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Graeme Barton
Ofgem
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Dear Graeme,

Re. consultation on the draft RIIO-2 NIA Governance Document

I write in response to the above. I apologise at the outset that I have not managed to make the time both to critique the proposed draft fully and to suggest well thought-through improvements. However, I hope that my observations, most of which are inserted as Comments within the pdf of the draft governance document, might nevertheless be of value in helping to improve the document and better serve energy users' long-term interests.

In the document that is being consulted on, I can see a number of areas of improvement relative to, for example, version 3 of the NIA governance document used in RIIO-1. I welcome the attempts to resolve issues related to ownership of intellectual property (IP) and access to data. As you will see from my comments in the pdf, I am not sure that the issues have yet been totally resolved.

I wholeheartedly welcome the explicit note that work at quite low TRLs and 'applied research' are within the scope of the NIA, and the encouragement to network licensees that they have a portfolio of projects working across research, development and demonstration.

One particular area of concern is the definitions of Research, Development, Demonstration, Problem and Technology Readiness Levels.

In my view, a major problem with the definitions used for the above terms is that – intentionally or otherwise – they give an emphasis to technological solutions to pre-defined 'problems' and to single technologies to the potential neglect of innovation in methods, processes or business models, or of innovations that are applicable at a system level.

A number of different definitions of technology readiness levels, the 'technology innovation chain' or 'technology performance levels' can be found in the literature[1], though arguably these all suffer from

[1] See, for example, a report on wave energy innovation, an IEA perspective on innovation or another wave energy perspective.

the same problem of focussing on individual technologies. Moreover, although it may be Ofgem's intention that the "Problem" as addressed in "Research" can have a very wide possible interpretation, there is risk of overlooking research of potential long-term value to energy users concerned with simply better defining or understanding a suspected problem or with how to exploit a potential opportunity.

If Ofgem's intention in defining the above terms is that network licensees become better at defining quite what an NIA project is intended to achieve then I would totally support that intention. However, I think it could be done through asking:

1. What risks or opportunities are being addressed?
2. What are the key uncertainties?
3. How will evidence be gathered on the key uncertainties?
4. What potential benefits would accrue or threats be avoided if the uncertainties were resolved as hoped?

The key measure of success of a project will then concern the quality of the evidence it generates. At the end of a project, the project partners should document what new information has been gained on the potential threats or opportunities, what uncertainties, if any, now remain, and what they recommend should now be done in respect of either dropping or taking forward the opportunity, or what, if anything, should now be done about the threats.

Almost all technological innovations have depended on some degree of public support, from education of the researchers to direct grants for R&D work. Public support – whether paid for by taxpayers or energy network users – to bring innovations through towards commercial viability can be part of industrial policy and can help to create sustainable jobs within a green economy. However, energy-related innovation necessary to facilitating the transition to a net-zero economy is not solely about taking products or saleable services to commercial viability.

There are system issues to be addressed in the energy transition: questions of decision making between options, about keeping options alive and the timing of investment, around societal preferences and impacts, and how to ensure stable operation of complex interactions. All parties affected by the energy system depend on gaining knowledge about the risks and opportunities associated with the system itself. That knowledge is not always commodifiable in a commercial product or easily traded, but is essential. It will be needed to inform business models, regulatory frameworks and political decisions. The processes to gain the knowledge must be well-defined and use of it well-considered if access to energy is to be reliable and affordable and public support for the transition is to be maintained. It is therefore extremely important, in my view, that governance of the NIA – and of the Strategic Innovation Fund – is not defined in such a way as to discourage or even to prevent research, development and demonstration focused on system-wide issues related to engineering, institutional arrangements or public acceptance.

Yours sincerely,