

Date: 17 June 2019

Dear Stakeholder,

Future Charging and Access programme – consultation on supplementary information and analysis to November 2018 minded-to decision on the Targeted Charging Review

In November 2018, we published our minded-to decision and draft impact assessment on the Targeted Charging Review (TCR) covering residual charges and other non-locational embedded benefits.¹ This was based on a principles-based assessment, supported by quantitative modelling. We have since received over 130 responses to this consultation and we welcome the contributions stakeholders have made to help inform our final decision.

We wish to provide stakeholders with an update on several discrete matters, and provide stakeholders with the opportunity to comment on these matters, before making our final decision. These are:

1. Capacity Market sensitivity analysis;
2. The Balancing Services Charges Task Force findings;
3. Updated system costs due to corrected carbon appraisal accounting; and
4. Clarification on the use of Line Loss Factor Classes in our minded to proposal.

Last month, we published an open letter with updated timelines and key next steps for the TCR project, as part of our wider Future Charging and Access programme.² In that letter, we flagged the additional consultation we are publishing today.³ This letter does not revisit the principles-based assessment in the minded-to TCR decision that we set out last November or the updates to the implementation dates published in our open letter of 21 May 2019.

We intend to publish our final decision on the TCR and direction (including the final impact assessment) later this year. We welcome stakeholder feedback regarding the additional analysis and information outlined in this letter to TCR@ofgem.gov.uk by **12 July 2019**.

1. Capacity Market sensitivity analysis

In November 2018, the Capacity Market was suspended. Whilst we expect the reinstatement of the Capacity Market, we think it is useful and prudent to model a scenario without the Capacity Market in place, to test the sensitivity of our projected impacts to this unlikely outcome. The results demonstrate that our projected benefits to consumers of reforming residual charges and embedded benefits would be robust to this scenario.

On 15 November 2018, the General Court of the Court of Justice of the European Union found in favour of Tempus Energy, thereby annulling the Commission's State aid approval for the Capacity Market in Great Britain.⁴ The Court held that the Commission should have consulted more fully before deciding whether to grant State aid

¹ <https://www.ofgem.gov.uk/publications-and-updates/targeted-charging-review-minded-decision-and-draft-impact-assessment>. For an explanation of what residual charges and other non-locational embedded benefits are, see section 1 of the minded-to decision

² https://www.ofgem.gov.uk/system/files/docs/2019/05/may_charging_open_letter_final_21-may.pdf

³ In the 21 May 2019 open letter, we stated that we were carrying out further analytical work on the interactions between our reforms and the Capacity Market and our intention to share it. We also noted that the Balancing Services Charges Task Force had (at that point in time) published its draft report. It has now published its final report which is available here: <http://chargingfutures.com/media/1348/balancing-services-charges-task-force-final-report.pdf>

⁴ Tempus Energy Ltd and Tempus Energy Technology Ltd V European Commission Case T-793/14

approval in 2014. The Secretary of State subsequently postponed the T-4 and T-1 Auctions for Delivery Years 2022/23 and 2019/20 respectively, in accordance with Regulation 26(3)(a).

The UK Government is working with the European Commission to obtain State aid clearance for the GB Capacity Market as soon as possible.⁵ The European Commission on 21 February 2019 announced it was opening an in-depth investigation.⁶

The Government has also consulted on two sets of amendments to the Regulations and the Rules to make the necessary changes to operate the GB Capacity Market to the fullest extent possible during this period (consistent with State aid constraints). On 5 March 2019 Tempus Energy issued a claim for judicial review, challenging BEIS' decision to continue to operate elements of the Capacity Market during this period. The Government is defending this challenge.

Results of the Capacity Market sensitivity analysis

We have tested our modelling against a scenario of an energy only market (ie where no Capacity Market is in place). We have tested this sensitivity using the Steady Progression scenario from NGENO's Future Energy Scenarios and assumed implementation of all elements of the TCR package of reforms in 2021. We have combined both the residual and other embedded benefits elements of reform into one modelling sensitivity.⁷

In doing this new analysis, focused on a no-Capacity Market scenario, we have had to take some decisions on how we think investors would respond to wholesale market pricing.⁸ We have assumed the market functions well, because it would be inconsistent to assume it would not function well on an ongoing basis and that there would be an ongoing absence of policy intervention. While other assumptions on market functioning could potentially reduce the benefits observed, they would be inconsistent in that they would assume no policy response to a poorly functioning market.

