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Trust in water

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

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About this document

In our emerging strategy for regulating water and wastewater companies in England and Wales, we highlighted the need to find new ways of driving transformational change in the water and wastewater sector.

We believe that the adoption of innovative approaches is key to delivering long-term resilience and great customer service at an affordable price, and the sector will need to step up and increase innovation in order to meet the strategic challenges it faces in a cost-effective and sustainable way. We also want to see companies work more effectively together and with their supply chain to better tackle these challenges.

In this document, we explore options for customer-funded interventions designed to drive innovation to benefit customers in the longer-term. In particular, we are proposing to make up to £200m available for innovation activities for the period 2020-2025, for example through the introduction of an innovation competition or an end-of-period roll-out reward. We also seek views on a range of additional policy options for encouraging companies to work together to drive innovation in the sector and to ensure that regulation is effectively facilitating innovation.

We welcome responses to this consultation by 20 September 2019.

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1. Introduction

Background

On 2 May 2019, we published our emerging thinking on a new shared vision for the water sector and our proposed strategy for regulating water and wastewater companies in England and Wales¹.

We highlighted three significant shifts we think we need to make to our approach to regulation. In addition to creating a better future and encouraging the need to deliver public value, we noted the need to find new ways of driving transformational change in the sector, for example by enabling the adoption of innovative approaches. This follows on from our February 2018 “Spark” campaign, which we ran to encourage discussion throughout the sector about the benefits that innovation can bring for customers, the environment and wider society.²

Innovation and the 2019 Price Review (PR19)

In our final methodology for PR19, published in December 2017, we stated that innovation must be at the core of every company if they are to successfully address the challenges facing the sector, deliver long-term resilience and provide great customer service at an affordable price³.

Our outcomes and total expenditure approach facilitate innovation by giving companies the flexibility and freedom to adopt innovative means of delivering services. We promote innovation by setting water companies stretching outcome performance commitments which encourages companies to look for innovative ways of delivering better services to customers and improving the environment. Additionally, we set a cost efficiency challenge benchmarked to the performance of the leading companies. Some companies will also have enhanced commitments related to areas such as supply interruptions, internal sewer flooding, pollution incidents, leakage, and water use per person. They will be required to share learning with other water companies, to push the sector as a whole forward and benefit all customers.

¹ <https://www.ofwat.gov.uk/wp-content/uploads/2019/05/Ofwats-emerging-strategy-Join-the-conversation.pdf>

² <https://www.ofwat.gov.uk/spark/>

³ <https://www.ofwat.gov.uk/wp-content/uploads/2017/12/Driving-innovation-in-water-FINAL.pdf>

Box 1: Innovation definitions

What do we mean by innovation?

When we refer to innovation, we not only mean a step-change in technology, but also in the use of systems, processes and people, including commercial arrangements. We want companies to continue 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.

What do other organisations mean by innovation?

Department for Business, Energy and Industrial Strategy (BEIS) – “Innovation is about new ideas, new ways of doing things, new products and services, new technologies and new business models. It can come from radical transformation or incremental improvements; from within a business or from a new insurgent; from a major scientific advance or the application of a known technology in a new process”.

The Organisation for Economic Co-operation and Development (OECD) - “Innovation involves the creation and diffusion of new products, processes and methods. It encompasses a wide range of activities including R&D, organisational changes, training, testing, marketing and design”.

The UK Regulators Network (UKRN) – “Innovation can be defined as the process of creating new methods, or the adoption of alternative methods, to create improved outcomes. For infrastructure businesses this can often mean technical innovation, process innovation or commercial innovation”.

The case for additional intervention

We believe that innovation is a key tool for meeting many of the strategic challenges the sector faces in a cost-effective and sustainable way. Innovation is also likely to play a central role in some of the other shifts identified in our emerging strategy, for example turning information into insights, ensuring long-term resilience and the sustainable management of natural resources.

The potential additional interventions we discuss in this consultation document are designed to complement our existing approach to innovation in PR19. While a stable regulatory regime supports companies taking a long-term approach to managing their networks, there may still be barriers to transformational innovation of the kind that is required to address the challenges the sector faces (including climate change, population growth, and changing customer expectations). This is because commercial benefits are sometimes perceived to be less clear or less likely to accrue within a single regulatory price review period.

