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RIIO-3 Draft Determinations for the Electricity Transmission, Gas Distribution and Gas Transmission sector

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**Summary**

RIIO-3 Draft Determinations must turn Clean Power 2030 and Net Zero ambition into timely consumer value by using strong incentives that cut constraint costs, accelerate connections, and deliver new network capacity.

Energy Systems Catapult welcomes the opportunity to respond to this Ofgem consultation.[[1]](#footnote-2) The Catapult 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, including in policy design and implementation, helping us to identify and address innovation priorities and market barriers, to decarbonise the energy system at the lowest cost.

We make the following main points:

* **We recommend incentivising dynamic line rating (DLR) deployments under ODI-F rather than including them in baseline plans, because it ties the incentivise directly to the desired outcome.** DLR only adds value when it changes operational decisions and reduces constraint costs. Incentivising based on outcome-delivery helps ensure solutions that best achieve that outcome are adopted.
* **We recommend prioritising targeted, hardware-based DLR on highly constrained circuits over system-wide software rollouts.** The highly constrained circuits which incur the highest constraint costs may not get as significant up-ratings as with a hardware-based approach, so the overall constraint cost saving may be lower, despite the ‘system-wide’ approach.
* **We support a stepped Totex Incentive Mechanism (TIM) but recommend adopting asymmetric incentives and sector specific treatment.** For Electricity Transmission, we agree with the rates for underspend, but recommend a 25% incentive rate on all overspend. For Gas Transmission and Distribution, we recommend 25% incentive rate on underspend up to 5% of totex, 5% beyond that, and 50% on overspend to deter unnecessary investment.
* **We support Ofgem’s increased focus on enabling innovators to access Network Innovation Allowance (NIA) and Strategic Investment Fund (SIF) funding, and to help the navigate the energy networks innovation ecosystem.** However, increased oversight of innovation projects must be done in a way that does not discourage risk-taking in the pursuit of transformative innovations.

We provide a response to a selection of the detailed consultation questions in the annex. We would be happy to further discuss this topic with you.

Sincerely,

Osmund Jenssen

**Response to detailed consultation questions**

**ETQ16: What are your views on our consultation position for the SO:TO incentive approach to BAU enhanced services in ET3?**

Our response focuses on dynamic line rating (DLR) as a subset of enhanced services.

We strongly agree there are significant benefits to consumers of DLR being available at a larger scale and we think realising these benefits quickly should be a key priority. To date, DLR rollout in GB has been slow, and as a result electricity consumers have been subjected to significant constraint costs that could have been avoided.

We believe that in the short-term strongly incentivising TOs to rapidly roll out DLR across their networks will secure greater benefits for consumers via reduced constraint costs than limiting TO incentive payments. Once DLR has been applied to all the areas of the system where it will provide the most benefit, we agree that it is reasonable to treat it as part of BAU. However, it is essential to ensure this is not done prematurely in a way that weakens the incentive to roll out DLR rapidly. It is also important to ensure that existing DLR deployments are utilised to the fullest extent possible.

In general, we are of the opinion that incentivising DLR deployments under ODI-F is preferable to including them in baseline plans because it ties the incentives directly to the desired outcome. DLR only adds value when it changes operational decisions and reduces constraint costs – DLR systems that do not achieve this are a waste of money. Incentivising based on outcome helps ensure solutions that best achieve that outcome are adopted.

We envisage a significant risk that TOs who treat DLR primarily as a BAU system-wide technology roll out may overly focus on the cost of the system and put insufficient focus on whether DLR is being used to its full potential to reduce constraint costs.

We also believe a distinction should be drawn between ‘automated on an ongoing basis’ and ‘system-wide’. For parts of the network where benefits are expected to be recurring, standardised, automated processes for having DLR provided by default (rather than on request) would benefit consumers and potentially allow for greater use in NESO planning. We agree NGET should be required/incentivised to do this, rather than treating regular requests on the same circuit as one-off. However, this does not necessarily mean that ‘system-wide’ deployments are more efficient than targeted ones.

The nature of constraints on the network means that most of the benefits from DLR will tend to occur in a small proportion of the network. So targeted, hardware-based approaches on those circuits can deliver significantly greater benefits to consumers than a system-wide software-based rollout. This is because hardware-based DLR can typically provide greater uprating (particularly on 400kV lines) than a software-based approach, so targeted installation of sensors on highly constrained circuits where the overhead line is the limiting factor is likely to deliver significantly greater benefits to the consumer for that circuit than a software-based approach.

If a system-wide, software-based approach is employed, more circuits may get small upratings overall, but the highly constrained circuits which incur the highest constraint costs may not get as significant upratings as with a hardware-based approach, so the overall constraint cost saving may be lower, despite the ‘system-wide’ approach.

