

Judith Ross  
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5 May 2017

Dear Judith,

**Targeted Charging Review: a consultation**

We welcome the opportunity to respond to Ofgem's consultation on a Targeted Charging Review (TCR) to review and make appropriate changes to network charging arrangements.

We generally support Ofgem's proposed approach. Ofgem is proposing to focus the TCR on the 'residual' element of network charges and review the 'cost-reflective' element in a separate work stream. We think this distinction is helpful and will enable stakeholders to focus on the correct set of principles for recovering residual costs – which we agree with Ofgem are non-distortion, fairness and practicality – and ensure that a consistent approach is taken across transmission and distribution. We also agree with Ofgem's proposal to take this forward as a Significant Code Review (SCR) and to ensure that the various network charging related reviews are appropriately coordinated and prioritised by means of a Charging Coordination Group (CCG).

Whilst we are pleased this is referred to as a *targeted* charging review, we are concerned that there will be pressure from some stakeholders – including those who may benefit from reforms being delayed – for the scope to be made broader and more 'holistic'. Given the magnitude of the consumer detriment resulting from some of the current charging distortions it will be important for Ofgem to keep the review appropriately targeted and to facilitate early action, where there is a strong consumer benefit case to do so.

We think there are two areas where it would be both practicable and desirable to bring forward early changes with significant consumer benefit, without jeopardising the final outcome of the TCR:

- Changes to charging arrangements for storage to avoid inappropriate double charging: Ofgem is inviting industry to take this forward ahead of the SCR and we support this approach.
- Changes to transmission residual charging to remove the distortion driving generators behind the meter – a problem which is set to grow exponentially; we believe our 'consumer smart triad' approach is well aligned with the principles proposed by Ofgem for the TCR and an early move in this direction should not prejudice the final outcome of the TCR.

Our responses to the consultation questions are set out in Annex 1 attached and a preliminary draft WACM proposal on 'consumer smart triad' is included as Annex 2.

Please do not hesitate to contact me if you have any questions on this response.

Yours sincerely,

A handwritten signature in blue ink that reads "Rupert Steele". The signature is written in a cursive style with a long horizontal line extending from the end of the name.

**Rupert Steele**  
Director of Regulation

**TARGETED CHARGING REVIEW: A CONSULTATION  
- SCOTTISHPOWER RESPONSE**

**CHAPTER 2: WHY WE PROPOSE TO REVIEW RESIDUAL NETWORK CHARGES**

**Question 1: Do you agree that the potential for residual charges to fall increasingly on groups of consumers who are less able to take action than others who are connected to the system, is something we should address?**

Yes. We agree there is a growing risk that as more consumers who are able to avoid paying residual charges take action to do so (action which is not cost-reflective of the actual system savings), the burden of paying those charges will fall increasingly upon those less able to avoid them.

This applies both to non-domestic consumers, where behind-the-meter generation can be used to avoid residual charges based on consumption at triad (transmission) or 'red' periods (distribution), and to domestic consumers who can use solar PV and/or batteries to similar effect.<sup>1</sup>

Typically it is better-off consumers who are able to invest in solar PV, batteries and other technologies which enable avoidance of residual charges and therefore the less well-off who end up bearing a greater share of residual costs. This is regressive and unfair (as well as inefficient) and should be a priority for Ofgem to address.

**Question 2: If so, why do you think, or do not think, action is needed?**

We believe action is required based on the principle that all users who benefit from connection to the electricity system should contribute fairly towards the cost of providing that system. The current system peak demand charging approach allows non-domestic users that remain reliant on the system to avoid contributing towards its cost, and the introduction of smart meters and time of use tariffs may provide similar opportunities for domestic users. Even today, domestic consumers who have solar installations consume less imported electricity on an annual basis and therefore pay less for the transmission and distribution systems – though with a similar reliance on these systems for security of supply.

**Question 3: We are proposing to look at residual charges in a Significant Code Review. Are there any elements of residual charges that you think should be addressed more urgently? Please say why?**

A prompt decision to implement CMP264/265 as indicated in Ofgem's "Minded to Decision"<sup>2</sup> is of utmost importance. This will address the serious distortions to competition that result from the non-cost reflective TDR payments to smaller embedded generation (EG). This would level the playing field between smaller EG and other larger generators connected to

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<sup>1</sup> Domestic and SME consumers with traditional meters are currently charged for the residual on a £/kWh basis, so will reduce their exposure to residual charges with each kWh of self-generation. With smart meters and ToU tariffs, there may be less opportunity for solar PV to reduce current residual charges (since PV output will be low at triad or 'red' time periods) but reductions could still be achieved by using a battery.

