

# Arqiva Submission to Ofwat Consultation: PR24 and beyond: Creating tomorrow together

## **Overview**

Arqiva is a communications infrastructure and media services company that is the only large-scale provider of smart water metering infrastructure in the UK. We work with some of the UK's largest water companies, including Anglian Water, Thames Water, Northumbrian and Yorkshire Water, to futureproof transformation across their businesses through the provision of solutions that identify leaks, abnormalities and consumption levels, and provide actionable data and insights to both water companies and their customers that power decision-making.

Arqiva welcomes the opportunity to comment on Ofwat's proposed framework for the PR24 price review and subsequent appraisals. Looking ahead to the myriad of challenges we face as a society and as an industry due to climate change, increasing expectations of customers and future environmental fluctuations in water demand and supplies, a step-change is now required in how we as a sector respond and play our part.

The effects of climate change are making rainfall less reliable which, together with an increasing population and unresolved leakages in both water and wastewater services, is placing ever-increasing pressure on water resources. Without urgent action to address the sustainability of our water supply, the UK faces severe water shortages in the coming decades and parts of the UK will run out of water in the next 20 years.

This pressure point is becoming increasingly immediate. Recent findings from the Climate Change Committee (CCC) have argued that actions taken to help bolster the nation's resilience and adaptation to the effects of climate change have "failed to keep pace"<sup>1</sup> with growing climate related risks. However, the CCC emphasises that "further reductions in water use by households would make them less vulnerable to water shortages"<sup>2</sup> in future.

We welcome Ofwat's commitment in this consultation to "strengthening our approach to resilience" for the long term. With PR24 seeking to prioritise the delivery of greater environmental value by the water sector and greater improvements through innovation in areas such as water efficiency, we believe that it is vital that the framework takes a favourable stance towards technologies that can help to achieve this and enables greater investment in innovations that are proven to support both water efficiency and environmental objectives, such as smart water metering.

## **Comments on the PR24 process**

### ***Confronting the Climate Emergency and Delivering Net Zero***

Arqiva believes that the most profound and urgent risk facing the water sector, and society at large, is the climate emergency. The water sector's ability to reduce its strain on the UK's natural resources will have a fundamental impact upon the nation's efforts to prevent the deterioration of the environment. PR24 therefore needs to provide a framework that enables investment in innovation and supports the industry to deliver long term solutions that can ensure tangible savings against water consumption and wastage.

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<sup>1</sup> [Climate Change Committee](#), Independent Assessment of UK Climate Risk, June 2021

<sup>2</sup> [UK Climate Risk](#), Water Briefing – Findings from the third UK Climate Change Risk Assessment (CCRA3) Evidence Report 2021, June 2021

We concur with the themes that Ofwat has set for the premise of PR24, with a commitment to focus on delivering greater environmental value, whilst holding a view for the long term. With the growing effects of climate risk presenting a hazardous future for the UK's water supplies, it is imperative that this process is single-mindedly focused on delivering the environmental and adaptational changes required to preserve the UK's precious water resources for future generations; PR24 must remain focused on this goal.

Climate change should be viewed as an opportunity to fundamentally re-evaluate the industry's approach, its relationship with its customers, and to develop new and collaborative ways of working. Arqiva agrees with Ofwat that now is "the moment for fresh thinking and change". If we are to meet this challenge successfully, it is critical that every aspect of the industry, together with government, regulators, and consumers, play their individual part.

With this in mind, Arqiva is supportive of Ofwat's proposal to increase focus via the PR24 framework on companies' regulatory business plans for how they can deliver upon social and environmental priorities over the long term. The water sector must now enhance its commitments to protecting our natural environment and be held to account on action to lower emissions across the water value chain.

Arqiva also agrees with Ofwat's view that a successful PR24 process will "drive improvements through efficiency and innovation." Investment in innovation and new technologies that drive efficiencies will be vital in futureproofing the network, reducing wastewater leakages and supporting environmental objectives. Arqiva's view is that smart water meter networks have an integral role to play in improving long-term resilience against the climate emergency by enabling greater monitoring and control, improving data quality and the provision of real-time updates and insights.

In addition to reducing our strain on the environment, it is also important to account for the UK's statutory commitment to deliver a 'net zero' economy by 2050. This is an area where the water sector has already shown strong leadership, committing to a target of net zero by 2030 for its operational emissions. However, given that approximately 6 per cent of the UK's total greenhouse gas emissions each year (circa 27 MtCO<sub>2</sub>e<sup>3</sup>) comes from activities relating to the production and use of water, it is clear that further measures to reduce the amount of water we consume as a society, and protect the existing water supply, are urgently required.

