The Future of the UK Water Industry

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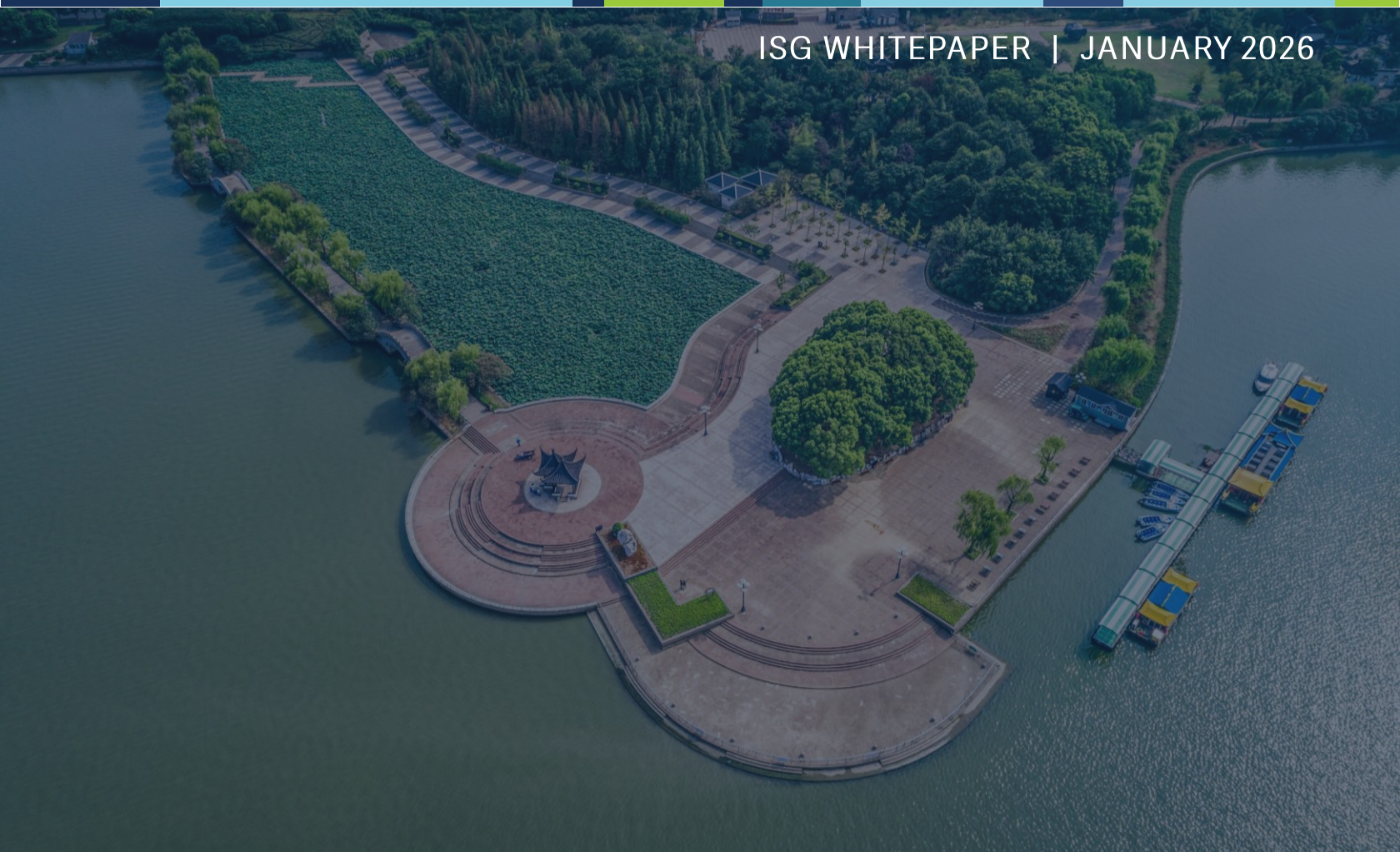

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Introduction

ISG is a leading global advisory and research firm, which looks across industries worldwide to research and advise markets on trends and capabilities, which enterprises and technology providers utilise to deliver innovation and growth. As a part of its research into the utilities market, ISG has identified key elements that water and sewerage companies (WASCs) and providers need to align with on the water life cycle.

This report provides a deep, structured analysis of the way the water industry across the UK was established, how WASCs are managed, funded and regulated and undertake innovations across the UK and Ireland. It is aimed at industry professionals and technology providers seeking to understand the operational, economic and digital contours of the water value chain in the UK.

Executive Summary

The water industry in the UK is complex, non-standardised, and highly regulated, facing a number of challenges. Despite common goals and customer needs, regional differences in ownership structures and funding across Scotland, Northern Ireland, Ireland, England and Wales make it increasingly difficult to standardise long-term operations, achieve long-term planning to determine investments in future carbon-neutral technologies.

The UK is undergoing a pivotal transformation shaped by the challenges of legacy infrastructure, a complex regulatory landscape and emerging environmental and technological pressures. The levying of fines on Thames Water for $165M or £122.7M (£104.5M for sewerage breaches and £18.2M related to shareholder dividends) shows the level of concern around whether WASCs would be able to rise to the challenge that fall into the key categories summarised below:

The industry is united by a common mission to deliver safe drinking water and for effective wastewater management, but regional divergences affect investment capacity, innovation speed and public trust. The current cycle (AMP8/PR24 in England and Wales) marks the most ambitious regulatory and investment period since privatisation, with £104B in total expenditure proposed for 2025–2030.

Key Industry Challenges

Infrastructure and Management	Financial Pressures
Outdated Infrastructure: A large portion of the UK's water infrastructure is old and requires significant investment for upgrades and maintenance. **Lack of Digital Tools:** Many water companies lack the necessary digital tools to effectively monitor water usage, manage infrastructure and track environmental emissions. **Coordination and Collaboration:** A lack of coordination between water companies, regulatory bodies and other stakeholders can hinder the development of effective solutions.	**Rising Costs:** The water industry is facing escalating costs associated with infrastructure upgrades, compliance with regulations and the adoption of green technologies. **Debt and Interest Rates:** Many water companies, including Thames Water, face significant debt and rising interest rates, adding to their financial burdens. **Affordability:** High investments and rising water bills are raising concerns about affordability, particularly for low-income customers.
Environmental Concerns	**Other Considerations**
Water Pollution: The UK faces significant water pollution, particularly due to sewage overflows, and the industry is under pressure to reduce pollution incidents. **Water Scarcity:** Climate change and increased population density are leading to water scarcity in some areas, making it a challenge for the industry to meet future demands. **Infrastructure Investment:** Outdated infrastructure and increasing water wastage are causing significant environmental damage and financial strain.	**Climate Change:** The impact of climate change, including increased rainfall and other extreme weather events is placing additional stress on water infrastructure. **Population Growth:** Population in the UK is growing, increasing the demand for water and putting a strain on existing infrastructure. **Public Trust:** Poor performance and environmental incidents have eroded public trust in the water industry, requiring companies to improve their image and performance.

Major Trends Transforming the Industry

The UK water industry is undergoing a major transformation, driven by five key trends: digitalisation, with widespread adoption of smart meters, AI, and digital twins; sustainability, including net-zero targets and circular economy models such as biosolids-to-energy; regulatory evolution, shifting towards real-time, outcome-based oversight and unlimited penalties; rising public scrutiny, pushing companies to improve transparency, affordability and ESG credentials; and regional divergence, with publicly funded models in Scotland, Northern Ireland, and Ireland contrasting the heavily leveraged private system in England and Wales. Together, these trends are reshaping investment, operations, and stakeholder expectations across the sector. These can be summarised as follows:

Digital & Technological Transformation	Predictive & Sustainable Utility Models
Smart Metering: Largest contract category in recent years, aimed at reducing per capita consumption to 110L/day. **Digital Twins & AI:** Used to model asset failure, optimise treatment and improve resilience. **Cloud-native Platforms:** Centralising data, automating regulatory reporting and enabling real-time ESG dashboards.	Catchment-to-Customer Integration: Live river abstraction models, IoT sensor networks and edge AI now inform entire water cycles. Green Hydrogen and Biosolids Recovery: Wastewater to energy and bioplastic pilots signal a shift to circular economy models. RegTech and Blockchain: Smart contracts automate customer compensation, while ESG-linked financing tools tie capital access to performance.
Regulatory Reform & Real-time Oversight	**Workforce & Skills Transformation**
Continuous Monitoring: Regulators now expect near-instantaneous performance and compliance reporting. **Outcome-based Regulation:** ODI/OPA incentives directly linked to customer outcomes, leakages, net-zero progress and ESG goals. **Penalty Reform:** Fines can now exceed £100; New Regulatory Body has penalised over £500M in the last two decades.	**Ageing Workforce:** Nearly half of senior water engineers plan to retire within five years, creating urgent succession risks. **Skills Shortages:** Over 6,000 full-time equivalents (FTEs) are needed by AMP8 to meet delivery demands, especially in engineering and asset management. **Digital Talent Gap:** High demand for data scientists, cybersecurity experts and AI specialists, with intense competition from tech and finance sectors.

Regional Differences: Strategic and Structural Contrasts

Region	Ownership	Regulatory Body	Domestic Billing	Market Deregulation	Funding Model
England & Wales	Privatised	New Regulatory Body*	Yes	Business only (2017)	Private equity, debt, and bills
Scotland	Public	WICS	Yes	Business only (2008)	Public borrowing, bills
Northern Ireland	Public	UR	No (rates-funded)	None	Gov grants, partial revenue
Ireland	Public (Uisce Éireann)	CRU	No (since 2017)	None	70% Exchequer funding

*In 2025 the UK government decided to amalgamate bodies and create a new regulator for England and Wales – which is to be named so is referred to in this report as "New Regulatory Body".

England and Wales has the most complex, investment-intensive and financially exposed market environment. The region also faces the harshest public scrutiny and needs transformational CapEx. In 2025 as this report was being created, the UK government decided to amalgamate all bodies and create a new regulator for England and Wales – which is yet to be named. Until the new name is confirmed, it will be referred to in this report as "New Regulatory Body".

Scotland has the highest public trust but is under pressure from climate volatility and Scottish Environmental Protection Agency (SEPA) enforcement. Scottish Water remains financially resilient due to state-backed borrowing. Northern Ireland has a significant investment backlog and is constrained by the absence of domestic water charging. In Ireland, the operation is transforming after years of underinvestment. Focus is now on leakage, which currently sits at around 40 percent. EU compliance and metering are politically sensitive.

The UK and Irish water sectors stand at a critical inflection point. Whether public or private, all regional operators face overlapping challenges: extreme weather, decaying infrastructure, digital disruption and a collapse of public trust. However, with smart investments in technology, governance and customer engagement, WASCs can reinvent themselves as predictive, resilient utilities of the future.

Boards that act now by scaling innovation, embedding digital platforms and prioritising transparent governance will not only meet AMP8 targets but restore long-lost public confidence. Those that delay risk reputational damage, regulatory sanctions and loss of financial viability.

The History of the Water Industry in the UK and Ireland

The water industry in the UK is publicly owned in Scotland, Northern Ireland and Ireland, but is privately owned and partially deregulated in England and Wales. In order to understand its current structure, ownership and challenges, it is essential to begin with its history. In the early 1900s, the water industry was highly fragmented, with over 1,000 companies supplying water and sewage-related services in small local areas all across the UK. Each area of the UK took different approaches to what happened next.

Pre-World War 2

Pre-1945, local authorities, municipal water boards and sanitary districts operated independently across the UK, where each was responsible for its own abstraction, treatment and supply of water, as well as for sewerage services. This patchwork created vast regional disparities. Urban centres, due to larger tax bases and political focus, typically had better water and sewerage infrastructure compared with rural communities that often faced poor supply and sanitation.

The 50s and 60s

Dramatic weather patterns in the late 50s consisting of severe droughts in 1959, followed by flooding in 1960, prompted the newly elected UK conservative government to develop a more coordinated approach to water resource planning, establishing the Water Resources Act 1963.

The 70s

By the 70s, maintenance of the water network in England and Wales had been consolidated into the 12 water companies that currently manage the network. The Water Act 1973, which came into effect on April 1, 1974, represented the first systemic overhaul in England and Wales. It established 10 Regional Water Authorities (RWAs), which integrated water supply, sewerage and river basin management into single vertically integrated public bodies. The rationale was administrative efficiency, improved investment planning and catchment-based resource management. These RWAs replaced hundreds of small local units.

The UK government aimed to rationalise services by linking water cycles to natural hydrological boundaries, especially river catchments. RWAs had significant autonomy but were under the oversight of the Department of the Environment. Funding remained through public borrowing, but RWAs could plan for long-term investments and pollution control more strategically than their predecessors.

Similarly, rapid urban growth challenges capacity in Northern Ireland led to the region centralising water and sewerage services under the Department of the Environment (later Department for Regional Development) in 1973. This top-down system, however, lacked financial autonomy, and water infrastructure suffered from decades of underinvestment.

The Local Government (Scotland) Act 1973 restructured local authorities in Scotland, but they retained their control over water. This system led to uneven service quality, high wastage, and inefficiencies due to a lack of coordination in investments. In 1975, over 200 of Scotland's water authorities were consolidated into 12 regional councils, which controlled both water supply and sewerage. Services were publicly funded and operated with limited borrowing capacity. The move improved planning and infrastructure coordination, but the trends of the absence of a national strategy and underinvestment persisted.

The 80s

In the 80s, the Thatcher government pursued water privatisation as a part of a broad neoliberal strategy to reduce public debt and stimulate market efficiency. The Water Act 1989, which came into effect in July 1989, transferred assets from RWAs to private WASCs that were floated on the London Stock Exchange. To balance monopolistic risks, the government created New Regulatory Body as the regulator, the Drinking Water Inspectorate (DWI), to oversee quality standards, and the Environment Agency (in 1966) to enforce environmental compliance.

WASCs were initially given 25-year licences, including obligations to maintain and upgrade infrastructure. Privatisation generated over £5B in proceeds and included government debt write-offs and subsidies to attract investors. It was completed by December 1989

The privatisation movement did not extend to Northern Ireland, primarily due to political instability and lack of public support. Similarly, Scotland rejected privatisation. Public opinion and political opposition were strong, with a belief that water should remain publicly owned due to its fundamental role in healthcare and the environment.

The 90s to today

In a further move to standardise in Scotland, water services were removed from local councils and restructured into three public water authorities in 1996. The aim was greater efficiency and strategic planning. Devolution in 1999 enabled a distinctly Scotland-specific approach to water governance, culminating in the creation of Scottish Water in 2002 as a single, publicly owned entity. Funded by public borrowing and customer charges, Scottish Water could now plan and deliver investments at a national scale. It remains government-owned, accountable to ministers and the Scottish Parliament.

Scottish Water operates under a regulated monopoly model, similar to New Regulatory Body's regime but with public ownership. In 2005, the Water Industry Commission for Scotland (WICS) was established as the country's regulator. WICS sets price limits and efficiency targets. The Scottish Environmental Protection Agency (SEPA) ensures environmental compliance. Scottish Water has heavily invested in wastewater treatment, compliance with environmental standards and reducing carbon emissions. Public support for the publicly owned model remains high.

In 2007, the Northern Irish Assembly created NI Water as a government-owned company following the shelving of attempts to introduce domestic water charges, which in 2004–2006, met with widespread resistance and mass protests. NI Water was set up to be similar in structure to Scottish Water. Although it charges for business customers, domestic water remains funded through general taxation, with no separate water bills. The Utility Regulator (UR) and Northern Ireland Environment Agency (NIEA regulate NI Water). Operating to this day, NI Water has worked to improve leakage performance and wastewater treatment, but faces financial constraints due to its unique funding model and dependence on government grants.

In 2008, Scotland led the way in the deregulation of the water market, which separated business water suppliers from infrastructure management. Non-household customers have the option of choosing their water retailer — the world's first fully competitive retail market for non-household water users. England and Wales followed Scotland in 2017. To this day, the domestic water market remains regulated in all regions. Households are invoiced directly by the local water company that manages the region's water infrastructure.

Water and sewerage services in Ireland were always managed by local councils, with funding support from the central government and the EU. Like Northern Ireland, investment was uneven, especially in smaller towns. Issues included boil notices, high wastage and non-compliance with EU wastewater directives. Irish Water (Uisce Éireann) was established in 2013 as a national utility under the semi-state group Ervia. It was tasked with transforming the system into a modern, unified network. However, the introduction of domestic water charges in 2014 triggered nationwide backlash. Many viewed water as a right, funded through taxation and not a chargeable commodity. By 2017, after a government review and political turmoil, domestic water charges were scrapped though metering continued. The focus shifted to infrastructure upgrades, with EU funding still crucial. Irish Water now operates completely independent from Ervia and continues to modernise services and address major issues such as wastage (over 40percent), EU compliance and capacity expansion. Non-domestic charges remain. The government continues to invest heavily in rural water schemes and urban wastewater improvements.

Water and Sewerage Companies in the UK and Ireland

There are 15 WASCs in the UK and Ireland, as well as 13 water only companies (WOCs). There are regulatory and legal differences between WASCs and a WOC. WASCs operate under a tightly regulated legal frameworks, alongside relevant environmental legislations such as the Environment Act 2021. WASCs are publicly owned and operated companies in Scotland, Northern Ireland and Ireland. However, in England and Wales, WASCs are private companies licensed by New Regulatory Body to provide both water supply and wastewater services within designated geographical areas. They are vertically integrated utilities responsible for the entire value chain — from water abstraction and treatment to distribution, customer billing, wastewater collection, treatment and safe environmental discharge. Each WASC has a set of core legal and regulatory responsibilities as described below

- Water Supply: WASCs are legally obligated to maintain a continuous and sufficient supply of water to domestic and non-domestic premises. This includes the operation and maintenance of infrastructure required to source, treat and distribute potable water.
- Wastewater Services: WASCs must also provide sewerage services, including the collection, treatment and disposal of wastewater and sewage
- Drinking Water Standards: WASCs must comply with quality standards set by the Drinking Water Inspectorate (DWI). These cover the chemical and microbiological composition of drinking water and include reporting and monitoring obligations.
- Environmental Compliance: WASCs must obtain and adhere to environmental permits issued by the relevant environmental agencies. These permits cover abstraction, discharge consents, pollution prevention and biosolids reuse, and companies are legally accountable for any breaches.
- Asset Maintenance and Resilience: Under the Resilience Duty (introduced by the Water Act 2014), WASCs must ensure their systems and services are resilient to droughts, floods and other climate or operational risks. This includes long-term asset planning.
- Consumer Protection and Retail Functions: WASCs are also required to provide metering, billing, complaints handling and customer support services, subject to regulatory controls under New Regulatory Body's Customer Measures of Experience (C-MeX) and Developer Services Measures (D-MeX).

