
Ofwat's response to HM Treasury's consultation on encouraging innovation in regulated utilities

January 2019

Introduction

Ofwat is pleased to respond to the consultation "Encouraging innovation in regulated utilities"¹. Innovation is a critical enabler and can help the water and wastewater sector deliver long-term resilience, great customer service and affordability. We welcome the Government's focus on how this can most effectively be achieved.

As the consultation paper notes, Ofwat has been active in promoting greater innovation in water companies. The framework we use aims to inform, enable and incentivise innovation. Innovation is also one of the four main themes of the 2019 Price Review (PR19). PR19 is explained further in box 1.

Innovation is also a major theme in the development of Ofwat's regulatory strategy.

Box 1: What is the price control?

Every five years, we carry out a price review. This sets the price, investment and service package that customers receive. Our methodology for PR19 made innovation one of the four key themes, alongside long-term resilience, great customer service, and affordability.² The price control process enables Ofwat to challenge companies and incentivise them on the basis of the service they provide to customers and the efficiency of their business, among other things.

We received companies' business plans in September 2018 and we are currently in the process of reviewing them against a range of criteria. We will publish our initial assessment of business plans (IAP) on 31 January. This will include a view on how companies have demonstrated innovation and embedded a culture of innovation in their businesses. This consultation response does not take into account our view on companies' business plans.

¹ HM Treasury (2019) [Encouraging innovation in regulated utilities](#)

² Ofwat (2017) [PR19 final methodology](#)

Understanding the barriers and opportunities for greater innovation

1. What barriers, if any, are there to the development and implementation of innovative technologies and methods in the utilities sectors?

Though there are examples of innovation in the water and wastewater sector, water companies can be relatively risk averse and there are limited examples of long-term collaboration between them outside of emergency mutual aid arrangements. This risk aversion may come from a number of different sources, including, but not limited to:

- The lack of direct competitive pressure. The 17 appointed water companies are natural monopolies and domestic customers cannot switch supplier. The inherent commercial incentive to innovate to win and retain customers, which exists in competitive markets, is absent in the water and wastewater sector;
- The need to ensure delivery of essential services to tightly regulated minimum standards. This is due to the public health and environmental roles which water companies play in society, and reflects that companies enjoy the right to provide an essential service as a monopoly. Failure to comply with these rules can lead to large penalties.

Collaboration, which can be between companies, with their supply chain, other third parties or even other sectors, can be a catalyst for innovation. However, water companies tend to focus on their own licensee area. This may be the result of companies historically seeing themselves as self-contained networks, and their legal obligation to focus on customers within their own geographic area.

One example is transfers of water between water company areas. Although there are clear economic, environmental and resilience benefits to increasing the amount of water traded between regions, the amount of water traded has stayed relatively static since 1989. We welcome the Government's current consultation on measures to require companies to collaborate on the development of regional water resources plans, which may help to increase the amount of water traded between companies³.

Our regulatory approach aims to remove barriers to innovation:

- Since 2014 Ofwat has operated an outcomes-based regulatory regime that incentivises companies to meet the needs of their customers by focussing on the desired outcome. For example, companies commit to reduce supply interruptions, rather than committing to specific means of achieving the outcome, such as asset replacement. Outcome-based performance commitments, set as part of our periodic price review, give companies the incentive to come up with innovative solutions to meet customer needs with financial and reputational rewards and penalties attached;

³ Defra (2019) [Improving our management of water in the environment: Consultation proposals](#)

- Our Totex framework means we no longer differentiate between operational and capital expenditure, to reduce the incentive on companies to focus on increasing their capital expenditure when more efficient and innovative operational solutions are available;
- The use of markets, such as the recent opening of the business retail market in England to competition, should lead to innovations and new business models. Some of these innovations may also ‘spill over’ into the monopoly businesses.

The five yearly price review is sometimes said to disincentivise innovation. However there is no clear evidence that the length of the review cycle in itself constitutes a barrier. The five-year period sits within the range of price review periods in regulated industry regimes in the UK, Europe and Australia, and seeks to balance flexibility to change with the need to provide long-term consistency and certainty. To avoid any risk that the five year price review cycle leads to “stop-start” investment or very short term thinking, we allow companies to propose projects which span a number of price review periods.

