

# Targeted Charging Review: Consultation Response

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## Summary

The Electricity Storage Network (ESN), as the UK industry group dedicated to electricity storage, welcomes Ofgem's consultation on the Targeted Charging Review.

- **We welcome the Targeted Charging Review as a small and timely step towards beginning to address the “double charging” market barrier faced by electricity storage.**
- **We welcome in particular the removal of payment of demand residual at Triad for transmission and distribution connected storage.**
- **The removal of demand residual is of low benefit compared with the proposed massive reduction in embedded benefit at Triad, a more helpful signal to export at time of need.**
- **We welcome the rationalisation of BSUoS so storage facilities are not charged twice, but believe further analysis is required to assess the implications of each proposal.**
- **In the longer term, we see a strong argument that the signals for installing storage on the system should not necessarily remain the same as those for installing generation.**
- **We support the proposal for industry processes to take forward changes, and would welcome Ofgem's support for ensuring adequate representation by the storage sector in a governance process heavily dominated by non-storage parties.**

We would be happy to work with Ofgem to explore how best to engage the electricity storage industry on the development of appropriate charging solutions.

## Introduction

The ESN was established in 2008 as the UK industry group dedicated to electricity storage. It represents a broad range of members including electricity storage manufacturers and suppliers, developers of projects, users, electricity network operators, consultants, academic institutions, and research organisations. We strongly support UK companies to deliver solutions for the GB and SEM electricity systems and beyond.

The ESN works on behalf of its members to respond to and address issues affecting the development and utilisation of electricity storage within the GB and SEM electricity systems. We have sat on the Smart Grids Forum and Workstream 6, working to identify the opportunities and barriers to the wider

deployment of storage as a tool in a flexible energy system; we have responded extensively to the Call for Evidence on “A Smart, Flexible Energy System;” and we continue to promote active discussion and problem-solving of current and upcoming issues for the sector.

This response represents the views of the ESN as informed by our members and by our mission to promote the wider cause of electricity storage. It should not be taken as representing the specific views of individual member organisations or of new players in the storage market representing individual projects.

The response focuses on the removal of demand residual for electricity storage (Chapter 8). We touch briefly on other sections and specifically address a few of the questions posed, in the Annex.

### The Role of Electricity Storage on the System

The principal role of storage on the electricity system varies. This makes it different to “pure generation,” the principal role of which is to export power onto the system. For this reason, it is difficult to find the perfect network charging solution for all forms of electricity storage, within the context of a charging methodology developed for generators.

In the table below we offer broad examples of the roles of electricity storage:

**Table 1: The Roles of Electricity Storage and the Implications for Network Charging**

Role of Electricity Storage	Network Charging Implications
ancillary services to the System Operator	may be locational, may incur additional asset cost
network asset deferral and constraints management	highly locational, limited additional network asset cost
energy arbitrage and energy balancing	unlikely to be locational; may incur additional asset cost

This variety of roles presents a strong argument that the signals for installing storage on the system should not necessarily remain the same as those for installing generation. We understand that the issue has wide-reaching implications, and we look forward to seeing further work on this on a number of fronts, including:

- the current Targeted Charging Review
- the regulatory treatment of storage as per the Call for Evidence
- the “future focus” work and holistic charging review

➔ **There is a strong argument that the signals for installing storage on the system should not necessarily remain the same as those for installing generation.**

While we understand that much of the above cannot be addressed in the current TCR, we believe it is important to state the wider issue to set the context for some of the decision making within the TCR. We believe the TCR overall represents a pragmatic first step forwards removing network charging market barriers.

➔ **We welcome the Targeted Charging Review as a pragmatic first step towards considering and accommodating the characteristics of electricity storage.**

## Demand Residual

Regarding the demand residual proposals in the TCR consultation, we would observe that the proportion of demand residual network charges is inherently linked to the proportion of forward looking charges. Inevitably, the higher the proportion of the demand residual, the more diluted the forward looking, locational signal. It is therefore difficult to assess the “perfect” demand residual in isolation.

We can observe however, given the previous section, that the value of storage on the system is often location dependent. On this basis, there is in principle merit in reducing the residual element of network charges for electricity storage, in favour of forward looking locational signals. This applies more to storage than to “pure generation,” the primary role of which is not to act as a system tool.

