Sustainability First

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Please reply to: Sharon Darcy, Director. Sustainability First

Email: sharon.darcy@sustainabilityfirst.org.uk

Dear Ofwat

Ofwat: Consultation on Driving Transformational innovation in the water sector

1. Sustainability First is a think tank and charity that works in the energy, water and waste sectors. We have significant experience of consumer and public interest issues, regulation and the demand side and innovation in these sectors (see www.sustainabilityfirst.org.uk).

2. Sustainability First would like to welcome OFWATs consultation on driving transformational innovation in the water sector.

3. In our December 2017 report on innovation in the energy and water sectors, we distinguished between three different categories of innovation: long-term / transformative; short-term / incremental; and enabling. It highlighted that innovation can be technological, consumer facing, process based, commercial and institutional – and that all are important in the sectors. The report also explored the appropriate role for government and regulators in delivering public interest outcomes in regard to these different types of innovation and proposed a set of principles that they may want to consider to enable a more adaptive future approach to transformational change.[1]

4. Sustainability First's 2019 paper 'circling the square: rethinking utilities regulation in a disrupted world'[2] noted that monopoly can create a number of market failures of which a tendency to underinvest in long term R and D/innovation is one. Far from addressing this market failure, past economic regulation in the water sector may even have exacerbated it through an excessive focus on short to medium term price control periods. In a disrupted world, with the burning platform of climate change adaptation and mitigation and significant technological change, we believe the time is right, if not overdue, for a radical new approach to incentivise long term innovation – where returns can either be realised across price reviews, or returns and IP can be reserved to OFWAT or to SPVs.

5. We are less convinced that a fundamental shift is required in order to incentivise what we would term shorter term incremental innovation – where returns are within price review periods. Examples here include internal process reengineering, investment in some forms of IT (e.g. billing software), and lean/six sigma approaches.

6. Further issues around long-term transformational innovation in the water sector include:

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[1] https://www.sustainabilityfirst.org.uk/images/publications/new-pin/New-Pin_Innovation_in_Energy__Water_and_Regulation_and_Government_Interventions_FINAL_Discussion_Paper_-min.pdf

[2] https://www.sustainabilityfirst.org.uk/images/publications/other/SF_Future_of_utilities_regulation_Discussion_Paper_FINAL.pdf

a. The issue of scale. For many fundamental innovations a co-operative approach across companies is required. Such approaches have been a weakness of the water sector, in part due to a real or perceived risk from competition law and a focus on comparative / yardstick competition. We note that this is starting to change with the focus on water resource partnerships etc but consider that there is still some way to go in this regard.
b. The question of where IP best sits, and how it can be exploited in a world where many companies have (and have tacitly been encouraged to move towards) debt which is in effect securitised on a regulated only business. This can inhibit IP exploitation.
c. The fact that water companies have not traditionally been successful in exploiting international markets, whereas parts of their supply chain have been. This may suggest that in order to most benefit UK plc in a post Brexit world innovation needs to be conducted with and through supply chains, alongside appropriate safeguards for English and Welsh water bill payers.
d. The absence of a water catapult, meaning that there is no 'testbed' for many riskier innovations. Innovation support in the sector (particularly for tech innovation) might work best where it can utilise and work through other centres – such as the high tech manufacturing or connected places catapults.
e. The absence of appropriate regulatory funding competitions (akin to Ofgem's Low Carbon Network Fund / Network Innovation Competition funds), which signal to all parties, including those outside the sector, that the sector is 'open' to transformational innovation, provide funding for transformational innovation which can straddle price control periods and a mechanism to ensure that the results from this are disseminated across the sector in a timely way (particularly important given the net zero goal and other environmental challenges).

7. Against these general points our answers to the consultation questions are as follows:

<u>What are the main barriers to innovation in the sector and why?</u>

8. Sustainability First considers that in PR19 Ofwat's approach has done much to encourage and facilitate incremental and short terms customer facing innovation. However, we consider that to get transformational innovation, the following barriers need to be addressed:

   a. A wider focus on the role that the water sector can play in terms of delivering public and systems value.[3] Ofwat's Emerging Strategy is starting to address this. However, in order to ensure that innovation activity and incentives are able to deliver the full range of desirable long-term public interest outcomes[4] (and not just short term efficiency savings and consumer facing change) requires addressing the following: i) the need for greater co-ordination between regulators in the sector (economic,

