



Zenobē Response to Ofgem Consultation on Access and Forward-Looking Charges SCR

Question 3a: Do you agree with our proposals to remove the contribution to reinforcement for demand connections and reduce it for generation? Do you think there are any arguments for going further for generation under the current DUoS arrangements? Please explain why.

- We agree with the proposals to remove the contribution to reinforcement for demand connections and reduce it for generation. These proposals will be especially beneficial for our demand-side operations in the EV bus sector.
- While we appreciate the need to provide generators with signals about the costs they put onto the network, as a storage operator, we have some concerns about retaining connection charges for generation. Storage operators provide valuable grid services, improving system-wide flexibility and reducing the need for network reinforcement. As such, they should not face the same connection charges as generators. Connection charges should more accurately register the services that storage assets offer to the network, and they should provide pricing signals that respond to these services.
- We recognise that the lack of a bespoke charging methodology for storage is balanced, to some extent, by the proposal to treat storage's import and export components separately. However, given that storage units do not generate energy, it seems contradictory to charge energy exported from storage assets as though newly generated. So while we welcome the proposals described above, we also note that they demonstrate the continuing need for a more precise definition of storage in energy regulation, registering the unique services that it offers to the net zero project.

Question 3b: What evidence do you have on the effectiveness of the current connection charging arrangements in being able to send a signal to users and what do you think will be the effect of our proposed changes? How does this vary between demand and generation connections?

- We think removing or reducing the contributions to reinforcement in connection charges will incentivise DNOs to invest in anticipation of

wider network needs, rather than taking an incremental and reactive approach.

- Zenobē enables the decarbonisation of the bus sector, financing and facilitating the electrification of depots and fleets. When siting a depot, we do not take connection charges into account, as they do not carry substantial weight when set against other economic and technical factors. In the majority of our operations, we do not plan new depots, but rather electrify existing depots. These depots – especially those in London and other urban areas – have extremely limited potential to relocate. This is because electric buses can only cover certain distances without needing to recharge. Accordingly, operators select routes to electrify on the basis of route length. Responding to connection charging signals by relocating depots would be likely to increase route length, increasing the amount of ‘dead miles’ covered by buses (i.e., miles in which buses consume energy while transporting no passengers). This would reduce energy efficiency and increase costs. In many cases, running a fleet from a relocated depot would be both economically undesirable and technically impossible.

Question 3c: What are your views on the effectiveness of the current arrangements in facilitating efficient development of and investment in distribution networks? How might this change under our proposals where network companies are required to fund more of this work?

- We think that the current arrangements hinder progress to net zero: they do not incentivise DNOs to plan strategically to meet anticipated network needs. Requiring new connection customers to contribute to reinforcement encourages DNOs to take a reactive approach, reinforcing networks in response to individual projects, rather than considering system-wide necessities. If network companies were required to fund more reinforcement work, they would be more likely to take a longer view, considering how best to enable new connections (such as storage, heat pumps, and EV charge points) that the net zero project will require.
- We would like more detailed information about how, under the new arrangements, DNOs would collect information from organisations planning new connections. We think there is a risk that the need to aggregate information from multiple sources and then to plan network upgrades accordingly could, if handled inefficiently, result in connection delays. However, we stress that removing or reducing connection charges would avoid prohibitive costs for connectors and

incentivise DNOs strategically to improve network capacity, mitigating against the risk of insufficient capacity in future.

- In our bus operations, in certain circumstances we have used the Green Recovery Fund to mitigate against prohibitively high connection costs. Evidently this is not a sustainable method system-wide, as it relies on a relatively limited source of government funding. A solution that avoids prohibitive costs for public funds and for new connectors is required. Ofgem's proposed solution meets this need. It would help to create a regulatory environment adequate to the challenge of developing a zero-carbon, flexible energy system.
- In some circumstances, to avoid grid upgrade costs we have installed a battery to ensure that a bus depot remains within a cost-effective charging band. More strategic investment in network infrastructure from DNOs would reduce the need for such measures. If the network had better capacity to accommodate the infrastructure necessary for system-wide decarbonisation, we would not be faced with a choice between paying for a battery or for a grid upgrade.

Question 3d: Do you agree whether the need to provide connection customers with certainty of price reduces the potential for capacity to be provided through other means such as flexibility procurement? How might this change under our proposals?

- We agree that pricing signals can encourage connection customers to use the grid more efficiently. However, as discussed above, we do not believe that the existing connection charging regime works in this way. The present connection charging regime does not reward the grid services that we provide, whether through our storage operations, or by charging our EVs late at night and early in the morning: times that are beneficial to the grid. Shallower connection charges would benefit BEIS / Ofgem's project of creating a regulatory environment that incentivises efficient network usage.
- For most demand users, connection charges are not so significant that they alter locational decisions. As a result, they are ineffective signals. They do not relieve network constraints. Rather, by forcing the costs of grid upgrades onto connection customers, they drive a piecemeal, uncoordinated approach to network planning. Removing the contribution to reinforcement in demand-side connection charges would incentivise DNOs to plan network upgrades more strategically, with system-wide net zero goals in mind.

