

# Consultation Response

## Ofwat's emerging strategy: Driving transformational innovation in the sector

20 September 2019

### Background

HR Wallingford is a world renowned research and technology organisation providing innovative approaches to complex water-related projects. We have state-of-the-art facilities, in a convenient location, to develop and test new solutions. We are Research Council Accredited. Our profits are reinvested into innovative research projects to help improve the world's resilience to water stresses.

Ofwat is consulting on a new approach to transforming the way that the water sector in the UK innovates. The aims are not only a step-change in technology, but also in the use of systems, processes and people, including commercial arrangements. Ofwat wants companies to develop a culture of innovation where everyone is supported to propose and take forward innovative ideas, processes are geared towards innovation, customers are engaged as active participants, and companies collaborate effectively both within and outside of their sector.

Ofwat has proposed specific approaches and this is our response to the eight consultation questions.

#### **Q1 What are the main barriers to innovation in the sector and why?**

Firstly there is a lack of co-ordination across the sector. There are many organisations working on research and developing new tools and methods, but these are fragmented across several companies, research groups and organisations. For instance there are several university groups all developing new approaches to water treatment, and many water companies are looking at different ways to reduce leakage. This uncoordinated and piece-meal approach is inefficient and slow to deliver. There is no single person or organisation which is co-ordinating all the innovation projects.

UKWIR or the UK Water Partnership (UKWP) could be the co-ordinating body but they are not adequately funded. The UKWP instigated the LITSon project to help co-ordinate the research across the sector. It also developed a test facilities register so that innovative new products could be more easily tested and brought to market more quickly. However there is no vision to overcome this fragmented approach because there is no current perceived benefit. Companies can continue to invest in small projects, retaining the Intellectual Property, with a view to making more money down the line, but this takes time and is inefficient. UKWIR's approach of identifying the big questions is a good one, but there is not enough co-ordination around the big questions and UKWIR does not have the funding to answer all the questions and neither is it agile enough to respond to the innovation challenge.

Secondly there is a culture of risk aversion. Companies have stretching efficiency targets and performance commitments and this often leaves little money to be spent on riskier projects. In addition there is a view that innovation which does not result in a benefit is a failure. That is not the case, innovation which is tried, but is

stopped at the right point, when it is clear it is not going to provide a benefit is not a measure of failure – it is a measure that demonstrates a company has taken a well-managed approach to innovation.

Thirdly the regulatory cycle does not help. Changes in policy result can result in a knee-jerk response. For instance relatively new targets to reduce leakage by 15% will focus minds on reducing leakage, but work on this needed to start four or five years ago to get new tools and approaches to market, and give suppliers visibility as to where and when and how much new innovation is needed.

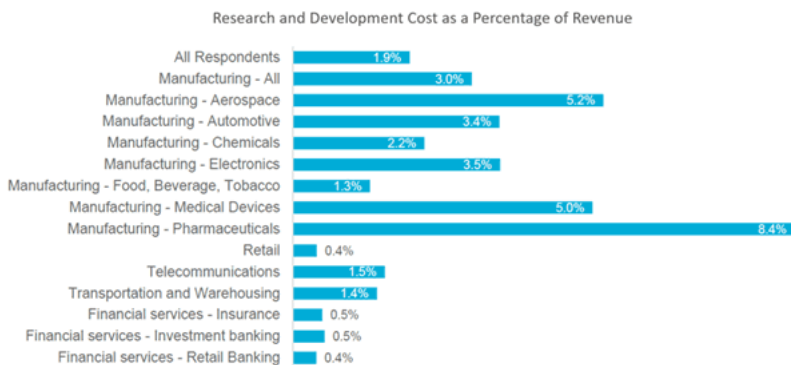
Regulation of the water sector does not encourage innovation or risk taking. There is a “can’t do” attitude to risks from regulators. In other countries, such as the Netherlands, regulators and companies tend to collaborate more to solve complex problems together. Flexibility is allowed in the short term to meet long-term objectives.

Finally, overarching all these aspects is a cultural issue. Water companies are competing against each other to be upper quartile, so there is a perceived dis-benefit in sharing good practice with “competitors”. Whilst there is a culture of innovation in suppliers that is not the case in procurement teams, (some) finance directors and regulators. Organisations are unable to understand that the cost benefit of a new innovative approach can be difficult to quantify, and this stifles development of new ideas. The industry needs to completely change its culture around innovation. Innovation needs to be championed verbally and with actions, not by writing new policies or papers. Leaders of cultural change did not achieve this change by setting up committees or writing policy documents.

**Q:2 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?**

Some financial support is required. UKWIR does not have enough funding. It is not clear what the basis of the £200m proposal is, but it needs to be sustained, so there is no “boom and bust” approach to innovation. It is not clear that all the money should go to one new organisation. UKWIR, UKWP and others are trying to improve research, innovation and co-ordination. The funding should be phased and released as part of a gated process to ensure that it is spent efficiently, against a prioritised strategic programme. Making £40m available in the first year is unlikely to result in efficient spend.

Totex in draft determinations is around £49bn, so £200m represents 0.4% of Totex. Most comparisons we have seen compare spend on innovation to revenue (rather than Totex) so it is not clear how this compares, but Ofwat could consider how much this £200m compares to other sectors and make a similar amount available.



Source: IBM, Institute For Business Value, Product and Service Development Benchmarking Study.

