

Andrew Self
Energy Systems Transition
Ofgem

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Via email: TCR@ofgem.gov.uk

4 February 2019

Dear Andrew,

Ref: innogy's response to the consultation "Targeted charging review: minded to decision and draft impact assessment"

Innogy Renewables UK Ltd, as a developer and operator of renewable generation located on both the transmission and distributed networks, and owner of Belectric Battery Storage Ltd welcomes the opportunity to respond to this consultation.

Our responses to Ofgem's specific questions can be found in appendix 1 attached. I highlight some of our key points of feedback here:

- Ofgem take a view throughout this assessment that focusing on making network costs as cheap as possible for consumers in the short term will result in considerable, ongoing consumer benefits out to 2040. This is based on long-term forecasts (which Frontier acknowledges are likely to shift with market changes) and is a narrowly focused view. This view does not consider the multiple feedback loops associated with the TCR proposals, and the impacts upon decarbonisation targets, generation mix, market dynamics and the resultant implications for the overall cost of the system as a whole and customer bill impacts.
- The impact assessment fails to consider the impacts of proposed changes upon renewable generation investment, which currently regularly meets ~30% of UK demand in 2018.
- Ofgem's application of the principles-based analysis is inconsistently applied to demand and generation residuals and BSUoS charging proposals.
- It is unclear how the transmission generation residual can be arbitrarily set to £0/kW if GB is to maintain compliance with EU regulation 838/2010.
- A broader analysis, which considers interactions with other reforms (eg ENAP), is absolutely vital for Ofgem to make well-informed decisions on next steps.

Innogy Renewables UK Ltd is part of a consortium of generators who have commissioned an external consultant to assess the effects of these TCR proposals upon renewable generation. Frontier's impact assessment overlooks this analysis, which in our view is a fundamental omission that subsequently impacts the interpretation of Ofgem's proposals on the energy system as a whole (which includes, but is not limited to, network costs). As discussed, we will be sharing and discussing our report with both Ofgem and BEIS when it is ready in March 2019. We are happy to engage before March to discuss progress.

Yours sincerely,



Nicola Percival
Policy & Regulations Manager

Question 1: Do you agree that residual charges should be levied on final demand only?

In principle, we agree that it is sensible for residual charges to be levied on final demand only. We urge Ofgem to carefully consider the impacts of their final decision regarding the methodology for how the charges are levied and the impacts of this on the Smart Systems and Flexibility Plan. A signal for flexibility services must be available and clear in order to elicit appropriate responses from network users.

When the principle of charging residual costs on final demand interacts with the legal requirement for GB to comply with EU regulations, we encourage Ofgem to be practical and sensible (please see our response to Questions 10 and 11). We also encourage Ofgem to be consistent with implementation across all network charging reforms, to ensure that measures to increase overall competitiveness domestically do not lead to inconsistent investment signals through piecemeal reform implementation.

The definition of final demand is not always straightforward, and this must be worked through before Ofgem makes any decisions. For sites which are not solely using electricity, but also generating it the interactions of what is currently permitted under a generation licence, Ofgem's proposed amendments to the generation licence and the proposals under CMP280 will need to be tested against Ofgem's definition of final demand and the current rules to avoid gaming and loopholes. Not testing ahead of making decisions is more likely to result in harmful unintended consequences. A level playing field between transmission and distribution networks should also be a significant part of these considerations.

Question 2: Do you agree with how we have assessed the impacts of the changes we have considered against the principles? If you disagree with our assessment, please provide evidence for your reasoning.

We do not agree with Ofgem's overall approach. We agree with the qualitative assessment of the short-term impacts of the minded-to changes regarding how demand residual could be levied upon consumer bills. However, the assessment has failed to assess the broader and longer term impacts of all the proposed amendments set out in this minded-to position and to consider what this means for consumer bills in the medium-long term.

