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ESO Response to the proposal to introduce the Future Regulation Sandbox Call for Input

Dear Victoria,

Thank you for the opportunity to respond to your call for input on the proposal to introduce the Future Regulation Sandbox.

Who we are

As the Electricity System Operator (ESO) for Great Britain, we are at the heart of the energy system, balancing electricity supply and demand second by second.

Our mission, as the UK moves towards its 2050 net zero target, is to drive the transformation to a fully decarbonised electricity system by 2035, one which is reliable, affordable, and fair for all. We play a central role in driving Great Britain's path to net zero and use our unique perspective and independent position to facilitate network and market-based solutions to the challenges posed by the trilemma.

Our transformation to a Future System Operator (FSO) is set to build on the ESO's position at the heart of the energy industry, acting as an enabler for greater industry collaboration and alignment. This will unlock value for current and future consumers through more effective strategic planning, management, and coordination across the whole energy system.

Our key points

- The pace and scale of change needed to achieve a net zero energy landscape are significant and needs innovative solutions to drive consumer engagement, deliver flexibilities and optimise the benefits of whole energy system coordination.
- We agree with the need to strike the right balance between rules not getting in the way of innovation and rules being in place to protect consumers, energy systems and efficient market functioning.
- We believe that the FRS could be a very useful tool in the policy-making process, and we agree with the high-level principles of design outlined in the call for input.
- We would be very happy to share our own experiences and learnings from Project REVEAL and would be glad to collaborate to ensure that the processes for any future ESO sandbox and the FRS are aligned. We believe this would be beneficial for innovators and help to produce viable solutions with less friction, at speed, to deliver more benefits to consumers.
- We would anticipate that REVEAL and FRS would be complementary so that a trial in FRS which would impact on the operation of the system could be managed through REVEAL rather than through the

existing live environments, promoting greater agility and minimising risks. We also see a future point where relevant pre-live simulations could be tested in the Virtual Energy System.

We look forward to engaging with you further. Should you require further information on any of the points raised in our response please contact Caroline Rose-Newport, Innovation Manager, at caroline.rose-newport@nationalgrideso.com.

Yours sincerely

Anna Carolina Tortora

Head of Innovation

Appendix 1 Consultation Question Responses

Question 1: Do you agree with the problem we've identified in the potential for friction in the relationship between innovation and regulation? Do you have examples of where this friction arises and its consequences?
We agree that there is a potential for friction in the relationship between innovation and regulation.

Question 2: What are your views on the fundamental idea of using trials of innovations and regulation to inform decisions about rule changes, particularly our proposal for these trials to be regulator-led rather than innovator-led?

Whilst one of the benefits of a regulator-led approach is the ability to ensure consumer interests are central to the trials being run, we think that there could be further benefit in considering a hybrid approach with innovators working closely with the regulator. Innovators may also propose a better way to carry out existing activities as well as coming up with entirely new suggestions. We believe that it is worth harnessing this value by making sure there are opportunities for innovators to be heard in the design of an FRS trial.

Question 3: Do you have any other ideas for what types of trials could be run in an FRS? Please note Questions Q21–Q26 focus on the actual issues that FRS trials could address

As well as running trials of innovative technologies we think there is value in trialling code modifications, simplifications and exceptions which may stimulate existing technologies in new ways to derive greater benefit for consumers.

Question 4: What should we consider as we design the processes that would deliver the FRS? Are there any learnings we can take from our existing Energy Regulation Sandbox, or the derogation frameworks of the BSC, DCUSA, REC and UNC, or other similar programmes?

As the trial would operate in a live environment, we expect that the proposer would complete a thorough impact assessment. The aims of the trial should be clearly articulated with the means of measuring the outputs defined and clear controls in place to manage risks, with the ability to incorporate learnings throughout the process built in.

Question 5: In relation to stage 1: How should we gather ideas for FRS topics from across the sector on an ongoing basis?

