

Ofwat – Accelerated infrastructure delivery project: draft decisions

Submission Information

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Response on behalf of: Arqiva

Summary

We welcome the opportunity to respond to Ofwat's *Accelerated infrastructure delivery project: draft decisions* consultation. Arqiva is the only large-scale provider of smart water metering infrastructure in the UK, providing the technology that enables water companies to make significant improvements in cutting leakage and supporting consumers to reduce their water consumption. We are acutely aware of the challenges facing the sector, including the risk that many parts of the country will run into water deficit, the overall challenges we face in addressing climate change, and the increasingly frequent drought conditions we will face across the UK. Action is needed now to mitigate and respond to these challenges.

We strongly support the action taken by Ofwat, the Department for Environment, Food and Rural Affairs, and water companies to accelerate investment in England's water infrastructure in 2023-24 and 2024-25. We were pleased to see a clear focus on schemes to improve water resilience. Ofwat's proposal to accelerate approximately £400 million worth of investment in these schemes, including seven smart metering schemes equating to 462,000 smart meters over 2023-25, is a positive step forward.

Smart metering has a central role to play in modernising water companies' operations, providing hourly data on water consumption across a network. This is essential to reduce leakage and improve water efficiency, which will be needed to deliver about half of the estimated 4 billion litres a day water deficit in public water supplies predicted by 2050.¹ Reflecting the need to improve water efficiency, the Government has established a statutory target to reduce the use of public water supply in England per head of population by 20% from 2019-20 baseline figures by 2037-38.² Ambitious action is needed to achieve this goal. A recent report from the National Audit Office has found that the sector is not on track to meet this target.³

Smart water metering is a critical enabler for the water sector to meet improvement targets that will benefit consumers and the environment. The sooner smart metering networks are delivered, the sooner these benefits will be realised. Ofwat must therefore ensure that inflexibility in decision-making processes doesn't unnecessarily delay smart metering rollouts, and we encourage Ofwat to work with water companies to accelerate their rollout programmes.

Ofwat proposes not to accelerate six smart metering schemes. Our understanding from the information provided as part of this consultation is that reasons for not accelerating these schemes included: that

¹ Environment Agency, 2022, *Review of England's emerging regional water resources plans*, <https://www.gov.uk/government/publications/review-of-englands-emerging-regional-water-resources-plans/review-of-englands-emerging-regional-water-resources-plans>

² HM Government, 2023, *Environmental Improvement Plan 2023*, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1133967/environmental-improvement-plan-2023.pdf

³ National Audit Office, April 2023, *Regulating to achieve environmental outcomes*, <https://www.nao.org.uk/wp-content/uploads/2023/04/regulating-to-achieve-environmental-outcomes.pdf>

companies had proposed rolling out more advanced smart metering technology (Advanced Metering Infrastructure, 'AMI') where they had previously considered and costed less advanced metering options; that smart metering proposals did not align with the smart metering proposals in draft Water Resource Management Plans (dWRMPs); and that Ofwat was not convinced that lower cost options had been exhausted. \e

Delaying the rollout of smart water metering will delay the realisation of its benefits. Importantly, Ofwat has indicated that it will not accelerate a smart metering proposal for the South West, which is identified as a water stressed area. Further, two other smart metering schemes that Ofwat indicates it will not accelerate are in areas where water company leakage exceeds 22% of distribution input, meaning over a fifth of potable drinking water is wasted. Given the significance of the challenge faced to secure long-term water resiliency, there should be a high bar for rejecting smart metering proposals, which have been demonstrated conclusively to deliver improvements in reducing leakage and water demand. We encourage Ofwat to work with water companies to support them in delivering smart metering rollouts, and to both review its rationale for rejecting the smart metering proposals and ensure that it gives due consideration and support to proposals put forward within the PR24 process. We cannot afford smart metering proposals, which will deliver clear environmental benefits and help address our water scarcity challenge, to be rejected unless there are very clear grounds for doing so.