Both the minded-to position and letter setting out the proposed scope for the Electricity Network Access Project (ENAP), state that Ofgem is committed to enabling the energy system to decarbonise. Furthermore, the BEIS-Ofgem Smart Systems & Flexibility Plan demonstrates commitment to this. We were therefore disappointed to see that the proposals in the Significant Code Reviews are at odds with achieving a smart, flexible and low carbon energy system at lowest overall cost to the consumer.

We discuss this further in our responses to Question 10 onwards.

Question 3: For each user, residual charges are currently based on the costs of the voltage level of the network to which a user is connected and the higher voltage levels of the network, but not from lower voltage levels below the user's connection. At this stage, we are not proposing changes to this aspect of the current arrangements. Are there other approaches that would better meet our TCR principles reducing harmful distortions, fairness and proportionality and practical considerations?

We support the proposal as set out in this question to not propose changes to the current aspect of charging arrangements. To charge users for lower voltage networks than that to which they are connected would be a significant change to the principles of network charging as we know them today. Such a change would need to be the subject of explicit proposals, an impact assessment and be properly consulted upon.

A proposal to charge the residual component of lower voltage networks to users would introduce the question of whether all network users should pay for all other parts of the network, including neighbouring distribution networks. This is likely to be impractical to implement but could be considered rational to explore given the GB energy market as a whole.

Question 4: As explained in paragraphs 4.41, 4.43, 4.46, 4.49, 4.80, we think we should prioritise equality within charging segments and equity across all segments. Do you agree that it is fair for all users in the same segment to pay the same charge, and the manner in which we have set the segments? If not, do you know of another approach with available data which would address this issue? Please provide evidence to support your answer.

No comment.

Question 5: Do you agree that similar customers with and without on-site generation should pay the same residual charges? Should both types of users face the same residual charge for their Line Loss Factor Class (LLFC)?

No comment.

Question 6: Do you know of any reasons why the expected consumer benefits from our leading options might not materialise?

We note that in the Steady Progression scenario, around 75% of the overall system and consumer benefits are projected to arise between 2030 and 2040. Customers are expected to be cumulatively worse-off for the first ten years following reform in some of the scenarios¹. Frontier

¹ Community Renewables & Steady Progression with low residuals report negative consumer benefits of £0.01bn and £0.04bn until 2030.

acknowledges the limitations of their analysis², and in particular the risks of relying on long-term forecasts. In this regard we encourage Ofgem to be mindful of the risk to future consumers of being materially worse off as a result of the proposed TDR reforms. Where implications for system flexibility are to be included, even qualitatively, this risk is likely to be higher than the current impact assessment accounts for (as it does not appear to include system flexibility considerations).

The impact assessments for TDR reform and the TGR/BSUoS reforms were undertaken discretely. Ofgem's analysis of the benefits of these combined assume no interactions between the two sets of proposed reforms. Given their complexity this is unlikely to be the case in practice.

Question 7: Do you agree that our leading options will be more practical to implement than other options?

We encourage Ofgem to carefully consider the consequences of how the methodology for how residual costs are levied upon final demand and the possible impacts (both intended and unintended) upon flexibility and the Smart Systems and Flexibility Plan. A signal for flexibility services must be available and clear in order to elicit appropriate responses from network users.

Regarding the minded-to decision that the transmission generation residual (TGR) should be £0/kW, this is neither practical nor results in GB being legally compliant with EU regulation 838/2010. As a matter of urgency, we strongly request that Ofgem sets out how the TGR can be set arbitrarily at zero and compliance with 838/2010 maintained. The current negative TGR is clearly not just a matter of principle, it is a matter of legal compliance. We discuss this further in our answer to Question 10.

Question 8: Do you agree with the approaches set out for banding (either LLFC or demanding for agreed capacity)? If not please provide evidence as why different approaches to banding would better facilitate the TCR principles.

No comment.

Question 9: Do you agree that LLFCs are a sensible way to segment residual charges? If not, are there other existing classifications that should be considered in more detail?

No comment.

² Pages 53-54 of WIDER SYSTEM IMPACTS OF TGR AND BSUOS REFORMS

Question 10: Do you agree with the conclusions we have drawn from our assessment of the following? a) distributional modelling b) the distributional impacts of the options c) our wider system modelling d) how we have interpreted the wider system modelling? Please be specific which assessment you agree/disagree with.

