

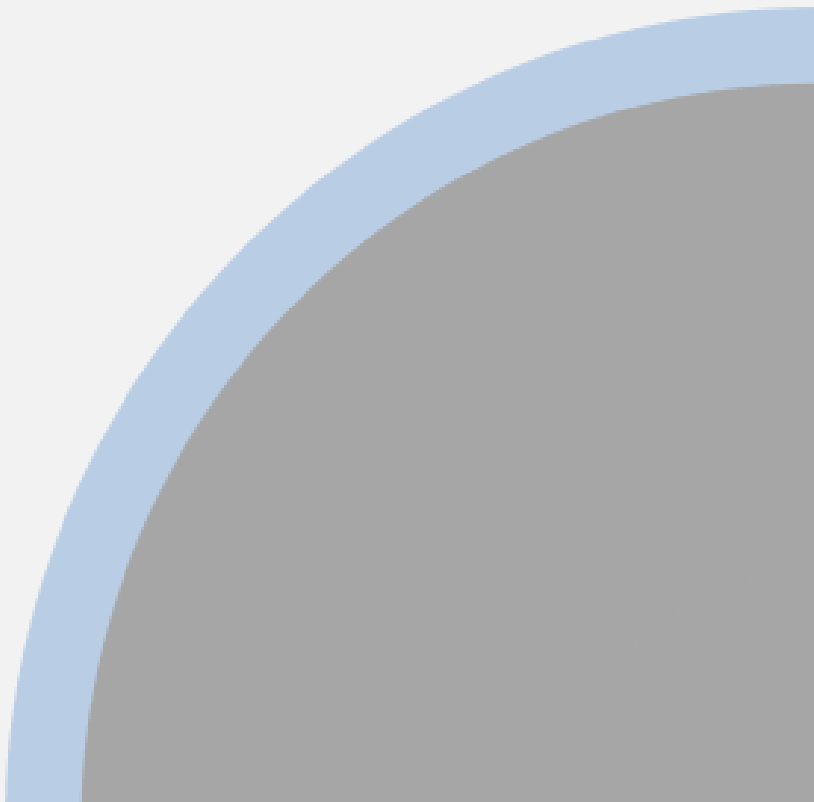
ARUP



ARUP RESPONSE TO CONSULTATION QUESTIONS

Innovation funding and competition: further consultation on design and implementation

June 2020



Executive Summary

The water sector in England and Wales, as elsewhere in the UK and the world, is facing considerable challenges from climate change, population growth, tightening environmental standards and continuously rising customer expectations.

There is a growing momentum to meet these demands through innovation, with Ofwat challenging water companies to be ambitious in how they deliver more of what matters for customers, along with a more overt social purpose. Ove Arup and Partners (Arup) welcomes the opportunity to respond to Ofwat's consultation on driving transformational innovation in the sector.

Arup is at the heart of innovation in the water sector. We cover the entire knowledge value-chain, from understanding future trends and identifying areas for development, to delivering industry-leading research and data-driven solutions. We work with organisations, large and small, which strive for excellence and innovation and, via our involvement in formulating innovation strategies and plans for water companies, in addition to working with water industry organisations including the UK Water Partnership, Water Industry Forum, British Water and Future Water Association. We are also currently delivering the Hydro Nation Water Innovation Service in Scotland. We therefore have a firm grasp of the sector challenges spanning policy to practical deployment of innovation, as well as the regulatory and investor implications of trying new approaches to challenges.

In preparing our response to the consultation questions, we consulted widely across our global firm, drawing contributions from specialists working across the water cycle including those specialising in: regulation, economics, strategy, asset management, resilience, technology innovation, integrated catchment management and R&D, all of whom are involved in advising clients on driving change through innovation.

