

Energy Systems Catapult: Response to consultation

Open Letter Consultation on approach to setting the next electricity distribution price control (RIIO-ED2)

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Introduction

[Energy Systems Catapult \(ESC\)](#) was set up to accelerate the transformation of the UK's energy system and ensure UK businesses and consumers capture the opportunities of clean growth. The Catapult is an independent, not-for-profit centre of excellence that bridges the gap between industry, government, academia and research. We take a whole systems view of the energy sector, helping us to identify and address innovation priorities and market barriers, in order to decarbonise the energy system at the lowest cost.

Over the past year the ESC has chaired the Electric Vehicle Energy Taskforce¹ and ran the Energy Data Taskforce², as well as completing delivery of the influential Smart Systems and Heat programme. This combined with our capabilities in energy system modelling, system integration, consumer insights and markets, policy and regulation, provides us with unique depth and breadth of insight into the emerging challenges of adapting energy networks to facilitate an efficient and consumer-friendly transition to decarbonising heat and transport demand.

We believe in the context of net-zero carbon emissions target by 2050, there is an increasing need for Ofgem and BEIS to explicitly focus effort on creating a regulatory and policy framework that supports the low carbon transition across the economy. This includes fostering collaboration between regulators, government departments and local authorities to enable effective assessment of whole system impacts and decisions in an increasingly interlinked energy system. In this context, there are several key aspects of the price control framework that would need to be carefully considered, which we highlight below.

- **As the main instrument to incentivise action by distribution networks, the future price control framework should support decarbonisation across all regulated network companies.** We support the view that network companies should play a proactive role in facilitating the low carbon energy transition by working alongside stakeholders and the proposal to put the achievement of net-zero carbon emissions target by 2050 at the heart of their decision-making. We believe that the expectations should be linked to the delivery of outcomes in a framework that supports innovation and incentivises varied solutions and business models including demand reduction, energy efficiency improvements and low-carbon technology deployment.

¹ More information available from: <https://es.catapult.org.uk/impact/specialisms/ev-energy-taskforce/>

² Energy Data Taskforce report available from: <https://es.catapult.org.uk/news/energy-data-taskforce-report/>

- **Our work suggests that local area energy planning (LAEP)³ can play a key role in informing decisions and providing a platform for coordinating actions among different stakeholders.** LAEP provides a data driven, spatial and collaborative means, involving local government and network operators, of exploring a range of possible future local energy scenarios to decarbonise cost-effectively. It provides evidence, guidance and a framework for long-term decision making to enable the transition to a low carbon energy system. LAEP takes into account the unique characteristics of the local area (incl. geography, people, building stock) and its existing energy system (incl. gas, electricity, and heat networks). The framework can be developed and utilised to provide a robust, well justified and consistent whole system evidence-based process that can be used and reviewed throughout price control periods. Developing good quality LAEP can be made an integral part of business planning for all regulated network companies⁴ and serve as basis to assess performance during the price control period.

There is considerable scope for Ofgem to make use of robust local area plans as a key baseline against which DNO price control expenditure assumptions and outcome delivery incentives can be calibrated. Future investment plans for energy networks should increasingly be informed by a strategic understanding of the options and investments which can best enable decarbonisation of heat and transport demand in specific local areas (alongside the development of distributed renewable energy resources and storage). For example, Ofgem could require DNOs to use LAEP processes to inform the development of their network investment plans, so that they take specific account of how local circumstances shape the efficient role of electricity in decarbonising heat and transport energy demand. Similarly, the choice and calibration of outcome-based delivery incentives could be informed by a deeper understanding of locally targeted decarbonisation strategies across heat and transport.