<sup>2</sup> Ofgem Minded to decision and draft Impact Assessment of industry's proposals (CMP264 and CMP265) to change electricity transmission charging arrangements for Embedded Generators, 1 March 2017.

the distribution system or to the transmission system and result in significant savings to consumer as outlined in the “minded-to” Decision.

However, there is a possibility that implementation of CMP264/5 may incentivise embedded generation to locate behind the meter, therefore perpetuating distortions to competition and resulting in increased costs to consumers. These distortions to competition may be reflected in the outcomes of forthcoming Capacity Mechanism auctions and therefore the issue of BTM generation should be addressed as a matter of urgency. Our proposed “consumer smart triad” approach, outlined in our answer to Question 10, would address BTM generation and help ensure that users which are reliant on the system contribute fairly towards the cost of providing it.

We agree with Ofgem’s view that the issue of grid charges for storage assets should also be addressed as a matter of urgency, preferably through the industry change process and outside of any SCR process launched by Ofgem.

## **CHAPTER 4: EXPERIENCE IN OTHER COUNTRIES**

### **Question 4: Are there elements of the approaches in other countries that you think could be appropriate for GB residual charges?**

We believe the issues around residual charging in GB are likely to be similar to those experienced in other countries, and we agree it is useful to review the approaches that others have taken and consider whether they may be applicable to GB.

The CEPA/TNEI review commissioned by Ofgem includes interesting case studies from Australia, the US, the Netherlands, Spain and Italy. A number of common themes emerge:

- Concerns over the inefficient incentives that historic approaches created for self-consumption and the associated regressive distributional impacts;
- A move in a number of jurisdictions away from commodity (£/kWh) towards capacity (£/kW) based charging (State of Victoria, Netherlands, Spain, Italy);
- Significant transitional difficulties in jurisdictions where distortions had already driven significant behavioural change – and hence created more potential losers from reform (eg Spain where the ‘sun tax’ has proved particularly controversial).

We think the Dutch example is probably of most relevance to GB and the Dutch solution – capacity-based tariffs for small industrial and household customers (based on a proxy such as fuse size where needed) represents a pragmatic approach which appears to have been successful in meeting the regulator’s objectives. We believe our ‘consumer smart triad’ approach (see response to Question 10) is broadly similar to the Dutch approach, albeit with benefits in terms of implementation and opportunities to mitigate consumer ‘bill-shock’ in exceptional circumstances (such as heating system breakdown).

We also note that international experience highlights the need to take action quickly where distortions are driving rapid behavioural change, since the longer the distortions are allowed to persist, the greater the resistance to reform.

**Question 5: Are there other approaches that you know about from other jurisdictions, that you think offer relevant lessons for GB?**

We are not aware at this stage of approaches from other jurisdictions not considered in the CEPA/TNEI review that could be appropriate or offer lessons learned for GB.

## **CHAPTER 5: OUR PROPOSED PRINCIPLES FOR ASSESSING OPTIONS**

**Question 6: Do you agree that our proposed principles for assessing options for residual charges are the right ones? Please suggest any specific changes, or new principles that you think should apply?**

Yes, we agree that the three core principles outlined in Chapter 5 are appropriate for assessing options for recovering residual charges:

- Reducing distortions;
- Fairness
- Proportionality and practical considerations.

We also support Ofgem's decision to partition the problem into 'residual' charges (within the scope of the TCR) and 'cost-reflective' charges (outside the scope). This should lead to a more productive and efficient debate, with less risk that parties invoke principles such as (marginal) cost-reflectivity for aspects of charging where they are not appropriate.

**Reducing distortions** will ensure a level playing field and facilitate optimal economic decisions when investors consider location, system connection type and technology for new generation to the greater benefit of consumers. It will also lead to more efficient generation investment decisions by consumers and help ensure that enthusiasm for 'collective' or 'community' self consumption is not driven by hidden subsidy. Although cost-reflectivity should not be a principle *per se*, the principle of reducing distortions should include (so far as is practicable) not blunting or strengthening signals provided by the cost-reflective element of charges.

