To: evaluationteam@ofgem.gov.uk

By E-Mail only
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23rd December 2021

Dear Ofgem

Call for evidence on the evaluation on RIIO-1 and RIIO-2 Innovation Funds

Sustainability First is a charity and think-tank working on sustainability issues in essential services – in particular energy, water and communications. We have a long-standing interest in innovation in these sectors. This response draws on this work and my experience as a member of the Expert Panel for the Low Carbon Network Fund / Network Innovation Competition(NIC) from 2010 to 2016, and, this Autumn, as a member of the Expert Panel for Ofwat's innovation Water Breakthrough Challenge.

Sustainability First has been a strong advocate of innovation funding in the energy and water sectors. We hope that the following points are helpful as Ofgem learns from past experience with the Network Innovation Allowance (NIA) and the NIC and considers its future approach to the Strategic Innovation Fund (SIF).

The points made below on the importance of cross-sectoral innovation and innovation on social issues and climate impacts are directly relevant to the questions in the call for evidence on the **involvement of third parties** in innovation bids. Partnerships with third parties can help energy companies in terms of: bringing in new insights and ideas; plugging gaps in expertise; tackling systemic risks; and developing more joined-up solutions. Third party collaborations can also bring a crucial element of 'lived experience' into projects which is important for consumer / community focused innovation if this is to succeed in practice. However, it is also clearly important that projects are not just used by the third party to grow their own businesses.

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1. Enabling and incentivising cross-sectoral innovation

Some of the greatest opportunities for transformative innovation for more sustainable outcomes are likely to come from joint cross-sectoral approaches. Ofgem will be aware of many of the interdependencies between energy and other essential services sectors, as outlined in our recent Viewpoint from Maxine Frerk, Do water and energy mix?

From experience in the Ofwat innovation competitions this year, there is a high degree of commonality in the issues covered by energy and water innovation projects. For example, both sectors have funded projects that have looked at sensors/robots, open data/predictive analytics/AI and consumer behaviour change - as well as projects related to decarbonisation. We would note that there is also thinking elsewhere on the intersect between communications and climate change and the need for new and innovative approaches there (see for example this report on spectrum issues).

Regulators, and ultimately bill payers, are spending millions of pounds on innovation projects. Getting better join-up between regulatory innovation funding initiatives at a strategic level should help to increase both impact and efficiency and ensure all sectors are better placed to deal with systemic risks and wider systems issues. Ensuring funding criteria enable, encourage and incentivise bid teams to look at cross-sectoral opportunities at the early formative stage of project formulation, rather than later in the project once the key activities have started to take shape, would in our view be beneficial.

A themed strategic review of the lessons learned from innovation projects and approaches in each sector (and where relevant, such as on vulnerability issues, from other sectors such as financial services) would be helpful. The UKRI's administration of the SIF should help it to proactively address cross-sectoral issues in this way.

2. Innovation and social issues

From experience in both sectors, the majority of innovation bids tend to be technically focused on delivering energy or water rather than concerned with social issues, such as consumer vulnerability. It is positive that NIC projects have had to include their impacts on vulnerability. Given the importance of ensuring a just or fair transition, and the contribution of energy costs to the cost of living crisis, it will be important that this social focus is also retained with the SIF. It will also be important that the SIF gives sufficient weight to behaviour change in projects – both on the part of individuals but also communities – given that this will be crucial to deliver net zero and can influence social outcomes.

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Given potential issues around the future of heat and vulnerability, there is clearly scope for further innovation projects in this area.

It is important that any technical review teams that are used in project assessment have the skills needed to assess the social and behavioural change aspects of any bids. This includes understanding vulnerability and fuel poverty in the UK context.

3. Innovation and climate impacts

The Independent Assessment of UK Climate Risk in 2021 (CCRA3) has highlighted the risks that energy infrastructure faces from the impacts of climate change and the need for the sector to increase focus in this area. The SIF will need to support innovation that enables the energy sector to address the following risks:

a) Changing frequency and intensity of surface water and coastal flooding.
b) Risks to buried infrastructure such as gas pipelines, with damage potentially becoming more frequent in future due to flooding (affecting bridges that carry pipelines) and subsidence.
c) Hydroelectric power output can be affected by high and low river flows, which may be affected to a greater extent in future due to expected changes in rainfall patterns. Impacts have been seen in recent years, including reduced generation in 2018 due to the very dry summer. The potential for reduced water availability in future could reduce output of thermal power generators and potentially biomass and gas power output.
d) Storm Arwen has reinforced the very real impacts that high winds can have on resilience both directly and indirectly (eg on communications and transport infrastructure). The future risks from wind and lightning are more uncertain than for other hazards.
e) Household heating demand is very likely to decrease due to warmer winters, and cooling demand is likely to increase in hotter summers if air conditioning uptake increases. These changes may alter the pattern of peak electricity demand for energy companies.