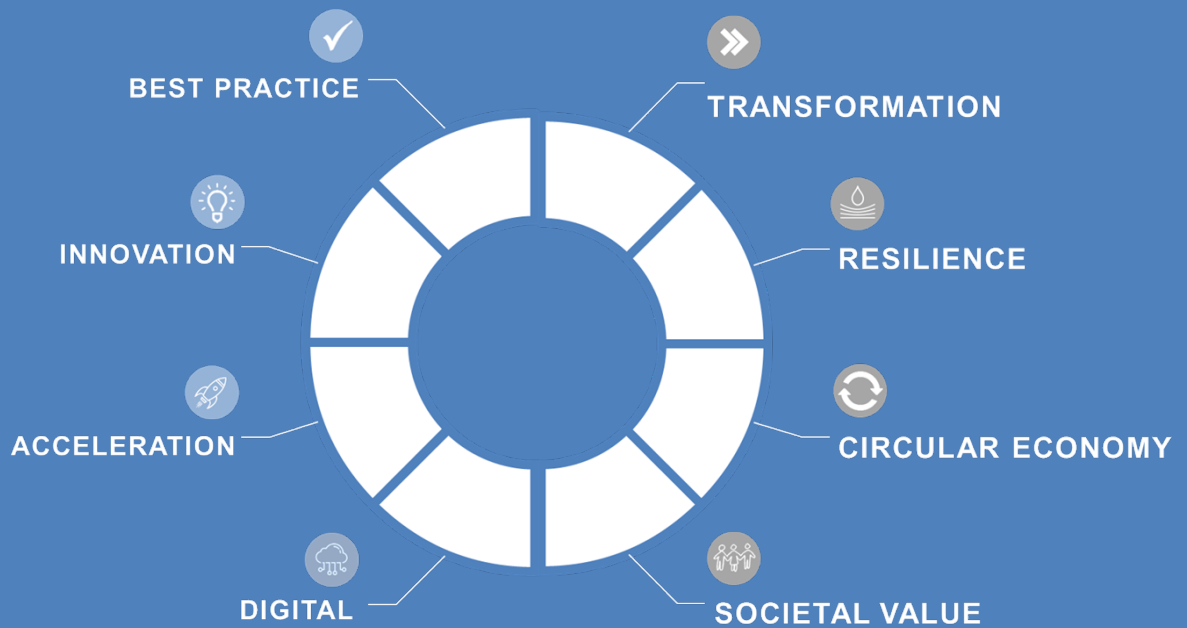
We look forward to playing our part in supporting the realisation of transformational innovation in the water sector.



INNOVATION IN THE WATER SECTOR

ENABLERS

OUTCOMES



Q1: Do you agree with our proposed default arrangements for managing IPR and royalties? Do you think these arrangements work for different types of projects and activities (e.g. new technology vs. process innovation, roll-out activities etc.)? What are the main barriers to innovation in the sector and why?

It appears that the arrangements proposed for IPR are reasonable and fair. The proposed distribution of IPR reflects a standard approach. Most creators of IPR would, though, expect to be rewarded for the ongoing use of their IPR and therefore a royalty-free arrangement would be less advantageous to them in the long-term. The investment through the innovation fund would allow for the technology to be developed which is clearly beneficial, though other UK markets to deploy the IPR would be limited. International markets are available to IPR owners to profit, but there are practical considerations around the opportunities and chances for all organisations to explore international markets. It can be challenging to provide an upfront payment for royalty-free IPR (as a blanket approach), as the value and rate of deployment of IPR will vary significantly.

Q2: What alternative arrangements should we be considering for IPR/ royalties?

A deployment-based fee approach to IPR could be more of interest to technology creators, especially those with a strong IPR position and chances of high deployment levels. There is a view that the creator of IPR should be free to exploit it beyond the contractual arrangements of the innovation fund investment. Ofwat could additionally support international deployment of IPR as the (non-royalty-free) UK market would be limited.

Q3: Do you agree with the principle that data generated through the innovation competition should be open by default?

Open access to data seems appropriate in this situation, though there may be cases where data is of significantly more commercial value to the owner. A deeper understanding of such cases is required before a blanket approach is taken. As highlighted, some data should not be shared especially where it is of a sensitive nature. Open sources of data can accelerate the pace of innovation and enable significant and broad commercial and social benefits, therefore making it open by default is generally a positive approach to take. Where there are wider benefits to the water sector, and potentially beyond, open data should be shared as the objective is to continuously raise the bar, learn and share from common challenges and emerging best practice.

