



Getting more out of our electricity networks by reforming access and forward-looking charging arrangements

ADE consultation response

Introduction

The ADE welcomes the opportunity to respond to this consultation on reforming access and forward-looking charging arrangements.

The ADE is the UK's leading decentralised energy advocate, focused on creating a more cost effective, efficient and user-orientated energy system. The ADE has over 120 members active across a range of technologies, and they include both the providers and the users of energy. Our members have particular expertise in combined heat and power, district heating networks and demand side energy services, including demand response and storage.

This reform provides the foundation for the move to a smart system with flexible, active distribution system operations. It is important that this work to progress closely in parallel with the future of the DSO as developed through the Open Networks Programme as well as ongoing work to deliver BEIS and Ofgem's Smart Systems and Flexibility Plan.

Recent and ongoing changes to network charging have largely focused on removing revenue that generation, storage and demand response has historically received as 'negative demand'. This review should be used as the opportunity to set out the other side of that story – the system benefits that an active, flexible distribution network can provide.

Questions

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

The ADE generally agrees with the case for change described.

With respect to the growing prevalence of network constraints, we would state that growth in distribution-connected generation is only part of the picture regarding constraint. Firstly, this growth has occurred against the backdrop of a sustained drop in demand. Secondly, network arrangements at distribution are not currently well-designed for generation and storage. As a result, they have responded less effectively than the Transmission network to similar issues. In that latter case, the deployment of large-scale renewable generation particularly in Scotland has also led to a growing prevalence in network constraints. This has been managed through Connect and Manage that explicitly accepts greater levels of transmission constraint in order to facilitate further renewable energy connections. Such a scheme is not currently possible at distribution where distribution-connected assets are not compensated for constraint, apart from a cheaper connection cost.

Further to this, it is also important to note that the costs of further connections and a proportion of the cost of constraint at Transmission are already socialised across all consumers. As a result of the very shallow connection boundary at Transmission, the vast majority of the cost of connection is socialised into the wider TNUoS tariff. Further, the cost of ongoing constraint is not borne by the asset as it is at distribution – rather the Balancing Mechanism is used to compensate for constraint. This is paid for through the Balancing Services Use of System (BSUoS) charge to which both generation and demand contribute.

Therefore, there is a clear need to better formalise how distribution-connected assets connect onto the distribution network but it is certainly not the case that rising constraints and the socialisation of those costs are peculiar to the distribution network – this is well-established and accepted at Transmission.

With respect to the need to provide better signals to flexibility providers, the ADE supports the need to improve this. Although the Distribution Network Operators (DNOs) are making some steps to improve the information available about the state of the network through their Open Networks Programme, the state of the networks is still relatively opaque – with little information regarding the location of constraint, where areas of the network are near to breaching their headroom to the transmission system etc. Current network charging arrangements at distribution are relatively static and do not provide significant, useful information to flexibility providers.

With respect to creating a level-playing field across the Transmission and Distribution networks, the ADE supports this. At present, creating a more level-playing field has tended to focus only on reforms undertaken by Ofgem to remove embedded benefits – including the review of the TNUoS embedded benefit (CMP264/5) and the Targeted Charging Review's focus on the remaining embedded benefits, including BSUoS. To truly achieve a level-playing field, it is important that Ofgem uses this reform as an opportunity to set out clearly and in detail the total system benefit of distribution-connected generation, storage and demand flexibility and makes the necessary changes to both TNUoS and DUoS to formalise this.

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.

We agree that access rights should be reviewed on the distribution networks. At present, generation, storage and demand connected at Distribution have far vaguer rights to the network compared to those connected at Transmission. Providing clearer rights will be crucial to achieving greater flexibility at distribution-level voltages and overall, a smarter system.

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?

The ADE agrees that it is important that the entirety of costs triggered through the uptake of new technologies such as EVs and heat pumps at the domestic and very small commercial level are not borne by consumers as a whole and thereby, raising the cost to those least able to pay for their energy needs.