The results of this modelling show positive consumer benefits with a net present value of £4.8bn over the period to 2040 (a similar level to those with the Capacity Market in place, which have a net present value of £5.1bn). This is primarily because reduced charge avoidance outweighs higher wholesale prices under the reforms. The results also show positive system benefits, however these are lower than in the original modelling published alongside our minded-to decision. The system benefits are reduced because of the higher Expected Energy Unserved (EEU) (net present value of system benefits projected at £0.23bn compared to £1.04bn with the Capacity Market in place).

Differences in the results for the sensitivity without the Capacity Market, compared to the modelling with the Capacity Market, which was published alongside our minded-to decision include:

- higher Loss of Load Expectation (LOLE) – because of lower investment in generation;⁹
- less generation investment, but still a change post reform to investment in more efficient generation;
- higher wholesale prices – as a response to lower investment in generation; and
- lower carbon emissions – as a result of more efficient generation investment.

This additional analysis has been undertaken to ensure that our reforms are robust to the unlikely situation that the Capacity Market does not return. The results demonstrate that our projected benefits of reforming residual charges and non-locational embedded benefits are robust to this scenario.

A supplementary report and the backing data for the model outputs is available in our consultants' supplementary documents published alongside this letter:¹⁰

⁵ <https://www.gov.uk/government/collections/electricity-market-reform-capacity-market>

⁶ http://europa.eu/rapid/press-release_IP-19-1348_en.htm

⁷ The limitations of this analysis are carefully described in the Frontier/LCP reports, previously published, which are available here: <https://www.ofgem.gov.uk/publications-and-updates/targeted-charging-review-minded-decision-and-draft-impact-assessment>

⁸ We have also updated some retirements and online dates and so the new numbers are not 100% comparable

⁹ The equilibrium LOLE rises from an average of around 2 to 4 hours. There is a target reliability standard of 3 hours LOLE established in legislation. Modelling the reforms without the Capacity Market in place indicates a LOLE that is higher than this target. With the Capacity Market in place the LOLE is below this target after the reforms are in place

¹⁰ <https://ofgem.gov.uk/publications-and-updates/future-charging-and-access-programme-consultation-supplementary-analysis-november-2018-minded-decision-targeted-charging-review>

- **Frontier Economics/LCP - Supplementary report for a no-Capacity Market scenario**, a slide pack explaining the results of the Capacity Market sensitivity analysis; and
- **Frontier Economics/LCP - Backing data for a no-Capacity Market scenario**, an excel spreadsheet of the outputs from the Capacity Market sensitivity analysis.

We welcome stakeholder feedback on the additional analysis outlined in this letter and the supporting documentation and backing data which is published alongside this letter to TCR@ofgem.gov.uk by **12 July 2019**.

2. Taking account of the Balancing Services Charges Task Force findings

In the November 2018 minded-to decision, we said ‘we will consider the recommendations from the BSUoS Task Force alongside the responses to this consultation in making our final decisions on the proposals set out in this document, and in deciding whether further changes to BSUoS outside of the SCR should take place’.¹¹ The final report produced by the Balancing Services Charges Task Force, and other supporting materials can be found on the Charging Futures website.¹² Balancing Services use of system (BSUoS) charges are the charges levied by the Electricity System Operator to recover the costs of its activities, including operating and balancing of the transmission system.¹³

We are considering our response to the conclusions of the Task Force, and the results of this report will be taken into account when the final decision is made on the TCR, including whether to proceed with partial or full BSUoS reform. We would welcome any feedback on the Task Force conclusions and views as to how they should be considered within the context of our November 2018 consultation on our minded-to decision on the TCR or other aspects of our Future Charging and Access programme.

The overall objective of the Task Force was ‘to provide analysis to support decisions on the future direction of BSUoS’.

The Task Force was asked to assess three main issues:

1. The extent to which elements of balancing services charges **currently** provide a forward-looking signal that influences the behaviour of system users;
2. Whether or not existing elements of balancing services charges have the **potential** to be made more cost-reflective and hence provide better forward-looking signals;
3. The **feasibility** of charging any identified potentially cost-reflective elements of balancing services charges on a forward-looking basis. It should also consequently identify the extent to which the different elements of balancing services charges should be considered cost-recovery charges.

