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18 September 2018

Dear Jon,

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

We welcome the opportunity to comment on the key problems with the current charging arrangements, the options that should be prioritised in addressing these problems, and how this should be taken forward.

It is clear that delivering decarbonisation goals will require appropriate charging arrangements, funding for investment in enhanced network infrastructure and new cost-effective and innovative approaches to optimising the use of that infrastructure. Accordingly, we broadly agree with the three priority areas Baringa has identified in the consultation.

Reducing distortions will ensure a level playing field and facilitate optimal economic decisions when investors consider location, system connection type and technology for new generation, to the benefit of consumers. It will also lead to more efficient investment decisions by 'prosumers' and help ensure that enthusiasm for 'collective' or 'community' self-consumption is not driven by hidden subsidy.

We agree that only the distribution connection boundary should be reviewed. The transmission connection boundary is now well established and has worked well alongside the Connect and Manage regime for many years. In respect of the distribution connection boundary we are pleased that Ofgem has recognised the close interaction with any changes to DUoS charges. We agree that the distribution connection and use of system charges must be assessed as a package when determining the costs and/or benefits of any reforms for the different classes of distribution network users. In particular, consideration should be given to the extent which making distribution connections shallow replaces upfront connection costs with more volatile use of system charges, and the impact of this on the commercial risk faced by developers.

We support the proposal to launch an 'Option 1' SCR where Ofgem would issue a direction to the relevant licensee(s) to raise the appropriate code modifications. However, given the experience of the Option 1 type SCR under Project TransmiT, we recommend that Ofgem ensures that the SCR process provides clear, specific and detailed conclusions in the direction(s) to raise modifications. The communication channels between industry and Ofgem should be used to limit any duplication of work by a working group under the relevant code governance framework. Where it is clear that it

is unlikely that there will be any unintended consequences, 'quick wins' should be progressed ahead of the conclusion of the wider SCR.

We believe that a moderate scope for the SCR (Scope B) would be the best approach. If significant progress can be made on the definition and choice of access rights, the issue of initial allocation will be less significant and could be addressed outside the core SCR scope through industry working groups. Not to review the choice of definition and choice of access rights for larger users at the same time as reviewing those for small users has the potential to perpetuate existing (or create new) discrimination in the rights of users, and could fail to deliver a level playing field.

We do not believe there is a need to introduce the proposed new licence obligations on the ESO and DNOs to undertake a review and bring forward modification proposals that they consider have merit. Licensees have existing licence obligations to keep the Codes and Charging Methodologies under review and in compliance with the respective Applicable Objectives set out in their licence. If licensees are not complying with their existing obligations, it is not clear why an additional licence condition would improve their performance.

Our responses to the consultation questions are in Annex 1 attached. Please do not hesitate to contact me if you have any questions on this response.

Yours sincerely,



**Richard Sweet**  
Head of Regulatory Policy

**GETTING MORE OUT OF OUR ELECTRICITY NETWORKS BY REFORMING ACCESS  
AND FORWARD LOOKING CHARGING ARRANGEMENTS  
– SCOTTISHPOWER RESPONSE**

**Chapter 2. Issues with existing 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 broadly agree with the three priority areas Baringa has identified, subject to the following points.

**Priority area 1: Enabling growth in demand, particularly from new LCTs, while managing constraints on the networks**

We agree, based on present trends and projections, that the future growth in LCTs at low and high distribution voltages could drive material network reinforcement. In this context we would support a review of charging in the CDCM to review whether price signals can be improved for domestic and non-domestic consumers to adopt more flexible consumption patterns or to utilise technological solutions, eg use of batteries in combination with solar PV.

When reviewing the need to define access rights for lower voltage customers we would expect Ofgem to balance the changes in behaviours and associated benefits such reforms would be expected to deliver versus the cost and complexity of implementing the reforms.

