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Impact Assessment

Annex 1. Targeted Charging Review Significant Code Review: Final Impact Assessment[1]

Directorate:	Energy Systems Transition	**Type of measure:**	Decision on Significant Code Review (SCR)
		Type of IA:	Qualified under Section 5A UA 2000
Associated documents:	Draft Impact Assessment consulted on 28 November 2018	**Contact for enquiries:**	TCR@ofgem.gov.uk
Coverage:	Full		

Summary:

This Final Impact Assessment (IA) outlines our analysis of the expected impacts of reform to electricity network charges from the Targeted Charging Review (TCR). It includes separate summaries of the impact assessments of reform to residual charges and to Embedded Benefits, along with an overview of the combined impact of the reforms. This annex is a substantially updated version of the draft IA of the minded-to TCR policy published on 28 November 2018.

[1] This document was updated on 18 December 2019 to amend data submitted by our consultants. This impacted some parts of table 1 which has been updated.

Introduction

We have undertaken a review of residual electricity network charges and some of the remaining non-locational Embedded Benefits through the TCR Significant Code Review (SCR), aiming to reduce distortions to efficient price signals and to ensure that network costs are recovered fairly from network users. An SCR provides a mechanism for Ofgem to review holistically a code-based issue (for the main industry codes) and speed up industry reform. The scope of this SCR requires us to consider reform of residual charges and non-locational Embedded Benefits. The supporting analytical work has been carried out consistent with our published guidelines. We have carefully considered stakeholder feedback and have undertaken supplementary analysis where appropriate.

On 28 November 2018, we published our minded-to consultation and draft Impact Assessment covering proposed reforms.[2] On 17 June 2019, we consulted on further matters, including updated analysis of the Capacity Market and system costs, and the findings of the Balancing Services Charges Task Force.[3] We received over 130 responses to our minded-to consultation, and a further 23 representations to our supplementary consultation.[4] Having considered these responses, we updated stakeholders on our refined proposals for reform of residual charges on 3 September 2019, receiving 50 formal consultation responses on these refined proposals.[5]

Our final decision on residual charges is to implement a fixed charge, where the total allowed residual revenue for each licensed area is first apportioned to voltage levels based on the total contribution of users at the relevant voltage level to net volumes on each network, and then apportioned further to user segments within each voltage level, to calculate a single, fixed charge for all users in that segment. Non-domestic segment boundaries will be set in terms of agreed capacity levels for users at higher voltages (Extra High Voltage (EHV) and High Voltage (HV)) where this data is widely available, and net volume levels at Low Voltage (LV). This is in place of segmenting these users on the basis of the line-loss factor classes (as set out in the November 2018 minded-to consultation).

Our final decision on the remaining non-locational Embedded Benefits is to implement the option of "partial" reform from 2021. Implementation of partial reform will include the first two changes outlined in our 'minded to' consultation which include:

- Setting the Transmission Generation Residual to zero, with consideration of the potential need to include an adjustment mechanism (in the Connection and Use of System Code) to maintain compliance with European Commission Regulation 838/2010, which restricts the average transmission charges paid by generators in European Union member states.[6]
- Charging suppliers balancing services charges on the basis of gross demand at Grid Supply Points (as opposed to net demand), having the effect of removing the balancing services charges Embedded Benefits.

These reforms do not include the application of balancing services charges to Small Distributed Generation.

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[2] https://www.ofgem.gov.uk/publications-and-updates/targeted-charging-review-minded-decision-and-draft-impact-assessment
[3] https://www.ofgem.gov.uk/publications-and-updates/future-charging-and-access-programme-consultation-supplementary-analysis-november-2018-minded-decision-targeted-charging-review
[4] These responses are available here: https://www.ofgem.gov.uk/publications-and-updates/future-charging-and-access-programme-consultation-supplementary-analysis-november-2018-minded-decision-targeted-charging-review
[5] https://www.ofgem.gov.uk/system/files/docs/2019/09/tcr_open_letter_sep_19.pdf
[6] https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:250:0005:0011:EN:PDF

This document presents an overview of the analysis carried out to support the principle-based decision making on the TCR SCR, in a format broadly consistent with other Ofgem Impact Assessments and other government departments. Such consistency is useful both internally to decision-makers who wish to compare major policy changes, to others in central government who use similar templates, and to stakeholders who are focussed on the broad picture of the case for reform and its benefits and impacts. However, as the reforms are complex, there is also a need to tailor this assessment. This has been done through completion of two impact assessment summaries, before providing a final overview for the complete package of reform.

This report is structured as follows:

- In Section A, we provide an Impact Assessment of reforms to electricity residual charging.
- In Section B, we provide an Impact Assessment of Transmission Generation Residual and Balancing Services Use of System Reforms (which are 'Embedded Benefits').
- In Section C, we highlight overall results and important analytical linkages between both sets of reforms.

This structure reflects the staged approach in which the monetisation of the benefits of these reforms has been carried out. All elements of the TCR SCR are closely linked and seek to address distortions which affect recovery of residual (or cost-recovery) non-cost reflective elements of electricity network charges. These reforms are a single package. The first stage of our work assessed the impacts of reform to residual charges, the second stage assessed the impacts of reform to non-locational Embedded Benefits. The same aggregate results would have been produced by assessing our proposed changes to Embedded Benefits first and then reform of residual charges. The benefits attributed to each area of policy reform would however differ.

An Impact Assessment should also draw together the evidence base for policy choice, in this instance the evidence base is set out in the main document which sets out our assessment of different elements of the reform against our TCR principles. We do not replicate the detailed information that is set out in other annexes, and associated documents. High-level evidence is reported while we signpost where more detail can be found.

As set out in our November 2018 minded to consultation, we based our build-out assumptions for this work on two of National Grid's 2018 Future Energy Scenarios (FES)[7], reflecting the uncertainty of system evolution. We used two of the four scenarios which are set out in the FES 2018. For consistency we have retained these in our final decision. To recap, those scenarios included one which predicts the least change from the current position (a), and one representing the most change (b) – as more fully described below:

a) Steady Progression (SP), representing a world where there is a slow move to renewables and generation remains mainly centralised; and
b) Community Renewables (CR), where there is a rapid renewable generation uptake and a decentralisation of those assets.

These were the most up-to-date scenarios available when our analysis was initiated. The FES are updated annually, in 2019, there were some changes to the details of scenarios, but there were not fundamental changes to the approach. We therefore decided it was proportionate to keep using the FES 2018 scenarios in our analysis. This also enables more straightforward comparison with results in our earlier assessments. Similarly, we concluded

[7] http://fes.nationalgrid.com/media/1363/fes-interactive-version-final.pdf

that it would not be proportionate to update other inputs and assumptions to reflect the latest available information.

