

# Hitachi ABB Power Grids response to RIIO-ED2 Methodology Consultation

## Introducing Hitachi ABB Power Grids

*Hitachi ABB Power Grids (HAPG) is an exciting new global joint venture founded on two iconic companies with a ground-breaking heritage of innovation in pioneering technologies. As a global technology leader, we serve the energy, industrial, mobility, IT and smart cities sectors. We are a major investor in the UK, with a turnover of £500 million.*

*We are committed to powering good for a sustainable energy future. Our aim is to bring affordable, clean energy and sustainable living to the world to make it fit for future generations. In the UK, we are already helping to bring clean energy to 4.5 million homes by connecting the world's largest offshore windfarm at Dogger Bank to the grid, and we were recently confirmed as the chosen supplier for Europe's first multi-terminal HVDC interconnection, linking Shetland to the UK transmission system for the first time.*

*Meanwhile, our Phoenix Project, in partnership with SP Energy Networks, University of Strathclyde and the Technical University of Denmark, has received funding from Ofgem's Network Innovation Competition and is seeking to find alternative sources of system inertia that are essential to stabilise the future network.*

*We strongly believe that the UK can lead the world in creating a secure, net zero-ready energy system through a stronger, smarter, greener grid.*

## Observations and comments

Innovation in the electricity system will be crucial to achieving the UK's net zero ambitions. We strongly believe that the cost to the consumer should not be seen in the narrow terms of the price on a household energy bill but needs to encompass wider factors such as harms to the environment and health.

We hold the view that a national energy plan is required to drive the energy systems along an appropriate pathway to net zero. While there should be a degree of localisation to tackle local factors, without this central plan the energy system will remain fragmented and suboptimal. DNOs should have targets to support green capacity, but it is not their role to decide on the pace of decarbonisation.

From our perspective then, an ideal approach is a combination of models C and A outlined in this consultation – centralised strategy and regional targets. We also recognize that despite an urgent need to deliver the national plan there will be much uncertainty, requiring the uncertainty mechanisms in models B and D.

Within this, the Net Zero Advisory Group could play a key role, but we believe it will need revised terms of reference and changes to its membership, which are currently too narrow.

## Answers to selected questions

OVQ3      *Do you agree with our proposed approach to a Net Zero re-opener?*  
We agree that there is a need for a Net Zero re-opener, both due to the lack of certainty and the need to be fleet-footed, but the very option of a re-opener should not prejudice the investment that is needed now. Indeed, there needs to be high ambition

for net zero from the outset by including as many enabling measures as possible in baseline funding and both introducing and driving ambitious targets. Measures and incentives cannot wait until the next review period and indeed will save longer term costs the earlier they are introduced. Indeed, the investments needed to facilitate Net Zero are primarily aimed at making networks 'smarter' which will negate the need for further network infrastructure investment by releasing additional network capacity.

OVQ4 *In what circumstances, would a centralised approach to setting forecasted outputs be appropriate? What form should this take?*

This approach requires a well-developed and accepted national energy plan, capturing clear targets. In these circumstances, targets related to key national priorities would be appropriate to guide local implementation. A hypothetical example may be to set a national target of providing network capacity sufficient to support a target density of 150KW EV chargers, with the decision on how to provide the capacity being made locally.

OVQ5 *What would be the factors we should take into account that would give us high certainty in a centralised approach to setting outputs?*

Dependence on the centralised plan requires there to be confidence in its quality. Considerations should include:

- how comprehensive the plan is – meaning that all factors impacting output, such as heat networks, electrification of heat and transport, and distributed generation have been considered;
- how detailed and specific the plan is, as high-level national targets, for example for heat pump penetration, are not sufficient;
- acceptance of the plan by all key stakeholders, allowing for consultation and revision of the plan by network companies, local authorities, supply chains, and other energy networks.

OVQ6 *Alternatively, in what circumstances would it be more appropriate to take a decentralised approach to determining forecasts?*

There will always have to be a degree of localisation in all plans to take account of local factors, but these need to be aligned to the national plan. Regional energy plans would take into account local networks as well as the growth and nature of local energy consumption and generation.