[3] See Pillar 1 in our strawman 'Sustainable Licence to Operate' https://www.sustainabilityfirst.org.uk/images/publications/fair_for_the_future/24071_F4TF_Fair_STRAWMAN_v8a_WEB_MID-SIZE1.pdf
[4] See page 10 https://www.sustainabilityfirst.org.uk/images/publications/new-pin/New-Pin%20Looking%20to%20the%20long%20term%20FINAL%20report.pdf

environmental and quality) and between sector regulators and government more broadly; and ii) internalisation of many social and environmental costs. As long as such costs continue to be seen as externalities, and in the absence of natural capital accounting / six capitals reporting etc, it can be more challenging to get transformational change on some of the significant social and environmental issues facing the sectors.

b. Inability to retain returns beyond 5 years;
c. Recognition that some more risky innovations may be unlikely to yield returns / demonstrate net benefit within 5 year price control periods. If regulatory and policy priorities change over time, and in the absence of any significant funding mechanisms, this can deter this type of innovation;
d. Debt structures, and wider lack of presence in foreign markets, leading to excessive focus on regulated activity;
e. Real or perceived views of competition law and greater focus on competitive approaches to delivering public value compared to collaborative approaches[5];
f. The absence of a test bed, as is provided for energy by the energy systems catapult;
g. The absence of regulatory funding competitions which signal opportunities, provide funding and ensure timely dissemination of findings; and
h. Perceived asymmetric reward: not only an inability to retain long term returns but clawback of returns from successful innovation with no allowance for costs of unsuccessful innovation. As the consultation correctly states, a successful innovation culture needs to allow for the possibility of failure and provide the time and space for experimentation.

Do you think that the financial support cited in section three is required to stimulate innovation in the sector? If so, what do you believe is the appropriate amount of funding and why?

9. Yes. We have significant experience of Ofgem's LCNF / NIC funding mechanisms and have been advocates of extending this type of approach to the water sector for some time.

10. We are not best placed to judge the quantum of funding. Our experience in the energy sector, however, indicates the importance of having: i) a set of clear criteria for funding which reflect the full range of public interest outcomes that the funding mechanism hopes to help deliver; and ii) a comprehensive and up to date map of the different funding streams that may be available in the water space (in the UK from various government, research council programmes, catapults etc and from overseas) so that all parties know how the proposed funding mechanism fits into this wider funding and support picture.

Do you agree that our proposed draft principles for additional financial support will effectively safeguard the interest of consumers?

11. The principles are good. But they do not appear to address the issues around the location of IP and how it can be best exploited/shared. There is an argument that to the extent that customers fund the innovation IP should be held collectively/placed in some form of SPV.

[5] See Pillar 2 of Sustainability First's strawman 'Sustainable Licence to Operate', op cit

12. We strongly agree that innovation isn't just about technology. As well as consumer facing and commercial innovations etc, we consider that institutional innovation and new governance mechanisms to share risk and reward may often also be needed. These things can act as real breaks on transformational change in other areas. We would therefore recommend they are included in the principles for additional funding support.

13. In terms of providing value for money, we consider that it is important that innovation funding bids are able to demonstrate: the counter factual for the change proposed; the projected quantitative and qualitative impacts of the proposal; and any projected distributional impacts.

14. On the latter point, our work on innovation for energy consumers in vulnerable circumstances and with additional needs raises some specific issues around how to ensure innovation is able to benefit all consumers (and not just affluent consumers or the early adopters of change). This is summarised in our Project Inspire report which contains a 'vulnerability innovation flight path.'[6]

15. We strongly support the need for innovation to be conducted with other companies and the supply chain. We wonder if the principle here is strong enough. In particular, we consider that there is significant scope for companies to work across sectors to address common challenges (eg vulnerability and the integrated approaches that may be needed to deliver sustainable solutions) and to deliver co-benefits / layer benefits (eg health and well-being).

16. In addition, we would recommend that the point around partnerships is extended to include other third parties such as local authorities and third sector organisations. These may be crucial if innovation is to deliver community, place-based and environmental outcomes. Our experience in the energy sector would indicate that involving such parties is important if the public is to play the role that is envisaged for them (eg in terms of changing behaviours, the demand side etc) and to ensure that innovations work in practice and on the ground. You cannot assume that people will automatically 'play.'

What are your views on the collectively funded innovation competition model which we describe in section three? What other key considerations not highlighted should we take into account in designing/implementing the competition?

