looking charges and BSUoS to ensure that developments in this work do not conflict with developments within the SCR. We are also conscious that the reform considered within this consultation and the Targeted Charging Review SCR demand a high level of industry engagement and we will therefore only prioritise element of wider transmission charging where we see clear potential to deliver consumer benefit. By doing this we hope to avoid multiple parties raising individual code modifications to deliver similar or opposing outcomes that each require a level of industry expertise and resource.

We also think that other industry parties should continue to be able raise code modification through open code governance but expect industry to consider their change proposal's priority within the context of the wider reform of network charging.

**Question 10: Do you agree that there would be value in further work in assessing options to make BSUoS more cost-reflective, and if so, that an ESO-led industry taskforce would be the best way to take this forward?**

We strongly agree that there is value in further work on BSUoS, including assessing its cost-reflectivity, and we believe we are the best place party to lead, as suggested, on reviewing issues and developing options to take forwards for BSUoS. We think that a review of BSUoS needs to be holistic in nature to include the interactions between it, TNUoS charging and the Security and Quality of Supply Standards (SQSS). With this approach, it enables a review of the role of BSUoS in network charging and the value of pure cost reflectivity.

As stated in our response to Q9, we are mindful of the potential for changes to be progressed through the normal code modification route outside of any SCR but are comfortable that we can appropriately lead industry in developing changes to the BSUoS regime. We are keen to ensure that we deliver benefits for

consumers, and consider that examining BSUoS in the round, rather than through a number of individual modifications that may have conflicting approaches is a more efficient use of industry expertise and resource.

**Question 11: What are your views on whether Ofgem or the industry should lead the review of different areas? Please specify which of SCR scope options A-C you favour, or describe your alternative proposal if applicable. Please give reasons for your view.**

The scale of reform required for electricity network charging is large. In order to deliver this scale of change we believe Ofgem is right to launch a Significant Code Review (SCR). An SCR pauses code change for the areas of the charging methodologies under review. The benefits of an SCR include that it:

- Allows industry to focus on the highest priority areas of work that will deliver the greatest certainty for users
- Avoids industry resource and expertise being expended in code modifications that may be overwritten by the outcome of the SCR.
- Gives a defined package of work which allows users with less experience and resource to more easily access and engage with the changes being considered

At a time when there is such a high level of change in our industry the SCR process is crucial for timely delivery of a successful set of reforms being discussed in the consultation. These benefits of the SCR process to efficiently deliver reform drives our view that the majority of the areas considered within this consultation should be progressed within the scope of the SCR.

A second aspect of our thinking on SCR scope concerns the topic areas that could be considered within or outside of the SCR scope. We believe that this SCR creates a unique opportunity to fundamentally review the role of access rights and forward looking charging within our commercial arrangements but that this can only be done effectively when both are considered together. Table 1 of the consultation does a good job at highlighting the interdependent nature of access and forward looking charges. We therefore believe that a fundamental review of one must be progressed alongside the other.

We see an SCR process as the best solution for most aspects of this consultation but agree that a drawback of this process is a single Ofgem direction at the conclusion of the SCR. This can hinder items of work that could be progressed ahead of this conclusion.

Work on reviewing the allocation and reallocation of access rights could be progressed sooner than this conclusion and we therefore think that this can sit outside of the SCR scope. While we consider the timelines could be separated for this piece of work we do not think that this work is independent from the SCR's work reviewing the definition of access rights and forward looking charges and therefore see a need for an overall delivery plan for the SCR that includes this work on allocation and reallocation of access rights.

We do not think that other aspects of the proposed SCR scope could be separated enough to be progressed outside of its scope.



Specifically, we believe that an SCR with the scope of option B 'moderate' as being the most effective way for the whole of industry to take forwards reform.

**Question 12: Do you agree with our proposal to launch an 'Option 1' SCR for areas of review that we lead on? Please give reasons for your view.**

We agree with the proposed 'Option 1' where Ofgem directs the licensee(s) to raise code modification proposal(s). We agree that this strikes a good balance between needing holistic coordination of this reform and making use of the open governance processes that facilitate code modifications. There is potential for modifications to diverge following the launch of individual modifications so consider there to be a continued need for holistic coordination throughout the code modification process.

We are also keen to consider if some packages of work can be delivered through code modifications ahead of the conclusion of the SCR as a whole where there is early agreement on the way forwards.

**Question 13: Do you agree with the introduction of a licence condition on the basis described in paragraphs 5.11 and 5.12 and Appendix 5? Why or why not? Do you have any comments on the key elements set out in table 7 of Appendix 5a, or consider there are any other key elements which should be included? Please give reasons for your view.**

The Electricity System Operator is required by our licence to keep the use of system and connection charging methodologies under review. We believe that these existing licence conditions are sufficient for us to contribute to and lead on aspects considered within this consultation.

We are not opposed to the introduction of the temporary licence condition proposed in Appendix 5 of the consultation but do not think it necessary and the statutory consultation required to introduce a new licence condition could be a distraction for industry resource from progressing the content of these reforms. Furthermore, if confirmed to be outside the scope of the SCR, we anticipate launching work on the allocation and reallocation of access rights ahead of the conclusion of a statutory consultation on licence conditions.

We consider ourselves to be uniquely placed in industry to be able to offer a transmission system operator perspective on network charging reform. We think that as an ESO we benefit from being able to offer our view independent of Transmission Owner interests. We are able to coordinate views from Transmission Owners but think there should be a route for them to directly input into charging reform as we will champion solutions that we consider to deliver the most value to consumers independent of the solutions that network owners prefer.

In the approach to delivery, the consultation sets out that there will need to be collaboration across the DNOs and ESO. If the licence condition were introduced, we think it could benefit from more clarity on the specific roles expected by Ofgem for leadership and facilitation. We would be concerned if a licence

condition were proposed that required joint leadership across different licensees. This could result in an ambiguous process that leaves no clear accountabilities.

**Question 14: Do you have any comments on the draft wording of the outline licence condition included at Appendix 5b? Please give reasons for your view.**

We think the draft wording would benefit with more clarity regarding responsibilities and accountabilities for driving the delivery of outputs.

**Question 15: What are your views on our indicative timelines? Do you foresee any potential challenges to, or implications of, the proposed timelines and how could these be mitigated?**

The timelines set out in the consultation seem sensible. There may however be a need to revise these timelines depending on the level of change developed. It will be important to have a mechanism that is able to continually review the timescales for development of reforms as well as their implementation. It is possible for complex concepts for network charging and access to have a simple implementation and relatively simple solutions to have a much more complex implementation. It is therefore essential that a mechanism for reviewing delivery can encompass the full breadth of reform topics and length of development and implementation.

**Question 16: What are your views on our proposals for coordinating and engaging stakeholders in this work?**

We support the use of Charging Futures to support reform of electricity network charging. We feel that the structure that has been built through the creation of the Charging Futures Forum, Charging Delivery Body and Task Forces is able to facilitate effective coordination and stakeholder engagement throughout this reform.

With the scale of reform being considered within this consultation, the need for multiple Task Forces, alongside a separate SCR on residual charging and code modifications on transmission arrangements, there is a need for a greater role of coordination than has existed previously. We believe that the Charging Delivery Body is able to take on this role with support from technical experts.

As highlighted in the previous question, we think this coordination should sit over the full breadth and length of electricity network charging reform.