A brief outline of the way in which the Task Force addressed these issues alongside their overall conclusions is provided below. The full report is available on the Charging Futures website.¹⁴

Deliverable 1. Does BSUoS currently provide a useful forward-looking signal?

The Task Force found that BSUoS does not currently provide any useful forward-looking signals which promote efficient use of the market. They identified five reasons for this:

- difficulty in forecasting BSUoS charges;
- complexity;
- increasing volatility;
- they are less material than other market signals and therefore should take less precedence for change; and
- currently BSUoS charges apply to all chargeable users on the transmission system on an equal basis.

Two possible behaviour-affecting signals were found. These are:

¹¹ https://www.ofgem.gov.uk/system/files/docs/2018/11/targeted_charging_review_minded_to_decision_and_draft_impact_assessment.pdf

¹² <http://www.chargingfutures.com/charging-reforms/task-forces/balancing-services-charges-task-force/resources/>

¹³ National Grid ESO, ‘Introduction to Balancing Services Use of System Charges (BSUoS)’
<https://www.nationalgrideso.com/document/137681/download>

¹⁴ <http://www.chargingfutures.com/media/1348/balancing-services-charges-task-force-final-report.pdf>

- adding a risk premium to mitigate for BSUoS uncertainty, and
- responding to a subtle overnight signal.

However, neither of these signals were found by the Task Force to impact behaviour in a beneficial way for the system or ultimately for consumers.

Deliverable 2. Potential options for charging BSUoS differently, to be cost-reflective and provide a forward-looking signal.

The Task Force identified four potential elements of BSUoS that could potentially be charged more cost-reflectively and hence provide a forward-looking signal:

- locational transmission constraints;
- locational reactive and voltage constraints;
- response and reserve bands; and
- response and reserve utilisation.

Industry engagement through webinars and other engagement activities throughout the working period of the Task Force found that most stakeholders broadly agreed with the conclusions of the Task Force regarding deliverables 1 and 2. This meant that these conclusions were taken forward into deliverable 3.

Deliverable 3. Potentially cost-reflective elements of BSUoS to provide a forward-looking signal.

The four potential options were assessed using four specified criteria. However, the Task Force decided that although they had theoretical advantages, the implementation of each option would not provide a cost-reflective and forward-looking signal which would drive efficient market behaviour. The Task Force concluded that a significant limitation of BSUoS charges is the variation in the costs which the Electricity System Operator incurs. It reported that it is highly complex to ensure that market participants are charged for their impacts on the network.

Task Force conclusions

‘It is not feasible to charge any of the components of BSUoS in a more cost-reflective and forward-looking manner that would effectively influence user behaviour. Therefore, the costs within BSUoS should all be treated on a cost-recovery basis.’

The Task Force believes that cost-recovery charges should aim to minimise market distorting signals, to benefit the system and ultimately consumers. However, it found the current construction of the charge may inadvertently send signals that are detrimental to the system. It said this should be considered by Ofgem and the industry in the future design of an effective cost-recovery mechanism for BSUoS and noted the structure of a BSUoS cost-recovery charge is out of scope of this Task Force.¹⁵

The above conclusion and assessments of the Task Force have been widely shared with stakeholders and a 10-day consultation undertaken on the draft report. Stakeholder feedback reinforced the view of the Task Force, with the vast majority of respondents agreeing with the Task Force work and in support of the conclusions.

We welcome stakeholder feedback on the conclusions of the Task Force, and how they should be considered within the context of our November minded-to decision on the TCR or other aspects of our Future Charging and Access programme to TCR@ofgem.gov.uk by **12 July 2019**.

3. Updated carbon values

We have recognised that the minded-to TCR decision did not use the correct carbon values for the assessment of carbon emissions for the Transmission Generation Residual (TGR) and Balancing Services (BSUoS) reform. National Grid Future Energy Scenario (FES) costs of carbon¹⁶ were used rather than the BEIS appraisal values for these

¹⁵ <http://www.chargingfutures.com/media/1348/balancing-services-charges-task-force-final-report.pdf>

¹⁶ <http://fes.nationalgrid.com/fes-document/>

assessments, although the correct BEIS appraisal values were applied for the analysis of reformed residual charges.

In the modelling, market participants are assumed to face applicable European Union Emission Trading System (EU ETS) prices and carbon support payments when making dispatch and investment decisions.¹⁷ For example, large fossil fuel plants face a total cost of carbon that includes the EU ETS price and carbon support payments. In the estimation of system benefits, changes in carbon emissions between the counterfactual and modelled scenarios should be valued at the “appraisal cost of carbon”.¹⁸ The latter is a series that estimates of the cost of traded carbon emissions over time. The correct values to be used in this analysis are the BEIS appraisal values.

