A Reset for Water: Water UK's response to the Independent Water Commission's Call for Evidence

This is Water UK's response, on behalf of the water industry in England and Wales, to the Independent Water Commission's Call for Evidence.[1]

Our analysis and recommendations are structured to reflect the Commission's areas of interest. For ease of reference, Appendix A maps the Commission's questions to the corresponding sections in our report where they are addressed in detail.

In addition to this document, our response includes nine accompanying reports:

1. Reforming Water Sector Strategic Planning, by Frontier Economics
2. Reforming the Water Sector to Maximise the Delivery of Investment for Growth, by Frontier Economics
3. Embedding Forward-Looking Asset Risk Management in the Regulatory Framework for Water Sector Infrastructure, by Reckon
4. A New Approach to Performance and Supervision in the England and Wales Water Sector, by Oxera
5. A Sustainable and Investable Regulatory Framework for the England and Wales Water Sector, by Oxera
6. Refreshing Water Tariffs, by the Social Market Foundation
7. Control at Source of Pollution, by WSP
8. Why the UK Needs a National Rainwater Management Strategy, by Wessex Water
9. The Economic Cost of Water Scarcity, by Public First

Purpose

In October 2024, the UK and Welsh governments announced an Independent Commission into the water sector regulatory system in England and Wales, chaired by Sir Jon Cunliffe. The Commission published a Call for Evidence on 27 February 2025, inviting views from stakeholders ahead of a final report expected in summer 2025.

Water UK considers the Commission to be necessary and timely. The current system of regulation is not working. At just the point the industry is to embark on over £100 billion of investment in the period to 2030, with much more needed beyond 2030 to meet the climate and population challenges, as well

[1] Call for Evidence, *Independent Commission on the Water Sector Regulatory System*, (February 2025)

as to meet the legitimate and rising expectations of the public, it is vital that we have the right regulatory framework in place for the years ahead.

The history of the water sector in England and Wales is one of continual evolution in response to societal and economic change, and now is the moment to write a new chapter: the current regulatory system is no longer fit for purpose. The Independent Water Commission provides the opportunity for a reset, enabling the sector to meet the long-term needs of people, our economy and our environment.

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Delivering a reset for water

The creation of the Independent Water Commission reflects a recognition by the government, the public and the water companies that the current system of regulation is not working. Restoring ecological health to our waterways, rebuilding tired infrastructure and restoring the public's trust in the water sector will all require a fundamental reset of the system.

The British public overwhelmingly want cleaner waterways and resilient infrastructure, but these things come with trade-offs, such as the cost to consumers. Only government ministers can legitimately decide the level of risk and ambition society wants for services, improvements and economic growth. For too long, they have ducked that choice. The UK and Welsh governments are to be commended for asking Sir Jon Cunliffe to recommend reforms to the water sector's regulatory system.

The water industry supports the aims of the Commission and is eager for change.

Diagnosing the regulatory problem

The work of the Commission represents the first proper look at the water sector in over thirty years. As a consequence, the regulatory system has grown up in a piecemeal way and become confused. As this response will show:

- **Elected governments have failed to provide a clearly defined set of expectations** about what level of resilience, environmental performance and risk is acceptable to society;
- **There is no effective, shared plan for dealing with all of the pressures on rivers and seas**. There is no 'join up' between rules on land and water, or to deal with all of the activities harming a waterbody. Rainwater and pollution are treated too late, after they have already done harm.
- **The roles and responsibilities of multiple regulators have become muddled and conflicting**. Misaligned requirements create cost and confusion and often act as a barrier to delivering what customers and the environment need. Regulators need long-term objectives that are consistent with each other, and a clearer set of priorities from the government of the day;
- **Ofwat is subject to incentives that are overly weighted toward lower customer bills and, therefore, insufficient investment**. Customer bills are highly visible and have tended to be subject to political pressure. Other outcomes, such as the state of infrastructure, are harder to measure or take years before problems materialise, meaning the regulator feels less immediate pressure to prioritise them;
- **Until now, Ofwat has faced far too little accountability for its decisions on environmental improvement and asset maintenance and replacement**. UK and Welsh ministers have communicated their priorities through Strategic Policy Statements and then trusted that Ofwat would align its activities to their priorities. However, there has been too little evidence of this happening, and too little challenge when it has not.

The consequence of a failed regulatory system

One result of this failing regulatory system has been an inability by water companies and regulators to meet the public's expectations of the water environment. Permitted investment since 2010 has been insufficient to replace ageing assets and tackle the causes of spills and overflows. The system partly encouraged increased borrowing by setting an artificially low cost of equity to reduce bills, which pushed companies to take on lower-cost debt to finance investment.

An otherwise laudable focus on affordability became the overriding public policy imperative, which did not sufficiently account for the social and environmental costs of failing to invest. The consequences of lower bills have been stalling progress on improving the water environment, higher resilience risk, and more difficulty in securing competitive private capital.

Seven years ago, credit rating agencies judged the water sector to be among the highest rated in the world, allowing companies to attract low-cost finance to fund investment. Now, as this document will show, those same rating agencies have downgraded the predictability and stability of regulation, leading to higher customer bills and making it harder for companies to raise funds for investment.

This is not to say, of course, that all water companies have behaved perfectly. It is now clear that a minority of companies in England borrowed too much, which has made their financial position vulnerable and forced their managers to devote precious time to strengthening balance sheets instead of their customer and environmental performance. And, as with any sector, the quality of top management teams has varied from outstanding to poor.

A failure to challenge inadequate performance

The problems now flowing from a lack of investment have not happened overnight. They have been more than a decade in the making and are increasingly obvious to even the most casual observers. Yet there has been insufficient challenge even as there has been a growing divergence between outcomes in the sector and public expectations.

Increases in investment after 1990 delivered cleaner bathing waters[2], world-leading drinking water quality[3,4] and the lowest level of leakage in history.[5] The water sector in England and Wales has also performed better than those in France, Ireland, Italy and Spain since 1990 on the most important service indicators.[6] Performance levels are similar to those in Germany, but at a lower cost.[7] There is overwhelming independent evidence that the quality of rivers has improved significantly since privatisation, whether measured by the presence of pollutants[8] or by indicator species.[9] This holds true across all regions and river types.[10] Performance against the Water Framework Directive is "similar to that of countries with broadly similar river systems, physical geography and pressures".[11]

But we know the overall performance of water companies is not meeting rising public expectations. For a minority of companies, poor performance was tolerated when it should have been tackled with the sense of urgency it deserved. Water companies should also have challenged the failures of the regulatory system sooner. The sector as a whole should have collectively been pushing harder against the mismatch between public expectations and the costs allowed by the economic regulator. We

[1] 'What are this year's bathing classifications?', *Environment Agency,* (November 2024)
[3] '2024 Environmental Performance Index', *Yale Centre for Environmental Law and Policy,* (2024)
[4] 'Drinking Water 2023: On the Quality of Public Supplies in England', *Drinking Water Inspectorate,* (July 2024)
[5] 'Data for the Water Company Performance Report 2023-24', *Ofwat,* (October 2024); 'Leakage in the Water Industry', *Ofwat,* (November 2022)
[6] 'International Comparisons of Water Sector Performance', *Global Water Intelligence* (December 2018)
[7] Ibid.
[8] 'State of the water environment: long-term trends in river quality in England: 2024', *Environment Agency,* (January 2025)
[9] 'An analysis of national macroinvertebrate trends for England: 1991-2019', *Environment Agency,* (October 2021)
[10] 'Significant improvement in freshwater invertebrate biodiversity in all types of English rivers over the past 30 years', *Science of the Total Environment*, (December 2023)
[11] 'A Review of the Implementation of the Water Framework Directive Regulations and River Basin Management Planning in England', *Office for Environmental Protection*, (May 2024)

should have spoken out earlier against the prevailing regulatory assumption that lower bills were always the right answer.

It is also clear that, while financial returns are well below Ofwat's expectation, with almost all companies spending more than they can reclaim from bills, a small number of water companies were more aggressive in their management of finances over the 2000s and early 2010s than was wise for a monopoly utility. We accept that some companies and their (often former) investors have attracted legitimate criticism for this, though others have also argued that this raises questions for the regulator[12], which chose to take a hands-off approach to levels of debt and did not apply the proper financial stress-tests seen in other sectors, despite recommendations a decade ago by the National Audit Office.[13]

The combination of inadequate performance by some companies and a failing regulatory model has led to an increasing use of enforcement and penalties that has reduced some companies' working capital, made it harder and more expensive to raise funds for investment, reduced asset maintenance and severely weakened the financial resilience of some companies. This situation has been exacerbated as regulators and previous governments, under pressure, have reacted in ways that have not always reflected sound policy making while also contributing to a sharp breakdown in trust between companies and the economic regulator. What began as a challenging but functional regulatory environment has become toxic, further reducing public confidence.

The phase of catch-up investment: a necessary first step

To its great credit, Ofwat has recently recognised the need for investment on a much greater scale than it has ever done before. The 2024 Price Review has approved a quadrupling of new investment in capital projects in the water sector over the next five years. This is highly welcome and much needed, but in practice means the sector is playing catch-up to where it should already be. Despite their sharp increase in April 2025, average bills are still only around 5% higher in real terms than they were in 2010.[14]

Investment over the next five years will deliver vital, tangible benefits – reduced leakage, fewer sewage spills, and the beginnings of improved resilience in the face of a growing population and changing climate. But even after £104 billion of investment has been made by 2030, we will not be able to pretend all challenges will have been solved.

Crucially, we must never again find ourselves in the position of having to sharply increase bills to make up for a long period in which they and investment were supressed, with all of the additional cost and consumer harm that results from wild swings. This, above all else, is why the system must change.

Investment needs have never been greater, but we need to target money better

Core to delivering the objectives of government, regulators and companies is investment.

Existing infrastructure was not designed for the climate we are now seeing, a rapidly growing population or new sources of water demand, such as from data centres. We urgently need to invest to improve resilience and increase supply. The UK will face a water deficit of 5 billion litres per day by 2050 without remedial action (around a third of current supply), and the plans that have been agreed

[12] 'From the unsustainable to the sustainable: how to reform water and sewerage in England and Wales', *Dieter Helm*, (April 2025)

[13] The economic regulation of the water sector, *National Audit Office* (October 2015)

[14] Based on Water UK analysis of Ofwat's average water and wastewater bills dataset, using RPI inflation from 2010 to 2020 and CPIH onwards.

to date are unlikely to be enough. Wastewater capacity is also under increased strain.[15] Right now, businesses are increasingly unable to expand and even a new cancer hospital was held up for no other reason than a lack of water.[16] That is untenable.

We must put in place a regulatory system fit for the future. It needs, not only to enable companies to raise more than £270 billion of private capital over the next 25 years, but also for that capital to be deployed faster and more efficiently.[17]

Current processes – including the Water Industry National Environment Programme (WINEP), the Water Resources Management Plans (WRMPs), the Drainage and Wastewater Management Plans, and the price reviews – are not consistent with each other. Not only do they use different scenarios and planning assumptions (sometimes even within the same plan), very often they do not align with government's wider objectives such as the UK Government's Growth Mission. These processes insufficiently reflect the needs of local users and the potential role and impact of other sectors in delivering the required outcomes. It can take ten years or more from when an issue is identified to when the funding is allowed. We agree with the Office for Environmental Protection that "the overall water law and policy framework is complex and risks being incoherent".[18]

Therefore, even if we could sweep away the barriers to agreeing investment, we know that the current system would still unnecessarily hinder the progress our country needs. Money is sometimes spent poorly and investment is delayed because red tape – whether from the planning system or regulators – gets in the way of delivery. Steel and cement are often favoured over wetlands and woodlands, even where natural schemes can deliver similar or better outcomes and support the UK Government's legally binding environmental commitments in areas such as increasing the abundance of species.

If we are to deliver economic growth and an environment that is cleaner, we need new streamlined processes and a regulatory regime that focusses on getting the right outcomes, not seeking to assure each individual input.

Attracting more investment to fund improvements

If we are to deliver and maintain this step change in water sector investment, the companies making these investments need to be able to raise the money. As the Call for Evidence itself says: "The attractiveness of the sector to investment is driven by the level and stability of returns investors can expect to get."

The current framework of economic regulation does not sufficiently capture the need for water companies to be investable in order to deliver performance improvements. This puts improvements at risk. And a framework that worked well would not push a company into a long-term 'doom loop' that is not well-aligned with the interests of consumers.

This requires a fundamental change to the approach Ofwat has taken to modelling day-to-day running costs and capital maintenance – simply applying the approach taken by the Scottish water regulator

[15] 'Sewage infrastructure deal to unlock 18,000 stalled homes in Oxford', *Inside Housing,* (March 2025)
[16] 'Cambridge Cancer Hospital: Water supply fears over build', *BBC News*, (September 2023)
[17] 'Enhancement expenditure set to rise materially over the next 25 years', *Moody's Investor Services*, (October 2023). Moody's "…estimate[s] enhancement expenditure of around £272 billion (in FY average 2022/23 prices) in the period 2025-50 for the water and sewerage companies in England and Wales." Enhancement expenditure set to rise materially over the next 25 years, (October 2023).
[18] 'A review of implementation of the Water Framework Directive Regulations and River Basin Management Planning in England', *Office for Environmental Protection*, (May 2024)[18] 'A review of implementation of the Water Framework Directive Regulations and River Basin Management Planning in England', *Office for Environmental Protection*, (May 2024)

suggests water companies in England and Wales are only allowed to spend half of the money they actual need for replacing and renewing assets.[19] Instead, the approach of the economic regulator in England and Wales should be based on clear resilience standards set by elected governments, make greater use of engineering-based assessments, and consider the realities faced in each region, including companies' specific investment needs.

We also need a change to the performance framework so that it better reflects reality and enables innovation and faster delivery. Outcome delivery incentives have enabled the delivery of improvements for customers and the environment. But they need to be complemented by asset resilience standards and investment in asset health. Combined with excessively austere cost models, unrealistic efficiency assumptions and duplicative enforcement penalties, some water companies have been unduly hindered in being able to turn around their performance. Some of them have also had their financial resilience severely weakened.

A new approach

The water industry is up for the reset the sector needs. Water companies want to be able to restore ecological health to our waterways, upgrade infrastructure and enable economic growth. Delivery, if done right, will slowly start to improve public trust in the sector. We know that will require a period of significant change and water companies stand ready to play their part. The Commission should be bold in its recommendations and must not shy away from difficult decisions. Some changes will take time to implement, but we cannot afford to miss this opportunity – this Commission must put the whole sector on the right course for the long term.

In this submission, Water UK makes detailed recommendations on each topic for the reset the water sector needs. Some can only be delivered through changes to primary legislation; however, the UK and Welsh governments could begin making progress immediately by issuing fast, interim updates to their Strategic Policy Statements for the economic regulator (see Section 2.3) and starting the urgent work of defining resilience standards to modernise and strengthen infrastructure. Our message is clear: the need for change is vital, not least to ensure the sector can continue to attract the billions in private investment needed over the next few years.

We believe the top twelve most significant measures that the Commission should recommend the UK and Welsh Governments deliver are:

1. **A new vision for water in a White Paper:** Delivered within twelve months of the Commission reporting, this should set clear, long-term outcomes for water companies, regulators, government departments, other public bodies and – crucially - other sectors all to work towards, based on the best available evidence and supported by measurable interim milestones. Government should use this as an opportunity to move away from years of siloed, narrowly focused targets that often bring perverse consequences. It should articulate two new overarching objectives: one for the environment and one for recreation and public health.
2. **Critical water assets made strong enough to withstand the growing pressures of climate change:** We need the introduction of legally-binding resilience standards, ensuring that networks are upgraded to be resilient to climate change and extreme weather, and heavily reduce the length and severity of service failures and emergency incidents. Resilience standards, with accompanying levels, should be set as a minimum for drought, peak water demand, asset resilience and flood resilience by the end of 2026. Set over 25 years with interim milestones, the standards would be binding on the government (like Environment Act targets in England), with public bodies like

[19] 'Statement of Case: PR24 CMA Redetermination', *Northumbrian Water Limited,* (March 2025)

regulators required to ensure their achievement, for the first time properly enabling the management of the long-term national risks facing society.

3. **Regulators that are fit for purpose:** The water industry is subject to multiple regulators that are poorly coordinated and have overlapping and sometimes conflicting duties, powers, responsibilities and interpretations of the rules. This is slowing delivery, reducing impact and increasing the cost to billpayers. Regulators should be given sharpened responsibilities and clearer duties - allowing each to focus on what it does best. This includes removing unnecessary duplication by ending Ofwat's role in setting environmental targets, instead further empowering the Environment Agency and Natural Resources Wales. They should be supported by much clearer Strategic Policy Statements about the outcomes wanted by elected governments, how they should be prioritised and how the trade-offs should be managed.
4. **Boosting regulatory capability and accountability:** Regulators have huge power and autonomy over hundreds of billions of pounds of spend. That means they should be as effective as possible, but also be prepared to show how they have used the enormous trust placed in them to deliver what society needs. The Environment Agency, Natural Resources Wales, Ofwat and the Drinking Water Inspectorate should be funded properly and allowed to pay sufficiently high and flexible salaries to attract and retain the most skilled people who are also incentivised to help deliver the best overall outcomes. As the economic regulator is not accountable to government but instead Parliament, the National Audit Office should be asked to support Parliament's oversight function by conducting a review of the effectiveness of its decisions at least every five years, including a quantitative assessment of the degree to which it is performing and taking decisions in the long-term interests of society.
5. **Investability and financial stability:** Supported by a long-term investability framework that requires the regulator to restore the sector's credit rating to 'triple A' (increasing stability and reducing customer bills), new supervisory teams would be empowered to intervene when a water company's financial resilience is at risk, including by requiring minimum equity buffers and recapitalisation plans for affected companies. The best performers should be able to achieve greater autonomy and earn higher returns based on delivering excellent service.
6. **Regulation tailored to each company and region:** Each part of England and Wales is different, so we need to move away from the current crude cost models that assume near-uniform needs, issues and risks. Done right, there is huge promise in a 'supervisory' model that gives regulators a much greater understanding of companies and regions, enabling interventions to more quickly seize local opportunities, protect operational and financial resilience and replace regulatory burdens that are getting in the way of delivery. We propose supervisory teams would be responsible for ensuring companies have the resources they need to maintain and renew their assets and to support innovation. Comparative regulation should be retained, with performance incentives based on delivery and relative performance. Importantly, any new approach should not simply add another layer of complexity on top of the existing framework.
7. **A National Water Grid for England:** The water resources planning process has contributed to maintaining security of supply for several decades. But it increasingly looks inadequate for meeting the challenges of the future, including those exacerbated by climate change. The risk of drought is rising but hosepipe bans as an emergency response are becoming increasingly unacceptable to the public. There is, therefore, now a strong case for a National Water Grid for England which would act as a system planner to optimise delivery between regions, set certain assumptions related to water security (including to allow for more investment ahead of need), find ways to accelerate regulatory processes, and to monitor and communicate risks and delivery.

8. **Accelerated investment to boost growth:** Create a new pipeline and separate treatment of 'enhancement' programmes, so that major projects can be approved and delivered far more quickly. Economic growth will be supported by longer price controls for major schemes, more agile mechanisms to unlock investment when it is needed, the creation of more options for rapidly procuring the delivery of major infrastructure where that is demonstrated to add value and speed up delivery, and reform of new connection charges.
9. **Empowered communities and regions:** Give local groups more power over setting priorities and how they should be delivered. Government should support the development of existing river catchment partnerships, and new approaches to monitoring of what is happening, empowering citizen scientists and giving consumers a say on the development and delivery of water company plans.
10. **A stronger consumer voice:** We need a consumer champion ombudsman with the legal power to resolve disputes, bringing water into line with other sectors. Customers should be enabled to take complaints directly for adjudication and enforcement once they have exhausted the company complaints process as is the case in the energy, communications and rail sectors. New consumer panels create an opportunity to strengthen consumer representation in the sector, but may require a rationalisation of the existing landscape.
11. **Fairer water charges:** Based on mandatory smart metering in England and the removal of regulatory blockers, new tariffs should be allowed that enable the abolition of standing charges and more innovative charges that promote more sustainable usage. To protect against drought, government and regulators should explore ways to shift costs away from the majority of households towards very high users of water, such as those with large swimming pools. Government and regulators should also consider how to put in place financial rewards, through water bills, for customers that reduce the amount of wastewater or surface water entering the sewer system. We also support the UK Government's development of a new affordability scheme for England, as enabled by the Water (Special Measures) Act 2025.
12. **Controlling pollution at source:** Effective management of the water system involves different stakeholders, many of whom currently take no responsibility for the harm they cause. Failure to control pollution or rainwater at source means clean-up costs are borne by water billpayers. This is not right and must change. For the most harmful substances, a regulatory approach is needed to stop these contaminants entering waterways – including a ban on the manufacture and sale of non-essential uses of PFAS, and of mercury in dental amalgam. For other chemicals, a 'polluter pays approach' – such as an extended producer responsibility scheme – will likely be needed to pay for advanced 'fourth-stage' sewage treatment and match European treatment standards.

Why we need a reset for water

1.1 The Independent Water Commission comes at a critical time

In this chapter, we begin by examining recent history in the sector, showing how investment has been constrained even as pressure has grown on ageing water and waste infrastructure. We show how this, plus other factors, has left the sector with its highest ever need for investment. We then set out why the UK and Welsh governments must reform the regulatory system to overcome the three main barriers to enabling such investment to take place.

Underpinning this analysis is our view that the **current system features three significant problems:**

1. Governments have delegated decisions to regulators about the priorities that should be funded.
2. The regulatory system has become too complex.
3. A complex and outdated set of rules prevent investment flowing quickly to the places it is most needed. Legislation and regulation are stifling innovation and failing to adequately address all the pressures on the water system.

This chapter concludes by explaining how a 'second wave' of increased spend and ambition could build on the achievements of the water sector after 1990, providing us with the enormous opportunity to secure our future water supply and the health of our rivers, lakes and seas.

We acknowledge in the Executive Summary of this document the role of companies themselves in getting to where we are today. As companies respond rationally to incentives and regulatory constraints, this section focuses on getting those incentives and constraints right.

More than a decade of falling bills has suppressed investment

The House of Lords Industry and Regulators' Committee found that Ofwat focused too heavily on short-term bill reductions in the period preceding the current price review (2025-30), PR24.[20] This has led to underfunding, in particular underinvestment in replacing and maintaining assets.

This pattern of underfunding goes back to 2010, with water bills falling in real terms nearly every year after that point. Any doubt as to the cause was disabused in 2017, when its then Chair, Jonson Cox, heralded "a decade of falling bills". His was no accidental throw-away line, as Ofwat promoted it in an official press release and put the quote in its title.[21]

Had average water and wastewater bills simply kept pace with inflation since 2010, they would have been £110 (or 25%) higher in 2024-25. Over the 14 years since 2010, the average household has saved £750, or £18 billion for the entirety of England and Wales.[22] These reductions undoubtedly helped to ease the pressure on household budgets and contrasts with real-terms electricity prices doubling over the same period.[23]

[20] 'The affluent and the effluent: cleaning up failures in water and sewage regulation', *House of Lords Industry and Regulators Committee,* (March 2023)
[21] 'Ofwat boss talks of the 'decade of falling bills', *Ofwat*, (October 2017)
[22] 'The real (terms) story of historic water bills', *Water UK*, (November 2024)
[23] 'Historical electricity data', *Department for Energy Security and Net Zero*, (January 2025)

However, as much as £100 billion of additional investment could have been financed if customer bills had simply kept pace with inflation since 2010 – this could have been spent both on capital investment into infrastructure and as additional maintenance.[24]

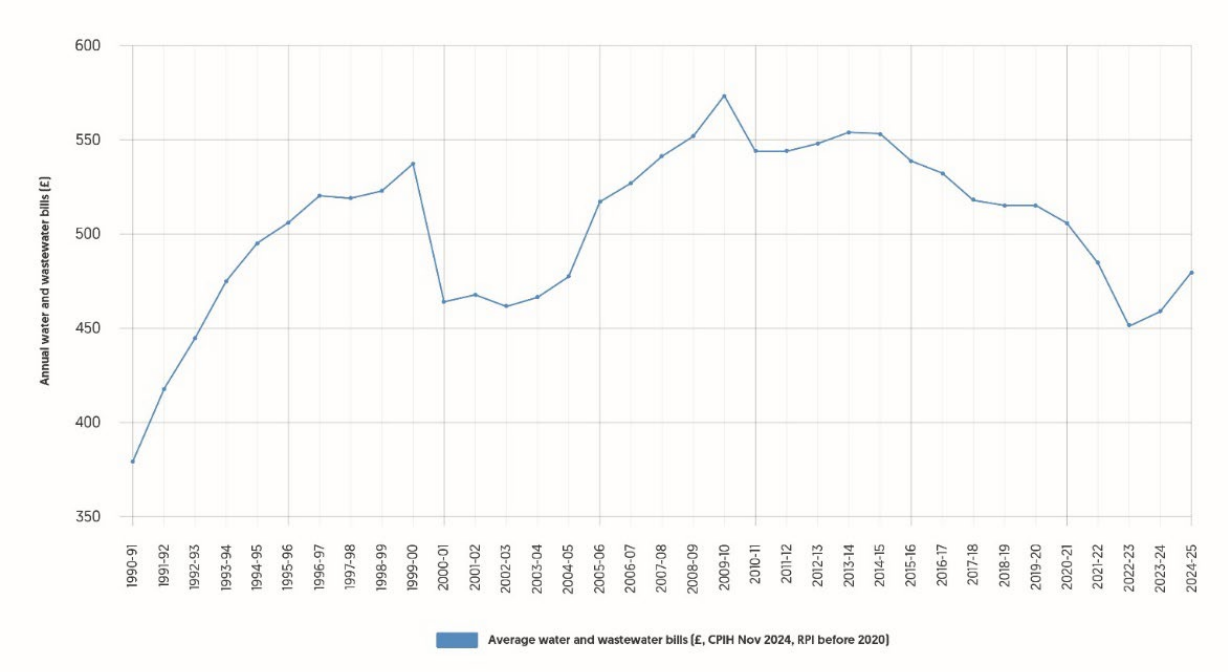

Figure 1 England and Wales average water bills 1989 to 2025.

Source: Water UK, 2025.

Over that period of cuts, there is evidence of vital projects of national significance being put forward by companies, receiving approval from the Environment Agency, only for their funding to be denied by Ofwat.

While the economic regulator should drive efficiency to protect customers from unnecessary bill rises, the consequence of excessive cuts to bills has been less money available for capital maintenance and new investment. Customers have benefited from this, but only in the narrowest and most short-term sense. Customers' longer-term and more rounded needs, together with those of our wider society and environment, have all suffered as a direct result.

Worse, **the regulator Ofwat's decisions since at least 2010 mean customers will now pay much more for improvements than if they had been funded earlier through stable bills.** This is for three reasons:

1. We have missed the opportunity to invest during a period of ultra-low interest rates – financing new investment is now much more expensive;
2. Ofwat's decisions and increasingly complex methodologies have undermined investor and credit analyst confidence in the regulatory framework, increasing financing costs which will add up to £27 a year to customer bills,[25] and;

[24] Based on the assumption that 50% of the £18 billion saved over 2010 to 2025 would have been allocated to base expenditure, which would have recovered over the period (£9 billion), and 50% for enhancement expenditure, which would have required an allowed return and RCV run-off rate of collectively 10% over the period (enabling £90 billion of investment).

[25] Based on new analysis from Oxera.

3. Capital maintenance has been discouraged, so it is now more likely to involve the replacement of degraded assets rather than renewing existing assets.

This backlog of potential investment has increased risk and hampered the clear progress that followed the wave of water sector investment in the 1990s (see Section 1.3). Additional money could have enabled the water sector to go much faster in reducing water leaks, eliminating sewage spills and building resilience to drought and extreme weather.

Investment needs are now higher than ever before

In addition to solving the backlog in investment, there are three acute pressures that are contributing to the highest ever need for investment:

1. Climate change
2. Population growth
3. Inadequate resilience, which is now holding back growth.

Climate change

Temperatures in the UK have increased by 1°C since the mid-twentieth century[26] and 2022 was the warmest year since records first began in 1884. Alarmingly, the following year, 2023, was the second warmest. In fact, six out of the last ten years have been among the warmest on record, with the number of 'very hot' days (30°C) trebling compared to 1961-1990.

At the same time, five of the ten wettest years since 1836 have also occurred in the 21st century,[27] which has seen 20% more days of 'exceptional rainfall' compared with preceding decades.[28] These changing weather patterns greatly affect the industry's ability to deliver current service levels. Water infrastructure services are threatened by the increased risk of flooding of assets such as treatment works. The drainage system will be increasingly overwhelmed by intense summer rainstorms, meaning more storm overflow spills. Pipes are at increased risk of bursts due to ground movement caused by soil drying out in long hot summers. An increased number of algal blooms due to changing water temperatures is already decreasing water quality[29,30] and increasing treatment costs. On top of this, water infrastructure is dependent on the electricity grid, which will also be more vulnerable in a changing climate.[31]

The Met Office's UK Climate Projections series has been warning since 2009[32] that climate change will bring warmer, wetter winters and hotter, drier summers on average, accompanied by more frequent and intense weather extremes.[33] Yet the water regulatory system has proven to be slow and cumbersome to react to such stark warnings.

Until the 2024 price review, Ofwat used econometric models which neglected changing weather patterns (and even in the latest price review, Ofwat only included urban rainfall in wastewater models, not water). This was despite climate projections showing that increasingly intense summer storms and other events will put increasing pressure on the network.

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[26] 'Climate change in the UK', *Met Office*, (December 2020)
[27] 'State of the UK Climate 2023', International Journal of Climatology, (July 2024)
[28] Ibid.
[29] 'Efficient Algae Removal during the Water Treatment Process', *UK Water Industry Research*, (April 2025)
[30] 'Climate Change and Freshwater Harmful Algal Blooms', *United States Environmental Protection Agency*, (February 2025)
[31] 'UK Climate Risk Assessment (CCRA3)', *UK Climate Risk*, (June 2021)
[32] 'UK Climate Projections', *Met Office*, (August 2022)
[33] 'Climate change in the UK', Met Office, (December 2020)

Ofwat's view in 2020 was that climate change, along with urban creep and population growth, were "not new", "The sector has been mitigating the effects of climate change in previous investment periods and our models therefore account for the associated costs of such mitigation measures."[34]

It then took another five years (or 15 years from the first Met Office warnings) for water companies to receive authorisation from Ofwat – through the 2024 Price Review – to start building the new reservoirs required by (among other things) new drought standards agreed by government in 2019. Even then, the response remains inadequate because Ofwat's models for determining companies' allowed expenditure do not properly reflect climate change, leaving companies underfunded.[35]Even then, in PR24 additional funding to address future threats from climate change remains inadequate.

This is important because most existing water and sewerage infrastructure was not designed for a changing climate and in some cases needs urgently upgrading.[36,]

This approach contrasts starkly with Scotland, where, in 2021's Strategic Review of Charges, the Water Industry Commission for Scotland (the Scottish economic regulator) not only recognised the need for investment to address climate change and ageing assets, but took action to ensure such investment took place.

Population growth

2023 saw the largest numerical increase in the population of England and Wales in at least 75 years.[37] This followed an increase of more than 10 million people, or 21%, since 1990.[38] By the mid-2030s there may be a further 10% increase in the population of the UK from 67 to 74 million.[39]

Population increases are occurring in areas that have the lowest availability of water (for example, last decade saw an 8% increase in the population of the East of England, one of the driest parts of the country).[40] Additional water resources are essential to meet this demand. Indeed, projections now show a need by 2050 for 1.2 billion litres of new water each day to meet increased demand, around 300 million litres a day higher than projected just two years ago.[41] However, water companies have not been allowed to build a single major new reservoir in that period, with some proposals rejected outright (see Section 3.3).

At the same time, a growing population since 1990 has led to urban and suburban coverage in England increasing by an area larger than Cornwall.[42] This has increased surface water runoff into the drainage network. Wastewater treatment works capacity also needs to be upgraded to service new homes

[34] 'Reference of the PR19 final determinations: Response to Northumbrian Water's statement of case', Ofwat, (May 2020), p. 54

[35] Submission to the Competition and Markets Authority: PR24 Redetermination Process, *Water UK*, (April 2025) (*forthcoming*)

[36] For example, Northumbrian Water's PR24 draft determination submission to Ofwat included significant proposals to improve climate resilience and to deal with dry weather conditions. £160 million of investment was sought to improve assets, including upgrading pipes to be more resilient during periods of drought or dry weather. They argued that the lack of funding could also compromise their ability to respond effectively to climate-related challenges, such as ensuring backup generation at sewage treatment works to prevent pollution events. This funding was not approved and is now being appealed to the CMA.

[37] 'Population estimates for England and Wales: mid-2023', *Office for National Statistics*, (July 2024)

[38] Water UK analysis of Office for National Statistics Data

[39] 'National population projections: 2021-based interim', *Office for National Statistics*, (January 2024)

[40] Ibid.

[41] 'A summary of England's revised draft regional and water resources management plans, *The Department for Environment, Food and Rural Affairs*, (December 2024)

[42] 'Recent Land Cover Change', *UK Centre for Ecology and Hydrology*, (January 2024)

(particularly in light of the UK government setting a milestone of building 1.5 million new homes during this parliament).

In addition to the need to upgrade wastewater treatment works, population growth will also require significant upgrades to the sewage network. For illustration: all else being equal, adding 1.5 million new homes creates roughly 1,500 hectares of impermeable surface. Run-off from that new concrete could lead to an average impact of 180,000 additional combined sewer overflow spills each year. Eliminating those spills would require an average 7.5 million m^3 of additional stormwater storage tanks (equivalent to around 3,000 Olympic swimming pools).[43, 44]

Inadequate resilience is holding back growth

The processes governing the water sector have failed to provide enough capacity to enable growth because they have taken a backwards-looking approach to major societal risks. Firstly, as highlighted above, prior to 2019, the sector was planning for the 'worst *historic* drought' (our emphasis), a drought with a 1 in 100 year probability, and did not fully consider the increased risk of drought as a result of climate change.[45] Secondly, water resource planning did not consider the future reductions in abstraction required to protect the environment in a changing climate.

It was only in the latest round of water resource planning that the Environment Agency's National Framework for Water Resources set out a high-level picture of national need including a higher resilience standard and a forward-looking approach to environmental protection. To illustrate the impact of this relatively recent change, this meant that Thames Water moved from forecasting a 387 million litres a day supply demand deficit by 2045 in its 2019 plan, to a 1.06 billion litre a day gap by 2050 in its 2024 plan.[46, 47]

This complacency has meant the industry is mobilising from having built no reservoirs in the last 30 years to constructing nine in the next 15 years. This has imposed enormous pressure on a supply chain in which most people with experience of constructing UK reservoirs have retired. It also leaves the country dangerously reliant on very ambitious projections for reducing customers' use of water over the next ten years (before new water supplies can be brought online). This is an example of how the regulatory system has left the country vulnerable.

Similarly, the National Audit office has criticised the rate of water mains replacement: "The rate of replacement of water mains has been 0.14% a year over the first four years of the PR19 control period, which – if maintained – would mean the entire network would be replaced once every 700 years".[48]

PR24 provides opportunity for investment, with £7.8 billion allocated in the Final Determination for supply/demand balance schemes, new water resources, less leakage and more water meters. However, as each has a long lead-time before interventions will generate results, the impacts will be realised over several decades. In addition, the scale of the challenge means wider reform is needed, as discussed in the subsequent Section 3.3 on the 'National Water Grid for England'.

In the meantime, a shortage of water in some parts of the country is now holding back growth. The current round of water resources planning, from 2025-30 has not factored in the UK government's

[43] Calculations based on work by Stantec for Water UK, commissioned for this response.
[44] In practice the impact is likely to be less than this (though we do not know by how much) because not all of the run-off will enter a combined sewer; however, the impact will still be very significant.
[45] 'Preparing for a drier future', *National Infrastructure Commission*, (April 2018), p. 7
[46] 'Shape your water future: Our Water Resources Management Plan 2020 – 2100', *Thames Water*, (April 2020)
[47] 'Keeping water flowing for the future', *Thames Water*, (April 2020)
[48] 'Regulating for investment and outcomes in the water sector', *National Audit Office,* (April 2025), p. 9

additional housing growth targets, or ambitions for new industries such as the data centres that power AI technology.

Analysis for Water UK by Public First suggests that as a result of last decade's "just in time" approach to addressing water need, absent further action of the kind the UK government is taking in the Cambridge water resource zone, over the next five years, a lack of water in water scarce areas could limit housing growth in high productivity areas. This would cost the economy £25 billion in lost economic growth, and £7 billion in lost tax receipts – 70% of the Chancellor's current fiscal headroom.[49] In reality, this scenario would not come to pass because companies are legally required to supply domestic customers, so their response in the event of water shortages will be to divert any available spare headroom away from business use, which they are not legally required to supply. This would limit business growth, which could cost the country between £8.5 billion and £13.5 billion in currently projected growth. This equates to between 25-40% of the Chancellor's current fiscal headroom[50]

Implications for investment

Coupled with projected environmental requirements over coming decades, these three pressures are expected to generate the need for over £270 billion in new investment by 2050, which will triple the size of the sector's asset base over the next quarter-century.[51]

This investment takes place in the context of four important other trends, all of which add yet further volatility, uncertainty or change to the sector:

1. There is likely to be a sharply increasing proportion of sector expenditure going towards new projects and capital investment (see Figure 2 below). The increasing proportion of construction activity has important implications not just for the companies themselves but also for the regulatory system, which was founded on an assumption of high initial investment followed by 'steady state' asset management.

