New RES Logo**Renewable Energy Systems Limited**

Beaufort Court, Egg Farm Lane, Kings Langley

Hertfordshire WD4 8LR, United Kingdom

T +44 (0)1923 299 200 F +44 (0)1923 299 299

E info@res-group.com **www.res-group.com**

John Parker

Ofgem,

10 South Colonnade, Canary Wharf, London E14 4PU.

Submitted by email.

C:\Users\gpannell\OneDrive - RES Group\Pictures\sig1.png

17 September 2018

Dear John,

**Re: RES response to Ofgem’s consultation “Getting More out of our Electricity Networks by reforming Access and Forward-Looking Charging Arrangements”**

<https://www.ofgem.gov.uk/publications-and-updates/getting-more-out-our-electricity-networks-through-reforming-access-and-forward-looking-charging-arrangements>

RES is the world's largest independent renewable energy companies working across the globe to develop projects that contribute to our goal of a secure, low carbon and affordable energy future. We develop, construct, finance and operate onshore wind, solar PV, transmission network and energy storage assets.

In over 35 years of operation, RES is responsible for 10% of the UK’s onshore wind capacity and 13GW of wind globally, has developed 1.3GW of solar PV globally, built over 1,600km of transmission network outside the UK and become a world leader in energy storage, with 240MW of assets in operation or advanced construction stage, including 80MW in the UK.

We have been closely involved in the development of these proposals through our role on the Charging Futures’ Task Force, and we are pleased to provide the enclosed response.

Welcome Distribution Access Proposals, Reduced Distortion between Transmission and Distribution, and Predictability in Forward-Looking Charges.

We believe much of this work is highly commendable, indeed necessary, if our industry is to bring about a smart, flexible energy system. We support the clarification of access rights in general, particularly for those users connected to electricity distribution systems, and we welcome efforts to address distortions created by the current disparity between transmission and distribution system charging methodologies. We welcome the stated focus on making charges more predictable.

Concern over Systemic Uncertainty and Volatility

However, we have an over-arching concern that the direction of travel of the reforms set out in the consultation document will give rise to unwarranted complexity, leading to unpredictable signals to which users cannot practically respond. This “baking in of uncertainty” into the respective charging methodologies will only be viewed as an uncontrollable risk and thereby become a barrier to necessary new investment[[1]](#footnote-1).

### Limited Effectiveness of Locational Charging Signals

For any power station, but particularly for renewable generators with a higher ratio of capital to operational expenditure, a locational charge element is almost exclusively useful only at the moment of making a final investment decision – any changes thereafter cannot helpfully influence choice of location, and other than closure or mothballing it becomes simply a burden driven by the actions of other users. By way of example, we note that some generation TNUoS tariffs have changed by the order of 30% or more year-on year, and certain EDCM import capacity tariffs have changed year-on-year by a factor of 10 or more! This level of unpredictable volatility is a challenge for new connection projects, raising the cost of capital and stifling effective competition. A damping mechanism that affords foresight of future capacity tariffs for a number of years, whilst remaining generally locational in nature, would seem more likely to realise a more cost-efficient balance between transparency, stability and cost-reflectivity.

Whole System Impact

We noted that Ofgem states the objective of this review to be “*To ensure electricity networks are used efficiently and flexibly, so that we can each have the access we need and consumers benefit from new technologies and services, while avoiding unnecessary costs on energy bills in general.*” We fully support this objective. We also highlight that, if the review is to focus on “consumer bills” and “energy bills in general” then it must consider the challenge from a “whole-system” real world perspective, that is to say costs and benefits accruing not only from network infrastructure but also from generators and also from system service providers.

We look forward to the next steps in this reform process.

Yours sincerely,



Dr Graham Pannell

Energy Networks Lead

E graham.pannell@res-group.com

T +44 1923 299492

**Responses to questions from the consultation document**

**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.

Yes. Notably, we have long been concerned with the simplistic nature of distribution ‘flexible connections’; the lack of investment signal associated with an uncompensated, unlimited and often unrecorded constraint.

We support the need for greater predictability in charging in order for the charging signals to be useful. Renewable generators, once placed, have very limited options to respond to any subsequent variations in charging tariffs. In order to facilitate the least-cost electricity production, there must be a focus on predictability and stability with any resulting charging methodology, at least in implementation for renewable generators. We note the documented failure of the locational element of EDCM charging (see DCMF review, referenced later in this response), and the orders of magnitude volatility in locational charging for many Scottish TNUoS generator charging zones, as two examples of signals which cannot be effectively responded to, which therefore result in increased perception of risk for new investment, ultimately increasing the cost of new electricity generation. Please see our confidential addendum.

# Access Arrangements - proposals for the scope of review

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 there is benefit in this review, particularly in relation to distribution connected users for whom there are no explicit right of grid access.

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:

1. 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?

No specific comment.

