Arqiva submission to Ofwat PR24 Future Ideas Lab

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. We are 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.

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.

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.

Executive summary

Arqiva welcomes the opportunity to respond to Ofwat's Future Ideas Lab, setting out our views on how the PR24 process can be enhanced to support the water industry in its efforts to ensure current and future water challenges are met.

As we approach the UK's hosting of the COP climate change conference, the government – and broader industry – has a golden opportunity to enhance cooperation on water supply issues to ensure that environmental and sustainability measures are at the heart of policy going forward.

We have responded in detail below to each of the questions posed by the consultation. In the first instance however, we offer three overarching observations which we consider key to ensuring that the PR24 process delivers for both the industry and consumers.

1. **Our regulatory system must be focused on supporting the water industry in meeting its long-term goals on climate change and the drive to net-zero.** Securing the UK's current and future water supply is the fundamental challenge facing both the water industry and wider society as we look to 2040. The regulatory

landscape which results from the PR24 process must therefore support both the industry and consumers in addressing water leakage and usage as well as the UK-wide goal of net-zero carbon emissions. This will ultimately secure the long-term resilience of our water supply and natural environment.

2. **At its heart, regulation must have the core aim of encouraging and driving investment from the industry in technological solutions that will address the environmental and sustainability challenges facing the sector.** For example, the large-scale rollout of smart water meters would deliver a host of wide-ranging environmental, consumer and employment-related benefits. The regulatory landscape must incentivise and encourage the necessary long-term investment to deliver these solutions.

3. **It is imperative that government and the regulators set clear and ambitious targets and take the lead in delivering the necessary policy changes and funding mechanisms to allow the industry to achieve them.** Whilst it is incumbent upon the water industry to provide leadership through decisive action on the issues we raise in this submission, the government and regulators must provide clear leadership and policy changes to support industry action. In our view, a key step would be to mandate the national rollout of smart water meters to be completed by 2035.

Consultation Questions

1. What could the water sector look like in 2040, and how can Ofwat and water companies work towards that vision?

1. To ensure the UK has a thriving water sector in 2040, it is vital that Ofwat and water companies work together, and with consumers, to secure the UK's current and future water supply.

   a. Climate change, together with an increasing population, is placing ever-increasing pressure on the UK's water supply. Rainfall is becoming less reliable due to the effects of climate change; making it harder to manage our limited water resources, whilst at the same time, the UK's growing population means demand continues to rise.

   b. The National Infrastructure Commission (NIC) has highlighted that without action to address issues over the sustainability of our water supply, there is a roughly 25% chance in the next 30 years that large numbers of households will have their water supply cut off for an extended period due to severe droughts.[1] The Public Accounts Committee has also warned some parts of the UK will run out of water by 2040 unless "urgent action" is taken.[2]

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[1] https://nic.org.uk/app/uploads/NIC-Preparing-for-a-Drier-Future-26-April-2018.pdf
[2] https://publications.parliament.uk/pa/cm5801/cmselect/cmpubacc/378/37802.htm

2. Two key opportunities to protect the sustainability of the UK's water supply lie in reducing leakage and controlling demand by helping consumers actively manage their water use. Ofwat and industry both have a key role to play in driving improvements in these areas.

    a. Despite serious concerns over water sustainability, there has been a lack of meaningful progress in tackling water leakage for much of the last 30 years. In the UK, over 2.9 billion litres of water put in the public supply is lost to leakage, equivalent to 20% of the water supply.[3] Ofwat's Service Delivery Report for 2019-20 showed that the industry has reduced leakage by 7% year-on-year.[4] However, substantial further improvements are required to meet the sector's short-term target of at least 15% reduction by 2024-25 as well as its long-term commitment of reducing leakage by 50% of 2017-18 levels by 2050.

    b. Daily consumption of water in the UK has reduced only gradually since 2000, from 150 litres per person to 142 litres per person today.[5] According to Ofwat's latest figures, in 2019-20 only three water companies achieved their commitments to reduce per capita consumption (PCC). Overall, the sector's performance on PCC reduction has been deemed by Ofwat as poor, having deteriorated by 2% since 2012-13.[6]

3. Given the existing pressures on our water supply, it is vital that action is taken through a two-tier approach of reducing the amount of water we consume as a society, and protecting the existing supply through targeted efforts to reduce leakage.