[49] 'The Economic Cost of Water Scarcity', *Public First*, (April 2025), p. 3; 'Spring Statement 2025', *HM Treasury*, (March 2025)
[50] 'The Economic Cost of Water Scarcity', *Public First*, (April 2025), p. 3
[51] 'A sustainable and investable regulatory framework for the England and Wales water sector', *Oxera*, (April 2025)

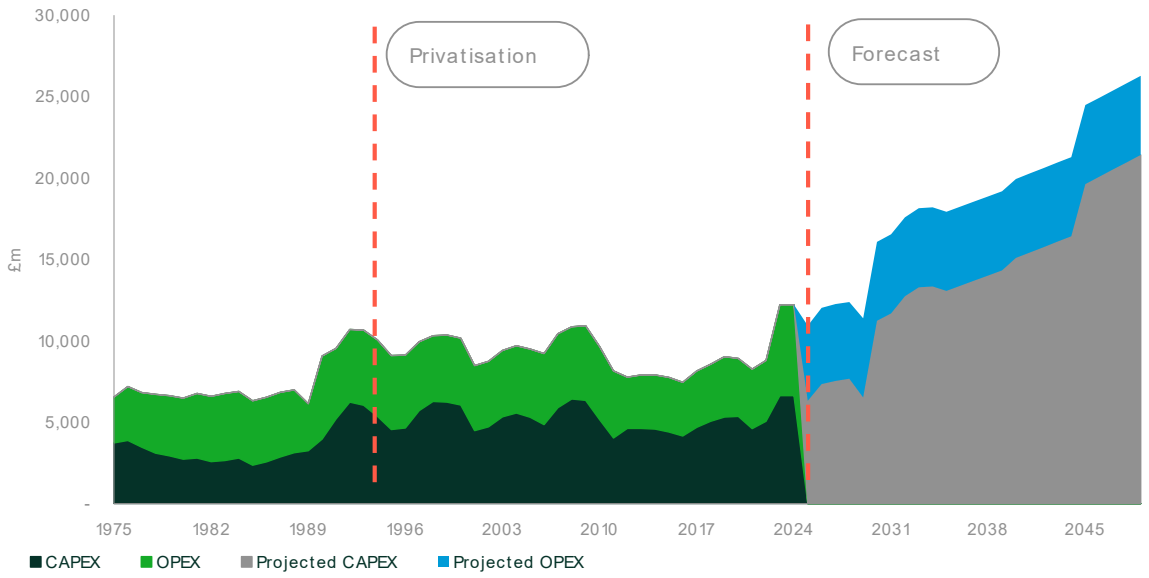

Figure 2 Historic and future capital and operating expenditure

Source: Oxera, 'A sustainable and investable regulatory framework for the England and Wales water sector' April 2025.

2. There will be a requirement for new equity to support the expanding forward investment programme, a 'paradigm shift' compared to previous price reviews (see next section), with potential consequential changes too for the profile of the investor base.
3. With war on the European continent, a greater than 25% likelihood of armed attack against UK allies,[52] the increased occurrence of armed conflicts globally[53] and an emerging trade war, there are a range of unpredictable risks ranging from the cost and availability of materials in supply chains through to turbulence in global financial markets (already being felt in the bond markets). This suggests the need for agility and a move away from 'once and done' five-yearly fixed reviews for every bit of spend.
4. A number of innovations are emerging that may significantly enhance or disrupt existing models of infrastructure management – or offer opportunities to do things better if barriers are removed. Some are common to many parts of the economy, such as machine learning enabled predictive analytics to pre-empt operational problems. Others are not, such as the widescale deployment of in-river monitors, which could rip-up existing ways of planning for and monitoring assets. Particularly where they offer the possibility of entirely new approaches, we need a more self-reflective regulatory response to innovation that goes beyond just using them as a justification for efficiency challenges.

Because any reforms to the water sector have implications that may last for decades, the proposals in this document are intended to respond both to the need for greatly increased investment as well as these wider trends, setting the foundations for a higher-investment, more uncertain world.

[52] 'National Risk Register', *HM Government,* (August 2023)
[53] 'Conflict Index: December 2024', *Armed Conflict Location and Event Data*, (January 2025)

When the water industry last collectively considered its long-term direction, it identified that there should be a shift in the nature of the company[54]:

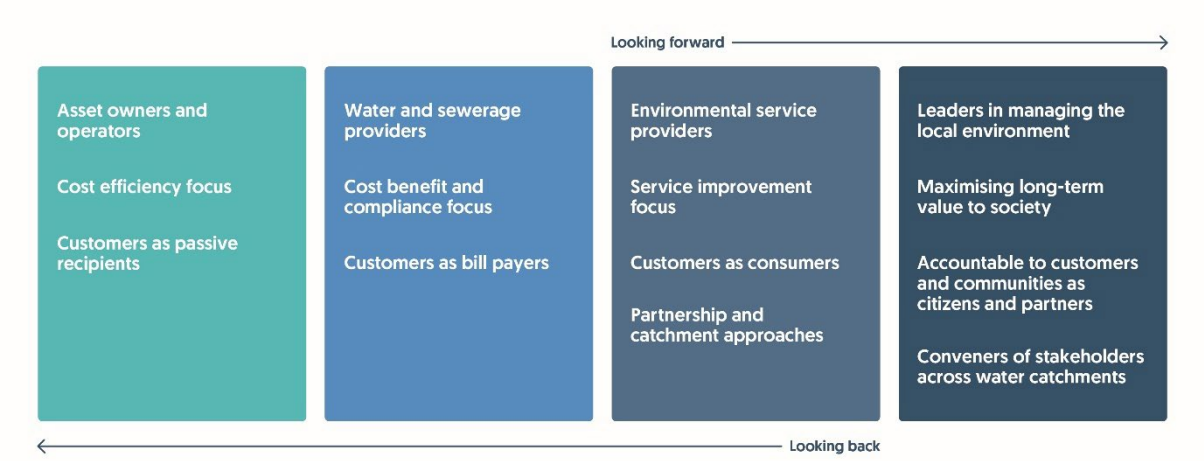

Figure 3 The future of the water sector ('Water 2050')

Source: 'Water 2050', Water UK, 2022.

We argued that this should be accompanied by the need for a series of regulatory reforms to deliver more benefit from spend by focusing on outcomes and longer-term thinking. Unfortunately, we have since seen the regulatory system shift in the opposite direction. We are therefore eager to seize the opportunity provided by the Independent Water Commission to secure the kinds of reforms the country needs.

1.2 The case for change: why things went wrong

The insufficient investment detailed above reflects what has gone wrong: that political and regulatory frameworks for water failed to keep pace with macro-changes such as population growth and climate change. But to resolve these issues for the long-term, we need to analyse why the regulatory framework responded to these complex challenges with a prolonged period of under-investment.

We have identified three overarching problems with the regulatory framework:

1. **Ministers have delegated political decisions to regulators.** Successive governments have delegated hugely important long-term decisions to regulators. Without any clear strategic direction from government, the overriding pressure on Ofwat has been to prioritise the simple, highly-visible objective of low bills because set against that are a large number of competing, more complex and often poorly-defined goals. With no sense of how those other goals should be prioritised, and consequences that take longer to arrive, the strongest incentive on decision-makers is to prioritise the short-term benefit of lower costs for consumers. Even when ministers have given general approval for the building of a new reservoir, Ofwat has used its power to block it.
2. **The regulatory system has become more complex.** Water companies spent five years and over £250 million on the 2024 Price Review process, not including the potentially £50 million expected to be spent on the redeterminations.
3. **There are artificial obstacles to improving customer and environmental performance**: The regulatory framework does not allow investment to quickly reach the places it is needed. It

[54] 'Water 2050: A White Paper', *Water UK,* (May 2022)

constrains innovation and is targeted narrowly, missing opportunities to provide more benefits and value.

The remainder of this section addresses the specific issues, opportunities and changes required for each of these three overarching problems. The rest of this document subsequently puts forward positive ideas for solving each of these problems.

Ministers have delegated political decisions to regulators

Faced with all the challenges described above, we need a regulatory system tailored to deliver unprecedented levels of investment. Bill increases are never welcome; but given the scale of investment needed, efficiency improvements alone will not cover the costs, creating a regrettable but necessary trade-off between sufficient investment and keeping bills lower.

Although it could be argued that the UK and Welsh governments have implicitly recognised the need to act by setting out a range of ambitious environmental targets, especially concerning combined storm overflows, and that Ofwat has taken note by authorising significant increases in expenditure allowances, the overarching system is still not working as it should. As we will set out, the consequential risk is that insufficient investment may be found for the work that is needed.

This risk has been driven by two long-running failures by successive governments:

1. **A political failure to say what is really needed: stronger assets or a cleaner environment.** Both are possible, but expensive. There has also been an unwillingness to prioritise competing public objectives for the environment. For example: an environment safe for recreational users, such as outdoor swimming, or an environment with fewer carbon emissions in the atmosphere. It would be possible to do all of these things, but the next failure sets out why that has not happened.

2. **A short-term political focus on ever lower water bills**. For example, in his major speech on the water sector ahead of PR19, former Environment Secretary, Michael Gove, stated that he would back Ofwat, "…in any action they need to take, to get the water companies, all of them, to up their game and further lower consumer bills".[55] Subsequent[56] and successive previous UK governments have all similarly sought to keep bills low. This phenomenon has deep roots: as far back as 2000, apparently over objections by the Environment Agency[57], the then Director General of Ofwat, Sir Ian Byatt, said that, "Ministers wanted price reductions… [and] that is what they got."[58]

The result has been a balance of incentives on Ofwat that weighed more heavily towards lower bills than other outcomes such as environmental improvement or asset maintenance, which are more ambiguous, often harder to measure, carry risks (or provide benefits) that take much longer to arrive than the immediate pain of a difficult bill announcement, and until recently were less publicly salient.

We believe the prominence and historic political emphasis on lower bills, and the absence of other clear, visible, measurable goals against which decision-makers could be held equally accountable, has led to a set of embedded regulatory practices – and an associated set of tools, such as simplistic cost modelling – that together have created a systemic bias towards short-term efficiency as the assumed

[55] 'A water industry that works for everyone', *Michael Gove*, (March 2018)
[56] 'Coffey gives water companies steer to defer climate and nature initiatives to find savings', *Ends Report*, (2023)
[57] 'Ofwat criticised for scrapping environmental projects', *New Civil Engineer*, (October 1999)
[58] 'Select Committee on Environmental Audit', *House of Commons*, (July 2020)

overriding public policy imperative. We believe this has been accepted by Ofwat because, according to the National Infrastructure Commission:

> ***"the current regulatory system incentivises regulators to be sceptical of major new infrastructure investments"***[59]
>
> **National Infrastructure Commission, 2019.**

These anti-investment regulatory practices are discussed in more detail in subsequent sections.

The consequences of this *laissez faire* approach by successive governments have been both profound and dangerous:

- **Political silence about what truly matters has introduced ambiguity and reduced accountability.** The UK government's long list of 59 expectations on Ofwat, as set out in its Strategic Policy Statement (SPS), does not include any guidance on how the regulator should make trade-offs between them or prioritise.[60] Ofwat is given significant latitude to make its own prioritisation decisions about the importance of strategic issues, creating risks for legitimacy, efficiency, responsiveness and clarity.
- **Even when ministers have approved a new major reservoir, Ofwat has felt free to block it**. The absence of legally binding outcomes set by government has led to strategic projects of national importance being stopped by flawed consumer surveys. Much needed investment and economic growth has been directly blocked as a result
- **With political priorities other than lower bills unstated, Ofwat has been free to design a system which promotes dangerous levels of risk**. Ofwat's actions have been possible because the UK and Welsh governments have not set clear expectations for vital long-term challenges such as resilience, making it hard to know what would represent a poor, good or excellent outcome, or the degree of acceptable long-term risk. That is why the National Infrastructure Commission has said that resilience standards are needed; the current situation leaves water companies and regulators without clarity on the level of risk that is acceptable to society. In the absence of clear outcomes, or sufficient expression or treatment of customer or environmental risk, the narrow range of tools that are used to determine expenditure tend to overlook the importance of resilience. Strong concerns have been expressed:

  > **"…*about an assessment framework which required customer harm to occur before accepting this as evidence of the need for additional intervention. Such a reactive approach would expose customers to unnecessary harms and does not reflect the way that a responsible company would be expected to operate."***[61]
  >
  > **Competition and Markets Authority, 2021.**

This is a damning assessment, but it did not cause Ofwat to embark upon any meaningful change to the way it set price controls in PR24. To make matter worse, Ofwat imposes a perverse incentive on water companies, who are strongly discouraged from requesting the scale of funding that they really judge necessary. In effect, the system encourages companies to underestimate the scale of problems

[59] 'Strategic Investment and Public Confidence', *National Infrastructure Commission*, (October 2019)
[60] 'February 2022: The government's strategic priorities for Ofwat', *The Department for Environment, Food and Rural Affairs*, (March 2022)
[61] 'Ofwat Price Determinations', *Competition and Markets Authority,* (March 2021)

or face penalties. This is because Ofwat's business plan incentives (known as the 'Quality and Ambition Assessment ('QAA')') penalise companies for asking for what Ofwat deems to be too much money, or for not using Ofwat's models or assumptions when submitting their plans (models that this submission will show include a bias against necessary investment). These penalties can be substantial – for example, Thames Water has received a penalty of more than £500 million based on Ofwat's assessment of the company's plan, equivalent to more than a percentage point reduction to the allowed the cost of equity.[62] This is before any cuts subsequently imposed on what could already be a self-censored request (with the cuts themselves sometimes large – in PR24 cuts to resilience enhancement were 12% for water and 24% for wastewater).[63]

That is why the National Infrastructure Commission has said that resilience standards are needed (a subject we return to in Section 2.2. Until the UK and Welsh governments set them, the economic regulator will be free to dangerously underfund national resilience.[64]

[62] Based on a £141 million penalty (equivalent to 30 basis points) under the Quality and Ambition Assessment (p. 18) and applying the difference between a 50:50 and 60:40 cost sharing rate to the remaining cost gap between Thames Water and Ofwat's final determinations of around £4 billion (p. 2) which suggests additional cost risk of £400 million. Combining both figures suggests a total penalty of £541 million.

[63] 'Final Determination Models', *Ofwat*, (2024)

[64] 'Developing Resilience Standards in UK Infrastructure', *National Infrastructure Commission,* (September 2024)

Box 2: Ofwat's PR19 decisions overturned by the Competitions and Markets Authority

In the previous investment period (April 2020 – April 2025), called PR19, **Ofwat cut investment plans by £7.9 billion**[65] which it continues to claim as evidence of the benefit it delivers.[66] A proportion of that will represent genuine efficiency challenge; but given that Ofwat cut investment plans by well over 10%, this inevitably stopped much needed investment that could have improved resilience and the environment.

Four companies appealed Ofwat's PR19 decisions and each was successful. The Competition and Markets Authority restored some of the investments proposed by companies. For example:

- £45 million of investment in strategic water interconnection by Anglian Water.
- £18.321.6 million for Northumbrian Water to prevent 365,000 properties in Essex being cut off supply for a potentially extended period.
- £7.8 million for Yorkshire Water to cut overflow spills and protect tens of thousands of properties in Hull against flooding.

Importantly, despite Ofwat's telling Parliament that they "have not refused any requests to fund" and that "we have never said, 'you should not invest'"[67], the Competition and Markets Authority found precisely that some schemes had been denied by Ofwat based on an erroneous claim that they were not needed. For example, Essex and Suffolk Water (part of the Northumbrian Water Group) sought funding as part of Ofwat's 2019 Price Review to increase the resilience of its water supply network in Essex. Ofwat rejected the entirety of the company's proposal on the basis that it did not pass a 'needs' test, despite the region recently suffering from two 'near misses' on water in 2016 and 2018 after available supplies had reached historic lows in what is the driest part of the country. The Competition and Markets Authority was highly critical of Ofwat's decision and overturned it.[68]

The Competition and Markets Authority also corrected Ofwat's underfunding of several other areas such as:

- £15 million in wastewater environmental investment for activities like taking out more phosphorus from effluent discharged into rivers.
- £944,800 for Anglian Water to secure its IT systems against cyber-attack.

In short, a desire to keep water bills as low as possible has come at the expense of companies being able to make invest in securing water supplies and managing the effects of wastewater on the environment. The consequence of this has been slower environmental and service improvements and higher resilience risk.

The regulatory system has become more complex

At the time of privatisation the regulator was given a duty to ensure companies were able to finance the functions they were required to perform and it was recognised in primary legislation that this meant "by securing reasonable returns on their capital". This concept is at the very heart of economic

[65] Figures in this box have been converted to 2022-23 prices.
[66] 'Measuring Ofwat's Impact', *Ofwat*, (November 2023), p. 4
[67] 'Corrected oral evidence: The work of Ofwat', *House of Lords,* (October 2022), p. 5
[68] 'Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations', *Competition and Market Authority,* (March 2021), p. 491

regulation and should be the first consideration of the regulator in undertaking price control reviews. Over time more duties have been added (see Section 2.3), and legislation has required the regulator to 'have regard to' a growing list of considerations. These have been added for good reason, but this greater complication has taken the focus off the core role of economic regulation. This has turned what was intended to be a relatively straightforward price control into a highly complex process whereby for PR24:

- Companies were required to begin work on the 2024 price review before the previous 2019 review was finalised. The PR24 process included some companies having to spend six years producing a five-year Water Resource Management plan (some of which have still not been agreed despite their start date of April 2025).
- 53,000+ pages in business plans were submitted to Ofwat.
- Companies spent over £250 million on the Price Review process, not including potentially £50 million which is expected to be spent on the redeterminations of price controls.[69]
- The time taken from Ofwat receiving companies' business plans to Final Determinations was 14 months.
- Ofwat's final determinations were more than 3,400 pages long across 80 documents and included more than 500 different models.[70] In contrast, PR04's final determinations constitute a single document of 281 pages. This is a 1,100% page increase over twenty years.
- While Ofwat and other regulators are still finalising their monitoring and reporting requirements for 2025 to 2030, early guidance suggests that water companies will be required to submit more than 20,000 fields of data up to three times a year under Ofwat's proposed approach to monitoring price control deliverables.[71]

The National Audit Office found that Ofwat's "final methodology for the most recent price review comprised over 60 documents, and around 2,000 pages. Investors told us they found the complexity makes the process hard to understand".[72] And Stephen Littlechild, the inventor of the underpinning principles of utility regulation, has described the current price control process as:

> ***"like purgatory - a place or state of temporary suffering or misery - except that it is no longer temporary: it is a place or state of permanent suffering or misery."***[73]
>
> **Professor Stephen Littlechild, Submission to the Competition and Markets Authority, 2020.**

As we set out in more detail in Section 4, the cost (and time consumed by) the price control process is high – and could be better spent on delivering outcomes for consumers.

[69] Based on Water UK analysis of the external costs incurred by water companies in the PR19 redeterminations, scaled to the number of redeterminations at PR24 and adjusted for inflation
[70] Water UK analysis
[71] 'Delivery plan guidance', *Ofwat*, (March 2025)
[72] 'Regulating for investment and outcomes in the water sector', *National Audit Office,* (April 2025), p. 9
[73] 'Submission to the CMA on Ofwat price determinations', *Stephen Littlechild,* (May 2020)

Obstacles to improving customer and environmental performance

The current system for delivering investment is under strain. It is being asked to do things never envisaged when the regulatory building blocks were put in place more than thirty years ago, and there are three consequences:

1. **Processes have become so convoluted and poorly coordinated that decisions about investment are slow.** Even in a sector with long build times, public frustration means we cannot allow red tape - whether from the planning system or regulators - to get in the way of delivery.
2. **Existing regulation stifles innovative approaches to the delivery of outcomes.** Steel and cement are favoured over wetlands and woodlands, even where natural solutions can deliver similar or better outcomes and support the government's environmental commitments, including the UK government's Environmental Improvement Plan and legally binding targets under the Environment Act. We need to enable more innovation in the delivery of outcome-based targets, reducing cost and maximising co-benefits.
3. **Water billpayers are picking up the cost of pollution from other sectors**. This includes removing toxic chemicals that should not be entering sewers in the first place, or managing defective (and sometimes unlawfully connected) drainage that increases pressure on wastewater systems. While wastewater is treated to a high standard, conventional treatment focuses on reducing nutrients and improving parameters such as biological and chemical oxygen demand. Emerging contaminants often require different treatment technologies and are not covered by numeric permit limits - so are not treated to the same degree. Relying on wastewater systems to deal with upstream pollution and unnecessary rainwater run-off is inefficient, costly to customers, and misaligned with the principle of source control. Addressing pollution at source would enable faster, fairer progress toward environmental and public health goals.

Convoluted processes leading to slow decision making

There are several different policymakers and regulatory bodies in the water sector, each with their own duties and objectives. They have different powers to set requirements and strategic guidance for companies. The Call for Evidence correctly notes that there "appear to be tensions and overlaps between regulatory structures"[74] – indeed, the problem goes further than just structures; we agree with the Office for Environmental Protection that

> *"the overall water law and policy framework is complex and risks being incoherent".*[75]
>
> **Office for Environmental Protection, 2024.**

As a result, the activities of regulatory bodies and policymakers are not well co-ordinated. This leads to the following problems:

- **A disconnect between setting new requirements on water companies and allocating funding through the price review process.** Defra, the Environment Agency and the Drinking Water

[74] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural* Affairs, (February 2025), p. 24

[75] 'A review of implementation of the Water Framework Directive Regulations and River Basin Management Planning in England', *Office for Environmental Protection*, (May 2024), p.118

Inspectorate impose new requirements – which are likely to have an additional cost – on companies during the middle of price control periods, for which companies cannot secure additional funding because Ofwat does not have suitably flexible funding mechanisms. Companies have no choice but to pay these unexpectedly and unavoidable higher costs, so cuts need to be made elsewhere. That risks cut elsewhere to deliver these new requirements, or delays to the delivery of improvements for customers and the environment. For example, the Environment Agency has twice increased the price of permits (e.g. relating to water discharges) mid-control period, with no ability for companies to recover the additional costs until the subsequent control period begins. Water UK estimates place the cost of the latest increase, which was confirmed in 2024, at £46 million.

- **Regulators' remits overlap and conflict.** The same requirements can be (and very often are) monitored by Ofwat and either the Environment Agency or the Drinking Water Inspectorate, with differing standards and different approaches to enforcement action. The result can be excessive regulatory burdens and conflicting incentives and decisions. There can also be overlapping enforcement regulations and incentive regimes by more than one regulator, as the National Audit Office has noted.[76] For example, Ofwat has recently adopted an interpretation of the compliance standards relating to wastewater (as set out in the Urban Waste Water Treatment (England and Wales) Regulations 1994) which differs from those commonly understood to be clear in the past, and against which the Environment Agency measures.
- **Regulators use inconsistent planning requirements and assumptions.** This creates unnecessary inconsistency and complexity. For example, Water Resource Management Plan guidance to water companies as companies requires companies to collate and assess housing growth forecasts set out in Local Development Plans, but Ofwat's growth costs model for four companies at PR24 only used national level Office for National Statistics population projections.[77,78]
- **Lack of national level planning:** In the water resources sector in particular, planning is not effectively coordinated between different regions of the country, slowing and complicating process.

Ultimately, this lack of coordination - combined with a system that allows for fundamental disagreement between bodies such as the Environment Agency and Ofwat over how statutory duties should be interpreted - creates funding gaps and delays to improvements for customers and the environment.

Barriers to innovation

In recent years, the water sector in England and Wales has been faced with a range of new statutory requirements to improve the environment. These have been introduced through legislation by Parliament and the Senedd, through policy direction from Defra and the Welsh Government (for example, to reduce the frequency of storm overflow activations or the level of nutrients in treated effluent discharges), and through regulatory programmes such as the Water Industry National Environment Programme (WINEP) in England and its equivalent in Wales, the National Environment Programme (NEP) led by Natural Resources Wales (NRW).

[76] 'Regulating for investment and outcomes in the water sector', *National Audit Office,* (April 2025), p. 27

[77] 'WRMP19 Methods – Population, Household Property and Occupancy Forecasting Guidance Manual', *UK Water Industry Research,* (2015)

[78] 'PR24 final determinations: Expenditure allowances', *Ofwat*, (February 2025)

The overarching aim of these requirements is correct, but the way in which they have been drafted has often been unnecessarily narrow and prescriptive. For example:

- Targets set under the Environment Act include a requirement to reduce phosphorous from wastewater discharges by 80%.[79] Companies are required to upgrade wastewater treatment works even if there are alternative catchment-based interventions which could deliver the same or greater phosphorous reductions in the surrounding environment – which is the ultimate aim of the wastewater target. By allowing a catchment-based intervention, reducing phosphorous from wastewater would still be permitted and could still proceed, where it offered best value for money and the best outcome for the environment. Other options, however, could be pursued where they provide better value for society and the environment, such as by also restoring biodiversity.
- The Water Industry National Environment Programme (WINEP) sets specific granular outputs, which includes more than 24,000 actions that water companies are required to undertake over the next five years. These often specify *not just the outcome* (e.g. reducing nutrient discharges), but the *means of achieving it* (e.g. upgrading a named treatment works), leaving little flexibility for companies to explore alternative, potentially more cost-effective or environmentally beneficial solutions such as nature-based interventions at the catchment level.
- Ofwat's approach to price reviews either explicitly requires water companies to undertake certain actions or provides a penalty for them if they do not. For example, Ofwat has specified Price Control Deliverables that penalise water companies for late delivery or return funding to customers for not delivering a project precisely as specified in the Price Control Deliverable, *even if a more cost-efficient or better value alternative approach becomes available* over the five-year price control period. It is not unusual for superior alternative approaches to emerge as projects go through development cycles.
- Ofwat's approach also implicitly steers companies toward specific solutions through how it applies 'efficiency' benchmarks when setting expenditure allowances. These benchmarks, often based on comparative cost assessments between companies, can make it difficult for firms to justify higher-cost, innovative, or riskier interventions in the first place – even where such approaches may deliver better long-term value for society and the environment. For example, companies may be disincentivised from adopting nature-based solutions or adaptive catchment management if these do not appear cheaper in the short term than other options.

As a result, water companies are often prevented from finding alternative ways to deliver the same environmental outcome - such as lower nutrient loads in a river catchment - in ways that more environmentally beneficial and/or more innovative. This is despite an important part of the rationale for our current model being its ability to drive innovation,[80] and major features of Ofwat's regulatory framework (such as Outcome Delivery Incentives) aim to encourage water companies to innovate.[81] In this way, different parts of the regulatory system pull against each other.

Pollution from other sectors

As the Call for Evidence acknowledges, many groups negatively affect watercourses and have a role to play in its management. The principle of 'polluter pays', which requires industries to make a 'fair share' contribution to environmental objectives, is essential to improving the health of our water bodies in a

[79] 'The Environmental Targets (Water) (England) Regulations 2023', *HM Government*, (2023)
[80] 'Driving innovation in water', *Ofwat,* (December 2017)
[81] 'Appendix 8: Outcome delivery incentives', *Ofwat,* (December 2022)

cost- and resource-effective manner. Water companies are (rightly) accountable for their contribution to the health condition of our rivers, lakes and seas, as wastewater negatively affects 36% of waterbodies. But the regulatory regime fails to compel adequate action on other sources of pollution, whether from rural areas (affecting 40% of waterbodies), urban and transport run-off (18%) or elsewhere.[82] As a result, no amount of investment to improve the performance of water companies could, of its own, necessarily produce any significant change to the health of our rivers, lakes and seas.

Farming in England and Wales is estimated to account for 50-60% of nitrate and 20-30% of phosphorus losses into the water environment,[83] and pesticide and sediment runoff harm river health too. There are likely to be over a million highway outfalls across the country discharging directly into rivers and streams.[84] Highways England alone is responsible for 18,000 road outflows into streams and rivers that are unpermitted, unmonitored and have no funded plans for remediation.[85] It is, therefore, impossible to meet the Water Framework Directive target for the condition of our water bodies, or a future ecological target, without addressing diffuse pollution from other sectors.

The same is true for toxic chemicals entering our waterways. No surface water body meets the criteria for achieving good chemical status due to the presence of uPBTs (ubiquitous, persistent, bio accumulative and toxic pollutants). We need to stop these pollutants entering our sewers as far as possible through 'control at source' interventions, including prohibition of non-essential uses of 'forever chemicals' (PFAS, per- and polyfluoroalkyl substances). Where such interventions are not practical, then polluters must pay for the advanced treatment at wastewater treatment works to remove these chemicals from treated effluent, rather than piling the cost onto water bill payers.

Finally, we need a completely new approach to how we manage rainwater which is currently not stored or diverted effectively and instead increasingly floods properties and overwhelms sewers.[86]

1.2 A new era of investment will build on past achievements

Just as we saw investment increase steeply following privatisation (see Figure 4), we are facing a 'second great wave' of investment, reflecting a renewed ambition.

During the first jump in investment that started in the 1990s, the focus was on providing proper sewage treatment in areas such Brighton (which had previously dumped barely-treated waste at sea), as well as to on improving beaches, and modernising drinking water treatment.

[82] 'State of the water environment indicator B3: supporting evidence', *HM Government*,(January 2025)
[83] '2021 river basin management plans', *Environment Agency,* (October 2019)
[84] 'Highway runoff and the water environment', *Chartered Institute of Water and Environmental Management*, (May 2024)
[85] 'Oral Evidence: Water Quality in Rivers', House of Commons, (June 2021)
[86] 'National assessment of flood and coastal erosion risk in England 2024', *Environment Agency* (January 2025)

This resulted in significantly higher annual capital investment by the water industry of England and Wales than at any point under the pre-privatisation Regional Water Authorities.[87] According to data from Ofwat, water companies have invested £236 billion of capital investment since 1989, an average of £6.7 billion per year, a near doubling of previous annual levels. In recent years, this has increased even further, with average annual capital investment of £7.7 billion since 2020 – and a record £9.2 billion in 2023-24, the highest ever delivered in a single year.[88]

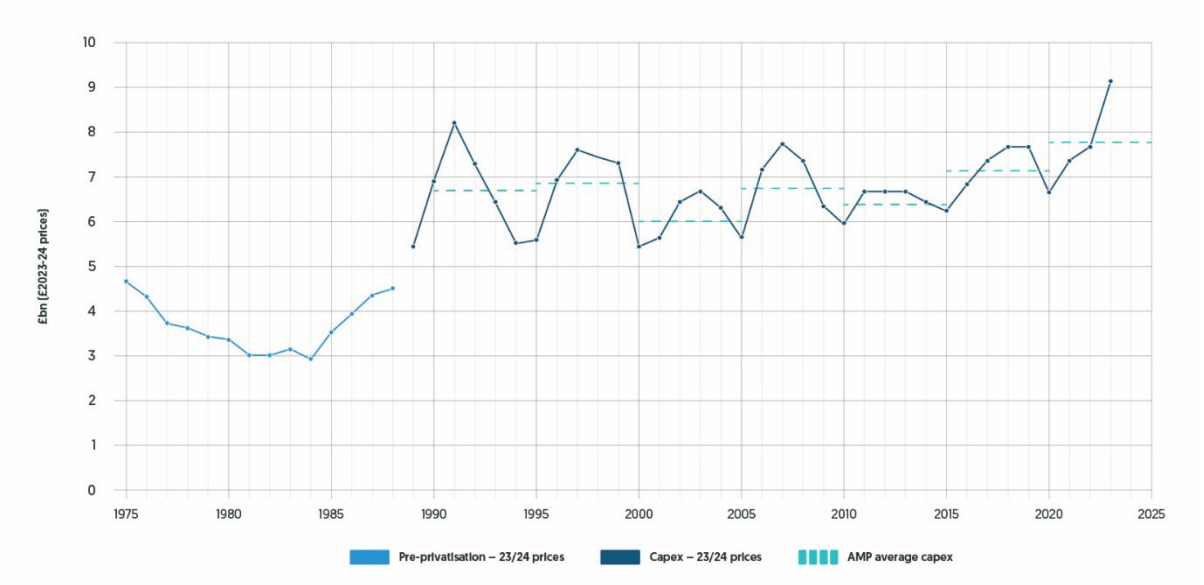

Figure 4 Capital expenditure by the water industry in England and Wales

Source: Water UK analysis of the National Infrastructure Commission's Historic Water Dataset and Ofwat's Long-term data series of company costs

Furthermore, the investment delivered through this model was combined with increasing efficiency, enabling the sector to deliver more for less.[89]

The first wave of investment succeeded in delivering cleaner bathing waters, world-leading drinking water quality and falling leakage:

- Unplanned interruptions to water supply are a fifth as likely for customers.[90]
- Sewer flooding incidents in the home are an eighth as likely for customers.[91]
- Drinking water quality compliance is the highest it has ever been, up from 98-99% in the 1990s to close to 100% in recent years.[92]

[87] 'Water UK's submission to the NAO review of regulation in the water sector', *Water UK,* (September 2024)
[88] Ibid.
[89] Productivity Improvement in the Water and Sewerage Industry in England Since Privatisation, *Frontier Economics*, (September 2017)
[90] 'Service and Delivery Report', *Ofwat*, (January 2019), p. 12
[91] 'Service delivery report 2018-19', *Ofwat*, (October 2019), p. 21
[92] 'International Comparisons of Water Sector Performance', *Water UK,* (December 2018)

- Leakage is at the lowest level ever recorded,[93] down more than a third since the 1990s,[94] and reduced by more than 8% in the last four years alone.[95]
- 92% of bathing waters now meet minimum standards, compared with 46% in 1995.[96] Furthermore, two-thirds of beaches achieve the highest environmental standard, compared to just 10% in the early 1990s.[97]
- Serious pollution incidents caused by the water industry have fallen by 90% since the 1990s, with the impact of pollution from sewage works cut by around 50% for 'Biological Oxygen Demand' (the indicator used for organic pollutants), 80% for ammonia and two-thirds for phosphorus.[98]

The water sector in England and Wales has performed better than those in France, Ireland, Italy and Spain since 1990 in terms of the most important service indicators. Performance levels are similar to those in Germany, but at a lower cost.[99] There is overwhelming independent evidence that the quality of rivers has improved significantly since privatisation, whether measured by the presence of pollutants[100] or by indicator species.[101] This holds true across all regions and river types.[102] Performance against the Water Framework Directive is "similar to that of countries with broadly similar river systems, physical geography and pressures".[103]

With more than £270 billion of capital investment forecast to be required from 2025 to 2050, in addition to the costs of continuing to operate and maintain existing assets,[104] we are at the foothills of a 'second giant wave' of investment to again modernise our infrastructure.

[93] 'Leakage in the water industry', *Ofwat,* (November 2022)
[94] 'Companies are using new techniques to find and fix more leaks', *Water UK*, (April 2025)
[95] 'Water company performance report 2023-24', *Ofwat*, (October 2024)
[96] 'https://www.gov.uk/government/news/92-of-english-bathing-waters-meet-water-quality-standards92% of English bathing waters meet water quality standards', *The Department for Environment, Food and Rural Affairs,* (November 2024)
[97] 'The UK has over 600 designated bathing waters', *Water UK,* (April 2025)
[98] 'Written evidence submitted by Water UK: Follow up inquiry into Water Quality and Infrastructure', *Water UK,* (May 2024)
[99] 'International Comparisons of Water Sector Performance', *Water UK,* (December, 2018)
[100] 'State of the water environment: long-term trends in river quality in England: 2024', *Environment Agency,* (January 2025)
[101] 'An analysis of national macroinvertebrate trends for England: 1991-2019', *Environment Agency,* (October 2021)
[102] 'Significant improvement in freshwater invertebrate biodiversity in all types of English rivers over the past 30 years', *Science of the Total Environment*, (December 2023)
[103] 'A Review of the Implementation of the Water Framework Directive Regulations and River Basin Management Planning in England', *Office for Environmental Protection*, (May 2024)
[104] 'Enhancement expenditure set to rise materially over the next 25 years', *Moody's Investors Service*, (October 2023)

Enhancement expenditure is expected to reach unprecedented levels over the next 25 years. According to figures from Ofwat, enhancement has averaged £3.2 billion a year over the last 34 years.

Over 2025 to 2030, it is expected to nearly triple to £9.2 billion a year, rising nearly every year until it peaks at more than £15 billion a year by 2050. This is in addition to base expenditure, which is expected to be around £11 billion a year over 2025 to 2030 (as shown in Figure 5).

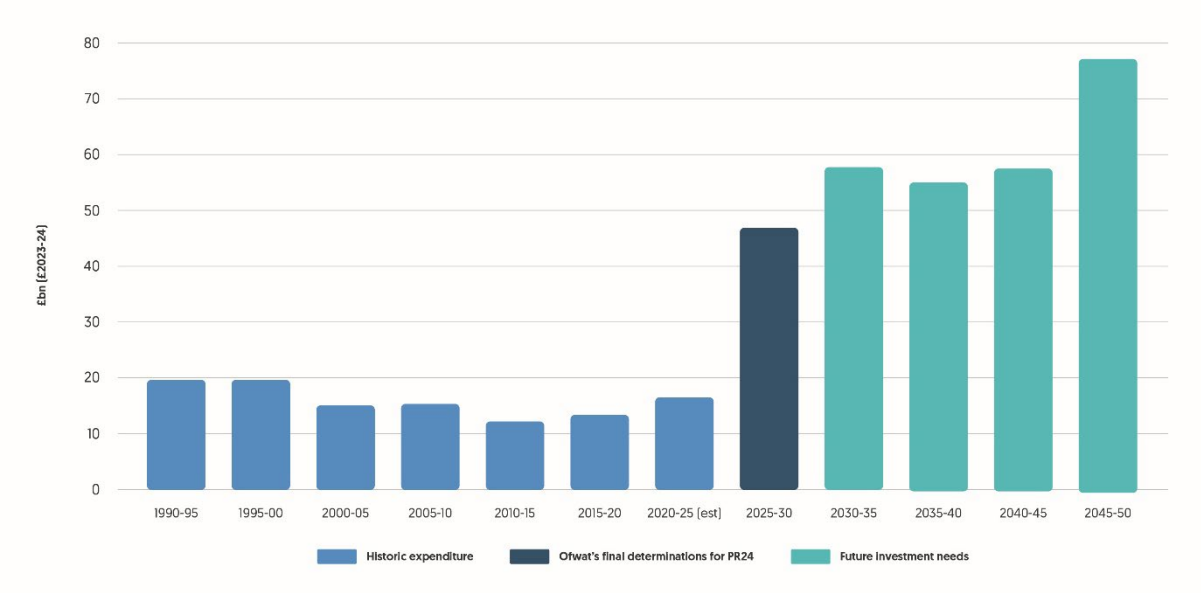

Figure 5 Enhancement expenditure in England and Wales (£bn, 2023-24 prices)

Source: Water UK analysis of Ofwat's long-term data series of company costs and water company long-term delivery strategies for PR24.

Much like at the beginning of the first wave of investment, this will only be successful if there are changes to the regulatory system.