For NIA or SIF funded projects, it could be indicated during project scoping if they could benefit from an FRS trial to test outcomes. The timescales required for SIF Beta phases should be considered as part of the FRS process design (and vice versa) to ensure the 2 can work together.

Code Administrators may also have suggestions for topics to include which could originate from discussions at Panels or Working Groups about the issues faced by participants about barriers to development. The proposed topics could be presented at a stakeholder meeting, to give an industry view of what their priorities are to inform Ofgem's decisions on what to take forward to trial.

The ESO will also be looking at making recommendations for potential framework change from a Whole Energy System perspective. Following assessment of specific areas of industry frameworks, it may be appropriate to recommend topics for further development through an FRS trial to refine the best solutions.

Question 6: In relation to stage 2 (Consolidation): How should we prioritise the ideas that are brought forward?

A coordinated approach is required, looking at different approaches to solving problems in the key areas identified which would be prioritised based on consumer benefit and progress towards net zero ambitions.

Question 7: In relation to stage 3 (Consultation & Invitation): What information should we publish at this stage a) to enable innovators to decide whether they wish to apply to participate in an FRS trial, and b) to enable a wider pool of stakeholders to feed into the design of a given FRS trial?

There needs to be clarity on timescales, the outcomes being investigated, and how the trial might evolve. If there is going to be a feedback loop which would mean that the trial would or could change as it is in progress, then it would be helpful for this to be made clear at the outset.

Other information which participants may find useful in deciding whether they wish to apply for a FRS trial, would be clear outlines of roles and responsibilities, data and reporting obligations, the interaction between data privacy and shared learnings. When outlining the scope and boundaries of the proposed trial it could also be useful to invite suggestions on how the proposal could be enhanced at this stage.

Question 8: In relation to stage 4 (Application and Set-up): What should we consider for the application and set-up stage?

At the application and set-up stage, it is important in our view to consider if there are clear consumer benefits with a route to mass adoption post-trial. It should also be clear what the regulatory barrier is and how the trial will address this. It would be most helpful to identify any regulatory derogations required at this stage and to understand at an early stage any impacts across industry that will have to be managed.

Alongside these, the impacts on the wider market and timelines for readiness and implementation are important to consider.

Ensuring that the detail is sufficient at this stage will enable the success of the pilot projects, including making sure that any boundaries or limitations are well defined, and the required outcomes are fully understood, including when the original hypothesis has been proven or disproven and the trial has concluded. Understanding the baseline data and making sure that the monitoring and reporting requirements are fully understood are key to running an effective initiative.

There should also be a plan for how the data gathered and the conclusions of the trial will be used to build an action plan post closure of the trial. This is key to ensure that the pilots trialled deliver benefit for consumers.

Question 9: In relation to stage 5a (Execution and Iteration): What are your views on the possible designs of Sandbox environments? What else should be part of Sandbox environments to ensure we maximise consumer protection, and our learning about innovation and potential rule changes? In particular, do you have any views on our suggestion that the FRS environment may change over the course of a given trial?

Consumer benefits should be at the heart of the design process. On a practical level, setting out parameters such as whether applications would be assessed on a case-by-case basis or would be considered within a time-bound review period, is helpful for potential participants so that they can plan effectively. As mentioned previously, having clearly understood goals, a robust baselined data set, clear accountabilities of participants regarding data gathering, reporting, and sharing, with fully agreed data definitions to ensure all are capturing and reporting against the same criteria.

The flexibility to evolve and accommodate learnings in the trial and the conditions and controls for any extension or derivative need to be agreed too.

We have covered key aspects of these considerations and other elements of the design of a trial, in the ESO's REVEAL NIA project. We would be happy to share our findings and input to further discussion and development on this.

Question 10: In relation to stage 5a: What monitoring and data/information sharing requirements should be in place for participating innovators to ensure we gather the right information to inform regulatory decision-making, and ensure that the wider sector benefits from the trial findings?