- Likewise, reducing the contribution to reinforcement for generation would help to create a regulatory regime that incentivises growth in flexibility markets. Under the current connection charging regime, storage operators must pay high reinforcement costs even though their assets relieve network constraints, reducing the need for curtailment or for expensive grid upgrades. This is a barrier to investment in and deployment of storage.

Question 3e: What are your views on whether we should retain the High Cost Cap? Is there a case for reviewing its interaction with the voltage rule if customers no longer contribute to reinforcement at the voltage level above the point of connection?

- We would like the HCC to apply only to the same voltage level at which customers are already connected, and not to the one above. This is because we believe that the HCC, when triggered, is a sign of a lack of strategic planning from DNOs. If a local network is at 11kv and a new connection tips it up to 33kv, this is a sign that the DNO was not preparing properly. The HCC disincentivises investment in new large-scale projects in constrained areas, resulting in a lack of network upgrades and so hindering progress to net zero.

Question 3f: What are your views on the recovery of the costs associated with transmission that are triggered by a distribution connection? Does this need to be considered alongside wider charging reforms or could a change be made independently?

- While we have never been charged with such costs, we are concerned about potential exposure to them. Expecting distribution-connected customers to pay for transmission reinforcement while transmission-connected customers pay no such fees is evidently unfair. Forcing transmission reinforcement costs onto distribution-connected customers can result in prohibitively expensive upfront costs, may adversely influence investment decisions, and may prevent new connections from going ahead.
- While we would prefer a faster solution to this problem, we recognise the benefits of deferring any decision on how to resolve this issue until a future review of TNUoS.

Question 3g: What are your views on the likelihood of inefficient investment under our proposals (e.g., an increase in project cancellations after some investment has been made)? What are the arguments for and against further considering introducing liabilities and securities to mitigate this risk?

- If DNOs are to fund a higher proportion of reinforcement through DUoS charges, and a user chooses to cancel their project after some investment has been made, there is a risk of these costs falling on DUoS customers.
- We believe that the benefits from the removal or reduction of reinforcement charges would far outweigh any risk of project cancellation costs falling onto DUoS customers.

Question 3h: What are your views on whether the interactions between our connection reforms and the ECCRs must be resolved before we are able to implement our proposed reforms? How do you factor in the effects of the ECCRs (if at all) into decision making, given the levels of uncertainty around subsequent connectee(s)? What suggestions do you have to make our policy and the ECCRs work together most efficiently?

- We have never factored the ECCRs into our decision making. We think that postponing implementation of the proposed connection charging changes until the ECCRs have been reformed would result in delays and uncertainty. We would prefer faster implementation of the proposed reforms without changes to the ECCRs, which could be amended at a later date.

Question 4a: Do you agree with our proposal to introduce better defined non-firm access choices at distribution? Do you have comments on their proposed design?

- We agree with the proposal to introduce better defined non-firm access choices at distribution, and we welcome the extra flexibility that this would bring.
- We believe that defining access rights in relation to the number of hours or percentage of time that users are willing to be curtailed is a logical approach.
- We are pleased that users will be protected from DNOs exceeding the agreed level of curtailment.
- We are satisfied with the proposal that the changes will not affect existing access rights, and that if users want to amend their access rights, they will have to submit an application.

Question 4b: Do you agree with our proposal to introduce new time-profiled access choices at distribution? Do you have any comments on their proposed design?

- We agree with the proposal to introduce new time-profiled access choices at distribution, and we welcome the extra flexibility and the effects on costs that this would bring.
- We are pleased that users will be able to request either no access, reduced access, or non-firm access during 'peak' periods.
- We would like more detail on how users will be able to modify access rights to vary across the year. We would also like more detail on whether it would be possible to access the grid outside of an allotted period in the case of an unexpected need for power.

Question 4c: Can you identify any benefits to shared access rights that we have not considered, which could impact likely take-up?

- We agree with Ofgem's reservations about compliance risks and potential difficulties with billing systems. We also note that shared access rights would be unlikely to be adopted widely in the EV bus space, as load profiles at each individual depot are bespoke.

Question 4d: Do you have any comment on our proposed choice about how to reflect access rights in charges (i.e. connection and/or distribution use of system charges)?

- We have some uncertainties about the incentives for non-firm and time-profiled access rights.
- We recognise that the proposed connection charging reforms will reduce or remove the extent to which connection charges will be able to reflect the value of alternative access rights.
- We agree that there could be scope to reflect the value of time-profiled access rights via DUoS charges. However, we would not be able to benefit from responding to such a signal until after the proposed DUoS reforms. In the short to medium term, then, there would be no financial incentive for us to accept time-profiled access rights.
- We appreciate that it would be difficult to reflect the value of non-firm access rights in DUoS charges, given that DUoS charges are not locationally specific.
- We understand that opting for alternative access rights might facilitate quicker connection to the network. However, this is not a very strong signal.