Arqiva's own analysis shows that smart water metering could directly contribute to the UK's efforts to meet net zero economy-wide by 2050. Based on evidence compiled in conjunction with Waterwise on the impact of smart meters that have already been fitted, we estimate that if just one million smart water meters are fitted in the UK each year for the next 15 years, then by the mid-2030s, savings of at least one billion litres of water a day (1,000 Mld) could be made and the UK's current total annual greenhouse gas emissions could be reduced by up to 0.5 per cent (2.1MtCO<sub>2</sub>e).<sup>4</sup> This evidence was recently supported by the CCC who directly cited these statistics in their 2021 Annual Progress Report to Parliament.<sup>5</sup> The PR24 mechanism should be employed to allow the water sector to achieve this vitally important outcome. This is not innovation in its broadest sense but rather a here and now opportunity to fundamentally address leakage and personal consumption that is proven already at scale.

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<sup>3</sup> [Water UK & Artesia](#), Pathways to long-term PCC reduction, 2019

<sup>4</sup> [Arqiva](#), Smart water metering and the climate emergency, April 2021

<sup>5</sup> [Climate Change Committee](#), Progress in adapting to climate change: 2021 Report to Parliament, June 2021

## **The Delivery of PR24**

To deliver the most effective outcome, the conclusions of PR24 should be implemented speedily, without delay. The PR24 process must also remain open throughout and should be rooted in the growing basis of environmental evidence.

For this purpose, Ofwat should again include an initial assessment of its plans at PR24. This assessment could deliver opportunities to ensure that the drafted frameworks are able to achieve the high standards required. The initial assessment should recognise how water companies can deliver further efficiency in the regions under their remit and contribute to environmental improvements.

## **The value of smart metering**

As previously stated, it is critical that PR24 incentivises and enables investment in long term innovation that supports the industry to meet its environmental objectives.

Arqiva strongly believes that smart water metering has a vitally important role to play in delivering environmental and water efficiency benefits, however the current implementation of smart water meter networks is not uniform across the country. In order to achieve the water industry's environmental objectives at the fastest possible pace there needs to be a meaningful acceleration in the nationwide rollout of smart meters, fully supported and enabled by the policy and regulatory frameworks which drive the development of the water sector. PR24 should put in place a framework that enables and incentivises the water industry to conduct a wider national roll out of smart water meter networks.

To this end, Arqiva welcomes the prospect of Ofwat introducing 'targeted challenges' to water companies focused on the delivery of greater water efficiencies, and its proposal to utilise financial incentives for companies to deliver greater water efficiency. Alongside tangible options such as the deployment of smart meters, targeted challenges and financial incentives could help to deliver a positive shift in companies' mindset and performances.

The PR24 framework should align with the growing evidence base that smart metering is becoming increasingly recognised as a fundamental technological solution for managing current and future demand for water. Smart metering is a proven technology that can, if empowered by policymakers and the regulator, deliver a practical pathway for companies to meet Ofwat's call to "drive improvement through efficiency" and "greater environmental value".

Metering water is seen by customers as the fairest way of charging for water, this is evidenced and supported by many of the water companies own research. It is vitally important that vulnerable customers are protected but we should not shy away from what the end customers see as an equitable method for managing a vital resource.

By way of example, the Climate Change Committee's recent 2021 Progress Report to Parliament recognised the role of metering in "help[ing] with the management of water usage and supplies during peak demand, and help[ing] water companies identify and fix leaks.<sup>6</sup> The value and potential of smart metering was also a topic of intense discussion and cross-party agreement during the Committee Stage debates on the Environment Bill in the House of Lords.<sup>7</sup> This discussion came on the back of the introduction of a cross-party amendment to the legislation that would see the introduction of a mandated, nationwide roll out of water smart meters.<sup>8</sup> The debate in the Lords demonstrated the growing strength of feeling amongst

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<sup>6</sup> [Climate Change Committee](#), Progress in adapting to climate change: 2021 Report to Parliament, June 2021

<sup>7</sup> [House of Lords](#), Committee Stage Debate on the Environment Bill, 7 July 2021

<sup>8</sup> [Houses of Parliament](#), Amendment 189, Environment Bill Sixth Marshalled List of Amendments to be Moved in Committee of the Whole House, 5 July 2021

parliamentarians to see the potential of smart metering technology realised, with Lord Whitty, a member of the House of Lords Environment and Climate Change Committee recognising that in order to reduce the UK's domestic water consumption, which stands higher than "many of our European neighbours... we will need measures of metering."<sup>9</sup> It is vitally important that PR24 takes the growing cross-party political support for metering technology into account when formulating its own conclusions.