Although **fairness** may be harder to define and may well be subjective, this does not diminish its importance as a principle. Unless the residual charge recovery mechanism is perceived as being broadly fair, it will be difficult to implement the reforms (since there will be winners and losers, by definition, from reallocating residual charges). In general (and subject to balancing against other principles), charges should be seen to be recovered from users in relation to the benefit they derive from a secure, reliable electricity system. EPRI recently undertook a major study<sup>3</sup> looking at the benefits derived from connection to the grid, identifying reliability, start-up power, voltage quality, efficiency and facilitating energy transactions as key benefits. In many cases the benefits are not directly related to the use made of the network (eg kWh) but are more akin to the benefits of an insurance policy. The principle of fairness may also extend to favouring (or at least seeking to avoid disadvantaging) more vulnerable consumers – especially those sets of consumers covered by Ofgem's statutory objectives.

Any cost recovery mechanism must be **proportionate, practical** so that the impact on charging methodologies and billing systems should not be disproportionately high compared to the benefits delivered. Practicality also means that the mechanism should be understandable and implementable such that users can reasonably predict the expected costs.

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<sup>3</sup> 'The Integrated Grid: Realizing the Full Value of Central and Distributed Energy Resources', EPRI, 2016

We do not think there are any new principles that should be elevated to the same level as the above three. However, we would note that some stakeholders have suggested that alignment with other **policy objectives** may also be a relevant consideration. Whilst we would not object to this as a 'tie breaker' if there is otherwise no clear favourite, it will be important to guard against 'policy' objectives being used to argue for hidden subsidy. It also seems to us that different policy objectives may in practice point in different directions, lessening their practical usefulness. For example, consider the policy objectives of energy efficiency and decarbonisation. Recovering residual costs on a £/kWh basis could arguably incentivise energy efficiency measures by making electricity more expensive, but may at the same time disincentivise fuel switching (to electric heating or electric vehicles) that promotes decarbonisation.

Finally, we would note that Ofgem may need to consider how to balance the different principles when they are in conflict with each other. For example, in a recent *Future Insights* paper, Ofgem noted that 'distortions are minimised if network users who have more realistic options to avoid costs make less contribution to revenue recovery, so that they do not act to avoid costs entirely'<sup>4</sup> This comment was in the context of micro-grid, private wire and behind-the-meter arrangements, but a similar point could be made about energy intensive industries that may have the option to relocate abroad. In each case, although there is a clear efficiency and consumer protection rationale for such Ramsay pricing, it is likely that many would consider it unfair if parties are excused paying full charges simply because they have other options available to them. In such cases we would suggest that Ofgem should be guided by its primary duty to promote the long term interests of consumers (even where that may be perceived as unfair to some).

## CHAPTER 6: SOME OPTIONS FOR SETTING RESIDUAL NETWORK CHARGES

**Question 7: In future, which of these parties should pay the transmission residual charges: generators (transmission-or distribution-connected), storage (transmission-or distribution-connected), and demand, and why? What proportion of these charges should be recovered from each type of user?**

### Generation vs demand

A key objective should be to avoid distortions between different technology types, including between GB-based generators and interconnectors. At present, interconnectors pay no TNUoS or BSUoS in GB and pay considerably smaller (or no) charges for the use of the transmission system in Europe. This places GB generation at an unfair competitive disadvantage, and may result in uneconomic power flows due from interconnected markets to the overall detriment of European consumers. We believe there are two possible approaches to dealing with this distortion:

- Recovering transmission residual costs mainly if not entirely from demand. As noted in the consultation, all system costs – including network charges - are ultimately borne by end consumers, so recovering residual costs from generation will not necessarily lead to lower costs to consumers overall – and would be better aligned with the approach in neighbouring European countries.<sup>5</sup>

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<sup>4</sup> 'Ofgem's Future Insights Series: Local Energy in a Transforming Energy System', page 15, [www.ofgem.gov.uk/system/files/docs/2017/01/ofgem\\_future\\_insights\\_series\\_3\\_local\\_energy\\_final\\_300117.pdf](http://www.ofgem.gov.uk/system/files/docs/2017/01/ofgem_future_insights_series_3_local_energy_final_300117.pdf)

<sup>5</sup> At present (pre-Brexit) it would be necessary to ensure that the net recovery of locational transmission charges does not breach the €2.50/MWh limit under EU Regulation 838/2010

- Changing charging arrangements for interconnectors so that they bear the same charges as GB-based generators. This would not currently be permitted under EU law, but could be more feasible post-Brexit, depending on the outcome of the negotiations.

