Ofwat’s Emerging Strategy: Driving transformational innovation in the sector
Costain response to the consultation
September 2019
We are delighted to share our response to your consultation ‘Ofwat’s emerging strategy: Driving transformational innovation in the sector’.

There are significant implications of mega trends on UK industry and these issues are driving the need for a changing perspective. A rapidly rising population requiring an increasing amount of water, alongside the need for low-carbon solutions, creates a necessity for resilience, innovation and efficiency improvements. Costain has expertise across multiple sectors in which we innovate and deliver practical, workable solutions to issues like these.

We draw upon our wide-ranging experience of successfully delivering projects in complex programmes, incorporating technology and consultancy services, across key national infrastructure clients in both regulated and non-regulated environments.

Our delivery approach puts innovative thinking at the core, working in collaboration with strategic partners and clients to deliver optimum customer outcomes. We have driven efficiency through innovation across the full life-cycle of assets and are in a unique position due to the sectors in which we operate: Water, Energy, Defence and Transportation. We actively bring world-class innovation from around our business into the water sector.

We hope that you find our answers valuable when considering your approach to future innovation strategy and funding, and would like to express an interest in participating in a workshop to discuss the options further.

Kind regards,

Gerard Shore
Water Sector Director
1 What are the main barriers to innovation in the sector and why?

One of the primary barriers to innovation is how the performance of water companies has been assessed historically and how the associated funding is allocated. This has inhibited technology and innovation collaboration, potentially restricting the uptake of new technologies and improvements across the sector. This, combined with the inherent public health impacts associated with the water treatment process, causes further reluctance to innovate and adapt existing processes.

Looking at industries that are renowned for innovation, such as the Technology and Automotive sectors, a high-performance innovation culture is established in which rapid idea generation is followed by rigorous assessment, creating an effective funnel of prioritised opportunities. Great examples of innovation also exist within the UK water sector; however these are often pursued on a discrete company basis due to the absence of an integrated pan-industry approach.

One comparable example of where innovation is working well lies within the Energy sector, with the establishment of the Oil and Gas Technology Centre (OGTC) in Aberdeen. This organisation was established with the support of government funding to accelerate innovation, to maximise the UK’s economic recovery from late-life North Sea hydrocarbon fields. The OGTC approach has been successful in connecting specialist engineering and technology innovators with both academia and the oil and gas operating companies.

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?

Costain has a strong belief that financial support as stated in section three is a prerequisite to accelerate innovation within the UK water sector. If the Energy sector is reviewed as a comparator, a relevant example where this has been successful is the rapid recent progress made by the Department for Business, Energy & Industrial Strategy (BEIS) with hydrogen and Carbon Capture, Usage and Storage (CCUS) innovation via targeted funding in support of achieving the UK’s 2050 decarbonisation target.

The £200m indicated in the Ofwat document is broadly analogous with the levels of Ofgem National Innovation Allowance/National Innovation Competition funding, which has been successful with initiating innovation within the UK energy network during the current regulatory period.

However, noting that innovation within the Energy sector is funded through multiple sources, including Ofgem, BEIS, Innovate UK and others, it is recommended that Ofwat review the innovation funding requirements following the initial interest received from the numerous UK water companies. The costs associated with governing the innovation programme will also need regular review, as these will be impacted by the level of response from the sector.

In addition to the proposed Ofwat funding, a key question remains whether further alternative sources of innovation funding will develop over time which could be accessed by companies operating within the UK water sector.
3 Do you agree that our proposed draft principles for additional financial support will effectively safeguard the interests of customers?

The proposed principles for companies to access additional financial support, with a focus on safeguarding the interest of customers, are positive and comprehensive, including:

- Funding will be open, flexible and available to a wide range of projects of varying scale
- Companies will be actively encouraged to collaborate on the innovation initiatives, e.g. water companies and their supply chains
- A commitment to transparent sharing of progress and findings to maximise the future benefit for customers.

Inspiring companies and creating a passion for innovation is key to accelerating the development of the water sector and providing improved value for money for customers. Care should therefore be taken with the proposed use of claw-back mechanisms for projects that are not taken forward, as this may inhibit entrepreneurialism.

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?

Introducing a competition format would be an effective option to drive innovation within the water sector, creating a valuable mechanism for companies to access funding for the development of a broad range of concepts and opportunities. This competitive approach would undoubtedly drive up the quality of the funding submissions and thus result in increased value for customers. We have also found that an inclusive culture, involving the supply chain, encourages diversity of thought to create new ideas and innovation uptake.

It is important to note, however, that this ‘winners and losers’ approach may result in reducing levels of engagement in the competition over time, with the large upfront investment making it prohibitive for smaller companies to actively engage in the process.