The differences between WASCs and WOCs

While WASCs provide both water and wastewater services, WOCs are licensed only to supply potable water. They do not operate sewerage systems or treatment plants and therefore have a narrower set of legal obligations. WOCs typically serve small or primarily rural areas and rely on local WASCs to manage wastewater services for customers in their operating regions. Overall, WASCs have a broader infrastructure and stricter environmental and compliance obligations than WOCs. Their legal responsibilities span the full water cycle, making them central to the UK's clean water and sanitation infrastructure.

Feature	WASC	WOC
Drinking Water Supply	✓	✓
Sewerage Services	✓	✗
New Regulatory Body Compliance	✓	✓
Overseen by DWI/EA	✓ (both)	✓ (DWI only)
Operates Sewage Works	✓	✗
Undertakes Retail Customer Functions	✓	✓

UK Water Industry Funding and Financial Structures

The UK water industry has been facing many concerns over the years, but funding and financial challenges in recent times have created significant perception and financial issues for the water companies operating in the region. Typically, England and Wales, which comprise privately owned entities, were the focus of these poor financial optics, but are no longer the sole focus of concern. Water and the impact on the public of its perceived quality are hitting every region, which now faces its own mix of financial strain, regulatory heat and public distrust.

Public-owned Scottish Water enjoys AA-style credit because debt is raised through the Scottish Government, yet it warns that doing nothing differently could leave customers with a £50B bill over 25 years[1]. Its most recent draft 25-year strategy calls for a sustainable, shared investment and explicitly flags climate-driven volatility in both supply and demand[2]. With SRC 27-33 likely to dwarf the £3.7B allowed in SRC 21-27, Ministers must choose between steeper charges (already among Britain's lowest) or higher public borrowing. Reputationally, Scotland scores better than England; nevertheless, the Scottish Environment Protection Agency (SEPA) has begun issuing varying monetary penalties and publishing pollution tables, highlighting expectations of sharper service even in a not-for-profit model.

Like Scotland, Northern Ireland's NI Water depends on annual government grants, with the inclusion of household water bills in local rates. The region requires significant funding in this round. The NI Audit Office calculates that 34 percent of wastewater assets are at or beyond design capacity, predicting an investment backlog of approximately £2.2B by 2030[3]. PC21 relating to 2021-27 allows £2B CapEx, but only two-thirds is financed. Treasury rules and a fragile Executive budget preclude new borrowing. A March 2025 consultation proposes developer contributions to close the gap, highlighting NI Water already spends £680m a year just to run the network[4]. It is important to note that public frustration is rising after repeated planning refusals for housing estates, which is tied to sewer-capacity limits.

In Ireland, state-owned Uisce Éireann funds €6B or approximately. £5B of projects under the National Development Plan. Like in Scotland and Northern Ireland, no household bills are issued. The CRU, therefore, passes only non-domestic charges, while the Exchequer grants make up more than 70 percent of the CapEx. Irish Water's 2020-24 capital plan has been well tracked, but future borrowing would depend on passing the EU's Market Corporation test, so its debt sits off the state balance sheet[5].

The water industry in England and Wales is heading into its most demanding investment round since privatisation, yet its ability to raise money is at its weakest point in decades. In July 2024, New Regulatory Body's draft PR24 determinations set out funding envelopes for AMP8 (2025-30) that amount to approximately £96B of TotEx, which is 55 percent higher than the current period and dominated by storm-overflow compliance, drought resilience and asset health programmes. Companies must finance roughly half that sum with new debt or equity at a time when gilt yields sit close to 4 percent in real terms and construction inflation out-runs the Consumer Prices Index[6].

The strain is most visible at Thames Water. With gearing (debt relative to value) above 80 percent of its £15.7B RCV, Britain's largest water company lost the backing of cornerstone investor KKR in May 2025 and now faces a short and closing window for a market-led rescue, according to senior creditors, representing £13B of its debt. Failure would push the 16M customer utility into a special administration temporary nationalisation regime, last used for energy supplier Bulb in 2022[7]. The episode has caused an alarm in the debt markets. Spreads on BBB-rated utility bonds widened 90 basis points in Q2, and several mid-tier companies have postponed planned green-bond issues.

With water companies facing stark financial issues, these factors have become the focus of negative views on the water industry. Public opinion has turned incredibly hostile due to water quality, waste management, contamination events and significant price increases. The Consumer Council for Water's Water Matters 2024 survey shows average consumer trust in water companies plunging to 6.37/10 — the lowest in 13 years[8].

However, an opportunity exists. New Regulatory Body's draft allowances include a 40-basis-point uplift in the cost-of-capital assumption, and green bond frameworks aligned with the UK taxonomy can tap ESG demand if firms are able to demonstrate

credible pollution reduction plans. Whether or not these areas can offset the existing perception about the sector will define the summer 2025 negotiations and, by extension, the next decade of water-related investments in the UK.

Put simply, water companies, regardless of funding, work in simple five or six-year cycles made of several loops of four primary phases — plan, agree prices, raise money and deliver. Following that, they are judged and adjudicated on performance, based on regulatory guidelines.

Planning Spend

Every five years in England and Wales (whereas six in Scotland and Northern Ireland), a WASC drafts a business plan, defining the service levels customers will receive, the investment needed and the revenue requirement. Plans are built from asset-condition surveys, climate models and customer research, followed by testing against the totex logic (the most inexpensive blend of CapEx and Opex). Essentially, the WASC is telling the regulator, "We'll deliver X service levels, invest £Y amount and need £Z of revenue." This calculation is then sent to the regulator for review.

- New Regulatory Body (England and Wales) for price reviews
- WICS (Scotland) for strategic reviews of charges
- Utility Regulator (NI) for reviewing price controls
- CRU (Republic of Ireland) for reviewing revenue controls

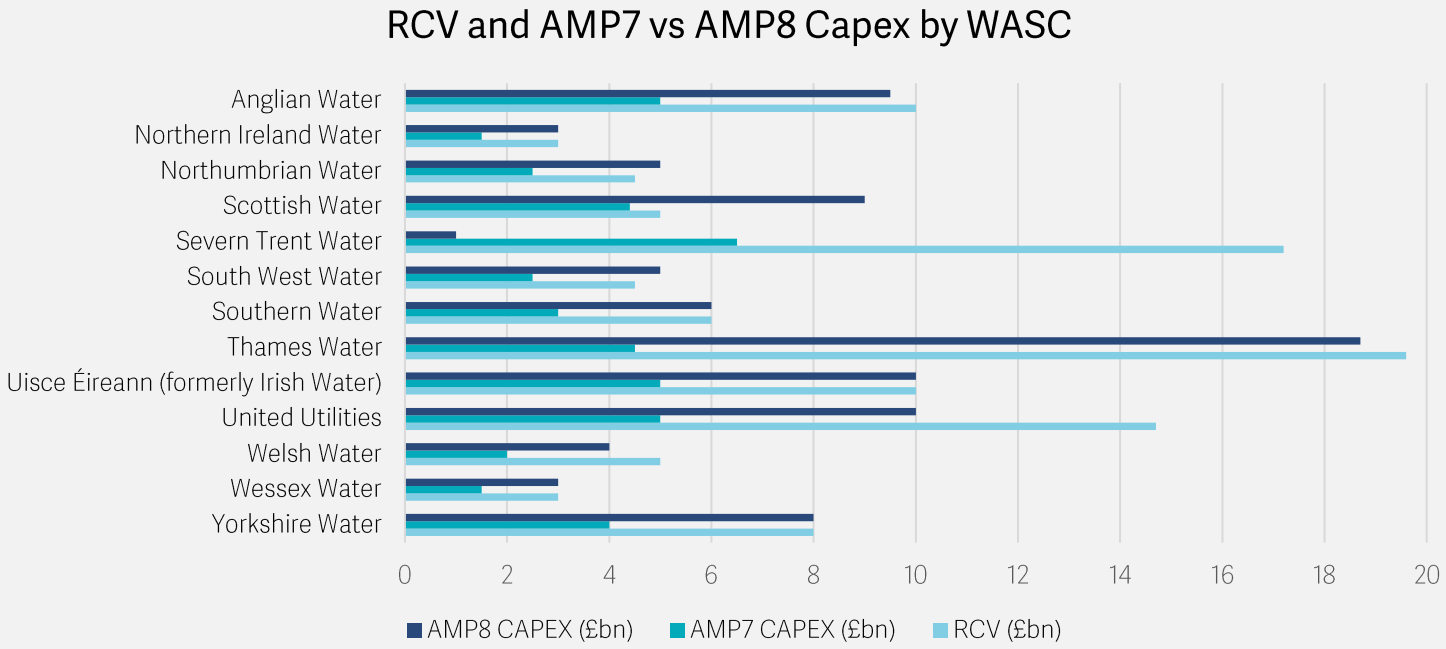
Price/Spend Review

The concerned regulator then undertakes stress tests for each submission, where each review period locks in annual bill limits, an allowed return on the regulated asset base and dozens of performance targets. In England, these delivery windows are called asset-management periods (AMPs), where each AMP corresponds to a pricing review date such as PR24, which indicates a review in 2024 for the next five years, with the next one being PR29. Each review/AMP focuses on specific areas of improvement that need significant investment based on market drivers. These are Strategic Review of Charges (SRC) in Scotland, Price Controls (PC) in Northern Ireland and Revenue Controls (RC) in Ireland. The AMPS so far have been summarised below:

Price review (PR)	Delivery window (AMP)	Years	Core focus
PR89/AMP 1	AMP 1	1990-1995	Catch-up CapEx after privatisation. Huge, debt-funded rebuilding of pipes, treatment works and sewerage to close the decades-long gap in public-sector investment and for meeting new EC drinking-water limits.
PR94/AMP 2	AMP 2	1995-2000	Efficiency and bill restraint. New Regulatory Body's first full review cut allowed returns (RPI-5) and pushed companies to prove savings on OpEx while completing AMP 1 schemes.
PR99/AMP 3	AMP 3	2000-2005	Quality compliance. Big environmental and drinking-water spending to deliver on the Urban Wastewater Treatment Directive deadlines, stringent limits on the use of pesticides and bathing-water standards.
PR04/AMP 4	AMP 4	2005-2010	Security of supply and rivers. Post-2003, these included drought plans, the first long-term water resources management plans, river-restoration obligations and early thoughts on climate change.
PR09/AMP 5	AMP 5	2010-2015	Resilience and sustainable drainage. It introduced quinquennial resilience duty, smart-meter rollouts and a focus on carbon and sustainable urban drainage systems (SUDS).
PR14/AMP 6	AMP 6	2015-2020	Totex and customer outcomes. It swept away the CapEx/OpEx split, launched Outcome-Delivery-Incentives (ODIs) and the first CX league table (SIM was converted to C-MeX).
PR19/AMP 7	AMP 7	2020-2025	The key focus was on leakage, affordability and resilience. Toughest efficiency challenge and encompassed recording ODI penalties for failure, the first meaningful bill reduction in a decade and a sharp focus on vulnerable customer schemes.
PR24/AMP 8	AMP 8	2025-2030	The key focus is on storm-overflow compliance, drought preparedness, net-zero and digital. Proposed totex is approximately £96B (over 55 percent). It would also include unlimited EA civil penalties built into risk models and address the largest green-bond funding need since 1989.

Raising the Funds

Scottish Water, NI Water and Uisce Éireann are being publicly funded and therefore borrow from government lending pools or receive direct capital grants, with interests set by their treasuries. Customer charges still cover day-to-day running costs (except NI domestic users, who pay via general taxation). In England and Wales, all 19 privately owned licencees — except not-for-profit Dŵr Cymru — meet roughly 70 percent of their cash needs from customer bills and 30 percent by borrowing against the Regulatory Capital Value (RCV). Debt is mainly future dated, often funded by inflation-linked bonds that are mapped to CPI-linked revenues and have typical gearing averages of 65 to 80 percent of RCV. Equity injections are rare and usually forced by tougher determinations or major fines. Examples of this are Thames Water, which is currently facing major funding issues. Not-for-profit Glas Cymru has no shareholders, so all surplus after interest is recycled into reduced bills or additional projects.



Delivering and Adjusting

Once the funding mechanisms have been agreed upon and investment plans ratified by the regulator, the water company is responsible for delivery. During the control period, companies function under a triple-lock regulatory control — economic licence from the regulator, permits from the relevant environmental regulator (EA/SEPA/NIEA/EPA) and drinking water permits from DWI or DWQR. Performance is tracked through league tables and incentive schemes: England uses ODIs for bespoke outcomes, as well as C-MeX (household service) and D-MeX (developer service). Scotland reports does so through the Customer-Experience Measure (CEM) and an updated overall performance assessment. Northern Ireland and Ireland rely on licence conditions and ministerial targets. Rewards or penalties flow every year, with serious breaches resulting in fines (over £500M levied in England since 2005) or, as in the case of public bodies, ministerial borrowing constraints.

True-ups and the Next Round

At the end of each AMP period, regulators reconcile physically delivered results with the original allowances stated in the audit review submissions. Overspends that were overall efficient can be added to the RCV, and windfalls are clawed back by making adjustments to allowed revenue, reductions in price limits or a return to customers through the next AMP period, lower billing. Concurrently, lessons are fed straight into the next price review, closing the loop. Lessons Learned show that the model has delivered £180B of network upgrades in England and Wales without tapping general taxation, while allowing devolved governments to keep water in public hands.

Water Industry Regulatory Environment in the UK

A scrutiny of the history of the UK's four water regions shows they have a common heritage of public-health protection. However, since privatisation in 1989, the region's evolving regulatory frameworks have diverged significantly on the basis of economic design, ownership incentives and enforcement culture. The regulatory environment can be broken down into three main categories, namely, Economic and Customer, Environmental, and Drinking Water.

Price Setting and Economic Control

Scotland

Scotland's Scottish Water, a public sector body, sets charges that are capped every six years by the Water Industry Commission for Scotland (WICS) via the Strategic Review of Charges (SRC). The next window, SRC 27-33, is currently being scoped[9] and is focused on long-term asset stewardship over short-run efficiency targets.

England and Wales

In England and Wales, New Regulatory Body conducts five-yearly pricing reviews (PRs), with each focusing on several things. The latest one, PR24, for 2025-2030, allowed revenues, performance commitments and cost of capital assumptions. Draft determinations issued in July 2024 project a totex of around £96B, which is 55 percent higher than the preceding review, which reflects storm-overflow compliance and drought resilience priorities. Final determinations made in December 2024 were open to an appeal to the Competition & Markets Authority — a route taken by six firms so far.

Northern Ireland

In Northern Ireland, the Utility Regulator (UR) regulates government-owned NI Water through six-year price controls (PCs), and its current PC21 represents the period 2021-27. Funding depends on NI Executive appropriations, limiting the UR's ability to mirror New Regulatory Body-style incentives or retail competition.

Ireland

In Ireland, the government funds state utility Uisce Éireann via exchequer grants. The Commission for Regulation of Utilities (CRU) sets non-domestic tariffs and scrutinises capital plans. As household bills were abolished in 2017, any economic pressure is largely politically driven.

Economic and Customer Regulation

Scotland Regulator

Water Industry Commission for Scotland (WICS) sets charge caps and efficiency targets for Scottish Water, as well as promotes retail competition for non-household users (open since 2008). To do this, WICS uses a traffic-light Overall Performance Assessment (OPA) to monitor Scottish Water and keeps an eye on its credibility. Since 2021, for the new SRC, OPA has been changed to the new OPA. Financial incentives focus on overall costs, investment delivery and borrowing consents rather than explicit OPA rewards or penalties. WICS also tracks Household CEM (hCEM) and Non-household CEM (nhCEM) alongside dozens of disaggregated KPIs that underpin Scottish Ministries' Objectives. hCEM and nhCEM are similar to C-MEX and DMEX in England.

England and Wales Regulator

New Regulatory Body oversees five-year PRs, where PR19/AMP7 covered 2020-25 and the ongoing PR24/AMP8 covers 2025-30. Incentives include RPI-X price caps, outcome-delivery-incentives (ODIs) and CX indices C-MeX/D-MeX.

- ODIs are a broad, bespoke performance incentive framework, where each company agrees to over 30 outcomes that matter to its customers and local environment; New Regulatory Body determined prices for these outcomes so that doing better (or worse) than the target automatically adds to (or subtracts from) revenue.
- C-MeX is a standard league table that looks only at how companies handle the contracts of household customers. It drives a relatively small, symmetric tweak to the allowed rate of return.
- D-MeX mirrors C-MeX, but for the specialist developer services market — the speed and quality of getting a housing site connected to water and sewerage.

Northern Ireland Regulator

Northern Ireland's UR oversees licence enforcement, comparative performance and efficiency targets. However, the region still relies mainly on licence conditions and ministerial direction.

Ireland Regulator

The Commission for Regulation of Utilities (CRU) approves capital and operational allowances and publishes Service-level Codes. The region depends primarily on licence conditions and ministerial direction.

Environmental Regulation

Scotland Regulator

The Scottish Environment Protection Agency (SEPA) issues licences for abstractions and discharges in Scotland. It has the power to issue Fixed Monetary Penalties (£300-£600) or variable monetary penalties (VMPs) for up to £40,000 for breaches.

England and Wales Regulator

The Environment Agency (EA) for assets in England and the Natural Resources Wales (NRW) for Welsh assets oversee abstraction licensing, issue permits, design storm overflow plans, as well as civil VMPs for up to £250,000, alongside varying criminal fines based on offence.

Northern Ireland Regulator

Northern Ireland Environment Agency (NIEA) regulates permits and pollution control under the Water (NI) Order 1999.