Importantly, the recovery method should seek to achieve a level playing field between interconnected generators and all GB generators regardless of their choice of connection to the electricity system. Any difference in charges should reflect the difference in costs imposed on the electricity networks by different classes of users, which is generally achieved through the locational element of the transmission charge.

### Storage

Although under current arrangements, storage has the potential to contribute proportionately more towards transmission residual costs than other service providers - eg if it is charged both as generation and demand – this is not a significant issue in practice at the transmission level as storage is unlikely to be importing at triad periods and is therefore not exposed to demand residual charges.

However, should TDR charging arrangements change so that charges are no longer based on triad (eg to £/kW), this could place storage at a significant competitive disadvantage, since it would face both generation and demand residual charges when generators (with which it most often competes in the provision of ancillary services) face only generation residual charges. It is therefore essential that early action is taken to align storage charges with generation, either ahead of, or no later than, changes to the residual charging basis.

**Question 8: In future, which of these parties should pay the distribution residual charges: generators (transmission-or distribution-connected.), storage (transmission-or distribution-connected), and demand, and why? What proportion of these charges should be recovered from each type of user?**

### Generation vs demand

As with transmission charges, generation distribution charges are ultimately paid by the end consumer. Therefore it appears appropriate that the distribution residual continues to be recovered directly from demand.

### Storage

Under the current arrangements, storage is contributing more towards distribution residual charges than other service providers and is at a competitive disadvantage. As storage most often competes with generators in the provision of ancillary services, it is appropriate that its charges are aligned with generation and that demand residual charges are removed.

**Question 9: Do you support any of the five options we have set out for residual charges below, and why?**

Of the five options put forward by Ofgem for recovering residual costs, we think that **Option C**, fixed charges set by connected capacity (kW), is best aligned with Ofgem's proposed principles. We would therefore in principle be supportive of a variant of **Option C**, with charges set either by connected capacity or by some proxy for connected capacity such as the consumer's actual maximum demand in the previous charging year, derived from half hourly consumption data. (Because there would be no time-of-use differentiation this would

substantially avoid the current problem of distorting behaviour in favour of BTM generation and/or storage.) We refer to the latter as the ‘consumer smart triad’ approach and we believe it has significant advantages over simple connected capacity. Because it would rely on existing settlement data, there would be no requirement to adjust fuses or smart meter settings to reflect desired capacity, making it more practicable to implement. And by basing the charge on the three highest half hourly meter readings in the year separated by 10 clear days, the risk of ‘bill-shock’<sup>6</sup> can potentially be reduced, making it more likely it will be perceived as fair.

Our observations on the other four options are as follows:

- **Option A**, a net consumption charge (kWh) would still provide an incentive to connect generation to the distribution system rather than the transmission system in order to reduce the net consumption measured and charged. This would enable those users able to invest in embedded generation, including solar panels and peaking plant, to reduce their share of the cost of the transmission network (while still being reliant upon the network when the embedded generation is inoperative) and passing an increased burden on those less able to invest in embedded generation. As a net consumption charge would still incentivise such behaviour it does not meet the core principle of reducing distortions. Introducing Option A in conjunction with the implementation of CMP264/265 as proposed in Ofgem’s minded to decision would mitigate this incentive to a significant extent but may still leave an incentive to re-locate embedded generation behind the meter.
- **Option B**, a fixed charge, may create fewer distortions than other approaches but, depending upon the magnitude of the charge, there may still be an incentive to locate generation behind the meter to reduce the number of ‘charging points’ (or in extreme cases go ‘off-grid’). If the charge is genuinely flat (not graduated according to fuse size, meter class etc) so that large I&C consumers contribute the same amount as a domestic customers, it is unlikely to be perceived as fair. Considerable changes to billing systems both at National Grid and Suppliers would be required to implement such a charge and the cost involved may not be proportionate to the perceived benefits.
- **Option D**, gross kWh consumption, would provide a larger and potentially more stable charging base than net consumption and is therefore preferable to Option A. Gross charging, however, requires knowledge of generation output from behind the meter – or alternatively ‘deeming’ generation output for groups of users based on shared characteristics. While we understand that a similar approach may have been adopted in Spain<sup>7</sup>, the feasibility for GB would need to be considered carefully – including the risk of unintended consequences from a ‘deeming’ approach.
- **Option E**, a hybrid approach, may nor may not be suitable, depending on the detail. The consultation suggests a variant where low usage domestic consumers pay on net volumetric consumption whilst others pay fixed charges based on capacity. We do not believe this approach would be suitable because it retains the distortion in favour of self-consumption for domestic customers. However, other forms of hybrid approach could be more appropriate and proportionate. For example, a standard charge per domestic

<sup>6</sup> For example, if a consumer’s gas central heating breaks down and they need to use electric heaters temporarily, this could lead to a significant increase in demand residual charges (‘bill shock’). Averaging over three peaks, at least 10 days apart, would reduce the bill shock by a factor of three (assuming the central heating can be fixed within 10 days).