Whilst the protection and security of data is paramount, as outlined in the principles of the Data Best Practice Guidance, we would like to see the presumption of open data facilitated. It should be very clear at what point, and through which mechanisms, data sharing will occur. Personally Identifiable Data which is gathered should be anonymised and this requirement should be set out clearly to ensure adherence with GDPR obligations. The data requirements to enable the participants to validate ideas and the authority to make informed decisions needs to be identified and agreed at the design stage. The data gathering needs will vary from initiative to initiative based on the problems the FRS is seeking to provide insight on. The key issue is that all participants should be clear on "what's being measured", as well as "how and why".

Evidence and data are key to building a robust case for change for code modification processes and data that potentially may be required to support decision-making should be identified at this point in order for it to be gathered throughout the trial. This could be informed by Ofgem, Panels and Code Administrators.

Question 11: In relation to stage 5b (Monitoring and Learning): How should we ensure that market participants and stakeholders not taking part in the FRS trials themselves have sufficient voice in the design of the FRS and any rule changes which are proposed following a trial?

Identifying the key stakeholders impacted by the FRS trials is crucial and ensuring that there is engagement at significant milestones which is inclusive of other interested parties, beyond the participants in the trials would help to ensure that other voices are included.

Consideration should also be given to developing a process that allows for non-participants to access the results and learnings or outcomes of FRS trials. Whilst some parties may not have the resources available to participate themselves, they could still benefit from the learning, so some form of knowledge transfer and sharing in an easily accessible format or portal would be beneficial.

Question 12: In relation to stage 6 (Regulatory Reform): What should we consider when thinking about transition arrangements after a trial has come to an end, and before making decisions about permanent rule changes?

There should be a clear path from the trial results to the resulting modifications for example, a condensed process using the evidence gathered as part of the trial. Consideration should be given to detailing the criteria for any modifications as part of the trial design to ensure that results are gathered and reported in the most appropriate way for inclusion in a modification process. Where a derogation has been granted as part of the trial then consideration needs to be given to making changes to codes and any wider impacts across industry.

Question 13: In relation to stage 6: Recognising that we cannot promise a particular outcome, how should we communicate our thinking and intentions around implementing rule changes after an FRS trial?

We think that a clear and concise summary of the findings and outputs of the trial along with publication of any impact assessment and considerations of wider market implications would be useful in communicating the thinking and intentions around implementing rule changes. We expect that reforms related to an FRS trial would be demonstrably aligned to strategic objectives such as security, consumer value and a transition to net zero.

Question 14: If you are an innovator, based on what's been set out, would you consider taking part in the FRS? Please explain why yes or no. If you're unsure, what further information would you need?

No comment.

Question 15: Do you agree with the benefits that we think participants get from taking part in an FRS trial? Do you see other benefits we haven't mentioned?

We agree with the benefits described in the call for input.

Question 16: Do you have any views on the regulation that we consider to be in scope for the FRS, in particular whether the scope is sufficient to tackle key frictions between innovation and the energy system rule book? (see Box 4 on page 26 for an overview of the rules in scope)

We think it would be beneficial to have all codes within scope of the FRS, so that the impacts of changes are considered across the end-to-end energy process and across all stakeholders so that the impacts of any derogations are thoroughly considered. It would be inefficient to run a trial through the FRS to then face challenges across other codes which have not been included in the scope of the FRS.

Question 17: What should we consider when thinking about enabling innovators/ innovations to take part in the FRS that are funded through other programmes and funds? What would good alignment with these programmes look like to make participation easier?

The impact of resources at smaller organisations should be considered carefully in the design so that this does not become a barrier to entry. We have learnings from our Project REVEAL which we would be happy to discuss to ensure that the design does not exclude any innovators based on their organisational size.

Question 18: How can we ensure a diverse range of market actors can participate in an FRS trial? What, if any, support would be useful to enable non-licensed entities/ those not party to an industry code forming partnerships with those licensed/ party to a code?