Question 4e: Do you have any comment on our proposal not to prioritise the introduction of new transmission access choices as part of this Significant Code Review?

- We accept that transmission access rights are not in need of substantial reform.

Question 4f: Do you have views on how access rights should be standardised across DNOs?

- It would be simplest if access rights do not vary across the 14 DNO regions. They should be as consistent as possible.

Question 4g: Do you have any views on our proposed timescale of 1 April 2023 implementation?

- We believe that this is a viable timescale.

Question 5a: Do you have any evidence that SDG does not contribute to flows in the same way as large generation and, therefore, should not be charged on a consistent basis?

- We would not be able to provide such evidence without commissioning research from a specialist consultant. Please see advice from Regen for industry-wide analysis on this point.
- However, as a storage operator, we object to the suggestion that ‘all generation make a similar contribution to system flows’. Under the current charging arrangements, transmission-connected storage operators pay high TNUoS tariffs for assets in generation constrained areas, even though these assets help to reduce constraints. Applying TNUoS charges to storage units classified as SDG risks extending the reach of this inaccurate charging regime. These issues offer further evidence of the need for a more granular definition of storage registering how flexibility assets alleviate grid constraints.

Question 5b: Do you agree with our threshold for applying TNUoS generation charges of 1MW? If not, what would be a better threshold and why?

- 1MW is a logical cap as it defines the minimum BMU size.

Question 5c: Do you have any evidence that distribution connected generation at a grid supply point has a different impact from directly (i.e., transmission) connected generation?

- Please see advice from Regen for industry-wide analysis on this point.

Question 5d: Do you have a preference for one of our options for addressing the local charging distortion? If so, please indicate which option and provide your views on pros and cons. Are there any options we have missed?

- We do not have any views on charging distortions that occur where a GSP is not classified as a MITS node, as this scenario does not apply to any of our operations and is unlikely to do so in future.

Question 5e: Do you support our position that we should consider transitional arrangements? If so, do you have a preferred option and evidence to support the benefits or risks associated with each option?

- We support the minded-to position to delay implementation until completion of a wider review of TNUoS. We would also welcome more detailed information about the option for grandfathering certain

assets (such as low-carbon generation or storage) such that they would continue to face the capped EET for a defined period of time.

Question 5f: Have we identified all the options for administering TNUoS generation charges for SDG? If not, what options have we missed, and why would they be preferable to those we have identified? Can you provide any evidence regarding the implications of the different administrative options for your business?

- We believe that all of the options Ofgem have identified are viable.

Question 5g: Are there any specific issues you think we need to consider, as part of our work on the future role of network charges? Why are these important to consider?

- Because storage is classified as a subset of generation, transmission-connected storage operators must pay high TNUoS tariffs for assets in generation-constrained areas. As we mention above, we think it is important to resolve this problem, which is impeding the development of a smart, flexible, zero-carbon grid by disincentivising investment in storage. Generators in certain areas are charged high TNUoS rates because when creating volumes of electricity in excess of demand, their operations constrain the grid. Because storage is defined as a subset of generation, transmission-connected storage operators with assets located in constrained areas must pay the same TNUoS charges as generators. This arrangement does not register how storage assets alleviate network constraints by importing surplus electricity. Storage operators thereby reduce (or eliminate) the need for the ESO to pay generators to curtail their output. Storage assets also reduce the need for the ESO to invest in expensive network upgrades in response to the stresses that intermittent sources of generation place onto the grid. Wider deployment of storage, then, would reduce the overall TNUoS cost, providing net benefit to the TNUoS recovery scheme despite reduced recovery from energy storage assets. To incentivise the development of a flexible grid at the lowest possible cost to consumers, TNUoS charges should be removed for storage.
- Ideally, this might be implemented by developing a bespoke definition of storage, replacing the current designation of storage as a subset of generation. However, we recognise this would be against the current regulatory direction of travel: in the Smart Systems and Flexibility Plan, the government commit to defining electricity storage as a distinct subset of generation in primary legislation, when parliamentary time allows. We note, though, that they find that this approach must 'allow flexibility for treating storage differently to

other forms of generation where it is appropriate to do so'.¹ We believe that in the case of TNUoS charges, it is evidently appropriate to treat storage differently to other forms of generation.

- We are aware that Ofgem have committed to reconsidering how the charging regime should treat storage when it alleviates grid constraints. We understand that Ofgem are minded to conduct such work as part of a potential wider review of TNUoS. We note that this review is currently at a very early stage of development, and believe that it is unlikely to begin before April 2023. We would prefer a faster resolution for the issue of transmission-connected storage operators paying TNUoS charges, and we would welcome a consultation designed specifically to address it. We reiterate that a solution to this problem would unlock investment in storage; mitigate against the need for curtailment and network upgrades; and accelerate the development of a smart, flexible, decarbonised grid.

¹ *Transitioning to a net zero energy system: Smart Systems and Flexibility Plan 2021* (London: BEIS and Ofgem, 2021), p. 42.