**Priority area 2: Managing constraints on the distribution networks as a result of growth in distributed energy resources on the distribution networks**

Given that 28GW of generation is now connected at the distribution level it is appropriate to review charging and access arrangements for generators, in particular the default assumption that generation has a beneficial impact on distribution networks and therefore should receive DUoS credits. As noted by Ofgem, most deep distribution connections to date have not involved network reinforcement but might do in future - representing a potential barrier to entry. In making the distribution connection boundary shallower to avoid such barriers it will be important to ensure that generators are not inadvertently exposed to greater risk from volatility in their new DUoS charges.

**Priority area 3: An effective interface between transmission and distribution arrangements**

We agree it is appropriate to examine the transmission and distribution access charging arrangements to determine where they can be aligned to ensure that, where appropriate, parties face price signals based on a consistent methodology.

**Chapter 3. Our proposals for the scope of review of access arrangements**

**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.**

We agree it is timely to review access rights particularly at the distribution level to understand whether they would benefit from improved definition and diversity of access

product. In all cases, the costs of developing and managing any access regime should be proportionate to the benefits it delivers.

**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?***

We agree that defining a core level of access could help ensure consumers' basic needs are protected. That said, as noted by Ofgem, identifying what constitutes a core set of household needs could be a challenge, especially with the electrification of heat and transport creating new capacity demand previously served by other fuel types.

In this context, Ofgem suggests it could place a principles-based obligation on suppliers to define core consumer capacity requirements. We believe this will only be practicable if it takes the form of a collective obligation on suppliers to agree a common industry-wide definition (as opposed to each supplier creating its own definition), so as to ensure a "level playing field" between suppliers. It is also important that any set of access options developed is adaptable and does not inadvertently lock in certain technologies.

It will be important to understand the overall economic benefits and impacts of providing certain services at transmission (T) and distribution (D) level. For example, the benefit of providing reactive power to the T system from a distributed energy resource (DER) could be outweighed by DNO charges for a perceived negative impact. Therefore it is essential that adequate conflict resolution measures are put in place to address all situations that could result in a conflict between T system and D system requirements.

Other steps should include product standardisation (avoiding overlapping of services), and providing visibility of the dispatched volumes and clear signals of what/where/when/why services are required.

***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?***

We agree with Ofgem that a review of such access definitions would be of most benefit on the distribution network, in particular firm and non-firm rights to the extent they can help generators manage curtailment risk. We think the focus within the SCR should be on establishing practicable definitions of firm and non-firm access for the distribution network, as this is likely to take a considerable amount of development by industry. We would welcome development of financially firm products (as exist at present for transmission-connected generation) but suggest this could be left until after the SCR.

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

We agree with Ofgem that the development of long term access products (such as products for 15 year access) could be challenging, and the priority of the SCR should be on establishing practicable definitions of distribution network access. We share some of the concerns expressed by Ofgem regarding the development of "local only" access. Wherever

possible, we believe users should be able to connect and have access to the whole system whether on a firm or non-firm basis.

Ultimately we believe there will be an extremely limited number of situations where network access is technically “local” access; in reality exporters will physically spill some proportion of their output to higher voltage networks up to transmission and similarly most demand will be supported to some extent by the wider system. The challenge for developing any local access product is to be able to verify that the wider network has not been utilised and we consider this impossible for practical purposes.

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

We consider that at present the priorities in terms of network access rights are primarily for distribution users - both in terms of defining distribution network access rights and, as also highlighted, clarifying the position of small DG with respect to access beyond the grid supply point to the transmission system.

We think the issues raised in respect of transmission access have some merit but are much less material, and Baringa is correct to prioritise other areas for development in the SCR.

**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 broadly agree with the summarised charging implications of the various network access issues discussed in Chapter 3. We agree that the stronger the emphasis on choice of access rights, the more significant network capacity will become as a cost driver, shifting the balance of network charges towards capacity-based charges (based on kW of capacity requested by the user) rather than usage charges based (based on kWh of electricity consumed). An example of this is where network investment takes place in response to a request to access the network at peak times, but in practice the user produces or consumes on very rare occasions or not at all.