The characterisation of SPT’s solution as “far more effective than taking a piece-meal approach currently used by the other TOs as it requires fewer enhanced services being implemented at a reduced cost to the consumer” is therefore flawed, and Ofgem’s assessment should be based on which solutions deliver the greatest net benefit to consumers (constraint cost saving minus implementation and incentive costs).

Overall, we believe that TOs should be encouraged to initially deploy DLR on circuits through ODI-F (rather than baseline plans) and receive incentive payments that are proportional to the constraint cost savings. Migration of existing DLR deployments into BAU is reasonable but should be done in a way that ensures incentives for rapid deployment and ongoing maximisation of DLR benefits remain strong.

***ETQ17: Do you agree with our proposal to introduce a clawback mechanism in the SO:TO ODI-F for enhanced services requested that are unfulfilled?***

The ability to provide enhanced ratings via DLR is dependent on two things: weather conditions and whether DLR has been implemented on that circuit. Penalising TOs for weather conditions is clearly unreasonable as those are out of their control, so any clawback mechanism should avoid that.

However, a clawback mechanism may be appropriate where NESO/Ofgem have clearly signalled to a TO in advance that DLR would be beneficial on a circuit, but the TO has chosen not to implement DLR on that circuit. Applying a clawback whenever enhanced services were required but not available on that circuit would strengthen the incentive for the TO to implement DLR on that circuit.

***ETQ18: Which of the three options for managing differing approaches between TOs do you think would work most effectively in the SO:TO ODI-F?***

We consider that a modification of Option 1 would be most effective. As discussed in our response to ETQ16, our view is that the element of deployment that should lead to higher rate rewards is not whether it has been employed system-wide, but rather whether it has been deployed on a recurring, automated basis for that part of the network. That should be rewarded at a higher rate, as it delivers longer term benefit for the consumer.

We think Option 3 is likely to be infeasible in practice. As described in our response to ETQ16, the technical solution that maximises net benefit for consumers may vary on a circuit-by-circuit basis. Suitably ranking by technological preference across circuits and TOs would be complex and open to challenge, particularly if the systems have not been implemented in parallel. As a result, it is likely that Ofgem would probably have to adopt a simpler and more streamlined approach to assessing technological preference. Such a streamlined approach is unlikely deliver the right incentives to TOs and so consumer benefits would be reduced.

***ETQ71: Do you agree with our proposed 'stepped' design of the RIIO-ET3 TIM, including the values that we have used to set each 'step'?***

We agree with the proposed ‘stepped’ design of the TIM. However, we think that the rates should be asymmetric beyond 15% and different rates are needed for different sectors. For Electricity Transmission, we agree with Ofgem’s proposals for underspend. It’s right to return any underspend beyond 15% to consumers, because it’s likely to have been caused by key infrastructure not being built, so that “refund” to consumers nets off (partly) against any increase in constraint costs. However, we recommend a 25% incentive rate for all overspend, as 15% overspend is likely to be caused by a loss of cost-control, not over-delivery of infrastructure.

For Gas Transmission and Gas Distribution, we recommend a 25% incentive rate for underspend up to 5% of totex, a 5% incentive rate on all underspend larger than 5% of totex, and a 50% incentive rate on overspend. This is because in gas distribution (and possibly transmission), there’s a risk of incentivising unnecessary investment just so that the network company stays within the 15% threshold.

***TQ72: Do you agree with our proposal to include ASTI within this TIM approach?***

Yes, we agree that the Accelerated Strategic Transmission Investment (ASTI) projects should be included in the Stepped TIM without any other cost sharing arrangements, to reduce opportunities for gaming or cost shifting.

**Innovation funding questions:**

***OVQ22: Do you agree that £2.5m of additional NIA should be used to provide enhanced advisory services for innovators at the early stages of innovation development?***

We support this funding allocation. We have [previously made the case to Ofgem](https://es.catapult.org.uk/consultation/ofgem-riio-3-sector-specific-methodology-consultation/) that a ‘SIF Accelerator’ should be introduced to help innovators navigate the complex landscape of energy networks and network innovation funding. If set out correctly, the proposed advisory services could help achieve these outcomes.

The Catapult is especially well placed to support Ofgem in developing – and potentially delivering – the innovator advisory services. Our [Energy Launchpad service](https://es.catapult.org.uk/what-we-do/energy-launchpad-and-international/incubation-and-acceleration) has provided tailored support to [SMEs of different stages of maturity](https://es.catapult.org.uk/what-we-do/energy-launchpad-and-international/universal-innovation-hub), [enabling them to raise 70-100% more funding](https://es.catapult.org.uk/report/difference-in-differences-analysis-of-sme-impacts/) that would have otherwise been the case.

***OVQ23: Do you agree with our approach to improving oversight and reporting of the NIA?***

We support greater transparency over what NIA projects set out to achieve, how they have attempted to do so, what has been learned, and how those learnings would inform what the network companies and Ofgem do going forward. To do so requires more complete, high-quality and timely reporting from the networks on innovation projects – as per Citizens Advice’s recent recommendations.[[2]](#footnote-3)

In strengthening oversight, Ofgem must be careful not to inadvertently discourage genuine innovation. Truly innovative ideas and technologies will often fail – that should be acceptable to Ofgem and to the network companies and be treated as a learning opportunity. This, too, requires improved transparency.