Ofwat should support companies in their ambitions to deliver AMI as opposed to less advanced metering options, such as Automated Meter Reading (AMR). AMR delivers far less data on water consumption and, as a result, it cannot enable the same benefits as AMI. As highlighted by research from Frontier Economics and Artesia, an AMI rollout could deliver up to £2.2bn in net benefits across England and Wales relative to only £0.4bn achievable using AMR meters.⁴ Enabling the delivery of AMI also aligns with Ofwat's PR24 methodology which outlined that 'companies should consider the benefits of increasingly detailed demand data that can be read without directly accessing the meter and provided on a near real time basis.'⁵

As it considers smart metering scheme proposals, we believe Ofwat must factor in the significant body of evidence and real-life case studies demonstrating the benefits of smart metering. The benefits of smart metering are clear, as detailed below in this submission. Ofwat's assessments of smart metering proposals should incorporate and reflect learnings from across the sector on the benefits that can be delivered using AMI.

Ofwat must further support water companies to deliver ambitious smart metering rollouts in price review 2024 (PR24). We are at a crucial moment for the water sector, and decisions made for PR24 will directly impact water companies' trajectory towards achieving sector targets to improve water resiliency and security. Ofwat must ensure it supports and encourages companies to deliver ambitious AMI rollouts, so that the opportunity to deliver improvements in water efficiency are not missed.

We thank you for consideration of this submission.

⁴ Frontier Economics and Artesia, May 2022, *Unlocking Benefits Through Data and Metering*, https://www.arqiva.com/AMI_Benefits.pdf

⁵ Ofwat, December 2022, *Our final methodology for PR24 - Appendix 9 Setting expenditure allowances*, https://www.ofwat.gov.uk/wp-content/uploads/2022/12/PR24_final_methodology_Appendix_9_Setting_Expenditure_Allowances.pdf

Smart metering is an evidenced-based solution to help meet Government targets

We are at a critical point in time for the water sector. Investment is needed now to improve water efficiency and secure the long-term resiliency of public water supplies. With growing pressure on our water resources, it is unacceptable that billions of litres of potable water is lost through leakage. At the same time, there is an opportunity to engage and support consumers in using water more efficiently, empowering them to reduce their consumption and bills.

The need for action to reduce water demand is reflected in targets for the water sector, as outlined in the *Environmental Improvement Plan 2023*⁶:

- **Long term target:** Reduce the use of public water supply in England per head of population by 20% from the 2019 to 2020 baseline reporting year figures, by 31 March 2038.
- **Interim target 1:** Reduce the use of public water supply in England per head of population by 9% by 31 March 2027 and 14% by 31 March 2032.
- **Interim target 2:** Reduce leakage by 20% by 31 March 2027 and 30% by 31 March 2032.

Ofwat must support ambitious action from water companies to meet these targets. As highlighted by a recent report from the National Audit Office, the Government is currently not on track to meet its statutory target to reduce the use of public water supplies in England.⁷

Smart water metering – and specifically Advanced Metering Infrastructure (AMI) – has a crucial role to play in delivering these outcomes. AMI delivers hourly data on water consumption at a property to a water company. This data delivers unparalleled insight that water companies can use to detect leaks and engage with consumers to support them in reducing their water use. Other smart metering technologies, including Automated Meter Reading (AMR), are unable to deliver the same benefits because they provide less data on consumption.

There are various examples of how AMI is supporting improved water efficiency, leakage detection, and consumer outcomes, including:

- Since ramping up its AMI implementation programme in 2020, Anglian Water has increased the number of leaks it detects by approximately ten-fold, with Anglian Water now capable of spotting as many as 70,000 incidents in a 12-month period. At a webinar hosted by the Chartered Institution of Water and Environmental Management (CIWEM), Anglian Water reported that the company has been able to ‘reduce leakage by 85 – 90% on the customer side’ as a direct result of AMI in its trial areas in Norwich and Newmarket.⁸

⁶ HM Government, 2023, *Environmental Improvement Plan 2023*, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1133967/environmental-improvement-plan-2023.pdf

⁷ National Audit Office, April 2023, *Regulating to achieve environmental outcomes*, <https://www.nao.org.uk/wp-content/uploads/2023/04/regulating-to-achieve-environmental-outcomes.pdf>