4. In our view, these two strands can be addressed in part by the large-scale rollout of AMI smart water metering technology. The PR24 process should therefore unlock the ability and requirement for water companies to invest in smart meters.

5. The large-scale rollout of AMI meters represents a substantial opportunity for industry and regulators, both to deliver on ambitions to build a more sustainable environment, and to be on the side of lower consumer bills and a more efficient water industry.

6. As such, the rollout of AMI smart meters to every household and business should be mandated, to be completed by 2035. Whilst specific legislation to this effect is a matter for government, Ofwat has a key regulatory and oversight role to play.

    a. To give industry the time to ensure the 2035 national target is met, water companies should be mandated to outline their plans for smart meter rollout within their PR24 submission.

    b. Progress towards this target should be tracked against an ambitious interim target reflecting the UK's climate change objectives. Water companies should be allowed to set their own interim targets, however material progress must be made by 2030. Ofwat is best placed to act as the ultimate arbitrator of meaningful progress, and to take on responsibility for holding individual companies to account on delivery.

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[3] Source: Water UK; England and Wales, Apr 2019 - Mar 2020
[4] https://www.ofwat.gov.uk/wp-content/uploads/2020/12/Service-delivery-2020-final-1-Dec.pdf
[5] https://energysavingtrust.org.uk/sites/default/files/reports/AtHomewithWater%287%29.pdf
[6] https://www.ofwat.gov.uk/wp-content/uploads/2020/12/Service-delivery-2020-final-1-Dec.pdf

> 2. *How do we best regulate to help companies to achieve long-term goals such as adapting to climate change, reducing leakage, improving water efficiency and delivery of net zero?*

7. The PR24 process should directly consider how the sector can achieve its commitment of net-zero carbon emissions by 2030, as well as supporting the UK-wide drive towards net-zero by 2050.

8. AMI Smart water meters are a key tool for industry and regulators to reduce water leakage, and bring a number of wider efficiency and environmental benefits.

   a. The real-time (or near real-time) data provided by AMI smart water meters (in contrast to AMR meters which deliver data much more infrequently), in tandem with the ability for it to be rapidly transferred to water companies, 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.

   b. For example, in June 2020, Thames Water announced that its smart metering programme in London had helped it locate and repair 200 leaks across its network every week, leading to a reduction in overall leakage of 15% in one year – the biggest reductions in a century and a significant indicator of the positive impact the mandating of such technology could have on a UK-wide basis.[7]

   c. Reductions in usage mean a reduction in the amount of water which needs to be processed. The benefits of this are both environmental and financial. Processing water is a very carbon-heavy activity, involving electricity, fuel, chemicals and additional water. Reducing this activity will help the water sector achieve its commitment of net zero carbon emissions by 2030.

   d. Moreover, reducing the amount of water which must be processed lowers costs for water companies. These savings can then be passed on to consumers directly through lower bills, or indirectly through investment into better or more efficient services.

9. To drive the efficient rollout of smart water meters, the industry must be supported with a regulatory system which allows and encourages water companies to make the necessary long-term investment needed to reach universal coverage by 2035. Ofwat should therefore ensure that sufficient funding is made available in the pricing mechanisms from the 2024 price review onward. The regulated pricing and AMP framework should also incentivise and enable the increased use of smart water metering.

10. In addition, given the prevailing pressures on current and future water supply, having an accurate picture of water stress across the UK is essential. To achieve this, Arqiva believes that a more proactive approach to assessing and taking action in areas under severe water stress should also be adopted.

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[7] https://www.thameswater.co.uk/about-us/newsroom/latest-news/2020/jul/thames-water-annual-results-2019-2020

11. The Environment Agency is looking to revise its assessment of water stressed areas in 2021, for the first time since 2013. This is long overdue and it should focus not just on the current picture of water use but also the likely trends and where areas might be in the future in terms of their water use.

    a. The review must incentivise the industry to change behaviour and water use ahead of issues emerging and also to support overall reductions in use and processing requirements to tackle carbon emissions independent of water availability.

    b. At present, water companies operating in areas deemed by the Environment Agency to be severely water stressed are able to request a mandated smart meter programme. However, this reactive system is not sufficient to drive the rollout of meters at the speed required for the industry to achieve its long-term goals on climate change, leakage and efficiency.