<sup>7</sup> The generation output is metered and billed at a price defined from the variable term of the “access” tariff. The access tariff is essentially the regulated price for protected consumers, less the allowance for the cost of wholesale energy which is fixed in an auction. Access tariffs for LV consumers have a fixed element and a variable element that represent 60% and 40% respectively of the total access bill.



customer may be relatively easy to implement, with a capacity charge as outlined against Option C above introduced for larger users. However, there could be a perception that applying an identical charge to both small domestic properties e.g. urban flats and larger properties with charging points for multiple electric vehicles was unfair.

**Question 10: Are there other options for residual charges that you think we should consider, and why?**

As noted above, we believe that Ofgem should also consider a variant of Option C which we have termed 'consumer smart triad'. In this approach a consumer's charges would be based on the average of their three highest consuming half hours in the charging year, where the three half hours are separated by at least 10 days (ie similar to the current 'triad' approach for TNUoS charging, except that peaks are measured for each consumer separately, rather than for the system as a whole). This approach would rely on smart metering, but pending full rollout, customers with dumb meters could be charged based on assumed profiles, as at present.

The 'consumer smart triad' would be similar in principle to charging by connected capacity (as in the Netherlands) but would be simpler to implement as there would be no need to record and adjust fuse sizes, and would arguably be fairer/more convenient as it would reduce the risk of bill-shock or the lights going out.<sup>8</sup> As with Option C it is generally well aligned with the principles proposed by Ofgem:

- **Reducing distortions:** Avoids competitive distortion between BTM and other generators (and hence distortions in CM); reduces non-cost reflective incentives to invest in self-generation technologies (solar PV, batteries).
- **Fairness:** Fairer for share of residual to be based on benefit derived from connection to network, for which 'consumer smart triad' is a good proxy; reduces regressive distributional impact of Solar PV and batteries (least well off are least able to invest); and ensures that adopters of electric heating and electric vehicles, who are likely to be better-off, pay a fair share.<sup>9</sup>
- **Proportionality and practical considerations:** A number of changes would need to be made to industry settlement and charging arrangements and various details would need to be worked out, but none of this should not be unduly difficult or disproportionate to the benefits. As noted above, this approach has the potential to be more practicable and consumer-friendly than the Dutch connected capacity approach.

We are currently considering the potential to introduce the 'consumer smart triad' as a WACM under CUSC modification CMP271/4 and have attached a preliminary draft of the proposed WACM as Annex 2 to this response.

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<sup>8</sup> If a consumer tries to draw more power than their connected capacity, their fuse may trip out and need to be reset.

<sup>9</sup> Those adopting electric heating or electric vehicles are likely to pay more than they did previously (though not necessarily more than they would under per-kWh charging) – but given that they are now making more use of the network, this is likely to be regarded as fair.

**Question 11: Are there any options that you think we should rule out now? Please say why?**

Of the five options suggested by Ofgem, we think Option A, a net consumption charge, is clearly inferior to other options, for the reasons we gave in response to Question 9. Should there be a reasonable consensus amongst respondents on this point, we think it would be appropriate for Ofgem to rule it out now, ie in advance of the SCR. Likewise, we think it would be safe to rule out the status quo, given the significant distortions it is giving rise to.

However, we would caution against ruling out options too early if they have a significant degree of support. Given that there will be winners and losers from any change, it is important that the losers feel that their preferred options have been given a thorough hearing.

**CHAPTER 7: BENEFITS FOR SMALLER EMBEDDED GENERATION, RELATIVE TO OTHER GENERATION**

**Question 12: Do you think we should do further work to analyse the potential effects of the charging arrangements for smaller EG (called ‘embedded benefits’)?**

Yes, we believe it is important for Ofgem do further work to analyse the potential effects of the charging arrangements for smaller EG (‘embedded benefits’) given the importance of achieving a level playing field between transmission-connected and distribution-connected generation.