Ireland Regulator

The Environmental Protection Agency (EPA) issues licences to wastewater plants under the Wastewater Discharge (Authorisation) Regulations. It has the power to prosecute in the District Court (less than €5,000/offence) or in the Circuit Court (no limits).

Drinking Water Quality Regulation

Across the UK, the triple lock principle is applicable – one body each for money, environment and public health. In England, the Environment Agency (EA) issues abstraction and discharge permits and prosecutes polluters under the aegis of the Drinking Water Inspectorate (DWI), which enforces 53 chemical and microbiological parameters of pollutants.

Scotland and Wales mirror this with SEPA/NRW, alongside the independent body Drinking Water Quality Regulator (DWQR) and DWI coverage in Wales. Northern Ireland relies on the NIEA and a devolved DWI, while the Irish EPA combines both environmental and drinking-water roles.

Scotland Regulator

DWQR is an independent inspectorate reporting to the Scottish Ministries.

England and Wales Regulator

The DWI regulates across 53 health parameters and issues enforcement notices, as required, preceding prosecution for breaches under the Water Supply (Water Quality) Regulations.

Northern Ireland Regulator

Northern Ireland Environment Agency (NIEA) DWI-NI, adapted from the DWI in England and Wales, undertakes audits and enforcement of drinking water quality.

Ireland Regulator

The Environmental Protection Agency (EPA under the Water Services Act 2013) can enforce regional directions and Boil Water notices; the agency has issued more than 40 such notices in 2024.

Investment and Performance Summary

Scotland

Scotland's water industry is under the public sector. Its Regulatory Capital Value (RCV) Public-sector equivalent) is around £10.5B. The WICS Final Determination for the Strategic Review of Charges 2021-27 (SRC21-27), as a first step, was intended to ensure that Scotland would benefit from a sustainably funded water industry, allowing £3.7B CapEx, while Scottish Water's draft Strategic Plan, for the period 2027-33, set aside £5.7B for climate resilience and storm-overflow upgrades. In Scotland, regulatory leverage therefore relies more on reputational pressure, Ministerial direction and borrowing consents than on large cash penalties.

Fines 2005-2025

Public ownership and voluntary undertakings mean that monetary sanctions are modest. The SEPA civil-sanction database records 120 fixed and 12 variable penalties across all water activities since 2016, amounting to £110,000[10]. Criminal prosecutions are, however, rare, and the largest single fine levied was £10,000 (2015) for a sludge discharge from a tanker.

England and Wales

England and Wales' ten vertically integrated WASCs and nine WOCs serve 56M customers across the two regions. Combined, their regulated Capital Value (RCV) tops £83B, but in the most recent PR, New Regulatory Body 's draft PR24 determined they would allow £96B of AMP8 totex, representing a 55 percent increase from AMP7. Across organisations, debt leverage averages 75 percent of RCV, driving a closer look at dividend policy and resilience.

Fines 2005-2025

Environment Agency data shows 1,109 criminal convictions and around £160M in fines against the ten WASCs since 2005[11]. Until recently, the highest recorded fine was for Southern Water at £90M (2021) for 6,971 illegal discharges[12]. New Regulatory Body has increasingly used licence-breach penalties such as that of £104M to Southern Water (2019) for customer data manipulation and £168M (2024) across Thames, Yorkshire and Northumbria after sewage investigation[13]. In 2025, a fine of £122.7M was imposed on Thames for illegal dividend extraction and wastewater failures – the largest single New Regulatory Body fine to date[14]. The combined environment agency and New Regulatory Body monetary sanctions in the past 20 years exceed £500M, excluding court-ordered remediation.

Northern Ireland

Established in 2007, NI Water is a government-owned water company that sets prices through six-year PCs by the utility regulator (UR). The present PC21 (2021-27) allows for approximately £2.0B CapEx budget, of which 35 percent is funded by the Northern Ireland Executive. Domestic customers pay via regional rates rather than as separate bills. Policy debate now is on whether to introduce a mutual model, similar to Glas Cymru in Wales, to enable long-term borrowing for the £4B investment backlog identified in PC21.

Fines 2005-2025

NIEA data indicate just £170,000 in fines against NI Water for pollution over the past decade[15], which is markedly lower than figures across the UK. This can be attributed, in part, to constrained public budgets and the politically motivated reluctance to reintroduce household charges. The largest single penalty was £80,000 in 2017 for ammonia discharges to the River Lagan. NIEA data indicate that most others have been less than £20,000. The UR's enforcement powers focus on licence modifications and cost disallowance rather than monetary fines, none of which have exceeded £1M in the past 20 years.

Investment and Performance Summary

Ireland

In 2014, the state created Irish Water (Uisce Éireann) to replace 34 local authorities, which went on to abolish domestic charging in 2017. Since then, the utility has been funded by exchequer subvention and non-domestic tariffs, supervised by the Commission for Regulation of Utilities (CRU). Ireland's National Development Plan 2021-30 earmarks €6B (approximately £5.0B) for water infrastructure in this decade, prioritising leakage, currently 41 percent, and compliance with the Urban Wastewater Directive. The Water Environment Bill 2025, which is currently in draft, would give the CRU power to levy administrative penalties up to €10M and introduce mandatory performance reporting, similar to New Regulatory Body's C-MeX. Stakeholder consultations are set to close in October 2025.

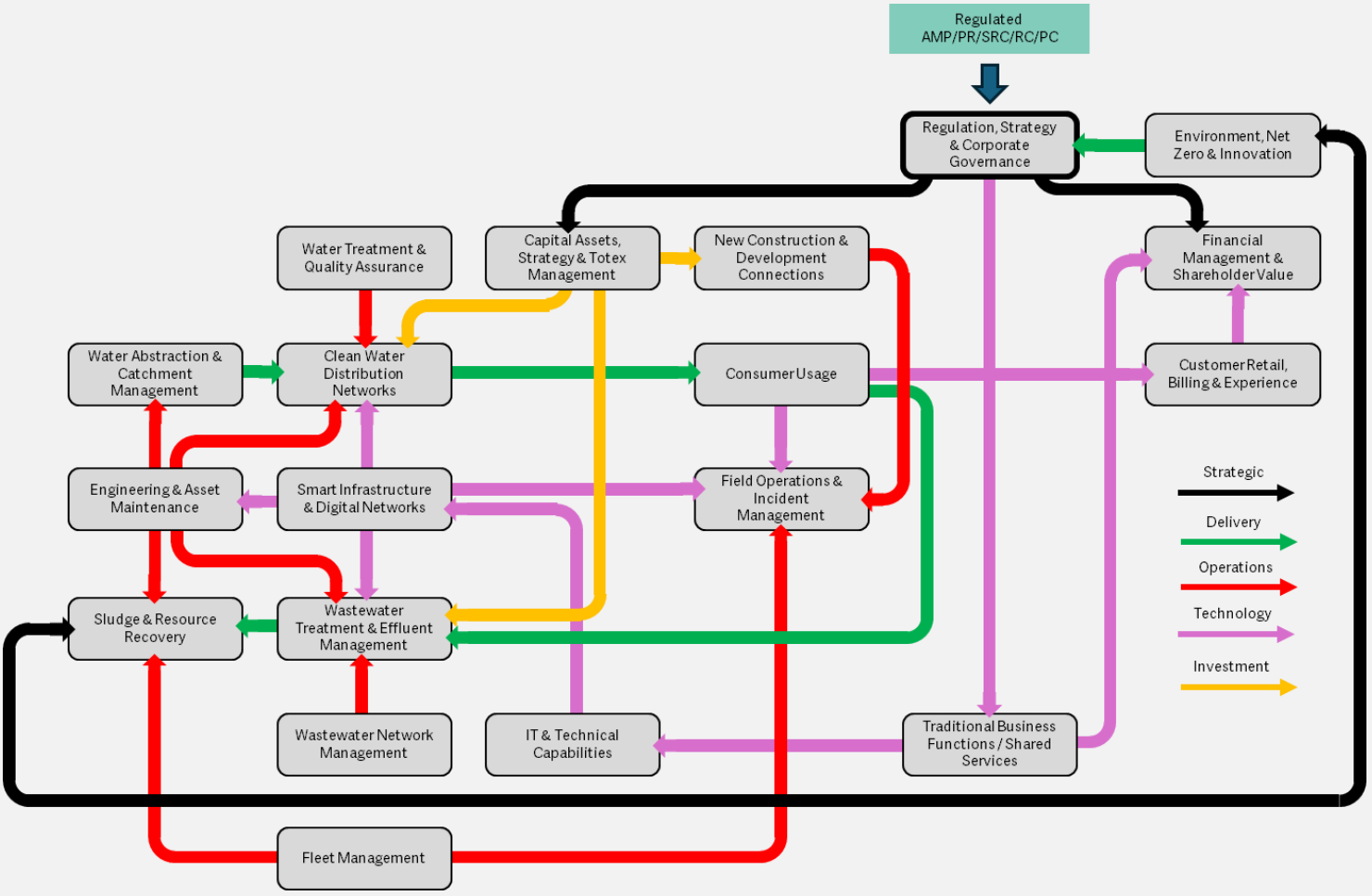
Fines 2005-2025.

EPA data shows €1.4M in fines against Irish Water and its predecessors since 2005, primarily in the €2,000 to €12,000 range. Ireland does not have strategic scale penalties comparable to those levied in England and Wales by the Environment Agencies and New Regulatory Body. Instead, the EPA issues legally binding directions — 77 are active in 2025. The EPA can also seek High Court injunctions. In 2024, the European Court of Justice ruled that Ireland had failed to meet trihalomethane limits, exposing the state to a lumpsum and daily fines under Article 260 TFEU.[16]

Operations of Water and Sewerage Companies

A typical UK water and sewerage (WASC) company can be divided into around 18 key departments that follow six areas of the water cycle. These are operated as clean and waste raw water, clean and waste networks, customer operations, and corporate disciplines and are combined into a single, regulated value chain. The diagram below shows how these areas are interlinked in a complex environment. They are interdependent on other operations. Established governance and investments in technologies and processes are vital to ensure effective operations.

Figure 1:



Source: ISG

The overall breakdown of how a WASC operates can be understood through the value chains described below:

End-to-end Operational Flow

Water abstraction and catchment management secures the raw resource under EA/SEPA licences and delivers to Water Treatment & Quality Assurance, with laboratories, chemists and process technologists that guarantee compliance with DWI or DWQR standards. The treated water passes to clean water distribution networks, district metered areas (DMAs), trunk mains and service reservoirs that deliver to customers. Upon consumption, usage data (pressures, flows and smart meter readings) feed customer retail, billing and experience, and field operations and incident management centres, closing the loop. Customer engagement includes billing and contact centres for complaints, including those involving leaks and burst locations. Using technology, network telemetry confirms the fault and field teams isolate, repair and reinstate supply within specific timelines. Consumer usage and incident data drive real-time network optimisation.

Used water goes through a reverse journey through wastewater network management into wastewater treatment and effluent management. Final effluent quality is regulated by EW/NRW/SEPA and is treated and improved through processes such as anaerobic digestion, thermal hydrolysis or composting, which creates biosolids routed to sludge and resource recovery functions, closing the loop.

Engineering and asset maintenance functions own long-term risk registers, preventive maintenance regimes and cost models for the entire life cycle, ensuring assets handed over by capital delivery perform at the lowest totex and always providing maximum capacity to ensure the health of the network.

Project and Asset Platforms

Growth, resilience and compliance projects originate in capital assets, strategy and totex management functions that balance five or six-year (AMP/SRC) regulatory settlements against 25-year asset strategies. The directorate incorporates planned economic growth and housing strategies by considering capital building programmes to enhance the size, capacity and usability of the network in keeping with future demands. To operationalise this, new construction and development connections teams work with developers around new mains, offsite sewers and site water connections. In some cases, WASCs engage with developers for urgent and unplanned development requirements to offer part funding or funding support through reasonable cost contributions through a win-win situation. Capital delivery of quality assets significantly improves lifetime OpEx and customer-service KPIs.

Digital and Field Enablement

Smart infrastructure and digital systems include sensors, data lakes and real-time control across both the clean and wastewater networks. It translates OT/IT telemetry into actionable tasks for field operations and incident management and drives predictive maintenance for engineering and asset maintenance, underpinned by IT and advanced technology capabilities (cloud, cybersecurity, ERP and GIS). Effective responses on the ground depend on fleet management — vehicle logistics give field crews the reach and uptime needed for 24/7 service. Smart connections and the use of smart meters allow demand to be streamlined, whereas satellite imaging allows for water level detection, and wider IoT technologies provide real-time status of reservoirs, lochs and lakes, as well as the live status of network operations, valve turns and live field force operations. Immediate reporting of work and updates is vital to enabling real-time network monitoring and ensuring peak performance of assets. Smart infrastructure leads to reduced leakage and power costs, which, in turn, add to the totex plans.

Strategic Governance and Assurance

Regulation drives everything, without which the WASC has no budget to operate. The alignment of strategy and corporate governance functions with the board's strategy is crucial for the next AMP/SRC. This alignment must comply with New Regulatory Body/WICS/UR requirements and include stress

testing measures. It should set the risk appetite and certify that dividend, executive-pay and financing policies meet licence obligations. Financial management and shareholder value convert regulatory determinations into the financing planning of capital and operational budgets, which are required to balance debt, equity and cash flow to preserve credit metrics. All these aspects combine with traditional corporate functions and traditional business functions/shared services areas such as HR, procurement, finance and legal support.

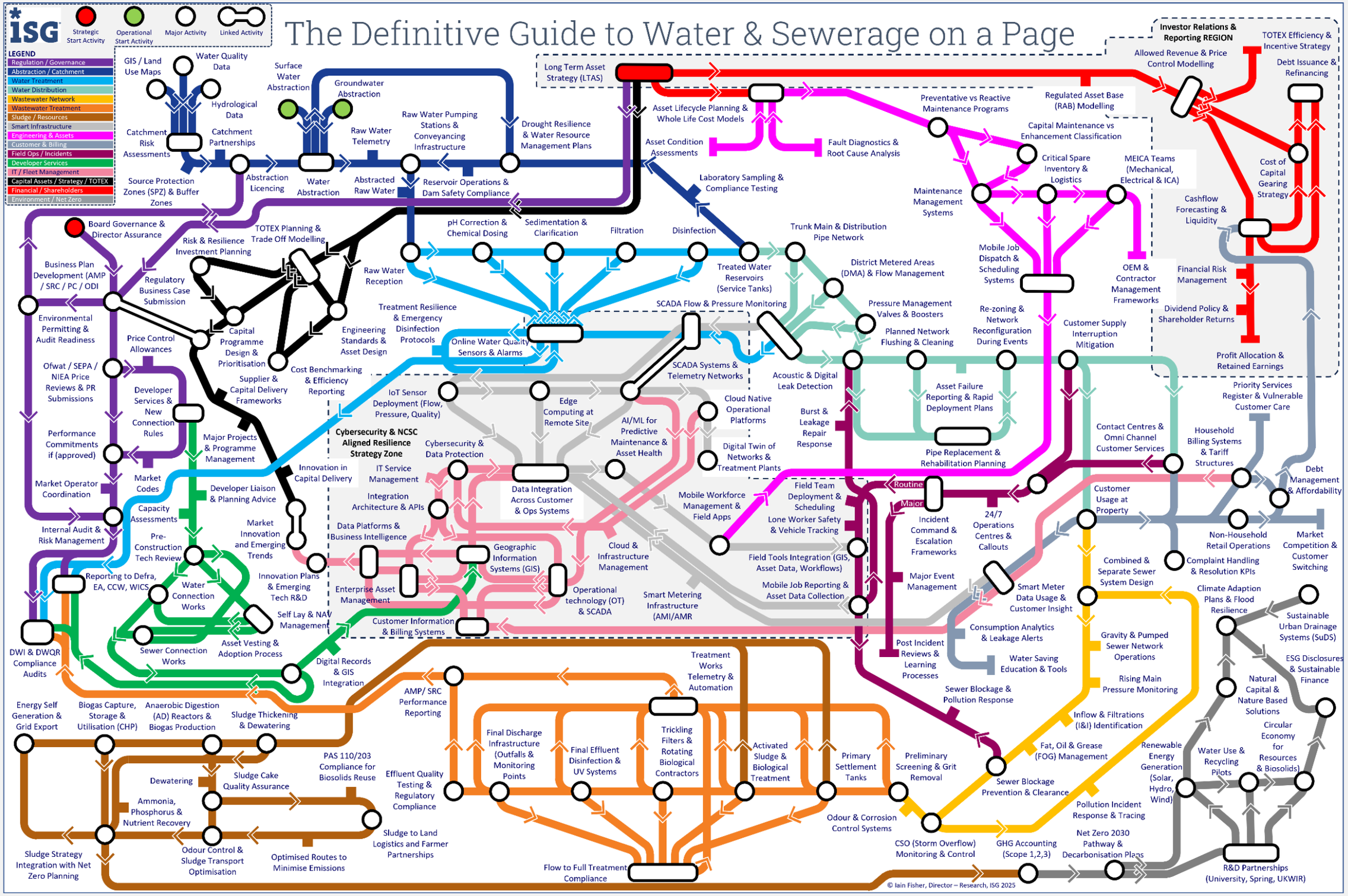
Strategic Direction, Innovation and Sustainability

Environment, net zero and innovation are key for the UK to meet its net zero targets; they are normally integrated into every stage of the water cycle and operations. These include low-carbon catchment choices, nature-based solutions for overflow compliance, biosolids upcycling and green bond financing frameworks. Sustainability is a fundamental part of meeting regulatory KPIs. It shapes capital plan gatekeeping, informs regulatory submissions and drives the R&D pipeline that underpins AMP to the AMP efficiency target. Environmental innovation in general unlocks funding, reduces fines and enhances public trust.

A disruption in any of the nodes in the above diagram causes ripple effects and issues throughout the system. This is the reason for regulators to stress on WASCs delivering integrated governance, unified data architectures and smart technologies across all departments to ensure cross-functional accountability. This approach helps WASCs to meet the three imperatives of the UK water industry: safe drinking water, environmental compliance and sustainable financial returns.

The detailed diagram below shows the full end-to-end water cycle for a WASC.