Our regulatory framework uses comparative benchmarking to assess the efficiency of companies and drive them to deliver improvements in performance, but we do not believe this precludes companies from working together and sharing information on major issues. Effective collaboration between firms in more competitive markets suggests that there is scope for enhanced collaboration without undermining the impact of comparative competition in the water sector. Examples include joint ventures and collaborations between established automotive groups to develop electric and autonomous vehicles, such as that between Ford and Volkswagen, and the Offshore Wind Accelerator, an initiative set up by the Carbon Trust and nine offshore wind developers in 2008. The Offshore Wind Accelerator claims to have significantly reduced the costs of offshore wind generation by solving common operational and technological problems.⁴

It may also be that the sector has a low risk appetite because of the clear public health and environmental obligations water companies must comply with. We may see greater innovation if companies worked together more effectively, therefore, reducing the risk of trying new approaches. Interventions to incentivise innovation could be an effective tool in nudging companies to collectivise risk.

Our proposals

Our proposals have been developed against a backdrop of increasing recognition of the key role regulation can play in supporting innovation in driving sustainable development for current and future generations. The UK and Welsh Governments, in their strategic objectives and priorities statements to Ofwat, have emphasised the importance of incentivising innovative solutions to deliver efficiency and to meet the challenges the industry faces. For example, the Welsh Government has identified incentivising companies to seek new ways of delivering services for customers and the environment more efficiently as a priority⁵. Innovation is also a key tool for achieving the two main priorities identified by the UK government: securing long-term resilience and protecting customers⁶.

In addition, the recent White Paper on Regulation for the Fourth Industrial Revolution sets out the UK Government's plans for ensuring that regulation can respond to the opportunities and challenges posed by a world that is changing faster than ever⁷. The UK Government has also sought views on ways to encourage innovation in regulated utilities, including the potential introduction of a new statutory duty⁸. Finally, the National Infrastructure Commission's (NIC) Future of Regulation Study is

⁴ <https://www.carbontrust.com/offshore-wind/owa/>

⁵ <http://www.assembly.wales/laid%20documents/gen-ld11283/gen-ld11283-e.pdf>

⁶ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/661803/sps-ofwat-2017.pdf

⁷ <https://www.gov.uk/government/publications/regulation-for-the-fourth-industrial-revolution>

⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/752041/encouraging_innovation_in_regulated_utilities.pdf

also considering the extent to which economic regulation has successfully impacted on innovation in the energy, water and telecoms sectors⁹.

In this document, we look at a number of ways in which we could encourage innovation in addition to the mechanisms we already use as part of the price review process. This includes the provision of financial support, which we think could improve outcomes and reduce costs for customers in the longer-term. We also look at other potential industry activities and how we, as the economic regulator, could better set ourselves up to further drive innovation in the sector.

Providing additional financial support (section 3)

We are consulting on whether to make up to £200mn of customers' money available for additional financial support, under two potential options. Firstly, we are looking at a collectively-funded innovation competition to run throughout the next regulatory period, 2020-2025. Funding would be provided through an increase in company revenues and formalised in the PR19 final determinations.

Secondly, we could provide a reward for the successful roll-out of innovative solutions at the end of the period as part of PR24, as either an alternative, or in addition to, a collectively funded competition.

Our proposals here apply to the 17 largest regulated water companies in England and Wales. Where appropriate, we expect these water companies to work closely with each other, other smaller water companies (which we commonly refer to as new appointments and variations), licensees, their supply chain and wider stakeholders to develop and put forward proposals for innovative projects.

Other potential industry activities (section 4)

We also ask companies to consider what more they could do to set themselves up more effectively as an industry to deliver transformational innovation. For example, this could be through the introduction of a sector-wide joint innovation strategy, considerations of a company-led innovation in water centre of excellence, or ways to make better use of data

Regulation as an enabler for innovation (section 5)

Finally, we are considering ways in which we can set Ofwat up more effectively to enable innovation in the sector. In this section we look at how to best help companies or third-parties wishing to bring forward new solutions to navigate our regulatory regime.

⁹ <https://www.nic.org.uk/wp-content/uploads/NIC-Regulation-Study-Call-for-Evidence.pdf>

Next steps

The proposals we discuss in this document should be read in conjunction with our PR19 draft determination documentation to be published on 18th July 2019, and our fast-track companies draft determinations published on 11th April 2019. Any funding proposed in this document could be included in our PR19 final determinations depending on our final decision.