➔ **There is merit in considering a reduction in the residual element of network charges for electricity storage.**

The concern over “double charging” of electricity storage is well known and has been recognised in the BEIS/Ofgem Call for Evidence. It is not a simple issue, given the variety of storage configurations and applications. Nevertheless, the overall argument is valid that the storage facility should not pay sunk costs twice, both for importing and then again for exporting, and that the end user will be paying demand residual associated with the electricity that “passes through.” On this basis, as a pragmatic measure, we support the proposal to remove the demand residual charge from storage upon import.

➔ **We support the proposal to remove the demand residual charge from storage upon import.**

We note that some of this argument could be made for “pure generation” for its own electricity imports (i.e. works power), and we have some sympathy with this. However, as with any direct use of electricity by the storage facility, the conceptual difference is whether there is another end user of the electricity who will pay the demand residual. Furthermore, we believe Ofgem’s proposal is a pragmatic measure on an issue that is far more material for storage, which overall imports for over half the time (given some efficiency loss), than for pure generators, which only import a very small proportion of their total energy turn-over. Our conclusion is that the argument of fairness to storage, highly material, seems to outweigh the argument for perfectly level playing field, relatively immaterial in this case.

Similarly, we are aware that some storage facilities may benefit from the change while others may not. For example, pumped hydro is unlikely to be importing at peak demand, and therefore is unlikely to benefit. However, as with the argumentation above, we believe the proposal is fair in the round.

For these reasons, although in general we support a holistic review of charging rather than piecemeal changes, we support Ofgem’s proposals as a pragmatic and timely first step towards making an inroad on the storage “double charging” issue.

➔ **We believe removal of the demand residual for transmission and distribution connected storage imports is a pragmatic first step towards addressing the “double charging” issue.**

Finally, we would observe that, in general for many applications, storage facilities would most benefit the system by exporting at peak demand. Thus the benefit of removing the demand residual is in practice relatively low, particularly compared with the loss of embedded benefit on generation demand residual as Ofgem has proposed in its recent “minded to” proposals.

➔ **The removal of demand residual is of low overall benefit compared with the proposed massive reduction in embedded benefit.**

This embedded benefit also provided a secure incentive for ensuring that most storage was set to export at peak demand. We refer Ofgem to our consultation response and wider concerns regarding removal of the embedded benefit in demand residual for generation.<sup>1</sup>

## BSUoS

ESN welcomes Ofgem’s consideration of the double-charging of electricity storage facilities for BSUoS. Ofgem proposes two options:

- Charge BSUoS on the overall net flow
- Charge BSUoS either for gross imports or for gross exports

The two options proposed both seem to have merit. We are unable to comment on the wider implications without more detailed analysis, and would support further exploration of both options.

➔ **We welcome the proposal to remove double-charging of BSUoS, and would support further exploration of the issue.**

## Timeliness

We note that Ofgem’s alternative to taking forward the proposals from the TCR is to pass them on to a subsequent Strategic Code Review. We have sympathy for considering all issues as part of a holistic process. However, 2016 has been a threshold year for electricity storage, with the prospect of several GW coming to market over the coming years. There is therefore some urgency to addressing the many market barriers faced by electricity storage. On balance we believe the benefit to the end consumer

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<sup>1</sup> [“Electricity Transmission Charging Arrangements for Embedded Generators: Consultation Response,”](#) ESN, April 2017

of early progress on the TCR should outweigh any minor consequential impacts of this narrow intervention on the wider market.

➔ **We support early progress on beginning to address the market barriers for storage.**

## Process

We note Ofgem’s proposal for processes to follow. As set out above, we support early progress. However, while we fully support the principle of industry governance, we are in an unusual situation of transition. – Many electricity storage technologies are reaching for a foothold in a market where industry governance can be slow and dominated by conventional incumbents, notably generators without a significant storage portfolio. Furthermore, many storage developers will be busy developing their first projects, rather than resourcing representation on a variety of long-term Code Working Groups.

Therefore we would welcome Ofgem’s support for an efficient process, and facilitation of engagement with the storage industry, to ensure the desired result. ESN would be keen to discuss further with Ofgem the practicalities of initiating the changes.

➔ **We would welcome Ofgem’s support for ensuring adequate representation by the storage sector in a governance process heavily dominated by non-storage parties.**

Building on this theme of representation, and the earlier themes of the characteristics of electricity storage, we would reiterate our belief that, in the longer term, we see a strong argument that the signals for installing storage on the system should not remain the same as those for installing generation. Instead of attempting to fit storage into a charging methodology developed for “pure generation,” it would be preferable to develop a distinct charging methodology for electricity storage as its own asset class.