⁸ The Chartered Institution of Water and Environmental Management, June 2022, *Smart water metering: unlocking the benefits*, <https://www.youtube.com/watch?v=9WGA4vymBl8>

- Thames Water has used AMI to improve leak detection in residential and non-residential properties alike. On that same CIWEM webinar, the company shared statistics that showed an 8% 'continuous flow' rate for its household customers, rising to 26% amongst business users.⁹
- The insight AMI provides has also enabled Thames Water to zero in on high-use properties and prioritise them for an in-home visit from its Smarter Homes team. They found that, for households using over 500 litres a day, water demand savings in the range of 9%-15% can be made.¹⁰

A wider rollout of smart metering would deliver significant benefits

The examples above indicate the potential benefits of a full-scale rollout of smart metering to properties across England and Wales. Research has further highlighted the net benefits that a full AMI rollout could deliver, and the cost of delays to rollouts or investing in less advanced metering technology:

- In 2022, Frontier Economics and Artesia found that by rolling out AMI across England and Wales by 2030, companies could deliver up to £2.2 billion in net benefits by 2050.¹¹ In comparison, an AMR rollout was anticipated to deliver between £30 million and £400 million in net benefits.
- Further modelling from Frontier Economics and Artesia showed a positive business case for investing in a wider rollout of AMI, with positive benefit to cost ratios for companies across England and Wales.¹² Accounting for the lower carbon emissions smart metering alongside expected cost savings further increases the overall benefits of a wider AMI rollout.
- Other research has also found that, if one million smart meters are fitted per year over the next 15 years to homes that are not metered, the UK would secure an annual saving of one billion litres of water a day by the mid-2030s. This reduced household consumption could cut the UK's greenhouse gas emissions by 0.5% from 2019 levels (2.1 MtCO₂e),¹³ a significant and positive step towards reducing the sector's greenhouse gas emissions.

Ofwat should build into its consideration of smart metering proposals the benefits this research has demonstrated that a wider rollout would enable, and the costs of delays.

⁹ The Chartered Institution of Water and Environmental Management, June 2022, *Smart water metering: unlocking the benefits*, <https://www.youtube.com/watch?v=9WGA4vymBl8>

¹⁰ The Chartered Institution of Water and Environmental Management, June 2022, *Smart water metering: unlocking the benefits*, <https://www.youtube.com/watch?v=9WGA4vymBl8>

¹¹ Frontier Economics and Artesia, May 2022, *Unlocking Benefits Through Data and Metering*, https://www.arqiva.com/AMI_Benefits.pdf

¹² Frontier Economics and Artesia, November 2021, *Report: Cost benefit analysis of water smart metering*, <https://admin.frontier-economics.com/media/4946/arqiva-cost-benefit-analysis-a4-full-report.pdf>

¹³ Arqiva and Waterwise, 2021, *Smart water metering and the climate emergency*, <https://www.arqiva.com/Arqiva+Waterwise+Net+Zero+Report+FINAL.pdf>

Ofwat must aim to avoid delays in smart water metering rollouts, and work collaboratively with water companies to deliver smart metering's benefits

There were several smart metering schemes that Ofwat proposes not to accelerate. Ofwat summarises that “a few of the smart metering schemes that companies proposed for the acceleration process were not included in the company's draft WRMP best value programme. We can't therefore be confident that these schemes are the best option for customers and the environment... We are also not proposing to accelerate schemes where, although included in the company's draft WRMP best value programme, we have significant concerns about them being the best option.”

Ofwat has provided further detail in Appendix 1. Our understanding is that some proposals raised concerns for reasons including:

- Companies proposed deploying more advanced metering technology (AMI) where they previously considered AMR – a less advanced technology with considerably less impact in delivering improvements in leakage and PCC reduction.
- Proposals did not align with the proposals within draft WRMPs.

We agree with the need for well-considered infrastructure investment proposals supported by robust cost benefit analyses. However, we are concerned that there may be a risk of smart metering proposals not being supported because companies have updated their metering plans from AMR to AMI, a more advanced metering technology with greater benefits. Given the benefits AMI delivers, and its comparative net benefits over AMR, delays in investment will have a detrimental impact on companies' capacity to reach improvement targets for leakage and PCC reduction. We urge Ofwat to consider all opportunities it has to enable and support companies to deliver the benefits of AMI.