Figure 2:

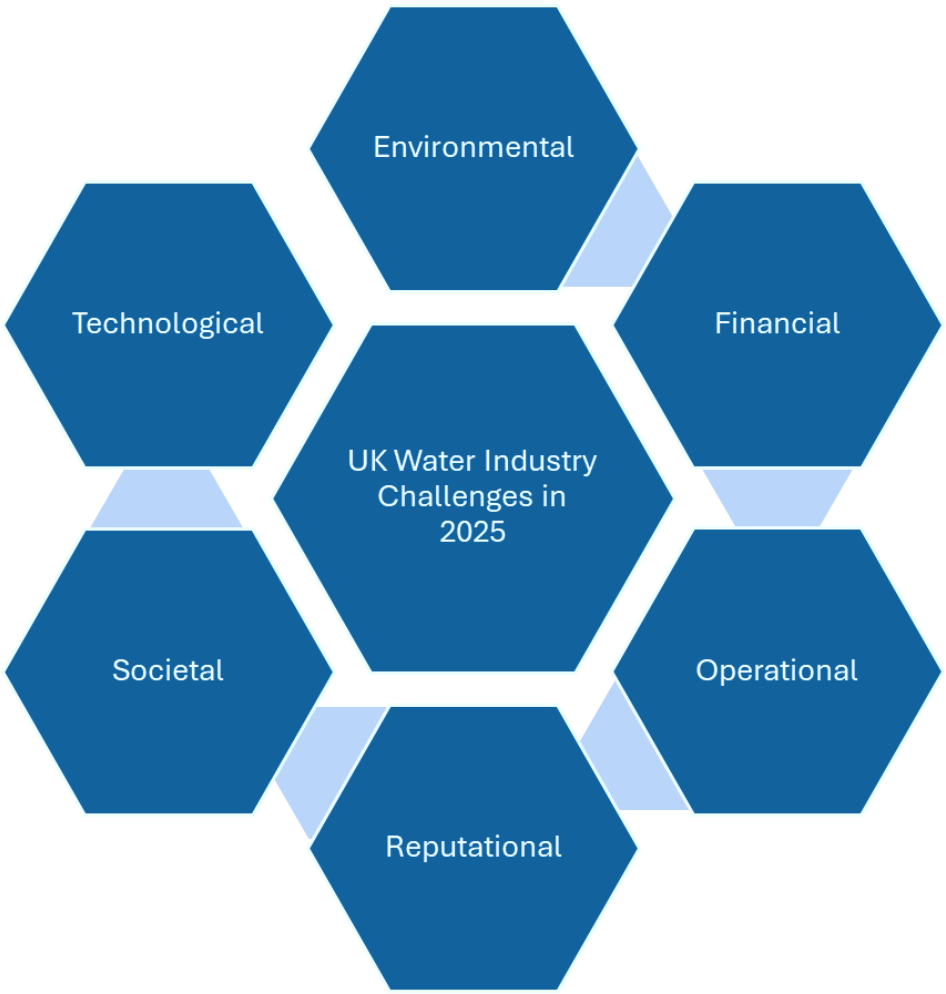


Source: ISG

Key Challenges Facing WASCs

Regardless of the geography, there are several converging issues and challenges being faced by the UK water industry. The latest news being reported does not help when WASCs are being fined £122M for regulatory breaches. The water quality is deteriorating due to several issues, including raw sewage pumping into clean water sources. While the water company leadership is gaining significant financial rewards, shareholders are being prioritised over public delivery.

Figure 3:



Source: ISG

WASCs face challenges across finance, technology, environment, society, reputation and delivery. The issue is that due to a perceived historical lack of investment, current financial conditions mean tighter budgets, which attract stringent public scrutiny that collides with the need for the largest build and improvement programme in the industry's history. Overcoming these challenges will determine whether AMP8 is remembered as a transformation or a breaking point for the UK and Irish water.

Environmental Challenges

Climate Extremes

In 2025, the UK experienced its driest spring since 1956, leaving reservoir storage in England and Wales at 84 percent of capacity and river flows at exceptionally low levels in 12 catchments[17]. Yet only a couple of years earlier, in 2023, the UK recorded the wettest year on record in parts of Wales and Cumbria, with three 100-year storm events. This inconsistency of weather patterns strains ageing infrastructure that was designed for 20th-century climate averages. Drought triggers emergency abstraction, risking ecological damage, but on the converse side, deluges overload combined sewers, spilling raw effluent. Therefore, WASCs must invest in both ends of the spectrum to ensure that supply quality and quantity are maintained. This includes new reservoirs, inter-basin transfers, desalination plants, sustainable drainage and storage tanks, which stretch capital budgets. Climate change also complicates water resource modelling, which uses the UK Climate Projections data (UKCP18) and whose scenarios project up to 30 percent less summer river flow by 2050 in the Southeast of England. Regulators now require adaptive plans, and it is very likely that climate resilience will stay on every AMP agenda going forward.

Storm Overflow Compliance

Public and political tolerance for sewage spills has diminished. The Environment Agency, based in Bristol, logged 592,478 overflow events totalling 4.7M hours in 2024, despite shareholder dividends of £1.2B being paid out[18]. The new government targets mandate a 75 percent reduction in high-priority outfalls by 2030, backed by unlimited fines. Delivering that mandate means retrofitting nature-based solutions, offline storage and real-time controls across some 2,700 points in the UK. Failure invites penalties and reputational ruin, and this is linked to other issues in the reputation area. The engineering challenge is compounded by data accuracy, where, in 2023, 18 percent of event duration monitors went under-recorded, making accurate assessments difficult. Therefore, WASCs must fix monitoring and design interventions within the tight PR24 allowances.

Sustainable Abstraction

The UK is seeing a rapid increase in population owing to either uncontrolled or controlled migration. With an annual growth rate of approximately 1 percent over the last five years, the UK is set to grow by nearly 3M people every five years. The rate of population growth and extreme summers imply that England and Wales could face a water supply deficit of up to 4,000Ml/d by 2050. Reliance on overabstracted chalk streams and aquifers is already causing ecological damage. The Environment Agency's new abstraction licence capping and river flow enhancement schemes have pushed companies towards alternative water sources, such as the South East's Reservoir at Havant Thicket and Severn and Thames' transfer and desalination plants on the Humber and Cam. These mega schemes require 10-year planning lead times, cross-company cost-sharing and political consensus on interregional water trading. Balancing environmental flow requirements with supply security will dominate water resource management plans (WRMPs) over the next three AMPs.

Emerging Contaminants

Environmental concerns regarding per- and polyfluoroalkyl substances (PFAS), microplastics and pharmaceuticals are moving from academic concern to statutory limit. In recent months, a UK consultation on PFAS proposed a 0.5 µg/L cap on total PFAS in the UK drinking water from January 2025, further aligning the UK with revised EU rules[19]. To mitigate PFAS, activated carbon, reverse osmosis and ion exchange retrofits could cost hundreds of millions, yet few projects have been planned to begin construction. Capturing microplastics is even trickier, as technologies are nascent and tend to be energy-intensive, with near-zero schemes planned as of 2025. Typically, public concern and vocalness drive political pressure for action. Consequently, after media reports of PFAS detection in blood samples, oceans and water courses, regulators may allow phased compliance. Thus, WASCs must incorporate emerging contaminant readiness into AMP8 check-ups and AMP9 asset strategies.

Net Zero Energy

The UK water industry has pledged to achieve operational net zero by 2030, but wastewater treatment alone accounts for more than 80 percent of process emissions. Anaerobic digestion, process heat recovery and onsite solar or biogas capacity can minimise carbon emissions to an extent. However, large GHG reductions will need electrification of aeration and sludge drying, both of which are capital-heavy upgrades that compete with overflow spend. The UK has seen immense volatility in the energy markets, making electricity prices unpredictable and rendering power purchase agreements by WASCs risky. Failure could lead to reputational damage and potential carbon pricing costs if the government extends ETS-style schemes to utilities. Achieving net zero targets is thus both an engineering and financial problem, demanding integrated CapEx planning across multiple AMPs.

Financial Challenges

Record Capital Ask

New Regulatory Body 's draft PR24 decision assigns approximately £96B of TOTEX for AMP8 for WASCs in England and Wales, which is nearly 55 percent above the current AMP7 figure. Considering some environmental challenges, this figure is driven by storm overflow upgrades, drought schemes and long deferred asset health work. Because revenue is typically spread over several years to avoid a sudden increase in customer bills, approximately half of that cash must be prefinanced through debt or new equity. A programme of this magnitude surpasses AMP1's post-privatisation catch-up expenditure and arrives at a time when many firms approach the 80 percent gearing ceiling embedded in bond covenants. Therefore, the water industry needs to issue more long-dated, often CPI-linked bonds than ever before, which challenges the testing investor capacity and appetite. WASC boards also face tougher gatekeeping due to New Regulatory Body[20], which now scrutinises every major scheme for deliverability and stress-testing financing plans under high-rate scenarios, implying that capital plans must be larger and more granular than before.

Rising Borrowing Costs

The UK has suffered financially over the last few years due to several factors. Historically, WASCs could refinance at near-zero real yields. But now that time has passed. At the time of this whitepaper's publication, 10-year index-linked gilts yield just under 4 percent, which is quadruple the average cost of embedded water debt. Consequently, new issues dilute interest coverage ratios, forcing WASCs to either inject equity or sell shorter tenor, floating rate paper that increases cash flow volatility. Due to New Regulatory Body setting the allowed return only once every five years, any volatility or rapid rate swings can leave WASCs locked into paper whose coupons exceed the regulatory cost of capital allowance, eroding shareholder returns. Moody's and Fitch now model base rate shocks of over 200 basis points in their forward credit metrics for the industry, narrowing leverage headroom for BBB names even before capex expansion is considered. WASCs need to refinance more, under tighter covenants, at a time when capital is structurally more expensive than at any point since the early 2000s.

Leverage and Solvency Risk

This is perfectly illustrated by Thames Water's recent crisis, showing what happens when high gearing collides with CapEx inflation. With debt at more than 80 percent of RCV and cash interest of over £500M a year, the company's 2024–25 liquidity plan relied on a £4B equity backstop that collapsed when proposed investor KKR exited. Creditors holding £17B bonds warn[21] that a special administration regime could be triggered if a regulator-approved recapitalisation fails. For peers, the lesson is clear: covenant cushions of 5-10 percent are no longer sufficient when penalties, inflation and higher rates all hit at once. A perfect storm! New Regulatory Body has responded by stress-testing every business plan against Thames-like scenarios, while ratings agencies demand clear visibility of equity-funding routes. The practical outcome is a higher equity slice in AMP8 funding, which may dilute ownership stakes but is necessary to keep debt markets open.

Ratings Pressure

While Scottish Water is not explicitly rated AAA by any major credit rating agency, it is generally considered to have a strong credit profile and good market standing due to government funding. One report[22] suggested that at current gearing levels, Scottish Water would likely be rated A or an equivalent, with a potential for a BBB rating if gearing increased significantly. According to Fitch's UK Water in AMP8 report[23],the rating spreads on BBB-rated UK utility bonds in England and Wales widened by approximately 90 basis points in the second quarter of 2025. That shift is enough to raise coupon costs on a new 20-year CPI-linked issue by £18M per £1B borrowed. Agencies have placed half of the sector on a negative outlook, citing the twin risks of underdelivery, resulting in increased ODI penalties and higher unsecured fines. To protect their ratings, WASCs are trimming dividends, deferring discretionary projects and, where possible, securitising new debt at the operating subsidiary rather than at the holding company level to reduce risks. Such defensive strategies unsettle equity markets, depressing valuations and complicating fresh share issuances. Ratings pressure has become a symptom and a cause of stringent funding capacity, feeding a downward spiral that regulators are watching closely.

Unlimited Penalties

Since 11 December 2023[24], the Environment Agency can levy unlimited variable monetary penalties for pollution, replacing the previous £250,000 ceiling. The change reduces the need for lengthy criminal cases but injects huge cash flow uncertainty into the business plans of WASCs. This setting means that a single dry weather spill could now attract a fine in the tens of millions, eclipsing prior risk allowances. New Regulatory Body can also fine up to 10 percent of turnover, and in 2024, it imposed a £168M multicompany penalty package for sewage misreporting. Fitch[25] anticipates £900M in sector-wide fines and £560M in net ODI penalties over the AMP8 period in England and Wales, reducing effective interest coverage by 0.3x. Bond investors translate this volatility into wider spreads, while equity holders consider it as dividend risk. Consequently, unlimited penalties contribute directly to increased capital costs and stringent covenants, thereby closing the loop with every other financial challenge.

Operational Challenges

Supply Chain Stretch

British Water's 2025 Framework for Change[26] survey finds that contractors can meet approximately 70 percent of AMP8's peak demand without rapid capacity expansion. Parallel megaprojects, including HS2, nuclear new-builds and offshore wind, are part of the UK government's energy, transportation and net zero agendas. These projects compete for the same civil and M&E firms, inflating day rates due to reduced capacity. WASCs, like others, now face delivery challenges due to capacity issues in the capital supply chain. Therefore, without forward planning, collaborative procurement and clear forward pipelines, suppliers may prioritise more predictable sectors, risking water project delays. This could further result in ODI penalties for WASCs due to failed infrastructure upgrade delivery.

Workforce Skills Gap

As with many industries, an ageing workforce is seeing a reduction in available expertise. Nearly half of senior water engineers plan to exit the sector within five years[27], attracted by better-funded energy and tech industries. Most recent apprenticeship intake covers barely one-third of projected retirements for the UK region. The UK Institution of Civil Engineers warns that, without accelerated training programmes, AMP8 could see critical delivery issues with skills shortages exceeding 6,000 FTEs being predicted. The gap endangers capital schemes and daily operations.

Planning Bottlenecks

New reservoirs, desalination plants and strategic transfer pipelines require development consent orders that can take a decade. Misalignment between five-year regulatory cycles and 10-year planning windows results in a scarcity of shovel-ready schemes within current UK planning departments. Policy reforms promise faster green infrastructure planning, but local objections and nutrient-neutrality rules still cause delays. Sudden schedule slips cascade into supply chain peaks and often threaten regulatory output targets, which incur ODI and OPA penalties.

Operational Outages

The UK has a unique challenge. Building at record scale while maintaining services is challenging. New Regulatory Body recorded 528 Ml/d of unplanned outage minutes in 2023-24, the worst since AMP5. Outages trigger immediate ODI and OPA penalties and erode customer trust. WASCs must balance aggressive large-scale mains replacement targets with live operational network risks, which require better technology, visibility, redundancy and scheduling, as well as an uptick in customer communications and trust, or WASCs risk effectively paying twice through penalties and further reputational damage, which risk further penalties.

Component Shortages and Inflation

The UK water industry, like every other sector in the UK, has faced unprecedented challenges over the last three to four years. Everything from supply chain issues to the procurement of raw materials has been difficult and costs more. Globally, microchip scarcity has extended lead times for telemetry devices and any other products requiring chips, as the chip market was heavily disrupted during the COVID-19 pandemic. PVC, ductile iron and stainless-steel prices remain 15-25 percent above 2019 levels, and ongoing inflation has eroded fixed-price contracts, affecting delivery and driving disputes. The market has seen WASCs and many other companies increasingly adopt collaborative frameworks with pain/gain sharing models to keep suppliers engaged. This approach has aided somewhat, but the challenge for WASCs is that regulators still benchmark against pre-inflation unit costs, creating tension between cost allowances and actual market prices.

Reputational Challenges

Spill Headlines Persist

The UK and the international media now report on the water industry frequently, with the majority being about waste spills and discharges into freshwater bodies around the country. The FT revealed that half of England's worst outfalls saw no improvement in 2024, with a record 3.6 million spill hours logged despite the industry pledging to invest £10B by 2030[28]. The constant stream of negative coverage embeds a narrative of systemic failure, making it difficult for water companies to secure public support for higher bills or new abstractions. Reputation management now demands near real-time transparency and tangible progress.

Dividend Versus Service Narrative

Shareholders received £1.2B in dividends during the same year when spill incidents reached new highs[29]. Although many payments refinance debt structures, headline numbers fuel public outrage. New Regulatory Body's revised licence requires that boards certify dividends as being in the interests of customers, exposing WASC directors to enforcement actions if payouts coincide with poor performance, as was the case with Thames Water in May 2025. Water companies are experimenting with performance-linked dividend locks, but the reputational damage continues to affect equity valuations and fundraising efforts.

Executives' Pay Scrutiny

Across the UK water companies, three CEOs earned bonuses — more than £1M in 2024 — even as their organisations attracted increased fines. With public sentiment becoming vocal, recent parliamentary committees have called for claw-back powers and clearer remuneration alignment with environmental metrics. Rating agencies note governance concerns, and ESG investors increasingly identify companies with high pay gaps. Boards now draft remuneration reports anticipating not just shareholder but public and political scrutiny.

Data Integrity Scandals

Historic flow manipulation cases led New Regulatory Body to reaudit self-reported data, as misreporting of water performance data can trigger fines and criminal charges under the regulator's remit. The regulator now requires independent assurance on all performance data and can commission surprise audits. Any new discrepancy could nullify ODIs worth tens of millions and obliterate already fragile trust.

Investor ESG Concern

Thames Water's turmoil is cited in market ESG briefings as proof of weak governance. Across the markets, funds with Article 9 mandates have decreased the UK water exposure, widening spreads further. Fitch's May 2025 note warns that ESG controversies reduce headroom for debt capacity by up to £5B sector-wide. Therefore, water companies must treat ESG as a core financing tool, not as a marketing add-on, linking capital raising to verifiable environmental progress.

Societal Challenges

Trust Collapse

In 2024, CCW's Water Matters survey[30] recorded a 13-year low average public trust in water companies at 6.37/10. The data shows that respondents' distrust is aligned to pollution headlines, executive pay and opaque ownership. Analysis shows that trust in water companies matters financially. It shapes political willingness to approve bill increases and influences bond-market ESG scores. New Regulatory Body's research demonstrates that a one-point fall in trust correlates with a 10 percent drop in customer acceptance of new spend. Thus, rebuilding credibility becomes a strategic objective that is equal to hitting leakage targets. Water companies are piloting open data dashboards and river testing schemes, but such moves must be sustained and transparent to shift perceptions.