Q4: Do you agree with our proposed approach and that we should consider alternative arrangements beyond company contributions?

The principle of sharing the risks between customers and water companies is fair, because both companies (and their investors) and customers will benefit from successful innovations. The principle of extending the risk sharing to other organisations with which water companies collaborate is also fair, provided the IPR arrangements in place ensure that water companies and partnering organisations reap the commercial benefits of the innovation proportionally to their share of the risk. We feel that there is a need to consider other forms of match-funding, such as people's time, expertise and access to facilities and to think more widely with a broader economic model based on total value e.g. human capital.

Q5: Do you agree that a guideline minimum company contribution of 10% is appropriate in this context?

This question has two elements two it: size of the contribution and type of contribution. Regarding the size of the contribution, a minimum ‘company’ contribution of 10% is reasonable, providing it applies to the combined contribution of the water company and its partnering organisations. Also, the proposed contribution should be one of the scoring criteria so projects with higher contributions would have greater chances of succeeding in the competition, everything else being equal.

As for the type of contribution, in-kind contributions relevant to the success of the project should be accepted at the same level as cash contributions. Examples of relevant in-kind contribution to consider include patents, IPR or trademarks related to technologies and/or commercialisation processes that increase the chances of the innovation project to deliver tangible benefits.

Q6: Do you agree with the overarching approach we set out here?

The approach seems to allow a wide variety of projects to be considered for funding within the innovation competition. We note the use of the term “Technology Readiness Level” as a parameter. Whilst TRL is a commonly used metric to measure stages of technology development, this may not be applicable to all types of projects and is not the only measure of solution development (e.g. for roll-out and scale-up, Supplier Readiness Level becomes possibly more appropriate). This is especially true for projects which do not involve technology/ product development, but which relate to innovative ways of working or services. We suggest flexibility in applying the appropriate metric depending on the type of project.

Whilst the approach appears reasonable, we suggest an additional parameter which relates to the potential to be rolled out. This would add weight to projects with good deployability.

It is important to also note the measurement of outcomes from each project, which should be clear and relevant. We believe the outcomes should be measured through a six capitals economic framework to demonstrate the value delivered by the process of selection and how much was invested in the innovation ideas themselves.

Q7: What are your views on introducing separate, proportionate, arrangements for small-scale projects? How might we define small-scale projects for the purposes of the innovation competition?

Introducing separate, proportionate arrangements for small-scale projects makes sense and is a common approach to help unlock potential from smaller, shorter duration and lower cost projects which may be (mistakenly) regarded as of lesser overall value. InnovateUK and Scottish Enterprise, for example, fund small-scale projects as a step towards larger innovation support funding and grant applications. A smaller project could be defined as £25k for SMEs or £50k for water companies.

Q8: Do you agree with our proposal for ensuring roll-out is at the heart of the innovation competition? How might we reward both leaders and fast followers in?

Roll-out is critical to realising the outcomes from competition funded projects. However, we raised in our previous consultation response that one of the barriers to innovation has historically been the ability for water companies to deploy at scale due to a range of issues such as risk appetite, procurement etc. We are not clear from this consultation document how those barriers will be overcome to ensure deployment can occur without meeting the same barriers as before. This needs to be addressed and indeed may be a suitable subject for an “enabling” activity. There are some good examples e.g. Scottish Water and Mekorot where companies are encouraged to trial their innovative ideas on live assets.

Perhaps leaders and fast-followers could be rewarded through some form of ODI, the rate for which could be based on the value of intellectual capital delivered.

Q9: What practical arrangements should we introduce to ensure adequate ringfencing of the innovation funding?

One option could be to adopt a conditional gated funding approval process, using dedicated accounting for the competition funds. At each gate, decisions would be made to approve the funding allowance until the next gate. Each gate could also include a safeguard clause to claw back funding from the previous gate if evidence suggests that it was used for other purposes. Clawed back funding would be returned to the funding pot for future use.

