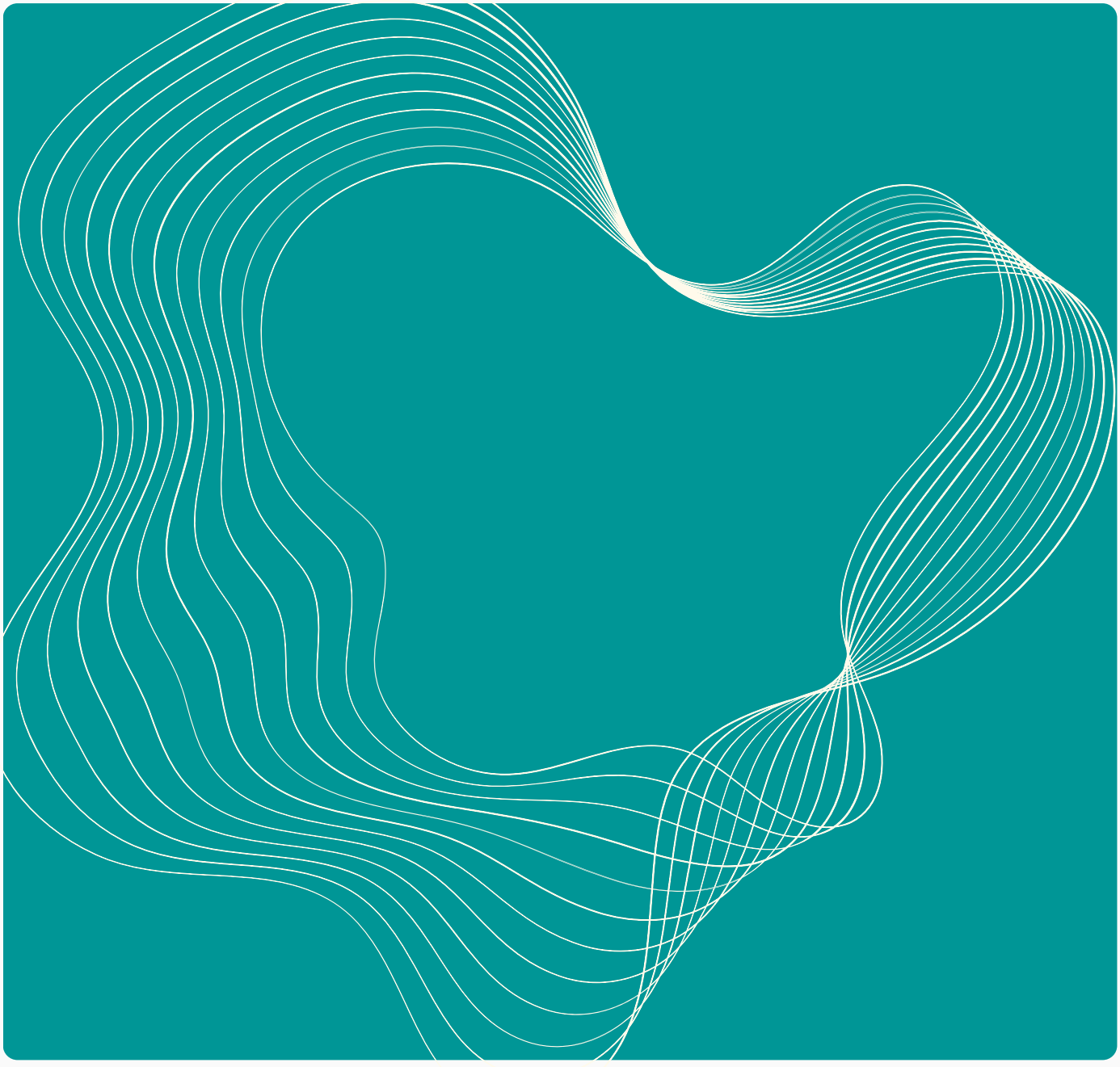
SPECIAL REPORT — MARCH 2025

Navigating Water's Future:

Key trends
that will drive AMP8 success



What challenges does the water sector face?