**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?**

We agree that “connection queues” at distribution are a material issue, and any reforms that can prevent capacity hoarding and allow users with greater readiness to connect to get to the front of connection queues are welcome. Any mechanisms to enable parties in distribution connection queues to exchange capacity should be simple and cost-effective to implement and participate in, otherwise they risk becoming a barrier to entry.

**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?**

We agree with Ofgem’s assessment that capacity auctions could be overly complex to design and implement and that there are greater priorities for this review.

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

For the reasons outlined in response to Question 3(c) above, we do not support re-allocation of access due to the complexity of allocating 'assets' towards a particular connection. The actual flow of electrons per connection will be difficult to fully determine and to reallocate one set of said defined assets from one connection to another may not necessarily be transferring like 'to' like.

**Chapter 4. Our proposals for the scope of review of forward-looking network charging**

**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 it is timely to undertake a review of forward-looking DUoS charging methodologies (ie EDCM and CDCM). We share some of the stated reservations around the feasibility of modelling the lower voltage networks in granular detail and the extent to which fully cost-reflective DUoS charges can be introduced for households. We think a review of the impact of distributed generation at HV and EHV is required to determine whether DUoS credits are cost-reflective. We would also support any proposals to the EDCM that would improve the stability and predictability of EHV DUoS charges.

With regards to a proposal for locational signals within distribution networks, a number of areas must be considered that could have detrimental effects on access:

- 1) volatility and large price swings caused by small changes to entry/exit capacity due to grid capacity relative to connection capacities - unlike transmission where the larger grid can cope with small and medium capacity swings;
- 2) the potential for the charge differential between 'zones' to be too extreme (like TNUoS) where socialised costs from a 'shallow' connection boundary are immoderately high for customers farther away from a defined load centre;
- 3) the potential for a compounding effect whereby distribution-connected generators pick up a share of TNUoS in areas where GSPs export, noting that all GSPs in Scotland are currently regarded as exporting GSPs.

**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**

Yes we agree that only the distribution connection boundary should be reviewed. The transmission connection boundary is now well established and has worked well alongside the Connect and Manage regime for many years. In respect of the distribution connection boundary we are pleased Ofgem has recognised the close interaction with any changes to DUoS charges. We agree that the distribution connection and use of system charges must be assessed as a package when determining the costs and/or benefits of any reforms for the different classes of distribution network users. In particular, consideration should be given to the extent to which making distribution connections shallow replaces upfront connection

costs with more volatile use of system charges and the impact on commercial risk to developers. We would recommend that particular attention should be placed on the EHV connection boundary and whether there is any disparity with transmission, and whether there are distorted signals to developers on where to connect either side of the transmission/distribution interface.

**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?**

We agree the treatment of small distributed generation with regards to TNUoS should be considered, though we note the challenges of capturing them adequately within the transmission transport model. Such analysis will need to be future-proofed to be able to include the increase of DSO capabilities and the extent to which this may reduce the impact of DG on the transmission networks.

**b) Do you consider that forward-looking TNUoS charges for demand should be reviewed, as outlined in paragraphs 4.24-4.27?**

We agree it is worth considering demand TNUoS within this review and examining whether basing demand charges on the triad remains cost-reflective and sends the appropriate price signals. We would recommend that careful consideration is given to the likelihood that the proposed reforms will achieve the stated objective in terms of likely consumer behaviours and delivering overall consumer benefits.

**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.**

Yes, we agree. It is better to wait until this current review is bedded in before embarking on a broader review. (This is with the exception of the treatment of the residual charge that is being dealt with as part of TCR).

Although the sharpness of TNUoS locational signals has been an issue for some time, especially for northern generators, we would expect specific areas like this to be dealt with through the normal code governance process.