These figures indicate the nature, direction and magnitude of impacts. The limitations of the analysis are carefully described in the Frontier Economics and Lane Clark & Peacock (LCP) reports, which were published alongside our minded-to consultation.[8] These reports comprised analysis of the distributional and wider systems impacts of our proposed changes to residual charges along with analysis of the wider systems impacts of reform to non-locational Embedded Benefits. It should be noted that our decision on these reforms is informed by these modelling results, but given the uncertainty of the future energy system, is not solely reliant on them.

The same modelling framework was used to quantify the aggregated costs and benefits for residual reform and Embedded Benefits, and benefits from these reforms are additive. The numbers quoted are based on modelling work that has been carefully undertaken but outputs are inevitably sensitive to the assumptions used. The key results are:

- Our residual reforms are projected to result in £0.5bn to £1.6bn of projected consumer benefits. The system benefits are even larger, ranging from £0.8bn to £3.2bn. These include the range of benefits if the overall level of residual charges increases or decreases by 50%.[9]

- The reforms to non-locational Embedded Benefits are projected to bring net consumer benefits to 2040 in the range of £3.3bn to £4.1bn. The effect on system costs is expected to be significantly smaller, with impacts ranging from no change to a net cost of £0.3bn.

- The overall benefits of the reform package are £3.8bn to £5.3bn of consumer benefits and £0.8bn to £2.9bn of system benefits. Again, this includes the residual charge sensitivity calculations.

'Consumer benefits' here reflects a reduction in consumer costs which are faced by consumers via their electricity bills. This includes wholesale energy costs, network charges, renewable subsidies, Capacity Market payments and any other charges passed on by suppliers, such as the triad avoidance payments made to on-site generation. Consumer costs include the projected market carbon price (from the NG FES scenarios) via wholesale costs. These projected prices typically differ from the carbon values that BEIS provides for appraisal purposes. For instance, in 2030, NG FES carbon prices range are £36.50 per tonne of CO2 emissions, compared to a central BEIS value of £79. The 'high' BEIS appraisal price for that year was £120.

System benefits and costs represent the actual resource costs of running the system. This includes fuel costs, variable and fixed operational and maintenance costs, capital costs, carbon costs (based on BEIS carbon values) and the cost to society of any expected energy unserved.

[8] https://www.ofgem.gov.uk/publications-and-updates/targeted-charging-review-minded-decision-and-draft-impact-assessment
[9] This is the charge increasing or decreasing by 50% between 2020 and 2030 and remaining flat in real terms thereafter.

Consumer and systems benefits have been estimated over the period 2019 to 2040. This period has been chosen as our proposals represent a significant change to the charging regime. While charging reforms rarely impact only a specified period we acknowledge that by 2040 the energy landscape may have greatly changed, with associated changes to the regulatory framework. The outputs of our modelling have also been published in the form of data tables allowing stakeholders to consider the impacts of shorter durations. The NPV is calculated using 2019 as the base year for discounting, using a 3.5% discount rate. Costs and benefits are in 2016 prices. System and consumer benefits cannot be added together as they are separate concepts.

The impacts on underlying network costs have not been specifically quantified. These effects are highly location specific, and to model effects on network costs would require assumptions on the location of newly connecting generation, plant closures or disconnected sites into the future, as well as estimates of the network costs relating to specific sites. We did not think it was proportionate to undertake this exercise for reforms to the residual network charges and Embedded Benefits, which are not designed to send signals to inform network usage. This is consistent with our previous work on Embedded Benefits.[10] Policy implementation timescales will affect the benefits from reform. The implications of these are set out in Chapter 6 of the main report rather than here.

Changes in carbon emissions are monetised and factored into the assessment of system costs. The expected combined effect of the reforms is a net reduction in carbon emissions as generation shifts to more efficient CCGT plant and increased interconnection imports. The overall projected reduction in carbon emissions under residual reforms ranges from almost no change up to 19.4 million tonnes to 2040, when monetised this corresponds to benefits of £0.3bn - £1.1bn.[11] Note that no carbon emissions are attributed to interconnector imports, and there are some increased carbon emissions from increased electricity export from GB to other countries, as carbon emissions are reported on a territorial production basis. This partly explains a small increase in projected carbon emissions under the Embedded Benefits reforms (1.8 – 4.6 million tonnes to 2040, valued at £0.04bn to £0.11bn)[12], as the modelling indicates a rise in domestic generation at the expense of interconnector imports in the early years.[13] Interconnectors are exempt from the balancing services charges and their competitive advantage is reduced by this element of the reforms.

The government recently legislated to achieve net zero carbon by 2050.[14] BEIS Carbon appraisal prices will be revised to reflect the new target. In the interim, in addition to the central appraisal prices we have also tested the sensitivity of the results to the current high carbon appraisal prices estimated by BEIS. For the residual reforms this would result in a substantial increase in projected benefits to the system (£1.6bn – £6.1bn to 2040). For the Embedded Benefits reforms, the projected impacts range from no change to £0.4bn to 2040.

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[10] https://www.ofgem.gov.uk/publications-and-updates/embedded-benefits-consultation-cmp264-and-cmp265-minded-decision-and-draft-impact-assessment
[11] No change under the sensitivity 'high residual' under the 'Steady Progression' FES scenario. 19.4 million tonnes under the alternative FES scenario sensitivity 'Community Renewables'.
[12] 1.8 million tonnes 'Steady Progression', 4.6 million tonnes 'Community Renewables'.
[13] Note that the carbon valuation changes over time so there is not a direct relationship between the overall carbon emissions and the calculated net present value of these emissions. A full breakdown of the underlying analysis has been published alongside this document.
[14] https://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-8590

The overall projected impact of the reforms on carbon emissions to 2040 is shown in the chart below. This does not take into account the high and low sensitivities which would expand the range of outcomes from a small increase to a decrease in emissions (of 14.8 million tonnes).