Q10: Do you think the proposed innovation challenge approach will help better enable partnerships and collaboration between companies and third-parties, in particular smaller innovators? Are there alternative approaches we should be considering? How can we make sure this approach works in practice?

The innovation challenge approach should provide opportunities for water companies to collaborate and partner with third-parties on a more structured, consistent and transparent basis. There are pockets of this already taking place within the water industry and success is more apparent where water company challenges have been clearly articulated and shared with third-parties and solutions (co-)developed to suit, e.g. United Utilities and Northumbrian Water. However, this is currently disparate, is difficult for smaller innovators to navigate and is time (and cost) intensive to enter dialogue with each water company separately. We hope this more joined up approach will smooth the way for better collaboration and partnerships and the joint development of innovative solutions.

Q11: Do you agree with our proposed approach to returning funds to customers? Are there any other circumstances, not considered here, under which we might consider returning funding to customers?

The proposed approach to returning funds to customers is reasonable. Funds should also be returned to customers if the water company decides to stop the project or substantially change the project without a reasonable justification. We note that a conditional gated process would help to reduce the likelihood of needing to return funds to customers. An alternative would be to use such funds to provide social value for customers through community outcome-based projects.

Q12: Do you agree with our proposed approach for managing interactions with the price review?

The explicit assumption in the consultation document is that the effects of innovations on performance will be minimal in AMP7. There is however potential for performance to be affected in either 'direction'. So, while a company trialling an innovation might be exposed to some risk on underperformance, it would also have an opportunity to achieve outperformance - with the added advantage of having innovation funding not previously available. This seems to us to be a fair balance of risk and reward, given that companies have previously had to trial innovations at their own cost. The upshot is that there will need to be an emphasis on enabling early stage trials to fail without compromising Performance Commitments and incurring ODI underperformance payments.

Q13: Do you agree with our proposed amendments to the principles? Are any further amendments to the principles required to reflect our approach to outstanding policy issues outlined in this document?

Roll out and scale up is key to provide widescale change, but to create transformational innovation it may be vital to invest in projects that are at an early stage of development and may not be ready for implementation within the five-year period this fund runs for. Therefore, the addition of 'where appropriate' is key and appropriate ways to value benefit (which includes financial, societal and environmental benefits) of projects which are not yet ready for roll out would be helpful.

We see it as helpful that the first principle listed highlights that innovation is more than just technology, and so interventions such as deploying social capital through innovative behavioural techniques can be recognised in access to funding. We hope that Ofwat can in some way further emphasise this through its process.

Q14: Do you agree with our proposed focus, major strategic themes and overall approach for the competition?

The major strategic themes highlight many of the key trends that the industry may experience in the future. They align the UK Water Innovation Strategy produced by water companies, either through the strategy's themes (which align with themes of responding and adapting to climate change, ecological status and long term operational resilience) or the strategy's principles (which align with the themes of public value and open data). It may be worth including an additional category for 'Blue Skies' / 'out of the box'/'cross-sector' innovations.

Q15: What is the appropriate split of available funding between the Innovation in Water Challenge, the main competition and enabling activities?

We have no view on the appropriate split of available funding between the three themes. However, we think that the funding split should be flexible and change as the AMP7 period progresses. For example, early in year 1, we would expect a higher proportion to be allocated to enabling activities as these activities will pave the way for other innovation projects. Flexibility and agility as well as efficiency/reduced bureaucracy are important considerations.

Q16: What are your views on the feasibility of running all three types of activities in the pilot year, and on the proposed timings in Annex 3?

As the enabling activities aim to support the delivery of innovation across the sector in the long-term allowing for an earlier start date in late 2020 would support the delivery of the other projects in other funding streams.

Q17: Do you agree with our proposed approach to key implementation considerations outlined here?

We agree with the proposal to appoint a supporting organisation to design and run the innovation funding competitions and to recruit an independent expert panel. It is important that there is an appropriate balance between robust governance, due process and flexibility. The administration of the competitions and project delivery should be efficient and proportionate, so it does not become an administrative and cost burden in itself.

We shape a better world

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