Future investment is at risk

Over the next 25 years, companies will need to raise over £270 billion of capital from the markets to fund a greatly expanded enhancement programme.[105] However, the regulatory framework has been downgraded by independent credit rating agencies in each of the last two price reviews and the financial resilience of some water companies is weak. New analysis from Oxera shows that around £150 billion of expected investment will not be raised without a sufficiently investable framework.[106]

An unstable regulatory system

The financing model of the water sector is designed to provide investors with the trust and confidence to provide upfront funding for improvements. This investment is added to the value of the company's regulated asset base and then paid back by customers over time, with investors receiving a return based on the regulatory capital value. To fund this investment, water companies need to attract new debt and equity finance. As independent analysts have suggested, the water sector faces a 'paradigm

[105] Based on values submitted in companies' long term delivery strategy sections of the data tables provided alongside their October 2023 business plans.
[106] 'Investability at PR24', *Oxera,* (August 2024)

shift' in the need for equity finance to fund investment, compared to previous decades where regulatory capital value growth has largely, but not entirely, been funded by debt finance. [107]

Attracting these unprecedented levels of investment, as well as any additional requirements set by government and the sector's regulators, requires a regulatory framework that is seen by potential investors as stable, predictable and investable. That is, "it must be highly likely that the company can attract and retain the equity capital needed to deliver desired investment". [108] That does not mean that water company investors should be guaranteed returns in all eventualities. An effective incentive-based system, where financial returns are linked to performance, means that the best performers are able to receive higher returns than the worst performers, who should receive lower returns for failing to meet their regulatory targets. But those comparisons must be fair and based on objective information, so that investors understand the level of risk that they are bearing when deciding to invest in the water sector.

Unfortunately, despite the levels of investment approved by Ofwat as part of the PR24 final determinations – £104 billion of total expenditure, including nearly £45 billion of enhancement over the next five years – the regulatory framework is not nearly as stable, predictable or investable as it should be.

Unlike the regulatory frameworks for energy networks, which are rated AAA, the water sector regulatory framework has been downgraded by all three major independent credit rating agencies since 2018. For example, Moody's, citing a changed "assessment of stability and predictability of the regulatory environment" reduced the sector's rating from a world-respected AAA in 2018 to single A last year.[109] New analysis from Oxera suggests that these downgrades will mean customers paying up to £27 more a year in their bills – more than the £8 a year difference between Ofwat's final determinations and company proposals.

Additionally, **three water companies – Thames Water, Southern Water and South East Water – are in 'cash lock up',** prevented from paying dividends due to their poor financial resilience. A further seven are one downgrade or negative outlook away from being in the same position.[110]

Six water companies – representing a majority of households in England – have requested a redetermination of PR24 by the Competition and Markets Authority,[111] the most ever, citing concerns with Ofwat's approach to capital maintenance, performance targets and investability that introduce excessive levels of risk into the regulatory system.

Weakened financial resilience and investability

This increasing regulatory instability and financial fragility comes after a period where the financial resilience of water companies has been stretched. Debt can be a prudent and low-cost way of securing finance for investment, but overly high gearing levels left some companies exposed to recent economic shocks from inflation and rising interest rates.

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[107] Ibid.

[108] Ibid.

[109] 'Reduced Predictability of regulatory environment pressures credit quality', *Moody's Ratings,* (November 2024)

[110] Portsmouth Water and South Staffs (Baa2 stable) would hit the lock-up trigger with either a downgrade or a shift to negative outlook. Anglian, Northumbrian, Wessex, and South West Water (all Baa1 negative) are one downgrade away. Yorkshire Water, now Baa2 stable but recently negative, is similarly one outlook change from breaching the trigger. Source: Moody's Water Sector Review. (November 2024).

[111] As of April 2025, Thames Water has paused its request for a redetermination of its PR24 price controls.

In addition, dividends and returns, while relatively high in the past, have declined to record lows.[112,113,114]). The National Audit Office found that "average annual dividend yield was 3.5% of equity between 2020-21 and 2023-24, down from 9% of equity between 2015-16 and 2019-20. Five companies did not pay any dividends in 2024, and one company has not paid dividends for six years"[115] Ofwat's own assessment puts a majority of water companies (10 out of 16) as having some concerns or potential concerns with their long-term financial resilience.

The Independent Water Commission's research shows that return on regulated equity in 2022-23 were 3.6% for water companies, compared to 7.5% for electricity transmission, 5.9% for gas distribution, and over 4.2% for gas transmission networks.[116] This supports the Commission's view that investors in the water sector are being asked to accept materially lower returns than in other regulated sectors for often higher operational, regulatory and reputational risk (given the political scrutiny and environmental pressures on water companies).

Both the regulatory framework, and the decisions of some individual water companies, have contributed to this deteriorating picture. Poor financial resilience, and a poorly calibrated regulatory settlement, deter potential investment and put unreasonable levels of risk and costs onto customers through higher bills and increased failure risk. This is despite the regulated nature of the water sector in England and Wales creating the perfect potential conditions for stable, long-term private investment in public policy priorities.

This financial fragility comes at the same time that the water industry has to raise the largest amount of new equity and debt finance in the history of privatisation – more than 12 billion of new equity and potentially more than £30 billion of new or refinanced debt over the next five years.[117] The next five years are the beginning of at least a quarter century of new and sustained investment at levels well above any previous year – in the context of an increasingly uncertain world and significant competition for capital.

[112] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural Affairs*, (February 2025), p. 125
[113] 'Regulating for investment and outcomes in the water sector', *National Audit Office,* (April 2025), p. 10
[114] 'Explained: Ofwat water company performance report', *Water UK,* (October 2024)
[115] 'Regulating for investment and outcomes in the water sector', *National Audit Office,* (April 2025), p. 9
[116] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural Affairs*, (February 2025), p. 143.
[117] 'PR24 Final Determinations – Aligning risk and return', *Ofwat*, (December 2024)

1.3 Our proposals for reform

Public engagement consistently shows strong public backing for greater investment in water infrastructure, particularly when focused on improving environmental outcomes and securing long-term resilience. At the same time, there is widespread recognition that the current regulatory system needs to evolve to meet the scale and urgency of the challenge. The public increasingly expects a system that holds companies to account while also enabling timely, transparent, and future-focused investment. Reforming the regulatory framework is therefore essential not only to unlock the scale of private capital required, but also to maintain public trust and legitimacy in the decades ahead.

To deal with the three problems described above, we set out below our recommendations to the UK and Welsh governments to bring about the change that is desperately needed (Figure 6):

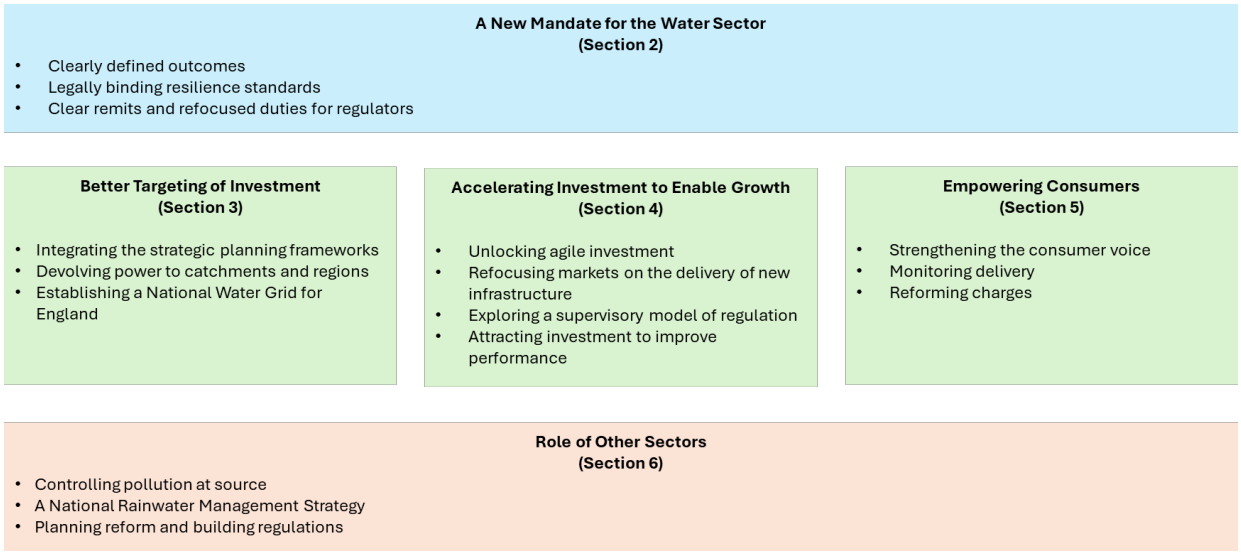

Figure 6 Structure of our response

We start this document by considering how the current situation arose (**Section 1**) and conclude it by considering questions of company ownership (**Section 7**). Each chapter is split into sections, within which we explain where the current system isn't working, analyse reform options, then make our recommendations.

Establishing a new mandate for the water sector

We need the UK and Welsh governments to set a smaller number of clearer objectives to inform the decisions made by regulators and water companies. We recommend this is done through a new mandate for the water sector, enabled by:

- **Clearly defined outcomes**. This should be achieved via two new overarching "apex" targets, one each for the environment and public health,
- **Confirmation of the level of acceptable risk**. This should be achieved via new legally binding resilience standards, and
- **Accountability and focus.** This should be achieved via clear remits and refocused duties for regulators.

The rest of this chapter deals with each of these in turn.

2.1 Clearly defined outcomes

Where the current system is not working

Environmental

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017[118] ('WFD') provides the overarching framework for managing and improving the water environment. Chapter 2 of the Commission's Call for Evidence includes a thorough summary of this regime and the Commission is seeking views on its future. Good Status acts as the main long-term target for the water environment. This is composed of Good Ecological Status, with a current target date of 2027 for 75% of waterbodies, and Good Chemical Status by 2063.[119] As noted in the Call for Evidence, the target for ecological status is almost certain to be badly missed.

Most of English water companies' investment to meet the Water Framework Directive and other environmental goals takes place through the Water Industry National Environment Programme (WINEP). There is a similar programme (the National Environment Programme, 'NEP') in Wales.

The Water Industry National Environment Programme is large and complex. At £22.1 billion, it will account for around a fifth of English water company expenditure to 2030[120], and nearly half of all enhancement. Around half of the programme by value will be spent on meeting the goals of the Storm Overflow Discharge Reduction Plan while another £6 billion will meet the nutrient requirements of the Environment Act 2021, the Water Framework Directive and the Levelling Up and Regeneration Act 2023.

[118] 'The Water Environment (Water Framework Directive) Regulations 2017', *HM Government*, (2017)

[119] The government has applied an 'Extended Deadline Exemption' to achieving good chemical status in surface water bodies, arguing that the presence of certain 'ubiquitous, persistent, bio-accumulative and toxic' (uPBT) chemicals now found throughout the environment will take many years to break down. We make further proposals for dealing with chemical pollution in Section 6 of this response.

[120] Note that the Water Industry National Environment Programme (WINEP)and o does also include a modest number of actions for Welsh Water, though the majority of Welsh environmental spend (£1.7 billion) is via the National Environment Programme in Wales.

In all, there are 17 different legislative obligations that comprise the Water Industry National Environment Programme, broken down into 93 specific "drivers" (i.e. environmental reasons for an action to be taken).

Despite this complexity, the Water Industry National Environment Programme and other regulated programmes (such as the very significant environmental objectives of Water Resources Management Plans) have proven very reliable at delivering specific outputs. Since 2020, 99.2% (3,481 out of 3,508) of Water Industry National Environment Programme projects have been delivered within planned deadlines.[121]

This has produced results. As the Environment Agency has stated, "Many rivers running through urban catchments used to foam and smell and were highly coloured. They were ecologically dead. Now these rivers support all kinds of life, which is a result of our action and £30 billion of investment from water companies".[122]

Despite this success, two problems are now growing that mean we need to strengthen the targets and how we meet them.

First, the **impact** of our current approach is declining as the water sector accounts for a decreasing proportion of issues facing waterways.

For example, phosphorus accounts for more water bodies failing to achieve Good Ecological Status than any other water quality pressure. Between 1995 and 2027 the Environment Agency expects phosphorus from sewage works to decline by 88% (equivalent to a 95% reduction if population had stayed constant). To deliver this, the water industry phosphorus programme for 2020-25 consists of around £1.65 billion of capital expenditure across 900 sewage treatment works serving 15 million people.[123]

However, lacking the same access to funding and accountability, agriculture is not able to take the same kind of action. Its contribution to phosphorus in rivers is likely to increase from around 25-30% in 2019 to over 50% by 2027. Therefore, the very significant investment by water companies (and by extension the billpayer) may only improve phosphorus compliance in rivers by 2%.[124]

Action by a single sector in isolation will have decreasing results once its most pernicious pollution has been dealt with. However, comparing the *investment needed* by each sector *against the level actually taking place* suggests that relatively isolated activity by the water sector is exactly what is taking place (Figure 7 and Figure 8).

[121] 'Water and sewerage companies in England: environmental performance report 2023', *Environment Agency,* (July 2024)
[122] 'Regulating for people, the environment and growth', *Environment Agency*, (November 2022)
[123] 'Phosphorus and Freshwater Eutrophication Pressure Narrative', *Environment Agency*, (October 2019)
[124] Ibid.

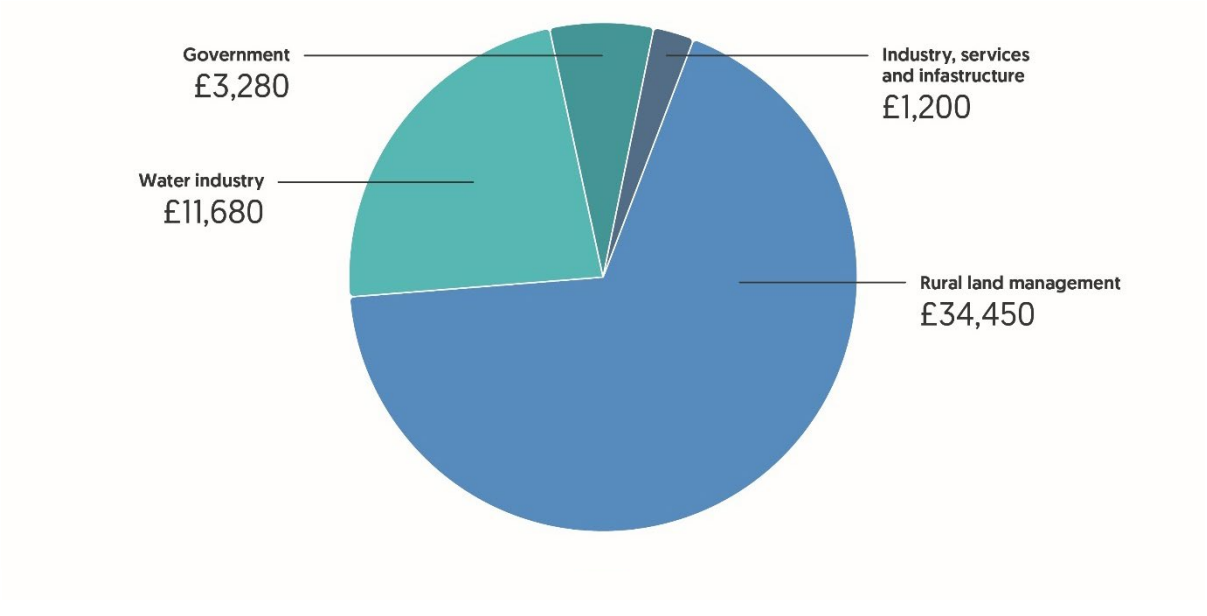

Figure 7 Investment needed to meet 2027 environmental obligations by sector (£ millions)
Source: Office for Environmental Protection analysis of Environment Agency data from 2022

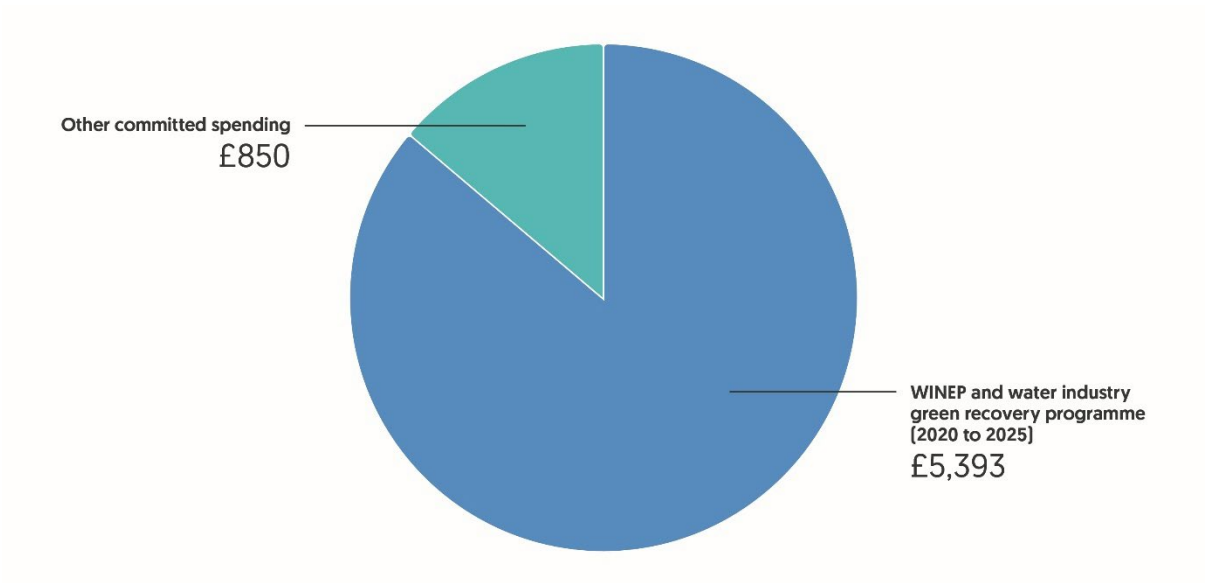

Figure 8 Actual Investment by sector to 2027 (£ millions)
Source: Office for Environmental Protection analysis of Environment Agency data from 2022

Second, the **efficiency** of this approach is declining. Frontier Economics has persuasively argued that "obliging water companies to deliver a prescriptive list of outputs [in the past] was arguably a proportionate approach to improve river water quality as there were likely many "low hanging fruit" options. However [this approach] has now reached a point where those low hanging fruit options have already been delivered, and marginal costs are now rising…It is estimated that, for the water sector, the cost of abating one kiloton of phosphorus per year will more than double from 2020 onwards, from around £150 million to £350 million per year from 2020-2027.

Focusing on narrowly-defined outputs will offer decreasing value for money.

The increasing need to look again at our approach to delivering environmental benefits means confronting the complexity present in each river catchment – something that could be ignored in previous decades when simple, narrowly-defined actions could be taken that quickly delivered significant results. Nearly every waterbody is affected by more than one pressure and often the same pressure (such as nutrient pollution) from different sources (as shown in Figure 9).

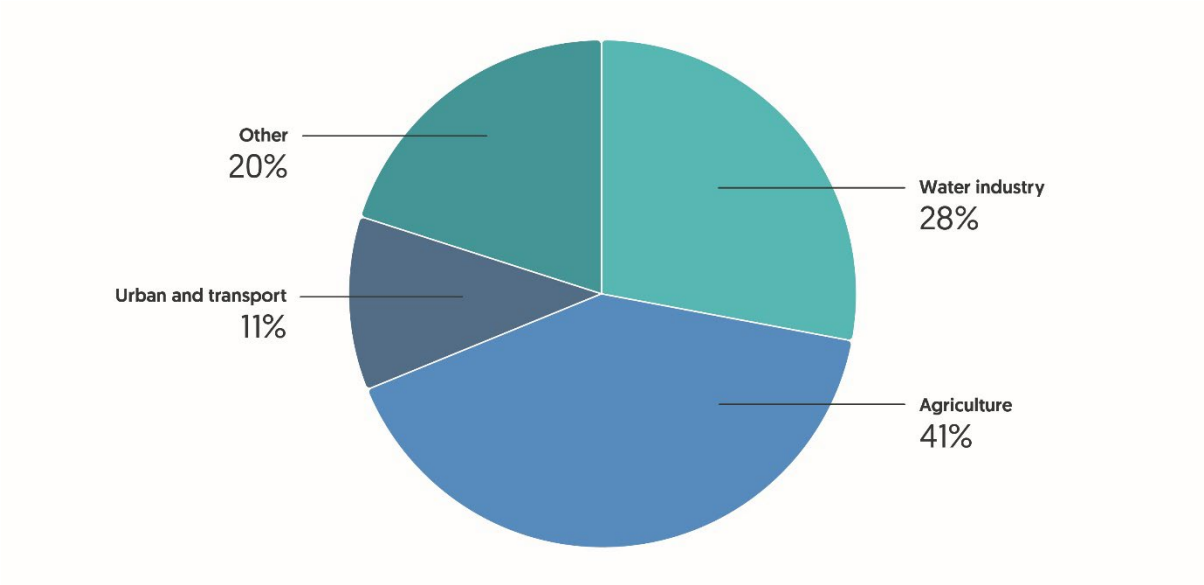

Figure 9: Contribution of harm in surface water bodies in England, by sector. Measured by proportion of reasons for not achieving good ecological status.
Source: Reasons for Not Achieving Good Ecological Status, Environment Agency

Some of these pressures are not monitored and managed at all. For example, there is a striking absence of environmental controls or regulatory oversight of the 18,000 highways outflows and drains in England managed by Highways Authorities, despite this being the third most common source of pollution in rivers[125] and hundreds of "high risk" road drains discharging "toxic"[126] chemicals near protected sites.[127]

These environmental interactions play out locally in catchments and, as we will argue, are better managed at this scale (see Section 3.2).

However, proper catchment management, and improved impact and efficiency, will only be possible if we first change the structure of the two main sources of environmental obligations:

1. **The Water Framework Directive**. Although this is intended to operate roughly in line with the principles of catchment management, the regulations are not implemented in a way that supports this in practice. That is why the Office for Environmental Protection has found that,

[125] 'State of the water environment indicator B3: supporting evidence', *HM Government*,(January 2025)
[126] 'Toxic run-off from roads not monitored, BBC finds', *BBC News*, (February 2024)
[127] '250 'high risk' outfalls discharging toxic cocktail into waterways near protected sites', *Ends Report*, (March 2025)

"…the measures in place and planned and the funds committed are not yet close to being enough to meet these outcomes for most water bodies."[128]

2. **The suite of targets under the Environment Act**. These seek to reduce inputs of pollutants into water (or reduce demand) and are determined at national level. They apply to individual sectors and have multiple problems. For example, as well as a narrowly-drawn target to reduce phosphorus in wastewater, there is another national target to reduce phosphorus, nitrogen and sediments from rural land-use. This target is subject to regulatory, incentive and delivery mechanisms that are wholly independent of the phosphorus target for wastewater.[129] Local actions to tackle pollutants from one sector are defined with no reference to actions being taken by another sector on the same or related pollutants.

The problem underpinning both sets of obligation is the lack of 'spatial' targeting – i.e. "figuring out the best actions to take by looking at how an action might work for that [site]or how an action helps important local environmental priorities"[130]. This is a problem because:

- **It misses opportunities to spend money in areas where it will have the biggest impact.** Generically applying the same top-down action across a class of asset (wastewater treatment works above a certain size) or at different points in the landscape (such as at different farms, or different points of the same farm) will provide very different benefits for the local environment depending on context. For example, reducing nutrients is much more beneficial in areas where they are causing eutrophication than in areas not suffering from algal blooms. For any given asset, its location and interaction with other elements of the environment will determine whether or not actions there will deliver genuine benefits rather than just ticking a regulatory box - and therefore whether actions in a given place are the best use of billpayer funds compared to potentially superior alternatives in other locations. A more sophisticated approach would allow better targeting on (and more ambition and impact at) those places where action is needed most.
- In fact, **without prioritising those areas where impact will be greatest, national targets will be missed.** The Office of Environmental Protection has found, for example, that, "to reach [agricultural targets] at national scale would require significant changes in land management in catchments where agricultural diffuse pollution is a major pressure, and hence prioritisation of action"[131].
- Importantly, **in some cases generically-applied obligations may actually cause perverse outcomes up to and including overall environmental harm**. This is because it is possible for actions to have a high carbon cost but no significant environmental benefit.
- Without a spatial approach it is very difficult to coordinate action across multiple sectors, to ensure that **gains from one sector are not wiped out by another**.

Our proposals for reform, therefore, include a **spatial element to how targets are translated into local actions via a catchment plan (see Section 3.2 below)**.

[128] 'A Review of the Implementation of the Water Framewodk Directive Regulations and River Basin Management Planning in England', *Office for Environmental Protection*, (May 2024)
[129] Indeed, specific policy mechanisms to achieve the agriculture target remain undisclosed by Government.
[130] 'Simplifying Land Management with Spatial Prioritisation in England', *Joint Nature Conservation Committee,* (November 2024)
[131] 'Progress in improving the natural environment in England 2023/2024', *Office for Environmental Protection*, (January 2025)

In addition, as the Office of Environmental Protection has noted, the Environment Act does not include an 'apex target' towards which sector-specific actions are intended to contribute.[132] Neither the wastewater, water demand nor the agriculture targets are embedded within a shared long-term objective for overall environmental health. Each target is a standalone outcome in its own right, even though all are ostensibly aimed at improving the same environment. As we discuss below, the national targets can, therefore, translate into inefficient or ineffective actions locally, with no explicit end-state against which to judge progress and effectiveness.

Our proposals for reform therefore include **an overarching apex goal** for ecology against which everything else can be judged.

Public health

As well as environmental outcomes, the public expect access to waterways and for their health to be protected. In particular, there has been an explosion of interest in recent years in swimming in inland waterways[133] with record numbers designated for bathing[134]. This is long overdue: England has 32 bathing areas on rivers and lakes compared to two thousand in Germany and over a thousand in France[135].

The water industry strongly supports a framework that allows outdoor swimming and other recreational uses to be actively facilitated and made as safe as possible, with people given the information they need to be confident they can enjoy their natural environment. In 2023, water companies committed to support at least 100 communities apply for new designated bathing areas[136], a pledge that has now been delivered by their providing supportive written submissions for designated bathing areas, giving water monitoring kits to local communities and carrying out other preparatory actions to support further designations.

At present, the Bathing Waters Regulations remain the main statutory mechanism to achieve the designation and monitoring of sites for public recreation. Designation also means water companies normally find it easier to secure approval from regulators to reduce the impact of wastewater discharges. However, even with recently-announced improvements to the Bathing Water Regulations, major reforms are needed to the identification and designation of new waters for recreational use. We completely agree with the Office for Environmental Protection's conclusion that the Regulations "originate from developments in the 1970s and 1980s and are a product of their time".

> ***"[The bathing water regulations] have not kept pace with the evolving ways in which waters are now used for recreational purposes, or with public expectations"[137]***
>
> **Office for Environmental Protection, 2024.**

[132] 'Advice on Environmental Targets', *Office for Environmental Protection,* (June 2022)
[133] 'Trends in Outdoor Swimming 2023', *Outdoor Swimmer Magazine*, (February 2023)
[134] 'Record number of new bathing sites get the go ahead', *Department for Environment, Food and Rural Affairs*, (May 2024)
[135] 'Assessment of the Implementation of Environmental Law in Relation to Bathing Waters', *Stantec and Centre for Research into Environment and Health*, (February 2023)
[136] 'Water and sewage companies in England apologise for sewage spills and launch massive transformation programme', *Water UK*, (May 2023)
[137] 'A review of implementation of the Bathing Water Regulations in England', *Office for Environmental Protection*, (November 2024)

There are seven problems with the current system:

1. **Designation doesn't guarantee an area will reach 'excellent' or even 'good' status:** Once an area has been designated, even with the local water company taking whatever action it can, there is no guarantee that it will reach 'good' or 'excellent' classification. Other sectors may be very significant contributors to the bacteria in a river, but lack both the regulatory responsibility to act and the funding sources available to water companies. For example, at the first river classified for bathing, at Ilkley Wharf, bacteria from sewage and livestock has a similar impact in dry weather while livestock has a greater impact in wet weather[138]. However, while Yorkshire Water is spending £60 million on upgraded wastewater treatment, only advice and patchy access to grants can be offered to improve agricultural run-off. If the status of formal designation is interpreted as a guarantee that action will be taken, expectations may be dashed.
2. **Improvements are often frustratingly slow:** Even if sufficient collective action is being taken to reduce pathogens, this may still take many years to deliver. However, patterns of human geography and river topography are such that we expect most newly-designated inland bathing areas in England to first earn a classification of 'poor'. Until improvements are made, the status of formal designation may provide the public with baseless confidence about an area's safety and the risk of becoming ill before those areas have been improved.
3. **Advice and guidance to bathers is very patch and poor**: Water companies publish near real-time information on storm overflow spills, but those may only be responsible for a small proportion of pathogens. Bacterial inputs to a bathing area from other sources (or even better the actual presence of pathogens), are in most areas neither monitored, nor modelled nor communicated in any timely way. This means the public have no timely estimate of the risk associated with an activity at any given time.
4. **There is no official estimate of what making bathing areas good or excellent would cost:** The UK government has not taken a view about the amount of investment that should be made on improvements to the land, highways or water company assets that affect designated bathing areas. It is unclear whether for the water sector this will be uncapped (in which case the impact on billpayers could be very large, particularly as most of the population claim to never swim in rivers, lakes or reservoirs).[139]
5. **There is no strategy for where to designate areas:** Because the qualifying criteria for designation is for 100 daily users and nearby toilet facilities[140], we could see clusters of 'first mover' areas designated in a way that reduces practical capacity or funding to enable them elsewhere. This could have the effect of reducing access to the environment in other regions (perhaps those that have fewer or less well-organised civil society groups).
6. **Designation decisions are taken without assessing impacts on other government aims:** The lack of strategy for designation also means that, while sometimes designation will result in an improvement that has benefits for both recreation and ecology, there are also very often tensions (not least that increased human use of a river will tend to be bad for wildlife) and it is unclear how these should be resolved. There is also no consideration of other factors such as the impact on or of future growth (including commercial, housing or transport

[138] 'Working towards a cleaner Wharfe – a closer look at water quality testing at Ilkley's bathing water', *Environment Agency*, (April 2024)
[139] Based on Water UK polling of 4,086 adults in England and Wales (fieldwork conducted 16th – 20th August 2024)
[140] 'Designate a bathing water: guidance on how to apply', *HM Government,* (May 2024)

development) or food production. Although changes to the bathing regulations are expected to introduce feasibility assessments, this will still involve scheme-by-scheme assessments with no established public policy objective(s) or criteria in deciding a designation, which would therefore remain an opportunistic rather than a strategically-managed outcome.

7. **Bathing Waters Regulations neglect modern recreational users:** Governments have historically focussed on swimmers, rather than other recreational users such as paddleboarders, kayakers or anglers who can have different needs. However, we are pleased that Defra is considering a broader definition of 'bather', which stems from the original 1976 legislation (though note the risk of unintended consequences of doing so within the existing Bathing Waters Regulations).

Our analysis of reform proposals

We are concerned that the current suite of environmental targets and objectives will not deliver optimum outcomes for the environment or for customers.

Without an extension to or replacement for the Water Framework Directive after 2027, Environment Act targets will likely[141] dictate most of the objectives for future Water Industry National Environment Programmes. These targets are too prescriptive and narrow in focus.

The Water Framework Directive establishes a plan-based approach[142] to managing a comprehensive range of issues that affect the water environment. Plans are supposed to achieve (among other things) Good Ecological Status, which is intended to function as an outcome-based target (seeking to achieve an environmental outcome close to 'natural' conditions rather than a prescribed list of outputs at specific works).[143]

However, we consider the Water Framework Directive has not been successful at either:

- Driving co-ordinated action as part of a plan. This is because the interactions between biological, chemical and physical elements are lost in the definition and implementation of investment programmes, which often target a single element in isolation from others it interacts with.
- Providing an outcomes-based target. Good Ecological Status does not *operate* as an outcomes-based target because, in practice, it is reduced to its components which are tackled individually, if at all.[144]

[141] 'Government response to the Office for Environmental Protection report on the implementation of the Water Framework Directive Regulations and River Basin Management Planning in England', *Department for Environment, Food and Rural Affairs,* (September 2024) This is partly an assumption as the legal position remains unclear. Not all aspects of the WFD regulations are bound by the 2027 deadline and so would remain as long as the regulations remain in force. The relevant 2027 deadline applies specifically to environmental objectives with the aim of achieving Good Ecological Status. Government has not set out its position in relation to these sections of the regulations after 2027. In its response to the OEP's report on the WFD regulations, it also noted that "The Directive does not set out the position after the 2027 deadline"

[142] 'The EU Water Framework Directive: From great expectations to problems with implementation', *Science of the Total Environment*, (January 2017) - This was meant to represent a shift from historic focus on 'end-of-pipe' solutions to identifying and addressing specific issues in each river basin district.

[143] 'Outcome Based Environmental Regulation', *Ofwat,* (November 2021)

[144] 'The EU Water Framework Directive: From great expectations to problems with implementation', *Science of the Total Environment*, (January 2017)

Nonetheless, we consider that the basic architecture and aims of the Water Framework Directive are correct: **the environmental harms which arise from complex interactions of different elements must be subject to a place-based assessment and tackled holistically**.[145]

The current target date for achieving Good Ecological Status is 2027. Beyond this date, it is unclear whether statutory obligations to achieve Good Ecological Status will continue to apply.

In its place, the main statutory drivers for managing the water environment may be those targets set under the Environment Act 2021.[146] Targets made under this Act are sector-specific, narrowly focussed on reducing inputs of specific pollutants (phosphorus in the case of the water sector). Each individual target and the actions to achieve them is treated as a standalone output, with no reference to achieving wider environmental goals.[147] This approach represents a backwards move away from the integrated approach of seeking to monitor and manage interrelated stressors and elements towards an agreed long-term goal, in the way envisaged (if not always achieved) by the Water Framework Directive. This loss of context and integration with other environmental parameters constitutes a regulatory leap of faith that reducing this narrow range of inputs will alone drive environmental recovery.

Rather than stepping back to the Environment Act's standalone targets, there is a big opportunity afforded by the planned introduction over coming years of real-time river water quality monitors. **The imminent era of real time monitoring could enable much smarter and precise targeting of actions across different aspects of the water environment (pollution, storm overflows, flows etc) and different sectors that affect it**.

Targets for wastewater are too prescriptive in how they are to be delivered

Ideally, in meeting environmental objectives, action across different sectors would be targeted to those areas where pollutants or excess nutrients are known to be causing ecological harm. Depending on the make-up of a catchment, achieving, say, an environmental outcome associated with nutrient load reduction (for example) could be optimised by understanding the most cost-effective mix of (i) treatment work upgrades and/or (ii) actions on land that would best reach a specified outcome. Water companies have been trialling such approaches for several decades, for example through Catchment Nutrient Balancing schemes.

In practice, the Environment Act wastewater target will be achieved by upgrading larger treatment works (those of 2,000 population equivalent and above) to the technically achievable limit for phosphorus reduction.[148] These larger works may or may not be optimally located within the catchment to deliver maximum environmental benefits. Even where phosphorus is the correct priority in the relevant catchment, there is no assessment of whether treatment work upgrades are the most

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[145] 'Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy', *European Union,* (October, 2023). As the Directive sets out, "Member States should aim to achieve the objective of at least good water status by defining and implementing the necessary measures within **integrated** programmes of measures… Decisions should be taken **as close as possible to the locations where water is affected or used**." (our emphasis)

[146] 'Environmental Improvement Plan 2023', *Department for Environment, Food and Rural Affairs*, (January 2023) - The Environmental Improvement Plan 2023 contains a goal to "achieve clean and plentiful water by improving at least 75% of our waters to be close to their natural state as soon as is practicable" which does not appear to have any material weight in any planning or decision making. Environment Act biodiversity targets, which could in principle act as apex targets for biodiversity, were found by OEP to "lack coherence" with water management under WFD.

[147] 'OEP response to consultation on environmental targets', *Office for Environmental Protection*, (July 2022)

[148] 'Water targets: Detailed Evidence Report', *Department for Environment, Food and Rural Affairs*, (May 2022) - Defra's analysis notes that "This means tackling projects that were previously deemed not to be cost beneficial"

cost-effective means of reducing phosphorus loads in that location. There is also no consideration of the associated carbon costs of doing so, nor the wider benefits that could be achieved by catchment and nature-based solutions for statutory targets such as reversing the decline in the abundance of species.

Targets are siloed and progress from one sector could be held by a lack of progress in others

The policy pathways to achieving the agricultural targets that flow from the Environment Act remain undetermined by Defra (or at least unpublished if such analysis has been undertaken). The main mechanisms for regulating pollutants from farms are on-farm regulations and incentive payments through agriculture subsidies.[149] Subsidies for specific actions (such as nutrient management) are not necessarily targeted in areas where nutrient pollution is known to be a significant water quality issue.[150] This lack of spatial targeting makes cross-sector coordination effectively impossible. Reduced phosphorus loads from wastewater could effectively be undermined by failure to act on diffuse sources in the same catchment (or vice versa). This risk is particularly significant in the case of the agricultural sector where the available budget is unlikely to be sufficient to meet environmental targets.[151] Defra has recently indicated that reforms to the first tier of its agricultural support mechanisms (Sustainable Farming Incentive) "will direct funding where there is greatest potential to do more on nature."[152]

Trade-offs have to be managed piecemeal and without recourse to agreed public policy objectives

There are also fundamental trade-offs between the public policy objectives that are implicit in the framework of environmental and public health legislation. These objectives, and the basis on which trade-offs are to be made, are silent within the laws and regulations themselves. New environmental legislation has been incrementally added over time with no common purpose or clear end-goal in mind. This has led to inconsistencies and incoherence of the body of law as a whole[153]. It has also introduced a set of competing obligations. How these trade-offs should be made is largely a political question. In our view, any trade-offs should be based on achieving an agreed vision for the waterways, whilst setting realistic expectations on competing uses. Trade-offs currently play out through the statutory planning process which requires difficult decisions to be made in the absence of clarity concerning the public policy intent behind, and relative priority of, competing targets.

For example, public access to and recreation at waterways is supposed to be largely facilitated by the Bathing Waters Regulations. However, wildlife can be disturbed by human activity and, similarly, can be a leading cause of pathogenic risk to humans. The risk of conflict between recreation and ecological objectives is clear, though the basis on which these are to be resolved, which is fundamentally a political decision, remains unclear. Similarly, water resource objectives have been challenged by the need to keep water in the environment to support ecological ambitions. Long-term water resource planning requires both more water resources to be made available for people and businesses, and also

[149] 'Farmers left in the lurch as DEFRA's flagship funding scheme abruptly closes', *Sustain.web*, (March 2025). Government is reforming how the main tier of funding – Sustainable Farming Incentive – will operate having closed the scheme to new entrants in 2025 citing poor value for money among other policy failures.

[150] Water quality is not the only outcome that farming subsidies are intended to make progress on.