We will reach a final decision on a package of innovation interventions for the period 2020-2025 in December 2019 at the latest. Following our final decision, we will clarify details around implementation, in consultation with stakeholders as required. These may include details of the framework for additional financial support and a timetable for implementation.

As part of this PR19 process, and the work to develop our future regulatory strategy, we are also considering whether to hold workshops with stakeholders to further explore options outlined here. If you would like to express interest in attending a workshop please email Innovationconsultation@ofwat.gov.uk by 20 September 2019.

2. Innovation in the water sector – our challenge to water companies

Introduction

The water sector faces a number of significant challenges, including planning for a resilient and affordable water supply, improving the natural environment and mitigating the impacts of climate change. Within this context, companies will need to continue to ensure operational resilience to extreme events and increased system use, while improving customer service to meet evolving customer demands.

We are seeing some good evidence of innovation in the sector and companies working together, for example with the recent launch of the World Water Innovation Fund of which Severn Trent Water and United Utilities are founding and contributing members, alongside organisations from Australia, Brazil and the USA. The fund aims to develop innovative solutions to common sector problems.¹⁰

In addition, the PR19 fast-track companies all demonstrated real ambition in creating the culture and capability for innovation. Severn Trent Water demonstrated many examples of best practice in innovation culture, from #BrightSparks – a company crowdsourcing platform – to the annual Challenge Cup, where employees compete to solve specific business challenges. South West Water showcased an ambitious plan to use collaboration and markets to secure resilient and sustainable water resources for the long term. Finally, United Utilities' plan had the best evidence of an embedded culture of innovation, making innovation a core value of the company, linked to every employee's annual appraisal and bonus process.

We also note that there are other good examples of genuinely innovative approaches across the sector, such as Anglian Water's Innovation Shop Window which uses a catchment area to trial live products with real customers, Northumbrian Water's Innovation Festival which uses innovative approaches to develop solutions to their challenges, and Wessex Water's work to create and make available to other companies its EnTrade platform for creating markets to better facilitate long term catchment management schemes.

Despite these positive developments, some evidence suggests that companies could do more to foster a more effective culture for innovation and that there are opportunities for better collaboration. Our initial assessment of PR19 business plans¹¹ suggest that most companies are still in the process of developing the culture and mechanisms required to facilitate effective innovation and collaboration. This

¹⁰ <https://www.waterinnovationfund.com/about-us>

¹¹ <https://www.ofwat.gov.uk/regulated-companies/price-review/2019-price-review/initial-assessment-of-plans/>

echo's the findings of the European Innovation Partnership on Water which in a 2014 report on barriers and bottlenecks for innovation in the water sector, notes that the sector has a high risk aversion for innovative technologies.¹²

The 2009 Independent Review of Competition and Innovation in Water Markets also noted that expenditure on research and development (R&D) in the sector fell significantly between the early 1990s and 2009, with limited support for R&D ranging from 0.02 per cent to 0.66 per cent of company turnover. Past patent activity also suggests innovation may be limited, with 323 patents filed for the water and wastewater industries in the UK between 1999 and 2008, compared to 1578 and 1038 for Germany and the US respectively over the same period.¹³

In 2015, the UK Water Research and Innovation Partnership (UKWRIP) published a report suggesting that the UK is a minor international player in global water innovation markets with a global share in water technology innovation at just 3%. According to UKWRIP, there is scope for this to increase to 10% by 2030 if companies coordinate better and focus on commercial opportunities. On a parallel note, Ofgem is also considering ways to increase third-party involvement in energy innovation, which it identifies as crucial for ensuring objective and independent research.¹⁴

Innovation as a tool for addressing future challenges

We have identified three areas where we see opportunities for companies to work better together and with their supply chain or other stakeholders to develop innovative solutions:

- **Company culture:** as already highlighted in our PR19 initial assessment of business plans, we looked at whether companies could demonstrate that they have a culture which encourages and supports innovation. Results were mixed across the sector. Going forward, we expect all companies to identify, consider and implement systems, processes and people to develop a company culture to enable and support innovation.
- **Effective joint working within the sector and beyond, including improved information-sharing:** there is already some evidence of discreet partnerships within the sector. For example, several companies are investing in partnerships and projects with different universities. However, there is limited evidence of effective collaboration at scale between companies on common innovation goals and investment appears fragmented. We want to see

