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Citizens Advice response to ESO consultation: “Offshore Coordination consultation”

Dear Sir or Madam,

Thank you for the opportunity to respond. This submission is not confidential and may be published on your website.

We welcome this ESO consultation which uses a systems approach to considers how to better coordinate the development of offshore wind and interconnectors to reduce overall long term impacts and costs for consumers. We think the cost benefit analysis (CBA) provided strongly makes the case that an integrated approach offshore has the potential to save consumers money. The ESO estimates £6 billion, or 18 per cent, in the capital and operating expenditure between now and 2050 by reducing duplication and avoiding a range of expensive pinch points on the network. The approach could reduce environmental and societal impacts offshore and for coastal areas by minimising infrastructure developments. There will also be economic and commercial benefits from a clearer delivery approach, alongside a policy commitment to offshore wind development, which is likely to benefit numerous communities.

We appreciate the ESO’s speed of progress, and the setting of an ambitious timeline for this work ahead of RIIO-2 to support action to achieve Net Zero targets. We are pleased to see that this includes a significant stakeholder engagement effort to reach relevant groups directly and through the ENSG.

We are aware that BEIS is pursuing an Offshore Coordination Review and that the ESO is also planning a second phase to this project. In our view, it would have been helpful to have been provided with clearer scope of these various pieces of work and how they contribute to determining the ESO’s options for unblocking barriers to achieving the recommended approaches.

The ESO approach

The Phase 1 approach in this consultation has outlined a conceptual system design deliverable with a minimax regret approach. Which, through a yet undefined form of system operation coordination, could deliver the potential benefits. This appears to be a sensible approach.

Over the timeframe of 2030 and 2050 targets of a coordination approach, there are significant unknown political, policy, regulatory, technology, competition and environmental risks. The ESO produced the CBA in a way which was highly practical given the timescales and the high levels of uncertainty.

Given the numerous uncertainties which all risk heightened network cost and underutilisation inefficiencies that consumers could be exposed to through failure in the coordination approach, we think there is more to be done to model reducing regret in several high regret scenarios and looking at how the coordination approach might be adapted in these instances. A key area is where there is heightened localised impact of high regret outcomes on consumers. Alongside the minimax regret approach in the consultation documents, we would like to see how consumer exposure to risk can be managed and minimised within a coordination approach¹.

As outlined, in response to RIIO-2 draft determinations² and ED2 SSMD³, we recognise it is for BEIS and Ofgem to define a methodology for highly anticipatory investments that manage consumers' exposure to unnecessary costs in electricity networks.

Without having a CBA that factors in possible ESO responses to potential inefficiencies or which outlines flexibility within the coordination approach there isn't yet a holistic approach to evaluate. We do not have a clear picture yet of how consumer exposure to risk from the significant unknowns in the coordinated approach will be addressed.

Coordination approach delivery

One of the key uncertainties would seem to be achieving a governance and system coordination decision-making process to ensure it interlinks with transmission and distribution operator objectives and their consumer outcome priorities. A challenge we see in appraising the coordination approach as an

¹ NGESO (2020), [Offshore Coordination Approach](#)

² Citizens Advice (2020), [Citizens Advice response to RIIO-2 Draft Determinations for Transmission, Gas Distribution and Electricity System Operator](#)

³ Citizens Advice (2020), [Citizens Advice response to Ofgem RIIO-ED2 Methodology Consultation](#)

option for consumers is that we don't yet have a view of how government, Ofgem and the ESO can facilitate or own this objective and we encourage further efforts to systematically address this challenge.

The ESO has looked at a number of options that might help in the delivery of a coordination approach. For example, looking at how the existing tools the ESO has to shape energy system architecture. This includes the Offshore Connections Review, partial or full review of the CION, SQSS review, the Electricity Ten Year Statement (ETYS) and the Network Options Assessment. We encourage the ESO to be proactive in defining the system architecture functions and mechanisms it would need to deliver an offshore coordination approach. Clear ownership of a coordination approach will be required.

We welcome the work the ESO has done to identify an alternative approach to individual point-to-point, or radial, links form of network delivery. However, a key component of the approach will be the delivery mechanisms that make it possible and will determine the risk profile relative to the current delivery model. We are keen to understand more about allowances for variance in prediction and unknown impacts and how they will be mitigated.

We encourage the ESO to consider a transparent way of equating competing consumer bill impacts against the social and environmental outcomes perhaps drawing on the work being done on developing a social return on investment tool⁴.

Copied below we have provided an overarching response to a question about risk barriers.

We look forward to working with the ESO, Ofgem and BEIS to understand how the coordination approach might be taken forward.

Kind regards

Ed Rees
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Citizens Advice

⁴ This tool is being considered as part of the RIIO-ED2 Customer Service, Vulnerability and Connections Working Group for use in the ED2 price control.