Water is integral to all the United Nations' Sustainable Development Goals, yet global and local trends and activities put increasing pressures continue to challenge its quality and availability.

In the face of climate change, population growth, and shifting residential, industrial and customer demands, the water sector must continuously evolve to address immediate challenges and future risks. Science-based policy plays a critical role in driving sustainable water management, economic development, and social well-being. Four key trends shaping the sector's response worldwide are climate, resources, technology, and society. Climate change is intensifying extreme weather events, ecosystem degradation, and water scarcity while growing populations and emerging industries are increasing demand on limited supplies. Advancements in technology are reshaping water management, and societal expectations are evolving.

In the UK, the ongoing replacement of ageing infrastructure is a major driver of the asset investment decisions - also presenting opportunities to implement keystone, long-term solutions for future generations.

UK water utility successes over the last few decades:

Over the past few decades, UK water utilities have gained global recognition for their high-quality water and wastewater services. While continuous innovation is prevalent across the industry, the most impactful achievements stem from transformational innovations - those that drive significant change, efficiency, and new operational models. Key successes include:

Rethinking the Replacement of Victorian Water Mains: The Need for Innovative Solutions Going Forward

In the early 1980s, aging cast iron water mains contributed to leakage rates as high as 30-40%. Since the 1990s, UK water companies have reduced leakage by 38% through large-scale infrastructure upgrades, and innovative pipe re-lining initiatives, significantly improving water efficiency and conservation (Water UK[1]).

- The social impacts of these have been significant, including:
- Reduced leakage and improved supply resilience - ensuring a stable and sustainable water supply
- Enhance water quality and public health - minimised contamination risks, improved quality of drinking water, and reduced health concerns associated with outdated pipes
- Lower cost for consumers - reducing leakage and improving efficiency prevents hikes in consumer water bills
- Urban Development and infrastructure - supported economic growth

Deep level sewer systems

The recently connected Thames Tideway Tunnel is one of the UK's most ambitious infrastructure projects, building on the then-revolutionary sewer network first built by Joseph Bazalgette in the 19th century and successfully reducing sewage pollution in the River Thames. London's "super sewer" is aptly named because of its scale, importance, and the cutting-edge technology used in its design and construction.

Leadership Characteristics Behind Transformational Change

Transformative leadership in the water sector is defined by vision, resilience, and a commitment to long-term impact. Successful leaders challenge the status quo, integrate diverse expertise, and keep customers at the heart of their strategy. Joseph Bazalgette's 19th-century sewer network wasn't just an engineering feat, but a visionary response to systemic urban change and improving public health.

In more recent years, regulators like OFWAT have led the charge by setting ambitious sector-wide targets, from reducing leakage and controlling pollution to driving habitat restoration. These bold steps have reshaped the landscape, fostering innovation and ensuring that progress doesn't stall.

What unites these leaders is their ability to push boundaries, anticipate future challenges, and implement bold strategies that leave a lasting legacy of positive transformation. Their combined efforts reflect a profound shift toward an industry that's not just reactive, but actively shaping a sustainable future.

Where water utility performance fell short of AMP7 goals

The 2019 Price Review (PR19) set an ambitious target: a 15% reduction in leakage by 2025. While Water UK's 2020 report highlights significant progress since the 1990s, driven by modern infrastructure and the adoption of smart technologies, challenges remain. Progress is uneven, and systemic barriers persist.

Traditional funding models within water utilities are a key barrier to achieving these targets. One example is the resistance to passing the cost of large infrastructure projects onto customers. Despite attempts to reduce the financial burden, such as depreciating CAPEX over a 40 years, utilities remain concerned about the optics. Potential solutions include (i) increasing the utility's debt position, (ii) securing private industry funding via BOO/BOOT

schemes, and (ii) extending price determinations to 15-20 years for longer payback periods. Direct Procurement models, such as the Thames Tideway Tunnel, demonstrate how large infrastructure projects can be financed. The procurement model used for this megaproject included modifications under the Water Industry Specified Infrastructure Projects Regulations (SIPR) that enabled small- and medium-sized enterprises (SMEs) to participate in the tendering process.