However, doing this through setting a clear access limit does raise some potentially difficult questions. As recognised in this consultation, using a kW or kWh threshold is unlikely to differentiate between those investing in additional energy services and those requiring a relatively high supply to meet their basic needs; for example, those with extremely inefficient heating and electricity systems and poorly insulated homes. Ofgem could decide that network charging should be agnostic to this and that support for the latter case should be done through Government policy. On the other hand, it could decide that network charges should be broadly similar to meet basic needs with any additional paid by those electing to draw more from the system. This should be taken into consideration if a core capacity level is set.

Further to this, there is a significant interaction between the introduction of a core level of capacity and the parallel reform underway regarding residual network charges. If a core capacity threshold is introduced, it would be useful to clarify if this would form the basis for the Targeted Charging Review's ex ante capacity charge (if this option is chosen) and how would this be reflected in the latter's impact assessment and implementation given the different timescales of each review.

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?

The ADE agrees that this merits review.

Regarding the firmness of connections, the ADE agrees that options to support financially-firm generation and storage connections on the distribution network are important. Firstly, this is a crucial area where there is not a level-playing field between transmission and distribution with assets. Secondly, the development of financially-firm access is likely to support the development of markets and trading of capacity on the distribution networks. This could play an important role in providing stronger signals for distribution-level flexibility. We note that the future of the DSO work being undertaken by the Open Networks Programme is considering whether the equivalent of the SQSS at distribution is needed and we would strongly support progress in this area. This work should include the development of an economic standard for cost-effective network reinforcement that would support the use of mechanisms similar to Connect and Manage.

The ADE also agrees that time-profiled access should be considered.

For some large users, it may be that being certain they will be able to import if they need to at any point is crucial to their resiliency plans. For these users, time-profiled access may not be possible. However, for others, a time-profiled connection may work with their resilience plans and provide a cheaper option at connection. For such users, it may be that such a signal, which would be known at point of connection and create a predictable, ongoing signal, may be a better way of signalling the need for flexibility and the state of the network than a more dynamic, forward-looking tariff.

c. Duration and depth of access, discussed in paragraph 3.25-3.32 - would these options be feasible and beneficial?

We agree that Ofgem should review this.

It is likely that the majority of demand users would continue to choose evergreen connections for the vast majority of their import. However, it may be that users can be more flexible for a more variable proportion of their import. In this case, it may be that the option to access more capacity for a fixed time period (short-term or long-term) could be of use.

Similarly, it may be that a significant number of users require access to the full GB transmission and distribution network and that therefore, more local access could not be used. However, network charging arrangements must accommodate and reflect the possible future growth in local trading and balancing and any avoided reinforcement and broader system balancing costs that such schemes provide. This could be done either through connections or through Use of System charges but at present, is done through neither. Therefore, we consider that this merits review.

d. At transmission or distribution in particular, or are both equally important – as discussed in this chapter?

We agree with the provisional conclusion of this consultation that both should be looked at. However, the priority should be at distribution given that distribution-connected assets have significantly fewer rights and options than at Transmission and that there is greater scope for improvement at these voltages.

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 links as set out.

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?

The ADE agrees with this but would note that the Open Networks Programme is undertaking a significant amount of work in this area. Queue management should be reviewed only to the extent that Open Networks does not have the powers to make the required changes.

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?

The ADE strongly agrees with this position.

c. To review the areas outlined in paragraphs 3.45-3.48 to support re-allocation of access?

Overall, creating markets that show the value of capacity and avoided constraint is important to a smarter distribution network. This also aligns well with current work by DNOs to develop constraint management products. Therefore, we support consideration of mechanisms to trade capacity and to avoid constraint. When developing these mechanisms, it is important that there is as much transparency as possible. The ADE is more supportive of DNO-run tenders than relying on bilateral tendering as we consider that the former is likely to be more liquid and more cost-efficient.