Whilst the FRS does not provide funding itself, funding models to support different entities could be explored and communicated, as limiting the FRS to existing market participants may be a barrier to innovation itself. Consideration of the concerns of smaller organisations such as Small-Medium Enterprise and start-up organisations around the types of information they may be required to share should be considered as part of the FRS trial design. Sharing results is essential and this has to be balanced with encouraging smaller parties whose business case may be built on retaining their Intellectual Property rights.

Question 19: Do you agree with the benefits we've identified here and elsewhere in the call for input? Do you see any additional benefits of the FRS proposal to consumers, innovators, Ofgem or the sector as a whole?

As stated in our response to question 15 we agree with the benefits for participants. As the proposal develops, we would expect that for FRS trials the expected benefits would be at a greater level of detail to support the engagement needed across the energy sector, including consumers to achieve the flexible environment needed to drive net zero ambitions.

Question 20: Do you have comments on the risks we've identified and how we're proposing to mitigate them? Do you think there are additional risks or mitigations we should consider?

We agree that any changes resulting from an FRS trial should be subject to the usual open industry-wide change process so that the potential risk of FRS trial participants unduly influencing the regulator and Code Administrators.

There may be a number of risks around identifying the right entry criteria for an FRS trial; ensuring the trial considers all the impacted areas from the outset and throughout the trial period, ensuring that the broadest range of innovators are able to participate and ensuring that the size and funding opportunities for different participants does not influence the output. As outlined in some of our earlier answers, we think that all organisations regardless of size, need to be encouraged to participate to obtain the best solutions and give a robust evidence base on which to consider amending the regulated environment.

Question 21: What innovations and market trends are challenging the current state of the energy sector rulebook (particularly rules in Ofgem's and Code Administrators' remit)?

There may be a number of innovations and market trends which may be challenging for the current energy sector rulebook, and we would expect that the FRS trials would be designed to ensure that obtaining consumer benefit is considered holistically across the whole system.

Question 22: Which rules, or areas of the rulebook, need modifying to enable or respond to a particular innovation or trend? Why do you think they need evolving? Do you have ideas for how they should change?

No comment.

Question 23: What are the challenges in the energy sector that may benefit from us putting out an open innovation challenge to convene innovators and solutions around a problem (see example 1 in Box 1, page 13)?

The ability to test market structures in a way that encourages widespread consumer engagement in a more flexible energy system is a challenge that may benefit from an open innovation challenge. Looking at issues in the round and taking a holistic approach to finding solutions around a problem, may mean that initiatives viewed in isolation which would not have a large enough benefits case to progress, could be considered as part of a larger piece, where the whole is greater than the sum of the parts.

Question 24: Are there particular innovative solutions that could be enabled and tested through an innovation trial (see example 2 in Box 1)?

An innovation trial would be useful to understand how innovative approaches to problems work in a trial environment which reflects the real-world situation. The FRS approach could be an effective way to de-risk change by considering the necessary governance changes and obtaining the evidence needed to facilitate more widespread adoption in a controlled manner.

Question 25: Are there options for how Ofgem or Code Administrators could change their rules that would benefit from being tested through a regulation trial (see example 3 in Box 1)?

The potential to validate different regulatory approaches across ring-fenced FRS trials could be beneficial in that it would be an additional set of evidence-based data to feed into the Code Administrators governance processes. It may indicate areas where simplification and de-duplication is possible.

Question 26: There are activities and actors in the energy market that are not regulated by Ofgem but may be in the future. Do you think the FRS could be used to trial future regulatory regimes? Do you think unregulated entities would be interested in taking part in an FRS that trials potential future rules?

As there may be multiple entities engaged with the supply and management of energy to consumers, trialling regulatory options in an FRS environment could be highly beneficial, and we think that it would be vital to encourage all actors in energy market to participate so that the risk of making incorrect assumptions about the impacts on unregulated entities is reduced and to ensure that consumer protections are maintained.