These other sectors will have learnt, over time, the “optimal” amount of research, so this would provide a good benchmark for what the water sector should be spending to optimise the balance between innovation cost and long-term benefits.

There are other approaches to the development of innovation hubs and centres of excellence, including the Global Water Centre in Milwaukee, Water Tap in Ontario, the Dutch Water Alliance, Global Hydro Hub Singapore, 2030, Centre of Excellence for Sustainable Food Systems (CESFS) and Cenex (Centre of Excellence for Low Carbon and Fuel Cell technologies). The new approach should learn from these existing groups.

**Q:3 Do you agree that our proposed draft principles for additional financial support will effectively safeguard the interests of customers?**

Yes – innovation has proved to be valuable across other sectors. The shackles of risk aversion and short-term incentives should be released from the water sector. When customers buy the latest technology (like a smart phone) they recognise that the price they pay includes the cost of research as well as profit. Sectors which are truly innovating are proving to provide the best customer experience and improving their reputation. Innovation can help improve the reputation of the water sector.

The fact that companies will be required to fund a proportion of the project costs will encourage efficient spend (but there is a risk that the current culture will stifle the availability of that company funding). Just because a project does not get taken forward does not mean it was not worth investing in. Some money should be set aside for the riskier projects, which could, if successful, still be transformational.

The funding should be made available to other organisations (e.g. UKWIR, UKWP) which have taken a lead on some aspects on innovation. They should be able to receive funding from the competition to build on work already done.

Funding should also be made available as part of a long term strategy – for instance developing an innovation hub or centre of excellence. This will reduce the fragmentation across the sector and improve facilities for testing and trialling new ideas. This should be independent from water company control to avoid bias and delays. Several world class organisations in the UK (including HR Wallingford) are already considering the development of a centre of excellence for water resilience.

UKWP, UKTI and UKEF are all interested in selling UK water sector innovation overseas. Projects which are saleable should be marketed overseas to make a return. That return should benefit customers. There is not sufficient coordination of the sales of innovation in the sector to overseas markets. HR Wallingford is working with the EA, Met Office and UKEF to improve this.

**Q:4 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?**

There should be an expert or panel of experts reviewing the projects proposed, but this should NOT be a water company director, but a truly independent leader in research and innovation with the vision and charisma to lead a complex, coordinated programme.

There should be clear gateways for each project, and rigour around the delivery of each project. There should be annual reporting of the programme available to customers. There should be a competition – smaller companies may well be better at sponsoring and supporting a project than a larger organisation. They may be more agile. However competition needs to be balanced with close coordination within and outside the programme so that money is spent efficiently.

The competition should be based on a long-term view of return on investment and wider benefits, not a short term view. The industry produces plans for 50 years ahead, and the research and innovation should also be long-term.

Regulators should be part of the governance team and should be able to propose research ideas - even if they can't "sponsor" them. For instance experts in DWI should be able to suggest approaches to new water treatment processes. The funding should not however replace existing research funding (e.g. NERC etc.).

**Q:5 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?**

Measuring the role out of innovation is hard and subjective. Innovative companies should benefit from the competition anyway, helping to achieve performance commitments and (potentially) receiving reward for outperformance. Allowing extra money will risk companies double benefitting. Also it will stifle long terms research, and continue the current approach of a five year investment cycle (which is a barrier to innovation).

**Q:6 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?**

Some of the proposed funding should be shared between existing organisations, to ensure continuity of current programmes (e.g. UKWIR).

The proposed £200m should be phased in over a period to ensure it is spent efficiently, but should be considered in the context of international markets, so if £200m is made available, and £100m is subsequently sold overseas, the £100m should be returned to customers as a dividend.

Funding should be split between long terms plans (e.g. developing a coordinated research and innovation hub and/or centre of excellence) with short term options for quicker returns.

**Q:7 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?**

There should be an innovation strategy, but it should not be delivered by a water company director. It should be independently developed by an experienced, visionary and charismatic leader in research programmes. The strategy should identify existing research and innovation and developing a system map of how the current work fits together to meet future objectives.

There should be a centre of excellence and or innovation hub, but this should not control all the budget allocation. Whilst the proposed £200m of funding needs to be co-ordinated it should not be centralised.

There is no doubt that the use of AI and other data-led approaches can improve insight and much innovation is likely to come from these techniques. However regulation does need to support these approaches (e.g. the use of AI and smart meters) to reduce PCC and leakage.

**Q:8 Do you think the proposals in section five will help drive innovation? Are there other activities not identified which you think Ofwat should be considering?**

There is a need for regulators to change to increase innovation. Regulators should understand that companies should be allowed to take risks in the short term to meet long term objectives (like the Netherlands).

There should be coordination between regulators and regulators should be part of the governance of the £200m (but not control it).

To reduce the five year cycle regulators should set out long-term objectives for the sector, and step changes (e.g. 15% leakage reduction) should be communicated at least 4 years ahead of price reviews to ensure that the innovation can take place in time for the next AMP.

The sector needs to learn from the approaches of “disrupter technologies”. These truly innovative teams are generally not led by committees or set direction by regulators, but work outside of traditional structures. They are agile and enthusiastic. As part of the approach to innovation some of the funding should be set aside to fund urgent projects using non-rational disrupter-led approaches. Small teams of enthusiastic individuals should be allowed to co-create to bid for funding and work outside normal project controls – whilst still being held accountable for positive outcomes.