26th October 2020

Ofgem consultation on Electricity System Operator (ESO) Roles Guidance

About the IET

The Institution of Engineering and Technology (IET) is one of the world's leading professional engineering institutions. We provide independent, impartial and expert advice. We represent over 168,000 engineers in more than 150 countries, across multiple sectors including Energy, the Built Environment, Transport, Manufacturing and Digital.

On behalf of the profession, the IET strives to inform and influence government on a wide range of engineering and technological issues. The organisation's membership spans a broad range of professional knowledge, and regularly offers unbiased, independent, evidence-based advice to policymakers via several channels. We believe that professional guidance, especially in highly technological areas, is critical to good policymaking.

Ofgem consultation on ESO Roles Guidance

The IET welcome the opportunity to comment on the guidance that underpins the important role the ESO will have in developing the future power system. As decarbonisation progresses the ESO's role will be pivotal to leading change across the whole energy system. There is widespread acceptance of the whole system concept and the IET has led the way through collaboration with Energy System Catapult on the Future Power Systems Architecture (FPSA) project.

The next regulatory period is crucial to the development of an integrated energy system into the 2030s and beyond. It is important that the ESO, along with the Gas System Operator (GSO), gas and electricity distribution network operators, develops the capabilities to lead on whole system solutions beyond RIIO-2 (Revenue = Incentives + Innovation + Outputs).

A critical element will be delivering a competitive energy system by ensuring the various markets are more accessible, coordinated and provide transparent price information. If this does not occur, then system development will be less optimal, prices will be higher, security of supply will be impacted, and 'least cost' decarbonisation will be at risk. This is a critical task for Ofgem and other industry participants.

Overly granular definition of the ESO roles runs the risk of institutionalising historic delivery functions and perversely creating barriers to change and improvement. We are concerned the current roles could prioritise short term benefits over longer term outcomes, for example:

- Role 1a – Role 1a – We recognise the current pressures on consumers but believe long term 'least cost' net zero whole energy system development should be at the heart of RIIO-2 i.e. focusing on long term, least cost development of the system whilst ensuring costs to customers are controlled - rather than placing long term market development in a supporting role only

- Role 1b/2 – Provision of market information makes no reference to transparent price information; only transparency of 'decision making' - transparent pricing is essential for the development of all technologies, to enable an efficient smart energy system

- Role 2 – No reference to transparency regarding future value of services, only transparency of 'process'

Ensuring transparent pricing and access to long term markets for system services is vital for promoting investment in new smart energy technology and services necessary for an economic and efficient transition to a low carbon energy system (a key requirement of the licence conditions Ofgem have laid out in the consultation).

Currently, investors see an uncertain stack of interrelated wholesale / flexibility / ancillary service prices, which act as a barrier to market entry. Development to support future markets is only referenced as a stretch objective (Role 2a page 26 of the Guidance), and we consider it important the ESO and Distribution System Operators (DSOs) develop markets for non-network demand side solutions with a similar long-term mindset as is given to supply capacity .

We are also concerned that the ESO has been too reactive in the development of the markets it operates for system balancing and ancillary services; as illustrated by this summer's constrained low-carbon output and higher balancing costs. It is therefore vital that (by the end of RIIO-2 / 2026) a long-term framework for these services to support the development of smart energy systems is in place. Failure to support the development of non-network solutions in the short term could jeopardise their availability in the long term.

Whilst well codified guidance creates greater transparency for compliance, it is important that it does not become too specific; acting to constrain the incentives for the ESO to innovate and adapt to a rapidly changing technological and economic environment. We acknowledge that the roles set out in the consultation encompass most of the functionality envisaged in FPSA[1] however, we do believe it could be strengthened in terms of:

- whole energy system coordination[2]

- whole energy system market development

- development of long-term capability to deploy non-network solutions to optimise the development of the energy system and our energy resources

- lead, develop and publish insights into emerging/changing consumer behaviours to inform markets and support better forecasting

[1] The IET and Energy Systems Catapult developed the Future Power Systems Architecture (FPSA) framework of 35 functions as a reference for assessing capability development towards an integrated energy system. We have used the framework in considering our response to the consultation.
[2] We note that Activity 3b covers scenario development across vectors but generally the whole systems requirements appear somewhat limited to the electricity system.

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We would be delighted to engage further on helping to align guidance on system operator roles with the requirements of the FPSA framework for a coherent whole systems framework.

We have set out some suggested enhancements to ESO role descriptions in the attached Appendix.

If you would like to discuss further anything in this response, please contact Caroline Holman, email carolineholman@theiet.org

Appendix

Suggestions on how the ESOs roles could be enhanced in order to improve whole energy system development:

Role 1: Control centre operations

- The ESO should publish transparent price information for each of the three main electricity market resources i.e. capacity, flexibility, and ancillary services

Role 2: Market development and transactions

- The ESO should develop and run markets that aim to minimise both their carbon impact and cost to consumers (FPSA Function E6)
- The ESO needs to report on both the cost and carbon impact of the decisions it makes in the markets it operates
- The ESO should develop markets that facilitate the development of cross vector products to support whole energy system optimisation (FPSA Function B5) i.e.
    - The ESO should engage stakeholders to develop reports that show the cross-vector impacts of its actions
    - The ESO should develop markets that reflect the long-term value identified in the planning processes under Role 3
- The ESO should develop markets giving long-term price signals as well as short-term
- The ESO should ensure clear price signals for each of the three main electricity market resources i.e. capacity, flexibility, and ancillary services, as these are often cross subsidised through different market mechanisms

Currently, investors see an uncertain stack of interrelated wholesale / flexibility / ancillary service prices, which act as a barrier to market entry and make it difficult for consumers to see the value of smart energy technology. Development to support future markets is only referenced as a stretch objective (Role 2a page 26 of the Guidance), and we consider it important the ESO and DSOs develop markets for non-network demand side solutions with a similar long-term mindset as is given to supply capacity.

Role 3: System insight, planning and network development

- The ESO should coordinate improved understanding of end user behaviours and energy use as society (FPSA Function F3) as part of the development of its planning scenarios. The ESO should have a specific role to work with industry stakeholders to develop more detailed user models/profiles that can help existing and future system and product developers