We disagree. Regarding the distributional modelling alone, please see our answers to Questions 6 and 7. Regarding wider system modelling, and the TDR and TGR/BSUoS proposals in tandem, we have the following views:

Frontier's modelling uses the generation backgrounds from two FES scenarios – in which non-CM generation inputs are 'locked down'. Therefore the iterative response of non-CM generators to the changes is not considered. There are a number of key issues with this approach which mean that the modelling is fundamentally flawed:

It is inconceivable that renewable generators will not respond in any way to these proposed fundamental reforms, particularly given the current government policy not to offer support for new build of pot 1 CfD technologies. The impact assessment is clear that the costs for CM generators would be affected by the proposed reforms, so it is inconsistent to assume that future investment decisions for non-CM generation would be unaffected. In Q1 2018 renewables generated 30.1% of all electricity used in the UK³. This omission represents a significant proportion of UK generation which has been excluded from the modelling and therefore from the quantitative assessment of how TCR proposals affect generation investment and the resultant impact upon the consumer. It is a fundamental flaw in the modelling outcomes.

The modelling uses the Steady Progression FES scenario as the baseline for the impact assessment. This scenario does not meet the legally binding carbon targets that the UK government has signed up to. A system which looks like that in the Steady Progression scenario is actively being worked against by outputs of the Ofgem-BEIS Smart Systems and Flexibility Plan. It is therefore unclear why this is the baseline for the modelling. The comparative scenario used is Community Renewables. Where consumer benefits are reported as higher under the Community Renewables scenario than the baseline it is attributed to a lower cost system – for example it is quoted at paragraph 5.18 that this is due to *'higher level of investment in a more renewable, decentralized system which has a reduced fuel and carbon cost associated with it'*. However, as we discuss here and throughout our response, this is falsely assuming that investment in renewables is unaffected and non-responsive to the fundamental reforms Ofgem propose in the TCR.

Between 2022 and 2027 approximately 6GW of RO generators will need to have taken and be exercising their decision to either decommission or continue to generate on a merchant basis. Up to 2GW of that represents onshore wind. Work that has been carried out since Ofgem published their minded-to position on the TCR indicates that Ofgem's proposals are likely to delay the delivery of merchant onshore wind by 4 years. The work estimates that approximately 7 TWh of new distribution connected wind, 36 TWh of transmission connected wind and 10 TWh

³ [UK Energy Statistics, Q1 2018](#)

of new solar projects that are currently predicted between now and 2030 are expected to be lost entirely if Ofgem's full TCR proposals are implemented⁴. These represent a huge increase in cost to the consumer who would be instead paying for electricity generated from more expensive fossil fuel sources. In addition, plant retirement and decreased deployment are likely to exacerbate the current capacity gap leading to tighter capacity margins and/or higher carbon emissions.

The spring 2019 pot 2 CfD auction outcomes could be at risk. As an owner of an eligible 1.2GW project, the proposal to set the transmission generation residual (TGR) arbitrarily to £0/kW, but a lack of explanation as to how this will be made legally achievable, leaves us and industry carrying significant investment risk into the auction which almost certainly impacts bid prices. Increased clearing prices would procure less essential low carbon capacity and at higher cost per MWh for the consumer. Please see our answer to Question 11 for further detail regarding TGR and legal compliance.

In addition, the modelling is flawed in other ways and likely overstates any benefits it predicts as a result. For example, the modelling has been carried out assuming that the transmission generator residual (TGR) is already arbitrarily set to £0/kW. As we discuss in our answer to Question 11 the negative TGR is a matter of compliance with EU regulation 838/2010. Therefore the modelling is based on a set of assumptions where GB is in breach of EU regulation and is overcharging generators. The modelling assumes that setting TGR to £0/kW represents a windfall gain for consumers, which cannot be the case due to legal implications of implementing this proposal. The response to generators (operational and new investment) of changes to TGR is also therefore not modelled.