Another challenge is securing the resources needed to deliver the extensive work required to meet AMP8 targets. Post-Brexit, access to European expertise has been limited, creating resource gaps. Solutions may include: (i) forming long-term supplier relationships, (ii) supporting apprenticeships and traineeships offshore if local gaps persist, and (iii) collaborating with other water utilities to share contracted delivery resources. By pooling work programs, utilities can provide suppliers with the assurance needed to ramp up recruitment efforts..

The assessment of natural assets within the industry's five-year regulatory cycle also presents a barrier. This timeframe, while useful for structured investment planning, fails to capture the long-term variability and unpredictability of climate events. Measuring data seasonally within these fixed windows provides only a snapshot of conditions, rather than a full understanding of how assets respond to extreme weather patterns over time.

For example, droughts and prolonged dry spells may weaken catchments and reduce groundwater recharge, but their full effects might not be visible within a single regulatory period. Similarly, intense flooding can alter river morphology, overwhelm infrastructure, and impact water quality, with consequences that unfold over decades rather than a fixed five-year span. Without long-term, continuous monitoring that accounts for multi-year and decadal climate shifts, utilities risk underestimating vulnerabilities and missing critical investment opportunities for resilience.

To meet AMP8 goals and build a water sector fit for future challenges, utilities must rethink both financial strategy and data-driven decision-making. Transitioning from static, seasonal snapshots toward dynamic, real-time environmental monitoring will be crucial in adapting to an era of climate uncertainty.

AMP8: A Defining Moment for Water Sector Transformation

AMP8 is set to be the most ambitious asset management period to date, surpassing the £51 billion investment of AMP7. This unprecedented scale is driven by mounting external pressures - climate change, rapid digital advancements, and increasing customer expectations for efficiency and cost savings through operational optimisation.

Ofwat's Draft Determination for AMP8 allocates £10bn to reduce storm overflow spills, £6bn to secure water supplies - 9 new reservoirs and 7 large-scale water transfer schemes - and a 400% increase in water mains replacement. Additionally, utilities face a 13% leakage reduction target.

To meet these demands, AMP8 must go beyond incremental improvements. Traditional approaches alone will not be enough to achieve the level of transformation required. Instead, the industry must embrace bold, data-driven strategies, integrate emerging technologies, and rethink investment models to drive meaningful, lasting change. This is a pivotal moment for water utilities to redefine resilience, efficiency, and sustainability in an era of accelerating challenges.

Embedding transformational thinking into Business as Usual.

Innovation in water utilities is often narrowly focussed on product innovation - finding novel technical solutions to known problems. While important, this approach overlooks other high-impact areas: Process Innovation, Business Model Innovation, and Organisational Innovation. These aspects are often where the quickest wins lie, as they involve optimising internal structures and workflows - factors entirely within a company's control - rather than waiting for breakthrough technologies to emerge.

One key challenge is that engaging with and contracting with SMEs requires specialist expertise that many water utilities lack. Without the right frameworks in place, this gap can create barriers to adopting external innovations that could drive meaningful change.

Leading organisations at the forefront of innovation don't just experiment with new technologies; they define innovation strategically, embedding it into internal structures, process, and culture. By broadening their approach beyond product innovation, water utilities can unlock more agile, efficient, and scalable transformation - turning innovation from an isolated function into business as usual.

Growing your innovation culture

A strong innovation culture starts with clarity - organisations that clearly define their challenges, understand the cost of inefficiencies and openly articulate their needs internally and externally are far better positioned to embody innovation across their business and supply chains.

Key ingredients for a successful innovation culture include:

1. Leadership commitment

Innovation must be championed from the top, setting the tone for a culture that values new ideas and continuous improvement.

