

# Future Arrangements for the Electricity System Operator: Consultation Response

---

## Summary

The Electricity Storage Network (ESN), as the UK industry group dedicated to electricity storage, welcomes Ofgem's two consultations on Future Arrangements for the Electricity System Operator. With electricity storage offering an increasingly material tool on the energy system, a tool that may serve multiple purposes, it is essential that service providers are clear on who they are contracting with for what, and that commercial confidentiality is respected.

- **We support the proposals for greater separation of Transmission Owner and System Operator.**
- **We believe the SO Board should not have TO employee or TO Board members, nor vice-versa.**
- **We support the role of the SO in ensuring issues are considered through a whole-system lens.**
- **We support a long-term incentive for efficiency in whole-system costs. This should include the costs of connectees and losses from spilt energy.**
- **There is a need for clarity on whether the SO, looking at the whole system, or someone else, will be incentivised to ensure adequate investment in energy balancing facilities into the 2020s.**
- **The SO incentive should cover facilitating the development of sustainable markets for new services and new technologies where this is in the long-term interest of the consumer.**
- **Sustainable markets should entail competition and plurality both among service providers and service procurers; one massive procurement contract would not serve the consumer interest.**
- **The SO incentive should cover stakeholder feedback on commercial barriers to the provision of otherwise economic services.**

We would be happy to participate on relevant groups to support an effective SO incentive.

## 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.

For convenience, we have responded in this submission both to the Role and Structure paper and to the Regulatory and Incentives Framework paper according to the headings in these.

## **The Role of the SO (Chapter 2 Role and Structure)**

We welcome the proposal for a wider role for the SO, and in particular the role to “facilitate a whole-system view.” It is clear that there is benefit to considering issues together with other stakeholders as part of the “whole picture for system development.” In this role, the SO does not centrally plan the system but does contribute to the framework and processes and signals for its development.

**→ We agree the SO should have a wider role for overseeing whole-system development.**

As part of this concept, we welcome the proposal for greater coordination across transmission and distribution networks, and we applaud the ambitious TSO-DSO project run under the auspices of the ENA. We would like to see greater clarity on what in this space qualifies for NIC-type “innovation” funding and what is part of the ongoing transformation as covered by the RIIO efficiency incentive.

**→ There is a need for greater clarity on what qualifies for “innovation” funding as opposed to being an innate part of the transformation programme.**

Whilst we welcome greater coordination among the network companies, this needs to be with an eye to the benefit of the end-consumer, not as an end in itself. There is a balance: It is right that TSO and DSO should not place contracts that incur disproportionately high costs for other elements of other network; or place contracts that obstruct the provision of services to third parties. This requires communication and coordination. But coordination should not turn into collusion, where a small number of massive procurement contracts are placed by the network companies collectively. This would limit plurality and competition in service provision (and in procurement), eventually resulting in an oligopoly with no market restraint over costs.

**→ Greater coordination across the T/D interface is welcome but should not extend to collusion and the restriction of competition in service provision.**

We say more about this under the section on incentives.

We note and agree with the proposal for the ongoing role of the SO as residual balancer. We note however that, with increasing penetration of variable renewables on the system, it is not yet clear how the market will balance the system in years to come, and therefore the extent of the role of the

residual balancer / whole-system facilitator in this. According to Imperial College, by 2030 some 25% of our total electricity generation will be curtailed and lost, unless flexibility solutions are employed. There is a need for further thinking on which parties will take the lead on balancing the market into the 2020s, and who will invest in flexibility solutions such as long-duration storage to this end.

➔ **There is a need for clarity on who, whether SO or another, will be incentivised to invest in energy balancing facilities, for times of generation peak and demand trough / vice-versa.**

We believe Ofgem has captured well the current issues around balancing services, and we welcome the emphasis placed on greater transparency and accessibility. We are pleased with National Grid's Power Responsive initiative that seems to be making some headway in tackling of the issues.

We support the concept of "technology agnosticism," while noting that arrangements to accommodate this are necessarily practical and dependent on the technologies of the day. This means that procurement processes will inevitably need to be monitored and adapted over the years.

We note also the role of the SO in engaging industry on the administration of network Codes (paras 2.42, 3.22). In its expanded role, we believe the SO should be considering in detail the governance of Codes for new flexibility providers, to ensure they are proportionately dealt with. For example, ESN has expressed the view that electricity storage warrants its own licence that is neither generation nor demand, and thought is needed as to what requirements are appropriate for these connectees who do not use the electricity system in the same way as "pure generation."

➔ **The SO should place emphasis on the processes and Codes appropriate to new flexibility providers who may not use the system in the same way as conventional connectees.**

We strongly welcome the proposal for the SO's role in system charging (para 2.41). We are currently concerned at the apparently disjointed nature of network charging reviews currently underway. At the last count, we believe there are four or five with strong relevance to electricity storage.<sup>1</sup> Yet there is no single map of how they interrelate or how they guide us to a desired destination.