However, we do not believe that this further work should all be included within the scope of the TCR. Ofgem was right to call it a *targeted* charging review, and we are concerned that there will be pressure from some stakeholders – including those who may benefit from reforms being delayed – for the scope to be made broader and more ‘holistic’. Given the magnitude of the consumer detriment resulting from some of the current charging distortions it will be important for Ofgem to keep the review appropriately targeted and any consideration of embedded benefits should also be targeted.

We would therefore suggest that if embedded benefits are to be included, they should be restricted to BSUoS treatment of smaller EG, ahead of any future changes, as suggested in para 7.17 of the condoc. Non-payment of generation BSUoS charges and avoidance of the supplier BSUoS charge through net charging of embedded generation are significant distortions.

**Question 13: Do you think changes are needed to the current charging arrangements for smaller EG, and when should any such changes be implemented?**

Yes. The issue of TDR payments to smaller embedded generators needs to be addressed urgently as proposed in Ofgem’s minded to decision on CMP264/265. Although Ofgem is minded to approve WACM 4 which allows for a 3 year phased introduction of the changes, this should not be taken as a precedent for other changes.

The issue of behind-the-meter generation being able to access the TDR charge through reducing supplier charges represents a significant distortion to competition and should be addressed urgently. We would suggest that this issue is addressed through appropriate Working Group Alternatives (WACMs) to the CUSC Modifications CMP271 and CMP274 which are already in process and fully implemented in a similar timescale to CMP264/265 i.e. by 1 April 2020. Early and clear signalling of the intent to prevent BTM generators

receiving such TDR payments would help to ensure that the distortive effects are limited in time for the next Capacity Market auction.

**Question 14: Of the embedded benefits listed in our table, do you think that any should be a higher or lower priority?**

We believe that addressing the issue of TDR payments for behind-the-meter generators should be addressed as a higher priority due to its ability to distort the outcome of forthcoming Capacity Market auctions.

**Question 15: Do you think there are other aspects of transmission or distribution network charging which put smaller EG, or any other forms of generation or demand, at a material disadvantage?**

We are not aware of any other aspects of transmission or distribution network charging which put smaller EG at a material disadvantage. Any generator requiring firm transmission access rights can apply for a Bilateral Connection Agreement with the system operator and can participate in the Balancing Mechanism by signing up to the Balancing & Settlement Code.

As noted in response to Question 7, changes to the TDR charging regime to reduce the incentives for behind-the-meter generation will also expose storage to significant TDR charges (which storage largely avoids at present because it is unlikely to be importing in triad periods). Storage will therefore need to be exempted from TDR payments on or before any changes to the TDR charging basis, if a competitive distortion between storage and generators is to be avoided.

## **CHAPTER 8: OUR VIEWS ON RESIDUAL AND BSUOS CHARGING FOR STORAGE**

**Question 16: Do you agree with our view that storage should not pay the current demand residual charge, at either transmission or distribution level?**

Yes. We agree that currently storage has the potential to contribute more towards residual charges than other service providers and that this places storage at a competitive disadvantage. As storage most often competes with generators in the provision of ancillary services, it is appropriate that its charges are aligned with generation and that it is not subject to the demand residual charge.

**Question 17: Do you agree with our view that storage should not pay BSUoS on both demand and generation?**

Yes. Again, by paying both demand and generation BSUoS charges, storage providers are contributing a greater amount towards the recovery of operating the transmission network than other service providers and are therefore at a competitive disadvantage. Moreover, it is likely that when pumping pumped storage is contributing towards system balancing needs.

**Question 18: Which of the BSUoS approaches described is more likely to achieve a level playing field for storage?**

Ofgem suggests two possible approaches to charging storage BMUs for BSUoS:

- a) *'Balancing Mechanism Unit (BMU) Definition: define storage BMUs as either importing or exporting, irrespective of their actions in any particular settlement period. Storage would then earn import/export credits to off-set its actions in instances in which power flows in the opposite direction. For example, if storage was defined as an importing BMU, it would earn credits when exporting which would 'net off' the charges it receives when importing.'*
- b) *'Gross Charging: charge BSUoS to storage on the basis of either its gross imports or gross exports, rather than the net position, irrespective of its actions in any particular settlement period. Charging storage on the basis of gross exports would align the treatment of storage more closely with generation.'*

We think that both options have potential merits. In favour of (a), we note that storage only tends to operate at times when it is relieving constraints on the system. In favour of (b), we note that the services provided by storage can broadly be emulated by a generator.