Most of the impact of the proposals as set out for TGR/BSUoS will be to remove value from generation already on the network and have a major impact on revenue streams. For consumers the direct impact of the changes is minimal in comparison. Frontier states that the unequal impact means that not all generator costs will be passed through to the consumer, and therefore the consumer will benefit from reduced costs. We have two broad views on this approach:

- (1) This is a narrow and short-term view. The scale and pace of changes have already begun to impact upon investor confidence and such a windfall loss will likely see costs of capital for future projects increase. The increased Contracts for Difference (CfD) strike prices that Frontier predicts and increased Capacity Market (CM) clearing prices will not be beneficial to any network user in the longer term.
- (2) Ofgem's assumption is that the TGR/BSUoS reforms will transfer savings to consumers from existing and future generators until at least 2040. However, If the reforms adversely affect generation investment then the consumer benefit would (in all likelihood) be smaller, or even negative.

⁴ Cornwall Insight, 2019

Frontier and Ofgem report that they expect carbon emissions to reduce under their proposals due to fewer inefficient and small fuelled plants. However, whilst it may be beneficial to reduce carbon emissions by incentivising more efficient fossil fuelled plants, it is not when making the market much more difficult for renewable generation⁵. Our supporting analysis suggests that carbon costs could increase by a median of £600m⁶ out to 2050 if the TCR proposals are implemented, as a result of lost renewable generation, with the cost estimate varying depending upon the projected carbon cost (which could be impacted by a no deal Brexit).

Ofgem has made it clear that they do not see decarbonisation considerations as being within their remit. Innogy disagrees and points to Ofgem's statutory obligations to reason why. The best interests of the future consumer lie not just with reducing existing network costs for consumers (which is what the TCR solely aims to do), but with considering how to make the cost of energy and the networks combined as optimal as possible⁷.

Question 11: Do you agree with our proposed approach to the reform of the remaining non-locational Embedded Benefits?

We disagree and set out our reasoning below.

Transmission Generation Residual (TGR)

The proposal to set the TGR arbitrarily to £0/kW could cost the average intermittent generator an increase of up to 540% in their Wider TNUoS costs⁸. All generators could see their costs go up by more than 100%. In Scotland this change would be felt most keenly.

Ofgem has discussed many reasons why residual charges should be levied upon final demand only, with much emphasis on how exactly these charges should be levied and the principles of assessment. However Ofgem has not set out how it proposes that TGR can be set arbitrarily to £0/kW. Currently, the negative TGR acts as a correction factor so that average GB generator costs remain compliant within the range set out in EU regulation 838/2010 of €0 - €2.50/MWh.

Therefore, the negative residual is not acting as cost recovery – instead its purpose is for compliance with legally binding legislation. The proposal that charging should no longer operate in this way is not possible as currently set out, and urgent clarity is needed.

⁵ [IPCC special report, 2018](#)

⁶ Cornwall Insight, 2019

⁷ The three broad aims of Project TransmiT (Ofgem's most recently concluded SCR) were: (i) deployment of low carbon generation across Great Britain (GB) and impact on achieving the UK government's Renewable Energy Strategy target of 30% of generation from renewable sources by 2020 and carbon intensity in 2030, (ii) quality and security of supply across GB, and (iii) overall cost of the system as a whole and customer bill impacts.

⁸ Aurora Energy Research: TCR consultation note, 4th December 2018

We also encourage Ofgem to revisit the purpose of EU regulation 838/2010 – to facilitate competition amongst EU generators - and ensure that this purpose is not being lost.

Related to Ofgem's proposal that the TGR should be £0/kW the CMP261 rejection letter, and subsequent CMA ruling, suggests that the CUSC should operate under the broad interpretation of the connection exclusion rather than the narrow interpretation (as it currently does). This could lead to offshore spurs being considered as connection assets, and possibly other assets currently subject to Local TNUoS, and therefore not being considered as within the remit of the cap. This could present more problems than it solves:

- It would still result in a negative TGR, required to comply with 838/2010.
- It presents significant risk that offshore Local TNUoS tariffs (perhaps all Local TNUoS) might be calculated/treated differently than they are today. For example, the percentage of Local TNUoS costs which are socialised under current methodology could be threatened at a potential cost to industry of >£700m in 2020/21 charging year alone.