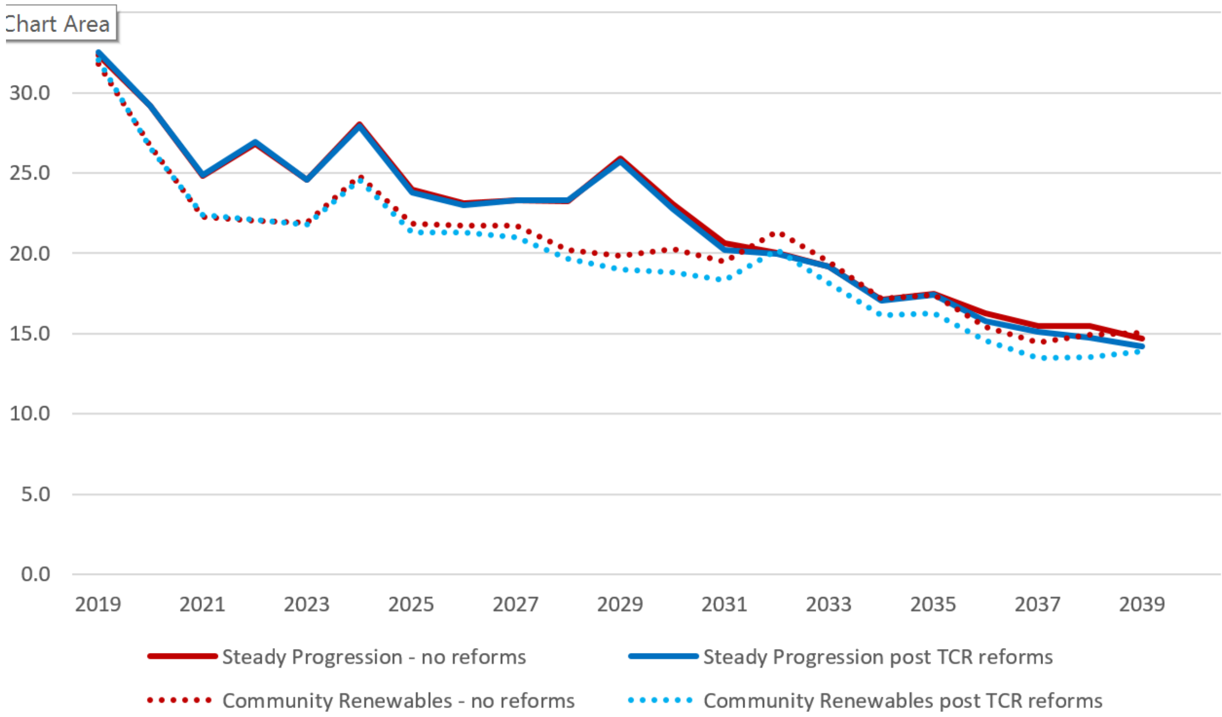

Figure 1 Projected CO2 emissions in millions of tonnes, with alternative FES scenarios

Section A. Impact Assessment of residual charging reforms

What is the problem under consideration?

Residual charges are levied once the forward-looking charges have been applied, to recover the remaining allowed revenue for network companies set under our price controls.

Under the current charging system, there are incentives to reduce exposure to these residual charges. One of the actions that a network user can take to reduce exposure is through installing and usage of on-site generation. Residual network charges can distort investment and operational decisions and in doing so increase system and consumer costs. There is also an adverse effect on consumers when charges fall increasingly on users who are least able to change their energy usage, for example those who do not have on-site generation.

Residual charges are already mainly levied on final consumer demand, via charges to suppliers. At an early stage in TCR policy development,[15] we suggested that residual charges should be levied only on final demand and we have received widespread support from stakeholders for this approach. It would involve less change than setting a new generation/demand split for recovery, avoid distortions that would occur if recovery was through generation, and would be more transparent.

By final demand in the context of the TCR, we mean electricity which is consumed other than for the purposes of generation or export onto the electricity network. This will exclude electricity imported from the grid that is necessary for the operation of generation or, in the context of storage, which is imported for the purposes of re-exporting, including any which may be lost through waste in doing so.

What are the policy objectives and intended effects including the effect on Ofgem's statutory duties and strategic outcomes[16]?

The guiding principles for the TCR have been to reduce harmful distortions, ensure costs are shared fairly, and to be proportionate and practical. These principles are aligned with our statutory duties - delivering an outcome that is fairer and reduces distortions to efficient price signals and policy measures is in the interests of consumers.

Alongside delivering these specific benefits the proposed changes also benefit the overall system, delivering system as well as consumer savings. Removing the non-cost reflective incentive to generate on-site reduces inefficient incentives to use smaller scale generation. This should result in a more efficient mix of smaller scale and larger generation. As well as reducing costs to consumers, this will help to reduce carbon emissions.

We expect our preferred option to reduce bills for the majority of domestic consumers. It is based on consumer segments that can be readily identified, although how such charges are passed to consumers will be for suppliers to determine.

What are the policy options that have been considered, including any alternatives to regulation? Please justify the preferred option (further details in Evidence Base).

A description of the Business as Usual option (volumetric or per-unit charges for small users, and volumetric and peak demand charges for large users) is provided in Chapter 2 of our minded-to consultation.

Charging reform can be applied in many different ways but when we consulted on our minded-to in November 2018, the policy options were shortlisted to:

- Option 1. Fixed Charge: Fixed by Volume (£/user). Consumer segments would be defined by Line Loss Factor Classes (LLFCs) at high voltage (HV), low voltage (LV), and for transmission connected loads and extra high voltage (EHV) connected loads. The residual recovered from each consumer segment would be apportioned by share of net total volume.

[15] https://www.ofgem.gov.uk/system/files/docs/2017/11/tcr_working_paper_nov17_final.pdf
[16] Ofgem's strategic outcomes are lower bills, lower environmental impacts, improved reliability and safety, better quality of service, and better social outcomes.

- Option 2. Agreed capacity charge: This would be deemed where necessary (for domestics and microbusinesses, for example), and based on specified capacity levels for other consumers.

As options 1 and 2 would both reduce residual avoidance they fall under "full reform" in modelling and have identical system level benefit and consumer consequences. However, the distributional analysis in Frontier/LCP 's residual charges report included static analysis setting out that there will be different winners and losers under each system. The option that was preferred in our 'minded to' consultation was Option 1 – Fixed Charges.

In September 2019 we published a consultation on refined residual charging banding for non-domestic users at each voltage level, in place of using line loss factor classes. We outlined that we were considering the approach to segmentation of domestic consumers under a fixed charge option, including the combination of all consumers into one charging band. Following feedback from stakeholders, we have decided to proceed with a simplified version of these fixed bands.

We have decided that:

- Applicable residual charges for each licensed area should be allocated to the different voltage levels, according to the total net consumption volumes of all users at each voltage level.
- Users connected at each voltage level are then segmented further into bands based on percentiles (40^{th}, 70^{th} & 85^{th}) of the user population at each voltage level. The residual charges for each voltage level are allocated to consumer bands based on total net consumption levels for all consumers in each band.
- Residual charges for each consumer band are then divided equally among all users in that band - all users in a band pay the same fixed charge.

Residual Charging Reforms - Monetised Impacts (£m)

Reform to residual charges	
Business Impact Target Qualifying Provision	N/A
Business Impact Target (EANDCB)	N/A
Net Benefits to GB Consumers[17]	**£0.5bn to £1.6bn**
System Benefits[18]	**£0.8bn to £3.2bn**
Explain how was the Net Benefit monetised, NPV or other Consumer benefits have been estimated over the period 2019 to 2040. The NPV is calculated using 2019 as the base year for discounting. A 3.5% real discount rate was used. Costs and benefits are in 2016 prices. The 'Net Benefits to GB consumers' (described as a reduction in consumer cost in the Frontier/LCP Reports) and System Benefits are separate measures so the numbers cannot be added together. For a fuller explanation of system and consumer costs / benefits see Section 5 in the Frontier/LCP Residual Charges Report.[19] Estimated impacts on carbon emissions have been monetised, in line with our published guidance and that of central government.[20] Note that no carbon emissions are attributed to interconnector imports, and there are some increased carbon emissions from increased electricity export from GB to other countries, as carbon emissions are reported on a territorial production basis. The numbers quoted are based on modelling work that has been carefully undertaken but there are limitations to the precision of these numbers and they are sensitive to assumptions. They also reflect the outcome of modelling residual reform first and then Embedded Benefits reform. The overall outcome would be the same if they were modelled in the reverse order. These benefit estimates are in support of a principle-based assessment and should not be read in isolation and outside that context.	