Ofwat further identifies that some smart metering proposals included the following issues:

- Insufficiencies in the cost benefit analyses informing the proposals.
- That Ofwat is unconvinced that lower cost options have been exhausted.

As detailed above, there is a body of evidence to support the understanding of AMI's benefits. We encourage Ofwat to support companies in delivering deployment proposals for smart metering as much as possible, so that these benefits can be fully realised without delays. Further, Ofwat should build into its consideration the evidence and experience to date demonstrating the benefits of smart metering.

The size of the problem faced in securing future public water supplies should not be understated. Ambitious action is needed now to help prevent areas running out of water. Time is a factor; investing in smart metering now will enable its benefits to water demand reduction to be realised sooner.

The risks of delays are more significant in some areas than others. Notably, of the smart metering schemes Ofwat proposes it will not accelerate:

- One is in the South West of England, an area that is already water stressed.

- In two areas, located in the North West of England and Yorkshire, water company leakage is reportedly above 22% of distribution input.¹⁴
- One scheme would be deployed in the Bristol area, where average household PCC is 150-155 litres per person per day (l/p/d), compared to the current average of 145 litres per person per day across England and Wales. The industry target is to reduce PCC to 122 l/p/d by March 2038 and 110 l/p/d by 2050.¹⁵

Ofwat should empower and support companies to address these challenges through investment in solutions including smart water metering. These issues will only increase in their severity over time, as population growth and climate change increases pressure on public water supplies.

Ofwat must support the delivery of AMI's benefit in PR24 and beyond

Companies are currently preparing business plans for PR24, which will establish their investment plans for the 2025-2030 period. Investments during this period will have a longer-term impact, determining the sector's trajectory to meet targets for reducing water demand and improving water efficiency.

It is critical that Ofwat supports water companies in delivering ambitious smart water metering rollouts. The faster companies are able to deploy smart water metering, the faster they will be able to deliver improvements including reducing leakage, supporting consumers to reduce consumption, and providing consumers with greater transparency around their water use.

Delays to smart metering deployments beyond the 2030s will have a detrimental impact on companies' ability to meet improvement targets. Ofwat should therefore set a high bar for refusing company proposals to deliver smart metering, and work with companies to ensure their smart metering proposals can be supported.

¹⁴ Department for Environment, Food & Rural Affairs, 2023, *Plan for Water: our integrated plan for delivering clean and plentiful water*, <https://www.gov.uk/government/publications/plan-for-water-our-integrated-plan-for-delivering-clean-and-plentiful-water/plan-for-water-our-integrated-plan-for-delivering-clean-and-plentiful-water>

¹⁵ Department for Environment, Food & Rural Affairs, 2023, *Plan for Water: our integrated plan for delivering clean and plentiful water*, <https://www.gov.uk/government/publications/plan-for-water-our-integrated-plan-for-delivering-clean-and-plentiful-water/plan-for-water-our-integrated-plan-for-delivering-clean-and-plentiful-water>



About Arqiva

Arqiva is the UK's only large-scale provider of smart water metering infrastructure. We work with some of the UK's largest water companies including Anglian Water and Thames Water to deliver always-on, connected smart water metering that provides the insight needed to make a meaningful change in reducing water consumption.

Arqiva provides 'Advanced Metering Infrastructure' (AMI) smart water metering. Unlike other forms of metering, AMI provides hourly data on water usage. With this level of insight, companies can act far more quickly to stop leaks wasting valuable water resources. Companies also gain greater insight into customer usage, so they can better target water efficiency interventions that save water and reduce customer bills. We have installed over 1.9 million AMI meters to date, and have seen the significant, positive outcomes that water companies can derive through smart water metering data.

The complete rollout of AMI across a water distribution network and integration of its data into internal processes is a strategic undertaking that can cross over regulated price review periods. AMI meters also deliver benefits over regulated periods, with a working life of approximately 15 years. Our engagement with our customers to date has made it clear that it is essential to have regulatory support for investment in technology solutions, and greater certainty for investments spanning multiple price review periods.