



Northern Powergrid's response to Ofgem's Consultation on RIIO-ED1 Innovation Roll-out Mechanism Submissions

Key Points

- *We broadly support the benefits suggested for customers by the Innovation Roll-out Mechanism (IRM) proposals. It is for Ofgem to assess whether the costs are efficient and whether these projects represent a justified extension to the price control revenues for the applicants. But the integrated network constraint management project needs careful consideration in particular since there is a question of whether the generality of distribution customers should pick up these costs.*
- We find it difficult to comment on value for money in any great detail as a result of the redacted information but at the headline level we are satisfied that **there are potentially large customer benefits available.**
 - There remains a **large degree of uncertainty surrounding the timing of benefits.** These are associated with customer take-up of available capacity which remains outside of the control of network operators.
- We are familiar with all the technologies and commercial innovations that are being proposed and they all feature to some extent in our work activity in the ED1 period:
 - **Active network management is being pursued in our generation-rich areas** as business as usual with the costs largely funded by customers paying for generator connections.
 - We are **making use of overhead line surveys using technologies such as light detection ranging (LIDAR)** as business as usual when the cost benefit analysis suggests it is the optimum technique. The need for safety-related physical surveys in our current programme means that its use today is restricted to niche as opposed to widespread applications.
 - **Monitoring has already moved from trial to business as usual** – our ED1 plan contained a smart grid enablers plan that is already trialling the installation of 1,300 devices across our network.
- We believe that the **Dumfries and Galloway constraint management scheme** needs careful consideration with regard to the socialisation of costs amongst distribution customers. Ofgem needs to satisfy itself when undertaking detailed assessment of the proposals that the costs would not be better met by generation or transmission customers.

Detailed responses to the Consultation on RIIO-ED1 Innovation Roll-out Mechanism Submissions

Consultation Questions

Question 1: Do you consider that any of the proposed roll-out will facilitate the Government's Carbon Plan, and/or deliver wider environmental benefits?

1. All of the proposals support the government's carbon plan and should contribute to a reduction in the amount of emitted CO₂, particularly supporting the fourth carbon budget.
2. The actual magnitude of the contribution is difficult to determine. The reduction is largely predicated on the roll-outs facilitating increased volumes of low carbon technology on distribution networks. The precise take-up of these technologies has proved to be hard to predict. Current trend directions for both low carbon generation and for domestic type low carbon technologies suggest to us that all of the proposals would deliver some level of carbon benefits.

Question 2: Do you consider that any of the proposed roll-outs will deliver long-term value for money to customers?

3. We believe that all of the proposed roll-outs will deliver long term value for money for the customer.

Question 3: Do you consider that any of the roll-outs will allow the licensees to receive commercial benefits within the price control period, ie will the roll-out lead to cost savings and/or incentive rewards, greater than the cost of the roll-out within the price control period?

4. Assessment of commercial benefits is extremely difficult due to the large amount of redaction in the available documents.
5. Although some benefits appear to be missing from the proposals the proposals do not appear to confer significant commercial benefits on the licensees.
6. Examples of missing benefits may include additional DUoS income associated with SPEN's constraint management scheme and CI/CML benefits associated with SPEN's secondary transmission monitoring. It is difficult to assess whether these benefits are material. We also note that at least one proposal highlights that parts of it will go ahead even absent IRM funding. We assume that the cost of these parts have not been included in the funding request
7. We also note that we are progressing an LV monitoring programme that has many areas of overlap with UKPN's proposal, in line with our RIIO-ED1 business plan. This plan was assessed by Ofgem as being cost benefit justified. However, this is not surprising, since the total allowance per customer we were granted for operational IT and telecoms was similar to the allowance UKPN was provided with in its settlement for just its 'traditional' activities. While we are delivering these innovations at no extra cost to our customers, we have no visibility of what additional challenges UKPN may face that means it cannot use this 'smart' investment to replace some 'traditional' investments, as we have challenged ourselves to do.

Question 4: Do you consider that the technologies that SPEN and UKPN wish to roll-out fall within the definitions of a Proven Innovation or Ordinary Business Arrangement as defined in the IRM licence condition?

8. All of the proposals contain individual technologies which are proven, several of these recently as part of Low Carbon Networks Fund (LCNF) projects.
9. We observe that several of the proposals aim to integrate several proven innovations into a single system. Our experience is that there is often significant residual risk associated with apparently

proven innovations when they are being bought together to work interactively for the first time. We cannot tell whether that will be an issue for the proposals under consideration.

10. We also note that elements of one of the SPEN proposals, such as using HD photography, and aerial surveys rather than foot patrols, are ordinary business arrangements. We note that the act of integration into a wider proposal may however make them less ordinary. We assume that the cost of these, to the extent they are ordinary, have not been included in the funding request.
11. But in general, we do not consider that the technologies fall within the definition of an Ordinary Business Arrangement.

Question 5: What are your views on the merits of any of the proposed technology roll-outs? To what extent are the proposed roll-outs relevant to current and future challenges in relation to the distribution network?

What improvements, if any, do you consider that the proposed technology roll-outs offer compared to the current situation?