¹² https://www.eip-water.eu/sites/default/files/DiagnosisBarriersBottlenecks-Final_0.pdf

¹³ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69462/cave-review-final-report.pdf

¹⁴ https://www.ofgem.gov.uk/system/files/docs/2019/05/riio-2_sector_specific_methodology_decision_-_core_30.5.19.pdf

companies step up and work together to drive effective and targeted intra- and inter-sector coordination to tackle long-term challenges. This is also an opportunity for companies to learn from each other through improved information-sharing, to streamline the large number of already existing trials and initiatives, and to work together to identify other potential sources of innovation funding.

- **Effective roll-out and adoption of proven technologies, methods or approaches at scale:** we want to see more evidence of companies rolling out new methods that have been piloted and proven successful. Twenty65¹⁵, an academic and industry research group, highlight the need for greater uptake of innovative solutions by incumbent water companies. Supply chain companies report facing slow commercial deployment and often have to trial their new technologies independently with each incumbent water company.

Q:1 What are the main barriers to innovation in the sector and why?

¹⁵ <https://twenty65.ac.uk/about-us>

3. Additional financial support for innovation

Introduction

In this section, we propose to make up to £200m of customer money available to help stimulate innovation in the sector. This could be either through an innovation funding competition and/or an end-of-period reward focused specifically on the roll-out of successful innovation.

Rationale

As highlighted earlier, given the scale of the challenges the sector currently faces, our current view is that there is a potential case for providing additional financial support for transformational innovation during 2020-2025, to be funded through customer bills.

While our draft and final determinations for PR19 will encourage companies to innovate individually, our view is that additional funding should stimulate innovation more widely within the sector. Targeted financial support could encourage collaborative innovation initiatives and help focus efforts on delivering longer-term transformational innovation to address key strategic challenges providing long-term benefits to customers. Finding better, more innovative, solutions today will ultimately lead to improved outcomes and cost-efficiencies in the longer-term. Our proposals therefore emphasise the need to work together and place information and knowledge-sharing at the heart of any interventions, while retaining a competitive element to help ensure high-quality proposals.

Looking at other sectors, the strongest evidence on the effectiveness of such interventions is in energy: The electricity and gas markets regulator, Ofgem, has provided some form of direct innovation funding to gas and electricity network companies since 2005. Independent evaluation of Ofgem's Low Carbon Network Fund, which provided funding through a competitive process for projects sponsored by Distribution Network Operators, suggests that the returns are likely to be in the region of 4.5 to 6.5 times the cost of funding the intervention.¹⁶

We believe that additional financial support would be appropriate in helping to enhance the innovative potential of the water sector.

¹⁶ https://www.ofgem.gov.uk/system/files/docs/2016/11/evaluation_of_the_lcnf_0.pdf

Draft principles for additional financial support

To help safeguard customer interests, we propose that access to additional financial support should be based on the following draft principles:

- Innovation should be understood to not just be about the development of new technologies. Innovation can also be developed by doing things differently and having the right systems, processes and people to support activities. A wide range of innovation proposals are encouraged, addressing the big challenges facing the sector and taking into account the strategic priorities and objectives of UK and Welsh governments.
- The purpose of any intervention is to drive transformational innovation that companies would not otherwise explore or invest in.
- Proposals should be just as much about the roll-out of innovations at scale as the early incubation of new ideas and solutions. Funding will be open and flexible and available to projects of all types or scale.
- Innovation fostered through these mechanisms must provide value for money for all customers in England and Wales, although the benefits for some customers may in some cases be indirect (e.g. from the sharing of findings across the sector);
- Companies will be required to fund a proportion of project costs to ensure risks are appropriately shared between customers and shareholders;
- Mechanisms will be time-limited to the 2020-2025 period. We will review the effectiveness of these mechanisms at least at the end of the period, and as required during the period;
- Companies will need to provide evidence of how they are working together and with others (including other water companies, their supply chain, companies in other sectors), and/or a commitment to transparent sharing of progress and findings with others within the sector and beyond;
- There will be an “open by default” approach to data and learning generated through customer-funded activities, including where projects have been unsuccessful.