Sewage Activism

Social media is everywhere and has become a great communication tool for water companies. However, it also gives no place to hide when everyone carries a high-quality camera with them. Spill footage captured in such devices and drones is now shared via Instagram, YouTube and TikTok, with imagery igniting a grassroots movement in the UK. NGOs such as Surfers Against Sewage now mobilise thousands for riverbank protests. The 2024 Water Quality Report[31] logged 4.7 million spill hours and linked the pollution to gastrointestinal illness costs of £493,000. Activists coordinate shareholder resolution campaigns and legal actions, raising financial and reputational stakes. Politicians of all parties have adopted clean rivers pledges across many of their constituencies, meaning activism directly shapes regulatory agendas and fine levels. Therefore, water companies must engage proactively, publishing near-real-time spill data and codesigning river restoration schemes to avoid being perpetually defensive.

Affordability and Cost of Living

AMP8 bill proposals imply a real-time increase of between 23 and 40 percent by 2030, with Thames Water suggesting this could be as high as 50 percent. Meanwhile, the UK household disposable income is still recovering from the cost-of-living crisis that, in many cases, is still ongoing. The CCW estimates that 1.8 million households have already spent more than 5 percent of their income on water. Governments have floated the idea of social tariffs, stating that millions could enter water poverty, risking payment arrears and bad debt spikes that New Regulatory Body does not fully pass through to revenue caps. Affordability constraints can also lead politicians to trim CapEx plans, delaying environmental compliance. Therefore, companies must embed social outcomes, more open and tailored tariffs, debt advice and water efficiency devices directly into business cases to secure regulatory approval.

Water Poverty and Vulnerability

Water poverty is becoming a real thing in England and Wales. Vulnerable customer registers have grown by 25 percent since 2020, yet only 47 percent of consumers know that support exists, which means approximately 12.5 percent of the whole of England and Wales are on a vulnerable customer register. To make matters worse, the UK is dealing with an ageing population and cost-of-living pressures fuelled by sharply rising energy costs, causing fuel poverty that overlaps with water affordability issues, making effective outreach by water companies essential. Failure here can breach the UK Equality Act duties and trigger New Regulatory Body penalties. Digital-only engagement by water companies, regardless of whether a digital-first approach is undertaken, risks excluding older and low-income users. Water companies must expand multichannel contact, partner with charities and share data within the GDPR rules to spot hardships

early. Success is measurable; an example is Anglian Water's extra care tariff, which cut arrears by 18 percent in 2023. Regulators increasingly condition performance incentives on vulnerability metrics, turning social responsibility into a licence requirement.

Behaviour Change

The UK has seen its warmest spring in years. Despite drought messaging, the per capita consumption in England and Wales plateaued at around 140 L/d. Even in Scotland, where water is not domestically billed by consumption, the whole country is now experiencing water scarcity, with some areas approaching significant levels, SEPA[32] has warned. Studies show habit formation requires feedback within minutes, yet most metered customers receive usage data quarterly or immediately when using a smart meter. AMP8 significantly increases smart meter rollouts that could close the loop, if accompanied by behavioural nudges such as push notifications, gamification and comparison dashboards. International pilots, such as those conducted by Sydney Water, have demonstrated a 9 percent reduction in usage with real-time feedback. UK trials show similar potential, but without demand-side savings, companies must build expensive supply schemes, raising bills further and fuelling the affordability and reputational spiral.

Technological Challenges

Scaling Smart Meter Rollouts

UK regulators want at least 10 million additional smart meters monitoring domestic supplies during AMP8, aiming to reduce per capita consumption to 110 L/d, a 22 percent reduction from the current average. The rollout is much larger than AMP7's, yet success hinges on data, not just hardware. Each meter is to produce 48 reads every day, which equates to roughly 175 billion data points a year once fully deployed. Integrating that amount of data with legacy SCADA, GIS and billing systems requires investments in cloud-native data lakes, real-time analytics and robust privacy layers. Water companies that treated AMP7 pilots as bolt-ons now face expensive replatforming challenges, further eroding funding structures. Meanwhile, customer engagement is an area that requires significant attention. The Waterwise Tracker shows only 43 percent of households currently act on usage alerts, limiting demand-side savings that underpin cost benefit cases. Unless firms can integrate IT systems with behavioural changes and nudges, they risk creating a stranded asset class of dumb smart meters, with regulators poised to reclaim allowances for missed outcomes through penalties.

Legacy System Modernisation

Embedded within the technology deployed at every pumping station lies the legacy software developed several AMPs ago, back when dial-up modems were state-of-the-art. Water management, tracking and efficient usage are key. Ageing SCADA platforms and siloed asset registers make it difficult to deploy AI leak detection systems or digital twin models to enhance efficiency. For example, one WASC in England, found 18 separate databases describing its trunk mains, none with matching pipe IDs. The project to consolidate them took two years and cost £12M, which is huge. New Regulatory Body's innovation fund pilots revealed that digital twins can cut burst repair times by around 40 percent, but only when fed by unified, geocoded data. Modernisation is capital-intensive and largely invisible to end customers, making it challenging for water company boards to justify such investments against the attention-grabbing green infrastructure. Nevertheless, without simple technology to measure water usage effectiveness and asset capacity, which requires centralised data with clean data layers, AMP8's promised efficiency gains valued at approximately £4B, as benchmarked by New Regulatory Body, will stay theoretical.

Cybersecurity Exposure

All technology is exploitable. For the UK water industry, field assets such as smart meters, pressure sensors and remote valve actuators expand the attack surface exponentially, increasing the possibility of cyberattacks and security breaches. A typical large WASC across the UK will add more than 400,000 new IP-addressable devices by 2030. ISG's cyber research shows that cyberattacks on OT networks increased by 57 percent globally in 2024, and utilities were the most frequently targeted critical infrastructure sector. A successful breach can force a

company to shut treatment works, triggering drinking water notices and New Regulatory Body penalties. Yet the water industry's cybersecurity budget averages only 0.3 percent of its revenue, less than half of the energy industry's intended allocation. Additionally, talent is scarce, with fewer than 50 UK engineers holding SCADA vendor and NCSC cyber certifications in England and Wales. Regulators now ask boards to certify cyber risks on an equivalent basis to health and safety, raising director liability and insurance costs. Delivering AMP8 safely means significantly investing in cybersecurity and OT segmentation.

Chip and Component Shortages

The global semiconductor crunch, triggered by the pandemic and supply shocks and extended by geopolitical tensions, has already hit water telemetry. Lead times for low-power RF modules stretched from 8 to 52 weeks in 2023/24, delaying smart meter rollouts and driving unit price inflation by approximately 17 percent. Water companies responded by preordering two years' worth of stock, which tied up working capital and increased obsolescence risks as standards evolved over time, coinciding with the transition to AMP8, where smart meter rollout was set to accelerate. With microprocessors needed for every component of digital transformation, water company IT departments, along with their procurement teams, need to be much more aligned with partner supply-side firms. These firms will be responsible for designing next-generation IT systems and managing tracking, control and device projects to meet regulatory targets and achieve efficiencies.

Data Science Skills Gap

As the water industry becomes more digitally native, water companies now need to expand their resource pools to include cloud architects, data engineers and AI modellers, which are nowhere near the traditional employee pool of the recent past. Water companies presently compete with fintech and Big Tech on pay and conditions as they need to make the industry attractive to highly skilled and sought-after individuals. A 2024 survey by the Institution of Civil Engineers found that 46 percent of water industry engineers are considering leaving for digital roles in other sectors. Graduate pipelines are thin, with only two UK universities offering water-specific data analytics MSc modules. Without in-house talent, water companies rely on contractors, inflating costs and creating knowledge transfer gaps. The other area of reliance is on large-scale multinational technology providers and service integrators. These organisations provide significant skills and services to the UK water industry, representing a large proportion of the skillset in the industry. When it comes to AI and data-driven projects, New Regulatory Body's innovation competition highlights that many promising pilots stall at business-as-usual, as organisations lack staff to maintain algorithms once vendor contracts end. New Regulatory Body has stated that without investment, the skills deficit could convert digital transformation into a perpetual consultancy spend rather than a sustainable capability, undermining promised efficiency gains and delaying customer benefits.

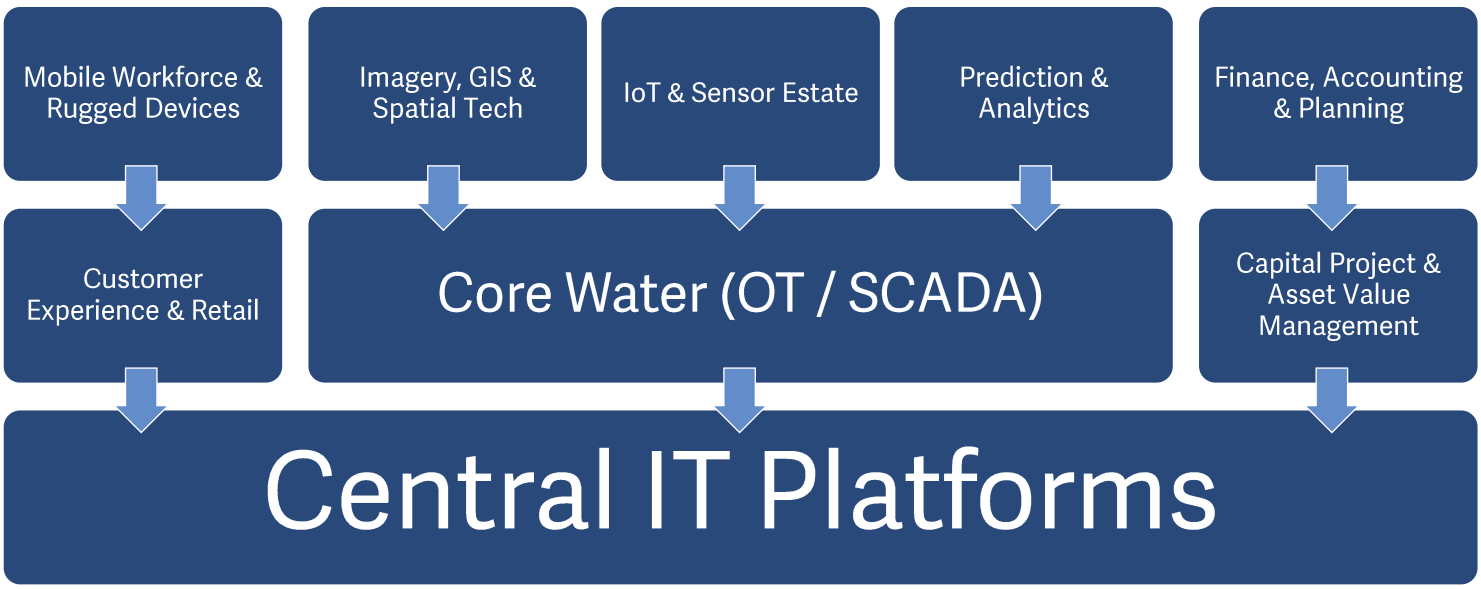
Technology Use in the Water Industry

Technology is vital in every industry worldwide. It has shifted the water industry from being a reactive utility to a data-driven, infrastructure-intensive consumer of technology, increasing resilience, affordability and public trust. Technology now underwrites almost every regulatory obligation and commercial outcome in the UK water industry.

Cloud-integrated GIS and ERP systems provide a single, auditable view of finance and assets, planned for each AMP, enabling WASCs to monitor New Regulatory Body-defined TOTEX targets in real time. Modern SCADA, IoT sensors and 5G-enabled smart meters transform buried pipes into instrumented networks, reducing leakage and energy consumption, while streaming data directly to the Environment Agency, DWI, SEPA and DWQI to support compliance efforts.

Real-time data captured at the source by field engineers is vital to maintain real-time network visibility. Mobile work management systems, powered by AI scheduling and rugged tablets, remove paper from the field, improving first-time fix rates and enhancing lone worker safety. Predictive analytics highlights pipes, pumps and sewers by failure risk, steering scarce maintenance and capital to where it delivers the largest ODI/OPA benefit. Customer platforms blend live usage data with omnichannel service, lifting regulation scores. Most systems can be separated into a small set of operational buckets, as shown in the diagram below.

Figure 4:



Source: ISG

Central IT Platforms

Over the past decade, UK utilities have converged on an integrated digital core typically anchored by platforms such as SAP S/4 HANA or Oracle Fusion, surrounded by Microsoft 365 collaboration and ServiceNow service-management layers. ERPs unify finance, procurement, HR and inventory across clean and wastewater businesses, enabling cost attribution at the line-item level as required by New Regulatory Body and WICS. Cloud landing zones on Azure or AWS now host more than 60 percent of non-SCADA workloads, delivering elastic compute for hydraulic models while lowering on-prem CapEx. Identity and access solutions such as Okta and SailPoint and PIM tooling enforce license-driven segregation of duties. The result is a resilient, audit-ready central IT capability that supports real-time margin analysis, rapid AMP portfolio repricing and board-level reporting within IFRS and UK SOx timetables.

CX Platforms

Customer engagement and management are vital to improving customer satisfaction and maintaining real-time views of debt management and water issues reported by the public. Salesforce Customer 360, Aptumo and NetGain have replaced legacy CIS stacks, delivering omni-channel contact, automated vulnerability flagging and dynamic social tariff enrolment. Chatbots on WhatsApp and Alexa have been integrated to tackle low-complexity queries, while platforms such as Genesys Cloud orchestrate voice escalation. Smart meter portals gamify demand reduction with near real-time comparisons, lowering PCC and boosting C-MeX scores. Customer communication management suites such as Quadient and OpenText blend usage graphs, conservation tips and outage mapping into single e-bills, enhancing engagement and reducing print OpEx.

Core Water — Process Control and SCADA

All tier-1 WASCs operate modernised telemetry estates such as Schneider EcoStruxure, Siemens WinCC and AVEVA in tandem with systems such as OSIsoft PI historians. These platforms sample more than 30,000 variables per treatment site, deliver remote set point control and provide 10-year data provenance for DWI/DWQR audits. Integration with energy/price APIs automates pump schedule optimisation, minimising power costs by up to 12 percent. Edge-to-cloud replication facilitates the transfer of real-time data to analytics lakes without compromising OT firewalls, opening feeds to predictive maintenance models and maintaining NIS Directive segregation.

Capital and TOTEX Governance

Portfolio orchestration is centred on systems such as Oracle Primavera P6/Cloud or Hexagon EcoSys, which can be integrated with SAP EPPM for budget control. Systems such as ProjectWise/AssetWise manage BIM deliverables, enabling seamless COBie handoff into enterprise asset registers. Well-defined governance suits engage tooling such as Power BI TOTEX cockpits to provide real-time insights into earned value and risk exposure against PR24 allowances, while automated carbon and biodiversity metrics support net zero initiatives. Monte Carlo simulations optimise portfolio spend by balancing risk compliance costs and preserving finance headroom for dividend policies within gearing covenants.

Mobile Workforce Enablement

Field productivity is now driven by rugged Android/iOS tablets running SAP FSM, ClickSoftware and Affinity Fieldreach. AI-assisted scheduling optimises travel, skills and operator van stock to reduce onsite time by approximately 15 percent. Digital RAMS/DOMS and photographic close-out records create a defensible chain of evidence for health and safety and insurance. Integrated lone worker alarms, GPS breadcrumbs and What3Words geocoding underpin regulator-mandated response-time KPIs, while embedded MiFi turns every operator vehicle into a pop-up edge node for drone imagery and sensor commissioning.

Imagery, GIS and Spatial Digital Twins

Accurate, up-to-date imagery is vital for all operations. Everything from planning, operations, valve positions, operator locations and water levels to storage is recorded geospatially and connected to real-time command and control centres. Most water companies, including those using the ArcGIS Utility Network, now underpin authoritative asset registers, while drone LiDAR and satellite NDVI layers enrich models with topography and land use risk. BIM Level 2 outputs flow into GIS to create construction-grade digital twins, accelerating planning consent and enabling clash detection. Mobile LiDAR of trunk-main corridors reduce as-built capture costs by 40 percent, and ArcGIS Navigator integrates with workforce apps to optimise routing and valve-isolation zones, minimising burst interruptions.

IoT and Smart Instrumentation

Smart meters are the key to real-time usage and demand data. With rollout expanding in AMP8, NB-IoT/LTE-M smart meters (Kamstrup, Sensus and Itron) and acoustic pressure loggers (Xylem and HWM) typically will form a high-density sensor fabric, delivering sub-hourly insight on flow, pressure and consumption. Event duration monitors detect more than 95 percent of storm overflows and send stream compliance data directly into cloud SQL, eliminating manual returns. Edge analytics flag burst probabilities and sewer surcharge risks in real-time, supporting proactive dispatch and ODI bonus capture. Battery lifetimes exceed five years, creating a low-touch estate that feeds the enterprise data lake at billions of records per week.

Predictive Analytics and Data Science

Predictive analytics is a major part of successful water operations to ensure the most efficient capacity planning. Services such as Azure Synapse or Databricks' lakehouses federate SCADA, IoT and finance data into a single platform. Advanced ML, such as XGBoost or LSTM, can drive pipe burst and blockage propensity models, and its outputs steer AMP prioritisation and unlock demonstrable TOTEX benefits. Hydraulic suites such as Innovyze InfoWorks WS/ICM operate on scalable clusters, producing WRMP and DWMP scenarios in days, not weeks. Power BI dashboards publish real-time leakage, carbon and ODI/OPA forecasts to board committees and New Regulatory Body/WICS portals, institutionalising data-driven governance.

Finance, Accounting and Planning Management Platforms

Over the last planning cycle, utilities have replaced siloed ledgers with integrated performance management stacks that position themselves on top of the ERP core but serve the regulatory calendar. SAP Analytics Cloud, Oracle EPM Cloud and Anaplan act as the single source of truth for the five-year business plan: bottom-up OpEx, CapEx, ODI/OPA risk exposure and gearing headroom roll-up into AMP cash flow waterfalls that align with New Regulatory Body's FinRes tables and WICS's financial model. Integrated scenario engines operate Monte Carlo simulations of inflation, interest and penalty shocks, automatically reforecasting dividend capacity and covenant compliance. IFRS 16 and IAS 23 modules capitalise cloud subscriptions and construction period interest, pushing the resulting asset values directly into the regulatory capital value ledger. Monthly closes are accelerated by BlackLine-style auto-reconciliation and embedded XBRL tagging for statutory and regulatory accounts. In short, these platforms connect operational data to strategic financing decisions, ensuring every pound spent or saved is instantly visible to the board, treasury and regulator.