17. We support collectively funded innovation. We would be happy to discuss the lessons that we have learnt from our work on Ofgem's innovation funding mechanisms (I spent seven years on the expert panel assessing bids and we have wider experience through the RIIO price control process). Issues to consider include how to: publicise funding opportunities outside existing players; the frequency of funding competitions; learning the lessons from failure; ensuring timely dissemination of new ideas and practices; and how to measure success.

[6] See page 25 https://www.sustainabilityfirst.org.uk/images/publications/inspire/Energy%20for%20All-%20Innovate%20for%20All%20(summary).pdf

<u>What are your views on the end of period innovation roll out reward we describe in section three? What other key considerations not highlighted (e.g whether it should be collectively funded or individually funded) should we take into account in designing/implementing the reward?</u>

18. We are somewhat sceptical about end of period rewards for four reasons:
    a. In key areas - e.g. blockchain, AI/data interrogation - technology is moving so quickly that five years seems a sub-optimally long period.
    b. Conversely for some forms of longer term innovation returns are typically needed of much longer periods. We would not argue for 30 year protection that exists in pharma, but long term innovation may require long term returns.
    c. For some innovations, effectiveness may only be really measured following events largely outside the company's control (eg floods, drought etc).
    d. The more complicated the reward system, the greater the risk of excessive gaming.

<u>What other potential alternative mechanisms for funding/rewarding innovation not discussed do you think we should be considering? Which financial support mechanism or combination of mechanisms should we introduce and why? What would be an appropriate split of available funding/reward?</u>

19. There may be a case for some funding to go to industry wide structures, as with the catapult approach adopted elsewhere by innovate UK. Such structures might also create the SPV best able to exploit IP and could be helpful to facilitate institutional innovation.

20. Another example might be innovation on smart meter technologies. We would argue that innovation towards an industry standard smart meter based on collective input on data interrogation opportunities and interoperability might be better than competition on technologies.

21. On balance, we would favour a combination of some collective support as set out above, and a competition along the lines pioneered by Ofgem.

22. Behind many of the questions in this section is the challenge of how best to embed innovation. We would once again draw Ofwat's attention to our proposed schema for how best to do this for different types of innovation.

How to embed innovation – A possible schema for different types of innovation

Type of innovation	How to get this type of innovation embedded?
Short-term Incremental /	Revenue / cost pressure – 'No other way' & 'why wouldn't you?'
	Pressure from new staff with different skills / experience – 'Why don't we…'
	Supply chain pressure – 'This is the new normal'
	Customer / stakeholder pressure – NB scope limited where no competitive pressures
	Communication & dissemination – of lessons learnt within the business and between businesses
	Training in new approaches – changing / normalising 'professional' expectations
	Open culture – space and time to accept failures as learn / refine new approaches
	Test / trial facilities – sandboxes, innovation labs etc to experiment and build confidence in new approaches
	Risk-reward sharing frameworks for delivering co-benefits – enabling value stacking etc
	Clear external policy & regulatory signals / goals on outcomes to be delivered - particularly important if there is no immediate obvious financial business benefit (eg innovation around vulnerability), where there are externalities, where the benefits extend beyond the company to the wider system in which they operate etc
	Incentives / rewards to deliver new approaches – which are aligned with desired outcomes – external (regulatory) & internal (performance and remuneration)
	Changing standards / introducing new standards to mandate new approaches
	Facilitated strategic collaborations – by policy makers, regulators or other third parties
	Funding – clear simple frameworks that bridge the 'valley of death'
Long-term Transformational	Institutional frameworks that enable cross sectoral collaborations to thrive

Source: Sustainability First. NB – approaches not mutually exclusive.

<u>Do you think the potential industry activities discussed in section four could help drive innovation? Are there other activities not identified which you think the industry should be considering?</u>

23. Yes, see above.

24. We also strongly support giving greater attention to developing data strategies as a way of providing new insights not just into asset health etc but also into current and future social and environmental needs (through predictive analytics etc).

<u>Do you think the proposals in section five will help drive innovations? Are there other activities which you think Ofwat should be considering?</u>

25. We support the proposals in section five, in particular the recognition of the need for increased co-ordination across regulators in the sector. We consider that this should also be

extended to co-ordination with regulators in other sectors (eg with similar infrastructure or consumer protection challenges such as vulnerability) and with government departments.

26. We think Ofwat should, however, as a precursor to all decisions in innovation, undertake or commission a taxonomy of innovation and of potential market failure/incomplete markets along with an assessment of where there are potential barriers (eg to exploitation of IP etc.).

We would be happy to discuss any of the points raised in this response.

Yours sincerely

Sharon Darcy

Director

Sustainability First

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