In order to stimulate innovation, the regulatory framework must recognise that innovation projects will not always deliver a successful outcome. However, our initial view is that we need to put additional safeguards in place in relation to the funding of innovation projects under the mechanism, and we will work with relevant stakeholders in considering options for clawing-back some or all of the funding under certain circumstances (e.g. a project is not taken forward), for example through a reconciliation process at PR24.

Amount of funding/ reward available

We are consulting on allowing companies to increase customers' bills by up to a total of £200mn (shared across all companies) to fund and/ or reward innovation over 2020-2025. Our current estimate is that this will increase the average customer's bill by approximately £1.50 per year over 2020-2025¹⁷. If we went ahead with both of the two mechanisms we discuss here, they would share in the allocation of up to £200m.

The amount of funding made available must strike the right balance between delivering value for money through longer-term benefits to customers, whilst not distracting companies from focusing on delivering efficiencies and meeting their stretching commitments under the PR19 framework. Our initial view is that £200mn strikes the right balance between driving company behaviour and delivering for customers.

We have considered a range of precedents in determining the potential appropriate amount of funding, including recommendations from the 2009 Independent Review of Competition and Innovation in Water Markets, examples from the energy sector, and the funding we are making available as part of PR19 for companies to develop regional strategic water resource solutions.

We recognise that making additional funding available is not without risks and we will need to help ensure projects funded are not already funded or incentivised through the price review framework. Our draft principles for additional funding and proposals for the involvement of an expert entity in the decision process are designed to address this concern.

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

Collectively-funded innovation competition

Description

¹⁷ We have used the combined number of water and waste water connections as a proxy for the number of customers and therefore the figure may vary slightly.

Under this model, companies would need to compete for innovation funding. Funding would be recovered from customers through an increase in company revenues and pooled into a joint ring fenced pot available to all companies.

The innovation competition would be run annually, with companies putting forward proposals for innovative projects to be funded through the mechanism. In order to be eligible for funding, companies entering the competition would need to contribute to project costs, and projects and allocation of funding from the ring-fenced pot would need to be assessed by an independent expert entity against our final key principles for financial support. Only companies which are successful in their bids would then be awarded funding.

Companies would need to develop a framework underpinning the innovation competition. In particular, in the initial set-up phase companies would need to collectively set up and fund a single independent expert entity for the purpose of assessing projects put forward under the innovation competition (or reach an agreement with an existing entity). The chosen independent entity will need to have the required expertise to advise on innovation in the water sector. We envisage that the entity's relevant work would be funded through the single funding pot described above.

The companies would also need to jointly develop some of the framework's detail for review and/ or approval by Ofwat, in line with the principles that we set out. This could cover for example:

- Criteria for funding/ reward (including scenarios for clawing funding back);
- Governance arrangements (including appropriate assurance processes);
- Approaches to sharing and disseminating of information (including treatment of intellectual property rights); and
- A monitoring and reporting framework to ensure the benefits of the competition are captured and understood.

If we decide to introduce a collectively funded mechanism, we will set out clear timings and milestones for the development and set-up of the framework by the companies. Our initial view is that the process of setting up the competition framework should be completed within the first year of the regulatory period. This would allow the competition to run over four years. We expect that a small proportion of the total funding should be available to support the set-up of the competition.

We propose that Ofwat would retain appropriate strategic control or oversight over processes and decisions. This will help safeguard customer interests. In addition, we propose that we will review the effectiveness of the mechanism. As a minimum, we propose to carry out a review at the end of the 2020-2025 period. We may also consider a review prior to that to assess progress and to ensure these are effective and of benefit to customers.

Funding arrangements

Companies would recover the funding for an innovation competition from their customers in proportion to the size of the company, based on their projected view of revenue for 2020-2025. This is similar to the approach we use to determine how much each company pays for its licence fee (which is normally based on reported turnover). We will issue a spreadsheet to companies two weeks after the publication of draft determinations which will contain our view of the revenue adjustments which would be made if we introduced a collectively-funded innovation competition.

Our initial view

Our initial view is that a collectively funded competition would be an effective way to drive innovation in the sector.

The collectivised element of this intervention enhances competition by offering companies access to a larger pot of funding than they would if it was directly from their individual customer-base.