12. In areas declared to be severely water stressed, water companies should be required to rollout smart meters to all customers. This would constitute a step change from the current system.

    a. This rollout should cover 100 per cent of the designated area, rather than being approached on a regionalised basis.

    b. The rollout should reflect trends in areas and, if an area is deemed as having the potential to become stressed within the next decade, water companies should also be required to take action now and rollout smart meters.

    c. Areas not declared stressed should also be permitted to rollout smart meters to all customers, reflecting the overall benefits this will deliver.

3. How do we encourage companies to ensure services are affordable for all, both now and in the longer term?

13. The wider rollout of smart water meters will empower consumers by giving them greater control of their water usage, thereby helping them manage their water bills and ensuring water services remain affordable for all.

    a. Giving consumers more data and insight, and therefore control of their water usage, can help to shape better behaviour by providing a financial incentive to be more efficient in how they use water. This allows consumers to reduce the cost of their bills whilst also delivering the wider environmental benefits of reduced water usage.

    b. This view has recently been corroborated by the Environment Agency which, in its 2020 report into meeting future water needs, stated that both the water industry and consumers "have a part to play in meeting future water needs" regarding efficient water use and noted that water metering has the potential to bring

significant savings by making consumers more aware of how much they are using.[8]

14. There is strong evidence to suggest that smart water meters in particular lead to more efficient water use and reduced water bills for consumers. While conventional (or 'dumb') metering reduces water use, smart meters deliver an additional 20% average saving according to an Anglian Water trial.[9]

15. Again, Ofwat has a key role to play in supporting the rollout of smart water meters by ensuring the regulatory system and pricing mechanisms under its control encourage, rather than hinder investment. Moreover, Ofwat is best placed to be take responsibility for tracking individual companies' progress on smart meter rollout and to act as the ultimate arbitrator of whether meaningful progress is being made in accordance with the proposed 2035 deadline.

16. More broadly however, there is also a need to balance the cost to the consumer of water services against the need for long-term investment by the water industry. Providing a regulatory environment that allows for and encourages long-term investment will ensure that the industry is able to meet its environmental goals, and play its part in reaching net zero. This will ultimately secure the long term resilience of our water supply and our natural environment.

> *4. How can we encourage companies to innovate and to take advantage of technological change to increase productivity, reduce costs and improve resilience, service and the environment?*

17. Water companies must be able to invest over the long term to drive the innovation and technological change needed to reduce costs and deliver broader benefits to consumers and the environment.

18. To enable the necessary long-term investment in smart metering and other innovations, it is vital that sufficient funding is made available in the pricing mechanisms under the control of Ofwat, from the 2024 price review onwards.

19. The regulated pricing and AMP framework should incentivise and enable the increased use of technology such as smart water metering and delivery of carbon emission reductions across the water sector. These should be reviewed to ensure that they support and do not hinder this objective.

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[8] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/872759/National_Framework_for_water_resources_main_report.pdf
[9] Anglian Water trial

> 5. *How do we encourage companies to improve service to customers and operational resilience?*

20. Putting in place regulatory and legislative structures which drive the uptake of smart water meters will provide substantial service benefits for customers, helping them manage their water usage and reduce water bills.

    a. Smart meters give consumers accurate, real-time data about the amount of water they are using which, studies suggest, consumers currently underestimate substantially. Ofwat noted in its Service Delivery Report for 2019-20 that smart meters can support customers "to help them understand their use and… to identify wasted water".

    b. Smart meters also benefit consumers by enabling better customer service from water providers through the real-time data provided. These benefits include: the ability to read meters remotely and on demand, such as when property's change owners, more accurate billing and an improved ability to deal with general issues and enquiries.

    c. In addition, smart meters have the ability to record additional information, such as data relating to the quality and temperature of the water, which can help to give a more complete and in-depth understanding of overall water quality.

    d. Smart meters are particularly helpful for vulnerable customers, such as the elderly, who have specific usage needs. For example, the real-time data supplied by smart water meters can be used in combination with algorithms and other technologies to monitor remotely the consumption pattern of vulnerable users. When consumption differs substantially from the normal pattern it may indicate the possibility that the user is unwell and care providers can then be notified.

21. Supporting the rollout of smart meters will also drive improved outcomes for the industry's operational resilience.

    a. The real-time information provided by AMI meters, in contrast to AMR meters which deliver data much more infrequently, make AMI systems far more effective in tackling issues with water supply and usage.

    b. AMI meters provide reports on the amount of water going into properties within the network on an hourly basis – data which is reported back over a radio network to the water company once or twice a day for analysis. This real-time information and accurate measurement of water across the delivery chain means leaks can be identified much more quickly, often within a 24- or 48-hour period.