As we discussed in our answer to Question 10, the spring 2019 pot 2 CfD auction outcomes have increased risk as a result of this uncertainty. Industry is inevitably carrying significant investment risk into this auction as a direct result of Ofgem's TGR proposal which will impact on strike prices. As previously stated, increased clearing prices would procure less essential low carbon capacity and at higher cost per MWh for the consumer, which runs counter to Ofgem's statutory obligations to future consumers.

BSUoS

The proposals for either partial or full BSUoS reform are inconsistent with the principal minded-to position that is presented throughout the rest of the proposals – that which is to levy residual charges onto final demand only. BSUoS is the definition of a residual charge, as it is essentially a cost recovery exercise.

The minded-to position options presented for BSUoS reform have not been subject to consultation ahead of the presentation of this position, and give the impression of being a last-minute addition. We ask that Ofgem formally states that their minded-to position regarding BSUoS reform is 'on-hold' pending the outputs of the BSUoS Task Force and subsequent consultation on any options after this. Ofgem have informally said that this is their intention. We ask that this is formally clarified as soon as possible to give some certainty in a policy direction which avoids piecemeal and excessive change.

RenewableUK and Scottish Renewables have undertaken analysis which shows that full BSUoS reform would reduce revenues and increase operational costs for small embedded renewables by £96M per annum.

This additional cost/reduced revenue outlook will significantly damage pre-existing investments and reduce investment in future renewable energy build and low carbon flexibility projects. The impact assessment does not consider the reduced renewable build as a result of these changes

(see our answer to Question 10) nor does it consider the potential increased cost of capital due to regulatory risk that would result from these changes. The TCR proposals for embedded generators focus heavily on stripping away current revenue streams, but not at all on considering what market opportunities are available for distribution-connected network users on a level playing field with transmission-connected network users. By not at looking at this in tandem Ofgem risk undermining investment further.

We note that paragraph 6.21 of the consultation states that both full and partial embedded benefit reforms are expected to result in "limited changes in the investment in generation capacity." We disagree entirely with this assertion and consider that these changes will have very significant impacts on the investment in generation and flexibility providers.

As we stated in our response to the TCR launch in May 2017 - net charging principles deserve continued merit when it comes to enduring BSUoS charging if generators are to continue to be charged. BSUoS charges are currently measured on a HH basis and the net treatment is cost reflective as it reflects the actual flows on the transmission network. Note that the supplier and the generators they account for pay the BSUoS generation charge in any HH that the GSP is exporting because the system operator is handling that export. It does not appear to have been accounted for this in the Ofgem impact assessment, and therefore the benefits of reform are likely overstated (see paragraph 6.11 of TCR minded-to position document).

Small Generator Discount

The small generator discount has been an important part of addressing the disparity created by the boundary difference of 132kV connections in Scotland, England and Wales. We welcome Ofgem's recognition of the importance of this discount and the extension of SLC C13 by amending the expiry date of this licence condition from 31 March 2019 to 31 March 2021.

However, we are concerned that Ofgem's proposal is that this discount will be reduced to zero after March 2021. We strongly encourage Ofgem to refrain from making any firm decisions in this regard until outcomes as a result of both the TCR and the Electricity Network Access Project proposals are known. It is by no means certain at this stage that the Small Generator Discount, or a similar such mechanism, will not be needed after March 2021.

Even with the conclusion of these pieces of work referenced above, if the fundamental market distortion created by the boundary persists, then some form of mechanism to level the playing field is likely to still be required going forward.

Question 12: Do you agree with our proposal not to address any other remaining Embedded Benefits at this stage? Which of the embedded benefits do you think should be removed as outlined in xx? Please state your reasoning and provide evidence to support your answer.