***OVQ25: Do you agree with our proposals to introduce a ‘Programmatic Approach’ to the SIF?***

We support the idea, although of course the detail of how this is achieved will matter greatly. It is important that the SIF focuses on unlocking transformative innovation, so Ofgem must guard against the risk that it becomes another mechanism by which to deliver near-term objectives that should be funded through the standard totex allowance.

***OVQ27: Do you agree that the deployment fund should also be open to innovation projects that haven't been funded through NIA, NIC or SIF?***

We support the creation of a deployment fund – in a [previous submission to Ofgem](https://es.catapult.org.uk/consultation/ofgem-riio-3-sector-specific-methodology-consultation/) we noted the funding gap that innovations can face between proof-of-concept and deployment at scale. The deployment fund would be most effective if targeted at addressing the barriers to deployment at scale – such as mitigating risks that remain after the trialling phase.

***OVQ29: Do you agree with our proposals to retain the core aspects of the SIF for RIIO-3?***

We support the retention of the current design and phasing of SIF projects. In particular, a distinct Discovery phase is useful for exploring innovations that have greater potential to be transformative (and, therefore, also have a higher probability of failure).

***OVQ31: Do you agree with updating the SIF eligibility criteria and assessment process?***

We support a more flexible approach to contribution rates, particularly the reduction in mandatory contribution for riskier projects and where most of the benefits may not accrue for the network companies. We also support Ofgem’s intention to review the eligibility criteria and assessment process. To encourage that lessons from SIF projects best feed into network companies’ business-as-usual activities, we encourage Ofgem to use a systems approach to assessment – such as the Catapult’s [Aspects of Integration](https://es.catapult.org.uk/tools-and-labs/our-place-net-zero-toolkit/aspects-of-integration/).

***OVQ32: Do you agree with our proposal to establish a direct pathway for transformative projects to seek Ofgem's support for funding?***

We strongly support this idea. In some cases, NESO’s role across the energy system would make it well placed to act as the lead “network company” on projects that do not have a natural home with the transmission companies, GDNs or DNOs. However, Ofgem should also explore the potential for other organisations to lead such innovation projects.

***OVQ33: Do you agree on the need to clarify roles and responsibilities within the innovation ecosystem, and the factors that we should consider?***

Many of the innovators we work with find it difficult and costly to navigate the innovation funding landscape or work out whose approval they require in order to take their offering to market. So we support Ofgem’s intent to help make this landscape easier to navigate. We’d encourage Ofgem to look beyond the energy sector and collaborate with other regulators – perhaps through UKRN – as increasingly we are working with innovators whose propositions span different sectors, such as energy and financial services, energy and transport, and energy and telecommunications.

***OVQ34: Do you agree with our approach to improving reporting of deployed SIF projects and lessons learned post-funding?***

See response to OVQ23.

**Regulatory Depreciation:**

***FQ24. What are your views on our proposal to accelerate depreciation for new assets only in GD and is there any further evidence you would like us to consider before we reach a final decision?***

We do not offer comment on the specific depreciation profile that Ofgem has set out. However, we note an apparent inconsistency when looking across the GD draft determination:

* On the one hand, Ofgem is proposing to accelerate depreciation on the basis that usage of the gas distribution networks is expected to fall substantially
* On the other hand, Ofgem is proposing to allow an 8% increase in totex compared to RIIO-GD2 (after adjusting for inflation) and this figure typically rises between draft and final determination.

We recognise that Ofgem cannot run ahead of a government decision on hydrogen for heating, which in effect is a decision on the future of the gas distribution networks. Ideally, Ofgem would seek guidance from government on this matter in time to inform the final determinations. But we think that, as a minimum, Ofgem needs to look across the settlement to ensure that it is consistent and that it is cohesive with the likely future of the gas distribution networks that Ofgem is envisaging.

1. [RIIO-3 Draft Determinations for the Electricity Transmission, Gas Distribution and Gas Transmission sectors. Ofgem.](https://energysystemscatapult.sharepoint.com/sites/MarketsPolicyandRegulation/Shared%20Documents/Consultation%20response%20drafts%20and%20submissions/LIVE%20consultation%20drafts/RIIO-3%20Draft%20Determinations%20for%20the%20Electricity%20Transmission,%20Gas%20Distribution%20and%20Gas%20Transmission%20sectors) [↑](#footnote-ref-2)
2. [Citizens Advice (2025), Making Innovation Count - A Transparency Review of NIA and SIF Projects](https://www.citizensadvice.org.uk/policy/publications/making-innovation-count-a-transparency-review-of-nia-and-sif-projects/) [↑](#footnote-ref-3)