> 6. *How can we encourage companies to best take account of customer needs and priorities, while ensuring services are comparable across companies?*

22. A mandated, universal rollout across the UK will ensure that the benefits of smart water meters are delivered to all customers, not just those who are living in severely water

stressed areas. Ensuring that this rollout is delivered in full by 2035 in all regions of the UK will guarantee a level of comparability between the services provided across different water companies.

23. Water companies should be given the scope to decide how best to meet the 2035 target to account for customer needs across the different regions of the UK. However, material progress must be made by 2030. Ofwat is best placed to act as the ultimate arbitrator of 'material progress' and should be responsible for tracking individual companies' progress.

24. More broadly, it is important that customer needs and priorities are considered within the wider context of the sector's role in delivering on wider public value issues such as climate change and sustainability.

7. What, if any, could the role of the price review be in encouraging or incentivising companies to better deliver public value?

25. Public value consideration must be a key focus of PR24. Consideration should be given to how the sector can play its role in delivering on public value issues such as climate change and sustainability.

26. As we have set out, to facilitate the innovations that will deliver greater public value around environmental and sustainability issues, such as the rollout of smart water meters, water companies must be able to invest over the long term. To enable this long-term investment, sufficient funding must be made available in the pricing mechanisms under the control of Ofwat, from the 2024 price review onwards.

27. The regulated pricing and AMP framework should also incentivise and enable increased use of smart metering and delivery of carbon emission reductions across the water sector.

8. How do we better use markets to deliver better value to customers and the environment?

28. The market must function effectively in order to deliver the public value benefits on climate change, sustainability and customer value set out above. The principal way in which Ofwat can achieve this is by ensuring that the Price Review and AMP processes are structured such that the market is able to unlock the necessary long-term investment required to deliver increased smart metering and carbon emission reductions across the sector.

29. As we have already highlighted, the regime governing water stressed areas overseen by government and the Environment Agency must also ensure that water companies are able to take the necessary action and invest to support reductions in water use and processing requirements to tackle carbon emissions.

30. Regarding the smart meter rollout, government and regulators should heed the warnings of the delayed smart energy meter rollout and allow the market to deliver the rollout of smart water meters, rather than seeking to achieve this through a government-led programme.

> *9. How can we best account for specific issues, circumstances and Government policies/priorities in England and Wales?*

31. The PR24 process can deliver on specific issues, circumstances and policy priorities in England and Wales largely through a national approach to support the delivery of clear climate change and net-zero targets.

32. A more proactive approach to water-stressed areas will empower water companies to take decisive action in the areas they service and deliver tailored solutions to reflect specific trends in these areas. This will support the industry in implementing smart meters across in England and Wales, no matter where they are in the country.

> *10. How can we best align the interests of investors with delivering for customers, the environment and society?*

33. We have referred in this submission to the areas in which investor interests can be aligned with broader industry goals on the environment and delivering for consumers. This is principally through ensuring the regulatory system under Ofwat's control gives the industry and its investors the certainty to make the long term investment which will drive operational resilience and efficiency within the water companies, while delivering the environmental and sustainability benefits for consumers we have set out.

> *11. How do we encourage companies to collaborate and work in partnership with others, such as on nature-based solutions, to better achieve outcomes for customers and the environment?*

34. By addressing the points we have raised in this response, Ofwat can put in place a framework that will ensure that the industry has the targets, tools and ability to invest to deliver tangible outcomes supporting the UK's sustainability and environmental agenda. The water companies should be encouraged to work with partners to deliver on these objectives and Arqiva is committed to supporting and playing its part through its advanced smart water metering solution and other services.

> *12. How can we simplify the price review while increasing value to customers, the environment and wider society?*

35. Any consideration of how the PR24 process can be simplified must focus on the outcomes it needs to deliver. As we have set out in this submission the PR24 process should deliver a regulatory system focused on supporting the water industry in securing the UK's current and future water supply, meeting its long-term goals on climate change and the drive to net-zero. At its heart, regulation must aim to encourage and support investment in technological solutions that will address the environmental and sustainability challenges facing the sector.

36. In Arqiva's view, this must include delivering the large-scale rollout of AMI smart water metering technology. The PR24 process should therefore unlock the ability and requirement for water companies to invest in smart meters.