[151] 'For farming, nature and climate: Investing in the UK's natural infrastructure to achieve Net Zero and nature's recovery on land', *RSPB, National Trust and The Wildlife Trust*, (July 2024)

[152] 'An update on the Sustainable Farming Initiative', *Department for Environment, Food and Rural Affairs*, (March 2025)

[153] For example, parallel but divergent requirements just on storm overflows are contained within the Environment Act, Urban Waste Water Regulations and WFD

more water to be left in the environment. Whenever one must be sacrificed for the other, the decision should be made in accordance with a politically determined and clear long-term objective.

In practice, well-intentioned environmental objectives are leading to the (in some cases) possibly premature retirement of sustainable abstractions with mixed confidence on whether any meaningful environmental benefits would even be achieved from doing so. A recent study from UKWIR reports that "it was not possible to establish a more confident understanding of flow impacts on ecology needed to evaluate the benefits of abstraction reductions so these could be prioritised in the more holistic context of habitat modification (and other pressures)".[154] We lack a formal basis, rooted in agreed public policy objectives, on which to resolve the conflict.

We conclude that the current suite of environmental targets is not fit for purpose. They are too top-down and reduce the amount of environmental improvement possible for a given level of investment. Critically, this risks delivering a poor environmental return on investment, even if all current environmental targets are met.

[154] 'National Framework for Water Resources: Environmental Destination Investigation Framework', *UK Water Industry Research*, (2024)

Our recommendations

We consider that **the objectives of the Water Framework Directive, targets under the Environment Act, the Bathing Waters Regulations, as well as many of the targets and regulations applying to rural and urban land management, should be all be updated and consolidated to centre around three main long-term public policy objectives.** Such objectives would constitute a long-term, multi-sector vision for the waterways that would provide a framework for detailed policies and plans to deliver them (including a new tier of catchment planning argued for in Section 3.2):

- **Ecological and natural environment**: The UK and Welsh governments should develop a successor to Good Ecological Status that addresses the concerns raised above, based in new primary legislation.[155] **A successor must:**
    - Provide (at least) equivalent levels of protection and ambition to Good Ecological Status, as measured by outcomes for biodiversity and ecology
    - Be more firmly rooted in recovering and sustaining biodiversity as its main aim, with improvements benchmarked against an evidence-based trajectory
    - Drive catchment resilience in the face of climate change
    - Drive holistic actions across the many interacting elements that support biodiversity, including chemical and physical elements. However, it should not set standalone objectives on supporting elements (eg phosphorus levels or flow) unless there is clear evidence these are contributing to an observed pressure on biological elements

- **Recreation and public health**: The UK and Welsh governments must set a national expectation for the number of inland waterways that should attain stringent water quality standards for bathers and other recreational users. This must not be open-ended, as at present. Instead, government should either set a numerical target for each catchment or use a clear methodological approach to ensure that sufficient provision is made for statutory bathing water areas without undermining the public policy objective on ecology. This could include, for example, a requirement for each person to live within a certain number of miles of a designated area.
- **Improve resilience**: the third component of a new overall direction is the creation of resilience standards, including for the health of infrastructure and availability of water. As we envisage this taking place through legislative standards rather than targets, this is set out in Section 2.2. Section 3.3 sets out how a new National Water Grid for England should then deliver the standard for water.

[155] A new ecological target could be established by updating the Water Framework Directive (England and Wales) Regulations 2017 or the Environmental Targets (Water) (England) Regulations 2023. The Environment Act requires the Defra Secretary of State to set at least one long-term target for water, alongside targets for biodiversity, air quality and waste reduction. We recognise the benefits of setting the proposed new ecological target under the Environment Act framework with the regular cycle of monitoring, reporting and reviewing national progress established by the Act. However, we note that there may be constraints in using the Environment Act powers to extend the target to Wales, which would risk divergence between the UK and Welsh governments. In contrast, the Water Framework Directive applies to both England and Wales but lacks some of the more modern, powerful features of the Environment Act.

Implementing the recreation and public health target

We support the aims of recent proposals to improve the Bathing Water Regulations.[156] However, in isolation these changes do not address all of the concerns described previously. Industry believes three further changes are now required:

1. **Better monitoring**. First, modern techniques such as polymerase chain reaction (PCR) and molecular biology analysis should inform feasibility studies. These provide more comprehensive understanding of the pathogens in a waterbody, including potential exposure to antimicrobial resistant organisms (important because of their potential prevalence among recreational water users).[157] Then, because we cannot measure the concentration of river bacteria in real time, artificial intelligence should be used to provide timely real-time predictions of public health risks associated with water bodies once designated for bathing or where used heavily for recreation (building on examples like Wessex Water's work at Warleigh Weir).[158]
2. **Action plans**. Where feasibility studies show that a prospective bathing area is not yet at 'good' or 'excellent', but has the potential to achieve that classification, it should be given a 'candidate' designation with a plan at catchment level (see Section 3.2) to deliver improvements, allocating actions in proportion to harm. This may require seeking agreement from landowners, local authorities or others affecting the water environment. Defra should monitor whether a voluntary approach is sufficient to agree such plans and consider regulatory action if that proves insufficient. Candidate status allows the public to understand that improvements have not yet all been delivered to reduce risk but would still require monitoring and communication. However, money, including from billpayers, should not be committed until there is a reasonable prospect of achieving an improved classification.
3. **Better communication**. The UK and Welsh governments and their regulators should consider modern means of communicating real-time and static data on public health risk, including facilitating a specific "Blue Flag"-type scheme for inland waterbodies for England and Welsh rivers. This could be accompanied by better signage (including, for example QR codes to allow the public to immediately see the latest data on a waterbody).

[156] 'Reforms to the Bathing Water Regulations 2013: Summary of Responses and Government Response', *Department for Environment, Food and Rural Affairs,* (March 2025). Of particular importance will be the commitment to consider a site's feasibility to improve (which should allow earlier identification of the actions needed) and an assessment of the risks and opportunities for the environment. We also support consideration of the definition of 'bather', potentially updating this in line with modern uses of water.

[157] 'Human recreational exposure to antibiotic resistant bacteria in coastal bathing waters', *European Centre for Environment and Human Health, University of Exeter*, (2015)

[158] 'AI technology used for Warleigh Weir bathing water study', *Wessex Water*, (April 2022)

Conclusion

These reforms to environmental legislation must ensure:

- **A simpler legislative framework to enhance environmental protection.** This should be rooted in a clear vision of what 'good' looks like and how competing demands on the water environment are to be managed.[159]
- **Better targeting.** Meeting long-term objectives will require different courses of action in different catchments. Technical and issue-specific targets (such as specific target loads for phosphorus) should not be set nationally, but instead must be based on a deep understanding of the dynamics of an appropriate hydrological unit (catchment). These reformed long-term objectives are to be delivered within the approach to catchment devolution considered in Section 3.2 below, with detailed targets and actions to be established within the catchment plan. To complement national objectives, technical guidance on assessing and setting local objectives, resolving trade-offs etc must be provided and act as statutory guidance and policy for local planning.
- **Investment focussing on reducing harm and the sources of harm.** Actions must deal with the sources of harm, not just visible symptoms.

Finally,

- Government should **modernise its approach to 'bathing' areas,** including how they are chosen and assessed; how improvements are identified and agreed; and to mechanisms for ensuring accountability for making improvements and communicating real-time risk to the public.

Particularly in light of the need for a programme of consolidation and reforming governance arrangements to allow for decision-making to be better informed by local conditions, we foresee the need for an extensive legislative programme and recommend that this is taken forward in a future White Paper to be published within twelve months of the Independent Commission's report.

2.2 Legally binding resilience standards

In its Call for Evidence, the Commission is seeking views on asset resilience and asset health, including whether monitoring of water infrastructure should be improved, whether resilience standards are needed, and whether the current approach to asset renewal is adequate.

Where the current system is not working

The Commission quotes Ofwat in defining operational resilience as "the ability of an organisation's infrastructure, and the skills to run that infrastructure, to avoid, cope with and recover from disruption in its performance."[160]

Operational resilience and, therefore, the integrity of water and wastewater services is weakened by:

- Inadequate funding for the maintenance and replacement of aging assets;

[159] 'OEP submission to the Independent Water Commission', *Office for Environmental* Protection, (April 2025) - Our proposals broadly agree with those of the Office of Environmental Protection. Their call for apex targets mirrors our recommendation for three new long-term objectives. OEP's call for '*mechanisms to address all major pressures'* and '*involvement of all the main players in a more effective way'* maps neatly onto our ambitions for the catchment plan and proposed governance framework. They also recommend that '*those who must implement it should be closely involved in its design',* echoed in our call for a White Paper and sustained policy development with all affected sectors.

[160] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural Affairs*, (February 2025)

- Inadequate funding to rectify vulnerable networks and treatment works, leaving single points of failure (e.g. a single water pipe supplying a community) and assets that are not sufficiently strong to withstand increasingly frequent extreme weather events;
- Inadequate contingency (e.g. insufficient water to deal with peaks in demand); and
- Dependencies on other sectors such as the power network and chemical suppliers.

Operational resilience is also threatened by inadequate 'anticipatory' investment ahead of need (discussed further in Section 4.4). While the principal consequence is less economic growth, with businesses unable to secure a water or wastewater services, this "just in time" approach may also increase the risk of low pressure, service interruptions, the need for drought management tools and environmental harm from asset failure.

Clearly, water companies should be at the centre of efforts to understand the state of their assets and service risks, taking actions wherever possible to manage them. However, as we set out in Section 4.4, it is impossible for companies to do this effectively if funding is set incorrectly for maintenance, contingency and replacement. Indeed, the National Audit Office has said that "regulators do not have a shared understanding of the condition of water and wastewater assets, and the level of funding needed to maintain them".[161]

Since 2020, the National Infrastructure Commission has been calling for the UK government to set 'resilience standards' to form the basis for investment planning. The National Infrastructure Commission said this should be accompanied by a system of regular stress-testing to ensure that regulated companies can credibly meet those standards, and that sector regulators should demonstrate how their price reviews are consistent in meeting those resilience standards in the short and long term.[162]

Yet, Ofwat stopped work for a year on operational resilience during 2023.[163] Indeed, despite the frequency and intensity of climate change events placing pressures on our water infrastructure for which it was never designed to cope, Ofwat has simply declared that:

> ***"…we continue to expect companies to be responsible for managing the effects of factors outside their control."***[164]
>
> **Ofwat, 2024.**

Not even two 'near misses' in water supply in Essex was enough to persuade Ofwat to fund greater resilience, which (thankfully for the people of Essex), the Competition and Markets Authority subsequently overturned.[165]

From the perspective of a regulator, service risk is a hidden, seemingly-improbable and far-off threat compared to the pain of a higher bills announcement. This is even more the case when the reputational and financial risks of individual service failures are transferred almost entirely to the individual company regardless of underlying cause. To balance the incentive towards lower customer bills, we

[161] 'Regulating for investment and outcomes in the water sector', *National Audit Office,* (April 2025), p. 9
[162] 'Anticipate, React, Recover: Resilient Infrastructure Systems', *National Infrastructure Commission,* (May 2020)
[163] Presentation by Ofwat to an 'Infrastructure Health' conference (May 2024)
[164] 'PR24 Final Determinations', *Ofwat*, (December 2024)
[165] 'Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations', *Competition and Markets Authority,* (March 2021)

need well-defined, highly-visible and legally binding outcome-based resilience standards to inform the approach of regulators and companies.

The National Infrastructure Commission recommended[166] that Defra should explore setting, by the end of 2025, new resilience standards for the following areas:

- Peak water demand.
- Single sources of supply.
- Forward-looking asset health standards considering climate change related deterioration.
- A 1-in-50-year storm risk reduction target.

As the National Infrastructure Commission noted in its 2024 report, there are other measures or service expectations on water companies that could be considered to be a form of standard – such as the guaranteed standards scheme, which determines when payments should be made to customers after a certain length of water supply interruption. While those measures have a role to play in the water sector, they do not reflect system-wide or forward-looking risks and have not been formed the basis for long-term investment decisions.

Reliance on other sectors

Many critical and 'too critical to fail' water and wastewater sites rely on power, telecommunications, flood defences, transport and other infrastructure to operate without disruption. However, critical water industry sites are often inadequately protected by other providers, who have not invested in their own resilience and do not always prioritise water infrastructure as they restore services.

This can have very significant effects. For example, power failures are the leading cause of sewage pollution incidents in the North East of England.[167] There needs to be a focus both on improving the resilience of other services and on how companies can be funded to improve local resilience at individual sites. This should be led by the government as part of its work on resilience, as liaison with (and potentially direction to) other regulators, such as Ofgem, will be required.

Supply chain resilience

The water sector is increasingly exposed to global supply chain disruptions, particularly in areas such as chemical procurement, infrastructure components and cyber infrastructure. These challenges have been exacerbated by recent geopolitical events, including Brexit, the Covid-19 pandemic and shifts in global tariffs. While water companies are rightly expected to maintain delivery and performance standards, the current regulatory framework offers limited flexibility for responding to sudden and material cost changes.

Chemical supplies, in particular, are a critical component of water and wastewater treatment, yet these supply chains have become increasingly fragile due to energy price volatility, international supply disruptions, and limited domestic stockpiling. Similarly, cyber infrastructure systems, often overlapping and highly interdependent, pose growing risks that require strategic oversight. Despite their importance, these areas are not properly represented in statutory resilience standards and regulatory planning.

The case study below illustrates how the current system does not adequately account for critical supply chain vulnerabilities, particularly chemicals for drinking water treatment. Recent disruptions have

[166] 'Developing resilience standards in UK infrastructure', *National Infrastructure Commission* (September 2024)
[167] 'Statement of Case', *Northumbrian Water*, (March 2025).

exposed the fragility of just-in-time delivery models and the sector's reliance on overseas suppliers highlighting why greater regulatory focus and investment in resilience is urgently needed.

Box 1: Case Study: Chemical supply chain resilience issues

The water industry relies on several critical chemicals to make water wholesome and suitable for consumption. However, a number of those chemicals come from sole supply chain providers (which are often not based in the UK: around 55% of suppliers are based overseas or import raw materials from abroad[168]) and, therefore, their supply can be affected by minor events such as a fire or cessation of production at just one factory. This fragility of the supply chain arrangements became apparent in 2024 when one zinc sulphate plant in Germany experienced a catastrophic fire event affecting the UK water industry's supply of sulphur dioxide, a chemical used in water treatment to remove chlorine.[169] If the company had not managed to quickly strike a deal to source product from another Spanish supplier, the incident could have caused nearly 10 million customers to experience unacceptable tasting tap water, with water companies required to issue notices to their customers telling them to boil their water.

Shortages created by these events are often made even worse by the just-in-time supply chains operated in the sector and broader economy. Emergency events can and have in the past created constraints on stock levels and treatment schedules with a subsequent risk of widespread water supply disruptions. In September 2021, the supply of ferric sulphate, a critical chemical used in both water and wastewater treatment, was disrupted. The issue was not a shortage of the chemical itself but rather a distribution problem caused by a nationwide shortage of HGV drivers, highlighting the fragility of the just-in-time supply chains in the sector.[170] In response, the Environment Agency issued a temporary regulatory position statement permitting water companies to reduce the dosage of treatment chemicals used in wastewater processes (something that was, in the end, narrowly avoided).

Given the imperative to maintain potable water supplies, the regulatory and policy framework around critical chemicals should be oriented to strengthen resilience. The current safeguards (e.g. triggers that may be used to alert regulators when stocks decrease past two-week thresholds[171], and requirements about arrangements for alternative water supplies), are inadequate, leaving the public exposed.[172] The importance of supply chain resilience has been heightened by geopolitical and trade disruptions and the continued impacts of extreme weather driven by climate change.

Given the importance of chemicals to the provision of water supplies, their availability should be part of the assessment of statutory resilience standards with action taken where they pose a risk to their achievement (for example by considering, among other things, whether additional stocks should be mandated). In addition, if a supervisory approach toward regulation is developed (see Section 4.3), this approach should be examine cross-cutting risks between companies such as chemicals availability and look to develop a stronger suite of measures to guard against shortages.

To achieve a significant improvement in the resilience of chemicals used for drinking water, domestic manufacturing and storage should be actively encouraged. This would reverse a trend over recent

[168] Based on Water UK analysis.
[169] 'Fire extinguished in the zinc sulphate plant of GRILLO Chemicals GmbH', *Grillo,* (February 2025)
[170] 'Water companies face chemical supply disruption', *BBC News*, (September 2021)
[171] 'Water and sewerage company effluent discharges: supply chain failure RPS B2', *Environment Agency*, (October 2021)
[172] 'Managing insufficiency of private water supplies', *Drinking Water Inspectorate*, (March 2025)

years of closing production.[173] The increase in production of Ferric Sulphate by Kemira[174] shows that with specific regulatory drivers (in this case phosphorus reduction), increases in production are possible. To see domestic production increase across more critical chemicals, a more concerted effort by government to increase the attractiveness of the UK as a destination for chemicals production, including considering the impact of increasing electricity and input costs, skills shortages and other aspects of industrial strategy, would be necessary. While these drivers are not unique to the chemicals manufacturing sector, they are critical to the success of the government's modern industrial strategy and should be prioritised as ministers finalise that strategy over the coming months.

Our analysis of reform proposals

We consider there are two priority actions that the UK and Welsh governments should undertake:

- Set clear resilience standards by the end of 2026, based on recommendations made by the National Infrastructure Commission. These should be made legal requirements on government via new legislation.
- Require reform of economic regulation to support investment to meet those resilience standards.

Set clear resilience standards

There are consequences from a lack of clear resilience standards set by the UK or Welsh governments. First, we lack visibility over the current level of resilience in the water sector, or the level of risk currently borne by water companies, customers or society. There is ambiguity over the level of resilience expected from water companies.

Secondly, regulators have been left to develop their own metrics, which have largely focused on short-term measures to do with failure rather than forward-looking risk. Examples of failure-based metrics include the water supply interruptions and internal sewer flooding performance commitments in Ofwat's price reviews. This had led to decisions on investment and trade-offs made at the level of individual metrics and comparative levels of performance, rather than how much funding is required to meet new levels of resilience – particularly as we face new threats and climate-related risks that require further investment to improve resilience. For example, Ofwat has set common targets for water supply interruptions at what it considers to be the efficient level of performance based on performance across the sector over the last few years, expecting that every company would use their expenditure allowances to meet that level of performance without additional funding. But in doing so, Ofwat has not considered whether those targets, and the costs associated with meeting them, are desirable. Ofwat has also not set targets beyond 2030, which means they cannot reasonably be used as a basis for long-term planning and investment decisions by water companies.

While Ofwat can provide additional funding for investment through 'enhancement' allowances, they have generally been refused or heavily reduced because water companies have not been able to demonstrate to Ofwat's satisfaction how they would lead to improvements in resilience, particularly where Ofwat has not been convinced that customers would be willing to pay for a step change in resilience beyond current levels. Even though Ofwat has a resilience duty through the Water Act 2014, successive rejections of investment cases for additional resilience at both PR19 and PR24 suggest that the current arrangements have been insufficient to unlock investment – the current resilience duty says only that Ofwat must act in the way best calculated to "further the resilience objective" with

[173] 'INEOS shuts down UK's last synthetic ethanol plant', *Chemanalyst.news*, (January 2025)
[174] 'Kemira announces a multi-million euro investment in water treatment chemicals production in the UK', *Kemira*, (November 2023)

reference to environmental pressures, population growth and changes in consumer behaviour over the long term.[175] This has provided a level of discretion to Ofwat that has meant that other priorities and pressures (such as for low customer bills) have appeared to override the need to secure long-term resilience.

As the National Infrastructure Commission observes:

> ***"Without measurable resilience standards it will be challenging for companies to build further resilience into their systems. Without a clear target to aim for, the need for resilience spend could be challenged by regulators trying to manage upward pressure on bills."[176]***
>
> **National Infrastructure Commission, 2024.**

Indeed, it is partly through the application of the 1-in-500-year drought resilience standard that water companies have been able to receive additional funding, as evidenced by the £6.4 billion in enhancement allowances for water resources at PR24, including for new resource options and demand management.[177] Even then, water companies argue that they have insufficient funding from Ofwat to maintain or improve their resilience in the face of climate and other future risks, particularly in the South East of England.[178]

We consider that the National Infrastructure Commission's recommendations from September 2024 are a very good starting point for government, regulators and industry to work together to establish the *definition* of resilience standards.

These standards should then be:

- Set by governments because it is the **responsibility of elected governments to decide the *level* of resilience** that is appropriate for society to bear and customers to pay for. In some cases, those levels could be set on a national basis; however, regional levels may be desirable to reflect relative benefits, costs and priorities between regions.
- Binding on government rather than companies or regulators. This is because, analogous to the approach taken to Environment Act targets, government is best placed to take or require actions to meet them, many of which fall outside the jurisdiction of individual organisations like companies or regulators. This will require new primary legislation with Statutory Instruments used to define the actual standards.
- Long-term in nature (e.g. 25 years) to enable planning and optimisation, but accompanied by interim milestones to ensure accountability;

The process for establishing and legislating for resilience standards should follow three stages:

1. The UK and Welsh governments should immediately convene work with regulators and industry to establish draft definitions for resilience standards by December 2025.
2. Water companies should submit high-level cost estimates, supported by independent assurance, to inform ministerial decisions on the level of those standards by December 2026, in line with the National Infrastructure Commission's recommendations.[179] These standards

[175] 'Water Industry Act 1991', *HM Government*, (1991)
[176] 'Developing Resilience Standards in UK Infrastructure', *National Infrastructure Commission,* (September 2024)
[177] 'Our final determinations for the 2024 price review', *Ofwat,* (April 2025)
[178] 'Statement of Case', *South East Water*, (March 2025)
[179] 'Developing Resilience Standards in UK Infrastructure', *National Infrastructure Commission,* (September 2024)

should be included in the Strategic Policy Statements for regulators on an interim basis until step three is complete.

3. The Water Reform Bill should establish new powers for UK and Welsh ministers to set the legally binding standards through Statutory Instruments. The existing 1-in-500 drought resilience standard should also be made statutory.

Once in place, the UK and Welsh governments should meet resilience standards by taking the following actions:

- **Issue guidance agreed between government and regulators on how standards should be applied**. This could include, for example, ensuring water supplies are able to withstand a minimum number of weeks of different kinds of disruption (such as to a global supply chain).
- **Instruct regulators to ensure a robust but enabling framework for resilience investment and operational stress-testing**. This could be through an update to the Strategic Policy Statements.
- **Take action on other sectors and interdependent systems** – for example, to reduce the likelihood of disruption from power interruptions by requiring additional resilience around key sites, and securing more extensive coverage via the Electricity Supply Emergency Code Prioritised Sites List to priority reconnection for water and wastewater treatment sites.
- **Take action to reduce supply chain dependencies**. The government should lead on considering dependency risks on other sectors or countries in areas such as chemicals and cyber infrastructure, and active ways of reducing those risks. This should include consideration of promoting greater domestic manufacturing capacity (e.g. through skills and energy policy) and adequate onshore storage of critical chemicals, reducing reliance on volatile global markets and improving security of supply.

Require reform of economic regulation to meet those standards

As the Commission notes, regulators in other sectors apply different standards or rules that involve resilience testing and scenario-based exercises, such as the Financial Conduct Authority.[180]

In our view, regulators in other sectors generally take more developed approaches to assessing forward-looking risk and resilience, supported by economic approaches that facilitate investment. Last year, an industry research project[181] identified a wide range of approaches taken in other sectors including the water regulator in Scotland and the energy regulator Ofgem in Great Britain which both use approaches based on long-term time horizons to inform investment decisions:

- The water regulator in Scotland has used an approach based on estimated asset lives and replacement rates that forms the basis of investment decisions. In 2021, this led to a substantial uplift in expenditure allowances for Scottish Water of around 80-123% over the long term. Recent analysis by Northumbrian Water that applies the same methodology suggests that such an approach would imply funding for sustainable asset replacement should be at least twice as high as the historical expenditure set by Ofwat (from £110m a year to between £197m and £268m a year).[182] **That suggests water companies in England and Wales may only have half of the funding they need for sustainable asset replacement and renewals.**
- Ofgem uses an 'asset risk metric' which aims to quantify the risk to customers and society of different levels of performance and resilience over time, supported by engineering-based

[180] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural Affairs*, (February 2025)

[181] 'Improvements to the regulatory framework for asset health and operational resilience: Review of UK regulatory precedent', *Reckon*, (July 2024)

[182] 'Statement of Case', *Northumbrian Water*, (March 2025)

assessments and modelling of performance and risk. This forms the basis of investment decisions, as well as performance incentives.

We consider new resilience standards set by the UK and Welsh governments must be accompanied by a reform of the framework for economic regulation, otherwise there is a risk that performance and resilience do not improve. A new report from consultants Reckon, published alongside this response, identifies how Ofwat's current approach does not seem to be compatible with a new forward-looking approach to asset health because it emphasises cross-company econometric modelling based on historical data. The process for requesting funding outside of those models is restrictive and limited, and there is limited information and no modelling of asset health risks and how that may change in future.

In its report, Reckon recommends[183] that that the Commission reforms the regulatory framework to have a more proactive role for the economic regulator, making use of forward-looking risk management approaches that are currently lacking in its regulatory framework.

Noting that the sector is not starting from scratch due to previous industry work:[184] Reckon goes on to recommend that the economic regulator be required to:

- Establish regulatory arrangements that involve more explicit and transparent modelling of asset failure risk and of the consequent risks to outcomes from asset failures across water and wastewater systems, which will in turn will require a greater role for engineering expertise within the regulator's teams and decision-making processes.
- Reform its approach to cost assessment to bring a more forward-looking perspective that can fund effective long-term risk management – including by exploring the application of approaches taken by the Scottish water regulator and Ofgem that emphasise the use of risk-based scenarios over long-term horizons to inform investment decisions.
- Remedy other aspects of its regulatory approach that promote short-term behaviour rather than efficient management of long-term risks (such as its approach to business plan incentives, which drive companies to request less funding than they need in their business plans in order to avoid penalties despite the risk doing so creates for future resilience).

While we consider these matters further in Section 4.4, we consider that the UK and Welsh governments must require the economic regulator to update the economic regulation framework to support the sustainable funding of investment to meet new resilience standards in current and future price reviews. In Section 3.1 we note the need for an interim update to the Strategic Policy Statements; we recommend using this as a vehicle for requiring Ofwat to take that approach.

[183] 'Embedding forward-looking asset risk management in the regulatory framework for water sector infrastructure', *Reckon* (April 2025)

[184] See the 'infrastructure health' project from 2024. https://www.water.org.uk/investing-future/infrastructure-health

Our recommendations

Government should:

1. **Set legally binding resilience standards.** They should cover drought resilience, peak water demand, forward-looking asset health measures and flooding resilience. The requirement should apply to government. As with the targets that flow from the Environment Act, government must own this societal-level risk, which requires a response that goes beyond the actions available to individual companies and regulators. We consider that the UK and Welsh governments should immediately convene work with regulators and industry to establish draft definitions for resilience standards by December 2025. Water companies should submit high-level cost estimates, supported by independent assurance, to enable ministerial decisions on the level of those standards by December 2026. We consider decisions on resilience standards should be long-term in nature (such as 25 years) to support long-term investment decisions, with interim milestones to ensure accountability.
2. **Ensure resilience standards are underpinned by requirements and guidance with measurable and stress-testable outcomes** – such as requiring companies to ensure water supplies can withstand a minimum number of weeks of disruption to global supply chains. Standards should be supported by wider government policy such as on energy and skills, and on efforts to reduce reliance on volatile global markets and improve the security of energy supplies. Given recent volatility in international trade barriers, the UK and Welsh governments should consider promoting greater domestic manufacturing capacity and onshore storage capacity for the chemicals that are critical for the treatment of drinking water.
3. **Use an interim update to the Strategic Policy Statements to ensure reform of economic regulation so that water companies are sustainably funded through investment to meet those new resilience standards**. The economic regulator should be required to assess the application of forward-looking and long-term approaches, including those approaches taken in other sectors, with any changes to the regulatory framework made in time for the next price review.

Once they are agreed by the end of 2026, we consider the resilience standards should be put on a statutory footing through secondary legislation, enabled by a future Water Reform Bill. If a future Water Reform Act is not ready in time, then an update to the Strategic Policy Statement for the economic regulator can be used as an interim measure, as this is how the current drought resilience standard is applied.

2.3 Clear remits and refocused duties for regulators

Where the current system is not working

Chapter 3 of the Commission's Call for Evidence defines and describes the roles and duties of regulators of the water industry in England and Wales, the role of government and accountability to Parliament and the other bodies that play important roles in the overall regulatory framework.

In its Call for Evidence, the Commission is seeking views on proposals for changes to the regulatory structure in the following areas:

- The strategic direction from government,
- The framework and coordination of water regulators, and
- The capacity, capabilities and skills of regulators.

We consider that regulatory arrangements are not working in five ways:

1. Critical weaknesses in how Parliament and UK and Welsh governments set expectations,
2. Duplicated responsibility across regulators, particularly on the environment,
3. Inadequate regulatory accountability – this gap is increasingly important as customer bills rise,
4. Regulators do not have sufficient flexibility to attract and retain excellent staff, and
5. Regulators' governance has not kept pace with the scale of what they are now asked to do.

i. Critical weaknesses in how Parliament and government set expectations

Ofwat has far too many obligations. It has five primary duties, eight secondary duties (following the addition of one further duty by the Water (Special Measures) Act 2025), three further environmental duties and three further recreational duties,[185] some of which contradict each other.

This represents an enormous increase. The Department for Business and Trade (slightly simplifying a complex treatment in the 1989 Water Act) suggests that Ofwat's forerunner had just six primary and secondary duties at privatisation (as shown in Figure 10):

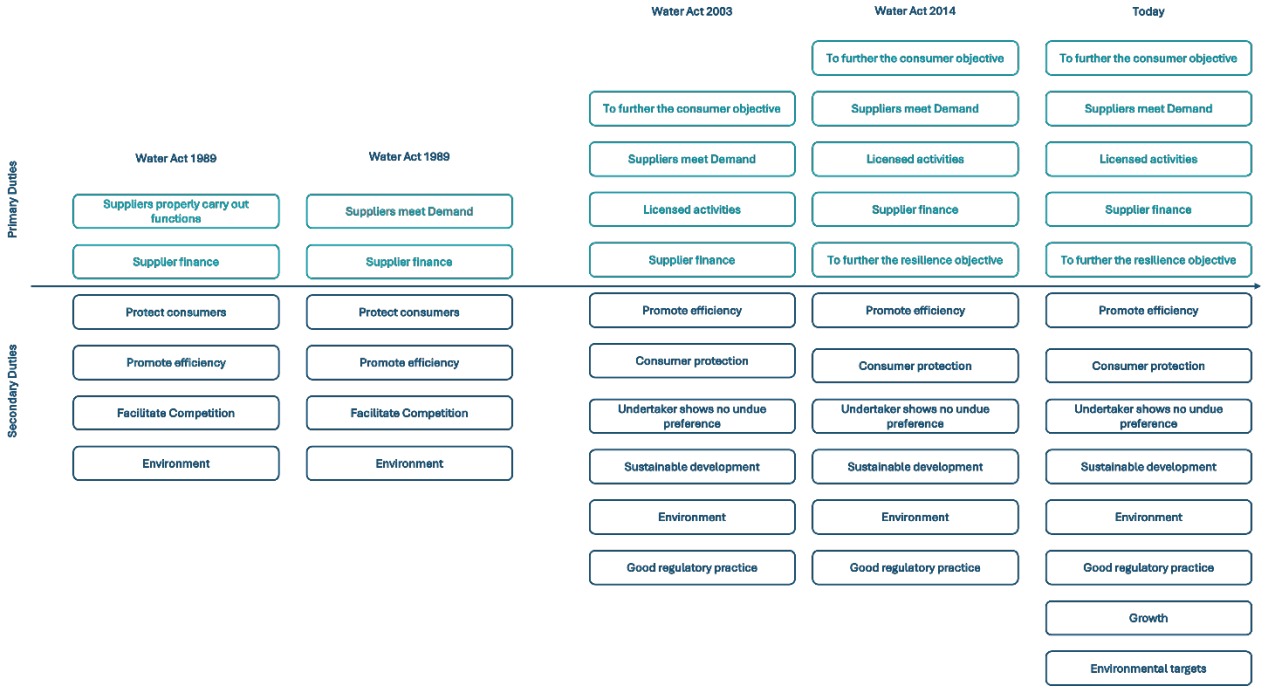

Figure 10 The proliferation of regulatory duties and requirements from 1989 to today

Source: Water UK, based on an original in Economic Regulation Policy Paper, Department for Business and Trade (2022)

We agree with the UK government's concerns that "the increasing complexity of existing duties risks both stifling regulatory decision making … in turn, this is detrimental to the system's ability to encourage long-term investment."[186]

As Dan Corry has rightly pointed out in his review, "Defra needs to find a way to more clearly set the outcomes it wants regulators to achieve, and let them get on with delivering these outcomes, using

[185] 'Our Duties', *Ofwat*, (April 2025)
[186] 'Economic Regulation Policy Paper', *Department for Business, Energy and Industrial Strategy*, (January 2022)

'constrained discretion' and flexibility, within the law. Emphasis should be on achieving outcomes at scale, ideally using fit-for-purpose regulations."[187]

In addition to its growth in duties, Ofwat is required to carry out its functions "in accordance with" the Strategic Policy Statements from the UK and Welsh governments. The most recent Strategic Policy Statement issued by the UK government contains 59 different expectations on Ofwat, with no clear prioritisation between them – and, with very few exceptions, almost no specificity against which success may be measured.[188] For example, the UK government set a vague requirement that Ofwat should "encourage" (not 'require', nor 'fund where efficient consistent with some overall level of national ambition' – nor even 'support') companies to deliver "wider environmental benefits in the course of carrying out their functions", though only where they are "supported by customers". Another example is the requirement for Ofwat to "challenge water companies to treat all customers fairly" – a term which, given that 'fairness' can be interpreted in many different ways, is not usable as a benchmark and which is, in any case, already required in more specificity by legislative rules about non-discrimination.

The Welsh Government's Strategic Policy Statement for Ofwat similarly had 29 expectations for Ofwat, in addition to nine strategic objectives.[189]

The number and ambiguity of all of these unprioritized expectations has, in our view correctly, been criticised. For example, in 2023 the House of Lords' Industry and Regulators Committee stated[190] that the Strategic Policy Statement:

> ***"failed to give a sense of prioritisation, particularly in relation to the balance between the affordability of bills and infrastructure and environmental investment. We recognise the concern that more directive Statements could impact Ofwat's independence, but it is critical that elected politicians take controversial decisions which will have financial and environmental consequences for many generations, rather than passing that responsibility to regulators. The Government has not yet shown the necessary political will to make these decisions on the most important issues facing the sector."***
>
> **Industry and Regulators Committee, House of Lords, 2023.**

Specifically, the weaknesses of the Strategic Policy Statements creates three problems:

1. The first is **reduced accountability**. How is the UK or Welsh government (or Parliament and the Senedd, as the bodies to which Ofwat is accountable) to understand whether their ambitions have been achieved? This number of duties and expectations makes accountability very difficult – there will always be some requirement or other to point to in justification of decisions, regardless of how sensible or otherwise they may be.
2. The second is **dilution of focus**. The things that truly matter (like not losing water supply) are given apparently equal weight with some goals that look peripheral at best. Even if, in practice, some outcomes are prioritised by the regulator, the others will continue to be a distraction

[187] 'An independent review of Defra's regulatory landscape: foreword and executive summary', *Department for Environment, Food and Rural Affairs'*, (April 2025)
[188] 'February 2022: The government's strategic priorities for Ofwat', *HM Government*, (February 2022)
[189] 'Strategic Priorities and Objectives: Statement to Ofwat issued under section 2B of the Water Industry Act 1991', *Welsh Government*, (2022)
[190] 'The affluent and the effluent: cleaning up failures in water and sewage regulation', *House of Lords Industry and Regulators Committee,* (March 2023)

and will call on management time (for example, Ofwat seeking to demonstrate how it has complied with all of the requirements in the Strategic Policy Statement).[191]

3. The third is that **it outsources trade-offs to the wrong level**. Regulatory decisions require benefits and costs to be balanced (i) over time and (ii) between affordability, vulnerability, growth, the environment, resilience, performance and other goals. Responsibility for making those trade-offs should not sit with an independent regulator but with an elected government who can give expression to the needs of society. In practice, as discussed in Section 1, this arrangement creates a risk that Ofwat focuses on the easiest things to measure (e.g. keeping bills down) rather than meeting the overarching objectives of elected governments and the public. As the House of Lords' Select Committee on Regulators put it:

> ***"The interests of citizens and the general public are for Government and Parliament, and not for the regulators, to define and promote."[192]***
>
> **Select Committee on Regulators, House of Lords, 2007.**

   Worse, in Ofwat's case we consider this to create a **conflict of interest** between price and outcomes – a conflict that we argue in Section 1 more often than not has been won by price.

In the case of the Environment Agency, its core functions as set out in legislation are high-level and there is limited direction from government – at least that is set out publicly – about what it should be seeking to deliver, or how it should deliver that.[193] There is also no equivalent Strategic Policy Statement for the Environment Agency (at least yet) and the direction it does make use of is high-level and somewhat out-of-date.[194] By not having a clearly set out and recent mandate from the UK government, there is a risk that the Environment Agency's decisions are not well understood by water companies and wider society or, worst, that its decision are not being made in line with wider objectives.[195]

In contrast, Natural Resources Wales, which is the equivalent regulator to the Environment Agency in Wales, is issued with a 'remit letter' from each new Welsh Government. The current remit letter, for example, lists reasonably specific objectives that Natural Resources Wales should work towards (e.g. "to develop and deliver a nature-based flood management programme for all major catchments in

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[191] 'UK Government priorities and our 2024 price review final determinations', *Ofwat,* (December 2024)

[192] 'First Report: Chapter 5', *Select Committee on Regulators*, (2007)

[193] 'Environment Act 1995', *HM Government*, (1995). The principal aim of the Environment Agency as set out in the Environment Act 1995 is, "to protect or enhance the environment, taken as a whole, as to make the contribution towards attaining the objective of achieving sustainable development". The Environment Agency also has some specific obligations with respect to water but, again, these are reasonably high-level (e.g. "conserving, redistributing or otherwise augmenting water resources").