2. Effective Structures and Systems

A well-defined pipeline of innovation initiatives ensures a steady flow of ideas from conception to implementation. Easy-to-use idea management platforms help identify, assess, and track innovations, while robust trial and adoption frameworks reduce the risk of costly failures. By structuring innovation as a continuous, well-supported process, organisations can turn promising ideas into impactful solutions more effectively.

3. Safe-to-fail mindset

True innovation involves experimentation. Organisations that embrace “failing forward” - learning from unsuccessful attempts - see greater long-term success. Some leading companies even have 'failure awards' to recognise bold, high-risk ideas that led to valuable insights.

4. Dedicated Innovation Time

Employees need time away from daily tasks to explore new approaches to recurring challenges.

5. Agility and Speed

Innovation thrives in organisations that can rapidly move from identifying challenges to developing, prototyping, and testing solutions with operational teams. A fast, iterative approach not only accelerates problem-solving but also helps unlock new revenue streams and create measurable cost efficiencies, ensuring that innovation directly contributes to business growth and sustainability.

6. People-centred Approach

Engaged employees drive innovation. Encouraging cross-departmental collaboration, breaking down silos, and valuing diverse perspectives fuel creativity and problem-solving.

Embedding these principles fosters a forward-thinking, adaptive water utility - one that stands out for it's ability to deliver smarter, more efficient water and wastewater services that benefit both customers and the environment.

Delivering AMP8

The focus areas for AMP8 will include customer service performance improvements, as well as infrastructure investments - the water industry is now well-practiced in these areas and will no doubt deliver on the goals. However, sustainability initiatives, data, and technology present new challenges and require a different mindset and approach to what has been done in previous AMP cycles. Delivering on carbon footprint reduction programmes, improving capital and operational efficiencies, and enhancing biodiversity through catchment management practices requires the water sector to pivot and find new solutions.

An innovation mindset, robust innovation strategy and derisked innovation solutions are what will allow water utilities to deliver the asset plan. To enable this water utility leaders must:

- Clearly communicate what is defined by innovation, thereby setting the goal posts.
- Delineate the different 'Innovation Areas' - e.g., product, process, or business model innovation.
- Develop and promote an innovation framework that is designed to accelerate organisational transformation.
- Have a member of the executive leadership team accountable for innovation and reporting back on ambitious innovation metrics.

Finding the right innovation partner

Organisations that employ the right expertise to accelerate innovation adoption are better placed to move ahead of competitors, adapt to market changes, and seize new opportunities by embedding innovation more deeply across the organisation. They have the capability and capacity to respond more quickly to industry trends, disruptions, and customer needs, ensuring long-term resilience.
Working with an innovation partner that has a global and comprehensive understanding of innovation strategy within the water sector and across multiple related sectors will position water utilities to succeed in driving the transformational change required.

In addition to providing water utility leaders with the expertise and insights needed to identify and the many opportunities in AMP8, Identifying and naming the right innovation partner also gives water utilities the ability to access innovation funding frameworks, such as the OFWAT Innovation Fund Breakthrough 5 funding - designed to encourage a greater focus on generating and sharing transformative knowledge, and the roll-out of successful innovations, enabling water utilities to meet the changing needs of household customers.

The future holds great promise.

We aren't too far down the road to make the decisions we need to achieve success. Fortunately, knowing the challenges and threats that we are faced with puts water utility leaders in a position to identify the resources needed to successfully overcome them.

AMP8 marks a pivotal phase for the UK water industry, driving progress toward net zero emissions by 2030 in alignment with national climate goals. Decisions made during this transition period will have long-lasting impacts on the industry's ability to meet its sustainability commitments, driving innovation, efficiency, and environmental resilience.

Together we will embrace digitalisation, eradicate waterway pollution, and synergistically implement sustainable nature-based solutions as part of this asset management plan. It is within your power to be the leader behind the change we need to build a truly modern, sustainable and climate resilient society where communities and economies thrive. After all, which water utility CEO wouldn't want to be known as the Bazalgette of our time?

Thank you!

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