**Question 19: Do you think the changes in this chapter should be made ahead of any wider changes to residual charging that may happen in future? Do you agree with our view that these changes should be implemented by industry through the standard code change process?**

Yes. Ofgem has already consulted (with BEIS) on a "Smart Flexible Energy System" and the evidence gathered has indicated that there is an issue of "double-charging" of network costs for storage which should be addressed in order to remove a competitive distortion.

Having identified the issue, we agree that this should be addressed outside the proposed Targeted Charging Review (and SCR), preferably through the normal industry code change process. We intend to submit a CUSC proposal over the coming weeks.

As noted in response to Question 7, the impact of double charging of the transmission residual on storage is currently mitigated by the fact that storage is unlikely to be importing during triad periods and is therefore unlikely to pay significant TDR charges. However, if the TDR charging basis is reformed to remove incentives for behind-the-meter generation, this is likely to expose storage to significant TDR charges. Storage will therefore need to be exempted from TDR payments on or before any changes to the TDR charging basis, if a competitive distortion between storage and generators is to be avoided.

## **CHAPTER 9: OUR APPROACH TO TAKING THESE CHANGES FORWARD**

**Question 20: We would welcome your thoughts on the potential make-up of a CCG. Please refer to the potential role, structure, prioritisation criteria and assessment criteria?**

We agree that there is a need for a Charging Coordination Group (CCG) to manage the interaction of the Targeted Charging Review with the ongoing work in other areas outlined in paragraph 9.1. We agree that the CCG should be chaired by Ofgem and have wide industry representation.

Ofgem suggests that the role of the CCG will include:

- steering the overall charging reform programme;
- prioritising the various reforms emerging from the different reviews;

- assessing the merits of any proposed changes to charges before in-depth development work is taken forward.

Whilst we agree that there is likely to be a need for prioritisation and initial assessment of changes, we think it will be important for Ofgem to give careful thought to the governance arrangements of the Group, and the formal status of its decisions vis a vis Ofgem and existing code panels, each of which has established statutory or contractual roles. It may for example be appropriate for the CCG's role to be advisory, with formal decisions on prioritisation and assessment being taken by code panels, their workgroups or Ofgem as appropriate, as per the existing open governance model.

On a similar note, the SCR process would normally conclude with a direction from the Authority to raise modifications (or for the Authority to raise modifications) to the affected industry codes. We would not expect the CCG to have a role in determining the nature of such modifications, but it may express a view which could be taken into account by Ofgem.

We believe a key role of the CCG will be coordination between the various work streams ensuring that where issues overlap that appropriate information is communicated and responsibility for action assigned to the appropriate group. This is particularly important when change has to be delivered to particular timescales and all work streams have to meet co-dependent timelines.

**Question 21: Do you agree with our proposed delivery model, including its scope?**

We agree that the areas which have already been identified should be progressed outside the TCR through the normal industry process (CMP264/265, charging for storage) and as noted above, we also believe there is a strong case for taking forward urgently measures to reduce the distortions in favour of behind-the-meter generation.

Other items that are identified through the SCR process as suitable for early delivery could also be progressed in this manner.

We note Ofgem's preference for directing a licensee to raise the appropriate modifications on the conclusion of the SCR process in a similar manner to that adopted under Project TransmiT/CMP213. We would, however, caution against issuing too broad a direction on conclusion of the SCR process as almost 4 years elapsed between the direction to raise a code modification (25 May 2012) under TransmiT and the implementation of the change (1 April 2016).

**Question 22: Do you agree that our proposed SCR process is most appropriate for taking forward the residual charging and other arrangements for smaller EG discussed in this document?**

Yes. The need for reform of network charging arrangements has led industry to raise a number of change proposals in this area. The commencement of an SCR process will allow Ofgem to decide whether further modifications on network charging should be progressed at this time or subsumed into the SCR process thus allowing industry to focus its limited resources on the priority areas.

## ‘CONSUMER SMART TRIAD’ – PRELIMINARY DRAFT WACM

## CUSC WORKGROUP CONSULTATION ALTERNATIVE REQUEST FORM

Please send your completed form along with your completed Workgroup Consultation Response to ##### by #####.

Please note that any responses received after the deadline may not receive due consideration by the Workgroup.