[17] 'Net consumer benefits' here reflect a reduction in consumer costs which are the costs faced by consumers via their electricity bills. This includes wholesale energy costs, network charges, renewable subsidies, capacity market payments and any other charges passed on by suppliers, such as the triad avoidance payments made to on-site generation. Note that although consumer costs do reflect market costs of carbon from the underlying FES scenario, they do not include an assessment of impacts using carbon appraisal values.

[18] System benefits here represent the actual resource cost of running the system. This includes fuel costs, variable and fixed operational and maintenance costs, capital costs, carbon costs (priced at appraisal value) and the cost to society of any expected energy unserved.

[19] https://www.ofgem.gov.uk/system/files/docs/2018/11/distributional_and_wider_system_impacts_of_reform_to_residual_charges.pdf

[20] https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-governent

Residual Charging Reforms - Hard to Monetise Impacts

Describe any hard to monetise impacts, including mid-term strategic and long-term sustainability factors following Ofgem IA guidance[21]

Our distributional analysis shows that within each network charging segment, there will be reductions in charges for high consuming users and increases for low consuming users. The distributional analysis shows how outcomes for representative consumers would differ depending on their distribution network area. It sets out who would initially gain and lose from the changes. This informed our assessment of fairness. A full breakdown of the initial distributional impacts is provided in the attached report from our consultants and our detailed assessment of the implications for our decision making is in section 3 of the main decision. Particular consideration is given to the impact on consumers in vulnerable situations. While there is some correlation between vulnerability and low usage, there are vulnerable Consumers in most domestic user groups. These reforms will mean that some groups of vulnerable users will lose out, while others will benefit.

The charges and bill impacts estimated should be considered illustrative and are intended to provide an indication of the expected impacts. The static bill impact analysis uses both data from publicly available sources and data provided by network operators, however many simplifications and assumptions were necessary. The data available does not allow the estimation of the exact charges that could be expected if the options are implemented.

The impacts of these reforms on network costs are highly location specific. To model these impacts would require assumptions on the location of newly connecting generation, plant closures or disconnected sites into the future, as well as estimates of the network costs relating to specific sites. We did not consider it proportionate to undertake this exercise for reform of the non-cost reflective network charges.

We have not monetised implementation costs, which we would expect to be small relative to impacts of the charging changes.

In the absence of these reforms to charging, some network users would continue to receive an unintended subsidy through paying less than they should towards residual charges. Reduction or removal of this will have some negative implications for some business models. We recognise this, but note that these charges were never intended to work as subsidies or other policy support measures for certain types of generation, the level of distortion has increased, and potential changes have been signalled for some time. Where there is justification for some network users to receive ongoing support, targeting this through a particular mechanism would be more effective and efficient.

[21] Relevant strategic and sustainability issues including carbon emissions and security of supply have been considered and monetised as summarised above.

Key Assumptions/sensitivities/risks

There are numerous key assumptions in this work and they are described in detail in the accompanying documents from Frontier/LCP. For example, assumptions are made about uncertain input variables (e.g., fuel prices, demand) and technical parameters associated with generation. Modelling the impacts of reforms over a long time period is inevitably subject to substantial uncertainty, for instance, in the technological and policy environment. Within the modelling work, we have attempted to take account of the uncertainty by analysing different scenarios as described in the Frontier/LCP documents.

In the distributional analysis published alongside our minded-to consultation, estimates of the charges were calculated on the basis of all sites, including generation specific sites. This did not reflect our policy to only apply residual network charges on final demand. In the refined analysis published in in Annex 2 and 3, our consultants have adjusted the EHV dataset to remove sites considered likely to be pure generators. However it has not been possible to accurately identify pure generation sites and possible generation sites have not been removed from the data at other voltage levels (e.g. HV sites).

One source of uncertainty is that the modelling assumes that benefits are passed on to consumers both from generation and suppliers. If, for example, the supply or generation sector is able to find a way to increase or maintain higher prices, rather than passing benefits through to consumers, then the consumer benefits would not be as high. Generally, we expect the pass through of benefits from suppliers and generators to consumers to be high over the timescales we are modelling, but there may be particular circumstances where this does not occur.[22]

Results also reflect the fact that the model is bottom-up[23] and it is assumed that the same information is available to all market participants. While this is a simplification of reality, it is common practice in modelling of this nature. Results are sensitive to the FES scenario chosen and assumptions on overall level of residual charges.[24]

One risk associated with the policy is that some users may decide to disconnect from the grid altogether. Users that are more likely to disconnect are those that have long-term site commitments or ownership, have invested significantly in a specific site, and have access to low cost fuel feedstock or distributed energy resource surplus output from legacy or co-located activity (see annex 6 of our minded-to consultation). We consider that the overall risk of users disconnecting is low as the value of being connected to the grid goes beyond a source of supply and the cost of replacing the utility achieved from a grid connection is often prohibitively high.

Table 3, below, shows how our sensitivity using the BEIS "high carbon appraisal price"[25] results in higher projections of system costs for the reforms to residual charges. The relevant data tables have been published along with this document.

[22] For example, this 2018 UCL report commissioned by Ofgem indicates a high pass through to consumers of costs to generators (albeit via the wholesale price faced by suppliers): https://www.ofgem.gov.uk/system/files/docs/2018/10/report_ace_project_ucl_gissey_et_al_20181009_submitted_version_v3_0.pdf

[23] A bottom-up approach to modelling starts from what individual consumers and firms will, or are anticipated to do. These responses are then pieced together to represent the overall complex system.

Section A: Evidence base

Problem under consideration

This is described in detail in the main decision document (Section 1). In summary, as the energy system evolves and electricity is generated and consumed in new ways, the existing charging regime (if it was to remain unchanged) would allow some users to reduce or avoid payment of residual charges in ways that could be inefficient and impose higher charges on other users.

Policy objective

The policy objective is to reform residual charges in a way that reduces distortions, is fair and is both proportional and practical.

Description of options considered (including status-quo)

A description of the Business as Usual option (volumetric or per-unit charges for small users, and volumetric and peak demand charges for large users) is provided in Section 2 of our minded-to consultation. These arrangements were ruled out in short-listing but formed the baseline within modelling work.