OVQ7 *What would be the factors that we should take into account that would give us high certainty in forecasted outputs derived through a decentralised approach?*

As per our response to question 5, the quality of the plan will boost the confidence taken in it.

Ofgem already requires all distribution network operators to set up a locally driven Customer Engagement Group (CEG) to scrutinise their business plans. These CEGs have the ability to 'challenge DNOs on our priorities, proposed outputs and expenditure; approach to sustainability, resilience and innovation and transition to become a 'Distribution System Operator'. Further empowerment of these established groups could provide metrics based on local needs, such as fuel poverty or particular urban/rural needs.

OVQ8 *Do you consider that the LAEP Best Practice guidance produced by the Centre for Sustainable Energy and the Energy Systems Catapult provides adequate checks and balances to ensure that local or regional energy plans are robust, unbiased and have broad support?*

No comment.

OVQ9 *Which of the uncertainty mechanisms and incentives in Appendix 3 will be most effective in enabling efficient strategic investment?*

We suspect all will be effective to some extent but hope for a national plan that will minimise the use of the re-opener, as set out in our answer to Q3.

## Innovation

- OVQ10 *Do you agree with our proposals to increase levels of BAU innovation?*  
Yes, we agree that an increasing level of innovation needs to be adopted as BAU. Furthermore, we believe that the level of adoption of proven technologies and data usage is lower than desirable and should be increasing (see answer to Q16).
- OVQ11 *Do you agree with our proposed methodology in relation to the RIIO-2 Strategic Innovation Fund?*  
Delivering on net zero commitments will require new step change innovations to the networks which must be supported. It is important therefore that there is scope for the valuable innovation suggestions from the DNOs to be considered; innovations should not be limited to a 'list' determined by the Net Zero Innovation Board.
- Given the board has a key role in setting out the challenges to be tackled as part of the overall energy system roadmap, the functioning of the board will be critical in setting the right path. We believe the board should have more representation from technology supply chain companies; organisations that are developing the upcoming technologies identified across the world. HAPG would certainly welcome the opportunity to provide its technology insights to the board. The board could also collaborate with the existing Customer Engagement Groups.
- OVQ12 *Do you agree we should adopt a consistent NIA framework for DNOs, and other network companies and the ESO?*  
We support this proposal as the integration and interaction of energy systems will be of increasing importance in the future and more coordinated approaches would deliver better benefits. However, it is important to note that there is already a significant cost involved in developing even basic proposals for submission. If more multi-vector, complex projects are required in the future, the cost to supply chains of developing these proposals needs to be taken into consideration.
- OVQ13 *What are your thoughts on our proposals to strengthen the RIIO-ED2 NIA framework?*  
We understand the view that the demonstration of technologies already proven overseas should represent a lower risk of adoption. However, there is a danger that removing eligibility for all such projects becomes a barrier to applying technologies that require a degree of adaptation to operate successfully in the UK system. Deployment is occasionally riskier in the UK than in overseas markets owing to various differing characteristics; in such situations there should still be a path to eligibility for the NIA.
- OVQ14 *Do you have any additional suggestions for quality assurance measures that we could introduce to ensure the robustness of RIIO-2 NIA projects?*  
The potential mechanisms are sensible approaches – it is appropriate to have the right balance of quality assurance while not making the process too onerous so that it acts as a barrier to innovation.
- OVQ15 *Do you agree with our proposed approach for setting individual levels of NIA funding?*  
We agree with the principle of supporting companies with a strong record of successful innovation. However, we also believe that there should be a mechanism to drive innovation amongst those with a poor record of innovation, and where necessary make this a requirement in business plans.
- In non-regulated businesses, innovation would be expected to deliver a business benefit, but this can be more difficult in a regulated business where costs and benefits can be distorted. Innovations should not be limited by targets and businesses should be able to spend more if innovations can be proven to deliver benefits.