The competitive element of the model is designed to increase management focus and help ensure only high-quality proposals are put forward. We note that partnerships could also compete for access and that, ultimately, all results would be shared across the sector and beyond. As outlined above, we think a joined-up approach is key to developing solutions to common long-term strategic challenges. Under this model, companies would have both a financial and reputational incentive to work together and with their supply chain to propose innovative projects.

While direct innovation funding under the competition could provide companies with greater certainty and should improve participation, setting the right parameters for the competition will be key to ensuring that projects funded are in the interests of consumers and do not displace innovation activities which are already on-going.

We propose to work closely with stakeholders to develop a robust process to underpin the competition. If we choose to introduce a competition, we will put in place milestones to ensure a timely set up. Ultimately, we believe the reputational benefits, in combination with the longer-term opportunities to reduce costs and provide better outcomes for customers through innovation, should provide sufficient impetus for companies to engage in the process.

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?
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End-of-period innovation roll-out reward

In addition to the collectively funded competition, we are considering whether an end-of-period innovation roll-out reward, could help increase the adoption of innovations across the sector.

Description

This would consist of an end-of-period reward payment to those companies that have demonstrated the most successful roll-out of successful innovation to the benefit of customers during the 2020-25 period, and have shared their findings with other organisations.

Successful companies would be entitled to additional revenue allowance at the following price control period, PR24. If we went ahead with this mechanism alongside the collectively funded competition it would share in the allocation of up to £200m. We will also consider whether similar or the same governance framework might apply to the roll-out reward as with the innovation competition.

Our initial view

Our initial view is that an end-of-period reward could be implemented in addition to the innovation competition in order to encourage the adoption and roll-out at scale of innovations. We highlight this as a potential key issue earlier in this document. The introduction of a roll-out reward may be effective in cases where companies have insufficient incentive to turn a successful trial into business as usual.

There is a risk that a roll-out reward could encourage the adoption of sub-optimal solutions, or reward companies for implementing solutions that they would have rolled out as business as usual. There is also a potential risk of double-funding, in particular where companies may have been awarded funding under the innovation competition or as part of PR19. Such risks could however be mitigated through the design of a robust assessment and decision-making process.

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?

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?

4. Other potential industry activities

We think there is more the sector could do to promote innovation. In this section, we ask companies to consider what actions they could take to set themselves up more effectively as an industry. These could be either stand-alone activities or complementary to our proposals for an innovation funding competition and/ or an innovation roll-out reward.

Sector-wide joint innovation strategy

In order to further encourage a joined-up approach on innovation in the water sector, the water companies could develop and publish a joint innovation strategy. Any such strategy would need to be developed in collaboration with stakeholders and updated regularly. It could, for example cover:

- Key challenges/ uncertainties faced by the water sector;
- Innovation projects/ activities that the sector is planning to undertake to address these;
- Plans for addressing key challenges/ uncertainties not currently being dealt with;
- Plans for coordination activities within the sector;
- Plans for engaging with the value chain/ innovators; and
- Plans for disseminating learning from innovation activities.

A joint innovation strategy could help focus industry efforts as well as encourage transparency and engagement with the value chain and innovators.

We also think that the introduction of such a strategy could become a key feature of the framework for any additional financial support, if introduced.

Innovation in water centre of excellence

We want water companies to think carefully about how to streamline existing initiatives to ensure efforts are complimentary rather than duplicative.

Within this context, we think the water sector should be considering whether the establishment of a centre of excellence could deliver benefits. Such a centre could, for example, provide expertise, market knowledge and insight, as well as potentially financial assistance, to drive collaboration and cooperation on innovation. The centre could also have incubation facilities and facilities to trial, test and scale innovations and allow innovators access these facilities in order to help develop and scale their products.

Companies could consider putting forward a proposal for this kind of activity for consideration under any mechanism for funding or rewarding innovation, if introduced.

Gaining greater insights

We also believe that there is significant scope for the water sector to make better use of information. This may be in the way companies manage and use their own data or the way other organisations interact with water sector data. In 2017, we published a report on unlocking the value in customer data, where we highlight that the better use of data can be used to drive greater customer service and satisfaction, improve efficiency and encourage smarter network management.¹⁸ However, we think opportunities exist to make better use of other types of data, for example asset data, by taking an “open-by-default” approach.