The initial long list of policy options included: Fixed Charges; Gross Volumetric Charges; Capacity Charges (ex-post and ex-ante); Net Volumetric Charges; Net Volumetric Import and Export charges; and Maximum Import and Export Capacity Charges. More information about our shortlisting approach is available in our minded-to consultation.[26]

This long list was narrowed to five possible options:

1. Fixed Charges (£/user). The residual recovered from each consumer segment is apportioned by share of net total volume. Consumer segments would be defined by LLFCs[27] at high and low voltage on the distribution networks, and for all transmission connected loads and extra-high voltage connected distribution connections.

2. Agreed capacity charges. This would be deemed (estimated using a proxy value) for domestic consumers and microbusinesses and based on specified capacity levels for other consumers.

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[24] See sensitivities set out in Table 2 below
[25] BEIS's fundamentals-based high carbon appraisal scenario, which is designed for sensitivity purposes: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/671194/Updated_short-term_traded_carbon_values_for_appraisal_purposes.pdf
[26] https://www.ofgem.gov.uk/system/files/docs/2018/11/targeted_charging_review_minded_to_decision_and_draft_impact_assessment.pdf
[27] Line Loss Factor Classes

3. Rolling Capacity Charges. Set on an ex-ante basis, but afterwards an excess capacity adjustment (for example a 'ratchet' charge) is then used to reset the values (£/kW or £/user).

4. Mostly fixed and partly ex-post capacity charge, based on 75% fixed charges with 25% monthly ex-post capacity.

5. Mostly agreed capacity charge and partially net volumetric charge. Agreed capacity charge for domestics makes 75% of the charge, supplemented with a net volumetric element comprising 25%.

Fixed and agreed capacity charges were identified as the leading options in our minded-to consultation, with a fixed residual charge identified as the preferred option. A summary of the principles-based assessment of these leading options is set out in the draft version of this document. Broadly, the balance of assessment supported fixed charges set on segmented volumes.

Following feedback from stakeholders we reviewed and refined the segmentation in our preferred option and consulted again in September 2019 on a refined proposal that:

- total allowed residual revenue would first be apportioned between voltage levels, on the basis of net volumes, as set out in the November 2018 minded-to consultation; and
- non-domestic segment boundaries would be set in terms of agreed capacity levels for users at higher voltages where this data is widely available, and net volume levels at Low Voltage (LV). This is in place of segmenting these users on the basis of the line-loss factor classes (as set out in the minded-to consultation).

An illustration of our approach to applying these criteria in the context of an example distribution region was set out in the annex to the letter. A full outline of the distributional effects is included in an annex to this decision.

We indicated that the refined band thresholds should be applied on a consistent basis across GB, proposing to set and allocate users to bands on a historic basis and update them periodically in line with price controls. We confirmed that the reasons that these charges may need to be updated include reforms being considered by the Access and forward looking charging review[28] and the move to half-hourly settlement[29]. Following consultation, we have simplified the approach to banding.

Following feedback from stakeholders we undertook a further detailed assessment of refined versions of three leading options: a further refined fixed charge, a refined agreed capacity charge, and a hybrid between a fixed charge and an agreed capacity charge.

As a result of this assessment we have decided to implement a simplified version of the fixed bands charge, whereby:

- Applicable residual charges for each licensed area should be allocated to the different voltage levels, according to the total net consumption volumes of all users at each voltage level.

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[28] https://www.ofgem.gov.uk/electricity/transmission-networks/charging/reform-network-access-and-forward-looking-charges
[29] https://www.ofgem.gov.uk/electricity/retail-market/market-review-and-reform/smarter-markets-programme/electricity-settlement-reform

- Users connected at each voltage level are then segmented further into bands based on percentiles (40th, 70th & 85th) of the user population at each voltage level. The residual charges for each voltage level are allocated to consumer bands based on total net consumption levels for all consumers in each band.
- Residual charges for each consumer band are then divided equally among all users in that band - all users in a band pay the same fixed charge.

Revised distributional analysis reflecting our decision on this further refined fixed charge is set out in Annex 3. It shows the static bill impacts of the reformed approach to residual charging. Updated estimates of the charges for each of the final options are provided and compared to updated estimates for the options set out in our minded-to consultation. Table 1 below sets out an illustrative summary of the segmental charges for the North East area.

Table 1 Illustrative charges for users in the North East area following reforms[30],[31]

Voltage of connection	User size range – band	DUoS charge	TNUoS charge	Combined DUoS + TNUoS charge
Domestic	Single Segment	£33	£34	£67
Low Voltage - non-half hourly	1st Band	£19	£18	£38
	2nd Band	£96	£89	£185
	3rd Band	£222	£207	£430
	4th Band	£631	£589	£1,220
Low Voltage – half hourly	1st Band	£905	£1,088	£1,993
	2nd Band	£2,097	£1,953	£4,050
	3rd Band	£3,142	£3,125	£6,268
	4th Band	£8,222	£7,215	£15,436
High Voltage	1st Band	£5,034	£4,456	£9,489
	2nd Band	£16,508	£16,164	£32,672
	3rd Band	£29,222	£29,492	£58,715
	4th Band	£80,765	£85,091	£165,855
Extra High Voltage	1st Band	£3,572	£12,292	£15,864
	2nd Band	£17,106	£127,331	£144,436
	3rd Band	£35,838	£342,165	£378,003
	4th Band	£170,934	£894,404	£1,065,338
Transmission	Single Segment	0	£549,123	£549,123

The basis of selecting the preferred option is principle-based supported by modelling and summarised in section 3 of the main document.

Distributional analysis

The distributional analysis which informed our assessment comprised two parts:

[30] Some totals may not correspond with the sum of the separate figures (which are calculated to more decimal places in the Frontier/LCP summary of bill impact data).
[31] This table was updated on 18 December 2019 with amended data from our consultants. This affects the charges for LV HH, HV and EHV consumers only.

- Static bill impact analysis – this assesses the direct impact of the residual reforms on consumer bills, holding physical behaviour constant. It helps us understand the potential distributional impacts of the reforms by identifying the types of users and types of consumption patterns that are likely to pay less as a result of the changes and those that may be expected to pay more. The effect of the different charges is modelled on a range of different representative domestic, commercial and industrial profiles, informed by public source data and information from stakeholders.

- Behavioural assessment – an assessment of the potential for behaviour to be affected in relation to how and when consumers use the network, choose to self-generate, and adopt new technologies, given the potential impact on network bills for different types of users.

The static analysis for our preferred option for residual charging illustrates how this form of fixed charges (set by segment volumes) would lead to a moderate reduction in the overall charges paid by domestic households. There would be reductions in charges for high consuming users, within a given segment, and increases for low consuming users who currently contribute less to residual charges. The distributional analysis showed how outcomes for representative consumers would differ depending on the distribution network area and helped us to understand who would initially gain and lose from the changes. This informed our assessment of fairness.