Analysis of the UK Water Industry

ISG is a leading global technology and advisory firm. We track the global sourcing market, capturing awards across all industries and sub-industry segments. ISG has been doing this for almost 20 years; it has the ability to analyse market trends and deals per year, along with the evaluation of providers and enterprises. Using ISG's headline dataset, Contract KnowledgeBase™(CKB), clear patterns for the UK water industry appear that align with the current industry trends and predictions.

What follows is a breakdown of the data to show trends and data components. Through careful categorisation, patterns can be seen that enable readers to assess the state of hypotheses and anticipate future trends and changes occurring in the market, offering insights into potential impacts and suggestions.

Overview of Major UK Water Contract Awards

Looking at the UK water industry sourcing marketplace, approximately $448M in contracts were awarded in the last 24 months. The average length of these is three years, although some span a decade and others less than a year. This means that the average annualised contract value is approximately $150M globally, which will soon be up for renewal. The diagram below illustrates this trend with a breakdown by global region and market. The data provides a detailed overview of major water contract awards offered to UK water companies over the last two years. There are a number of existing contracts that are coming up for renewal or are in the process of being reprocured, so these have not been included as ISG sees the procurement shifting towards more technology-focused frameworks or procurement lots. To derisk delivery commitments, WASCs are no longer consolidating resources into large buckets; rather, they are splitting delivery into smaller lots.

The trends mentioned previously in this report are evident in this data, showing that the largest awards, representing almost half of all annualised awards, were primarily for smart meters. These contracts are for approximately five years, depicting WASCs' commitment to AMP8 delivery of ODI. The largest awards by annual value were from Anglian Water, primarily focusing on smart meters, followed by Scottish Water, which is investing in technology with $28M of awards for cloud, cyber and analytics. These surpass the other awards issued by WASCs over the last 24 months.

Figure 5:

Water Company	Anglian Water Services Overseas Holdings Ltd.	Northern Ireland Water Limited	Northumbrian Water Group Limited	Scottish Water	Thames Water Limited	Wessex Water Limited	Yorkshire Water Services Holdings Limited	Total
Smart Meters	$55,883,733		$980,000				$18,717,814	$75,581,547
Asset Management				$10,510,686	$5,000,000		$112,500	$15,623,186
Facilities Management	$10,000,000	$166,667	$2,000,000				$1,690,787	$13,857,454
Cybersecurity				$12,622,900				$12,622,900
Cloud	$5,500,000			$5,000,000				$10,500,000
Predictive Analytics				$10,000,000				$10,000,000
Sustainability	$1,333,333							$1,333,333
ERP							$1,333,333	$1,333,333
Maintenance		$1,214,286						$1,214,286
Asset Management/Maintenance						$909,091		$909,091
Total	**$72,717,066**	**$1,380,953**	**$2,980,000**	**$38,133,586**	**$5,000,000**	**$909,091**	**$21,854,434**	**$142,975,130**

Source: ISG

This data can be further expanded to explore service provider awards and evaluate the supply of services. With 50 percent of the annualised awards for smart meters, this has been split between Arqiva and Netmore Group. Cybersecurity services have been awarded to Fujitsu by Scottish Water, and the other technology capabilities have been awarded to Capgemini, Eviden and LITMindtree. Other contract awards are for asset management and facilities management, which are awarded to the traditional players in those markets.

Figure 6:

Water Company	Anglian Water Services Overseas Holdings Ltd.	Northern Ireland Water Limited	Northumbrian Water Group Limited	Scottish Water	Thames Water Limited	Wessex Water Limited	Yorkshire Water Services Holdings Limited	Total
Arqiva Limited	$55,883,733.00							$55,883,733.00
Smart Meters	$55,883,733.00							$55,883,733.00
Netmore Group AB (publ)							$18,717,814	$18,717,814.00
Smart Meters							$18,717,814	$18,717,814.00
Fujitsu				$12,622,900				$12,622,900.00
Cybersecurity				$12,622,900				$12,622,900.00
Capgemini SE	$5,500,000.00			$5,000,000				$10,500,000.00
Cloud	$5,500,000.00			$5,000,000				$10,500,000.00
Eviden				$10,000,000				$10,000,000.00
Predictive Analytics				$10,000,000				$10,000,000.00
Emcor UK	$10,000,000.00							$10,000,000.00
Facilities Management	$10,000,000.00							$10,000,000.00
Tetra Tech, Inc.				$9,510,686				$9,510,686.00
Asset Management				$9,510,686				$9,510,686.00
Capital plc					$5,000,000			$5,000,000.00
Asset Management					$5,000,000			$5,000,000.00
Tivoli Systems			$2,000,000					$2,000,000.00
Facilities Management			$2,000,000					$2,000,000.00
Mitie							$1,690,787	$1,690,787.00
Facilities Management							$1,690,787	$1,690,787.00
Sweco AB	$1,333,333.00							$1,333,333.00
Sustainability	$1,333,333.00							$1,333,333.00
LTIMindtree Limited							$1,333,333.00	$1,333,333.00
ERP							$1,333,333.00	$1,333,333.00
Graham Facilities Management		$1,214,286						$1,214,286.00
Maintenance		$1,214,286						$1,214,286.00
BPD Zenith Limited; IBM				$1,000,000				$1,000,000.00
Asset Management				$1,000,000				$1,000,000.00
Kier Group plc						$909,091		$909,091.00
Asset Management/Maintenance						$909,091		$909,091.00
Siemens			$833,333					$833,333.00
Smart Meters			$833,333					$833,333.00
Mount Charles		$166,667						$166,667.00
Facilities Management		$166,667						$166,667.00
Connexin Limited			$146,667					$146,667.00
Smart Meters			$146,667					$146,667.00
EJ Peak Technology Solutions Ltd.							$112,500	$112,500.00
Asset Management							$112,500	$112,500.00
Total	**$72,717,066**	**$1,380,953**	**$2,980,000**	**$38,133,586**	**$5,000,000**	**$909,091**	**$21,854,434**	**$142,975,130**

Source: ISG

Notes on Financials:

- Data is correct as of May 31, 2025 and is taken from ISG's CKB dataset.
- ISG as an organisation uses the US dollar as the unit of currency. As such, all data supplied from its research is presented in USD.
- An exchange rate of approx. £0.77 per $1 can be used to convert to GBP.

ISG's UK Water Framework

Earlier in this report, the core components of a WASC's value chain, including clean water, wastewater, governance and customer services, were mapped into nearly 20 components. However, these components can be easily compared within the research domain, enabling standardised comparisons. The reason for this is that while the governance services are usually handled in-house by corporate functions, most WASCs collaborate with service partners to augment service delivery, or in some cases, act as outsourced partners delivering the complete function. Therefore, a mechanism is needed to have a simple layout of the core functions that water companies might need or solely rely on the support of partners to deliver core functions. By employing a simple framework that focuses on the fundamentals of the water cycle and maps them to the delivery value chain, a comprehensive framework emerges. ISG's water framework for the UK is shown below, which starts on the top right and moves clockwise along the delivery value chain.

Figure 7:

Source: ISG

The components of the framework in order are Governance, Regulation and Strategic Oversight, Water Abstraction and Catchment Management, Water Quality Assurance and Infrastructure Control, Network and Asset Operations, Wastewater Collection, Treatment and Biosolids, Customer Service and Field Force/Partner Operations. These components are broken out in the following subsections of the report to explain the kinds of services currently seen in the market that are and can be delivered to water companies.

Governance, Regulation and Strategic Oversight

Typically, corporate services deliver the capabilities here as they are fundamental to delivering data and major reports to regulators. In each five-year period, corporate teams deliver AMP plans that balance RCV growth, ODI risks and net-zero pathways. Support from external providers in project delivery, showing the benefits, is passed up into ODI/OPA buckets and reported to regulators. Audit teams police data integrity, and innovation boards funnel R&D into New Regulatory Body's competition funds. ESG committees publish TCFD-aligned disclosures, all while safeguarding the company's licence to operate

Figure 8: ISG Framework for Governance, Regulation and Strategic Oversight

ISG Framework Component	Typical current delivery partner capability in the market
Ofwat / WICS / SEPA / DWQR / DWI Compliance	Licence lawyers, assurance auditors, CMA appeal advisors
AMP Planning & Business Plans	PR24 modellers, cost-benchmarking economists, customer panels
Growth & Strategic Planning	Carbon-accountancy, science-based target modelling, green bond verifiers
Risk & Audit Frameworks	Internal audit co-source, GRC platforms, cyber risk assessors
Environmental Permist	Hydro ecologists, HRA modellers, consenting specialists
Innovation and R&D	University partnerships, demonstrator sites, venture scouting

Source: ISG

Water Abstraction and Catchment Management

A WASC begins by *owning the source*, which enables a water company to ensure the supply and quality of the raw water sources. Surface reservoirs, river intakes and deep boreholes are balanced daily against abstraction licences, rainfall forecasts and environmental flow constraints. Partnerships with farmers and NGOs help keep nutrients, pesticides and cryptosporidium at bay, while telemetry stations stream level, pH and flow data for live risk scoring.

Figure 9: ISG Framework for Water Abstraction and Catchment Management

ISG Framework Component	Typical current delivery partner capability in the market
Surface Water Capture	Dam safety inspections, scour-valve refurbishment, ecological flow monitoring
Groundwater Boreholes	Specialist well drilling, screen cleaning, down-hole pump servicing
Catchment Protection and Partnerships	Agronomy advisors, catchment liaison officers, citizen science labs
Abstraction Licences	Hydro-legal consultancy, licence renewal analytics
Hydrology Telemetry	Solar-powered data loggers, satellite/NB-IoT communications, SCADA integration
Source Risk Modelling	Hydrological modellers, GIS analysts, machine learning platform support

Source: ISG

Water Quality Assurance and Infrastructure Control

The clean raw water then meets the smart part of the operation — ensuring that the right amount of water can be delivered and that the supply can be maintained and replenished. Centralised SCADA, digital twins and chemical-dosing controls keep turbidity, chlorine residuals and crypto logs within DWI/DWQR limits. Remote analysers and service reservoir sensors provide early warning of levels and quality, allowing operators to tweak coagulant doses before a customer complaint ever reaches the call centre.

Figure 10: ISG Framework for Water Quality Assurance and Infrastructure Control

ISG Framework Component	Typical current delivery partner capability in the market
Centralised SCADA and Telemetry	OT system integrators, historian vendors, 24/7 monitoring
Remote Quality Monitoring	Online turbidity/chlorine probes, auto-samplers, support contracts
Control Room & Digital Twins	Control room fit-out, twin-model builders, cybersecurity and networks
Real-Time Dosing Control	PLC programming, chemical optimisation algorithms
Service Reservoirs	Structural relining, mixer installation, floating cover maintenance
Treatment Compliance	Lab testing, UKAS accreditation, regulatory audit readiness

Source: ISG

Network and Asset Operations

Potable water leaves the treatment works and enters a pressurised network of 5- to 150-year-old pipes. The UK features a mix of replacement, ageing and legacy pipework. Centralised command and control ensures complete oversight of the network to maintain real-time operations. Flow and continual supply are vital. Pressure management valves reduce bursts, smart meters expose nighttime leakage, and repair squads juggle planned maintenance with out-of-hours main bursts, always racing to meet regulatory deadlines on WICS/New Regulatory Body's supply interrupt OPA/ODI.

Figure 11: ISG Framework for Network and Asset Operations

ISG Framework Component	Typical current delivery partner capability in the market
Network Maintenance	Civils contractors, trunk main specialists, valve ops teams
Pressure / Flow Management	PRV sizing, district metered area analytics, remote PID control
Leakage Detection and Repair	Acoustic loggers, satellite leak finds, "find-and-fix" crews
Smart Meter Integration	Communications network build, head end software, data quality services
Incident Response	Emergency excavation fleets, traffic management, reinstatement
Proactive vs Reactive Operations	Scheduling tools, framework civils, term service contracts

Source: ISG

Wastewater Collection, Treatment and Biosolids

Everything that goes down the drain travels along a second value chain — the wastewater value chain. It journeys through sewers, pumps and treatment works that have processes and screens to remove grit and methods to add nutrients and remove pathogens before safely returning treated effluent to rivers. The process also turns sludge into cakes and extracts electricity-rich biogas and land-conditioning biosolids under ever-tighter overflow and phosphorus regulations.

Figure 12: ISG Framework for Westwater Collection, Treatment and Biosolids

ISG Framework Component	Typical current delivery partner capability in the market
Combined / Foul Sewer Networks	CCTV surveying, sewer relining, integrated wet-well cleaning
Pumping Stations	Pump overhaul, MCA upgrades, telemetry installation
Wastewater Treatment Plants	Process design EPCs, odour control, energy optimisation
Digestion and Biogas	CHP engines, digestor maintenance, gas-to-grid upgrades
Effluent Discharge	UV disinfection, river modelling, permit compliance
Sludge to Land Reuse	Lime pasteurisation, haulage logistics, farmer engagement

Source: ISG

Customer Service and Field Force/Partner Operations

Field force and customer services are vital for maintaining a connection with customers and ensuring the network operates efficiently. Behind every call and site visit is a digital scheduler that matches skills, operator van stock, location and issue geography. Lone-worker alarms, real-time job applications and WhatsApp outage alerts close the loop between customer pain and network action, all of which help meet regulatory targets, boosting ODI and OPA while keeping vulnerable consumers safe.

Figure 13: ISG Framework for Customer Service and Filed Force/Partner Operations

ISG Framework Component	Typical current delivery partner capability in the market
Field Workforce Management	Workforce management SaaS, rugged device roll-out, dispatch desks
Job Scheduling and Mobile Tools	AI optimised routing, mobile-application development, integration services
Customer Services	BPO call handling, workforce management, QA analytics
Complaints Resolution	Ombudsman liaison, speech analytics, root-cause teams
Customer Contact and Meter Reading	AMR walk by, meter exchange crews, multichannel comms
New Construction and Connections	Design and hydraulic modelling, Self-Lay Provider Installation, Asset Acceptance and vesting services, Developer liaison services

Source: ISG

The Future of the Water Industry

Looking at the ISG framework alongside awarded contracts, AMP8 targets and current provider offerings, tomorrow's water and sewerage company still has significant scope to change and is on the journey to do so.

The WASC of Tomorrow

The WASC of tomorrow is an always-on, data-driven and end-to-end technological ecosystem that stretches from hillside catchments to circular-economy sludge markets and from regulatory risk engines in the corporate functions to augmented reality (AR) repair crews on the front lines. At the front end of the value chain, the WASC of the future will utilise satellite analytics, edge AI gauging stations and blockchain catchment credits to convert rivers and aquifers into a real-time, licenced digital water inventory. Real-time data feeds flow into digital process twins, where reinforcement learning agents dose coagulant, optimise UV lamps and trade off energy price spikes against water quality risk. Distribution networks no longer rely on intuition and man and boy experience; rather, pressure-reducing valves self-regulate to ensure network stability. IoT chlorine pods police residuals, and pipe-crawling robots live-stream wall loss scans into the control room predictive burst models.

Field force and customer operations fuse into a single service operation. GenAI copilots triage calls, automatically drafts New Regulatory Body-compliant replies and triggers AR see what I see support for mobile engineers wearing safety-certified headsets, trials of which have already begun in Scotland with WaterAR at Scottish Water. Every operator's van carries RFID-tracked stock, and every reinstatement quote is driven off LiDAR phone scans that are now possible on each new iPhone and beyond. Statutory GSS refunds hit customer accounts via smart contracts the moment an outage is closed.

On the wastewater side, Internet of Twins sensor arrays in sewers feed overflow AI optimisers to support the reduction of combined sewerage issues and overspills. Treatment works deploy ML-controlled ammonia removal and floating algae panels that turn CO_2 into bioplastics. Sludge digestate powers green hydrogen electrolysers, providing zero-carbon fuel for an electrified fleet whose telematics data closes the carbon accounting loop and enhances the net-zero ODI/OPA that the regulator has embedded into the reward side of funding.

Corporate control moves at the same digital cadence. Central finance has dashboards that refresh every hour with ESG bond covenants, leakage ODIs and net-zero trajectories streamed from data lakes. AI large language models (LLMs) draft PR29/SRC business plan narratives and cross-check them against SAP Analytics Cloud forecasts, while quantum-secure audit chains guarantee data integrity for regulators and investors alike. When joined up, ISG's water framework offers exciting possibilities for service providers to work with water companies and advance the industry technologically, especially in a number of key areas that raise water to the next level. These areas are:

- Real-time financial governance
- Autonomous physical assets
- Immersive human augmentation
- Space-to-sensor coverage
- Edge-to-cloud intelligence

Together they promise a step change in resilience, cost efficiency and public trust, elevating the sector from being a reactive utility into a predictive environmental steward.

A Day in the Life of the WASC of Tomorrow

To bring the future to life, a day in the future water cycle could look something like this. Below is an example of how the WASC of tomorrow would come to life using the RAISE opportunities afforded by ISG's water framework, along with suggested technologies and platforms available in the market.

Catchment Cockpit

Satellite imagery flags a phosphate plume after overnight rain. An AI licence engine adjusts the current river abstraction limit and schedules boreholes to compensate, pushing set points straight to the SCADA twin.

Treatment Works

Reinforcement-learning agents nudge alum dose by 3 percent. Hyperspectral fibre optics in the clear water tank verify turbidity within 0.05 NTU, logging proof to a quantum-secure ledger for the DWI/DWQR.

Distribution Network

An edge AI PRV controller senses a pressure transient and self-corrects, avoiding a main burst. Down the line, smart meters detect no leaks greater than 5 L/h, allowing customers to remain blissfully unaware.

Customer Service

A user asks Alexa why water tastes earthy. The LLM copilot pulls live geosmin readings, explains the harmless seasonal spike and files the contact against OPA / C-MeX with a projected satisfaction score.