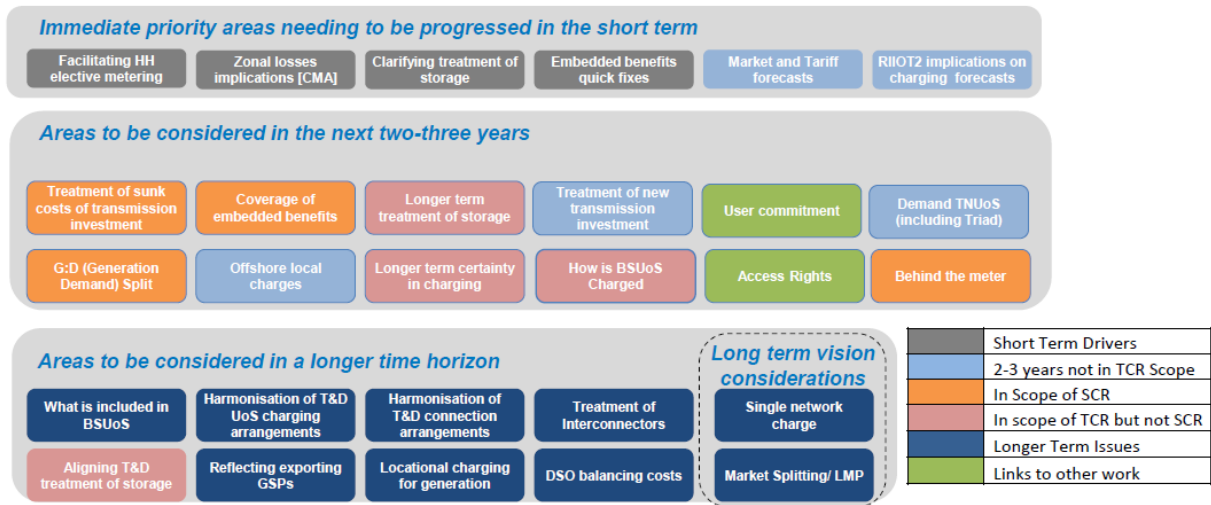
➔ **There is a need to define electricity storage as its own asset class, with a distinct charging methodology.**

Turning to the longer-term, we welcome the prospect of a holistic review overseen by a Charging Coordination Group (CCG). ESN would be keen to ensure storage representation on this group. To help prepare a relatively new industry for this and other charging reviews, we would strongly welcome from Ofgem a timetable that sets out the timescales and scope of the variety of charging reviews underway and planned over the course of 2017 and beyond. The figure below from National Grid provides an indication of the kind of summary that Ofgem could usefully develop.

➔ **We would strongly value a comprehensive timeline of the variety of charging reviews and their coverage, in order to be able to convey this to the wider industry.**

Figure 1: Indicative items to be covered by various reviews

### Charging Review scope item priorities – Relating to TCR



National Grid, Transmission Charging Methodologies Forum (TCMF), April 2017

ENDS

## Annex: Consultation Questions

**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.**

We have already seen the rush for developers to obtain connections as a preliminary to participating in various service markets. Sites for connection where there are favourable locational charges or benefits therefore attract premiums and it is likely in the future that this will lead to connection application backlogs, exacerbating the problem in some areas - the converse of the desired outcome. An approach that seeks to resolve this issue in a more timely manner than an SCR is preferred.

**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.**

We believe the option is an elegant solution and a first step in addressing the range of market barriers that electricity storage faces.

**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?**

In principle, each user should pay in proportion to their use of the system. However, some users in some applications bring benefit to the system. It is therefore perverse that storage, which can deliver system benefits is liable to payment of charges according to a similar methodology to “pure generation.” We believe storage should pay its dues according to an appropriate methodology that is unlikely to be the same as for generation.

**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?**

As for Question 7.

**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, as per our earlier consultation response on CMP 264/265. The impact of withdrawal of embedded benefits on the charging regime of distribution connected storage facilities needs further analysis. We expect there will be a negative impact on security of supply.

**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, this is a fair step in the right direction, albeit of relatively low benefit given the most desirable operating regime of most facilities (exporting at peak).

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

Yes, we believe this is fair.

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

We welcome the two proposals but more in-depth analysis is needed.

**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, as above, there is an urgency to removal of market barriers for storage

**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 would like to ensure there is representation by the electricity storage community in its own right and ideally asset class, not just as a “generator.”



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May 2017