[194] 'EA2025: Creating a Better Place', *Environment Agency,* (July 2020). For example, the Environment Agency's five-year strategic plan, the most recent of which was published in 2020, notes that it uses the Government's 25 Year Environment Plan (published in 2018) and the (as was then) forthcoming Environment Bill (which was made into law in 2021) "as our maps… to chart a course towards a healthier, greener and more prosperous country in 2025".

[195] 'Term of Government remit letter for Natural Resources Wales', *Welsh Government,* (December 2022). In contrast, Natural Resources Wales, which is the equivalent regulator to the Environment Agency in Wales, is issued with a 'remit letter' from each new Welsh Government. The current remit letter, for example, lists reasonably specific objectives that Natural Resources Wales should work towards (e.g. "to develop and deliver a nature-based flood management programme for all major catchments in Wales", "to work with the Welsh Government to… strengthen water quality monitoring, compliance and enforcement").

Wales", "to work with the Welsh Government to… strengthen water quality monitoring, compliance and enforcement").[196]

ii. *There is much duplicated responsibility across regulators, particularly on the environment.*

This leads to several issues, including conflicting policy and decision making, inconsistencies in the interpretation of legislation and guidance provided to the sector, a weakening of accountability, and additional regulatory burden with respect to monitoring, reporting and enforcement. The complex nature of cross-cutting policy areas, such as reductions in water pollution or the use of storm overflows, has led to a proliferation of policy 'touch points', with each institution (regulators and government) placing its own requirements on regulated companies to deliver policy objectives.

At the moment Ofwat has environmental responsibilities that would seem to sit more naturally with the quality regulator; for example, the Urban Waste Water Treatment (England and Wales) Regulations 1994 interact with the Water Industry Act in such a way that Ofwat is required to judge storm overflow performance. They do so in parallel with – but using slightly different tests to – the Environment Agency, which is examining the same issue via a different framework that had previously produced different results. Ofwat, rather than the Environment Agency, has also recently been given a duty to enforce newly introduced near real-time overflow monitoring requirements under the Environment Act, rather than the Environment Agency. The Environment Agency would be a more logical home given its oversight of annual data returns on this issue, which already detail storm overflow activations. As well as introducing a problem of 'quadruple jeopardy' of enforcement (see below), this is a recipe for contradiction, unpredictability, disproportionate interventions, slow progress and cost. It has also resulted in mis-aligned target setting and duplication of performance monitoring requirements. The reporting of storm overflows data is just one example of how this issue materialises; see Box 3.

Box 3: Case Study in Duplication: Monitoring and Reporting of Storm Overflows

The reporting of storm overflows data requires companies to send over 30 different reports to Ofwat, Defra and the Environment Agency in one year, see Figure 10 below. This is particularly burdensome because many use their own very slightly different template or have subtly different requirements. This is bad not just on general grounds of efficiency, but also because the practical effect is to force companies to ask those teams designing and delivering storm overflow improvements to stop that work in order to fill in spreadsheets.

For the avoidance of doubt, we are not arguing for a lower standard of reporting – just that we need regulators and government to coordinate sensibly and overcome structural siloes (for example, via a single regulatory monitoring and information programme).

Similarly, both Ofwat and the Environment Agency have powers to investigate and sanction companies, often relating to the same pollution event or operational failure. This can lead to duplicated enforcement, or 'double jeopardy', as companies face multiple overlapping penalties or enforcement actions from different regulators for the same underlying incident or breach. In fact, recent changes to the regulatory regime actually make it possible for a company to incur a "quadruple jeopardy" – one pollution incident could, in theory, receive penalties under (i) Ofwat's total pollutions outcome delivery incentives; (ii) Ofwat's serious pollutions outcome delivery incentives; (iii) a civil penalty from the Environment Agency, and; (iv) further potential enforcement from Ofwat and/or the Environment Agency, which could lead to further penalties such as in the case of recent Section 203 enforcement by Ofwat. A fifth, more limited, further overlap exists

[196] Ibid.

via Ofwat's Quality and Ambition Assessment, which can reduce return on regulated equity if a company fails to retain a 4-star performance rating in the annual Environmental Performance Assessment.

This issue has become increasingly relevant given the growing scrutiny on environmental performance. Multiple investigations and enforcement processes strain regulator capacity and create additional legal and administrative costs for all parties, as well increased uncertainty for the regulated companies. The risk of overlapping action can also blur lines of accountability, especially when enforcement messages or penalties diverge. This further erodes public confidence as enforcement appears fragmented or inconsistent. At the same time, there are critical gaps in regulatory oversight. For example, in the regulation of asset health, where insufficient policy focus and funding are proving detrimental to the long-term resilience of the sector.

Description	Who	Output	Frequency	When
Storm Overflow Action Plan (SOAP)	Defra	Public Domain	Quarterly	Oct/Dec/March/June
Delivery Monitoring Framework	EA /Ofwat	EA/ Ofwat	Six monthly	March/April, October
Price Control Deliverables (PCDs)	Ofwat	Annual reporting	Six monthly/ annually	April/October
Storm Overflow Discharge Reduction Plan	Defra	Annual reporting	annually	Jan/Feb
Drainage and Wastewater Management Plans	Defra/ EA	Annual review and 5 year rebuild	Annual/5 year	Sept 2027, April 28
Pollution Incident Reduction Plan	Defra/ EA	Public domain	Annual	31st March
EDM reporting Bathing Water	EA	Public domain	Annual	October
EDM reporting Annual return	EA	Public domain	Annual	End February
EDM reporting Emergency Overflows	EA	Not yet	Annual	End February
Annual Performance Report	Ofwat	Public Domain	Annual	June/July
Environment Performance Assessment	EA	Public Domain	Annual	Jan-April
EA Trackers/DMF trackers	EA	Company only	Monthly	Monthly
Storm Overflow EDM uptime reporting	EA/Ofwat	EA/Ofwat	Annual	Feb
Storm Overflow near realtime reporting	Ofwat	Ofwat	Quarterly	March/June/ Oct/Dec

*Figure 11 Responsibilities for the m*onitoring and reporting of storm overflows

iii. Inadequate regulatory accountability. This gap is increasingly important as customer bills rise

Water companies are now (rightly) subject to enhanced monitoring and reporting in many of their activities over 2025 to 2030. However, with the exception of the Competition and Markets Authority's role over some Ofwat decisions (see Box 4 below), regulators currently have limited formal mechanisms that require them to explain or defend their decisions—particularly when outcomes diverge from public or political expectations. This is particularly important given the previous discussion in this section about the difficulty in enforcing accountability in light of numerous, unprioritized, conflicting obligations – and of the low-bill-favouring 'incentive effects' on Ofwat discussed in Section 1.

The Corry review highlighted the important role the Office for Environmental Protection plays in providing independent scrutiny of the UK government action on the environment.[197] The report recommended that government considers how the Office for Environmental Protection can increase focus on the outcomes required. This, we consider, could extend to regulators' performance on sector-wide environmental performance issues.

Box 4: The role of the Competition and Markets Authority

The Commission asked for views on the effectiveness of redeterminations of price controls process in the water sector, which are administered by the Competition and Markets Authority.[198]

As well as being required to make a full redetermination of price controls if a water company asks for their determination to be referred by Ofwat[199], the Competition and Markets Authority plays a role in assessing or redetermining other decisions made by Ofwat, such as:

- when Ofwat amends the licence of a water company in England and the water company, the Consumer Council for Water or an affected party requests an appeal,[200]
- when Ofwat makes changes to the Regulatory Accounting Guidelines, which affects what water companies are required to include in their annual performance reports.[201]

While these mechanisms are rarely used, we consider the ability for water companies and others to seek an independent review of major Ofwat decisions as a very important 'check and balance' within the overall framework.

More specifically, the Competition and Markets Authority's approach to redetermining price controls allow water companies to challenge Ofwat's full set of decisions as measured against their duties, legislation and governments' Strategic Policy Statements - not just (as in energy) narrower issues of errors in fact or process.

We consider it is essential that the approach for water is maintained in order to provide a robust check on Ofwat and to ensure that any redetermination is able to take account of the overall balance of the many decisions within a price review. This is an important benefit over the risk present in energy network appeals where there is a high hurdle for appellants to overcome before the Competition and Markets Authority is willing to go as far as to say a regulator is categorically "wrong" and where the Competition and Markets Authority is constrained from looking at a price control in the round.[202]

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[197] 'An independent review of Defra's regulatory landscape: foreword and executive summary', *Department for Environment, Food and Rural Affairs*, (April 2025).

[198] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural* Affairs, (February 2025).

[178] 'New rules and guidance for water references', *Competition and Markets Authority*, (December 2024)

[180] 'Water Appointment Modification Appeals: Competition and Markets Authority Guide', *Competition and Markets Authority*, (October, 2022)

[181] 'New rules and guidance for water references', *Competition and Markets Authority*, (December 2024).

[202] The appeal regime for energy network companies regarding Ofgem's price control decisions is largely defined in the Electricity Act 1989 and the Gas Act 1986, with specific details outlined in the licenses granted to each network company.

This is why investors generally support maintaining the current approach.[203] By allowing another competent body to "step into the shoes" of Ofwat, it significantly reduces the risk of a miscalibrated settlement, and gives reassurance that legitimate appeals on genuine grounds will get a fair hearing. By reducing the potential for error or irrational decision making, this has the effect of increasing predictability, so reducing the perception of risk, the cost of capital, and, ultimately, customer bills.[204]

We are also aware of some investors who would value greater consistency in approach between regulated sectors. This had led to proposals to change the approach in water to that used in energy, such as in a consultation from the Department for Business and Trade in 2023.[205]

However, if the UK government wanted to align approaches between regulated sectors to simplify arrangements for investors, rather than diminish the approach in the water sector to that used in the energy sector, we consider there are better ways to achieve consistency through the following approaches:

- Ensuring consistent approaches to common regulatory parameters, such as the inputs and calculation approaches for the cost of capital and treatment of external risks (but with appeals available for each individual regulated sector),
- Bringing the approach to energy appeals (and other regulated sectors) in line with that used in the water sector, or
- Changing the approach for both the energy and water sectors so that regulated companies can ask the Competition and Markets Authority to make focused changes to specific areas of the price control, rather than a full redetermination. But unlike the current approach in the energy sector, the grounds for requiring a new decision from the Competition and Markets Authority should not be where the regulator is deemed to have erred in its decision[206] – the Competition and Markets Authority would make a fresh decision under the statutory duties of the original regulator for that element of the price control.

iv. Regulators need more flexibility to attract and retain excellent staff

Much regulatory work requires highly specialist knowledge including engineering, economics and corporate finance, which are all highly sought after in the private sector. It is important, therefore, that the economic regulator can attract and retain talented people with the right skills to effectively regulate the sector.

Securing these individuals will be aided by competitive salaries and benefit packages, performance-related pay, and a requirement that all new jobs be advertised to external candidates. To enable this,

[182] 'Water UK's response to the Department for Business and Trade's consultation on strengthening the regulation of the energy, water and telecoms sectors', *Water UK*, (January 2024)

[204] 'Water UK's response to the Department for Business and Trade's consultation on strengthening the regulation of the energy, water and telecoms sectors', *Water UK*, (January 2024)

[205] Smarter Regulation: Strengthening the economic regulation of the energy, water and telecoms sectors, *Department for Business and Trade,* (November 2023)

[206] In the Gas Act 1986 and the Electricity Act 1989 the legislation requires the CMA to allow an appeal "to the extent that it is satisfied that the decision appealed against was wrong"

the economic regulator should be freed from the Civil Service grade structure, pay bands and remuneration packages.[207]

By contrast with Ofwat, the Financial Conduct Authority is an independent public body – accountable to HM Treasury and Parliament – and can set its own grading, pay, and benefits. The organisation has "one of the best reward packages of any regulator or enforcement agency in the UK" to attract and retain skilled professionals in the financial sector to improve performance.[208, 209]

On emerging and critical issues like cyber security, which is within the responsibility of the Drinking Water Inspectorate and which operates on the Civil Service pay scales, competition with the private sector is near impossible. The Drinking Water Inspectorate has only 55 staff and a small fraction of those are devoted to cyber security for this critical industry. This issue is not unique to Defra's regulators. Indeed, the Department for Transport is currently advertising for a "Team Lead – Cyber Compliance Team" to lead a team of inspectors to ensure that transport operators are well-equipped to protect our critical national infrastructure at much lower than what an equivalent private sector role would provide.[210] There is clearly a wider public sector issue, but we strongly endorse the recommendation by Dan Corry to Defra that it, "Assess the potential for regulators to have targeted pay flexibility so they can employ and retain staff, particularly specialist staff. This should be considered as part of the Spending Review settlement and involve seeking specialist pay rates, or more flexible pay bands, especially for positions that require unique skills or are difficult to fill. This can help ensure that salaries are competitive with the private sector and experienced staff are retained."[211]

v. *Regulators' governance has not kept pace with the scale of what they are now asked to do*

Compared with when regulators were first established at privatisation, it is now the norm to have boards, rather than individuals, exercising regulatory duties. This reflects the principle of 'collective responsibility' regarding the discharge of an organisation's duties and provides a mechanism by which executive directors can be supervised and challenged on their performance.

[207] The Competition and Markets Authority pays its staff according to civil service pay scales. Its former Chair, Marcus Bokkerink, told the House of Lords that his "one biggest worry" was attracting and retaining "the specialist skills we need in the future" and that there was a "massive gap with the private sector" which is "very pronounced in a way that is almost impossible for these talented people to ignore."
The Civil Aviation Authority, Environment Agency, Information Commissioner's Office, Professional Standards Authority, Charity Commission and Food Standards Agency all told the same House of Lords' Committee that public sector pay can lead to skills shortages. At the time of writing, Ofwat is currently advertising for a Regulatory Economist, in a role which requires both a degree in economics and substantial experience in an equivalent role in a regulator or in the private sector. It pays £38,764 - £48,000. The Financial Conduct Authority is currently advertising for a role which requires no specialist academic qualifications and a similar level of experience but paying £57,700 - £68,000 for a Senior Payments Policy Associate role. For specialist regulatory economics experience in the private sector, the gulf would likely be even greater.
[208] 'FCA's pay, grading and benefits', *Financial Conduct Authority,* (October 2021)
[209] 'Corrected oral evidence: UK Regulators', *House of Lords,* (November 2023). Another useful comparison is Ofcom, which is a statutory corporation accountable to the Department for Science, Innovation and Technology and Parliament and has an independent budget audited by the National Audit Office. Its staff are not civil servants and it has greater autonomy over pay and benefits. Its former Chair, Dame Patricia Hodgson, noted that Ofcom paid "perhaps one-third more than the comparable Civil Service rate" but still much less than private sector rates.
[210] 'Team Lead - Cyber Compliance Team', *Civil Service Jobs,* (April 2025)
[211] 'Delivering economic growth and nature recovery: An independent review of Defra's regulatory landscape', *Dan Corry Review,* (April 2025)

However, in the case of Ofwat and the Environment Agency, the Boards typically meet only once a month and for less than a day[212] and, outside of meetings, most non-executive members are formally expected to spend relatively little time in their role. [213] Both of these factors may adversely affect the Boards' abilities to fully analyse, consider and debate the very complex and numerous issues that regulators have to consider and, in turn, to hold the executive teams to account (for example, the 53,000 or more pages of business plans that were submitted to Ofwat in PR24).

In addition, having a Board meet for less than a day only once a month (or possibly less), and with capacity to consider only a handful of issues at each meeting[214], is likely to mean some significant decisions are delayed and/or delegated to the executive teams, thus reducing scope for accountability and effective decision-making.

The board needs sufficient time to delve into the complexity of regulatory decision-making. As noted by First Economics, "To be able to challenge and support effectively requires a certain level of knowledge of the subject matter that often cannot realistically be accumulated on only a small number part-time hours. Without the requisite background… the discussion at regulators' boards can, at worst, be very erratic and, at best, focus more on the process that the staff have followed in order to come to a decision than on the substance of the decision itself".[215]

This is in contrast to what happens elsewhere. In Australia, for example, the Board of the Australian Energy Regulator meets weekly (and out of session as required)[216] and is typically made-up of both part- and full-time members, the latter not being permitted to engage in any other paid employment. Members are also required, "to have knowledge of, or experience in, industry, commerce, economics, law, consumer protection or public administration".[217]

Our analysis of reform proposals

We set out below six recommended changes to address these issues.

The scope and duties of the economic regulator

We strongly support Dan Corry's recommendation to the Secretary of State for Environment, Food and Rural Affairs that he, "consolidate the statutory duties, principles and codes of Defra regulators to a core set, reflecting the Government's priorities and helping to provide discretion."[218] Given the scale of investment decisions required and the general importance of ensuring that investment delivers as needed, we consider that the priority should be given to consolidating Ofwat's current myriad of contradictory duties behind a requirement for them to work to ensure companies can raise the money they need to invest, and deliver important outcomes with that money.

We start from the principle that it is for:

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[212] 'Rules of Procedure for the Water Services Regulation Authority (Ofwat)', *Ofwat*, (January, 2025). Ofwat's rules of procedure,says the Board is expected to meet 10 times a year. The Environment Agency says its Board meets four times a year, though both Boards have tended to meet more frequently than this in recent years.

[213] For example, Ofwat's non-executive Board members are expected to work around three days a month. The Environment Agency's Board members are expected to work four days a month. The Chairs of the Environment Agency and Ofwat are in a different position as they are remunerated for 3.5 to 3 days a week respectively.

[214] For example, at least in recent meetings, Ofwat's Board has tended to consider no more than 5-6 substantive issues at each meeting.

[215] 'Who are our economic regulators?', *First Economics,* (January 2024)

[216] 'AER Board Charter March 2025', *Australian Energy Regulator*, (March 2025)

[217] 'Competition and Consumer Act', *Commonwealth Consolidated Acts,* (2010)

[218] 'Delivering economic growth and nature recovery: An independent review of Defra's regulatory landscape', *Dan Corry Review,* (April 2025)

- **Elected government** to set the *level of ambition* for outcomes like those on the environment or drinking water, taking into account expert technical and policy advice and the views of Parliament. This is because they are required to make trade-offs (for example with cost, other outcomes or about timing) that require a high degree of democratic legitimacy. We agree with the National Infrastructure Commission that they can "consider the long-term needs of the public alongside the needs of consumers [and] make collective choices such as deciding the acceptable level of flood risk"[219] .
- **Specialist regulators** to determine whether private companies *have then met their obligations* as decided by government (currently, the Environment Agency for environmental outcomes and the Drinking Water Inspectorate for the wholesomeness of drinking water). Separation from politicians allows this to be done without undue risk of interference or bias, and ensures the technical competence to reach informed judgments. As executive agencies, Defra is responsible for ensuring they fulfil their duties.
- **The economic regulator** to ensure *the efficient use of billpayers' money and to prevent market abuses* that may result from the monopolistic provision of a service (including ensuring a core set of service standards not otherwise covered by other regulators).
- **Parliament** to ensure that the economic regulator, as a non-ministerial department, is discharging its functions well and in a manner it had intended (see Section 4.3 for more detail on accountability).

This division reflects the fact that, under a Regulated Asset Base (RAB) model, an economic regulator is naturally sceptical about new proposals for investment.[220] This has been exacerbated in recent years by further incentives in favour of lower bills (see Section 1). Therefore, our view is that the duties of an economic regulator under a RAB model make it difficult for it to take material decisions about the *necessity* of most investment, and that they should instead focus on the *cost efficiency* of proposals. Otherwise, the balance of public policy outcomes will continue to wrongly favour lower investment and theoretical efficiency over real-world improvements. Instead, it should be for the specialist regulators to determine 'quality' investments.

To take one worked example:

- Elected government would set the overall risk appetite for drought, taking technical advice from both Ofwat and the Environment Agency and considering the costs, benefits, risks and opportunities of an overall policy position. They would provide high-level guidance on how to deliver that position.
- The National Water Grid for England (see Section 3.3) would determine the balance between leakage, water resources and water efficiency for meeting that standard and develop certain assumptions and guidance for identifying options. In doing that they would rely on national policy guidance about how to weigh certain criteria.
- The Environment Agency would provide technical advice and modelling, and establish certain hard regulatory constraints (such as on individual abstractions).
- The economic regulator would ensure that the investment needs identified by that process were funded efficiently, with bills no higher than they had to be.

[219] 'Strategic Investment and Public Confidence', *National Infrastructure Commission*, (October 2019)
[220] Ibid.

This would be much clearer than the status quo. Under this proposed model, it would not be for the economic regulator to, say, establish its own leakage targets independent of the Water Resources Management Plan process or any proper cost/benefit analysis, which is what it has done in previous price reviews.

The economic regulator would be left to focus on its core competence, ending its current conflict of interest. Drawing on guidance from the Strategic Policy Statements it would:

- Determine and ensure the sufficient (and efficient) level of funding for a company's 'base' operations (though it should improve how it does so – see Section 4.4).
- As part of that, determine and ensure the sufficient (and efficient) level of funding for ensuring the long-term health of infrastructure in line with statutory resilience standards set by government (see Section 2.2), including through setting any shorter-term targets for a price review period.
- Calibrate and impose penalties and rewards for outcomes set by quality regulators (such as for leakage) to ensure strong but achievable incentives.
- In the absence of a 'service level' quality regulator (or standards being set by Defra) for core service outcomes such as customer experience, vulnerability, developer services or sewer flooding, determine:
    - The right level of ambition (including through any targets for the price review period), based on long-term trajectories agreed with government.
    - The sufficient (and efficient) level of funding.
    - Delivery (e.g. Through oversight of performance and improvements).
- Ensure any failure to deliver results in money returned to customers through changes to revenue controls.
- Ensure the long-term sustainability of the sector by monitoring and taking action as needed on financial resilience and pursuing a AAA rating for the sector as a whole (see Section 4.4).
- Monitor the performance of a company in line with its licence conditions.
- Develop financial and operational stress tests against 'reasonable worst case' scenarios and shocks and ensure proportionate action is taken to mitigate risk.
- Promote cross-cutting innovation.

Finally, and crucially, the independent economic regulator must retain responsibility for:

- Setting the cost of capital and level of customer bills, taking into account (among other things) the impact of the issues above and a new duty on investability (see below).

Changes to the responsibilities of the economic regulator could be combined with the development of a 'supervisory' model of regulation, which we consider in Section 4.3. Taken together, these reforms need to be consistent with the UK government's commitment to reduce regulatory burdens by 25% by the end of the parliament. This means, for example, potentially replacing the reporting and monitoring approaches outlined above with a 'supervisory' function.

Under this model, and noting the strong arguments in favour of fewer rather than a greater number of duties, we believe the economic regulator need not have any more than two primary and two

secondary duties. This much smaller number of duties would be consistent with the Water Industry Commission for Scotland (which also has four).[221]

We set out below the broad shape of what these could look like, though note that this would require further work to finalise them.

1. **Protect the interests of current and future customers, in particular by ensuring water companies operate efficiently**. This is intended to require the economic regulator to challenge *how efficiently* companies are delivering (i.e. their operational and capital expenditure) rather than *whether and/or what* they should deliver. The wording is intended to ensure the economic regulator's continued oversight of core functions of the company, as well as preventing any monopolistic practices that run contrary to the consumer interest (including discrimination). The word 'customer' here is intended to mean more than household customers.
2. **Ensure that companies are investable, in particular by ensuring sufficient resources to finance the carrying out of their functions and fulfilment of their obligations.** Although Ofwat already has a primary duty in this area, in practice it has led to a heavy focus by the regulator on *debt* financeability. It is necessary to ensure that both equity and debt is competitively financeable in order to enable companies to raise the funds they need for investment. This is discussed further in Section 4.4.

We also believe there is an important and convincing case for two further secondary duties:

3. **Coordination with other public bodies, including other regulators**. This is because even with the other proposals in this submission (including the reduction in organisational overlaps following the simplification of duties) frictions will still remain. The National Infrastructure Commission suggested that such a duty should be "to collaborate with all relevant regulators on matters of common regulatory interest where relevant".[222]
4. **A high-performing regulator.** This should place on the economic regulator the duty to operate in accordance with the principles of better regulation: transparency, accountability, proportionality, consistency and a targeted approach.

In designing the final shape of duties, we recommend doing so with several principles in mind:

- The need to get this right. Duties are extremely important, sensitive and have a significant bearing on perceptions of sector risk (and so cost of capital and bills). Having them set out and stable in primary legislation is an important part of the predictability of the system, but means they must be 'right first time'. **Any work must therefore proceed in a thoughtful and highly consultative way.**
- The importance of clarity. As the House of Lords Select Committee on Regulation reported as far back as 2007, regulators are "unanimous in their belief that clarity was the most important quality a statutory remit could have". This means that their **wording must be clear and duties should be backed by government guidance on how it expects them to be interpreted.**
- The **importance of independent regulatory decisions**. This is central to the workability of the whole system of regulation – and as government has pointed out, "investors will price any risk of political intervention" – something that "is likely to be detrimental to consumers and to the

[221] 'WICS Duties', *The Water Industry Commission for* Scotland, (April 2025)
[222] 'Strategic Investment and Public Confidence', *National Infrastructure Commission* (2019)

economy in the long-term".[223] This means that while it is essential to have more clarity on roles and responsibilities, and simplify remits, it should always be for an independent regulator to take individual decisions about levels of bill, cost of capital and other core questions of economic regulation.

We note that the increased emphasis on quality regulators setting outcomes would mean their own governance arrangements should be considered to ensure that they can operate in this fashion effectively. This includes government making full use of its proposed extension of Strategic Policy Statements to other regulators.

The Strategic Policy Statement

We strongly welcome the UK government's decision to publish Strategic Policy Statements for all Defra regulators[224] and are pleased that Defra has already started work to bring this about.

Defra should publish a brief paper on how it intends to develop and make use of Strategic Policy Statements. There is a widespread view that previous versions have been ineffective.[225] It would therefore be helpful for government to publish its view of what should be in them and how they should be used. This could help embed some 'best practice', avoid future regression to less effective approaches, and take the opportunity to consider how multiple steers to adjacent regulators will work in practice.

In our view, a Strategic Policy Statement should have seven features:

1. **Ensure clarity of roles and consistency of expectations between regulators.** For the economic regulator, this means taking particular care to ensure take decisions that are consistent with, and do not duplicate, those of other regulators (including the Environment Agency and the Drinking Water Inspectorate). It may even be possible to use identical text for all regulators on certain specific issues;
2. **Be a short and concise document that closely reflects a regulator's statutory duties**. There are good examples of similar documents that do this already: for example, the statement of strategic priorities that the UK government has set for Ofcom provides far greater clarity about what Ofcom must deliver compared with Ofwat's strategic policy statement;[226]
3. **Focus on priorities**, underpinned by well thought-through long-term targets of national significance (e.g. on resilience);
4. **Explicitly require consideration of the need for action now to address to long-term challenges**, not just actions that solve immediate problems. As a starting point this should

[223] Ibid.

[224] 'Major reforms to environmental regulation to boost growth and protect nature', *Department for Environment, Food and Rural Affairs,* (April 2025)

[225] 'The affluent and the effluent: cleaning up failures in water and sewage regulation', *House of Lords Industry and Regulators Committee,* (March 2023) - For example, a select committee in 2023 heard Frontier Economics, Professor Ian Barker, Water UK, the campaign group 'Blueprint for Water', Waterwise (a charity) and Affinity Water all point to the lack of prioritisation in the SPS as a problem.

[226] 'Statement of Strategic Priorities for telecommunications, the management of radio spectrum, and postal services', *Department for Digital, Culture, Media and Sport*, (October 2019). Specifically, it sets out what Ofcom is required to delivery in four strategic priority areas. For example, for the purpose of delivering secure and resilient telecoms infrastructure (priority 3), Ofcom is required to, "*ensure appropriate risk understanding, ownership, and mitigation by communications service and network providers; lead a cyber penetration testing programme… and strengthen engagement with providers and suppliers, including on sector-wide cyber security and supply chain arrangements*".

work back from long-term strategies and provide indicative milestones demonstrating the degree of progress needed by the sector by that point;

5. **Provide a framework to prioritise the delivery of goals in how the regulator should make its decisions.** For example, it should provide a means for the economic regulator to make clear and predictable decisions on requests for funding (including in the case of anticipatory investment) based on the cost to consumers and what it will deliver in terms of economic and environmental benefit.
6. **Reflect (and require regulators to help further develop) a range of long-term scenarios against which regulatory and company plans can be tested.** Building off learning in the energy sector, scenarios should include different projections for population, economic growth and climate change and consider how different shocks or high-level trends could change assumptions and plans. This should be reviewed by government against key indicators on a two-yearly basis to mitigate a lurch to another 'strategy' if external circumstances change. The scenarios should feed into companies' long-term delivery strategies and regulators' decisions. They should also be underpinned by credible modelling and analysis to improve accountability and track progress. In this way, the scenarios could help identify risks to future operational and/or financial resilience of the sector and, in turn, where action may need to be taken now.
7. **Be as precise as possible about measures of success for the *regulator* not just *those they regulate***. This will help accountability while allowing assessments of the degree to which the regulator and companies are achieving expectations.

Where companies and/or regulators identify conflicts in interpretation or lack of clarity, the UK and Welsh governments, via Strategic Policy Statements or more general guidance, should set out how legal obligations on companies should be interpreted or resolved. In addition, as proposed by the National Infrastructure Commission and House of Lords Regulators' Committee, sector regulators should be able to request clarity from the respective government where it needs a steer and the current version of the Strategic Policy Statement does not provide sufficient clarity.

Box 5: The case for an interim Strategic Policy Statement for the economic regulator

In advance of fuller implementation of reform, and line with government's commitment, we suggest that the UK and Welsh governments urgently progress with interim Strategic Policy Statements for the economic regulator. This is for several reasons:

- The economic regulator is expected to consider critical investment cases over the coming months and years and would benefit from clearer direction about how it can best manage trade-offs when making these decisions. For example, over the next five years, the economic regulator will be approving (or not) around £5.4 billion[227] of conditional or gated

[227] 'PR24 final determinations: Expenditure allowances summary tables', *Ofwat*, (December 2024). Based on an assessment of enhancement expenditure that is either within Ofwat's delivery mechanism (£1.7 billion), PFAS contingent allowances (£0.2 billion), gated allowances (£1.7 billion) and large schemes contingent allowances (£1.8 billion).

investment, which companies have identified as necessary,[228] as well a process for potentially approving funding for asset health maintenance before 2030[229];

- The Competition and Markets Authority is required to adhere to the Strategic Policy Statement in its redetermination of the price controls for the five water companies, all of whom are raising serious concerns about their ability to raise necessary capital and to deliver for customers and the environment. A new Strategic Policy Statement would provide much needed clarity about how to balance affordability with delivering government's statutory expectations for the environment.
- Ofwat has already begun its thinking on its PR29 approach and needs a clear direction from government on how it should do this. Ofwat may publish its initial thinking on the future regulatory framework as soon as this December based on the process for PR24.

Our view is that the UK and Welsh governments could implement an interim Strategic Policy Statement reasonably easily and to good effect. An interim Strategic Policy Statement should:

- **Follow the principles for an effective Strategic Policy Statement, as discussed above.** For example, it should be short and concise and set out clearly what the government's priorities are for the economic regulator.
- **Reflect the government's most important national priorities, ideally limiting them to no more than four.** These would likely include a focus on delivering growth, meeting statutory environmental outcomes, improving asset health, and protecting long-term efficiency.
- **Reflect the role of other regulators.** The interim version should require the economic regulator to work collaboratively and in a joined-up way with other regulators in the delivery of government's priorities (e.g. "seek to resolve differences of opinion quickly, drawing on Defra where needed, to offer clarity and predictability to industry").

Co-operation between regulators

In addition to a secondary duty on cooperation, to address the misalignment between regulators we consider that, as a minimum, there needs to be closer alignment in objectives, policy and outcomes. This is something that seems to work better in Wales than in England – both between regulators / government and more widely. This may be due to the emphasis and leadership provided by the Welsh Government. For example:

> ***"Welsh Government want to see effective collaboration to maximise the impact and effectiveness of regulation, to learn from collaborative approaches already in place and to encourage multi agency 'Team Wales' working between water companies and relevant third parties such as local authorities, catchment partnerships, wildlife trusts, private landowners, Public Health Wales and community groups."***
>
> **The Welsh Government's Strategic Priorities and Objectives Statement to Ofwat, 2022.[230]**

[228] This includes, for example, projects such as Northumbrian Water's Bran Sands Long Sea Outfall, a £217m project to provide improvements to the environment and treat nutrients at sea rather than inland within the Tees estuary where this could be damaging. Ofwat may also be asked to consider requests for funding under new Uncertainty Mechanisms that relate to emergent risks regarding, for example, drinking water and bioresources.
[229] 'Roadmap for enhancing asset health understanding in the water sector', *Ofwat,* (December 2024)
[230] Strategic Priorities and Objectives Statement to Ofwat issued under Section 2B of the Water Industry Act 1991, *Welsh Government*, (2022).

To build on this approach, and see it extend to England, one important first step would be to establish a 'mutually exclusive, collectively exhaustive' set of actions, with clear leads for each, that must be taken by regulators and companies to achieve the most important national goals (including the proposed new resilience standards and apex targets). This would start to allow a more coherent approach across environmental ambition, cost, and customer value. This should then be more fully operationalised by:

- Establishing **joint performance and delivery monitoring** processes, templates, databases, timelines and (to the extent that other reforms are insufficient for making them unnecessary) teams. This should provide a more consistent, coherent set of expectations regarding performance, monitoring and reporting with fewer duplicate, low-value or poorly-designed requests and better thought-through processes that provide more ability for regulators to derive information from the numbers. There should be "one version of the truth" on metrics, data and their interpretation, with regulators asked to settle on various technical questions (on which agreement is not always easily forthcoming), like a single approach to the calibration of sensors or how to interpret different levels of performance. To complement this, there could also be a formal cross-sector oversight board involving government and all regulators that could provide shared and strategic decision-making about performance and related issues. Importantly, this should consider how government and regulators can best accelerate and enable delivery as well as take action where cross-cutting performance is falling short.
- Creating a **joint project management office to deliver each price review programme**, with clear accountabilities for decision-making, a single cross-organisation programme plan and set of milestones, a shared set of inputs and assumptions, and central tracking of dependencies to ensure individual organisations' processes and decisions are made in the knowledge of how they will be affected by (and will affect) other organisations. Given the increasing relationship between investment in water infrastructure and economic growth, such a project management office could also help ensure the UK Government is aware of any risks to its wider economic plans by comparing assumptions made in economic strategies. We discuss further below how this could work in the case of strategic planning frameworks and the interactions with the price control process (see Section 3.1).
- For water resources, creating a **system planning function** which sets consistent planning scenarios, oversees delivery and potentially oversees bulk supply agreements in a drought scenario (see Section 3.1).

Where it is not appropriate or feasible for regulators to completely share decision-making, it may also be helpful assign **'ultimate accountability'** to one regulator, such as by removing overlaps in regulator responsibilities.[231] Dan Corry recommended that Defra appoint, "…a lead regulator for all major projects in which multiple regulators have an interest".

This is a sensible development and we support its introduction.

The reforms we set out above will be very helpful in overcoming many of the current problems with the system. However, it would also be possible to go further by changing organisational boundaries, including, in theory, splitting or merging existing regulators in whole or in part. For example, Ofwat and relevant parts of the Environment Agency could be brought together into a new supervisory

[231] 'Delivering economic growth and nature recovery: An independent review of Defra's regulatory landscape', *Daniel Corry Review,* (April 2025)*Daniel Corry Review,* (April 2025)

[232] The supervisory model is discussed in Section 4.3.

regulator[232] to provide a more effective structure focused on addressing the biggest issues, opportunities and risks facing individual companies, reflecting the different circumstances and regions in which they operate.

We take no view either way on this: institutional changes could do more than the proposals we have set out above in solving the problems we previously outlined. Equally, they would also involve disruption and cost.

If the government wished to proceed with institutional changes, it would be important do this in a way that maximised its chance of success in line with the recommendations we set out above. For example, any new organisation(s) should have a small number of clear duties that reflect more closely government's priorities, there should be absolute clarity about its/their responsibilities and priorities and there should be effective means to hold the new organisation(s) to account.

To the extent possible, there would also need to be an attempt to resolve clearly the possible internal conflict between a desire to keep bills lower and allowing for appropriate investment (which, as we have shown elsewhere in this submission, can result from misaligned incentives in the system as well as an economic regulator's natural scepticism about investment that increases a regulated asset base). This is not insurmountable; it means thinking carefully and early about how decisions are taken about what investments should be made and the cost-efficient level of expenditure that should be allowed in return for delivering them.

In addition, the UK and Welsh governments should, if planning institutional change, consider the following:

- Linked to duties, there should be a clear framework for how any new organisation(s) make trade-offs between different outcomes or priorities (e.g. environmental outcomes versus impact on bills). [233]
- Careful attention should be paid very early on to how any new organisations' 'target operating model' would work (that is, the question of structures, information flows, procedures, staffing and skills model, financial flows, etc). Particularly given public scepticism about the sector, there would be a limited window in which a newly-launched organisation will have to establish trust and legitimacy so must be given every chance to succeed from the beginning.
- How any new organisations' culture and leadership should be established in a way that is positive, focused on enabling as well as requiring the achievement of the country's long-term objectives.
- How any new or significantly-changed institution would adopt 'digital first' processes. As part of any change, we should move away from paper-based, inconsistent records and procedures, adopting digital portals and open data by default.
- Any changes should take place across a carefully-considered timetable that considers how crucial projects (such as the next price review) can avoid being unduly affected. There is likely

[232] The supervisory model is discussed in Section 4.3.

[233] Such a framework should consider other examples of regulators who have combined functions and must trade off outcome/price decisions as part of their own internal decision-making. The Office of Rail and Road, for example, is both the economic and safety regulator for Britain's railways and sets out explicitly how the costs and benefits of health and safety interventions should be assessed.

to be benefit in 'shadow-running' any new or significantly-altered organisations for an extended period before any changes became formalised.

- For the same reason, care would need to be taken in announcing or delivering a transition to the need to carry the confidence of the capital markets. Any potential or perceived disruption from institutional change would need to be mitigated through various means, from the signals sent by Ministers down to the careful wording of legislation.

Regulator accountability

Regulators are not held to account as visibly as they could be for decisions and outcomes that directly affect the environment, consumers and infrastructure resilience. More structured reporting, review, and challenge mechanisms would build legitimacy and openness into the regulatory process.