1. 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 that both options have merit to pursue:

We support the reasons for *firmness* in paragraphs 3.15-3.17. In particular, we support moves to *quantify* firmness, such that it becomes a continuous measure of the reliability of network access, and thereby gives a benchmark for compensated access (or viewed another way, a back-stop for constrained access - this is very valuable for investment purposes). A simple example of firmness could set the minimum expected availability of a connection at “x%”, where any network unavailability below x%, averaged over an appropriate period, is compensated. In practice, the mechanism would need to be more complicated, likely separating local connection assets from the broader shared network, but such obstacles can be overcome.

Regarding time-profile access: we recognise the potential benefits described in chapter 3.

We are not convinced of the benefits of segregating the *depth* of access. It would be a challenge to demonstrate that there is a permanent 24/7 zero flow to the wider network, and furthermore not obvious to separate the full breadth of power quality support (e.g. frequency, voltage quality including harmonic distortion) that comes from the interconnected network – there is a risk that power quality support will be undervalued when compared with more straightforward network carrying-capacity, as much of the power quality is provided as a natural consequence of other users’ connections.

We look forward to further evidence on the potential benefits and risks of pursuing duration of access. On a related note, we support the proposed introduction of use-it-or-lose it powers (para 3.45).

Both transmission and distribution proposals are equally important, and furthermore we think it would be actively disadvantageous to develop such solutions for one system but not the other; developing uneven access options carries the risk of driving further distortion through the market, potentially driving users to unreasonably push for a connection to one system over another for reasons other than engineering good practice.

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

We look forward to further evidence on the potential benefits and risks of pursuing duration of access. On a related note, we support the proposed introduction of use-it-or-lose it powers (para 3.45).

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

Both transmission and distribution developments are equally important, and furthermore we think it would be actively *disadvantageous* to develop such solutions (as per the consultation document) for one system but not the other; developing uneven access options carries the risk of driving further distortion through the market, potentially driving users to unreasonably push for a connection to one system over another for reasons other than engineering good practice; at the very least any differences must be well-justified.

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, and would also propose to add under the key links for *firmness*:

The paragraph on firmness omits the useful signal element of recording and valuing all constraint (as detailed in our answer to 3b), which may provide an effective back-stop to a user’s constraint by ultimately triggering a network solution. It also omits the competition benefit of choosing and quantifying a firmness level.

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:

1. Improved queue management as the priority area for improving initial allocation of access, as outlined in paragraphs 3.41-3.44?

Yes.

We support a focus on improved queue management. We remain sceptical as to the benefits of any targeted auction for access (3.42), as it may more reveal the participants’ access to capital, or a participant’s optimistic view on a wide range of uncertain development variables and will likely bear no relation to the intrinsic network value (thereby becoming less cost-reflective).

1. 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 strongly to exclude auctions for initial access. We *strongly disagree* with the middle sentence: “Conceptually, these [auctions] would provide an accurate signal for the value of additional network capacity” – we believe that network access pricing must send a signal to incentivise the most economic and efficient development and operation of the total electricity system for the long-term benefit of consumers; auctions will only reflect a new connectee’s ability to pay for network access at a given moment in time and are in no way aligned with the stated objective of this review.

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

We support a review of these reallocation options, and in particular suggest there is significant benefit in ‘use it or lose it’ conditions on access rights. By example, A UKPN investigation in 2015 covering the eastern region revealed that roughly 55% of the capacity allocated to operational generators was under-utilised[[2]](#footnote-2).

# Forward-Looking Charges - proposals for the scope of review

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 a comprehensive review of CDCM charges (para 4.3 part 1, and 4.4); we hope the reforms will introduce more effective signals which can better facilitate a smart, flexible electricity system.

We note that any resulting charging signal must be usefully, actionable. In application to renewable generators, such charges must focus on predictability and stability in order to best facilitate the least-cost electricity production (i.e. reduce the perceived regulatory investment risk on new renewables).

Regarding EDCM locational charges (4.3 part 2), we particularly draw your attention to the ‘charge 1’ locational element of EDCM for import, a locational charge which is utterly opaque and almost impossible to predict, and as such has not provided a useful signal to the relevant connectees. This is evidenced in the review undertaken by the DCMF in 2015[[3]](#footnote-3), which concluded that the current locational charge has been ineffective – “The review group has not found any evidence that network reinforcement has been deferred due to the response [to EDCM] of EHV customers”, “Emphasis on this one aspect introduces complexity, loss of transparency, concerns about the validity of both methodologies and the underlying data, and it distorts the remainder of the methodology”, and “There are alternative means which have been shown to be effective in reducing demand on network assets which would otherwise require reinforcement and these are more suitable to manage power flows in real time within a smart network environment”. Renewable generators, once placed, have very limited options to respond to any subsequent variations in charging tariffs. To facilitate the least-cost electricity production, there must be a focus on predictability and stability with any resulting charging methodology, at least in implementation for renewable generators. *Please also refer to our confidential addendum attached*.

