Dear RIIO-2 team,

currENT is a new energy trade association that represents innovative grid technology companies operating in Europe. currENT's members develop and supply innovative technologies that optimise and maximise use of the existing electricity grid.

Several of currENT's members have collaborated with network companies in the UK to make better use of the transmission and distribution networks. We find that often system operators can be reluctant to trial and implement new technologies or solutions due to the perceived 'innovation risk'. This slow uptake of innovation can result in consumers losing out on the significant benefits of these often transformative technologies. For example, solutions that enable system operators to utilize more capacity on their existing networks can result in consumer savings by deferring the need for large capital investments.

In contrast, we have found that the introduction of the RIIO model in GB has incentivized network companies to embrace and implement new technology, and we have used it as an example of how regulation can drive innovation in networks for the benefit of both the energy system itself and consumers.

The output-based approach to regulation has ensured that the focus of network companies is more on the target outcomes of network investments rather than the type of solution chosen (i.e. technology neutrality) and whether it is CAPEX- or OPEX-based. By reinforcing this output approach with strong incentives and obligations, the regulatory regime has supported greater investment in trialing new technologies, and ultimately transitioning these technologies to Business as Usual (BAU) investments.

CurrENT acknowledges that there are many challenges in today's world for regulators like Ofgem, including information asymmetry with network companies. As an industry group, currENT strongly advocates for increased transparency and consultation on network development and operational procedures to enable industry stakeholders to share their knowledge and perspective. High levels of transparency are particularly important in network investment decisions to ensure that the assessment of solutions is a technology neutral process and to ensure that each solution is fairly considered (i.e. that there is no adverse bias against certain technologies that is unwarranted). This should involve the network companies publishing information on the new or innovative solutions that have been proposed to them by the industry or successfully trialed by

other network companies, but that they have decided not to consider for use (or innovation piloting in the case of unproven) on their network. This ensures that new technologies are fairly considered, evaluated, and ultimately taken up if they are deemed the best solution for society. We comment further on this in our response to Q7 below.

We have responded to a number of the consultation questions below. These responses reflect our main comments on the RIIO-2 Draft Determination papers;

(i)   Innovation projects should involve collaboration between network companies and have strong industry participation.

(ii)   Innovation funding must support early stage and later stage innovation (i.e. not only technology that is not "commercially available"). For example, low TRL solutions need to be piloted whereas mid or high TRL solutions have already been proven and thus the project focus should be on implementing these solutions at scale or investigating new applications.

(iii) Transparency in innovation, network development and operational processes is critical to minimise the risk of information asymmetry, maintain technology neutrality, and ultimately ensure that the best solutions for society are transparently selected and implemented.

(iv)   Given the rapid speed of innovation and the level of uncertainty in today's world, network companies should have the flexibility to adapt or change their proposed solution if new solutions become available within the price control or they identify a superior solution that meets the same network need more efficiently.

(v)   The output-based approach of the RIIO model ensures network companies remain focused on the target outcomes of their investments (rather than the type of solution chosen) and should remain strong in RIIO-2.

(vi)   Driving innovation can require significant resources from network companies and industry in the shorter-term but delivers large benefits in the longer-term; Ofgem should consider whether reducing OPEX budgets will lead to less resourcing for innovation projects and ultimately less savings for consumers.

(vii) The RIIO-2 regime must be aligned with the overall objective of decarbonizing GB's energy sector i.e. regulatory measures and instruments must support expenditure that not only contributes to more affordable reliable energy for consumers, but that also advances the grid towards Net Zero over the course of the price control.

Thank you for the opportunity to submit our comments on the RIIO-2 Draft Determination documents, and we would welcome the opportunity to further engage in the consultation process in due course.

Yours sincerely,

CurrENT Board
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Preface: The members of currENT operate in the electricity sector, thus our responses are focused on RIIO-2 for electricity transmission, electricity system operation, and electricity distribution companies.

Q7. What kinds of data do you think should comply with the data best practice guidance to maximise benefits to consumers through better use of data?