We also commissioned some long-term distributional analysis to explore further how the bill impact of network charging reform for low-consuming domestic consumers who may not have the same access to technology could be affected by changes in potential future scenarios. Noting the future technology mix and distribution is highly uncertain, the technology combinations seen in the scenarios they considered were not found to significantly affect the scale of impacts on these low using consumers. The additional analysis is published alongside this decision.

Detailed behavioural assessment explored how these changes in charges would drive changes in consumer behaviour, and informed considerations around sensitivities in the wider systems modelling.

Wider systems modelling

LCP's Envision model[32] was used to calculate system and consumer benefits in a number of different scenarios. A key point is that in terms of the shortlisted and refined options described above, there are no differences in the system and consumer benefits as both options remove the identified distortions to the same degree.

Our leading options for residual reform result in £0.5bn to £1.6bn of projected net benefits to GB consumers. The system benefits are even larger, ranging from £0.8bn to £3.2bn. These include the range of benefits if the overall level of residual charges increases or decreases by 50%.

Relevant strategic and sustainability issues include security of supply and carbon emissions. These have been considered and monetised in our cost benefit analysis in line with our impact assessment guidance.

[32] https://www.lcp.uk.com/energy-analytics/energy-market-forecasting-and-scenarios/

Risks and uncertainty

There is considerable uncertainty about the evolution of the energy system. As shown in Table 2, use of the FES 'Community Renewables' in our modelling indicates higher benefits of reform to residual charges under this scenario. There is also considerable uncertainty about the size of the residual charges over the longer term – Table 2 also includes high and low sensitivities for the residual charges under the Steady Progression scenario.

Table 2 Overview of projected benefits of TCR residual reforms £bn, NPV of Total Cost Change, 3.5%, 2019-2040

Scenario/sensitivity	Consumer benefits	System benefits (central carbon appraisal value)	System benefits (high carbon appraisal value)
Steady Progression	0.5	1.0	1.8
Community Renewables	1.2	3.2	6.1
High Residual (based on Steady Progression)	1.6	1.0	1.9
Low Residual (based on Steady Progression)	0.5	0.8	1.3

The following table splits out the projected monetised carbon impacts as an element of the system costs:

Table 3 Overview of projected monetised carbon impacts of TCR reforms £bn

Reform	Future Energy Scenario	System benefits (central carbon appraisal value)	*Carbon reduction benefits as an element of system benefits (central appraisal value)*	System benefits (high carbon appraisal value)	*Carbon reduction benefits as an element of system benefits (high appraisal sensitivity)*
Residual Reforms	Steady Progression	1.0	*0.3*	1.8	*1.1*
	Community Renewables	3.2	*1.1*	6.1	*4.0*
	High Residual (based on Steady Progression)	1.0	*0.3*	1.9	*1.1*
	Low Residual	0.8	*0.2*	1.3	*0.7*

Reform	Future Energy Scenario	System benefits (central carbon appraisal value)	*Carbon reduction benefits as an element of system benefits (central appraisal value)*	System benefits (high carbon appraisal value)	*Carbon reduction benefits as an element of system benefits (high appraisal sensitivity)*
	(based on Steady Progression)				

Section B Impact Assessment of reforms to Embedded Benefits

What is the problem under consideration?

The second stage of analysis addresses the remaining non-locational Embedded Benefits. 'Embedded Benefits' is the name given to the differences in charging arrangements between Smaller Distributed Generation (<100MW) connected to the distribution network, compared to larger generators (>100MW) connected to either the distribution or transmission network.

We have decided to implement the following reforms to non-locational Embedded Benefits:

- Transmission Generation Residual charges: these are currently set as a negative charge and as such, are payments made to transmission connected generators and larger distribution connected generators. This charge will be set to zero following implementation of these reforms.[33]
- Balancing services charges: these will be levied on suppliers based on gross demand at grid supply points (as opposed to net demand). This would remove the incentive for suppliers to pay Smaller Distributed Generators for reducing their net demand.

The scale of the non-locational Embedded Benefits has increased significantly in recent years and there is no clear relationship between these benefits, which are ultimately funded by consumers, and the costs of operating the electricity system. Ofgem-led reforms through this SCR have been necessary to achieve a holistic approach to the issues.

What are the policy objectives and intended effects including the effect on Ofgem's statutory duties and strategic outcomes?

A key high-level policy objective of the final decision is to promote a level playing field for generation and between all users of the electricity system. Consumer and system benefits result from removing market distortions associated with Embedded Benefits. This will help to deliver lower bills for all consumers, in line with our principal objective and statutory duties.

[33] Subject to maintaining compliance with European Regulation 838/2010

Section B Evidence base

Problem under consideration

The current arrangements are causing a number of distortions, most obviously to competition between Smaller Distributed Generators (those under 100MW connected to the distribution network) and larger generators (those over 100MW and connected to the transmission or distribution network.

Smaller Distributed Generation does not benefit from Transmission Generation Residual payments (which are received by transmission-connected generators and larger distribution connected generators) as a result of the Transmission Generation Residual charge being set as a negative.

Balancing services charges are currently recovered approximately 50% from generation and 50% from demand, based on electricity generation and net electricity consumption over half hour settlement periods respectively. Smaller Distributed Generators are not currently charged the balancing services charges for generation. Balancing charges for demand are currently levied on a 'net' demand basis at the point the transmission network meets the distribution network (see Figure 27 Chapter 6 of our minded-to consultation). In some cases, suppliers effectively receive a discount on their balancing services charges for contracting with Smaller Distributed Generators as this has the effect of reducing their net demand. The vast majority of these discounts are passed onto Smaller Distributed Generators in the form of payments from suppliers. Smaller Distributed Generators can also contract with the Electricity System Operator to receive these payments directly.

Policy objective

The TCR principles seek to ensure that the reform to the charges reduce distortions, is fair and is both proportionate and practical. The overall objectives of the SCR were set out in our launch statement and include keeping 'Embedded Benefits' that may be distorting investment or dispatch decisions under review.

As identified in Section A, our decision is based on a principles-based assessment supplemented by modelling. The main discussion of the relationship between TCR principles and the reforms to Embedded Benefits is set out in Chapter 4 of our decision document.

What are the policy options that have been considered, including any alternatives to regulation? Please justify the preferred option (further details in Evidence Base)

We considered reforms to other elements of the non-locational Embedded Benefits in the minded to consultation, putting forward two policy options for consultation:

- Option 1: Reform to Transmission Generation Residual and removing the ability of Smaller Distributed Generators to receive payments from suppliers' for reducing the suppliers' liability for balancing services charges ('partial reform').

- Option 2: Reform to Transmission Generation Residual, removing balancing services charges payments from suppliers, *and* requiring Smaller Distributed Generation to pay balancing services charges ('full reform').