2. What are the best way(s) for utility regulators to further promote innovation in their sectors, while ensuring the interests of consumers (present and future) are protected?

We have a clear framework for driving innovation in the water sector based on an ‘inform, enable and incentivise’ approach, which we published alongside our PR19 methodology in December 2017⁴ and that we explain further in question 4.

Through our recent innovation campaign ‘SPARK!’ we have challenged the water sector to engage with new thinking to maximise the opportunities for innovation within the sector. We want water companies to be exposed to new ideas, both within and outside of the water sector. This approach allows us to shine a light on good practice and signal our expectations going forwards. By doing this, we raise the bar for ‘normal’ in the sector, whilst driving transformational innovation.

Our approach to markets and regulation enables innovation. Markets can reveal information on costs and value. Competition drives firms to better understand what their customers want and deliver for their customers. Within the regulatory framework set by the UK and Welsh governments, we are driving innovation by opening up markets – in the procurement of major infrastructure projects, in bioresources, and in water resources and exposing market participants to pressures which mimic those faced by companies in competitive markets.

Our regulatory framework sets out clear incentives to help drive innovation in the water sector. Our price control methodology and outcomes framework promote innovation as a key theme of the review. As part of the price review, water companies must propose performance commitments which have financial or reputational incentives attached. Where companies successfully improve service for customers, they can earn outperformance payments, and where they fall short, they can incur underperformance penalties. This mechanism provides companies with clear incentives to find the most effective way of

⁴ Ofwat (2017) [Driving innovation in water](#)

achieving their performance commitments, and will tend to reward companies which innovate to find new ways of doing things.

3. What barriers, if any, are there to innovative sector-specific and cross-sector business models?

Different models of competition and consumer choice exist in energy, communications and water. A key difference between water and other utility sectors is that household water customers cannot choose their retailer. This limits the scope of business models offering multi-utility bundling.

Despite this there are examples of cross-sector business models. In the water sector, New Appointments and Variations companies (NAVs) apply to become the incumbent water provider in a specific geographical area. These organisations tend to work with developers on sites that are not served by utilities. This makes it possible for them to offer customers multi-utility packages, as well as allowing them to use more innovative approaches such as sustainable drainage and rainwater harvesting. A number of NAVs provide a combination of last-mile utility networks in energy, water and wastewater and communications.

A number of private companies contract to lay the infrastructure for developers as an alternative to the incumbent water company. These 'self-lay' organisations can lay multiple infrastructure networks at once rather and provide a better value service for developers.

While the business retail market has only recently been opened to competition, we have seen some early signs of innovation. For example, a number of larger water customers, such as Greene King and Whitbread, have opted for 'self-supply' licences. This is where a customer buys wholesale water supply and wastewater services from the water company and provides their own retail services. This offers them the ability to tailor their services for their specific needs, such as investing in better measurement and management of their water consumption to drive efficiency and reduce costs. In response, a number of retailers have also begun to offer new or improved services, such as water efficiency services and water quality testing.

Policy and implementation

4. How have utility regulators most successfully encouraged innovation in their sectors?

As set out previously, our approach is one of informing, enabling and incentivising. In this section, we provide examples of how we have applied our framework.

Inform

Ofwat has taken the initiative to drive thought leadership in innovation. We want the sector to think creatively about the opportunities for innovation and to engage with how other companies and sectors embed innovation in their culture and processes.

In February 2018 we launched a month-long innovation campaign, SPARK!⁵, across several digital platforms. We asked experts in innovation and new thinking from a range of sectors and industries to showcase their experience and knowledge to inform and inspire water companies about what was possible, and to stimulate conversation across the sector. The objective of the campaign was to highlight case studies of successful innovation and to establish innovation as a priority for the water sector through PR19 and beyond. There was strong positive response to this campaign and we believe it has helped drive innovation thinking in the sector.