CurrENT acknowledges that information asymmetry with network companies is a challenge for regulators, and advocates for increased transparency across the electricity transmission and distribution sectors.

As an industry group, currENT strongly advocates for increased transparency and consultation on network development and operational procedures to enable industry stakeholders to share their knowledge and perspective. CurrENT commends Ofgem's progress to date on the Data best practice guidance, and continued efforts to increase transparency.

High levels of transparency is particularly important in network investment decisions to ensure that the assessment of solutions is a technology neutral process and to ensure that each solution is fairly considered (i.e. that there is no adverse bias against certain technologies that is not accurate). This is particularly important at the initial solution identification phase as it ensures that any solution that meets the defined functional requirements is eligible and that alternative options are considered as part of the selection process.

The data best practices should also involve the network companies publishing information on the new or innovative solutions that have been proposed to them by the industry or successfully trialed by other network companies, but that they have decided not to consider for use on their network (or innovation piloting in the case of unproven). This ensures that new technologies are fairly considered, evaluated and ultimately taken up if they are deemed the best solution for consumers and wider society.

Finally, transparency of innovation project reporting is also critical to ensuring that the learnings and best practices of innovation projects are shared with the wider energy

community, thus avoiding wasting money and resources on duplicating pilots of already proven technologies. This also ensures that consumers can benefit from the efficiencies and cost savings delivered by new innovations quicker.

Q21. Do you agree with our overall approach to meeting Net Zero at lowest cost to consumers? Specifically, do you agree with our approach to fund known and justified Net Zero investment needs in the baseline, and to use uncertainty mechanisms to provide funding in-period for Net Zero investment when the need becomes clearer?

currENT agrees that delivering Net Zero at lowest cost to consumers should be a priority for both Ofgem and the network companies and ESO. The RIIO-2 regime must be aligned with this overall objective so the regulatory measures and instruments must direct investments towards the best solutions for achieving Net Zero in the most efficient way.

We agree with the point that RIIO-2 must be 'flexible enough to inject necessary funding, at the right time, to enable the achievement of Net Zero' (par. 8.4). However, we propose that Ofgem provide more certainty to network companies on the additional funding that will be made available. We understand that this funding will be granted on a case by case basis over the course of the price control, but we would like to highlight the importance of network companies knowing with a reasonable degree of certainty whether their proposed additional investments will be supported by Ofgem in advance of the final investment decision. If there is uncertainty until after the investment decision is made and work is already underway, there is a risk that network companies will not be able to justify the risk of making the investment at all.
This uncertainty would be particularly damaging to investments in innovative solutions, which is inconsistent with Ofgem's objective of enabling innovation. Innovation is already perceived as riskier than traditional solutions by network companies, thus if there is an additional risk of the network company making an investment that is later not supported by Ofgem, it may create a bias against innovative or new solutions.

In many cases, innovation can be commercialized or implemented at scale in a very short amount of time due to significant technological advances and successful trials. This means that innovative or new technologies are likely to become viable solutions for the GB network during the RIIO-2 price control periods. This further reinforces our comment that Ofgem must ensure that RIIO-2 provides the flexibility to network companies to adapt, change or propose new solutions within the price control if new

solutions become available or they identify a superior solution that meets the same network need more efficiently (as confirmed by existing processes such as the NOA or other studies).

In summary, we support Ofgem's principle that Net Zero at lowest cost to consumers should be prioritized, but we also suggest that Ofgem further considers whether the proposed RIIO-2 structures provide sufficient flexibility to network companies to adjust or redirect their investments if they identify a better solution(s) to meet their system need and make progress towards the Net Zero goal.

Q24. Do you agree with our proposals for the RIIO-2 Strategic Innovation Fund?
Q25. Do you have any comments on the additional issues that we seek to consider over the coming year ahead of introducing the Strategic Innovation Fund?
Q28. What are your thoughts on our proposals to strengthen the RIIO-2 NIA framework?
Q29. Do you have any additional suggestions for quality assurance measures that could be introduced to ensure the robustness of RIIO-2 NIA projects?