Field Response

A sewer depth sensor predicts a fatberg in 10 days. The scheduler books an AR-equipped jetting crew, orders a kit via RFID van stock and issues a WhatsApp traffic notice to nearby residents.

Wastewater Treatment

ML-controlled aerators track ammonia to 0.8 mg N/L, while floating algae panels sequester CO_2 and feed a bioplastic reactor. Excess biogas powers steam electrolysis, topping up the hydrogen depot for fleet vans.

Boardroom

Directors may don VR headsets to walk through a 3D twin of a proposed £300M resilience tunnel. Real-time finance dashboards show NPV, carbon costs and ODI/OPA upside. One click grants conditional approval.

Regulatory Closeout

Immutable logs compile daily ODIs/OPAs and energy use and emissions to New Regulatory Body/WICS. Blockchain smart contracts release micro-bonuses to staff whose AI leak predictions proved accurate

Summary

In this possible future, the game has been raised to a point where technology has prevailed, resulting in less wasted time for employees and improved outcomes for consumers. Internally, screens glow less while headsets and chatbots talk more. Digitally, PLCs communicate with the cloud, operators make decisions based on data rather than on gut instinct and board papers are generated automatically. The network is effectively sentient, the workforce augmented, and the customer relationship transparent and two-way. This raises the game and marks a decisive shift from 20th-century water engineering to 21st-century physically augmented water stewardship.

The Technology of Tomorrow

UK water utilities are rapidly morphing into data-centric, cyber-physical networks that manage an entire hydrological and customer system of systems in real time. Satellites, edge sensors and digital twins will give abstraction teams a live view of every catchment, allowing licences to flex with river ecology and demands. Treatment plants will run on self-optimising process models that reduce chemicals and energy while logging every compliance data point to tamper-proof ledgers. Distribution and sewer pipes will become transparent assets, with robots mapping wall loss, pressure valves self-balancing and ML predicting bursts and fatbergs days out, providing driving double-digit leakage and spill reductions. Field engineers, guided by AR headsets and AI schedulers, will arrive with the right parts at the right place to fix an issue the first time. Conversational agents will handle routine queries and trigger instant, smart contract compensation when service standards slip. Wastewater sites will transform sludge into green hydrogen, with biosolids tracked from gate to field, turning liabilities into revenue and carbon credits. Top down, water company corporate services will consult hourly ESG, ODI/OPA and cashflow dashboards. AI LLMs and copilots will draft regulatory submissions and blockchain-based innovation markets will crowdsource solutions. The combined capability set will collapse decision cycles from months to minutes, and hardwire transparency for regulators and investors, cutting both OpEx and

embodied carbon. Furthermore, it will help to restore public confidence in the water industry through faster service delivery and cleaner water courses with fewer spills. In essence, tomorrow's water company will operate as an integrated, predictive steward of data, resources, assets and customer value, delivering resilience and net-zero progress without sacrificing affordability.

Within AMP8, it is possible that some, if not all, of the following technologies will be seen in the market. Below is a list of technologies that are either in pilot or are currently available globally, which could be adopted in the UK. It has been broken down by each of the 36 ISG framework tiles for ease of consumption.

Governance, Regulation and Strategic Oversight

Corporate oversight will become a real-time, data-driven discipline. Board dashboards will refresh hourly with leakage, carbon, compliance and financial risk metrics drawn directly from immutable data chains. Large language models will draft regulatory submissions, sustainability reports and stakeholder updates, ensuring consistency and allowing analysts to focus on interpretation rather than collation. Scenario engines will let directors stress-test AMP portfolios against climate extremes, cost of capital shifts and political interventions in minutes, supporting agile capital allocation. Regulators will interrogate the same data lakes via permissioned APIs, moving the industry toward continuous assessment instead of periodic information requests.

Investors will monitor real-time ESG performance against sustainability-linked bond covenants, reinforcing a culture where operational success and financing costs are visibly aligned. Innovation funding will flow through blockchain-based crowdsourcing markets that transparently match internal challenges with external ideas and release rewards only after outcomes are independently verified.

Compliance breaches will trigger automated workflows that seal data records, initiate root cause analytics and prepopulate enforcement notifications, shortening investigation timelines and demonstrating accountability. Strategic decision-making will, therefore, be faster, more transparent and have traceable evidence, enhancing public trust and lowering regulatory friction.

A summary of what is becoming visible in the market is as follows:

Future Tech	What it does	Benefits	Early Adopters
AI LLM-assisted PR24/PR29 drafting	Turns asset data into WICS/New Regulatory Body tables and narratives, and flags risk wording using GenAI	Cuts months off business plan production, ensures consistency	New Regulatory Body "RegBot" sandbox
Real-time ESG dashboards	Provides real-time data transmitted via API into green bond covenants	Provides investors with live leakage and carbon KPI	Yorkshire Water
Quantum-resistant audit chains	Provides layered immutable logs for performance data	Locks data integrity against regulatory challenge	WICS tech-assurance road map
Strategic scenario engines	Uses agent-based modelling of climate, demand and finance	Facilitates stress test AMP decisions in minutes	Scottish Water "OneFuture" Digital Twin
Crowdsourced innovation markets	Enables water companies to address technical or operational challenges, open to a much wider community	Rewards staff and suppliers for patentable ideas and opportunities for New Regulatory Body innovation credit	Spring innovation platform
VR board walkthroughs of capital schemes	Enables management to see and experience before the spending approval is made	Enhances risk comprehension and design sign-off	Anglian Water Grafham resilience VR tour

Water Abstraction and Catchment Management

Water abstraction is shifting from static licences and seasonal inspections to an adaptive, intelligence-driven discipline. Future catchment and control rooms will maintain a live digital picture of every river, reservoir and borehole. Continuous satellite feeds will identify pollution runoff and reservoir seepage hours after rain begins. Ground sensors will stream flow and chemistry data directly into licence optimisation engines that adjust authorised volumes minute by minute, keeping ecosystems within safe limits while maximising resilient yield.

Decision support software will present abstraction managers with safe operating envelopes that balance customer demand, hydrological forecasts and environmental flow targets, removing today's reliance on fixed spreadsheets and rule-of-thumb margins. Partnerships with farmers and landowners will be managed through tokenised nutrient credit markets that verify reductions in fertiliser or pesticide loading before payments are released.

AR field tools will allow catchment officers to walk riparian zones and visualise hidden nitrate hotspots or erosion risks. All of this will shorten planning cycles from months to days, create trustworthy audit trails for regulators and redirect catchment subsidies to the most cost-effective interventions. The result is a proactive, data-certified approach that protects source quality at a lower overall cost while freeing treatment assets from firefighting episodic raw water shocks.

A summary of what is becoming visible in the market is as follows:

Future tech	What it does	Benefits	Early adopters
Satellite-derived catchment monitoring	Provides multispectral and SAR imagery streams and automatically flags algal blooms, fertiliser run-off and reservoir seepage	Gives a 48-hour warning of water quality risks. Also, replaces monthly walk-over surveys	Utilis, Rezatec, PlanetScope
AI licence optimisation engines	Provides large language prompts over hydrology and licence clauses, generating daily safe abstraction envelopes	Dynamically balances river ecology with demand and underpins adaptive WRMPs	Kisters, Jacobs Arc-EU
Edge ML gauging stations	Uses solar NB-IoT loggers to run TinyML models for self-calibrating flow data and raising anomaly tickets	Eliminates manual zero checks and boosts data accuracy for regulator audits	Xylem NexSens, Libelium
Digital catchment twins	Utilises cloud models to ingest rainfall RADAR, land use and soil moisture IoT data to predict pollutant pulses	Targets catchment funding where it delivers the biggest WINEP benefit	Microsoft Azure FloodAI, Innovyze InfoDrainage
AR pesticide reduction coaching	Uses HoloLens overlays to show nitrogen hotspots on live field view	Makes voluntary nutrient schemes tangible for farmers	Microsoft Dynamics Guides
Blockchain water credit registries	Enables catchment trading of nitrate or phosphorus offsets	Creates verifiable, New Regulatory Body /WICS-recognised environmental credits	SpaceTime LABS, IBM Carbon Blockchain

Water Quality Assurance and Infrastructure Control

Treatment works, and service reservoirs are evolving into self-optimising process plants. Their control rooms will display live digital twins that continuously reconcile virtual chemistry with real-world sensor streams and then instruct dosing or filtration assets to maintain compliance thresholds with the lightest chemical and energy footprints. Operators will move from manual set point changes to supervisory roles, approving or tuning recommendations generated by autonomous optimisation routines.

Quality assurance will shift upstream as hypersensitive inline probes detect trace taste and odour compounds or pathogen markers long before they reach the customer tap. Automated governance layers will capture every control action and quality reading in immutable audit chains, producing a real-time log that inspectors can interrogate without the traditional paper chase. These capabilities will deliver several benefits, including laser-focused compliance margins, reduced coagulant and disinfection costs, faster response to raw-water variability and demonstrable cyber resilience through segmented, self-healing control networks. They will also yield carbon gains by trimming aeration runtimes and aligning energy-intensive processes with low-carbon grid windows.

In practical terms, the treatment environment will feel quieter and more analytical, as operators spend more time testing what-if scenarios on digital twins than tweaking valves on the plant floor. Compliance will become an always-on assurance layer rather than a batch sampling exercise.

A summary of what is becoming visible in the market is as follows:

Future tech	What it does	Benefits	Early adopters
Self-healing digital twins	Adjust hydraulic and chemical parameters in real time via reinforcement learning agents	Cuts coagulant use by approximately 8-12 percent and halves operator callouts	Anglian Water InFlow R-L pilot
Hyperspectral fibre sensors	Sensors are threaded through clear water tanks, detecting hydrocarbons and algal pigments every five seconds	Generates instant taste and odour alerts, which replace grab sampling	FIDO FibreSense
5G private network at treatment works	Enables low-latency PLC to cloud loops	Opens the door to cloud-based optimisation without OT risk	Severn Trent-Vodafone CPTW trial
AI vision for filter inspections	Utilise drones fitted with FLIR, analysed by YOLO models for media loss or underdrain damage	Removes confined space entry and speeds refurbishment scoping	Scottish Water/FlyLogix
Digital guardian chemicals	Predict real-time sulphate ions to automate sulphuric acid dosing to prevent plumbosolvency	Maintains lead compliance while running lower pH set points	DWI LEAD-AI consortium
Quantum secure OT gateways	Provide a significant level of post-quantum cryptography	Secures critical control traffic ahead of NIS2 regulation	NCSC PQC pilot sites

Network and Asset Operations

The world of networks is set to become much more transparent, with predictive assets rather than sources of surprise failure. A dense network of pressure, acoustic and quality sensors will feed ML models that pinpoint weak segments days or weeks before bursts occur. Pressure-reducing valves will self-adjust to transient conditions, smoothing shocks that currently trigger leaks. Autonomous inspection robots will navigate trunk mains during live flow, capturing high-resolution wall thickness data and updating the asset risk register without supply interruptions.

Satellite-derived moisture analytics will cover entire districts overnight, flagging possible leaks for targeted verification by ground crews. Work scheduling will integrate these predictive insights, automatically stacking high-risk repairs into daily dispatch plans while measuring the avoided leakage embarrassment cost. The combined effect will be double-digit reductions in non-revenue water, fewer unplanned interruptions and a dramatic fall in reinstatement waste.

Capital planners will be able to justify mains renewal based on hard failure probability rather than age alone, diverting scarce investment to the highest societal benefit. Field teams will see fewer emergency digs, shorter travel times and better first-time fix rates because the right components will be loaded in vans based on AI-generated repair profiles. Customers will experience fewer low-pressure events and will notice proactive communication rather than reactive apologies.

A summary of what is becoming visible in the market is as follows:

Future tech	What it does	Benefits	Early adopters
Space-borne leak detection	Delivers L-band SAR moisture anomaly detection, guiding find and fix	Delivers approximately 30 percent higher hit rate than acoustic correlation alone	Thames × Utilis Phase 2
Autonomous pipe-crawling robots	Enable live inspection of trunk mains	Avoids supply interruptions and produces a digital twin of internal wall loss	Yorkshire Water 2026 asset strategy
Edge AI PRV controllers	Self-tune to pressure transients using federated learning	Cuts bursts by approximately 15 percent without comms latency	Wessex Water DMA pilot
IIoT chlorine and turbidity sensors	Measure in plastic micro-pods and are deployable at any hydrant	Facilitates real-time distribution and quality compliance and early taste and odour flags	United Utilities Water-Pod roll-out
ML-driven dig scheduling	Blends satellite dig-sensitivity layers and traffic AI	Minimises carbon and social disruption cost per repair	Strategic Pipeline Alliance, Severn Trent
Networkwide VR rehearsal	Crews practise complex valve sweeps in a digital copy of the DMA	Reduces isolation errors and unplanned loss of supply	Southwest Water VR training hub

Wastewater Collection, Treatment and Biosolids

The wastewater system of the future will function as an integrated resource factory rather than a disposal pipeline. Sensor meshes in sewers will predict fatbergs and blockages, enabling targeted jetting that prevents pollution and eliminates unnecessary tankering. Smart pumps will modulate speeds against live flow projections, trimming energy peaks and smoothing loads on downstream works. At the treatment plant, real-time nutrient removal controls will exploit advanced microbial monitoring to achieve ultra-low phosphorus and ammonia limits while using less aeration energy.

Final settlement tanks will support floating photobioreactors that harvest carbon dioxide from off-gas and channel it into biobased manufacturing processes, monetising a liability. Sludge streams will feed high-efficiency digesters coupled with green hydrogen units, creating fuel for the operational fleet and surplus energy for the grid. Biosolids will leave the site under full chain of custody tracking, assuring farmers and regulators of pathogen safety and nutrient value.

The environmental footprint will shrink through energy self-sufficiency, reduced chemical input and near-zero uncontrolled spills. Communities will notice cleaner rivers, reduced odours and a new narrative where wastewater contributes to circular economy goals rather than threatening bathing water status.

A summary of what is becoming visible in the market is as follows:

Future tech	What it does	Benefits	Early adopters
Sewer Internet of Twins	Uses phage biosensors and ultrasonic depth pods to feed the AI overflow optimiser	Predicts blockages three weeks out and prioritises jetting	Tideway analytics alliance
Floating algae panels on final tanks	Harvests CO_2 for bioplastics	Generates revenue and sequesters carbon	Welsh Water Bio-Plastic pilot
Green hydrogen from sludge digestate	Collected via high-temperature steam electrolysis and is powered by surplus biogas	Creates fuel for the fleet and offsets scope 1 emissions	NI Water HySludge feasibility
AR operator dashboards	Overlays live O-D curves onto clarifier weirs via HoloLens	Speeds up fault finding and training, and reduces consent breach risk	Thames Mogden AR
ML-controlled ammonia removal	Uses inline ion-selective probes and hybrid ANN-PID control	Achieves new 1 mg N/L limits with 20 percent power saving	Severn Trent AI-NitrOx
Geosecured biosolids supply chain	Secures GPS-tagged trailers using blockchain-enabled manifests	End-to-end traceability meets revised sludge regulations	Defra/Glas Cymru trial

Field Force and Customer Service Operations

Customer experience and field delivery will merge into a seamless, data-rich service layer. Voice and text interactions will be triaged by conversational agents that understand intent, empathy cues and vulnerability flags in real time. Agents will present the next-best actions so human advisors can focus on complex empathy rather than routine balance queries.

On the ground, engineers will wear lightweight AR-enabled head-up displays that stream live schematics and remote expert guidance, reducing diagnostic time and repeat visits. Job scheduling will continuously recalculate optimal routes as traffic, weather and customer availability change, ensuring that service commitments are met with minimal carbon and mileage. Customers will watch live outage maps that count down to restoration times backed by ML models rather than estimates.

Automatic compensation will credit accounts the moment regulatory thresholds are breached, eliminating claims administration and instantly restoring goodwill. Priority service registers will update dynamically as external data sources signal changes in a household's vulnerability profile, allowing proactive check-ins during heat waves or freeze events. Taken together, these advances will lift satisfaction scores, drive measurable cost-to-serve reductions and embed social value at the heart of day-to-day operations. The service culture will feel immediate, transparent and predictive, moving away from today's reactive contact centre paradigm.

A summary of what is becoming visible in the market is as follows:

Future tech	What it does	Benefits	Early adopters
GenAI copilot in call centres	Summarise customer intent, surface vulnerability flags and propose New Regulatory Body/WICS-compliant responses	Improve first-contact resolution, boosts C-MeX/OPA	Hafren Dyfrdwy GPT-CX beta
Wearable AR headsets	Stream see-what-I-see to back-office experts	Cut repeat visits and support new recruits	Scottish Water "WaterAR"
LiDAR-equipped smartphones	Generate instant site scans for reinstatement quotes	Accelerate permanent resurfacing, lowering claims	Northumbrian Water tech incubator
Digital twins of van stock	Use RFID and computer vision to know the current status of stores	Ensure the right parts for the first-time fix, save £/job	Anglian Water IMDS project
AI voice analytics	Predicts complaint escalation risk in real time	Triggers supervisor intervention, slashing complaint cases and escalations to public/Ombudsman cases	CCW & utility CX labs
Smart contract refund bots	Auto credit GSS payments on outage closure	Zero-touch statutory compensation and boosts trust	Pennon Group blockchain sandbox

Finding the Unique in a Complex Network of Suppliers

ISG publishes its annual Provider Lens® report for the power and utilities industry in which approximately 30 providers are rated for their technology services in the market, with water being a key component. Being an independent, leading global advisory and technology research firm, ISG has a significant amount of data on each of the prominent providers across all industries and sub-industries such as the water market within the power and utilities industry.