Drawing on several examples of accountability mechanisms from other sectors which could be adopted in water, there are a number of ways in which regulators' accountability could be improved:

- As Ofwat is not accountable to government but instead Parliament, **the National Audit Office should be asked to support Parliament's oversight function by conducting a review of the effectiveness of its decisions at least every five years,** including a quantitative assessment of the degree to which it is performing and to which it is taking decisions in the long-term interest of society (including, but not limited to, how it is delivering against its duties, managing long-term risks, and support goals set out in the Strategic Policy Statement).
- **The economic regulator should be required to report publicly and on a regular basis on how they are facilitating investment, what they see as issues/opportunities and what their future plans are in the context of longer-term investment needs**. This could consider how much capital investment is being approved compared with what is being spent by water companies, whether the investment is meeting infrastructure needs (e.g. new reservoirs, asset health) and the extent to which the expected return on investment is attracting necessary financing. This could be similar in nature to the Bank of England's Financial Stability Report that regularly assesses risks in financial markets.

Regulator capabilities

We support the Corry Review's recommendation that Defra should "Assess potential for regulators to have targeted pay flexibility so they can employ and retain staff, particularly specialist staff."[234] Dan Corry argues that this is important to ensure that salaries are competitive with the private sector, particularly for those with specialist skills. Currently the salaries on offer for Defra's regulators are not even competitive with other regulators, let alone the private sector.

The UK government should follow the recommendation of the Corry review and grant greater autonomy over pay and benefits to the regulators to ensure they can attract and retain the right people. Attracting and retaining a skilled workforce is essential to the effectiveness of the regulator as it is with any business.

Regulator governance

To ensure that the economic and environmental regulators' Boards are set-up to enable regulators to make the best decisions, with enough time to do full justice to issues, the government should appoint boards that are make-up of more full-time (or near-full time) members, with no executive or managerial responsibility. For the economic regulator, such board members could be known as

[234] 'Delivering economic growth and nature recovery: An independent review of Defra's regulatory landscape', *Dan Corry Review,* (April, 2025)

Commissioners, underscoring their authority. This would enable them to understand more fully the issues and potential options and, in turn, to hold the executive and their teams to account.

Our recommendations

- **Enact a new, small number of duties for the** economic regulator **and set a focused Strategic Policy Statement to deliver the priorities of the government of the day**. The duties should be limited to: protecting the interests of current and future customers by ensuring companies can deliver an efficient service and ensuring sector investability and company financeability. Similarly, the government's Strategic Policy Statement(s) should provide a much clearer set (or sets) of priorities with which **all regulators** must act in accordance.
- **Strengthen regulator co-operation**, particularly in areas of environmental performance and enforcement. This could involve joint working units and streamlined performance monitoring. Unnecessary duplication should also be removed by ending Ofwat's role in setting environmental targets, instead further empowering the Environment Agency and Natural Resources Wales. They should be supported by much clearer Strategic Policy Statements about the outcomes wanted by elected governments, how they should be prioritised and trade-offs managed.
- **Put in place new arrangements to provide more transparency and regular consideration of how well government, regulators and companies are delivering the government's priorities.** The National Audit Office should be asked to support Parliament's oversight function by conducting a review of the effectiveness of its decisions at least every five years. Importantly, this should not impinge on the independence of regulators to take individual decisions so should not review regulators' decisions about an individual company or price review.
- **Give regulators the flexibility to attract and retain the right people.** Freeing Ofwat from the pay restrictions of the Civil Service and allowing the Drinking Water Inspectorate and Environment Agency to have targeted pay flexibility so they can employ and retain staff, particularly specialist staff. In addition, regulator pay should be benchmarked to the performance of the industries they regulate so they are personally incentivised to help drive performance.
- **Provide for at least some full-time or near full-time non-executive members on the Boards of the economic and environmental regulators.** This will help ensure they have the necessary time, understanding and experience to inform and challenge decision-making. In addition, there should be increased emphasis on ensuring all Board members have the necessary expertise applicable to the water sector.

Better targeting of investment

In addition to clearer strategic direction to regulators on the outcomes government expects the water sector to deliver, government should also improve the process for determining how decisions about investment are made in a way that is faster, more flexible and more responsive to local environments.

To better target investment, we recommend:

- **The UK and Welsh governments improve the industry's strategic planning regime,** including by nominating a 'lead organisation' (such as Defra) to oversee the delivery of the plans, frameworks and their interaction with funding decisions. The regime should take a much greater cue from long term delivery strategies to ensure the whole sector is planning and investing for the long-term.
- **The UK government devolves power to catchments** to give local groups more power over setting priorities and how they should be delivered. Government should support the development of existing river catchment partnerships and give consumers a say on the development and delivery of water company plans.
- **The UK government establish a National Water Grid for England** to act as a system planner to optimise delivery between regions, set certain assumptions related to water security (including to allow for more investment ahead of need), find ways to accelerate regulatory processes, and to monitor and communicate risks and delivery.

The rest of this chapter deals with each of these in turn.

3.1 Improving strategic planning frameworks

Where the current system is not working

The water industry's strategic planning framework are plans that set the long-term approach for key areas of company activities and specify schemes that are required to deliver the plans .

Figure 12 below sets out the various strategic planning processes that water companies are subject to (set against the high-level stages at which decisions are made).

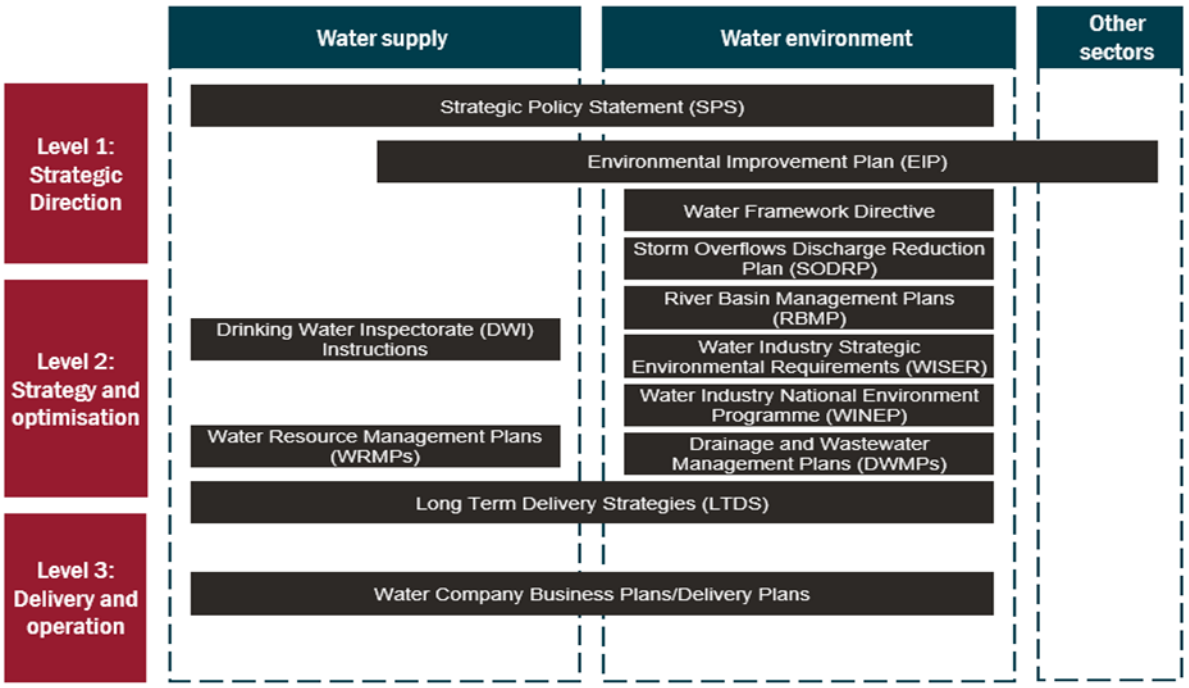

Figure 12 Overview of current strategic planning regime

Source: Frontier Economics

Chapter 2 of the Call for Evidence seeks views on two areas:

- Barriers to effective long-term water industry planning (question 22).
- Changes to planning frameworks so that water companies can more effectively fulfil their duties and deliver their functions (question 23).

The Commission has set out three broad issues concerning the current approach to strategic planning for the water industry, namely:

1. Long-term targets and objectives for the water industry do not appear to clearly map onto the business planning and Price Review process, with limited guidance on the hierarchy of priorities and trade-offs.
2. Water industry planning frameworks are resource-intensive, complex and do not always appear to add up to a coherent whole.
3. The current five-year price review cycle constrains evolving and emerging policy requirements and poses challenges for the sequencing of improvements to meet long-term plans.

We agree. Below, we set out further detail, as well as proposed recommendations for change. This is supported by Annex 1 by Frontier Economics, submitted alongside this response ('Reforming water sector strategic planning').

First, responsibilities for determining strategic plans are not well-aligned or clear. For example, as set out in Table 1 below (and discussed in further detail in Frontier Economics' corresponding report), there are overlaps where more than one organisation or regulator is responsible for a stage of each strategic plan. This is also a gap in responsibility in the case of strategic direction on network resilience. This creates complexity, fragmented decision making and a lack of clarity over where accountability lies. Inconsistencies between how the needs assessment and best value options assessment is

conducted also leads to imbalances in the ultimate funding decisions. Ultimately, this means that customers, society and the environment may (i) receive less of the improvement they need, (ii) may receive improvements later, or (iii) cannot be confident that the most efficient and impactful set of options have been funded.

Table 1 Stages of the investment decision-making process and corresponding responsibilities

Enhancement programme	Investment decision making step				
	Strategic direction	Needs assessment	Best value option	Cost efficiency	Monitoring delivery235
Water resources	Defra + EA	EA	EA	Ofwat	Ofwat
Drinking water quality	Defra	Ofwat + DWI	Ofwat	Ofwat	Ofwat + DWI
Water network resilience	GAP	Ofwat	Ofwat	Ofwat	Ofwat
WINEP	Defra + EA	EA	EA	Ofwat	Ofwat + EA
SODRP	Defra	Defra	Ofwat	Ofwat	Ofwat + EA

Source: Frontier Economics

Second, there is no consistent source of planning assumptions or forecast scenarios across frameworks. It can be hard to know the basis under which plans have been or should be developed.

In addition, companies are required to use growth forecasts from local plans published by the local council or unitary authority (which combines local and district authority functions) to inform their Water Resource Management Plans, whereas Ofwat's decisions on the funding of growth uses different assumptions to forecast population estimates. There are even examples of different assumptions used for supply and demand within the same regulator's plan[236]:

> ***"In the lead up to PR24, planning assumptions across and within plans were occasionally inconsistent. For example, EA's WRMP guidance suggested that companies plan for one set of climate change assumptions for supply and a different set of climate change assumptions for demand".***
>
> **National Audit Office, (2025).**

This creates a mismatch between what companies are required to deliver for customers and the environment (as set through the plans) and what they are funded to deliver. It also undermines the effectiveness of the strategic plans by calling into question whether they can deliver the outcomes government require.

Third, the timetables for some strategic plans (e.g. the Water Industry National Environment Programme, Water Resource Management Plans and Drainage and Wastewater Management Plans) are not aligned with the price review process. For PR24, companies had to revise plans late in the process to reflect the latest statutory requirements relating to the final Water Industry National Environment Programme and the final Water Resources Management Plan to ensure Ofwat could assess funding cases. Indeed, the Water Resources Management Plans for Southern Water and South

[235] Note that this step (monitoring delivery) is discussed in Chapter 2.
[236] Ibid. p.29

West Water are still not signed off as of mid-April 2025, even though the 2025-30 investment period has begun, meaning five-year plans have taken six years to finalise.

Fourth, Defra, the Environment Agency, Natural Resources Wales and/or the Drinking Water Inspectorate may impose new or changing requirements mid or late-process. This is disruptive and introduce unexpected pressure into the investment programme. The lack of time may also make it hard to optimise solutions**.** For example, as recently noted by regulatory expert John Earwaker of First Economics, "...(t)he neat five-year cycle has… broken down quite badly recently"[237]. Whilst Ofwat has sought to mitigate this impact in its recent final determination by introducing some new uncertainty mechanisms, there remains risk that companies are unable to secure additional efficient expenditure to fund these requirements. This either risks costs being cut elsewhere to deliver these new requirements or delays the delivery of improvements for customers and the environment. Ofwat has sought to mitigate this impact in its recent final determination by introducing some new uncertainty mechanisms, there remains risk that companies are unable to secure additional efficient expenditure to fund these requirements.[238] This either risks costs being cut elsewhere to deliver these new requirements or delays the delivery of improvements for customers and the environment.

Finally, long-term delivery strategies do not play a sufficiently strong role in determining what should be built and funded. As part of PR24, Ofwat required companies to develop 25-year, long-term delivery strategies. These are designed to set out the context for what the five-year plans are seeking to deliver by bringing together the different long-term enhancement plans (as identified through the strategic planning frameworks) to identify their overall strategy (or 'core pathway') and potential alternatives.[239] This was intended to ensure that different strategic plans are coherent. Ofwat, in turn, was then expected to use them to determine efficient funding and associated outputs. The sector considers that the long-term delivery strategies are a critical part of the overall process of determining what gets built, in particular to help ensure that the different longer-term strategic plans are joined-up and that their nearer-term (five year) plans serve as a 'waypoint' in the consideration of the longer-term needs of their customers and the environment.

However, Ofwat appears to have given limited regard to long-term delivery strategies in their consideration of companies' five year spending plans, despite the strategies showing that, given the level of investment required by the sector, current investment needs cannot be deferred to future periods.[240] There is also no clear mechanism for companies to move from one pathway to another in between price controls (which creates uncertainty over the availability of funding for multi-AMP projects) and they have not enabled 'low regret' longer-term investment to improve resilience. This reinforces a system that tends to expand capacity only when growth is imminent and highly certain. Furthermore, the long-term delivery strategies and the wider strategic plans use different methods to

[237] The Independent Water Commission: Economic Regulation A Discussion Paper, *First Economics*, (March 2025)
[238] For example, the Environment Agency has twice increased the price of permit (e.g. relating to discharges) mid control period, with no ability for companies to recover the additional costs until the subsequent control period begins. Similarly, the Drinking Water Inspectorate imposed additional requirements on water companies concerning the need to reduce certain chemicals (Per- and polyfluoroalkyl substances, or PFAS, commonly known as forever chemicals) in the water supply in August 2024, during the PR24 process and some ten months after companies submitted their initial business plans to Ofwat.
[239] 'PR24 and beyond: Final guidance on long-term delivery strategies', *Ofwat*, (April 2022)
[240] For example, in Ofwat's Final Determination document on expenditure allowances, it only refers to long-term planning (i.e. 'adaptive pathways') under water supply options. Companies also noted that the long-term delivery strategies received relatively very little attention in the scrutiny of the business plans.

project growth, resulting in inconsistencies in outputs[241]. In addition, the long-term delivery strategies provide only a framework to consider enhancements and there is no equivalent framework for base, despite this its being highly relevant to the heath of companies' assets and, correspondingly, their ability to enable economic growth and manage the damaging effects of climate change.

Our analysis of reform proposals

We set out our proposals for reform in three areas below.

Improved accountability and governance of investment decisions

We recommend the UK and Welsh governments consider changes to the accountability and governance arrangements that oversee the processes in the following ways:

- **Appoint a 'lead organisation' (such as Defra) to take formal responsibility for ensuring the efficient delivery of the strategic planning frameworks and their associated processes.** They must ensure that plans are delivered to time and coordinated properly. This includes ensuring long-term adaptive plans are developed in line with the government's overall objectives and statutory obligations.[242] The lead organisation would ensure there is the necessary clarity about roles and responsibilities, including which regulators are responsible for which decisions. It would also be responsible for ensuring long-term adaptive plans are delivered on time and in a way that can be best used to inform companies' plans and Ofwat's funding decisions.
- **Establish a steering group of senior decision-makers from government and regulators** to improve the speed and consistency of decision-making and to support the 'lead organisation'. The steering group could provide oversight and scrutiny to ensure that the different organisations' objectives and approaches with respect to their long-term adaptive plans and funding decisions align with government's objectives (as well as aligning with each other).
- To support the 'lead organisation' and the steering group, **government should draw on a joint project management office** (as discussed in Section 2.3) by, for example, having a shared set of assumptions and tracking dependencies. In addition, and at a minimum, the UK government should remove the overlaps in regulator responsibilities over different strategic plans so that there is accountability and transparency about who is responsible.

Improved processes

To address this, and noting the role that the 'lead organisation' could play in this, the government should ensure that:

- **There is a clearer prioritisation and sequencing of the long-term strategic plans.** Establishing clear prioritisation and logical sequencing to ensure dependencies between the plans are captured and that, together, they can adequately inform the economic regulator's funding decisions in a timely way.

[241] For example, it is not clear that they considered longer-term investment needs when considering cuts to the investment plans for this control period. Several companies also noted that, as part of assessing companies' submissions, they received very few queries from Ofwat regarding their long-term delivery strategies compared with their five-year plans.

[242] This could be analogous to what happens in the regulation of Network Rail, where the UK and Scottish Governments set the high-level outcomes it expects Network Rail and Network Rail in Scotland (respectively) to deliver (e.g. relative punctuality and performance of the network). In the case of Network Rail, governments also set the level of funding they are willing to commit.

- **There is a consistent set of forecasts and planning assumptions used to cover the most important set of inputs required forecast system pressures and necessary investments over the short- and long term**. This should include, for example, population growth and distribution, growth in household and business demand and climate change assumptions (e.g. the frequency of extreme weather events and rainfall volume). These forecasts should then be combined into different planning scenarios. In practice, this could look similar to the Future Energy Scenarios developed by the National Energy System Operator, which is used as a basis for planning by energy networks.

Increased focus on long-term planning in the context of five-year price control decisions

Government should ensure there is a greater role for long-term delivery strategies as part of the overall process for deciding what gets built.

There should be a clear line of sight between the strategic plans, the long-term delivery strategies and the five-year funding decisions so that the latter (the five-year funding and output decisions) reflect 'way points' in a longer-term plan that companies and the wider sector have a shared ownership of. This will require the economic regulator to put sufficient focus on the long-term delivery strategies as part of their overall assessment of the five-year business plans.

Related to above, long-term delivery strategies and strategic plans should also be developed and funded using a consistent methodology. Standardising scenario assumptions for key inputs ensures that all plans are based on a consistent set of data and assumptions. A common methodology would align the delivery requirements of the long-term adaptive plans to the funding need. It would also simplify the development, monitoring and evaluation process, making it easier to track and adjust plans as needed.

Furthermore, long-term delivery strategies should enable 'low regret' investments that enable the resilience of the sector. They should also provide a framework to consider base expenditure.

Our recommendations

To make the decision-making process for how the system develops work more effectively, we recommend that UK and Welsh governments:

- **Make changes to the governance and accountability** of industry's strategic planning regime**.** A 'lead organisation' should be responsible for overseeing the overall development of the strategic planning regime with a steering group of senior decision-makers, and a supporting project management office, from relevant regulators to provide oversight and scrutiny.
- **Establish improved processes to clarify priorities and dependencies of the different strategic plans to enable seamless integration of the plans with funding mechanisms.** Using common scenarios and assumptions would align the delivery requirements to the funding need.
- **Strengthen the role of the long-term delivery strategies so they provide a longer-term and shared strategy (including with regulators) about how the system will develop over the long-term, as well as how it will be funded.**

3.2 Devolving power to catchments and regions

Section 2.1 above explains how sector-specific targets are set and the inconsistencies and incoherence that can follow. We recommend that national targets are made less prescriptive and consolidated into long-term policy objectives, with standardised methodologies and technical guidance on how these are to be translated into local decision-making frameworks. This chapter sets out the form that local decision-making could take via catchment planning.

Where the current system is not working

Water companies

The Water Industry National Environment Programme (WINEP) is the main vehicle for water company investment towards statutory environmental objectives[243]. The current Water Industry National Environment Programme for 2025-30 is valued at £22.1 billion.[244] The accompanying guidance from the Environment Agency explains the 'what' of environmental water policy that needs to be delivered through the programme.[245]

The Water Industry National Environment Programme **is therefore a top-down direction from the Environment Agency which leaves little to no room for local decision-making on local environmental considerations. As a result, it can fail to deliver the best outcomes.**

Other sectors

Rural land-use in England is largely determined by farm-scale decisions on business practice, including access to land management payments (or private finance) for environmental measures. On-farm regulations set by Defra seek to limit the risk of excess pollution from land[246] and tighter rules apply in areas designated as being particularly sensitive to nitrates.[247] The UK government says that its Land Use Consultation is the start of a move towards more "spatial planning and the targeting of land use incentives". The consultation also states that its "proposed approach to **spatial prioritisation of outcomes** and the **spatial targeting of financial incentives** for land use change will be set out in the [forthcoming] Farming Roadmap."[248] This is due to be published in 2025.[249]

Currently, the main mechanism for wide-scale delivery of environmental outcomes from rural land-use is the Sustainable Farming Incentive (SFI). As a UK Government scheme, for English farms, the SFI has been designed to enable maximum flexibility for farmers in the options that are adopted. However, it has been acknowledged by Defra as delivering poor value for money in its current form partly because actions are not necessarily targeted where they are most needed. Defra's ongoing reform to this scheme "will direct funding where there is greatest potential to do more on nature and where

[243] Other strategic planning documents are informed by relevant environmental laws and targets. The discussion here focuses on the WINEP for brevity.

[244] 'Environment Agency secures record commitments from water sector', *Environment Agency*, (January 2025)

[245] 'Water industry national environment programme (WINEP) methodology', *Environment Agency, Department for Environment, Food and Rural Affairs, and Ofwat*, (May 2022)

[246] 'Applying the farming rules for water', *Environment Agency,* (June 2022)

[247] 'Nitrate vulnerable zones', *Department for Environment, Food and Rural Affairs, Environment Agency,* (February 2025)

[248] 'Land Use Consultation', *Department for Environment, Food and Rural Affairs',* (January 2025)

249 'Government announces reforms to boost profits for farmers with a cast iron commitment to food production', *Department for Environment, Food and Rural Affairs,* (January 2025)

there is the least ability to access decent returns from agricultural markets, or other sources of investment, as set out in the Land Use Framework."[250]

We discuss the regulatory gaps and oversights of urban land-management in Annex 8 on Rainwater Management.

Our analysis of reform proposals

The regulatory structures described above ensure that decisions on investment by water companies, as well as on rural and urban land use, are made in isolation from each other. Suboptimal environmental management is the result.

Catchment management as an alternative

The concept of catchment management represents an alternative model for managing the environment. Given that many issues for the aquatic environment begin on land, there is a strong economic and environmental case for addressing issues 'upstream', at their source, as opposed to 'downstream', where they affect a river or lake. The Sustainable Solutions for Water and Nature (SSWAN) initiative has made a compelling case for this approach[251] as noted in the Call for Evidence.

There would be significant benefits if the different sectors which produce harmful effects on the environment acted to mitigate their harm in a more coordinated way. At the moment, these sectors are managed in regulatory siloes, even those which answer to the same UK Government department (Defra). At the moment, these sectors are managed in regulatory siloes, even those which answer to the same UK government department (Defra). Despite this, water companies have been doing their best to practise various forms of catchment management for decades, particularly in relation to water quality, where land-based management of nutrients, dissolved organic carbon and pesticides has often been found to be a cost-effective alternative to removal at treatment works.[252]

Taking these alternative approaches involves improving infrastructure, land-use changes and/or improving operations that generally reduce the impacts of intensive farming on the environment. These schemes have therefore helped to restore local environments for the benefit of other water management objectives (e.g. reduced flood risk) and environmental objectives (e.g. supporting biodiversity through habitat restoration). These schemes have invariably been hampered, however, as they are forced to operate within the existing, restrictive regulatory structures described above. They have, therefore, necessarily been limited in scale and scope. However, they do provide confidence that a broadening of the currently limited approaches so that they are catchment-wide would deliver significant benefits. The Commission rightly highlights River Petteril catchment nutrient balancing as a mature example of this sort of approach.

Water management involves regulating the flow of water itself (flooding, water resources) or the contaminants it subsumes (nutrients, chemicals, etc.) from various sources at it moves through the landscape and built environment. The majority of these flow-mediated connections move downstream within a topographical boundary (i.e. catchment), which therefore represents the rational management unit. 'Catchment' is not a rigorously defined scientific concept with immediate

[250] 'An update on the Sustainable Farming Incentive', *Department for Environment, Food and Rural Affairs*, (March 2025)
[251] 'Sustainable Solutions for Water and Nature', *Sswan*
[252] 'Farming for water; catchment management initiatives for reducing pesticides', *Water and Environment Journal,* (November 2020)

application to all geographies, so defining catchments for administrative purposes involves some pragmatism.

River catchments have formed the basis of Environmental Agency 'operational catchments' and Catchment-based Approach (CaBA) catchment areas. We should recognise, however, that some urban drainage catchments are predominantly engineered.[253] They are partially or entirely separated from river basin catchments, so would not directly correspond a delineation based solely on them. Similarly, in coastal and estuarine settings, the upstream surface water drainage catchment will only account for some of the water management challenges, which also follow the coastline laterally and extend out to sea. Groundwater flows can also cross surface water boundaries. Though for management purposes we must ultimately draw the line somewhere, our processes must nonetheless be sensitive to these other interactions (for example through cross-catchment working via a higher administrative tier- see below). Assuming these inter-relations are accounted for in operational planning and delivery, then existing definitions under Catchment Based Approach (CaBA) and/or the Environment Agency continue to be effective administrative and hydrological delineations.

The role of catchment plans

Successful catchment management fundamentally relies on a catchment-scale plan. The concept of a catchment plan relies on:

- An informed understanding of the baseline state of the environment within the catchment.
- An evidence-based assessment of the reasons why the catchment may be failing to meet existing (and/or desired) environmental targets or be able to facilitate recreational objectives.
- A mapping of suitable locations for mitigation or restoration efforts.
- An ability to direct (or influence) investment or other action required for such efforts.
- A periodic review of the catchment plan in light of any new or emerging data.

River Basin Management Plans (RBMPs) for each of the twelve river basin districts of England, Scotland and Wales are intended to implement the Water Framework Directive and therefore reflect principles of catchment management.[254] In practice, though the first and second principles are reflected in River Basin Management Plans, their Programme of Measures have been criticised by the Office for Environmental Protection as being "too generic"[255]. The Office for Environmental Protection has further found that "there is also a major reliance on actions by water companies to realise [environmental] improvements…There is limited evidence that policy measures in other sectors, including agriculture and transport, will be sufficient to drive a balanced delivery and achieve overall outcomes".[256] In effect, the Office for Environmental Protection has found that River Basin Management Plans fail to implement principles 3 and 4 above. We share this view.

Catchment Partnerships have been set up across England (including cross-boundary catchments extending into Wales and Scotland) under the auspices of the Catchment based Approach (CaBA).

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[236] 'Future of the subsurface: urban water management in the UK (annex)', *Government Office for Science*, (November 2024)

[254] 'The Transition of EU Water Policy Towards the Water Framework Directive's Integrated River Basin Management Paradigm', *National Library of Medicine*, (July 2018)

[255] 'Government response to the Office for Environmental Protection report on the implementation of the Water Framework Directive Regulations and River Basin Management Planning in England', *Department for Environment, Food and Rural Affairs*, (September 2024)

[256] A review of implementation of the Water Framework Directive Regulations and River Basin Management Planning in England', *Office for Environmental Protection*, (May 2024), p. 76

Though many robust and well-evidenced Catchment Based Approach plans have been produced, they have lacked funding for extensive monitoring and assessment. Indeed, as the Call for Evidence rightly notes, each partnership is only provided £15,000 a year and this amount has not changed since 2015/16. So, even this paltry sum, has fallen by more than a third in real terms. Crucially, as non-statutory documents, they have struggled to influence investment and decision-making at scale.

We support a move towards more formalised and regularised catchment planning across the whole of England.[257] Such a move should build upon existing Catchment Based Approach catchment partnerships. Over time, we also recommend that more decision-making is moved within that framework, though that would need to be an iterative process. Catchment plans should evolve to ultimately be the delivery mechanism for national long-term objectives recommended in Section 2.1.

This means that localised planning must maintain a clear and accountable link to national objectives**.** It should not drive a 'postcode lottery' of improvements for more engaged catchment partnerships but instead provide an objective means of assessing and informing decisions on how national objectives can be delivered locally.

Water and sewerage customers should also play a central role in expanded catchment planning, especially in anticipation of the plans informing decisions on the investment and outcomes their bills will contribute towards. Formalised and regularised structures for catchment plans should, therefore, ensure that there is established role for customers among other stakeholders.

The status and scope of catchment plans

Robust catchment plans ultimately are a tool to inform or direct decision-making. They represent a common 'meeting ground' for decisions on where to invest private and public money associated with environmental and water management. Their status in these decision-making frameworks could fall anywhere on a spectrum from merely advisory (as now) to mandatory (wholesale replacing decision-making currently vested in different entities and regulatory processes). There are also important policy choices on the scope of a catchment plan (i.e. which sectoral interests it covers). The benefits of integrating planning and decision-making will increase with wider coverage and more status for the plan. However, the current level of experience with catchment planning and delivery at scale is too immature to abruptly pivot away from current arrangements. Fully integrated catchment management plans should be a prominent plank of the White Paper that we have recommended (in Chapter 2) follow-on from the Commission's recommendations, and subsequently reflected in the Water Reform Bill that may follow.

We see implementation of catchment planning as taking a three-phase, incremental approach:

Phase 1 – developing mature plans and catchment partnerships across all of England

The quality of the evidence and analysis of the plans is a fundamental precondition of successful decision-making based on them. **We recommend that developing catchment plans across all of England forms the first stage of a wider reform programme and should be pursued immediately by Defra.** This will involve increasing funding for Catchment Based Approach (CaBA) partnerships and directing (at least in part) the required scope of plans to ensure they can ultimately begin to inform prescribed regulatory and investment decisions later in time.

[257] CaBA is a Defra/EA initiative, so as the main recommendation is to formalise these partnerships, that would primarily be an English initiative. Cross-border CaBA partnerships have been set up, but we would need a lot more analysis to understand how these would need to operate in a world where more decisions were directing through the catchment plan. It is our expectation thatbespoke terms of referenece are likely to needed to navigate the devolved powers on either side of the border.

As advisory documents, the first iteration of expanded catchment plans would nonetheless deliver significant benefits for existing decision-making, such as:

- A source of valuable place-based evidence for development of PR29 Water Industry National Environment Programme (WINEP), including identifying opportunities for water companies to deliver catchment and nature-based alternatives to 'grey' infrastructure upgrades
- Data to inform policies for spatial targeting of agriculture subsidies (those relating to water environment outcomes) as envisaged in the Land-use Consultation
- An opportunity mapping for green finance markets such as Biodiversity Net Gain, Woodland Carbon Code, etc, to ensure high-integrity projects

As a first step towards a more formal role in decision-making, it will be important to set up appropriate governance and assurance arrangements for catchment plans, to ensure that plans are of sufficient quality and that national guidance is being followed.

Phase 2 – integrating decision-making on water company investment and rural land-use incentives

Once there is confidence in the first generation of plans and the institutional architecture around them, catchment plans should take on a more central role in some aspects of decision-making. Initially, bringing together decision-making on water company investment in the Water Industry National Environment Programme and targeting of outcomes and incentives on rural land-use (as envisaged in a forthcoming consultation [258]) at the level of a catchment represents a huge opportunity to avoid the inefficiencies of siloed decision-making. **From 2030, catchment planning could be the main planning and policy tool to inform most water environmental planning**. That would address the funding and delivery issues highlighted by the Commission, ensuring that actions that have the biggest benefit-cost ratio in a catchment are delivered ahead of lower value options.

Limiting regulatory status for the plan to water company and land-use incentives would not preclude the ongoing use of plans to inform (on advisory basis) other decisions, such as development control/local planning, managing the impact of highways and flood management.

We envisage a crucial ongoing role for independent economic regulation even within phase two and beyond. In other words, the decision on total investment and the impact on customer bills should be informed by, rather than determined by, catchment planning.

Phase 3 - integration with Local Authority planning

The objectives in a mature and established catchment plan could, over time, be afforded higher status in other decision-making frameworks. In the longer-term, we envisage that catchment plans should:

- Have formal status as evidence for Local Plan development and material considerations for planning decisions[259]. This will ensure that the aims of the catchment plan are duly considered in local authority planning and development control.

[258] 'Land Use Consultation', *Department for Environment, Food and Rural Affairs,* (January 2025)
[259] 'What are material considerations?', *Planning Aid England*

- Be integrated with strategic transport planning by Highways England and local highways authorities to ensure that the impacts of highways are monitored and apportioned, mitigation measures are well targeted and combined with other opportunities in the catchment.
- Underpin evidence for Local Nature Recovery Strategies, Protected Site Improvement Plans and other statutory habitat and environmental planning.
- Underpin regulated markets for ecosystem services, green finance etc.

Governance arrangements

There are currently around 100 catchment partnerships in England. Whilst the monitoring and assessment aspects of catchment planning are appropriate at this scale, the governance and administration of the process overall would be duplicative and inefficient if carried out individually by each partnership. We do not envisage, for example, that each catchment partnership would be a standalone public body and have decision-making powers directly vested within it.

There are two potential governance arrangements for catchment plans in England:

- **Direct oversight of the process by national government**. This would broadly follow the model of Local Plans, whereby the Planning Inspectorate examine and assess Local Plans against national policy and other legal requirements. A limitation of this approach is that the existing administrative capacity of local authorities would not be available to Catchment Partnerships without significant investment.
- **Regional governance, with a potential role for combined authority mayors.** The UK government is currently legislating for the reintroduction of strategic development planning[260] to inform local decision making and help to resolve local trade-offs.[261] Water resources planning has also benefitted from bringing other stakeholders to work together to consider options for shared challenges beyond water company boundaries. This is the most effective level for local representatives to engage with as it is close to the 'real world' issues and opportunities without being overwhelmingly granular.

We think there is huge promise in the potential to embed catchment planning within federated governance structures at regional level (that is, which combine together catchment partnerships) that enable:

- Efficient administration and governance.
- Combining local planning with cross-border, strategic planning (including cross-border issues, strategic growth and transport planning by Combined Authorities as catchment planning matures into phase 3).
- Allocation of limited funding to individual catchments, resolving local trade-offs.
- Input into the catchment plans including through regional scale studies and plans e.g. growth projections, source attribution).

[260] 'Planning and Infrastructure Bill: Explanatory Notes', *House of Commons*, (March 2025)

[261] 'Factsheet: Strategic Planning', *Ministry of Housing, Communities and Local Government*, (March 2025). Among other things, the Strategic Development Strategy will "apportion and distribute housing need to the most appropriate locations"

- Interface with, and accountability to, national government.
- Links, integration or joint working with regional water resource management groups.

Mayoral input into catchment planning would be a logical application of their role and democratic legitimacy.

The Call for Evidence highlights that this "[...would be a significant departure from the existing model... [and] may require an alternative approach to regulatory oversight, long-term planning and price control, and potentially to compliance and enforcement across sectors". We agree that there are many significant implications that would follow from a move towards more integrated planning and delivery. It would be premature to take a detailed view on all aspects of how a reformed regime would operate and interact with legacy institutional structures, particularly as they themselves may be subject to reform in light of the Commission's recommendations and other reviews (Corry Review, etc). Reform of this magnitude needs deep and considered development over time to be successful without disrupting the ongoing need to continue delivering urgent and crucial investment in our environment and infrastructure.

Our recommendations

Defra should pursue the medium-term term goal of **fully integrated catchment management**.

Specifically, the UK Government should:

- Develop catchment plans across all of England as the first stage of a wider reform programme. This should be pursued immediately by Defra and should use existing Catchment Based Approach (CaBA) partnerships as the foundation;
- This should be followed by subsequent legislation and a multi-year policy implementation programme. Co-designing the new regime with all affected sectors and cross-Whitehall will be crucial. Defra should build around a regional tier of governance made up of federations of catchment partnerships. Defra should consider the best way of integrating the involvement of local authorities and regional mayors.
- Immediately implement other enabling actions that will support the move toward catchment management in the medium-term. Where companies have been unable to adopt catchment solutions in the period 2025 to 2030, aspects of the current Water Industry National Environment Programme should be revisited to help build the evidence base for, and confidence in, this approach. The Environment Agency's recent decision to abandon Catchment Nutrient Balancing as a regulatory approach over 2025 to 2030 is an example of where 'low regrets' action now can help inform future policy design. The Environment Agency should reconsider its decision to ensure that Catchment Nutrient Balancing trials can continue to improve our understanding of catchment management in practice.

3.3 Establishing a National Water Grid for England

Where the current system is not working

Since privatisation no major reservoirs have been planned and delivered, despite a 21% increase in England's population since 1990.[262] The National Infrastructure Commission has recently pointed out, in its assessment of the future needs of the electricity distribution network, that price controls have been too focused on the short-term cost of network investment, and not the wider goal of economic growth.[263] The same is true in the water sector. Historic failure to plan effectively for drought has led to the water constraints we see today. Every five years water companies produce Water Resource Management Plans covering a minimum 25-year period. But before 2020, planning assumptions were based on a low drought resilience standard, a 1 in 100 year 'worst historic drought' which did not factor in the higher risk of extreme drought as a result of climate change. Additionally, pre-2020 planning assumptions had no forward look of the amount by which abstraction might need to be reduced in future to achieve desired environmental outcomes.

As a result of regulators' historic judgment that the risk of over investment was greater than the risk of underinvestment, in 2023, for the first time the Environment Agency objected to the building of almost 4,500 homes around Cambridge on grounds of water scarcity.[264] Failing to deliver 150,000 new homes in the Cambridge region by 2050 could mean the country misses out on £6.4 billion in economic growth.[265]

Without action, this problem will only get worse, with the Environment Agency forecasting a deficit of around 5 billion litres per day by 2050.[266] This is likely to be an underestimate given the current UK government's ambition to deliver 1.5 million homes this parliament.

At a high level, the government could choose to plan housing and business growth around water availability. But houses cannot be placed anywhere. To boost economic growth and quality of life, new housing needs to be situated near existing economic activity. Having more workers in one place means increased specialisation, boosting productivity, workers' wages, and the desirability of places. This means that houses are needed in exactly those areas which are already water stressed. Similarly, many new businesses with high water needs can't move to areas where there is water capacity because their location is constrained by factors such as their function, the existence of transport connections, and the availability of skilled workers.