➔ **The SO could usefully hold a chart of live charging reviews, showing the processes for continuity in direction of travel towards a smart, flexible, decarbonised energy system.**

## **A More Independent SO (Chapter 3 Role and Structure)**

We welcome the separation of the TO and SO as two distinct companies. This should go a long way not only to generate market confidence, but also to lend clarity to service providers regarding who exactly they are dealing with when entering into commercial arrangements.

➔ **We welcome the separation of the TO and SO.**

---

<sup>1</sup> Ofgem/National Grid holistic review; Ofgem Review of Embedded Benefits; Ofgem Targeted Charging Review of storage and network costs; BEIS/Ofgem storage-specific barriers; ENA T/D short-term charging reform

Electricity storage will be providing a range of flexibility services to a range of network companies and potentially others. Indeed, this is a large part of the *raison d'être* for storage. Providers therefore need to be clear on whether they are speaking to the SO, for instance to provide a constraint management service, or to the TO, for instance to provide voltage support; and need to be reassured that their commercial discussions are not being replayed between the TO and SO. Greater transparency in procurement of balancing services, including tenders and auctions, of course help with this, but there will often be a human element involved.

Furthermore, electricity storage will at times prove an economic alternative to network asset investment. While there is a regulatory incentive for the TO develop the most economic solution, and the CATO model likewise services this purpose through competition, there is still arguably a more fundamental incentive on the TO to build out its asset base, and therefore a conflict of interest.

For these reasons, we welcome the full physical separation of the TO and SO and their respective employees. We also agree that there should not be cross-composition of the TO and SO Boards. We would go further and apply this to employees and Boards.

→ **The SO Board should not have TO employee or TO Board members, nor vice-versa.**

## **Future Framework Design (Chapter 4 Regulatory and Incentives)**

Ofgem describes the difficulties in setting a financial incentive for efficiently operating a complex system in a fast-changing world. ESN does not have a clear view on how the financial and non-financial incentives should be structured. We would like however to endorse the desired outcomes from the perspective of both the electricity storage industry and the end-consumer:

The SO should be incentivised to reduce whole-system costs, with both a short-term and a long-term element. The whole-system cost should relate not just to SO or total network company costs, but also to connectee costs. – Connectees should not be mandated to invest in additional functionality, whether under Grid Code or under connection agreements, if the net cost to the whole system and the end-consumer is higher, even if the connecting network might benefit. Likewise, if connectees on the distribution network are obliged to constrain their output on account of network limitations, the volume and value of energy spilled should be recorded and accrued as a cost to the whole system.

→ **The SO incentive should apply to whole-system costs, with a short and long-term element.**

The SO should be incentivised to facilitate the development of sustainable markets for services, where this is in the long-term interest of the consumer. This might be from new technologies that need some cultivation. A sign of success is that a) the cost of the service is reducing; b) a number of providers are appearing in the market; c) assets installed provide utility over a longer period of time.

→ **SO performance should be assessed in part with reference to the health and competitiveness of the balancing services markets.**

We take the opportunity to welcome National Grid's engagement with stakeholders on developing relevant metrics for progress under the Power Responsive initiative.

While the need for and the cost of balancing services is a moving feast, stakeholder feedback is useful for identifying whether the SO could be doing more. This applies in particular to development of appropriate procurement frameworks and removal of commercial barriers.

- ➔ **SO performance should be assessed in part with reference to stakeholder feedback on any commercial barriers to the provision of otherwise economic services.**

## **Incentive Scheme Governance (Chapter 5 Regulatory and Incentives)**

We strongly welcome Ofgem's suggestion of involving industry in incentive scheme governance. ESN would be happy to participate or help collate member feedback at appropriate times.

- ➔ **ESN would be willing to play an active role in informing an assessment of SO performance.**

We would observe that in the distribution world the DG Fora have over the years proven successful in holding the DNOs to account on their plans. This has contributed to an ongoing improvement in DNO service, and has linked into the RIIO-ED1 regulatory incentive scheme. We wonder if a similar event might usefully serve for NGSO to set out its activities, with opportunity for stakeholders to describe their experience and endorse or challenge the SO's narrative.<sup>2</sup>

- ➔ **There is scope to emulate the success of the DG Fora around DNO performance, for gaining stakeholder feedback on NGSO's performance.**

Clearly such events need to be carefully planned given the complexity and inter-relationships at work, and they cannot alone determine success or failure. But they can help identify areas of general satisfaction or dissatisfaction that can subsequently be probed in more detail.

## **Next Steps**

ESN believes the next few years with NGSO will entail a culture change as offices, systems, and importantly, employees embed the separation of TO from SO.

ESN would be happy to discuss the above issues with Ofgem, particularly where these might usefully inform the upcoming Spring Plan for a Smart and Flexible System.

We look forward to supporting the development of the SO incentive from the perspective of electricity storage.

---

<sup>2</sup> Note that National Grid already run a range of well attended and much respected fora, including their Customer Seminar and their Operational Forum. The proposal here is for an annual event with GBSO and GBSO stakeholders speaking to hear a range of perspectives.

----

Electricity Storage Network  
Dairy Farm, Pinkney  
Malmesbury  
Wiltshire  
SN16 0NX

Tel: 01666 841 262

[info@electricitystorage.co.uk](mailto:info@electricitystorage.co.uk)

March 2017