We have decided to implement option 1, meaning the reforms to Embedded Benefits will not include the application of balancing services charges to Smaller Distributed Generation.

Following the findings of the first Balancing Services Charges Taskforce that balancing services charges should be a cost-recovery charge, we have decided to launch a second Balancing Services Charges Taskforce to consider the application of the TCR principles to balancing services charges. More information on how those recommendations will be taken forward can be found in the letter published alongside this document launching a second Balancing Services Charges Taskforce.

Our consultants' report includes monetisation of the impacts of option 2, however it is not described further in this Impact Assessment.

Reform to Embedded Benefits - Monetised Impacts (£m)

	Embedded Benefits
Business Impact Target Qualifying Provision	n/a
Business Impact Target (EANDCB)	n/a
Net Benefit to GB Consumer	**£3.3bn to £4.1bn**[34]
Wider Benefits/Costs for Society	**-£0.3bn to no change**

Consumer benefits have been estimated over the period 2019 to 2040. The NPV is calculated using 2019 as the base year for discounting. A 3.5% real discount rate was used. Costs and benefits are in 2016 prices.

The 'Net Benefits to GB consumers' (described as a reduction in consumer cost in the Frontier/LCP report 'Wider System Impacts of TGR & BSUoS reforms')[35] and System Benefits are separate measures so the numbers cannot be added together. For a fuller explanation of system and consumer costs/benefits see Section 5 in the Frontier/LCP report on 'Distributional and wider system impacts of reform to residual charges'.[36]

Estimated impacts on carbon emissions have been monetised, in line with our published guidance and that of central government. Note that no carbon emissions are attributed to interconnector imports, and there are some increased carbon emissions from increased electricity export from GB to other countries, as carbon emissions are reported on a territorial production basis.

The numbers quoted are based on modelling work that has been carefully undertaken but there are limitations to the precision of these outputs and they are sensitive to assumptions. They also reflect the outcome of modelling residual reform before Embedded Benefits reform. These impacts are additional to the benefits described in section A, and are measured against the baseline of residual reforms having been implemented.

These benefit estimates are in support of a principle based assessment and should not be read outside that context.

[34] Note that, as above, consumer costs/benefits include the projected impacts of carbon prices, but do not include an assessment of impacts using carbon appraisal values These are factored in to the wider costs/benefits to society, the system benefits.

[35] https://www.ofgem.gov.uk/system/files/docs/2018/11/wider_system_impacts_of_tgr_and_bsuos_reforms.pdf

[36] https://www.ofgem.gov.uk/system/files/docs/2018/11/distributional_and_wider_system_impacts_of_reform_to_residual_charges.pdf

Reforms to Embedded Benefits - Hard to Monetise Impacts

Describe any hard to monetise impacts, including mid-term strategic and long-term sustainability factors following Ofgem IA guidance The reforms to Embedded Benefits will reduce harmful distortions by creating a more level playing field for generators. Detailed distributional analysis of consumer effects was not carried out for the Embedded Benefits reforms as the primary distributional impacts are on different types of generators. The impacts on network costs are highly location specific, and to model these impacts would require assumptions on the exact location of newly connecting generation, plant closures or disconnected sites into the future, as well as estimates of the network costs relating to specific sites. We did not consider it proportionate to undertake this exercise for a reform to the non-cost reflective residual network charges. We have not monetised implementation costs, which we would expect to be small relative to impacts of the charging changes. In the absence of these reforms to charging, some network users would continue to receive an unintended subsidy through payments or avoided charges not available to other users. Reduction or removal of this will have implications for some business models. We recognise this, but note that these charges were never designed to work as policy support measures for certain types of generation and further, that potential changes have been signalled for some time. Where there is justification for some network users to receive an ongoing support, targeting this through a particular mechanism would be more effective and efficient.

Key Assumptions/sensitivities/risks

There are several key assumptions in this work and they are described in detail in the accompanying documents from Frontier/LCP. Modelling the impacts of reforms over a long time period is inevitably subject to substantial uncertainty. One source of uncertainty is that the modelling assumes that benefits are passed on to consumers via generators and suppliers. If, for example, the generation or supply sector is able to find a way to increase or maintain prices, rather than passing benefits through to consumers, then the consumer benefits would not be as high. Generally, we expect the pass through of benefits from generators and suppliers to consumers to be high over the period we have considered, but there may be particular circumstances where this does not occur, for instance if competition is limited.

Results also reflect the fact that the model is bottom-up and assumes that the same information is available to all market participants. While this is a simplification of reality, it is common practice in modelling of this nature. Results are sensitive to the FES scenario chosen.

We have also modelled a sensitivity to test the implications of onshore wind and solar not being included in future Contracts for Difference funding rounds, should the current policy continue. Our consultants, Frontier/LCP, tested the benefits case previously presented against a large reduction in onshore wind and solar PV investment of 50% to the levels set out in the FES scenarios. This sensitivity was modelled against the background of the same FES background scenarios that were used previously. The FES scenarios are themselves not consistent with a policy of unsupported onshore wind and solar PV, and the work should be treated as sensitivity analysis and not as a central case. The results of our modelling show that, in a scenario with unsubsidised onshore wind and solar PV, consumer benefits are lower but still large, ranging from £1.9bn to £3.5bn. The increase in projected system costs to £1.0bn - £4.1bn reflects the assumption that support payments are used to incentivise replacement of onshore wind and solar PV with more expensive offshore wind.[37] The range of benefits quoted are for the Embedded Benefit full reform scenario, using Steady Progression and Community Renewables FES.

The relative benefit of on-site generation that does not export compared to grid-connected generation and exporting on-site generation could have been increased following reforms to Embedded Benefits that remove unintended subsidy to grid-connected generation. This will be mitigated by reform to residual charges (which removes a major distortion favouring on-site generation) and potential for further reform to balancing services charges based on the recommendations of the first Balancing Services Charges Task Force. We have carried out analysis on how these reforms will affect the various types of generation. It shows how the different elements of the reform package may affect generator groups. On the basis of the modelling, the proposed reforms would have relatively limited effects on wholesale energy prices. This means that consumer benefits are much greater than system benefits (as effectively, the reforms would result in a transfer of surplus from generators as a group to consumers). The scale of consumer benefits could be smaller if wholesale prices were to increase as a result of the reforms.

The summary table below shows how using the BEIS "high carbon appraisal price" results in higher projections of system costs for the Embedded Benefits reforms. It also indicates how this would change if electricity imports were valued at the carbon intensity of CCGT. The data tables have been published along with this document.