In earlier years, the National Grid FES values are higher than the BEIS appraisal values but in later years they are lower, with a net effect of underestimating the value of carbon emission changes for this element of the analysis.

Alongside this letter we have published amended backing data for the assessment of TGR and BSUoS charge reform options.¹⁹ This is the updated outputs from our modelling of the TCR reforms using the corrected BEIS appraisal value for the cost of carbon. The estimated system costs under our reforms increase by up to £0.23bn. The revised system costs are shown in Table 1 below and in the updated dataset published alongside this document:

- **Frontier Economics/LCP - Amended backing data for wider system impacts of Transmission Generation Residual (TGR) and Balancing Services (BSUoS) Charges reforms**, an updated excel spreadsheet of the outputs the wider systems analysis of TGR and BSUoS reforms with the corrected carbon appraisal values

Table 1: Updated system costs which include corrected carbon appraisal values

		BEIS appraisal values (corrected results)		National Grid FES appraisal value (included in the minded-to decision document)	
		Net Present Value £billion		Net Present Value £billion	
Base scenario (counterfactual)	Modelled scenario	System Cost	Consumer Cost	System Cost	Consumer Cost
Baseline (steady Progression)	Transmission Generation Residual (TGR) & Full Balancing Services Charges (BSUoS) Reform	-0.02	-4.52	-0.11	-4.52
Alt Future Energy Scenario: Baseline (community renewables)	Alt FES: Transmission Generation Residual (TGR) & Full Balancing Services Charges (BSUoS) Reform	0.33	-5.99	0.1	-5.99
Baseline (steady Progression)	Phased Transmission Generation Residual (TGR) & Full Balancing Services Charges (BSUoS) Reform	-0.01	-3.51	-0.1	-3.51
Baseline (steady Progression)	Transmission Generation Residual (TGR) & Partial Balancing Services Charges (BSUoS) Reform	0	-3.33	-0.03	-3.33
Alt Future Energy Scenario: Baseline (community renewables)	Alt FES: Transmission Generation Residual (TGR) & Partial Balancing Services Charges (BSUoS) Reform	0.27	-4.11	0.16	-4.11

¹⁷ Further information on the EU ETS is available here: https://ec.europa.eu/clima/policies/ets_en

¹⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/794186/2018-short-term-traded-carbon-values-for-appraisal-purposes.pdf

¹⁹ <https://ofgem.gov.uk/publications-and-updates/future-charging-and-access-programme-consultation-supplementary-analysis-november-2018-minded-decision-targeted-charging-review>

4. Clarification of line loss factor classes

In our minded-to decision, we proposed that line loss factor classes should be used to segment users connected to the high voltage and low voltage distribution networks under our preferred option of a fixed residual charge. We sought views specifically on how these segments were set and whether line loss factor classes are a sensible way to segment residual charges.

A small number of respondents have highlighted some ambiguity in our description of the proposed use of line loss factor classes in our minded-to decision. For the avoidance of doubt, this was intended to mean segmenting these users by those line loss factor class groupings aligned with the industry-wide Distribution Use of System tariff groups²⁰ – the tariffs established in the Common Distribution Charging Methodology.²¹ There are distinct processes to update line loss factor classes and distribution use of system tariffs. If you believe this clarification affects your earlier response, please let us know of any further comments by 12 July as set out in this consultation.

If you wish to provide feedback on any of the information in this consultation letter, please contact TCR@ofgem.gov.uk by 12 July 2019. We will publish non-confidential responses on our website.

Yours faithfully

Andy Burgess
Deputy Director, Electricity Charging and Access

²⁰ Some DNO tariffs have multiple line loss factor classes per tariff while others have a single one. See for example the line loss factor classes for these users in the North-east region schedule of charges, which align to the tariff groups: <http://www.northernpowergrid.com/document-library/charges/charges-use-of-system-charges-2018-19>

²¹ Figure 140 in Frontier's report which accompanied our minded-to decision presents the modelled fixed charges for these groupings for 2019/20 for all DNOs: https://www.ofgem.gov.uk/system/files/docs/2018/11/distributional_and_wider_system_impacts_of_reform_to_residual_charges.pdf