Regarding introducing 'use it or lose it' or 'use it or sell it' connection agreement conditions to address capacity hoarding, we consider that this will need to be worked through carefully so that the definition of 'unused capacity' is narrow enough to be restricted to hoarding. We also do not think that it is appropriate for 'use it or lose it' mechanisms to be put in place. If Ofgem reviews such conditions, it should be based on the principle that users should receive compensation for any reduction in capacity commensurate to what was paid for.

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.

The ADE supports a comprehensive review of forward-looking DUoS methodologies. This is important in better reflecting the system benefit of distribution-connected generation, storage and demand response.

With respect to more cost-reflectivity at CDCM specifically, the ADE supports consideration in general of whether more cost-reflective pricing should be introduced.

However, we would note that it is important that Ofgem clearly sets out the case for the effect of generation-dominated areas on long-term distribution and transmission network costs. At present, the distribution networks are at a relatively nascent stage with respect to how they understand the impact and contribution of generation and storage on the security of the network – when compared to the Transmission network. To fully understand the impact, it is important that work already underway to develop this further is concluded in a timely way and is used by Ofgem when designing changes.

Further to this, it is also important to note that flows from Distribution to Transmission and across the transmission network do not in of themselves create further cost. Reinforcements to the Transmission networks are dictated by the Security and Quality Standard of Supply (SQSS). It is important when designing any changes that Ofgem can clearly show the links through the standards governing the transmission and distribution network down to the costs or credits applied to distribution-connected assets.

Further, if the designation of different DNO zones as demand-dominated or generation-dominated is included within the review, it will be important that careful consideration is given to users' ability to respond to these charges.

From the perspective of distributed-connected generation, it is important to avoid unintentionally making new generation and storage uninvestable in demand-dominated areas. This could arise, for example, from the shift of an area from being demand-dominated to generation-dominated as a result of the growth in new generation or a very large reduction in demand – depending on how wide an area is chosen. Whilst network charging arrangements will disincentivise the growth of new generation beyond the point where it is no longer offsetting demand, actors are not always rational and it may be that other factors preclude the most efficient outcome (e.g. planning policy). In this case, generation or storage that was deployed in response to the network signal, a generation credit, could face a generation charge as a result of the actions of later investments. This may significantly impact the ongoing viability of that earlier investment but more importantly, would be likely to significantly reduce the ability of investors to invest against that network signal – significantly reducing its effectiveness as a way of signalling the most efficient outcome for the network.

From the perspective of distribution-connected demand users, it is important any shift to more cost-reflective charges does not lead to very unpredictable charges to which, users cannot respond. More than this, such changes (particularly to move to more locational network charging) will retrospectively impact not only consumers but also businesses who have already decided to invest in an area and who cannot respond to them. It is important that this is borne in mind so that greater cost-reflectivity does not lead to any cost increases that are so high they cannot be borne and that changes are done over a reasonable period that can be incorporated into business investment planning cycles.

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.

The ADE supports reviewing the distribution connection boundary and, in particular, whether it should be made shallower. Connection costs are currently a significant barrier for distribution users and the current boundary requires a greater proportion of the cost

to be paid by the connectee than those connecting at Transmission. As importantly, the introduction of a shallow boundary is important to the transition to a smart system. Using a deeper connection boundary effectively assumes under all cases that reinforcement is the most cost-effective option because it is required at the outset for a user to connect. To support the transition to the smart system, it is important that users and the network operators can invest in flexibility where that is more cost-effective than reinforcement or until reinforcement becomes the cost-effective option. This is already the arrangement at Transmission.

Overall, we consider that the objective of the reform should be to align Transmission and Distribution as far as possible. If it emerges that the preferred distribution connection boundary is significantly different to that currently at Transmission, this should lead to review of the Transmission connection boundary.

- 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?**

The ADE considers that further consideration is needed before this is taken forward.

Reinforcement costs at Transmission are based on meeting the SQSS, not whether there are flows from distribution to transmission and across the transmission network. Building a secure network at Transmission relies on users' explicit Transmission Entry Capacity (TEC), effectively the capacity they have the right to export onto the network. There is no such capacity right for distributed generation or storage to export onto the transmission network. Therefore, it is unclear what the Transmission capacity is to which the TNUoS locational charge would be attached.