Innovation is key to achieving Net Zero in a timely, efficient and cost-effective way. CurrENT agrees with the proposed SIF as a replacement for the NIC and reiterates that the focus of the SIF and the NIA should be strongly aligned with Ofgem's Decarbonisation Strategy and the UK's wider energy policy. Specifically, currENT strongly supports the proposed increased level of collaboration between third parties and network companies. Collaboration on innovation leads to better outcomes for all stakeholders as it ensures that multiple different perspectives are taken into account in the development and implementation of projects.

It must be recognized that innovative solutions fall into different categories based on technological maturity which is measured in Technology Readiness Levels (TRL). At currENT we advocate that regulation should differentiate between low TRL solutions which need to be piloted whereas mid or high TRL solutions have already been proven and thus the focus should be on implementing these solutions at scale or investigating new applications.

We believe that Ofgem's innovation funding, and specifically the NIA, should support both early stage and later stage innovation and not automatically exclude technologies on the basis that they are deemed "commercially available". In many instances a technology may have been piloted using a previous generation model or for a different application, but there would still be merit in including it in a NIA to further

demonstrate its suitability for a BAU investment or to investigate its capability for a novel application.

With the introduction of the SIF and the revision of the NIA, Ofgem should ensure that the sharing of learnings from innovation projects remains a high priority. This obligation to share learnings with other network companies and the wider industry helps to avoid unnecessary duplication of work and wasting of innovation funds to prove a technology that has already been proven.

CurrENT believes in the need for a structured transparent approach for the qualification of new technologies to support the existing innovation funding programmes. In many countries the uptake of new technologies is slow due to long pilot processes, low levels of shared learnings between network companies, and a lack of a structured process for adding new solutions to the technology toolbox. This ultimately results in a high 'cost of delay' for society.

While this challenge is less critical in GB due to the effectiveness of the NIA and NIC (now SIF), it could still be further minimized by introducing a standardized 'best practice' process for qualifying and implementing new technologies, which would enable end-consumers to benefit from the technology as early in the process as possible. This process could form part of the NIA and/or the SIF.
CurrENT has previously developed the below steps which we think could be effective in accelerating the uptake of innovation on the GB network.

- **Establish a timeline for qualification with milestones.** Progress on technology qualification should be jointly monitored by multiple teams within the network company, including the function responsible for large-scale capital investments that could ultimately implement the technology.
- **Identify the specific needs of technical qualification in advance**. The network company's teams should jointly decide what needs to be proven /demonstrated in the technology qualification process before the technology can be added to their toolkit and placed in wide scale usage on their network.
- **Identify the most efficient way of proving each component.** The relevant teams should decide on the best way to evaluate the technology in order to satisfy their technology qualification needs. This could include a reference from other network operators that have used the technology, site visits, studies (including highly detailed real time simulations), or if necessary, a pilot project.
- **Consider technologies proven in other projects.** The network company should review whether the technology was successfully qualified in other geographies

with similar standards, or through R&D projects funded by national governments or the EU. This avoids wasting research money and duplicating work to prove a technology that has already been proven.

- **Consider the need to be solved when identifying which technologies to qualify.** The network company must focus on choosing technologies to qualify that have the potential to deliver long-term value to themselves, their customers and the wider stakeholder community. This minimizes the risk of network companies spending their time and resources on qualifying technologies that are of low value to them, and instead keeps their focus on accelerating the qualification of the most strategically important technologies. Network companies should run regular market surveys and/ or look at market surveys completed by other companies to keep up to date on the solutions available to them, and ensure all relevant solutions are fairly considered.

Given the huge advantages of learning from other network companies and geographies, we believe that Ofgem should continue to strongly support this principle of a structured qualification process, best practice sharing and benchmarking. This will support faster technology assure processes in network company B when company A has already successfully piloted the technology, which ultimately benefits consumers earlier than if company B had to duplicate the pilot process.