AND

Question 13: Are there any reasons we have not included that mean that the remaining Embedded Benefits should be maintained?

The remaining embedded benefits described are minimal, and we agree that it is not a priority to reform these.

Question 14: Do you agree with our proposed approach to transitional arrangements for reforms to: a) transmission and distribution residual charges b) non-locational Embedded Benefits? Please provide evidence to indicate why different arrangements would be more appropriate.

We do not support implementation in 2020. It is far too soon for changes of this magnitude to be implemented by industry stakeholders (including Generators and Suppliers) even if the changes themselves were sensible. Implementation of these proposals in 2021 or phased from 2021-2023 would be damaging to the industry for reasons we set out throughout this response, particularly in our answer to Question 10 and 11.

There are a large number of first and second order effects on costs and benefits to consumers, generators and other market participants of the TCR proposals. Accordingly, it is far from clear that the projected magnitude and timing of the anticipated benefits will materialize, and the degree of certainty that changes for consumers will be benefits is also not certain due to the broader-reaching impacts of Ofgem's current (TCR) and projected (ENAP) reforms on investment decisions.

We recommend that Ofgem revisits the impact assessment process to improve this. We also ask that Ofgem addresses our concerns as outlined in our answer to Question 10. It is of utmost importance that no decisions are taken before Ofgem has commissioned a very high quality and broad-reaching impact assessment which assesses the compounded impacts of TCR and ENAP together). Such analysis could also incorporate elements of SNaPS and day-ahead procurement of system services, DSO, etc.

Industry should have the opportunity to comment on a coherent set of proposals across all areas of proposed reform before final decisions are taken on the substance of changes and implementation timescales of this Significant Code Review.

Question 15: Do you agree with our minded to decision set out? If not please state your reasoning and provide evidence to support your answer.

We do not agree with the minded-to decision as set out. We demonstrate why throughout our response.

As we have referred to in our answers to Questions 10, 11 and 14 the TCR proposals alone (and most especially when compounded with the scope of ENAP) amount to energy market policy as opposed to regulation due to the impact upon market dynamics that would result. The proposals

in the TCR go beyond independent regulation of the networks, and undermine broader policy aims and legally binding carbon targets (see Question 10). In our view, this is acting beyond Ofgem's remit.

It is our view that Ofgem's proposals for change and speed of implementation under TCR and ENAP, and a lack of joined-up approach with other reforms, represents risk for investment beyond that which can be reasonably expected to constitute regulatory evolution over time. Valuing the cost of regulatory uncertainty is complex, but Ofgem have previously recognized the benefits of maintaining regulatory confidence as outweighing any short-term benefits to consumers⁹ even if just temporarily to await a more appropriate time and additional, more robust evidence.

By proposing fundamental charging reforms which do not level the playing field but rather have such detrimental impacts upon low-carbon, clean, cheap forms of energy generation and benefit fossil-fuelled generation of electricity which is more expensive, Ofgem is failing to take into account what this will mean for the future consumer. The expected consumer benefits will be undermined by the effects of this. When the scope of work under ENAP is considered alongside TCR this impact is only compounded and the existing modelling further flawed.

Our critique here does not prejudice our view that a fundamental review of network charging, access and the markets in which all forms of generation are permitted to operate is necessary in order to create an energy system which is fit for the future. In our view this means looking at residual charging, forward-looking charging, grid access rights, the Capacity Market, ancillary services and flexibility requirements in a joined-up fashion. The minded-to proposals under this TCR, the impact assessment and how it has been interpreted are inconsistent with the required joined-up approach and do not represent a way forward which will result in tangible benefits for future consumers.

Question 16: For our preferred option do you think there are practical consideration or difficulties that we have not taken account of? Please provide evidence to support your answer.

Our response is clear that we consider the TCR proposals require a substantial rethink and as such we do not expect that these proposals will deliver the expected consumer benefits, and could result in consumer disbenefits. Please see our responses to Questions 10, 11 and 14 in particular for further detail.

⁹ Ofgem's decision on RIIO-ED1 mid-period review, April 2018.