A more open and accessible approach, for example through partnerships with innovators, can create further benefits by allowing third parties to access and analyse data. This can help companies better understand their networks, customers and processes and devise new solutions. For example, companies could find new ways of making faster repairs, delivering bespoke services and optimising their process. There are wider benefits to open data too, for example improved transparency and reduced information asymmetry.

The UK government’s Industrial Strategy¹⁹ aims to put the UK at the forefront of the artificial intelligence and data revolution and we expect the water sector to be part of this. We want to see companies take ownership of this issue and work with each other and stakeholders to explore options for open data. We note that there are some encouraging signs of increased activity by water companies and their suppliers in this space. We may also consider ways in which regulatory tools can be used to accelerate progress, if required.

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?

¹⁸ <https://www.ofwat.gov.uk/wp-content/uploads/2017/06/Unlocking-the-value-in-customer-data-5.pdf>

¹⁹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf

5. Regulation as an enabler for innovation

We are considering ways in which we can set ourselves up more effectively to enable innovation in the sector. This could include changing the way in which we engage with regulated entities and other stakeholders on the theme of innovation, or increased liaison with other regulators in the sector.

Setting ourselves up to promote innovation

One way we could do this is by providing informal advice to regulated entities and other parties seeking to get innovative ideas off the ground. This could, for example, follow a similar model to Ofgem's Innovation Link,²⁰ which focuses on delivering fast and frank feedback to organisations looking to understand what regulation means for them.

We would welcome views from stakeholders on whether such a service could be of benefit, in particular to those smaller organisations that are considering bringing new products or ideas to the market.

Increased coordination on innovation across regulators in the sector

The Department for Environment, Food and Rural Affairs (Defra), the Welsh Government, Ofwat, the Environment Agency (EA), Natural Resources Wales (NRW) and the Drinking Water Inspectorate (DWI) have a range of responsibilities to ensure that water companies meet their customers' water needs in a safe, resilient and efficient way, while protecting the natural environment and ensuring the needs of other water users can be met.

The recent partnership between Ofwat, EA and DWI, the Regulators' Alliance for Progressing Infrastructure Development (RAPID), which will also work with NRW, highlights the significant scope for cross-regulator work to benefit customers and the environment. We think there may be further opportunities for coordination on the innovation front across the economic, environment and drinking water quality regulators in both England and Wales.

Activities we could explore could include increased liaison to ensure new products or approaches can be effectively trialled, in particular where regulation may create potential barriers. Similar arrangements already exist in other sectors, for example Ofgem's Innovation Link, already discussed above and the Financial Conduct Authority's regulatory sandbox.²¹ We welcome views on whether such an approach

²⁰ <https://www.ofgem.gov.uk/about-us/how-we-engage/innovation-link>

²¹ <https://www.fca.org.uk/firms/regulatory-sandbox>

could be worth exploring, in particular in terms of facilitating the roll-out of proven technologies. For the avoidance of doubt, arrangements of this nature cannot not be used to undermine regulatory performance commitments.

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?

6. Consultation questions

We welcome your response to this consultation by close of business on 20 September 2019. **Respondents are strongly encouraged to provide details of the evidence and data in their responses**, which support their positions to enable us to understand more fully the basis on which those conclusions have been reached.

There is no obligation to respond to all of the questions but we would appreciate if respondents could use the appropriate question numbers in submissions to enable easier analysis.

Please email your response to Innovationconsultation@ofwat.gov.uk or post them to:

Innovation consultation
Ofwat
21 Bloomsbury Street
London
WC1B 3HF

We will publish responses to this consultation on our website at www.ofwat.gov.uk, unless you indicate that you would like your response (or any identified part of it) to remain unpublished. Information provided in response to this consultation, including personal information, may be published or disclosed in accordance with access to information legislation – primarily the Freedom of Information Act 2000 (FoIA), the Data Protection Act 2018 and GDPR and the Environmental Information Regulations 2004.

If you would like the information that you provide to be treated as confidential, please be aware that, under the FoIA, there is a statutory 'Code of Practice' which deals, among other things, with obligations of confidence. In view of this, it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information, we will take full account of your explanation, but we cannot give an assurance that we can maintain confidentiality in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on Ofwat.

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| Q:1 | What are the main barriers to innovation in the sector and why? |
| 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? |

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

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We regulate the water sector in England and Wales. Our vision is to be a trusted and respected regulator, working at the leading edge, challenging ourselves and others to build trust and confidence in water.

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