An alternative approach adopted by the energy sector is the combined National Innovation Allowance (NIA) and National Innovation Competition (NIC) mechanism. In this setup, the “self-policing” lower value NIA is used to nurture smaller projects, generating momentum and supercharging innovation within the sector. Annually, both new innovations and those which have been incubated using NIA funding can also be submitted as NIC projects to obtain higher value investment to support their further development. This combined approach may be useful in the water sector to instil innovation momentum particularly during the initial years of the rollout of this new strategy.

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?

The benefits of the end-of-period innovation roll-out award are clear in terms of incentivising the pace and quality of innovation implementation. However, from a quantum perspective it is recommended that this funding should be very much regarded as secondary (or additive)
to the support required to drive innovation throughout the end-to-end regulatory period to address key industry issues and customer needs.

A key challenge will be how success is measured so as not to favour the innovation scale generated by larger companies. Further, metrics for different innovation projects need to be equivalent in terms of effort required, where the end value and measured outcomes are to align with key industry challenges, such as leakage and resilience, alongside customer benefit.

With regards to funding, collective funding would appear to be more inclusive for driving and rewarding the best innovator and not inhibiting companies due to their size. In addition, this approach takes into consideration the end objective of shared innovation across the water companies, with funding awarded on merit and potential to address collaborative needs.

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?

In question four we have discussed the mechanisms used within the energy sector and how the ‘self-policing’ funding allowance stimulates innovation (most likely to be short-term or small-scale trials) alongside the larger value competition funding. Our opinion is that the momentum generated and learning from these parallel mechanisms would also be valuable when setting up an innovation strategy for the water sector.

With regards to financial support mechanisms, it should also be noted that benefit may be derived from establishing collaborative pan-sector innovation funding opportunities alongside the proposed Ofwat mechanism. Typically, this would be useful for addressing macro issues such as hydrogen decarbonisation which impact multiple utility sectors, and thus a combined innovative funding approach may prove beneficial. In these instances, the risk is that innovation could be restricted if it is approached on a single-sector basis, and thus sub optimal solutions provided to the customers.

As we move towards a low-carbon future, the utility systems and networks in the UK need to exploit the advantages of working together to provide innovation to deliver low-carbon solutions.

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?

It is our opinion that the activities discussed in section four will help to drive innovation in the water sector.

Introducing a joint innovation strategy would identify the key areas of focus, aligning the priorities of water companies so that the sector challenges are addressed. This approach would also facilitate the introduction of innovative thinking from outside the sector. However, those challenges need to be articulated using the best practice of open innovation, e.g. a rich description of the problem and its context in as solution-agnostic a way as possible, an economic assessment of the value of a solution to the problem and an indication of the outcomes from previous approaches to solving the problem. Furthermore, creating an
innovation strategy that also promotes standardisation across the sector in areas such as specifications will be key in driving efficiencies and reducing costs.

The centre of excellence would be a platform to link ideas within the water sector as a whole, which would be invaluable to companies that have great ideas but insufficient capability or need collaboration with other parties to realise the innovation. Our opinion is that encouraging the involvement of third parties would broaden the scope of innovation projects, as utility companies may be more focused on the long-term future of their networks whereas third party companies could provide solutions that create short-term benefits for customers.

Third party involvement may also bring knowledge from different sectors. One element not described in the Ofwat innovation document is the commercial model to ensure it is attractive, sustainable and impactful, e.g. how the centre would be funded, how it would be governed, who would own its intellectual property, what incentives would motivate it, etc. These considerations would provide clear parameters within which the contributors would operate, providing clarity for all parties.

A centre for excellence may also be effective in enabling the development innovations outside the business as usual regulatory framework, e.g. to adopt the ‘sandbox’ type thinking Ofgem has enabled for the electricity and gas market. We are of a view that the centre should focus on the articulation of the challenges to be addressed and run funding competitions to exploit innovative thinking across the industry supply chain.

As companies capture more data there is an increased need for data insight, and data innovation should form a fundamental component of the centre of excellence. Undoubtedly there is significant opportunity to increase performance across the sector through enhanced use of data, and the proposal to encourage open data is to be welcomed. There is much to be learned from the Energy Data Task Force whose recent report was welcomed by Ofgem for the electricity and gas sectors. However, there is also the need to assess the data landscape and drive resolution of data gaps and data quality issues across the water sector.

Other activities that the industry should consider in our view include:

- Establishing the relationship with other platforms of innovation, such as UK Water Industry Research, and considering the collaboration of thought and funding with such organisations
- Adopting a systems-based approach, determining solution-agnostic requirements all the way from high level goals down to implementation detail.