Delivering growth in water scarce regions is not impossible. The government of Western Australia's Department of Water and Environmental Regulation models future water availability against consistent population growth, economic growth and climate change scenarios. It also identifies new water resource options and undertakes feasibility assessments. Similarly, the Australian state of Victoria set up a body responsible with oversight of its water grid, responsible for providing a forward view of water availability and stress testing the grid under a range of scenarios including The

[262] 'Population estimates for England and Wales: mid-2023', *Office for National Statistics,* (July 2024). Using 1992 and 2023 figures – 19.6% increase.
[263] 'Electricity distribution networks: Creating capacity for the future', *National Infrastructure Commission,* (February 2025), p. 9
[264] 'Water supply fears prompt first housing objections', *BBC News,* (June 2023)
[265] 'The Case for Cambridge', *HM Government*, (March 2024), p. 13
[266] 'A summary of England's revised draft regional and water resources management plans', *Environment Agency*, *Environment Agency,* (December 2024)

Netherlands has also established a National Water Program combining national, regional and local authority plans to understand their impact on water need.[267]

The UK has also begun to deliver a coordination function in the energy sector through establishing the National Energy Systems Operator. This body will produce a national Strategic Spatial Energy Plan as well as facilitating security of supply by advising Ofwat, government and industry on existing, emerging and potential future risks.

Since 2020, water companies have been given stronger targets. They have been asked to plan for a 1 in 500 year drought, on the basis that reactively responding to extreme droughts to 2050 would cost the country £40 billion, while being proactive – increasing supply and reducing demand – would cost the country only £20 billion.[268] This new target, improved understanding of climate change impacts and the Environment Agency's approach to calculating future abstraction reductions have led to new schemes being brought forward.[269] Additionally, the Regulator's Alliance for the Progression of Infrastructure Development was set up as an informal non-statutory alliance of water regulators to support the development of new water supply options. Companies have also formed regional water resource groups to optimise water supply options within their region. Companies are now planning for ten new reservoirs, nine desalination schemes, seven water recycling schemes and multiple water transfers to share resources.[270]

The Commission has asked (Q14, Q22 and Q57) whether action is needed to address a siloed approach to water planning across sectors, whether planning frameworks reflect the right outcomes and whether abstraction reform could support delivering water resilience. While clear targets for drought resilience and abstraction reduction have improved drought preparedness, they are undermined by inconsistencies and a lack of coordination within the current planning system. These inconsistencies obscure trade-offs which should be made by government, but which are currently being made by regulators, between the risk of providing more water than is needed, increasing costs for consumers unnecessarily, and the risk of providing less water than is needed and constraining future economic growth.

Specifically, we have identified the following three problems with the current model of water resources planning:

1. **Consistency:** Consistency in planning between companies and regions is essential, especially as the system becomes more interconnected through increased use of transfers. While a common drought resilience standard exists, and the Environment Agency sets out environmental destinations for abstraction reduction at national level, these metrics are undermined by the lack of consistent national scenarios for changes including population growth, non-household demand and climate change. While individual regions could plan for meeting the 1 in 500 year drought resilience standard, the absence of clear planning scenarios means the real level of resilience could vary between regions, meaning that as more water transfers are brought into the system one company might assume that water will be available from another when it is not. This is clearly completely wrong and risks exposing customers to severe risks, particularly in times of water scarcity.

[267] 'Reforming Water Sector Strategic Planning', *Frontier Economics*, (April 2025), p. 14-15.
[268] 'Preparing for a drier future', *National Infrastructure Commission*, (April 2018), p. 9
[269] Ibid., p.7.
[270] 'Water resources 2023-2024: analysis of the water industry's annual water resources performance', *Environment Agency*, (October 2024)

2. **Coherence:** Abstraction from the natural environment is rightly regulated by the Environment Agency, but abstractions below 20,000 litres per day do not require an abstraction license. This gives the Agency an incomplete picture of the amount of water actually being abstracted. We understand that some commercial abstractors have circumvented this threshold by setting up multiple individual abstractions marginally below this 20,000 litre threshold in areas where they would otherwise be banned from making abstractions. Equally, while the Environment Agency's environmental destination targets are a step forward, being based on national models and assumptions they are not sufficiently granular and sometimes set abstraction reduction targets well above ecological needs. As set out above, the latter problem should be addressed by using evidence at catchment level to inform environmental outcomes.
3. **Coordination:** None of the regulators has a duty to ensure there is a coherent national plan for the water sector[271] and there is no central body to coordinate planning across a number of areas:
    a. **Delivery:** At national level, consideration of whether demand reduction targets or supply scheme programmes are deliverable (and being delivered) is ad hoc with no trigger points for changing course of action. This exposes the country to the risk of dangerous delays before it is realised that a region is far shorter of water than originally expected and, given lead-in times, may threaten public water supplies. For example, although it is reasonably likely that some regions could fail to achieve their very ambitious household demand reduction targets, there are no identified failure thresholds to trigger any review of the company's approach or the balance between reducing demand, reducing leakage and new or accelerated supply schemes. No organisation properly considers this outside of a five year planning cycle.
    b. **Assessing non-household demand:** Non-household consumption accounts for 20% of water companies put into supply.[272] Despite this, there is no consistent approach to mapping the future water demands of industry, compounding other inconsistencies in growth and climate change scenarios. While there is a national level target to reduce non household demand by 9% by 2038 and 15% by 2050, there is no strategy or plan (and few incentives) to achieve this.[273] This is particularly critical given the UK government's AI Action Plan ambitions and the needs of new industries, such as hydrogen production, which are essential to the net zero transition.
    c. **Overseeing bulk supply agreements:** Bulk supply agreements are agreements for one water company to transfer a specified volume of water to another. This could boost the resilience of the system as when wetter areas support drier areas through water transfers. They are expected to be an increasing feature of the system into the 2030s and 2040s. Some water companies have expressed a lack of confidence in bulk supply agreements, which are critical to the future operation of water transfers. This is for two reasons:
        i. First, although transfers are established through contract, companies face exceptionally strong legal conditions in their own licenses concerning the provision of water to their own customers.
        ii. Second, this lack of clarity about arrangements has led to fears that one company could feel forced to retain water even if they have agreements in

[271] 'Regulating for investment and outcomes in the water sector', *National Audit Office,* (April 2025), p. 8
[272] 'Water resources 2023-2024: analysis of the water industry's annual water resources performance', *Environment Agency*, (October 2024)
[273] 'Water Demand Reduction in the Non-Household Market', *RWG Water Efficiency Group*, (November 2023) p.2

place with another company. While companies in practice share water whenever they can, and Ofwat has the power to make determinations in the event of a dispute, there is some uncertainty about the reliability of these arrangements.

The Commission is considering whether there is a case for abstraction reform and for a system planner for water, highlighting the new National Energy System Operator as an example. We believe that abstraction reform would be a 'quick win' and that a national level system planner – a National Water Grid for England - would also address many of the challenges outlined above.

Box 6: A Case Study in the need for a National Water Grid for England

Cheddar 2 is a proposed reservoir that will provide resilience in South West England. It could supply enough water for 40,000 homes, with work set to begin in 2029.[274]

Ofwat first denied funding for the reservoir in 2014 when the scheme was designed to serve Bristol Water's customers.[275] Last year it overturned its previous decision, conceding that funding was now justified, to serve customers in the wider south west region.[276]

Had the reservoir gone ahead ten years ago, it would have been operational by this year and customers would have benefited from greater resilience and potentially lower lifetime costs. While the revived scheme is not needed to serve Bristol Water customers, it is needed to serve customers in the wider South West. If a system planner had been in in existence in 2014, this need could have been identified earlier. We discuss the need for a system planner – a National Water Grid for England – in Section 3.3.

Our analysis of reform proposals

Abstraction reform

Abstraction reform could enable smarter water management, delivering benefits for the environment and efficiencies for overall water resource management:

- **Requiring all abstractors to hold licenses:** Removing the threshold below which abstractors do not require licenses would enable better planning because the Environment Agency would know how much water is actually being taken from the natural environment.
- **Longer term abstraction reform:** Longer term the Environment Agency should ensure all historic licenses are reviewed and updated and introduce abstraction reporting requirements so it has a clear picture of how much water is actually being abstracted. It should also enable the introduction of smarter licenses which could reflect the time of year, or even remotely monitored ecological flow conditions. This could ultimately enable more water to be abstracted from the environment at no ecological cost. Such a system is already in place in Melbourne, Australia, where electronic loggers provide daily readings of actual abstraction levels in certain catchments.[277]

[274] 'Work to build new reservoir 'will start by 2029'', *BBC News*, (March 2025)
[275] 'Final price control determination notice: company-specific appendix – Bristol Water', *Ofwat*, (December 2014)
[276] 'Strategic regional water resource solution: conditional review point final decision for Cheddar 2 Reservoir', *Ofwat*, (March 2025)
[277] 'Markets, water shares and drought: Lessons from Australia', *Alice Piure*, (2014), p. 39

National Water Grid for England

A National Water Grid for England should support water resource planning by taking on the following six functions:

1. **Consistent planning:** Provide companies with consistent 'input' planning scenarios – on population growth, climate change and environmental destinations – and an approach for meeting government's long-term resilience standards for drought (and potentially peak demand). This should include ownership of the current 'National Framework for Water Resources' process, including modelling of future national demand, support for regional water resource planning groups and oversight of the reconciliation of regional models. The organisation could also direct and require the development of additional supply options for use as contingency. Given the public appetite to reduce the frequency of use of Temporary Use Bans, the organisation could base its planning assumptions on a trajectory agreed with government to reduce their use across the country over time.
2. **Stress testing:** The system planner should stress test company plans to understand underlying weaknesses revealed by different scenarios such as greater than expected population growth or lower than expected reductions in household consumption.
3. **Monitoring delivery:** Active monitoring of delivery of water resource management plans (including leakage and demand metrics and leading indicators) at national level, considering whether a change of pathway is required if one element of the tripartite strategy (new supply, demand management and cutting leakage) is under-delivering. It could recommend action to remedy the situation, including by water companies *and* through government policy interventions such as the introduction of minimum water efficiency product standards.
4. **Assessing non-household demand:** A system operator could model uncertain future demand from new industries (e.g. data centres and hydrogen production). This would provide government with independent advice on additional investment needs at national and regional level, balancing the costs and benefits of under delivery with the risks of over investment.
5. **Act as a 'champion' and advocate** for balancing supply and demand for water – with regulators, with companies and, crucially, with Whitehall, reflecting the need to focus minds on action to accelerate supply options and policy change to improve efficiency.
6. **Provide impartial communication** of the degree of water stress and supply/demand balance regionally to help inform the public about the risk of drought and the need to take action. This could take the form of, for example, a digital map.

Issues To Keep Under Evaluation

We do not yet know what an optimal level of national water transfers looks like, because (among other things) moving heavy water around is costly and can introduce biodiversity risks from invasive species. However, while we do not know the optimal level, we know that the current 4%[278] is not enough.

Transfers will start to increase as the water resource system develops over time. For example, from 2032 the new Grand Union Canal Transfer will move 50 million litres of recycled water a day from Severn Trent's supply area to the water-stretched South East of England. This capacity could then double if required in the 2040s or 2050s.[279] As England's water resource system becomes more

[278] 'Preparing for a drier future: England's water infrastructure needs', *National Infrastructure Commission*, (April 2018), p. 11

[279] 'Strategic regional water resource solutions: standard gate two final decision for the Grand Union Canal Transfer', *Ofwat*, (June 2023), p. 5

connected in this way it will increasingly rely on bulk supply agreements, so we consider that in future there may be a need to evaluate whether the National Water Grid for England could also take on wider functions. This could include consideration of a potential role in:

- **Overseeing bulk supply agreements:** Ofwat has already consulted on principles to govern bulk supply agreements.[280] Ofwat also has enforcement powers and has set out high level indications of how it would reach determinations in the event of a dispute. The National Water Grid for England could go further and set out model bulk supply agreements for either new or existing transfers.
- **Incentivising and facilitating water trading:** The Grid could enable water trading though reviewing license conditions and through ensuring the price of water is set at an appropriate level to reflect its value.

It is important to note that these functions are unlikely to be appropriate for some time, as there is not sufficient headroom and resilience available in each region to make them meaningful. The costs and benefits would also require further work. Therefore, we do not envisage these functions as needing immediate evaluation; instead, it should be something kept under review as national resilience improves.

Organisational structure

A new National Water Grid for England could make the water resource planning process much more efficient by removing the need for water companies to consult multiple regulators who may offer conflicting advice when developing their water resource management plans. It could also coordinate and rationalise the activities of the five regional water resources management groups who currently coordinate the activities of individual companies on a non-statutory footing.

While a planning function within an existing regulator could fulfil many of these functions it would do so less effectively for two reasons:

1. **Bias towards costs or environmental conservation:** Precedent suggests that, as an economic regulator, Ofwat's strongest incentive will usually be to suppress bills. If it were tasked with setting planning scenarios or assessing future business demand, it might be biased towards making any scenarios low to reduce bill impacts on current consumers. Equally, the Environment Agency, concerned with conserving the environment, might face pressure to make scenarios higher than actually needed pushing bills up further than necessary.
2. **Conflict of interest:** If water companies do not deliver on their plans, they will be subject to enforcement action from the Environment Agency and Ofwat. Given these enforcement roles, it would be difficult for these bodies to then take an objective view of how to address failure to deliver at system level to ensure the country has the water it needs – through identifying trigger points for changing strategy.

For these reasons we recommend that the system operator should function at least somewhat independently from existing regulators. It could sit as a unit within a UK government department (perhaps housed in Defra as a multi-agency blended team that includes secondees from the Drinking Water Inspectorate, the Environment Agency, Ofwat and seconded engineers or other specialists). For simplicity and efficiency, this is our preference (at least to begin with). Alternatively, it could sit as an independent body, similar to the National Energy System Operator. If the latter, it could either be a

[280] 'Enabling new water resources – a consultation on commercial arrangements – summary of responses', *Ofwat,* (September 2024)

Non-Departmental Public Body on a statutory footing, or be a government Executive Agency with an independent chair.[281]

Our recommendations

We recommend:

- The UK and Welsh governments should require all abstraction from the environment to be licensed.
- The Environment Agency should reform abstraction to enable its licenses to be better informed by actual ecological flow conditions, and their impacts, enabling more effective long-term water management.
- The UK government should establish an independent national system planner function – a National Water Grid for England – to set common planning scenarios, monitor delivery, and assess non household demand. This body would be independent of the vested interests – cost and environmental – of existing regulators and so would be able to take a more neutral view of need, balancing the risks of under and over-investment in the national interest. As these are ultimately political choices, it would present choices to ministers for a final decision.

As the water resource system becomes increasingly interconnected into the 2030s and 2040s, the UK government should also consider whether the National Water Grid for England should review and standardise historic and future bulk supply agreements to ensure companies have the confidence to plan on clear assumption of how water would be moved around the country in a drought. The system planner could also make recommendations to government on which industries should be prioritised in time of shortage.

[281] 'Classification of public bodies: guidance for departments', *Cabinet Office,* (April 2016), p.8.

[282] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural* Affairs, (February 2025), p. 106. In Q32, it asks: "What, if any, changes could be made to the Price Review process on assessing and setting enhancement expenditure to effectively support infrastructure improvements?"

Accelerating investment to enable growth

We need to reform the system of economic regulation so that it is quicker, easier and cheaper to build new infrastructure. The regulatory framework should be set up to support growth in demand for water and wastewater services that is driven by housebuilding, and business expansion, as well as building resilience to climate change and external threats.

To accelerate investment, we recommend the following reforms to economic regulation:

- **Facilitate agility** by creating a new pipeline and separate treatment of 'enhancement' programmes, so that major projects can be approved and delivered far more quickly.
- **Refocus markets on the delivery of new infrastructure** through the creation of more options for rapidly procuring the delivery of major infrastructure where that is demonstrated to add value and speed up delivery.
- **Explore a 'supervisory' model of regulation**, whereby new supervisory teams would be empowered to really understand each individual business and what it requires in the long-term interests of customers. Comparative regulation would be retained, with performance incentives based on delivery and relative performance.
- **Attract investment through a long-term investability framework** that requires the regulator to restore the sector's credit rating to 'triple A', increasing stability and reducing customer bills.

The rest of this chapter deals with each of these in turn.

4.1 Facilitating agile investment

Where the current system is not working

In its Call for Evidence, the Commission seeks views on whether the price review process should separate 'enhancement' expenditure (which generally refers to new investment) from 'base' expenditure (which generally refers to the day-to-day running costs and maintenance of assets) more formally, given their differences.[282]

We consider there is a need for a new approach to assessing and approving enhancement expenditure. The current system holds back investment and we are concerned may be a blocker to delivering improvements when they are needed, particularly in the face of government ambitions for housebuilding and economic growth.

This is important to get right because enhancement expenditure is expected to reach unprecedented levels over the next 25 years. Enhancement has averaged £3.2 billion a year over the last 34 years (in 2023-24 prices). Over 2025 to 2030, it is expected to nearly triple to £9.2 billion a year, rising nearly every year again until it peaks at more than £15 billion a year by 2050 (as shown in Figure 13**Error! Reference source not found.**).

[282] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural* Affairs, (February 2025), p. 106. In Q32, it asks: "What, if any, changes could be made to the Price Review process on assessing and setting enhancement expenditure to effectively support infrastructure improvements?"

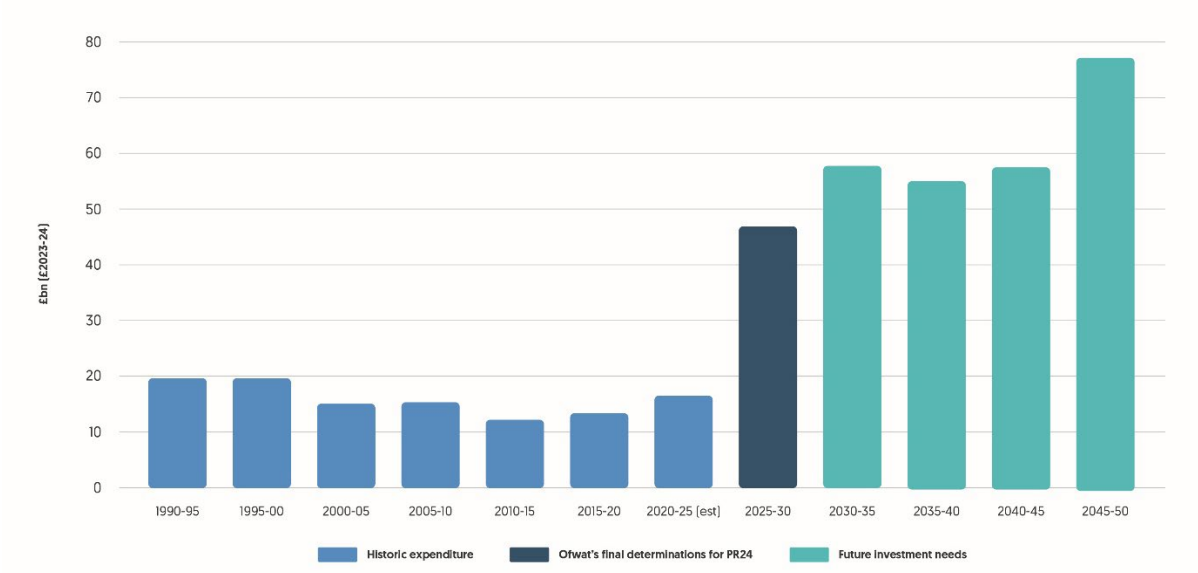


Figure 13 Enhancement expenditure in England and Wales (£ billion, 2023-24 prices)

Source: Water UK analysis of Ofwat's long-term data series of company costs and water company long-term delivery strategies for PR24.

These figures are based on current water companies' long-term delivery strategies, developed in 2023, before the potential impacts of the new UK government's plans for economic growth, which are likely to require further investment over time.

In our view, Ofwat's approach to considering all expenditure through five-yearly price controls no longer makes sense in a world of greater uncertainty, high investment needs and rapid growth. As the Commission acknowledges, the delivery of major projects and investments are different to the steady regulation of day-to-day expenditure. We consider a new approach is needed.

PR24 has thrown this need into sharp relief. Ofwat assessed water companies' enhancement proposals by relying on simplistic econometric models – some using as few as one variable to describe company differences. While Ofwat restored many of the deep cuts it made to water companies' requests for expenditure allowances in its final determinations, there remained significant funding gaps (£8 billion or 7% less than what companies requested), and Ofwat has put up around £5.4 billion of 'approved' expenditure behind gated processes or contingent allowances,[283] suggesting a lack of confidence in its ability to fully approve a significant proportion of enhancement expenditure at PR24 over the next five years. Indeed, for the first time since privatisation, the most companies ever have sought a redetermination by the Competition and Markets Authority partly due to Ofwat's approach to assessing and approving enhancement expenditure.

[283] 'PR24 final determinations: Expenditure allowances summary tables', *Ofwat*, (December 2024). Based on an assessment of enhancement expenditure that is either within Ofwat's delivery mechanism (£1.7 billion), PFAS contingent allowances (£0.2 billion), gated allowances (£1.7 billion) and large schemes contingent allowances (£1.8 billion).

We consider that there is a more effective way to assess the efficiency of enhancement expenditure, as well as unlock new investment and when it is needed, rather than attempting to squeeze components of long-term projects and all investments into a once in five-year price review process.

Our analysis of reform proposals

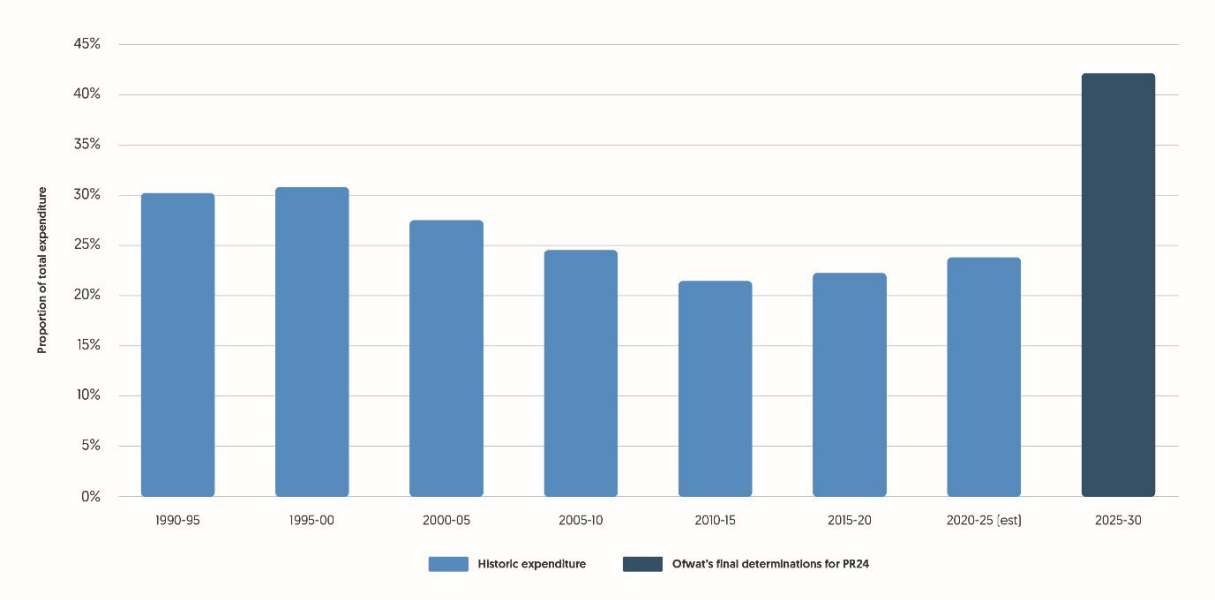
We consider there are three changes that the government should make to the economic regulation framework. Each would support agile investment and enable growth. They are:

- Separate most enhancements from base activities.
- Unlock investment in new projects between price reviews.
- Remove barriers to increase network capacity driven by housing and economic growth.

Separating most enhancements from base activities

As the Commission acknowledges,[284] there are different challenges when assessing enhancement and base allowances. While we do not agree that assessing enhancement appears to be inherently more difficult than base expenditure, the nature of investment and life cycles or projects make it very challenging to consider them together within the same price control decision. The nature of the expenditure is very different. We consider enhancement expenditure to be distinct because of the lack of uniformity between enhancement projects, that many of the drivers behind enhancements are decided 'upstream' by the quality regulators or statutory planning processes (which may not align with the price control cycle) and that many enhancement programmes are likely to be delivered over multiple price control periods, creating the need for a bespoke approach to assessment and oversight. These factors are also likely to drive a different risk profile for enhancement projects, which may require a different cost of capital and allowed return on capital.

In addition, as shown by Figure 14, enhancement expenditure is expected to be an increasingly high share of total expenditure – well above the long-term historic average since 1990 of around a quarter (26%) over the last 34 years, increasing substantially to 42% under Ofwat's final determinations for PR24 (or 44% based on water company proposals).



[284] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural* Affairs, (February, 2025), p.102.

Figure 14 Enhancement expenditure as a proportion of total expenditure

Source: Water UK analysis of Ofwat's long-term data series of company costs and Ofwat's final determinations for PR24.

To address these problems, we consider the UK and Welsh governments should require the separation of most enhancements from base activities. Such a separation could be achieved by having separate and longer lasting price controls for either all enhancement expenditure, or merely those designated as 'major projects' or multi-period programmes. This already happens in limited circumstances – for example, the Havant Thicket price control for Portsmouth Water is intended to last for 10 years. This approach may be suitable for more than new major projects, such as major improvement schemes that are likely to be undertaken over significant investment horizons and periods – including resilience schemes that require flexible and targeted delivery and oversight (e.g. large water main replacement and renewals programmes). It could also enable the economic regulator to carry out assessments as investment needs emerge, helping to stagger the work to reduce peaks and help to build a steady pipeline for supply chains which may be more cost effective.

In separately assessing enhancement expenditure, the regulator should be required to use engineering-based assessments of likely costs and risks. Simply replicating the existing simplistic econometric models on a different cycle to base expenditure assessments will not lead to more effective regulation and oversight of enhancement projects – the economic regulator should take the opportunity to develop more effective approaches to assessing and regulating these projects. Ofgem's Accelerated Strategic Transmission Investment (ASTI) framework[285] is an example where the cost assessment of major projects is informed by the tendered prices and engineering assessments. Ofgem's framework also provides an upfront allowance for project risks and a reopener to manage unknown risks in the event of a materiality threshold is breached.

In addition, the economic regulator would also need to ensure there is coherence across the expenditure plans so that the operational and maintenance costs associated with the new enhancement projects being developed are appropriately reflected in companies' allowed expenditure.

Because major projects may be of national strategic importance, or carry greater risk than other water company activities, there is a case for setting a separate allowed return on capital or introducing risk-sharing mechanisms (such as that used for Tideway). Targeting allowed returns to individual enhancement projects would overcome an underlying feature of the weighted average cost of capital, which remunerates the entire regulated capital value of the company and may therefore understate project-level risks which are likely to have different types and profiles of risk than the rest of a water company's asset base. Setting project-specific allowed returns, for example to reflect construction or development risks, would also reflect the expectations of some investors.[286]

Unlocking investment between price reviews

Water companies should be able to receive approval to invest in new projects between price reviews. This should build on previous accelerated processes in recent years, such as the green recovery[287] and accelerated infrastructure delivery projects[288] in 2021 and 2023. Both demonstrated that it is possible to run relatively light-touch assessment processes, although both unlocked relatively low levels of investment and in many cases water companies had to make those investments at risk, with limited

[285] 'Accelerated Strategic Transmission Investment Guidance and Submission Requirements Document', *Ofgem,* (August 2023)
[286] 'Regulatory options for complex projects – a report for Thames Water', *Economic Insight,* (February 2022), p. 98-99.
[287] 'Green Recovery', *Ofwat*, (December 2024)
[288] 'Accelerated Infrastructure Delivery Project', *Ofwat*, (December 2024)

cost certainty (leading to retrospective cost challenges by Ofwat). Most companies were also not able to recover those costs until 2025-30.

A more effective approach would enable water companies to request additional investment based on their emerging needs and delivery capabilities, rather than waiting for up to five years. This could be implemented through the mainstreaming of the above accelerated processes, with greater cost certainty and the implementation of in-period funding mechanisms.

The regulator should update the antiquated 'interim determination of K' reopener process. This is the process companies can use to seek a reset of price limits between the five-yearly price reviews. In limited circumstances, water companies can seek to reopen price controls to unlock additional revenues or approval for investment, but in most cases water companies have to wait until the next price review before they can put forward new expenditure plans. While ten interim determinations were triggered in the early 2000s, they have been rarely used since.[289] The last company to ask for one was Thames Water in 2013, but its request was rejected by Ofwat. Since then, Ofwat has introduced an array of complicated and bespoke uncertainty mechanisms rather than updating the interim determination process, which remains unreformed.

As we set out in a position paper in August 2024, the existing interim determination process is overly burdensome, the materiality threshold is prohibitively high (and has not been updated for the disaggregation of price controls into separate controls for retail, water resources and bioresources), is unable to deal with multiple cost shocks at once and is designed to only consider the circumstances of an individual water company rather than sector-wide uncertainties.[290] We consider a common approach to uncertainty mechanisms should instead be based on different approaches where uncertainty is due to:

- Unconfirmed volumes – which can be addressed by asset-linked volume drivers, for example where a water company can automatically recover the costs of delivering additional (or lower) volumes based on the regulator's view of efficient unit costs, or
- Unconfirmed costs – where a targeted reopener mechanism is required, particularly where there is significant legal or policy uncertainty that cannot be resolved through the regular price review process.

Adopting these approaches to managing uncertainty would bring the economic regulatory framework for water closed to the approach adopted by Ofgem in its 'RIIO-2' price controls.[291]

In designing a new approach to uncertainty mechanisms that replaces the interim determination mechanism, which is no longer fit for purpose, it should include the ability to review expenditure caused by material changes in costs, including substantial supply chain shocks. To ensure full cost recovery, we consider any new approach should be over and above the existing 'totex sharing' mechanism which only allows the recovery of around 50% of expenditure for most types of expenditure, putting excessive levels of risk on companies due to factors outside of their control, which may deter effective action.

Removing barriers to increasing network capacity

As part of estimating expenditure allowances, Ofwat assumes the level of demand from households and business customers expected in each company's area and the amount of revenue that it can collect

[289] 'The Development of the Water Industry in England and Wales', *Ofwat*, (2015)
[290] 'Water UK Position Paper: A common framework for uncertainty mechanisms at PR24', *Water UK*, (August 2024)
[291] 'Final Determinations Electricity Transmission System Annex (Revised)', *Ofgem*, (February 2021)

from existing properties and new connections. Developers and new users of water pay water companies an amount of money to cover their costs of connecting to and upgrading the network. Currently, if water companies collect more revenue than Ofwat has allowed, for example due to there being more housebuilding than expected, water companies must return the additional revenue to customers (potentially creating an incentive not to expand the capacity of their networks before the next price review).

The ability for water companies to ensure new housing and wider economic growth are enabled by the construction of sufficient drinking water and wastewater services is severely limited. If the underlying plans (such as water resources management plans) or price control assumptions (such as forecast consumption or property numbers) prove to be incorrect, water companies must wait until the next price review to secure approval to invest or undertake investment at their own risk. Our society, economy and environment all suffer as a direct result, but it need not be this way.

Box 7: Case studies of development blocked by insufficient network capacity

Water companies have to plan years in advance to ensure water is available on time for consumers and businesses. Major water resource schemes such as reservoirs can take more than 10 years to plan and build. Even demand management options – programmes to cut leakage and reduce consumer use – can take years to deliver savings. If water companies are not enabled to invest in time to meet demand rationing will follow – constraining growth.

As a result of regulators' historic judgment that the risk of over investment was greater than the risk of underinvestment, in 2023, for the first time the Environment Agency objected to the building of almost 4,500 homes around Cambridge on grounds of water scarcity.[292] Failing to deliver 150,000 new homes in the Cambridge region by 2050 could mean the country misses out on £6.4 billion in economic growth.

In Suffolk, businesses are already being told water companies cannot supply them as they need to supply households first. Small businesses such as breweries report that because they are not at a scale where it would be economical to source their own supply, this in effect already means they will have to halt their expansion plans.[293] Even large businesses will be faced with trying to source water from the environment – which may not be possible due to restrictions on abstraction from the environment in water scarce catchments.

We consider these issues can be addressed by the following changes to the scope of price controls and reforms to developer services charges:

- **Enable developers and new industrial users to pay for the 'upstream' construction of new capacity on a locational basis**. Currently, existing customers pay for the costs of expanding the capacity of the network, while developers pay for on-site connection costs and only a limited part of local network reinforcement, though local network reinforcement costs are generally averaged across a water company's region and across a number of years.[294] Because the revenue associated with strategically reinforcing or upgrading the network is within the 'single till' of the price control, if a developer pays a water company to create additional network capacity, the water company is forced to return the money to other customers through reduced bills and, cannot under the rules, use the money to expand capacity. This is a growth-

[292] 'Permission for 4,500 homes despite water concerns', *BBC News*, (December 2024)
[293] 'Fears water rationing will hit firms' growth plans', *BBC News*, (October 2024)
[294] Through infrastructure charges in England.

inhibiting restriction that prevents businesses from being able to pay more to be able to guarantee supply.

Location-based price signals would either encourage new users to locate to where the costs are lowest or provide a reliable source of income in the areas that need substantial new capacity to fund it. Moving the costs of 'deep' infrastructure (strategic assets) away from households was considered by Ofwat in 2021, informed by a report from Frontier Economics[295], but was not ultimately progressed by Ofwat based on the assertion that new developments do not affect population growth.[296]

We consider there is merit in revisiting this decision, as not only would putting the cost of strategic assets onto developers send potential price signals about where to locate, it may also unlock increased capacity in the network outside of the existing planning processes. The regulator could amend its charging rules to either enable 'infrastructure charges' to vary by locality on a cost reflective basis, or remove them entirely from the 'single till'.

- **Explore the case for 'priority pricing', which would allow some users to pay for priority use, compensating other users through lower bills or 'water credits'.** Water credits or other types of incentives could be used to fund the installation of water efficiency measures that permanently reduce bills and free up capacity in water-stressed regions. While priority pricing is largely untested in England and Wales, a pilot for a 'water credits' system for Cambridge is underway after being announced by the UK government in March 2024.[297] A similar approach could be applied where wastewater capacity is limited, for example through the installation of rainwater capture and sustainable drainage systems.

[295] 'The Balance of Charges for Developer Services', *Frontier Economics*, (August 2020)
[296] 'Scope and balance of developer charges and incentives – conclusions', *Ofwat*, (October 2021), p. 8
[297] 'Addressing water scarcity in Greater Cambridge: update on government measures', *HM Government*, (March 2024)

Our recommendations

The economic regulation framework should be reformed, with an assessment of the feasibility and the development of options for:

- **Separating most 'enhancement' activities from 'base' activities**, potentially leading to separate price controls for enhancements or major projects that last longer than the current five-year periods. This should involve engineering-based assessments of likely costs and risks. Because major projects may be of national strategic importance or carry greater risk than other activities, the case for setting a separate allowed return on capital or introducing risk-sharing mechanisms should be assessed (such as that used for Tideway).
- **Enabling water companies to unlock investment between price reviews**, building on previous accelerated delivery processes in recent years to enable the unlocking of accelerated investment plans as a matter of course based on emerging delivery capabilities, rather than forcing water companies to wait for up to five years. This should include adopting new approaches to managing uncertainty and undertaking targeted reopeners. This should include a mechanism to support companies to respond to substantial supply chain shocks, over and above the existing 'totex sharing' mechanism.
- **Removing barriers to increasing network capacity driven by housing and growth**, with reforms to price control mechanisms and new connection charges. Developers and new industrial users should be able to pay for the 'upstream' construction of new capacity on a locational basis, providing a reliable source of income to fund investment in the areas that need it. A wider review of charging reforms should also consider the case for 'priority pricing' which would allow some users to pay for priority, compensating other users through lower bills or 'water credits' that fund the installation of water efficiency measures that will permanently reduce bills and free up capacity in water-stressed regions.

In England, we consider our proposals can be delivered through the existing legislative and policy framework without the need for primary or secondary legislation. For Wales, secondary legislation to support reform of new connection charges would be required, because it operates under a different framework to that in England.

4.2 Refocusing markets on the delivery of new infrastructure

Where the system is not working

Because the vast majority of the water sector in England and Wales is considered a 'natural monopoly' due to the presence of high fixed and 'sunk' costs, there is limited scope for competition. Successive governments and regulators have sought to introduce competition or markets in some parts of the water sector value chain where it is possible, with the aim of increasing choice and in the belief that such competition would increase the likelihood of successful delivery, encourage cost efficiency and innovation, and provide useful pressure on incumbent water companies.

In its Call for Evidence, the Commission seeks views on the extent that competition should have a role in the water sector. In particular, the Commission seeks views on:

- Whether the use of direct procurement for customers (DPC) and the Specified Infrastructure Projects Regulations (SIPR) should be expanded.

- Whether administrative burdens should be reduced in the new appointments and variations (NAV) market.
- Whether the business retail market should focus on where it is most beneficial (for example, limiting the business retail market to large customers, or changes that would ensure efficient use of water for example through updating water tariffs).

The Commission is also interested in the extent to which further competition in the water industry could be encouraged through regulation and the extent to which greater market tendering of infrastructure delivery projects would improve outcomes.

Some markets have been more successful than others. The Independent Water Commission creates an opportunity to refocus markets so that they better support those objectives.

We consider there are two opportunities for reform:

1. **Streamlining the procurement and delivery of major projects** (including changes to the Specified Infrastructure Projects Regulations and direct procurement for customers framework).
2. **Reforming existing markets** (including changes to the regulation of the developer services, business retail and upstream markets).

Streamlining the procurement and delivery of major projects

Specified Infrastructure Projects Regulations (SIPR)

The Specified Infrastructure Projects Regulations model enables Ofwat to run a competitive process where potential bidders can compete to finance, construct and operate new major infrastructure projects. The selected provider is directly regulated by Ofwat through its own licence and is known as an 'infrastructure provider'. Ofwat sets the amount of revenue that it can recover from customers, usually through the incumbent company to which it is providing water or wastewater services.