Q1. Do you agree with our assessment of the key technology and system risk barriers coming from the Holistic Approach to Offshore Transmission Planning Report?

The current offshore wind network transmission and distribution policies aim to deliver individual project outcomes by prioritising the efficiency of each project. However, for the most efficient delivery of multiple projects contributing to an overall outcome, each individual project can be comparatively less efficient but can better achieve better cumulative efficiency.

A coordination approach to offshore wind, therefore, offers potential efficiency savings but also, due to greater overall forecast uncertainty, greater risk that asset utilisation could be cumulatively less efficient. The level of risk in coordinating multiple projects towards an overall outcome depends on the efficiency of individual projects relative to the current strategy for individual projects and on the risk attached to the uncertainty of the key outcome.

If a decision is taken to pursue this approach the ESO will need to be alert to the array of top-down and bottom-up system development risks the ESO can directly or indirectly influence, but may also be outside of its scope. There are a huge number of variables impacting offshore wind system utilisation under a coordination approach and consumer benefits related to delivery.

The anticipated efficiencies will be achieved above a threshold of generation delivery, below this level consumers will be overpaying. If a coordination approach is approved, the ESO will need to conduct a range of analysis to better understand uncertainty. This includes a governance and risk management approach for the diverse system development factors and alternative pathways where localised efficiency benefits of a coordinated approach are at significant risk.

The system risk in realising the benefits of the coordination approach will include political and policy impacts beyond the control of the ESO. For example, relating to the government commitment to the quantity of offshore wind or the factors that impact the cost-benefit of generation delivery. To understand the risks to consumers under a coordinated approach if future conflicting future policy choices are made, we think it is prudent for the ESO to model the scope of policy dependencies that will realise the objective target generation capability to provide a clear view on strategic alignment with wider energy system deliverables.

A coordination approach will also require close monitoring of how energy demand impacting policies development will impact energy generation requirements of the system. This will be an important factor for ESO to consider. As a result, there is a key ESO role in working closely with DNOs to understand

DSO development and forecasting. As Citizens Advice raised in response to ED2⁵, the GB distribution networks' DFES plans are of varying quality, with limited consideration of offshore wind, and this will impact the clarity of system needs, which the ESO will need to consider in system risk assessments. This approach is also important to understand the trade-offs in offshore wind generation connection directly to distribution and transmission networks to maximise consumer value.

Huge challenge

Aurora Energy Research found earlier this year found that meeting the 40GW of Offshore Wind target could mean installing 260 new turbines on average every year for 5 years⁶. The ESO has highlighted a number of these variables impacting this delivery that are within their influence.

For example, a key component to release the full benefits of a coordinated approach is high voltage direct current (HVDC) circuit breakers. We support the ESO's consumer risk minimisation approach by encouraging a targeted innovation strategy to help progress HVDC circuit breakers. This is a good example of system signalling upwards to policy and governance - as well as downwards to innovators the required role in minimising consumer risk to deliver coordination. We think the ESO should be monitoring impacts of issues that will determine value realisation irrespective of whether they have control of the variable. It will likely be for Ofgem and BEIS to weigh and assess system outcomes and wider benefit and detriment considerations.

Other challenges include government's ability to grant new seabed licences and project contracts at speed; ensuring ports can manage loading of turbines on and off ships; the availability and training of a skilled workforce; and the risk of not being able to manufacture the assets in the required multitude. There are numerous other risks that exist in the timing and development of an offshore grid.

Net-zero ambition

As raised by the ESO, the speed of transition to the coordination approach may limit to which existing projects it can be applied. To factor in this uncertainty and

⁵ Citizens Advice (2020), [Citizens Advice response to Ofgem RII0-ED2 Methodology Consultation](#)

⁶ Aurora Research (2020) [Reaching the UK Government's target of 40GW of offshore wind by 2030 will require almost £50bn in investment](#)

the scope of change required, we encourage the 40GW government target to be based on a realistic view on the timing of integrating a coordination approach.

The data used to model where generation will develop around the UK adds risk to consumers if generation and the benefits of generation are not delivered in the form of technology or anticipated geographical spread that is predicted. The data about generation development for this forecasting needs to be as comprehensive as possible given the scope for the impact of inaccurate forecasts. We think this creates a strong public interest for access to planning data.

Regional impacts

The ESO has used a relatively simple assumption that offshore developments that meet the overall government targets will be distributed evenly across the offshore development regions. This assumes that connection cost and demand drivers will be largely equivalent through to 2050. This means limited impact for the Future Leasing Key Zones Round 4 areas - if some form of coordination approach can be used. For 2050 targets we would expect sensitivity analysis of this assessment to consider where geography, technology and energy demand is most likely to impact the delivery of generation projects.