Table 4 Overview of projected benefits of Embedded Benefits reforms £bn, NPV of Total Cost Change, 3.5%, 2019-2040

Scenario/sensitivity	Consumer benefits	System benefits (central carbon appraisal value)	System benefits (high carbon appraisal sensitivity)
Steady Progression partial reform (TGR and EB1)	3.3	0	0
Community Renewables partial reform (TGR and EB1)	4.1	-0.3	-0.4

The following table splits out the projected monetised carbon impacts as an element of the system impacts:

Table 5 Overview of projected monetised carbon impacts of Embedded Benefits reforms £bn

Future Energy Scenario	System benefits (central carbon appraisal value)	*Carbon reduction benefits as an element of system benefits (central appraisal value)*	System benefits (high carbon appraisal value)	*Carbon reduction benefits as an element of system benefits (high appraisal value)*
Steady Progression partial balancing services charges reform (TGR and EB1)	0	*-0.1*	0	*-0.1*
Community Renewables partial reform (TGR and EB1)	-0.3	*-0.2*	-0.4	*-0.3*

[37] This analysis does also not take account of the fact that the hurdle rate (the lowest rate of return that is acceptable for investment) associated with an unsupported technology is typically higher than for the same project under the CfD regime. This in turn increases the Levelised Cost of Energy (per unit lifetime cost of ownership) for these technologies and if taken into account would reduce the difference in Levelised Cost of Energy between unsupported onshore wind and solar PV and CfD supported offshore wind.

Section C Overall summary

This section provides an overview of the Impact Assessment of the complete package of reforms. It sets out the overall monetised impacts, those that are hard to monetise and the key assumptions, sensitivities and risks.

Overall Monetised Impacts (£m)

	Complete reform package
Business Impact Target Qualifying Provision	n/a
Business Impact Target (EANDCB)	n/a
Net Benefit to GB Consumer	**£3.8bn to £5.3bn**[38]
Wider Benefits/Costs for Society	**£0.8bn to £2.9bn**
Consumer and systems benefits have been estimated over the period 2019 to 2040. The NPV is calculated using 2019 as the base year for discounting. A 3.5% real discount rate was used. Costs and benefits are in 2016 prices. The 'Net Benefits to GB consumers' (described as a reduction in consumer cost in the Frontier/LCP Reports) and System Benefits are separate measures, so the numbers cannot be added together. For a fuller explanation of system and consumer costs / benefits see Section 5 in the Frontier/LCP Residual Charges Report.[39] Estimated impacts on carbon emissions have been monetised, in line with our published guidance and that of central government. Please note that no carbon emissions are attributed to interconnector imports, and there are some increased carbon emissions from increased electricity export from GB to other countries, as carbon emissions are reported on a territorial production basis. The numbers quoted are based on modelling work that has been carefully undertaken but there are limitations to the precision of these and they are sensitive to assumptions. They also reflect the outcome of modelling residual reform before Embedded Benefits reform. The LCP model is agent based, so we would expect these aggregate figures not to be affected by the order of analysis. However, had the first stage of analysis consisted of reforming Embedded Benefits and the second stage of reforming residual charges, sections A and B would have had different modelled results. These benefit estimates are in support of a principle based assessment and should not be read outside that context.	

[38] Note that, as above, consumer costs/benefits include the projected impacts of carbon prices, but do not include an assessment of impacts using carbon appraisal values These are factored in to the wider costs/benefits to society, the system benefits.
[39]https://www.ofgem.gov.uk/system/files/docs/2018/11/distributional_and_wider_system_impacts_of_reform_to_residual_charges.pdf

Overall Summary - Hard to Monetise Impacts

Describe any hard to monetise impacts, including mid-term strategic and long-term sustainability factors following Ofgem IA guidance The reforms address harmful distortion to efficient price signals for network users. The impacts on network costs are highly location specific, and to model these impacts would require assumptions on the exact location of newly connecting generation, plant closures or disconnected sites into the future, as well as estimates of the network costs relating to specific sites. We did not consider it proportionate to undertake this exercise for a reform to the non-cost reflective network charges. We have not monetised implementation costs, which we would expect to be small relative to impacts of the charging changes. In the absence of reforms to charging, some network users would continue to receive an unintended subsidy. Reduction or removal of this will have implications for some business models. We recognise this, but note that these charges were not designed to work as policy support measures for certain types of generation and that potential changes have been signalled for some time. Where there is justification for some network users to receive an ongoing support, targeting this through a particular mechanism would be more effective and efficient.

Key Assumptions/sensitivities/risks

There are numerous key assumptions in this work and they are described in detail in the accompanying documents from Frontier/LCP. Modelling the impacts of reforms over a long time period is inevitably subject to substantial uncertainty. One source of uncertainty is that the modelling assumes that benefits are passed on to consumers both via generation and suppliers. If, for example, the generation sector is able to find a way to increase or maintain prices, rather than passing benefits through to consumers, then the consumer benefits would not be as high. Generally, we expect the pass through of benefits from suppliers to consumers to be high.

Results also reflect the fact that the model is bottom-up and assumes that the same information is available to all market participants. While this is a simplification of reality, it is common practice in modelling of this nature. Results are sensitive to the FES scenario chosen.

There is some risk of users who have invested in generation equipment in order to save on residual charges deciding to disconnect from the network. However, we have explored this possibility and believe it to be an unlikely outcome.[40]

For reform of remaining Embedded Benefits, the relative benefit of on-site generation that does not export may be increased. This is mitigated by reform to residual charges within this review (which removes a major distortion favouring on-site generation) and potential for further reform to balancing services charges based on the recommendations of the Balancing Services Charges Task Force.

On 15 November 2018, the Capacity Market was suspended. We modelled a scenario without the Capacity Market in place, to test the sensitivity of our projected impacts to this unlikely outcome and consulted on it on 17 June 2019. The analysis assessed the combined impact of residual reforms with TGR and full balancing services charges reform under the 'Steady Progression' FES scenario.[41] The results of this work indicated that the projected benefits to consumers of reforming residual charges and Embedded Benefits would be robust to the absence of a Capacity Market. The results also showed positive system benefits.[42] On 24 October 2019, the European Commission announced its decision that the GB Capacity Market scheme is compatible with EU State aid rules and the suspension has now been lifted. The following day, the Business Secretary, Andrea Leadsom, wrote to the Electricity Systems Operator confirming that the Capacity Market was to be resumed.[43]

[40] See annex 6 of our minded-to consultation and the consultation document itself: https://www.ofgem.gov.uk/publications-and-updates/targeted-charging-review-minded-decision-and-draft-impact-assessment
[41] We have had to make assumptions on how we think investors would respond to wholesale market pricing. We assumed the market functions well, because it would be inconsistent to assume that it would not function well and that there would be an ongoing absence of policy intervention.
[42] The system benefits are reduced because the of higher Expected Energy Unserved (EEU) offsets (net present value of system benefits projected at £0.23bn compared to £1.04bn with the Capacity Market in place).
[43]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/842238/Trigger_Letter_-_NGESO_SIGNED.pdf

Will the policy be reviewed? Yes	**If applicable, set review date: month/Year** N/A

Is this proposal in scope of the Public Sector Equality Duty?	Yes