12. All of the proposals, when compared with the current situation, assist the DNOs in the process of improving their approach to operational management and to managing the network assets in a way which supports the challenges of reducing carbon, maintaining downward pressure on costs (and therefore charges to customers) and improving the security and capacity of the network at a time of potentially unprecedented change.
13. UKPN's LV visibility project provides a level of real-time understanding of network conditions at a level in the network which is not currently well served by monitoring or automation and is likely to be increasingly important in serving customers with low carbon technology needs. Indeed, we are already been taking forward extensive work in this area in our smart grid enablers programme; for which we received Ofgem's endorsement for our vision in this area at the RIIO-ED1 review.
14. The precise future remains uncertain. However all of the proposals to some extent allow the application of new technologies on a least regrets basis.

Question 6: What are your views on the timing of the proposed roll-outs?

- **What would happen if any of the proposed roll-outs didn't occur until the next distribution price control starting in 2023?**
 - **Does the timing of any of the proposed roll-outs have a significant effect on the expected level of benefits?**
15. The timing for the roll-out of the proposals looks reasonable. In most case the roll-out is preparatory to ED2 needs, with benefits to customers not flowing until post-2023.
 16. Leaving the roll-outs until post-2023, as part of the next price control period, would mean that the associated benefits would not available until late into ED2. It can be argued that sometime before then a tipping point may be reached, particularly with respect to the electrification of vehicles. The lack of availability of the rolled-out innovations, properly tested at large scale would hamper the ability of the industry to respond to the associated increased electricity demand and peak loading.
 17. For the Dumfries and Galloway constraint management scheme it is likely that delaying roll-out would discount a large amount of the projected benefit.
 18. Lastly, we note that at least one of the proposals highlights that elements of it will go ahead within the ED1 period even if funding is not granted.

Question 7: To what extent will the proposed roll-out facilitate the Carbon Plan?

- **Please explain what aspects of the Carbon Plan you consider the proposed roll-out will facilitate.**
 - **What is your view of the claims made by the licensees regarding the contribution the proposed roll-out will make to these aspects of the Carbon Plan?**
 - **Will any of the proposed roll-outs deliver benefits more quickly than the business as usual methods used across Great Britain (GB)??**
19. The proposed roll-outs contribute to the fourth carbon budget for 2023-2027. Explicitly the vision for delivery of the carbon plan includes the need to facilitate increased low carbon electricity generation and low carbon transport.
20. The proposals facilitate the actions of others; the actual contribution to the carbon budget is actually delivered by customers' adoption of low carbon technologies for transport, heating and distributed generation. The proposals, once rolled out, allow the customers to utilise these low carbon technologies unhindered by network issues and it is at that point at which the carbon benefits are achieved.
21. The rate at which the proposals will deliver benefits will be associated with the rate of low carbon technology take-up. This is beyond the control of Distribution Network Operators. Consequently the contribution to the carbon budget has an associated degree of uncertainty.

Question 8: To what extent will the proposed roll-out deliver wider environmental benefits?

- **Please explain what, if any, environmental benefits you consider the proposed roll-outs will deliver.**
 - **What is your view of the claims made by the licensees regarding the environmental benefits their projects will deliver?**
 - **Will any of the proposed roll-outs deliver benefits more quickly than the business as usual methods used across GB?**
22. All of the environmental benefits appear to come from the facilitation of low carbon technologies and electricity generation.

Question 9: To what extent will any of the proposed roll-outs deliver value for money to consumers?

- **Please explain whether you consider the cost and scale of any of the proposed roll-outs is justified in relation to the benefits each will deliver.**
 - **What proportion of the potential benefits from the proposed roll-outs do you consider will accrue to the network compared to other elements in the energy supply chain?.**
23. At the headline level, all of the proposals deliver benefits calculated in terms of net present value.
24. The nature of the redaction in the proposals means that commenting on the value for money is difficult as unit costs and some benefits have not been disaggregated in the available data. We assume that Ofgem will take this into careful consideration during the evaluation process.
25. We have observed, through activities on our own innovation projects involving active monitoring technologies that ongoing operational costs associated with the roll-out of technologies are easy to underestimate. Data transportation costs are an example of this and several of the proposals rely heavily upon this. These costs need to be verified.

26. A non-financial benefit may accrue to the network companies in terms of preparatory positioning for a future DSO role. The roll-out of the innovations under consideration may place SPEN or UKPN in an advantageous position compared with other DNOs. The nature of that advantage though is uncertain and depends on what the DSO role is and which industry actors have responsibility for it.
27. Likewise, under the RIIO model benefits may flow to companies at the next price control review from undertaking initiatives today to save costs in the long term, although it is difficult to predict this with certainty since it will depend on the form of cost assessment at the next review.
28. We would note that this is only a problem where additional funding is granted to address a generic issue, and where it is only granted to one company. It is therefore easy to solve. Where Ofgem judges that additional funding is warranted for a generic item with a certain set of benefits, we would expect all companies to be easily able to qualify for the funding at the next window for the mechanism.

Question 10: With reference to the IRM licence condition, do you have any significant concerns about funding any of the proposed roll-outs under the IRM? For example, do you consider it is reasonable to expect the licensee to carry out the work anyway as part of business as usual?

29. In the case of SPEN's Dumfries and Galloway proposal it is not clear whether the costs associated with the removal of constraints should be normally borne by generation customers or by the transmission system operator. The relevant question for Ofgem to consider is whether or not distribution customers, via a socialised charge through IRM, are paying to alleviate a transmission problem. Moreover one where there may have been funding in the transmission settlement to resolve this issue. Tackling transmission constraints with distribution solutions (or vice versa) is absolutely the right way to evaluate the optimal solution. However, the financial treatment needs to ensure that the correct customer group pays and customers do not pay twice.