The value of smart metering has also been recognised by several bodies including Ofwat, the National Infrastructure Commission, the Consumer Council for Water and the Environment Agency, as well as by the water companies themselves. The Climate Change Committee (CCC) also highlighted the importance of enhanced water metering in reducing future water deficits within its recently published UK Climate Change Risk Assessment (CCRA3).<sup>10</sup>

For example, in April 2021, Thames Water celebrated the installation of half a million smart meters in its region. The company claimed that as of that date, smart meters had helped to detect over 28,000 leaks on customers' private supply pipes, saving up to 43 million litres of water per day. At the time, Thames Water said that "customer side leaks account for around a quarter of Thames Water's total leakage and the meter data was cited as playing a large part in the company meeting its leakage reduction target in 2019/20." This example alone presents a significant indicator of the positive impact the technology could have on a UK-wide basis.<sup>11</sup>

The real-time (or near real-time) data provided by advanced metering infrastructure (AMI) smart water meters (in contrast to automatic meter reading (AMR) meters which deliver data much more infrequently), provides a much more accurate and up-to-date measurement of water usage across the distribution chain. This allows the industry to identify leaks more quickly and with greater efficiency, reducing water consumption, waste and overall costs. Indeed, in the UK today, over 2.9 billion litres of water put in the public supply is lost to leakage every day.<sup>12</sup>

Smart metering also reduces the amount of water which must be extracted and processed, resulting in lower costs for water companies. There is scope for these savings to be passed on to consumers directly through lower bills, or indirectly through investment into better or more efficient services. Indeed, there is a broad belief that metering is the fairest way of charging for water. Based on Anglian Water's experience with smart metering, they have predicted an 18 per cent reduction in personal water consumption in their forward investment plans due to smart metering installations. Of this total, they attribute 3 per cent specifically to the additional insights they will gain from smart meters compared to "dumb" meters.<sup>13</sup>

In order to facilitate a faster roll out of smart water metering, we have been calling for the link between metering, charging and water stressed area classification to be removed. We believe that the Environment Agency's decision<sup>14</sup> to stay with the current model of water stress classification is a significant missed opportunity. In order to see smart metering technology's potential to come to full fruition, the right to install smart meters should be extended to the entire industry nationwide.

Arqiva believes that through PR24, and this valuable consultation process, Ofwat can incentivise water companies across the United Kingdom, despite various classifications of

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<sup>9</sup> [House of Lords](#), Committee Stage Debate on the Environment Bill, 5 July 2021

<sup>10</sup> [Climate Change Committee](#), UK Climate Risk: Water Briefing, June 2021

<sup>11</sup> [Thames Water](#), Thames Water hits half a million smart meter milestone, 2021

<sup>12</sup> Water UK, England and Wales, Apr 2019 - Mar 2020

<sup>13</sup> [Anglian Water](#), Defra Consultation: Measures to Reduce Personal Water Use, 2019

<sup>14</sup> [Environment Agency](#), Updating the determination of water stressed areas in England, July 2021

water stress, to deliver that wider roll out of smart metering technology with all the benefits elaborated upon in this response.

## **Conclusion**

Overall, Arqiva greatly welcomes the long-term approach of the mechanisms proposed for the PR24 framework. The delivery of themes, specified by Ofwat, to prioritise wider environmental and social value by the water sector and a commitment to drive great efficiencies through factors such as technological innovation is an especially welcome step. Arqiva is clear that the PR24 investment planning process should be used to enable water companies to accelerate the roll-out of smart meters. Further funding needs to be made available from the 2024 price review onwards to enable the water industry to invest over the long term in the rollout of smart meters. The regulated pricing and AMP framework should incentivise and enable increased use of smart metering and the delivery of carbon emission reductions across the water sector. These should be reviewed to ensure that they support and do not hinder this objective.

## **About Arqiva**

Arqiva is a communications infrastructure and media services company, operating at the heart of the broadcast and wireless communications industry in the UK. It is at the forefront of network solutions and services in an increasingly digital world. Arqiva is the only large-scale provider of smart water infrastructure in the UK. It has contracts with some of the UK's largest water companies, including Anglian Water, Thames Water and Yorkshire Water.

Arqiva builds and monitors the digital infrastructure which facilitates the operation of smart water networks, through its radio network. In addition, Arqiva has a growing portfolio of complementary services designed to support both water companies and consumers to manage water use and minimise leakage and also address issues across the network from clean water generation through distribution to waste water and sewage.

Arqiva's radio network is private and operates at low frequency, meaning it can penetrate through walls in ways that mobile networks cannot. The benefits of smart meters rely on the ability to connect with them and receive data reliably over time. This is often a challenge as water meters are often located in places that some communications technologies find hard to reach (such as underground). Arqiva's private, low-frequency radio network guarantees reliable coverage to meters in hard-to-reach locations and avoids the susceptibility and interference of sharing spectrum with other users and applications. As a Critical National Infrastructure provider our broad system of connectivity solutions and managed services provides a base to serve the growing needs of the water sector over time. We are actively investing to enable us to support the sector and look forward to playing our part in addressing the challenges identified by Ofwat in this consultation.

Arqiva is owned by a consortium of infrastructure investors and is headquartered in Hampshire, with major UK offices in London, Buckinghamshire and Yorkshire and operational centres in Greater Manchester, West Midlands and Scotland.