- **The price control framework should support well-justified anticipatory network investment that benefits consumers and enables efficient and coordinated deployment of network infrastructure as we transition to net zero.** Appropriate uncertainty mechanisms should be incorporated in recognition of the potentially large but uncertain timing of the impact of EV charging and potential heat electrification demand and the need for network investment. The high degree of uncertainty about the shape of local, regional and national decarbonisation pathways necessitates more comprehensive assessment to inform baseline investment plans and help to ensure that plans consider long-term decarbonisation in a coordinated way. Such assessments could also support the identification of low-regret options from whole energy system point of view and guide investment choices in different areas, potentially identify areas to target low regret measures (such as building retrofit/energy efficiency), or de-risking some strategic investments (e.g. identify areas where solutions such as hydrogen for heat could be cost-optimal under a wide range of assumptions). Ofgem should also consider how planning outputs could be most effectively utilised in informing well justified

³ ESC (2018), SSH1: Local Area Energy Planning: Supporting clean growth and low carbon transition <https://es.catapult.org.uk/news/ssh1-local-area-energy-planning/>

⁴ LEAP is already suggested in business plans guidance on RIIO2 for other regulated network companies. https://www.ofgem.gov.uk/system/files/docs/2019/09/riio-2_business_plans_guidance_september_2019_-_published_0.pdf

anticipatory investment by network operators within their business plans for the RIIO-2 price control period.

- **Opening access to network data will be key in supporting innovation and the transition of the energy system. Ofgem should require companies to demonstrate progress in this area.** It is essential for DNOs to modernise their handling of data to adhere to best practice in order to unlock the value of data across the system. We consider the themes Ofgem plans to include in the guidance on data best practice as broadly representative of those highlighted by the Energy Data Taskforce. Improved access to high quality data can present many opportunities for incumbents and new entrants to improve the efficiency of the system, utilisation of renewable generation, optimise across energy vectors and manage assets more effectively. The Energy Data Taskforce advocates the principle of Presumed Open data and this should apply to DNOs, except where there are identified issues (security, privacy, commercial or public interest) which justify why data cannot be made open. This will ensure that DNOs implement robust risk identification and mitigation techniques in relation to network data.
- **Ofgem should ensure that DNOs achieve progress in data modernisation and digitalisation before the start of the RIIO-ED2 period.** The price control development process should be used to provide a required base level of competence for networks to have achieved by the start of the period and targets for improvement should be implemented throughout the period.

 - The Energy Data Taskforce considered the release of metadata to be a vitally important near-term target supported by the proposed Data Catalogue. We recommend that Ofgem ensure progress before the start of RIIO-ED2.
 - Ofgem should explore how the RIIO-ED2 framework can reward organisations that embrace the principle of Presumed Open and penalise those that do not, including those who are responsive to the needs and requests of their data users.
 - The Energy Data Taskforce recommended that the Data Catalogue be used to collect authoritative data on the relative openness and responsiveness of organisations. Organisations should be graded based on the number of datasets they have published metadata for, the number which have been assessed using an openness triage and the number which have been made openly available. In addition, the responsiveness of the organisation to requests from users should be recorded and assessed.
- **Ofgem should incentivise DNOs to act promptly to build and develop DSO functions. Ofgem should also assess the case for future development and separation of DSO roles, potentially on a multi-vector basis, and keep open the option of implementing some separation of DSO roles within the current price control period.** The RIIO2 framework needs to enable genuine level playing field decisions between network investment and other solutions, and between energy vectors. In ensuring that DNOs are not biased towards network investment approaches that accrue to their own regulated asset bases, Ofgem could consider new approaches to testing additions to DNOs regulated asset bases that require a clear structured demonstration of long-term value.

Future separation of a multi-vector DSO-style roles should also be considered, with the strength of the case for this potentially being judged at a region-specific level (again potentially

informed by LAEP analysis of the potential regional importance of flexibility and multi-vector approaches). Ofgem should also consider the case for enabling or incentivising the development of DSO-style functions across energy vectors (e.g. heat networks, electricity networks, gaseous vector networks), within an increasingly interlinked and digitalised energy system. In assessing the case for future development and incentivisation of DSO functions, Ofgem should consider a range of evidence from local energy pilots, including potentially bespoke trials of DSO market arrangements.

Yours faithfully,

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