## Modernising Energy Data

OVQ16 *Do you agree with our approach to regulating digitalisation and better use of data through the introduction of cross-sector licence obligations?*

We support the value placed on applying data best practice but given the criticality of data in delivering net zero ambitions and enabling new services we feel that a more granular approach is required with baseline expectations.

We believe that Ofgem should be more prescriptive on the outputs it wants to see in some areas; for example, on the level of digitalisation needed by the end of this price control period. Digitalisation and data analysis are key enablers of decarbonisation, improved asset management and lowest cost reliable capacity – so setting clear digital strategies is vital to success. Presently, there is no end target for the industry to coalesce around.

Ofgem could then set specific allowed, base line expenditure to reach this target, as well as incentives to go further than this, with connection agreements also aligned. This target should also be interoperable across the gas network. An example of how this could work in practice can be found in the good work done by the Government and Ofgem on cyber security.

It is clear that there needs to be a separate investment in innovation or early development support specifically targeted at developing data science capabilities for DNOs. So much emphasis is placed on data offering significant potential to unlock new value in the electricity supply chain but turning this volume into actionable insights requires an infrastructure that does not currently exist. While DNOs have made some progress with data management and analytics, unlocking the value as described by others will require a step change in capability. DNOs may struggle to attract the required teams of data scientists and related technical expertise without specific and targeted innovation investment.

## DSO transition

OVQ17 *Do you agree with the proposals we have set out to support optionality for wider institutional change should we later decide to separate DSO functions from DNOs? How else could the methodology support optionality?*

The DSO functions being carried out already by DNOs need to be accelerated, but we believe that the uncertainty does not help. A decision should therefore be agreed and communicated as soon as possible, as leaving future options open only adds to delay and uncertainty.

OVQ18 *Do you agree with our proposal to use the Business Plan Incentive to encourage companies to reveal standards of performance higher than our baseline expectations in their DSO strategies? Do you agree we should require, where appropriate, all DNOs adopt these revealed standards?*

We agree and recognise the need for common approaches and standards to enable whole system operation without unnecessary differences adding costs to service providers.

OVQ19 *Do you agree with our proposal to invite companies to provide metrics and performance benchmarks in their DSO strategies?*

It is important to have those benchmarks and relevant targets can be proposed by DNOs, but with appropriate scrutiny to ensure ambition is sufficiently high.

## A whole system approach

We welcome the recognition of the importance of whole systems approach and the mechanisms to encourage this. Distribution will have many interfaces in the future with transport and gas systems

- OVQ24 *Are there any electricity distribution specific barriers to whole system solutions, and if so, are there any sector specific price control mechanisms to address these?*  
Transparency and credibility of data represent key barriers to whole system solutions. DNO assets are more numerous and smaller than TNO assets but are still as critical to the success of a whole system approach. Without a clear understanding of how each asset interacts with the wider system and the associated health and interoperability of that asset, it will be difficult to approach investment and innovation on a truly system-wide basis.
- OVQ25 *Are there any electricity distribution specific issues you think should be accounted for in the Business Plan Incentive?*  
Specific issues should include medium term storage, transport smart charging and V2G.
- OVQ26 *Do you agree that whole system solutions are relevant to the innovation stimulus?*  
Yes.
- OVQ27 *Do you agree with our key proposals for the CAM?*  
Yes.
- OVQ28 *Do you consider that two application windows, or annual application windows, are more appropriate, and should these be in January or May?*  
No comment.
- OVQ29 *Do you consider that the current electricity distribution licences should be amended to include the CAM, or wait until in 2023 at the start of their next price control?*  
We believe that the distribution licenses should be amended as part of this price control, because key decisions are being made now in preparation for Net Zero 2050.

**Access SCR – no comments**

## **COVID-19**

- OVQ34 *Do you think we need specific mechanisms in RIIO-ED2 to manage the potential longer-term impacts of COVID-19? If yes, what might these mechanisms be?*  
Yes, because operational costs, efficiency, and productivity could be impacted by COVID-19 restrictions and should be considered.
- A business impact re-opener could be an appropriate mechanism here, both for COVID-19 and other significant uncertainties, such as the outcome of the EU trade negotiations or other 'Black Swan' events.