**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?**

Any review of BSUoS charging would need to be considered alongside a review of the TNUoS charging methodology to ensure that there was no double-charging of generators behind export constraints. It would be inequitable to charge generators behind an export constraint both the operational cost of managing the constraint through BSUoS and the forward looking investment cost of reinforcing the transmission boundary to resolve such constraints.

The existing Connect & Manage arrangements were introduced to tackle what had been an intractable problem with the previous Invest & Connect arrangements, and only work through the socialisation of constraint costs. Connect & Manage has been instrumental in facilitating the connection of many GW of renewable generation (delivering Government decarbonisation targets) and the required transmission infrastructure (Beaulieu-Denny, West Coast HVDC, Cheviot reinforcement). This has been achieved through enabling developers to commit to firm connection dates, identifying the true cost of constraint and developing the business case for the network infrastructure to relieve those constraints.

As an ex-post charge, BSUoS is an inefficient way of signalling costs to users and its volatility presents a risk to all network users. Currently, BSUoS is a unidirectional charge and may be sending counter-intuitive signals. For example, at times of export constraint BSUoS sends the same signal to both demand and generation when it should signal an increase in demand (including storage) and a decrease in generation. We believe that the efficacy of any signal sent by an *ex post* BSUoS charge would be minimal, and Ofgem should consider whether a fixed BSUoS charge for recovery of system costs would be more in consumers' interests, as outlined in CMP250.

## **Chapter 5. Taking forward this review**

**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.**

We believe that a moderate scope for the SCR (Scope B) would be the best approach. If significant progress can be made on the definition and choice of access rights, then the issue of initial allocation will be less significant and could be addressed outside the core SCR scope through industry working groups. Not to review the choice of definition and choice of access rights for larger users at the same time as reviewing those for small users has the potential to perpetuate existing (or create new) discrimination in the rights of the users and could fail to deliver a level playing field.

**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 proposal to launch an 'Option 1' SCR where Ofgem would issue a direction to the relevant licensee(s) to raise the appropriate code modifications. However, given the experience from the Option 1 type SCR under Project TransmiT, we would recommend that Ofgem should ensure that the SCR process produces clear, specific and detailed conclusions in the direction(s) to raise modifications. This should not restrict industry from developing the best method of delivering those recommendations through the code change process but should limit the scope for development of a large number of alternative solutions and facilitate earlier implementation.

Ofgem can reasonably expect strong engagement from industry in the development of the resultant change proposals, but these should be focussed on narrow options in order to make the most efficient use of industry expertise.



**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.**

We do not believe that there would be any value in introducing the proposed new licence obligations on the ESO and DNOs to undertake a review and bring forward modification proposals that they consider have merit. Licensees have existing licence obligations to keep the Codes and Charging Methodologies under review and in compliance with the respective Applicable Objectives set out in their licence. If the licensees are not complying with their existing obligations it is not clear why an additional licence obligation would improve their performance.

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

As explained in our responses to Questions 12 and 13, we do not believe that additional licence obligations are needed. If licensees comply with their existing licence obligations that should be sufficient to ensure timely delivery.

**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?**

We believe the indicative timelines are ambitious but not unachievable. By allowing 18 months (2019 and H1 2020) for developing the options and developing the rationale for change, the conclusions in H2 2020 should be sufficiently detailed to allow a focussed industry code change process to deliver final modification reports to the Authority, in line with implementation in April 2022 and 2023. These implementation dates, accompanied by an informative change development process, should allow industry parties to plan for the changes and minimise the requirements for any transitional arrangements.

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

We believe that the existing frameworks including the Charging Futures Forum (CFF) and the Charging Delivery Body should continue to coordinate industry input and communicate developments. For areas of change deemed outside the scope of the core SCR process, the CFF could sponsor industry Task Forces to develop options in specific areas. The CFF would continue to have the role of coordinating development work to ensure the efficient exchange of information between Task Forces.

We also note that it will be important to continue to engage with the ENA Open Networks project throughout the SCR process.

ScottishPower  
September 2018