- 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.**

The ADE agrees that this should be reviewed but notes that it is not straightforward.

On the one hand, TRIAD is becoming harder to predict. As a result, it is already in some cases encouraging users to reduce their energy import over longer time periods. Further to this Ofgem's parallel reform regarding the residual is likely to significantly reduce the incentive to respond to the TRIAD signal given that is the bulk of the tariff. With the uptake of new technologies, it is not clear whether this will continue or whether the system will see clearer peaks re-emerging.

On the other hand, arbitrage is likely to be important to the viability of small-scale, low carbon generation, storage and demand response – something that BEIS are currently reviewing. The removal of the ability to reduce TNUoS residual costs through responding to TRIAD, the recent flattening of red rate tariffs at distribution and the possible removal of peak pricing for the remaining TNUoS locational demand charge leaves very little to arbitrage within network charging. Whilst BEIS and Ofgem may conclude that this is

appropriate, consideration of how to create a sufficiently strong signal for flexibility, particularly at the smaller scales, is needed.

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.

The ADE agrees.

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

The ADE agrees with this approach.

The ADE sat on both Task Forces that preceded this consultation. Reflecting on that experience, we would note that –

- A BSUoS task force needs to have a clear mandate, a clear set of questions to respond to and an approach and process that has already been decided upon in advance of the first meeting
- It also needs access to resource to undertake quantitative analysis and have the time to undertake this
- It should be accepted that consensus will not be reached on all points and this should be incorporated in the process – possibly through voting on key issues as is currently done at industry working groups

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.

We would favour a comprehensive SCR where all areas of review are taken forward by Ofgem. We consider this preferable because we think it will lead to better coordination across the different changes and because it will allow different users, particularly demand users, to be more involved in the process than they would be able to under the industry code modification process.

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.

The ADE agrees with this approach.

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.

There is already a licence condition on the network operators to act upon customer detriment. It is unclear why this is not already sufficient.

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.

The ADE has no comment.

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?

As we have seen with the Targeted Charging Review, these charging reforms have wide-reaching impacts on many energy users for whom network charging is not part of their normal business. Through that parallel reform, it is clear that users can only engage meaningfully once the financial and business impacts are understood. This has meant that for many, the implications will become clear only once the draft minded to decision is published on the changes. This has left many users with just over a year to start responding to the proposed changes and less than a year to prepare once they know the final, detailed proposals. This does not fit with investment planning and creates significant risks to those users.

It is important that this review does not repeat this - as currently set out in this timeline. Users will also be faced with significant changes to the bulk of their network tariffs starting in April 2020, only to face further changes 2 years later and then even further changes a year later. This makes it extremely difficult for users to respond effectively.

We would ask that instead these reforms are implemented concurrently so that businesses face a single wave of major change that has been finalised and communicated at least 2 years in advance. Therefore, if the work is concluded as set out towards end of 2020, implementation of both the Targeted Charging Review and this review of access and forward-looking charges should begin in April 2023.

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

The Charging Futures Forum is positive and has been useful in providing introductory material and engaging a wider audience in the reforms.

Reflecting on the experience of the Targeted Charging Review as mentioned above, it would be useful to find a way of explaining the changes, even at the earlier stages, from the perspective and the language of different users. The recent consultation by the Open Networks Programme regarding future scenarios for the DSO did this well with a chapter explaining the implications of each scenario from the perspective of a different user. If possible, it would be very useful to establish a number of user profiles that could be used to explain Ofgem's thinking each time it develops further throughout the review. The ADE would be happy to support this as we are confident would other similar organisations.

The other lesson we have drawn from the Targeted Charging Review is that it is crucial to understand the possible financial impact as early in the process as possible. We strongly welcome the TCR's team decision to publish the initial modelling of the vanilla option unit costs – even if they were very provisional. For many users, network charging is only of concern as a cost line within their total energy costs and it is only at the point

where the impact on that cost is known that they can fully engage. We would strongly welcome this review following similar approach.

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