We have also challenged companies to more actively explore the opportunities for making better use of customer data to provide new services⁶, and to share data more actively between water companies, working closely with the Open Data Institute. We have also led work with Ofgem to drive greater collaboration⁷ between water and energy companies to drive up the provision of support for vulnerable customers.

Enable

We enable innovation by removing barriers and creating markets. Our total expenditure (totex) approach, which focuses on an allowance for totex rather than setting separate allowances for operational expenditure (opex) and capital expenditure (capex), gives greater freedom for companies to use either expenditure in order to deliver an outcome.

In 2018, KPMG and Aqua Consultants prepared a report for us on the benefits of totex. Evidence from water companies suggests that totex has enabled water companies to reduce costs by 1.2% a year (or by 6% by the end of a 5 year control period) on average following the introduction of totex at PR14.

In this study, Water companies also provided examples of where they had used innovative approaches to deliver services to customers. In some examples innovation has completely negated the need to spend on expensive infrastructure; enabling companies to deliver comparable, or improved, outcomes to customers at lower cost. For example, in the adoption of catchment management approaches to managing water quality and reducing the need for treatment. On average the projects highlighted by companies indicate that where companies innovate they are able to reduce costs by around a 40% average. The financial benefits are shared between customers and companies, meaning that companies have a clear incentive to find more efficient ways of doing things, while the scale of the efficiencies

⁵ Ofwat (2018) [SPARK!](#)

⁶ Ofwat (2017) [Unlocking the value in customer data](#)

⁷ Ofwat and Ofgem (2017) [Making better use of data: identifying customers in vulnerable situations](#)

generated inform Ofwat's future assessment of what constitutes an efficient company, to ensure that customers reap the benefits of efficient innovation.

Opening markets brings competitive pressures to a monopoly industry and can drive innovation. New markets such as the business retail market, direct procurement, and the opening of water resources and bioresources, all offer companies scope for greater innovation and more effective co-operation with third parties to deliver for customers.

The business retail market has started to show signs of the capacity for innovation. Efficiency gains are starting to be realised: we have seen a total of £8 million being saved from lower bills, retailers beginning to offer water efficiency services, and better customer service.

Direct procurement for customers (DPC) is where a water company competitively tenders large scale projects on behalf of customers. Competition means that new companies can bid with innovative solutions which cost customers less. Our approach is based on the market tested model developed for tendering of the Thames Tideway Tunnel, which ensured that the water industry was able to deliver this major infrastructure project with a far lower impact on customers' bills than if delivered in the traditional way. Ofwat developed a regulatory framework attractive to long term utility sector investors which resulted in lower bills for customers. In 2014-15 prices, these are expected to peak at no more than £25 per customer compared to the originally assessed £75-£80 per customer.

Incentivise

Incentives for innovation are most clearly seen in our approach to the 2019 price review, where innovation is one of the key themes. This focus reflects the importance of driving efficiency and better service for the benefit of current and future customers, and the limited natural incentives regional monopolies face to innovate.

In PR19 we have introduced stretching performance commitments to push companies even further to deliver the services that customers want. For example, we have challenged water companies to reduce leakage by at least 15% over the five-year price review period. Customers feel strongly about reducing leakage and the figure represents an improvement on the most ambitious company's leakage performance commitment for PR14.

Companies' business plans will be assessed on the basis both of how innovative their plans are – that is, to what extent that what companies actually plan to do is innovative – *and* the extent to which companies have put in place the culture and processes necessary to promote and enable innovation within their business. Companies therefore face direct reputational, financial and procedural incentives to demonstrate innovation and innovative capacity.

There is a rapidly expanding body of good practice from other regulators on incentivising innovation. As part of our ongoing review of our regulatory strategy, we are considering how our approach to innovation may need to evolve and will consider whether there is a case for alternative mechanisms which will promote innovation and help solve the key challenges in the sector.

5. What additional tools and expertise, if any, do utility regulators need to respond to technological change and promote innovation in their industries?