Partnerships with third parties, particularly local actors and civil society groups, that have lived experience of climate impacts, is likely to be particularly important when considering innovation projects that have direct consumer impacts. Without such involvement, it will be more challenging to develop solutions which are resilient in practice and cover issues such as customer and community communications (again an issue which Storm Arwen has exposed as being in need of attention).

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4. How innovation projects respond to change

Given the uncertainties that still exist in the move to net zero, particularly around the decarbonisation of heat, it is important that the innovation process is able to respond to changing circumstances. More work could be done to:

a) Learn from past innovation failures – so that companies, innovators, the sector and regulators can 'fail fast'. It was noteworthy that the Ofwat judging panel this Autumn contained experts with significant overseas experience. This was extremely helpful in getting a broader view of what had worked / not worked in different contexts;
b) Learn from other innovation approaches – having been involved in both the Ofgem and Ofwat innovation approaches, I've been struck how these have been handled differently and the role that Nesta has played in the Ofwat process. Innovation by its nature is clearly a developing area. UKRI's administration of the SIF should clearly help ensure that it stays abreast of new developments in the field and is able to respond accordingly;
c) Ensure innovation incentives are symmetric so that justified failure is not punished;
d) Pick up emerging project issues earlier in the bid process;
e) Provide stage gates in projects to limit risk and enable a more flexible approach. The water projects this Autumn made good use of these; and
f) Explore linking reopeners to significant innovation breakthroughs.

5. Mainstreaming and embedding innovation

In our view, more work is still needed if innovation funding is going to lead to 'production scale' pilots and the embedding of innovation projects into BAU. We would strongly encourage future funding to place greater emphasis on the development of a robust and transparent methodology to translate pilots and projects into action and into ongoing business practice across the sector. Given the challenging nature of climate projections, ensuring this is done at scale and pace is important.

One long-standing challenge remain the adequacy of industry and Ofgem arrangements for feedback so that lessons learned from individual projects (including small NIA projects) are systematically shared and socialised to shift sector-wide thinking and to identify knowledge gaps. This requires more coordinated and concerted approaches to information-sharing on innovation projects than now, including through meta-studies and systematic review.

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6. Innovation culture

Linked to points 4 and 5 above, is the value in thinking more deeply about how to embed an innovation culture within the energy sector as a whole; including amongst policy makers and regulators – as well as within companies. Accepting well justified risks and failures is part of this, along with the development of an open and learning culture. In our experience, there is still a 'not invented here' attitude in some organisations in the utilities space.

Our report Regulation for the future highlighted how adversarial relationships between different parties can undermine such an open culture. We know that things aren't standing still in this area and are changing. Our new Sustainability Principles project, which Ofgem is on the Steering Group for, is seeking to help support the cultural change now taking place towards sustainability. One of the principles this project is exploring is 'dynamism and flexibility' which innovation is clearly a part of.

7. Providing a coherent and accessible view of innovation funding sources

In our view, there is still a need for a comprehensive, accessible and up to date map of different funding sources in the energy space (and indeed to deliver sustainability outcomes more generally). Improving coordination across innovation funding pots remains an issue. For example, BEIS and Ofgem funds for projects on deployment and impacts of electric heat. At a minimum, this needs to include sources such as: SIF funding; Government energy innovation funding streams; and Scottish Government energy funds. Such a map could also helpfully signpost to other sources of innovation funding in related areas including other utilities, on social outcomes, climate impacts etc.

Proactively sharing this type of innovation funding map with third parties may help attract new partners and help them better target and focus their bids. This is particularly important for third sector bodies who may not have the deep pockets, inside insights and capacity to ascertain this information for themselves.

We would be very happy to discuss any of the above if helpful.

Best regards

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