Providers in the water market tend to focus on specific areas with robust and dedicated capabilities, which compels water and sewerage companies to use the services of multiple stakeholders to deliver end-to-end services. These capabilities can typically be split into several categories, for example:

- Strategic and regulatory consulting
- IT and digital transformation
- Engineering and asset management
- Specialist and niche services

The market is witnessing a few global providers expanding the scope of their services and offerings to enable the delivery of multicapability services to water and sewerage companies. These larger global providers have extended the services and capabilities from other industries and areas to enable delivery to the water industry. For some time now, ISG has data on providers that are increasingly supporting the UK water industry with services such as consulting and project services, IT managed services, technical analytics and asset monitoring services. Concurrently, a few providers are investing heavily in technologies and capabilities that can be advantageous to the water industry in the UK, and that includes using examples from the water industry of other EU nations. After all, why re-invent the wheel when best practices are available on tap! An analysis of providers and next-generation technologies being delivered, against ISG's water framework, reveals the outstanding capabilities of one provider — it can be considered as one of the best-kept secrets in the market, given its full-stack delivery capabilities.

NTT DATA, which is a part of the NTT Group, has shifted its strategy to customised and large-scale full-stack delivery, enabled through investments in technology ecosystems, physical assets and in-depth industry expertise. This has seen it rapidly evolve in many markets, including the water market across the EU, where it has been helping water utilities navigate digital transformation.

The firm's capabilities extend to services and hardware that are utilised by many other providers, unbeknownst to the wider market. For instance, NTT DATA provides the infrastructure that major hyperscalers utilise to provide cloud hosting services. NTT DATA has strategically moved to not only provide services and capabilities but also controllable and reliable assets and products across the value chain. The company leverages its own satellites to monitor water levels and vegetation growth, as well as its own smart meters, along with those deployed and installed by other providers. Therefore, for any water and sewerage company, NTT DATA is a formidable provider to consider due to its scale, capabilities and fully integrated delivery stack.

Comparing NTT DATA to the UK water framework

ISG's framework breaks a market out into a number of key value chain components, where each has its own sub-components that are vital for delivery. With 21 of these industry frameworks now in operation, they have become vital tools for providers to understand their position in the market.

Read clockwise from the orange tile, the mosaic here represents the overall value chain of the UK water industry. Typically, non-ISG analyst data used in the market is read at the multicoloured-tile levels and other analyst firms would indicate that NTT Data has representative and general capabilities across all aspects of the water value chain because there is some capability in each of the six main value chain components. As a measure of its detailed capability, ISG breaks down the subcomponents for the water industry. Here, it shows that NTT DATA has specific key strengths: governance and strategy, abstraction and catchment management, quality and infrastructure control, asset operation, and customer service and field force management. There is some capability in wastewater treatment, but this is more of a white spot in the end-to-end capability, with focus only on plant management and effluent discharge.

Figure 14:

Source: ISG

It should be noted that not a single provider has capabilities in all the subcomponents (tiles), which explains why the majority of water and sewerage companies require the services of an ecosystem of providers to supply end-to-end services. Specifically, NTT DATA has significant capabilities across the ISG UK Water Framework as stated here:

Governance, Regulation and Strategic Oversight

NTT DATA has significant expertise in carbon accounting, along with GHG reporting, reduction and offsetting strategies with digital tools, including blockchain platforms, for carbon tracking. It has significant capabilities in AI-driven river mapping and digital twins to assess natural river flows, including fish, vegetation and animal habitat. Along with its satellite capability, where platforms are used to monitor and predict water levels and vegetation growth, its AI-based capabilities allow it to maintain capacity and quality of water provision. This, in turn, enables NTT DATA to track ecological status, report on capacity and provide strict oversight for regulatory reporting.

Water Abstraction and Catchment Management

Along with providing technical-legal support around water concessions in the utilities space and with capabilities in managing authorisations and legal licensing, NTT DATA scores highly in water abstraction and catchment management. Using digital tools and digital twins to map and model ecological status, the company tracks both hydrological and ecological models, which include chemical flow in water bodies. The use of satellite capabilities enables it to integrate information on crop yield and irrigation requirements along with nutrient tracking and agricultural flood awareness into monitoring water levels to predict incidents — assessing catchments as a whole with cause-and-effect analysis mapped into predictive models to benefit the water industry as well as local agriculture. Digital twins, ML platforms, AI and satellite imagery for GIS-based leak detection and prevention forecast and models have been applied for several clients.

Water Quality Assurance and Infrastructure Control

One of the strongest components of NTT DATA's water-related capabilities is its impressive integration of OT systems with 24/7 monitoring using sensor networks and secure digital twins. The use of AI modelling and neural networks/ML to predict chemical dosing and nitrate monitoring is all a part of NTT DATA'S capability to automate water quality control. By linking SCADA and other telemetry with IoT sensors into secure digital platforms, NTT DATA has a digital water and infrastructure protection capability that is integrated into its ability to use digital twins to control remote systems, which includes real-time threshold alerts, dashboards and quality assurance.

Network and Asset Operations

Network and asset operations is an area in which NTT DATA scores high, specifically around smart metering, leakage detection and flow management. Already mentioned is NTT DATA's ability to integrate satellite technology, platforms and IoT sensors to provide real-time anomaly detection across water networks. A unique point about the company is its ability to use imagery, AI-based analytics, as well as robotics assets to monitor the health of pipelines to prevent leaks, compared with its peers that rely on acoustics for detection. Further hydraulic modelling of predicted versus actual as well as real-time demand analysis enables NTT DATA to provide water and sewerage companies with one of the most advanced data modelling capabilities in the market. This capability extends to drought prediction and modelling, which is a critical feature given the current weather patterns across the UK and Ireland. When issues do arise, NTT DATA has significant capabilities in field force planning and scheduling to undertake preventive maintenance, including leak detection, to automate and optimise monthly workforce planning based on internal and external constraints.

Wastewater Collection, Treatment and Biosolids

Wastewater and treatment is an area in which NTT DATA does not have broad capabilities, but it has built abilities around treatment plants and effluent discharge. The ability to design and optimise water treatment processes, plus provide remote control of plants and the delivery of client dashboards is a clear strength when combined with its digital twin capabilities. As a part of its green credentials, NTT DATA also optimises energy use in water treatment and distribution, delivering specific examples of seawater desalination to get drinking water with considerable cost savings and much efficiency and flexibility in the process. Further examples of digital twin use exist for river and discharge modelling to ensure legal/technical compliance as laid out by regulators in the UK.

Customer Service and Field Force/Partner Operations

NTT DATA has significant capability in the sixth area of the ISG framework; it can demonstrate over 45 years of capabilities in customer service and field force optimisation by integrating advanced digital tools and processes. This is evident in the large-scale customisation approach for its full-stack strategy in utilities as well as other industries; these are abilities that are required in the UK water industry. The capabilities include real-time workforce optimisation, tracking and AI scheduling, as well as equipping frontline workforces with agentic-enabled assistants to triage issues in real time. The use of Microsoft Dynamics 365 Field Service helps integrate field services via its One NTT platform, which integrates front and back offices to further streamline work orders and work management. NTT DATA customer services have evolved past IVR into voice mining, which uses AI to provide real-time, insight-driven assistance to agents. The global capabilities evidenced here far outweigh those provided by others, given the sheer size and capacity NTT DATA has built in the past four decades. The Foresight AI agent is used in complaint handling and proactive resolution, where, when tied with AI features and automation, including RPA, a full end-to-end resolution workflow is an interesting proposition to the market. The last two areas of this ISG capability are smart meter-focused, where NTT DATA is one of the leading end-to-end providers of services to utility firms, including some in the water industry, in billing. As the UK looks towards more housing to support growth, as promised by the UK Government, new connections are required at an increasing rate. NTT DATA's water management solutions manage tens of thousands of kilometres of water network, reducing water loss by up to 30 percent through improved planning and monitoring using its proprietary Syntphony Water Management solution. Combined with capabilities in GIS, asset management and oversight, alongside smart analytics, rounds off one of the strongest assessments of this framework area.

Operationalising the framework

Many providers are present in the UK water industry, their capabilities relevant in its end-to-end value chain in terms of identifying water sources, their viability and capacity to deliver safe and secure water to the people in the UK and Ireland. Almost all the providers have technological answers to operational problems of the water industry. When the ISG framework is translated into what it actually means to deliver day-to-day operations, NTT DATA lives up to its best-kept secret self-reported moniker. Operationally speaking, NTT has the breadth and depth of capabilities to do the work of a number of standalone providers, which could potentially save vendor management teams from several challenges as well as simplify typical contractual obligations. For the operational supply chain for water, as seen in the figure alongside, NTT DATA has the capability to traverse top to bottom, with expertise in the water industry and AMP strategic capabilities, which, when linked to its own infrastructure and technologies, NTT DATA has a direct line from input to targets and tools to ensure their delivery. From its own satellite capabilities interlinked to AI models, platforms and digital twins, the firm is able to see, check, model and implement quality processes that deliver assets to the right place at the right time. As a manufacturer of equipment for metering, flow and leakage detection, NTT DATA ensures that water is available, is measured and is protected from potential wastage and ODI/OPA fines. Its ability to integrate large volumes of real-time data from remote assets and sensors into secure systems and cloud-first digital twins means that water and sewerage companies have the most up-to-date data for making decisions.

Further optimisation of field service workers and predictive maintenance through AI-enabled and optimised scheduling systems, as well as data feeds from robots it builds and owns, NTT DATA further commands the assurance part of the water value chain. Further expertise in billing and support for UK WASCs means it essentially delivers across the water value chain, at times using proprietary technologies that are used by other suppliers in the industry. Therefore, overall, NTT Data can demonstrate significant capabilities, providing the UK water industry with the exciting opportunity to embrace next-generation technologies.

Figure 15:

Source: ISG

Summary and Next Steps

The past three price review cycles have focused on efficiency and compliance. AMP8 will potentially decide corporate survival. Satellite analytics, AI-driven process twins and tokenised ESG reporting are no longer hype; they are closing the cost of capital gap for early movers and exposing laggards to higher finance charges, harsher enforcement and political re-nationalisation talk. Investors are already pricing technology capability into yields. BBB water bonds have widened by 90 basis points after Thames' recent data trust issues, whilst Yorkshire's green SLB was tightened on leakage sensor progress. Regulators are tracking that money. New Regulatory Body's PR24 draft assumes real-time asset data, continuous compliance feeds and demonstrable customer cocreation. WICS and the NI Utility Regulator are signalling the same trajectory. It is more than likely that Water company boards that still regard AI, IIoT and blockchain as R&D playgrounds will fail basic evidence tests in PR29.

Digital leaders are stitching six capabilities into a single operating framework. Catchment satellites and edge telemetry provide live abstraction envelopes. Self-optimising treatment twins cut chemical costs and carbon while writing unalterable audit logs. Predictive leakage models and autonomous sewer sensors drive double-digit OpEx savings and unlock ODI/OPA upside. AR-enabled field teams and AI call centre copilots will enhance C-MeX and OPA, shrinking complaints, claims, and compressing outage windows. Biosolids are now becoming revenue assets as fuel for hydrogen vans and verifiable carbon credits rather than disposal liabilities.

The window for fast follower status is narrowing. Cloud migration, data lake architecture and cyber segregation require multiyear runways, but contractual and cultural inertia add drag. Executives must pivot from a pilot culture to one of scaled deployment in the next 18 months or accept higher risk premiums, deteriorating ODIs/OPAs and diminishing public trust. The choice is stark: own the digital asset base and RAISE the game or let it own you.

Three Key Actions to Start Now

1. Create a unified digital backbone road map approved by Finance, Operations and Regulation. Map every SCADA tag, meter reading and ESG value chain, at times using proprietary technologies that are used by other suppliers in demonstrate significant capabilities, providing the UK water industry with the exciting opportunity to embrace next-generation technologies.
2. Lock a data integrity covenant into the treasury strategy. Link future debt margins to live leakage, carbon and compliance metrics. This approach attracts sustainability-linked capital and enforces disciplined data governance across OT and IT estates.
3. Shift innovation funding to an outcome-based model. Ring-fence 1–2 percent of regulated controllable costs for blockchain-verified crowdsourcing challenges. Pay only for delivered ODI/OPA, cost or carbon benefits, not for time-and-materials pilots.

Top Conversations to Have with Your IT Partners Now

1. How do we build a quantum-resilient, zero-trust OT/IT bridge?

   Challenge integrators to present architectures that keep self-optimising treatment twins safe from post-quantum threats without throttling real-time analytics

2. Can your platform guarantee meter-to-money traceability in under 10 minutes?

   Demand end-to-end data pathways from IoT sensors through the billing engine to ERP, and one that meets forthcoming near-real-time audit expectations.

3. What is your road map for immersive operations?

   Seek demonstrable AR/VR use cases that shorten isolation sweeps, reduce confined space entries and enable board-level virtual site inspections. Then, lock delivery milestones into contract incentives.

Boards that execute on these priorities will enter AMP 8 with a lower cost of debt, stronger regulatory credibility and a differentiated customer proposition. Those that delay will watch capital constraints, enforcement risks and public criticism compound until transformation is forced upon them under far less favourable terms.

Financial Breakdown of WASCs and WOCs

Region	Company	Type	Coverage Area	Ownership Model	RCV (£bn)	AMP7 CAPEX (£bn)	AMP8 CAPEX (£bn)
England & Wales	Affinity Water	WOC	Parts of London, Home Counties	Private (Consortium)	~1.5	~0.8	~1.6
England & Wales	Albion Water	WOC	Select housing developments across England	Private company	Not disclosed	Not disclosed	Not disclosed
England & Wales	Anglian Water	WASC	East of England	Private (Consortium)	~10.0	~5.0	9.5
England & Wales	Bournemouth Water	WOC	Bournemouth and parts of Dorset	Pennon Group (via Southwest Water)	Included in SWW	Included in SWW	Included in SWW
England & Wales	Bristol Water	WOC	Bristol and surrounding areas	Private (Pennon Group)	~0.5	~0.25	~0.5
England & Wales	Cambridge Water	WOC	Cambridgeshire	Subsidiary of South Staffs Water	Included in SSW	Included in SSW	Included in SSW
England & Wales	Cholderton & District Water	WOC	Border of Hampshire and Wiltshire (small area)	Privately owned (Cholderton Estate)	Not disclosed	Not regulated	Not regulated
England & Wales	Essex & Suffolk Water	WOC	Norfolk, Suffolk, Essex, parts of Greater London	Northumbrian Water Group	Included in NWG	Included in NWG	1.5bn+ planned
England & Wales	Hafren Dyfrdwy	WOC	Powys and Wrexham, Wales	Severn Trent subsidiary	Included in STW	Included in STW	Included in STW
England & Wales	Hartlepool Water	WOC	Hartlepool and surrounding areas	Anglian Water	Included in AW	Included in AW	Included in AW
Northern Ireland	Northern Ireland Water	WASC	Entire Northern Ireland	Government-owned company	~3.0	~1.5	~3.0
England & Wales	Northumbrian Water	WASC	Northeast England, parts of Essex and Suffolk	Private (CK Hutchison Holdings)	~4.5	~2.5	~5.0
England & Wales	Portsmouth Water	WOC	Portsmouth and surrounding areas	Private	~0.3	~0.15	~0.3

Region	Company	Type	Coverage Area	Ownership Model	RCV (£bn)	AMP7 CAPEX (£bn)	AMP8 CAPEX (£bn)
England & Wales	Portsmouth Water	WOC	Portsmouth, parts of Hampshire and West Sussex	Private (Ancala Partners)	Not disclosed	Not disclosed	Not disclosed
Scotland	Scottish Water	WASC	Entire Scotland	Publicly owned (Scottish Government)	~5.0	~4.4	~9.0
England & Wales	SES Water	WOC	East Surrey, parts of West Sussex, Kent, and South London	Private (RWE Group)	~0.4	~0.2	~0.4
England & Wales	Severn Trent Water	WASC	Midlands, parts of Wales	Public Limited Company	17.2	~6.5	6
England & Wales	Southeast Water	WOC	Kent, Sussex, Surrey, Hampshire, Berkshire	Private (Des Jardin Entities, NatWest, UTA)	~1.0	~0.5	~1.0
England & Wales	South Staffs Water	WOC	West Midlands, parts of Staffordshire	Private (Arjun Infrastructure Partners)	~0.8	~0.4	~0.8
England & Wales	Southwest Water	WASC	Devon, Cornwall, parts of Dorset and Somerset	Public Limited Company (Pennon Group)	~4.5	~2.5	~5.0
England & Wales	Southern Water	WASC	Kent, Sussex, Hampshire, Isle of Wight	Private (Macquarie)	~6.0	~3.0	~6.0
England & Wales	Sutton & East Surrey Water	WOC	Surrey, West Sussex, South London, West Kent	Pennon Group (as of Jan 2024)	~0.35	Included in Pennon	Included in Pennon
England & Wales	Thames Water	WASC	Greater London, Thames Valley, parts of Kent, Wiltshire, and Gloucestershire	Private (OMERS, USS, etc.)	19.6	~4.5	18.7
Republic of Ireland	Uisce Éireann (formerly Irish Water)	WASC	Entire Republic of Ireland	State-owned utility	~€10.0	~€5.0	~€10.0

Region	Company	Type	Coverage Area	Ownership Model	RCV (£bn)	AMP7 CAPEX (£bn)	AMP8 CAPEX (£bn)
England & Wales	United Utilities	WASC	Northwest England	Public Limited Company	14.7	~5.0	~10.0
England & Wales	Welsh Water	WASC	Wales and parts of western England	Not-for-profit (Glas Cymru)	~5.0	~2.0	~4.0
England & Wales	Wessex Water	WASC	Southwest England	Private (YTL Corporation, Malaysia)	~3.0	~1.5	~3.0
England & Wales	Yorkshire Water	WASC	Yorkshire and parts of Derbyshire	Private (Consortium)	~8.0	~4.0	~8.0
England & Wales	Youlgrave Waterworks	WOC	Village of Youlgreave, Derbyshire	Not-for-profit, private (volunteer-run)	N/A	N/A	N/A

Notes on Financials:

- RCV (Regulatory Capital Value) figures are approximate and based on the latest available data.
- CAPEX figures for AMP7 and AMP8 are indicative and subject to final regulatory determinations and company plans.
- AMP (Asset Management Period) refers to the five-year investment cycles regulated by New Regulatory Body in England and Wales. AMP7 covers 2020–2025, and AMP8 covers 2025–2030.
- For Northern Ireland Water and Uisce Éireann, while they do not operate under the AMP framework, comparable investment periods are used for consistency.

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