<b>Respondent Name and contact details</b>	<i>Name and contact details</i>
<b>CMP271 Improving the cost reflectivity of demand transmission charges</b>	
<b>Capacity in which the WG Consultation Alternative Request is being raised :</b> (i.e. CUSC Party, BSC Party or “National Consumer Council ”)	
<p><b>Description of the Proposal for the Workgroup to consider</b> <i>(mandatory by proposer):</i></p> <p>The HH TNUoS Demand tariff would be calculated using the current charging model but would be charged out as two separate tariffs, namely a Peak Security Tariff and a Year Round Tariff.</p> <p>The Peak Security Tariff (consisting of the current Demand Peak Security element) would be calculated as a £/kW value and charged on a Supplier’s Gross Demand using the existing Triad methodology</p> <p>The Year Round Tariff (consisting of the current Year Round and Residual Elements) would be calculated as a £/kW value and charged based on the newly created Supplier Peak Demand (Supplier Smart Triad).</p> <p>The Supplier Peak Demand would be calculated as the sum of its Consumers’ Smart Triads.</p> <p>The Consumer Smart Triad would be calculated as the average of the individual Consumer’s three highest demands separated by 10 days during the current charging period (proposed to be one full charging year). Consumers who are not subject to half-hourly settlement (HHS) would have their Smart Triad value estimated using a profiling approach.</p> <p>Suppliers would be provided with each of their Consumers’ Smart Triad information and would be charged accordingly. It would then be at the Supplier’s discretion how they recovered those costs through their retail tariffs.</p> <p>Distribution connected generation would receive the Embedded Export Tariff as proposed by CMP264/5 WACM4.</p>	

**Description of the difference(s) between your proposal compared to Original / Workgroup Alternative(s) (mandatory by proposer):**

The original proposal would create two separate tariffs with the peak element (£/kW) based on the existing Triad methodology and the newly created Year Round Tariff charged on a commodity (£/MWh) basis. This alternative proposal would retain the peak element (£/kW) based on the existing Triad methodology but introduce a Year Round Tariff (£/kW) charged out on each individual consumers peak demand (consumer smart triad) over the charging period (1 full charging year)

This alternative proposal would also calculate the TNUoS charges on the Supplier's actual demand (gross metered data) rather than net of any distribution connected generation.

**Justification for the proposal (including why the Original proposal / Workgroup Alternative(s) does not address the defect) (mandatory by proposer):**

The overall approach to network charging, from domestic through to industrial demand, should be based on a measure of an individual's peak demand rather than its contribution to the system peak. This is mirrored in generation TNUoS charging, where each generator's contracted transmission entry capacity (TEC) is based on its own maximum capability to produce. While the introduction of Smart Metering facilitates this concept, a transition period may be required until the full smart meter rollout is completed. During this transition period it may be appropriate to deem the level of demand for certain customer classes.

The alternative would better address the non-cost reflective signals that lead to the installation of generation behind the meter, and as a result lead to higher residual charges for other users.

The original proposal goes some way to addressing the stated defects. However, by separating the locational element of the tariff from the residual element to create two tariffs, a perverse incentive will be introduced for suppliers to maximise (increase) their demand during Triads in areas where there is a negative locational signal. This perverse incentive could be removed by flooring the peak security charge to zero but this would not be cost reflective.

This alternative proposal would address the perverse incentive as any attempt to increase demand during system peak could impact on the consumer's smart Triad.

**Impact on the CUSC (this should be given where possible):**

Updates will be required to the definitions (Section 11) and the transmission charging methodology (Section 14) of the CUSC.

**Impact on Core Industry Documentation (this should be given where possible):**

Updates will be required to the BSUoS documents to include calculation of the Suppliers Peak Demand.

**Impact on Computer Systems and Processes used by CUSC Parties (this should be given where possible):**

BSUoS systems may have to be changed to allow for the collection of the data used for the calculation of the Suppliers Peak Demand.

**Justification for the proposal with Reference to Applicable CUSC Objectives\* (mandatory by proposer):**

For the reasons stated above the alternative better meets CUSC objectives (a) and (b)

(a) That compliance with the use of system charging methodology facilitates effective competition in the generation and supply of electricity and (so far as is consistent therewith) facilitates competition in

the sale, distribution and purchase of electricity;

(b) That compliance with the use of system charging methodology results in charges which reflect, as far as is reasonably practicable, the costs (excluding any payments between transmission licensees which are made under and accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard licence condition C26 requirements of a connect and manage connection);

<b>Attachments (Yes/No):</b> <b>If Yes, Title and No. of pages of</b> <b>each Attachment:</b>	
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**Notes:**

1. Applicable CUSC Objectives\* - These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1. Reference should be made to this section when considering a proposed Modification.

ScottishPower  
5 May 2017