It is clear that it is not only regulated companies which must be innovative – regulators too must think innovatively in order to secure the best results for customers at an efficient cost. We welcome recent government initiatives, such as the Regulators' Pioneer Fund, which ensures that regulators can access funding for new innovative approaches.

Regulators will need to develop expertise and skills to stay up to date in a changing world. One example is artificial intelligence and other new approaches to data analytics. Data being collected by regulated companies is likely to provide bodies like Ofwat with a more detailed understanding of the regulated companies. This will help us regulate more effectively. We have recently created a data science profession in Ofwat which is looking at newly available and developing data and analysis techniques, to provide us with additional insight into water companies and their networks. This includes engaging with government and other regulators on AI and data. We welcome the formation of the Regulators Innovation Group by BEIS to facilitate greater dialogue between regulators, government and others on how regulatory approaches can accommodate and encourage innovation by firms.

In order for regulatory approaches to evolve to facilitate and accommodate emerging new business models, there may be a need for measures which enhance the ability of regulators to collaborate effectively. For instance, to ensure that regulators can share resources and make joint decisions.

We are also working with fellow regulators in the water sector and central government to develop a national framework for water resource planning. This will encourage more strategic collaboration across company boundaries and innovative thinking on investment needs for the sector. This demonstrates that regulators have a role not only in responding to technological change, but in developing regulatory processes which themselves constitute new technologies, and which represent opportunities for companies to respond to with innovations of their own.

Regulators' statutory duties

6. To what extent would a statutory duty to promote innovation help regulators focus further on encouraging greater development and adoption of innovation in their sectors?

Innovation is a means of achieving desired outcomes. It can help better serve and protect consumers and ensure that the water system remains resilient. We believe it should remain a tool to help us achieve our existing duties, rather than a goal in its own right.

Currently, we are focused on encouraging greater innovation in the water sector, as seen by our approach to PR19, and intend to keep up this momentum. All of this has all been

achieved without a specific innovation duty. It is not clear that a specific innovation duty would add further value. Instead, it may only increase complexity in the regulatory process.

Moreover, great care would be required in setting out duties in such a way that regulators were not just incentivised to promote new, and potentially more expensive solutions, rather than promoting genuine innovation which benefited consumers.

In considering whether to give Ofwat a statutory innovation duty in 2009, the government noted the scope for social and environmental guidance, which it issued to Ofwat at the time, to influence our approach to innovation⁸. This guidance has since been replaced by the strategic objectives and priorities statements which Ofwat must act in accordance with. This strengthens the government's ability to influence Ofwat's approach to regulation without making further changes to its statutory duties. The Government's current strategic objectives and priorities statement to Ofwat emphasises the importance of innovation in a number of areas. We would encourage the government to consider, as part of its ongoing review of the process for developing strategic policy statements to regulators, the scope for more consistent guidance being issued to regulators on the importance of promoting innovation.

7. What other measures might support an innovation duty in helping regulators to focus on encouraging innovation in their sectors?

While we do not believe that an innovation duty is needed, we would welcome some additional levers to support innovation in the water sector.

Ofwat has a key role pushing for innovation in the water sector. As part of the refresh of our strategy, we are reviewing the options available to us, including how to encourage more focused collaboration by companies in the sector on tackling key strategic issues, and will consider what measures may be the most effective for driving innovation in the sector.

Continuing to run funding competitions for regulators, such as the Regulators' Pioneer Fund, or looking to expand these programmes, will help regulators to work innovatively, and further encourage innovation. These funds help deliver evidence on what innovative policies are effective, and also set an example by showing that regulators are prepared to lead from the front.

The UK Regulators Network (UKRN), of which we are an active member, is stepping up efforts to facilitate collaboration between regulators and regulated companies. The organisation has developed a number of internal networks to foster links between members on a number of topics, including innovation-friendly regulation. We will continue to develop these networks and consider how further networks, and new members of the networks, could bring additional value to the sector and customers.

⁸ Defra/Welsh Assembly Government (2009) [Consultation on the Cave Review of competition and innovation in water markets pp.14-15](#)