As such, we would strongly support an improved predictability of EHV charges (para 4.5).

We support a reconsideration of the balance between usage and capacity charges (4.3 part 3, 4.6).

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.

We agree there is benefit in the review. We are particularly encouraged by the statement in para 4.13: “It could also help support more efficient investment in new network capacity by allowing DNOs to factor in demand for capacity from a wider group of network users”. This may also help mitigate against the arbitrary distortion which exists across the Transmission/Distribution boundary, which arises from the profoundly different charging signals created by the different infrastructure/connection boundary and charging methodologies. However, as per our answer to Q6, and our cover letter note on the effectiveness of locational signals, we caution against any methodology which can dramatically, rapidly and unpredictably change an existing user’s tariffs based on other users’ behaviour – above all the charging signals must be useful to have any credible impact. For Renewables, ‘useful’ charges are predictable and stable.

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:

1. 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 are not yet convinced of the overall benefit of such a review. As per the comments in our cover letter, such a review must consider “real world” whole system costs that are ultimately paid for by the consumer, with particular focus on the cost of capital for necessary new generation and the impact of effective competition in generation. Such a change requires a whole system cost benefit analysis, including the impact on emissions and the UK’s ability to meet decarbonisation targets.

If the review results in new charges that have the potential to change dramatically year on year, with no ability to control nor predict those changes then there will be a negative impact on investor confidence. This will translate into significantly raised cost of capital and diminished effective competition. Please see our confidential addendum for evidence. We would also highlight the experience of National Grid Generation Wider zonal charges in the North of Scotland in charging year 2018, which saw charges leap by over £8/kW in some zones with little forewarning, significantly outside of National Grid’s own forecast. Measures should be taken to ensure that there can be no repeat of such an outcome and to give investors comfort that future change to tariffs, that we accept is inevitable, will be within the parameters of reasonable regulatory risk.

1. 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 agree that triad may be no longer fit-for-purpose and welcome this review.

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.

We agree with this rational prioritisation. Connect and Manage is serving the consumer well by removing a barrier to entry for new generation whilst also providing a signal of the cost of constraints that can feed into transmission network and operational planning activities.

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 think such a review of BSUoS, if at all, should be undertaken after the conclusion of this SCR on network charging. We think that any review of charging to recover costs of system operation needs to be taken forward with a view to incentivising the evolution of the flexible future total system. To achieve this, there needs to be a future vision taking into account the likely behaviours of demand users, generator users and ancillary service providers connecting at all voltages. Once this vision is established, the ESO can effectively lead an industry workforce that will consider the regime of system operational charging and incentives that will deliver that vision. The timescales and workload of such a task force will be significant, and it is hard to see industry effectively engaging with a review of that scale in parallel with the proposals in this review. If rushed, this would risk being steered only by the few large utilities with dedicated resource and risk omitting wider industry participation. Further, if started too early it risks distorting the development of the Distribution System Operation role which could be critical in delivering a timely smart flexible energy system.

# 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 would support the **Narrow** scope.

The other two components are separable and can be run in parallel by industry, with the potential advantage of earlier completion. *In any case, if the industry groups do not progress sufficiently swiftly, or reach a cross-cutting snag, these issues can be subsequently brought into the SCR if necessary* – and we suggest the Authority allows scope for this outcome.

You have identified a key risk of uncompensated DG constraint being undervalued. One of the proposed items of allocating access for large users is the “firmness” of connection which can be read as the expected availability of the network connection; by developing a solution separately to the SCR this major distortion can be closed earlier, to the broader benefit of all consumers.

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.

Yes.

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.

Yes

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.

No comments.

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?

**Whichever route Ofgem takes forward**, there is a need to provide clarity on all related areas of charging to avoid unnecessarily deterring investment during the review period. For example, we would ask for explicit clarity on the future of the “**Small Generator Discount**” for Scottish 132kV connections whilst such a major charging reform is carried out.

We have no objections to the outline timescales shown.

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

The Charging Futures Forum, and more specifically the Task Forces, have been a welcome process to engage effectively on these issues before this consultation was issued. We would welcome continued use of this Forum.

1. See confidential addendum [↑](#footnote-ref-1)
2. From [*http://www.ukpowernetworks.co.uk/internet/en/our-services/documents/dg-customer-forum-25022016.pdf*](http://www.ukpowernetworks.co.uk/internet/en/our-services/documents/dg-customer-forum-25022016.pdf), citing the DCP115 interpretation of under-utilised, meaning that a generator never reached 75% of its agreed export capacity. [↑](#footnote-ref-2)
3. <http://www.energynetworks.org/assets/files/electricity/regulation/DCMF/EDCMReviewGroupFinalReport%2031Dec2015.pdf> [↑](#footnote-ref-3)