In March 2025, the UK government said it will amend the Specified Infrastructure Projects Regulations to allow major projects to be delivered more quickly[298] Currently, section 36A of the Water Industry Act 1991 restricts infrastructure projects that can use the Specified Infrastructure Projects Regulations model to only those that are "of a size or complexity that threatens the [water company's] ability to provide services for its customers". The current version of the Regulations provide an additional requirement that projects must be "likely to result in better value for money than would be the case if the infrastructure project were not specified."[299]

Because of these restrictions, the Specified Infrastructure Projects Regulations model has only been used for the Thames Tideway Tunnel. While Ofwat has said that it expects three new major reservoirs – Fens, Lincolnshire and the South East Strategic Reservoir Option in Oxfordshire[300] – to be delivered through the Specified Infrastructure Projects Regulations model, it is not clear how that could be realised under the current legislation, as it would require Ofwat or ministers to be of the opinion that the projects are of a size or complexity that would threaten the ability of the incumbent company to provide services for its customers.[301]

[298] 'New approach to ensure regulators and regulation support growth', *HM Treasury*, (March 2025)
[299] 'The Water Industry (Specified Infrastructure Projects) (English Undertakers) Regulations 2013', *HM Government*, (2013)
[300] 'PR24 final determinations: Major projects development and delivery', *Ofwat*, (February 2025), p. 8
[301] Ibid.

Direct procurement for customers (DPC)

Direct procurement for customers is a lighter-touch version of the Specified Infrastructure Projects Regulations model, which Ofwat introduced at PR19. Under the direct procurement for customers model, the financing, design and construction of major projects is put out to competitive tender. While the incumbent company is not allowed to bid for the project, neighbouring water companies can. The completed infrastructure can either be operated or maintained by the incumbent company, or a new 'competitively appointed provider' (CAP).

For PR24, Ofwat required that water companies should propose projects as candidates for direct procurement for customers if a project's 'whole life totex' was expected to be greater than £200 million (originally £100 million at PR19), if the projects were sufficiently discrete and, if based on water company modelling, it were considered to be value for money.[302] Ofwat said it would provide funding and incentives for water companies to undertake direct procurement exercises.

Successful providers are designed as a 'competitively appointed provider', with their costs able to be recovered from customers. Competitively appointed providers are not separately regulated by Ofwat but are instead governed by contracts between the incumbent and the provider. Incumbent water companies therefore retain all risks and responsibilities associated with regulatory compliance.

There remains limited evidence that the introduction of direct procurement for customers has been a success, although the number of projects designed by Ofwat has increased over time from two projects that have progressed over 2020 to 2025[303] to a further 24 projects designated for PR24.[304]

It remains to be seen whether these projects will attract sufficient interest from potential bidders. Investors value certainty, predictability and simplicity. Currently, the framework does not provide this. While Ofwat has produced guidance on how it expects commercial and regulatory arrangements to be negotiated,[305] there remains uncertainty among investors on how the scheme is expected to operate,[306] as well as limited market engagement to date.

Reforming existing markets

Over the last eight years, Ofwat has attempted to facilitate the development of new markets, such as the business retail market in England, the water resources market and the bioresources market. These markets have led to increasing regulatory burdens through new structures and requirements which we consider have not delivered clear benefits. There are opportunities to streamline these markets – we set out in more detail the problems with those markets, and how they could reformed, in the next section.

Our analysis of reform proposals

Under the Water Industry Act 1991, water companies are appointed to serve a given area in England and Wales. As such, they hold regional monopolies to operate, maintain and invest in their existing networks. Competition and markets can enable the discovery of efficient costs or improved approaches for new infrastructure or major projects, particularly in the case of constructing, designing or delivering new major projects. Alternative providers can bring new ideas and innovation into the sector, increase the likelihood of successful projects, reduce costs to consumers and unlock wider value

[302] 'Our final methodology for PR24 – Appendix 5', *Ofwat*, (December 2022)
[303] The Haweswater Aqueduct Resilience Programme in the North Wet of England and Cwm Taf treatment works in Wales. One project was returned in-house to Anglian Water in 2021.
[304] 'PR24 final determinations: Major projects development and delivery', *Ofwat*, (February 2025), p. 26
[305] 'Guidance for Appointees delivering Direct Procurement for Customers projects', *Ofwat*, (March 2023)
[306] 'Regulatory options for complex projects – a report for Thames Water', *Economic Insight,* (February 2022), p. 99

for the environment and wider society. The ability to achieve such ends would be particularly valuable given the scale of new investment required over the next 25 years.

Because they involve transaction costs, we consider competitive processes should only be used, particularly outside of price reviews, where there are clear benefits to consumers which outweigh those costs. They should focus on large, separable projects (distinct from other projects and activities) and/or those that run on longer-term timescales over many control periods. Wherever a competitive process is being deployed, there should be a 'level playing field' between incumbents and alternative providers (including new entrants and neighbouring water companies) such that all types of companies can compete to deliver new infrastructure.

Streamline the procurement and delivery of major water projects

We consider there is an opportunity for government to expand the use of Specified Infrastructure Projects Regulations and apply separate price controls for the delivery of major projects in the water sector in England and Wales. Doing so would help to facilitate the step up in the delivery of major projects that we are expecting, and follows Ofwat funding more than £2 billion of development costs for 30 major projects over the next five years, not including eventual construction costs.[307]

Specified Infrastructure Projects Regulations (SIPR)

Given the intention of the UK government to make greater use of the Specified Infrastructure Projects Regulations, we consider a practical change to primary legislation, followed by a fuller review of the existing regulations, could be to:

- Remove the requirement for the Specified Infrastructure Projects Regulations model to only be used for projects that are "of a size or complexity that threatens the [water company's] ability to provide services for its customers".
- Elevate to primary legislation the requirement that is currently in regulations for the projects to be "likely to result in better value for money than would be the case if the infrastructure project were not specified."
- Enable incumbent companies to be involved in the competitive process, while retaining separate regulation of the infrastructure project either through a separate licence or separate price control that ringfences project costs and risks from wider regulated activities.

We consider these changes would unlock the potential benefits of competition for customers and increase the likelihood of successful delivery, while also providing new and existing investors with sufficient confidence that the Specified Infrastructure Projects Regulations model would only be used where it is likely to create better for value than alternatives.

Rather than wait until a future Water Reform Bill, we consider the UK government should consider making these targeted changes through an amendment to the Planning and Infrastructure Bill, currently before the House of Commons, which is expected to be finalised later in 2025 (or early 2026).[308]

Direct procurement for customers (DPC)

In addition, the UK and Welsh governments should also require the economic regulator to review its policy for direct procurement for customers. We consider it can be improved through the following three policy changes.

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[307] 'PR24 final determinations: Major projects development and delivery', *Ofwat*, (February 2025)
[308] 'Planning and Infrastructure Bill', *House of Commons*, (April 2025)

1. **Introduce a level playing field**. As we have proposed for reforming the Specified Infrastructure Projects Regulations model, incumbent water companies should also be permitted to bid for major projects, creating a level playing field with new entrants and neighbouring companies that are currently allowed to bid. As well as stimulating greater competition, which should promote efficiency and innovation, allowing incumbents to bid would reveal information that could be used for cost benchmarking. The economic regulator should be required to carry out the procurement process to ensure fair competition. For water resources projects, this could be overseen by our proposed National Water Grid for England (see Section 3.3). This change would simplify the current approach where water companies are required to carry out the procurement processes under the guidance and supervision of Ofwat.
2. **Promote the standardisation of projects.** Currently, individual projects could be any combination of designing, building, financing or operating new infrastructure. They could be new reservoirs, aqueducts, interconnectors, 'super' sewers, treatment works or an entirely novel type of asset. For investors considering investing in a range of infrastructure sectors, this can create unnecessary confusion and a barrier to engaging with the market.[309] Standardising projects would mean focusing direct procurement for customers onto a consistent set of activities – for example, if the changes to Specified Infrastructure Projects Regulations that we have proposed are made, then direct procurement for customers could be focused on designing, building and financing only, removing the option to operate completed assets. Similarly, the 'design' aspect could be further standardised for common investments (such as treatment works) which would simplify the proposition for investors into standardised 'project finance' style investments, making it even easier for them to engage with the market. It would also simplify value for money assessments by the economic regulator. There are precedents for this approach, such as Ofgem's Offshore Transmission Owner (OFTO) model.
3. **Explore bundling projects.** Combining different projects, particularly where they are of similar asset classes and risk profiles, could further improve their attractiveness to investors. Larger scale investments may attract more interest or lower costs of capital, potentially benefiting from economies of scales. Depending on the asset types, direct procurement for customers projects could relate to more than one water company, such as major treatment works, groups of water resources, or even entire smart meter installation programmes.

We expect making these policy changes to the direct procurement for customers framework will make it easier for potential bidders to engage in investment opportunities in the water sector. As well as putting competitive pressure onto incumbent water companies, it should also increase the likelihood of successful project delivery where the best provider wins, as independently assessed by the economic regulator. Given the direct procurement for customers framework is governed by water company licences and Ofwat policy, there is no need for legislative change.

Reforming existing markets

As well as focusing markets and competition to enabling the delivery of major infrastructure, there may be opportunities to reform existing markets, particularly where their benefits are unclear or risk being a distraction from more pressing public policy priorities.

We consider there are opportunities to deregulate markets so that the benefits of competition can be preserved, but with regulatory burdens or overheads reduced – ultimately reducing unnecessary costs for consumers that do not participate in the following markets:

[309] 'Regulatory options for complex projects', *Economic Insight,* (February 2022), p. 99

- The developer services market.
- The business retail market.
- Upstream markets (the water resources and bioresources markets).

The developer services market

The developer services market describes the competition for the provision of new connection services to housebuilders and other commercial sites, such as the construction of on-site infrastructure and the connection to the wider water and wastewater public supply network.

There are two types of competition in the developer services market:

1. **Self-lay providers:** accredited providers that compete 'in the market' for developers to choose them to construct on-site water infrastructure, which are later adopted by the incumbent water company. As the Commission observes,[310] around 40% of new water connections served by incumbent water companies in England were made by self-lay providers in 2023-24.
2. **New appointments and variations (NAVs):** licensed water companies that, as well as constructing the on-site infrastructure if selected by the developer, also apply to Ofwat to be appointed as the monopoly provider for the site in place of the local incumbent (a form of competition 'for the market'). If they are appointed by Ofwat to serve a new housing site, the new appointee must meet all of the obligations of the water company they have replaced, but they face less regulation and oversight from Ofwat. New appointees are regulated through a 'relative' price control and have reduced reporting requirements (even under Ofwat's recently revised approach[311]). The vast majority of new appointments or variations have involved negotiating a bulk supply or discharge agreement with the local incumbent company, in effect making the new appointee a 'last mile' operator.

We consider that the self-lay provider market is working well, as evidenced by them being selected by developers for around 40% of new water connections. We therefore we do not consider reforms to the self-lay market are required.

We consider the regulation of the NAV market could be improved, helping to reduce unnecessary barriers to housebuilding and economic growth, while also ensuring there is a sustainable and enduring regulatory framework that manages future risks. We propose three policy changes:

1. **Align the licensing process for new developments with the approach for new energy connections,** where Ofgem grants licences based on an entity's overall capability to meet regulatory obligations, and once the licence is granted, the company can operate within the authorised scope without needing separate approval for each site.[312] Under section 8 of the Water Industry Act 1991, new appointees are required to apply to Ofwat for approval to serve every new site, which can create additional time and delay that can deter developers from participating in the market over other alternatives such as making use of self-lay providers or incumbent water companies. While Ofwat should satisfy itself that a new appointee is able to meet its legal obligations and the expectations of the customers that it will acquire if it is appointed to serve a site, a more proportionate approach based on annual and/or 'ex post' assessments could be used for those new appointees that are well-established and already

[310] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural* Affairs, (February 2025), p. 147

[311] 'Regulatory reporting requirements for new appointees for 2024-25 onwards – Our decisions and conclusions', *Ofwat*, (April 2025)

[312] 'Applying for a gas or electricity licence', *Ofgem*, (August 2024)

operate many sites. To this end, the UK government could amend the legislation to remove barriers to Ofwat needing to approve sites on an individual basis.

2. **Strengthen the accountability and oversight of new appointees**. New appointees have the same legal obligations as incumbent water companies, but Ofwat chooses to regulate them differently due to their size. We consider stronger accountability and oversight of new appointees is required given our proposal to remove barriers to serving new development sites and their rapid growth in recent years. Stronger oversight is important so that the regulator can identify potential risks to customers from being served by new appointees that serve multiple sites across the country, which may mean they are less effective at responding to incidents or emergencies than the incumbents they have replaced. It is also important to expose potential risks to customers given new appointees have a different profile of assets and maintenance to incumbents, despite being funded through relative price controls to undertake the same level of maintenance and replacement activities as incumbents.

3. **Explore the case for making greater use of 'full service' NAVs.** Currently, new appointees are regulated by Ofwat through relative price controls where they cannot charge their customers more than the incumbent water company they have replaced, and must ensure customers are 'no worse off'. This is a policy choice by Ofwat, as new appointees have the same legal obligations as incumbent companies. 'Full service' NAVs (which operate their own resources or treatment assets – such as the new appointee Veolia Water) could be more creatively used to support large new developments – such as New Towns, growth clusters, data centres or other new major users where new water resources or treatment capacity are required. Because Ofwat's current approach to price regulation of new appointees limits how much they can recover from their customers, they are unlikely to be able to fully recover the costs of investment in significant new infrastructure or resources, since they lack a regulatory capital value and company-specific price control. We consider the UK government should explore whether these regulatory or other barriers could be removed to unlock 'full service' NAVs as a viable alternative for delivering major new developments or New Towns, particularly where there are concerns with deliverability.

The business retail market

As the Call for Evidence observes, very few customers have switched or engaged with the business retail market since it opened in 2017, with larger users of water and wastewater services dominating – 78% of business sites have never switched[313] and awareness of the market has actually declined from 58% of customers in 2020 to 48% in 2022.[314]

The Commission invites views on whether the market should continue to apply to small, as well as large, users and considers changing the eligibility threshold for customers in England to that used in Wales – where only those sites that use more than 50 megalitres a year of water can switch provider.

We consider the Commission is right to consider the viability of the business retail market, and further review is required for how it could be reformed. Eight years on, Defra has yet to carry out a post-implementation review of the costs and benefits of the market opening in 2017, though it did a high-level assessment of the retail exit regulations in May 2024 and committed to undertake a full

[313] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural* Affairs, (February 2025), p. 150

[314] 'Roadmap to a Flourishing Market', *MOSL*, (September 2024)

assessment of the retail market opening "in the future".[315] While this exercise is not referenced by the Commission, Defra's initial assessment of the market concluded that the ongoing costs for operating and regulating the market are £12.5 million a year, higher than the £9.7 million forecast at market opening.[316] This figure does not include the costs for retailers and wholesalers of participating in the market. In comparison, the initial assessment says that "we are yet to see any significant benefits of competition in this market" noting that most of the benefits found were as a result of market opening itself, for example through the self-supply regime (where end customers are able to register to become retailers and interact with wholesalers directly) or the data cleansing activities associated with separating retail and wholesale services.

We consider it is highly unlikely that the current benefits experienced by those customers active in the market are outweighed by those ongoing costs. Of those customers that have switched, their savings are just 4% of their water bills on average. For the very smallest customers, they have saved between £15 and £75 a year, which are likely to be offset by the time taken by an employee in a small business to search for deals and complete a switch. **Based on Ofwat's estimate of potential savings for different groups of customers, we estimate that total customer savings are likely to be between £6.2 million to £10.2 million – below the ongoing costs of £12.5 million.**[317]

In addition, the business retail market introduces undesirable side effects, such as:

- Preventing wholesalers from communicating directly with customers during emergencies or periods of drought.
- Undermining attempts to promote water efficiency because of the inherent incentive on retailers to sell more units of water because they earn a margin for every additional unit sold.
- Creating operational inefficiencies either due to transaction costs or reduced economies of scale because the customer base of retailers is highly dispersed (for example, a single provider can no longer read meters on the same street at once).

Nonetheless, large users appear to have benefited from the opening of the market, particularly where they have been able to combine their bills for multiple sites. If the Commission is minded to recommend reducing the scope of the market to the largest users, we consider that changing the eligibility criteria in the way considered by the Commission may not lead to the benefits it expects. Without removing the overarching market architecture, all overhead and regulatory costs will continue to be borne by customers – indeed, they may all fall on those customers remaining in the market and wipe out any savings. The criteria used for retail competition in Wales is also based on usage per site, rather than per customer, which may inadvertently exclude customers that are currently active in the market but operate many sites, such as supermarkets.

An alternative approach could be to change the market to be 'opt in' only, removing the need for many of the costs associated with the overarching market architecture. Under this option, customers that

[315] 'Review of the Water and Sewerage Undertakers (Exit from Non-household Retail Market) Regulations 2016'https://www.legislation.gov.uk/ukia/2024/88/pdfs/ukia_20240088_en.pdf, *Department for Environment, Food and Rural Affairs*, (May 2024)

[316] While it is not stated, we assume that Defra's assessment is within the same price base.

[317] 'Business retail market 2023-24 update', *Ofwat,* (October 2024), p. 23. This estimate is based on applying Ofwat's assessment of savings per customer from switching applied to the number of customers that switch each year. Applying savings of £15 to £75 to the 3% of the 1 million smallest customers that switch provider suggests annual savings of £3.9 to £5.6 million for that customer group. For the customer groups that use between 0.5 to 50 megalitres a year, the annual savings are likely to be £3.9 to £5.6 million. Applying a similar percentage reduction to the largest users (>50 megalitres a year) suggests annual savings for that group of £2.3 million.

want to be active in the market could register to become self-suppliers. As of 31 March 2024, 16 self-suppliers represent nearly 2.5% of consumption (compared to 9.2% of consumption served by new entrant retailers and 88.3% by incumbent retailers). Furthermore, an increasing share of switches or renegotiations based on volumes (42%) or value (47%) are now being carried out by 'third party intermediaries' that are unregulated providers that interact with retailers on behalf of customers – including some of the very smallest customers that are active in the market (66% of customers using less than 0.5 megalitres a year, based on transaction value).[318] Ofwat estimates the cost of processing a self-supply licence to be £3,000.[319] If this reflects an upper range for the ongoing costs of regulating self-suppliers then those costs would be fully borne by the customer (or a third party that it appoints) rather than customers as a whole. Based on current switching rates for customers that use more than 50 megalitres a year, this suggests annual ongoing costs of £0.750 million (or £4 million if the threshold is changed to 5 megalitres a day) – both well below the current running costs of £12.5 million a year. While Defra and Ofwat may incur additional costs for overseeing the market, they are likely to be substantially lower given that the risk to customers which choose to participate in the market, and knowingly take on any risks, are likely to be lower than under the current system.

If the UK government is minded to consider this issue further, we encourage Defra to carry out a full review when considering viable options.

Upstream markets – water resources and bioresources markets

At PR19, Ofwat introduced separate price controls for water resources and bioresources, with their own Regulatory Capital Values (RCVs), pay-as-you-go ratios, RCV-run off rates, revenue allowances and risk sharing mechanisms. The water resources control was separated from the previous wholesale water control, while the bioresources control was separated from the previous wholesale wastewater control (as shown in Figure 15).

Figure 15 Ofwat change in price control approach from PR14 to PR19 and PR24

Introducing a separate control for water resources was intended to facilitate two markets:

1. The opening of a 'bilateral market' (based on direct transactions between business retailers and owners of water resources, which was enabled under the Water Act 2014).[320]
2. The water bidding market (which enables third parties to identify potential water trades or water efficiency offerings, and 'bid' to provide them to incumbent water companies).

Introducing a separate price control for bioresources enabled Ofwat to set an 'adjusted average' price control based on the volume of dry solids treated by the water company, intended to support future development and growth of a bioresources market.

[318] Business retail market 2023-24 update', *Ofwat,* (October 2024), p. 17
[319] 'Self-supply FAQs', *Ofwat*, (April 2025)
[320] 'Bilateral markets – Call for information', *Ofwat,* (June 2019)

Ofwat's attempts to facilitate these two new markets were complemented by a range of additional reporting requirements and mechanisms, such as water resources market information at a zonal level, trading and procurement codes required to be produced in accordance with Ofwat guidance, new bid assessment frameworks, and access pricing methodologies and statements. Ultimately, Defra decided not to pursue the implementation of the 'bilateral market'. The water bidding market, pre-dating the separate price control and reporting requirements, appears to have had mixed success and may be largely superseded by other mechanisms, such as the Water Resources National Framework and RAPID which aim to facilitate strategic transfers between water companies.

Despite the limited development of upstream competition, Ofwat has maintained separate price controls for water resources and bioresources at PR24. That is despite Ofwat's decision to combine many reporting lines for the water resources and water network plus controls for the purposes of cost assessment and incentive setting, citing lack of robust data.

Ahead of the next price review, reflecting the lack of upstream market development and the excessive burdens that these requirements introduce, we consider that the economic regulator should simplify the price controls by merging the water resources control back into the water network plus control, and merging the bioresources control back into the wastewater network plus control. This should include removing reporting requirements that are no longer required, such as the annual preparation of water resources market information which duplicates water resources planning processes. This would reduce regulatory burdens associated with maintaining and administering separate controls by up to 40% in one stroke (by reducing the number of price controls for a typical water and wastewater company from five to three). The economic regulator could still require separate reporting for the purposes of cost assessment, provided it can satisfy itself that collecting disaggregated data would lead to an improved cost assessment approach at future price reviews.

Our recommendations

The UK government should:

- **Streamline the procurement and delivery of major projects**. This should include amending the Specified Infrastructure Projects Regulations (SIPR) to allow major projects to be delivered more quickly. In addition, the direct procurement for customers (DPC) framework should be reformed to increase the likelihood of successful market engagement, with more standardisation and a greater role for the economic regulator or the National Water Grid for England. In both cases, there should be a level playing field between incumbent companies and alternative providers to ensure value is created from the use of competition.
- **Reform existing markets**. The developer services, business retail, water resources and bioresources markets should be **simplified** so that the benefits of competition can be preserved, with reduced regulatory burdens or overheads borne by customers. We recommend that the government considers pragmatic ways for deregulating these markets, as well as unlocking economic growth through support for housebuilding and streamlined reporting requirements. This could include refocusing the business retail market to serve only the largest users of water, with further review required. While barriers should be removed for new appointees to serve new developments, significantly more oversight is required to protect consumers.

4.3 Exploring a supervisory model of regulation

Where the current system is not working

The Call for Evidence invites views on whether the financial oversight of water companies could be strengthened, in particular through the use of a 'supervisory' approach.[321] It also suggests that a supervisory function could go beyond financial oversight to "supplement economic regulation".[322]

The economic regulation approach used by Ofwat stems from the privatisation of the water sector in 1989. In common with the economic regulators in telecoms, gas and electricity a price control model was adopted by Ofwat. Even at the point of privatisation, Ofwat had duties that went beyond simply price regulation, and these have grown and developed over the intervening 36 years.

While Ofwat does not use the terminology of "supervision", it does undertake extensive monitoring of companies during price control periods. This monitoring relies on reporting by companies; with reporting requirements set to increase in the 2025 to 2030 period. This includes, but is by no means limited to, monitoring capital delivery (including via interim milestones and six-monthly reporting), backward-looking water company performance and expenditure metrics, annual environmental performance assessments, financial resilience monitoring, retail market monitoring and licence enforcement. And that is before consideration of the enhanced oversight of water companies in the 'turnaround oversight regime' introduced by Ofwat in 2024.

Over that period, Ofwat has varied the extent to which it undertakes an ongoing supervisory role with the water companies. For example, following the 2011 Gray review, Ofwat reduced its previously detailed approach to assurance and assessing outputs, performance and expenditure. And as the Call for Evidence itself notes, more recently Ofwat has introduced "stronger checks on company finance" which "could be characterised as a move towards a 'supervisory' rather than regulatory approach".[323] But, at all times, it has run a *de facto* supervisory approach.

We consider the way this supervisory approach has evolved over time has led to some unintended consequences and exhibits the following problems:

- **Ofwat's performance and financial monitoring is entirely backward looking, with no forward-looking risk assessment**. As the Call for Evidence rightly notes, unlike the financial services sector for example, Ofwat does not set stress test scenarios.[324] Instead, Ofwat produces two monitoring reports, normally in autumn of each year, based on annual performance data published by companies in July. These annual figures are historical data, and do not consider forward-looking financial or performance risk, creating limited opportunity for Ofwat to act. Without early warning signs, Ofwat is limited in its ability to take action or mitigate impacts on customers.
- **Limited information on asset conditions has prevented regulatory intervention**. As identified in work by Reckon[325] there is not enough useful information on the long-term risks to service outcomes from asset deterioration, nor on how companies are managing these risks. Current performance measures offer limited insight into the effectiveness of asset management

[321] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural Affairs*, (February 2025), p. 135
[322] Ibid, p.107
[323] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural Affairs*, (February 2025)
[324] Ibid
[325] 'Improvements to the regulatory framework for asset health and operational resilience', *Reckon,* (July 2024)

strategies – they only indicate when service has gone wrong, such as a supply interruption or a pollution incident. The lack of regulatory reporting requirements on asset health and operational resilience constrains Ofwat's ability to identify or mitigate risks.

- **Lack of transparency over capital delivery has reduced public trust and prevented effective regulatory action**. Ofwat has limited information on the delivery of projects and provides limited opportunities for companies to engage with it on the delivery of major projects. Instead, it stands back, relies on high-level annual reporting and applies penalties at the end of the price control period based on whether a company says that a project is delivered or is late. This approach introduces risk for companies and investors, as it potentially undermines the ability of them to recover their costs, but also can lead to circumstances where investments are not made in the first place due to lack of regulatory certainty.

Ofwat has attempted to overcome some of these problems by introducing an array of new mechanisms and processes during the PR24 determinations process – such as every company being required to report against up to 53 categories of price control deliverables with associated reporting and assurance requirements and a new 'turnaround oversight regime' for Thames Water. But we are concerned that these new measures have been introduced without a strategic view of the overall framework that has been created over time, and without a clear link to all of Ofwat's processes. We are concerned that the additional processes Ofwat has created will have limited benefits compared to the administration costs they create, particularly where they directly replicate processes administered by other regulators such as the Environment Agency or Natural Resources Wales. For context, Ofwat's budget has nearly doubled in real terms over just the last five years.[326]

Our analysis of reform proposals

We welcome the Commission's consideration of a formal supervisory regime for the water sector and consider it presents an opportunity to design a new and coherent approach.

Supervision-based regulation as applied to the financial services industry in the UK is based on the premise that there are significant risks for society and the wider economy from failure of regulated firms, particularly due to contagion risk.[327]

The water industry is fundamentally different for two reasons:

1. **Systemic crises are less likely**. While there are consequences for society and the economy from water company failure, there is considerably less systemic risk due to the regional nature of water companies. Even very long water supply interruptions for a very large number of people -something that has never happened since privatisation – is unlikely to lead to a loss of confidence in the entire water sector on a comparable scale to a potential run on the banks. While a crisis of confidence in the quality of drinking water could happen, there are strong institutional safeguards through the Drinking Water Inspectorate's existence and approach. While there can be contagion risks between water companies (such as when one company's financial instability affecting the cost of debt or equity for other water companies) they are of a much less severe scale than financial services.
2. **Water companies are subject to economic regulation**. Because they are monopoly providers, water companies are subject to heavy regulation through price controls, whereas financial

[326] From a budget £31.4 million in 2020-21 to £72 million in 2025-26, a real-terms increase of 80%.
[327] For an assessment of how supervision-based regulation is applied to the financial services industry, see section A2.3 of Oxera's new report for Water UK.

services operate in competitive markets – albeit with higher systemic risk for the largest financial services providers.

Both factors necessitate a wholly different type of regulation for the water industry which could, nonetheless, benefit from some form supervision-based approaches.

In considering how best to apply a supervisory model of regulation to the water industry in England and Wales, we have drawn on a new report from Oxera for Water UK, which has considered lessons from other sectors that use similar techniques, and how those approaches could practically be applied to the water industry to improve both performance and financial resilience.

In our view, there are essentially two possible models that could be applied to the water industry in England and Wales:

1. **A prudential-style supervisory framework.** This option would represent an evolution of existing arrangements, focus on conducting forward-looking risk assessments and resolution of issues before they arise. This is analogous to the supervisory regime in financial services, but without the supervision of conduct decisions which would not be applicable in the water sector. This model would allow for regulatory action to be focused on poorer performing companies, rather than all companies, and would provide for an early intervention and recovery regime for companies that exhibit high financial risk.
2. **A broader supervisory function, integrated into the system of economic regulation**. This option would use supervision to enable a more tailored approach to economic regulation, with at least some, and potentially many, decisions calibrated to the circumstances of each water company. Oxera describes this approach as an 'assessor' model to reflect the potentially broader function than that of a supervisor in the financial service industry.

There are both opportunities and risks with adopting a supervisory approach, particularly where it is simply additive to existing regulations which risks creating conflicting or overlapping interventions, and a suffocating and overwhelming level of regulatory burdens that ultimately fall on customers or risk deterring innovation or investment.

Designed well, we consider a supervisory approach has the potential to create the following improvements to the regulation of the water industry:

- **A more evidence-led approach to considering investment need –** Ofwat currently takes a very sceptical approach to proposed investment, and in some cases applies excessively high evidential thresholds. A supervisory model that gives the regulator a better understanding of specific assets and proposed investments would improve this element of decision making.
- **An improved understanding of the impacts of regulatory decisions on individual companies –** supervisors observing the real-world effects of certain regulatory decisions could help them to understand where these decisions lead to unintended consequences or perverse incentives. This approach would seek to create a feedback loop that leads to better regulatory decision-making, for individual companies and for the sector as a whole.
- **A reduction in reporting burdens –** the increased understanding of individual firms from a supervisory approach enables a reduction in the burden currently placed upon firms to report large volumes of data.
- **An earlier intervention approach –** supervision would allow the identification of an earlier stage issues with declining infrastructure or company financial health, meaning intervention can be taken earlier to resolve these issues before they cause wider problems.

But a move to a more supervisory model is not without **risks**:

- **Risk aversion from micromanagement**. Overreliance on supervisors, particularly if they become involved in operational decisions and micromanagement, could deter water companies from taking well-calculated risks or innovating, and may deter investment.
- **Insufficient regulatory expertise and capability**. As we set out in Section 2.3, the current institutional architecture risks regulators lacking the capability and resources to properly carry out their duties and deliver effective regulation. Supervision requires significant expertise and judgment. The supervisor's judgment, which is by definition subjective, comes with significant consequences for the regulated company. Experienced staff will be needed to make judgments based on a rounded view of the specific circumstances.
- **Excessive regulatory burdens**. Supervision, by its nature, is an additional administrative burden on the supervised firm. There is a risk that any supervisory approaches are simply additive to existing regulations. Regulatory burdens are not cost free. Running both regimes in parallel would risk creating conflicting or overlapping interventions and creating suffocating and overwhelming levels of regulatory burdens that ultimately fall on customers. It is our judgment that simply adding another layer of regulation on top of what is already an exceptionally complex and demanding set of interventions and reporting mechanisms will reduce capacity for delivery. This is because, given Ofwat's challenge on operational efficiency, companies typically do not have headroom to just hire extra people for dealing with extra regulatory processes: in practice, such burdens often fall on the same teams responsible for design, operational management, implementation and internal assurance.

If the Commission recommends a 'supervisory' approach, we consider that it must be combined with a clear commitment to reduce regulatory burdens within the wider regulatory regime. This would be consistent with the UK government's announcement on reforming regulation in March 2025 which committed to cutting administrative costs for businesses by 25% by the end of the parliament. This 25% reduction must be the baseline reduction, with significant further reductions beyond this 25% level if any system of supervision were to be introduced. **It is worth noting that Ofwat's budget for 2025-26, at £72 million,[328] is more than double its £31.4 million budget only five years ago (a more than 80% increase in real terms).[329]**

As Oxera proposes in its report, and we consider further in Section 4.4, reductions in regulatory burdens could be targeted to those companies that achieve 'earned autonomy' based on their performance and delivery, as well as an across-the-board rationalisation of regulatory approaches.

Rebalancing the burden of regulation is critical – **we have estimated that the increasing costs of funding regulators, producing plans and complying with reporting requirements now leads to an average ongoing cost of £32 a year per customer, up from £25 a year just two years ago.[330]** This suggests that around £800 million a year will be spent on complying with regulation, some of which could be diverted to delivery and performance. These ongoing costs are in addition to the burden of price reviews, which have become excessive – we estimate that the current price review has required water companies to spend more than £250 million on producing business plans of more than 50,000 pages in total, not including potentially £50 million which is expected to be spent on the

[328] 'Ofwat's forward programme 2025-26', *Ofwat*, (March 2025)
[329] 'Ofwat's forward programme 2020-21', *Ofwat,* (March 2020)
[330] Based on 2025-26 forecasts of direct contributions to regulators, plus an assessment of internal costs of dealing with them and complying with regulations.

redeterminations of price controls.[331] More than 5,500 formal queries and responses have been exchanged between Ofwat and water companies over the 18-month assessment of plans.[332] While Ofwat and other regulators are finalising their monitoring and reporting requirements for 2025 to 2030, early guidance[333] and templates[334] suggest that water companies will be required to submit more than 20,000 fields of data up to three times a year under Ofwat's proposed approach to monitoring price control deliverables, in addition to what we estimate runs into millions of existing data points for complying with annual performance reports and similar processes.

We consider there are merits in integrating a supervision model into radical reform of the economic regulation framework, as it is more likely to lead to a reduction in regulatory burdens and more effective decisions that support improved performance and sustainable investment over the long term. We consider how that may work further in Section 4.4.

Our recommendations

We recommend the UK and Welsh governments should:

- **Require the economic regulator to consolidate existing reporting and monitoring approaches so that they are more coherent, potentially replacing them with a 'supervisory' function**. As a minimum, any reforms should be consistent with the UK government's commitment to reduce regulatory burdens by 25% by the end of the parliament.
- **Consider integrating supervision into a radical reform of economic regulation**. We consider this option further in Section 4.4.

4.4 Attracting investment to improve performance

Where the current system is not working

In the Call for Evidence, the Commission is seeking views on a range of issues relating to delivery of for customers and the environment, as well as attracting investment into the water sector in order to improve water company performance.

On performance, the Commission is seeking views on:

- Whether Ofwat should take a more bottom-up approach to base spending – for example starting with required investment needs and expected asset lives – the approach to water regulation in Scotland – rather than the current approach for England and Wales that is principally based on historic expenditure.[335]

[331] Based on the external costs incurred by water companies in the PR19 redeterminations, scaled to the number of redeterminations at PR24.
[332] 'Reference of the PR24 final determinations: Introductory submission to the CMA', *Ofwat*, (March 2025)
[333] 'Delivery plan guidance – March 2025', *Ofwat*, (March 2025)
[334] 'PCD delivery plan table template', *Ofwat*, (March 2025)
[335] Q31. What, if any, changes could be made to the Price Review process on assessing and setting base expenditure to effectively support infrastructure maintenance?

- The role of outcome delivery incentives (ODIs) within the price review and their effectiveness in delivering performance outcomes, and whether outcomes- or output-based approaches could be scrapped at future price reviews.[336]

On attracting investment and securing financial resilience, the Commission is seeking views on:

- Changes to assessing and setting the weighted average cost of capital (WACC) at future price reviews, which could include 'aiming up' above the central estimate to reflect the risk of underinvestment. [337]
- Whether the appeals process for price review determinations overseen by the Competition and Markets Authority has been effective.[338]
- Whether there should be changes to the price review to support financial resilience (for example, capping debt levels).
- Whether there should be changes to the financial oversight of water companies, for example through moving to a more 'supervisory' model.

For the rest of this section, we focus on the following problems, which we consider have been facilitated by the current system of regulation and oversight:

- Water company performance has not kept pace with society's expectations, and is held back by the regulatory framework, and
- Financial resilience has weakened, driven by both the regulatory framework and company decisions.

Water company performance has not kept pace with society's expectations, and is held back by the regulatory framework

While there have been improvements by industry – such as delivering the lowest level of leakage in recorded history in 2023-24 and reducing sewer flooding incidents by 10% over the last five years – water company performance is not where it should be.

This is in part due to features of the regulatory framework adopted by Ofwat in recent price reviews with respect to performance and financing investment. In summary, we consider the primary causes of these performance issues are as follows:

- **Ofwat's approach to assessing base expenditure is backward-looking and does not sufficiently account for individual companies and regions**. Ofwat attempts to model the complex geographical characteristics of water company networks using econometric models that are meant to capture the operating conditions of a company, but are based on at most four characteristics. In addition, there is no meaningful triangulation with other cost estimates (such as those based on bottom-up engineering assessments), which may provide better evidence of the real-world costs involved in operating water company networks.

[336] Q34: What, if any, changes could be made to the Price Review process on assessing and setting performance incentives to effectively secure infrastructure delivery? This could be across Outcome Delivery Incentives (ODIs) to effectively deliver for customers, the environment and public health; and/or across Price Control Deliverables (PCDs), for example.

[337] What, if any, changes could be made to the Price Review Process on assessing and setting the Weighted Average Cost of Capital (WACC) to effectively attract investment in the water industry?

[338] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural* Affairs, (February 2025), p. 106. We provide our view on this question in Section 2.3 of this document as part of a wider consideration of regulatory accountability.

- **Capital maintenance has been underfunded**. Ofwat does not separately model capital maintenance outside of its base expenditure models, despite it being a significant component of water company activity. Ofwat's approach does not reflect the replacement cycles of individual company networks, instead basing allowances entirely on sector-wide expenditure since 2011. This approach means that water companies must use their base expenditure allowances for capital maintenance, which are unlikely to reflect their needs if historic replacement rates or expenditure in the last few years were not sufficient. This issue will become more acute as the asset base grows, future risks increase and the historic period that the models covered have been affected by Ofwat's choice of low-spending benchmarks and short-term incentives to delay capital maintenance. These issues were set out in detail by Bush and Earwaker in 2019, who recommended including forward-looking asset and engineering assessments in Ofwat's decisions for PR19 which Ofwat has not implemented.[339]
- **Mis-calibrated incentives can take water company focus away from long-term risks and maintenance needs**. Ofwat's approach since PR14 to incentivising the delivery of outcomes has led to performance improvements, but without corresponding funding for asset health, it risks diverting attention to a narrow set of measures, which may create incentives to meet immediate targets rather than longer term outcomes. Ofwat's models are unable to differentiate between low spending due to efficiency or deferral of maintenance activity. By choosing a benchmark based on the lowest spending companies (the upper quartile) it locks in historic underfunding or underinvestment for the entire industry. Without forward-looking risk metrics, faced with insufficient funds water companies are forced to prioritise responses to emergencies rather than proactive maintenance or anticipatory investment to avoid and manage future risks.
- **Excessive challenges and undeliverable targets have reduced the revenue available for vital upgrades and maintenance, contributing to worsening conditions and the potential for a 'doom loop' for some water companies**. For example, Ofwat's cost challenges include applying a 'frontier shift' assumption about productivity that have not materialised over the last few price reviews or in any other comparable sector in the wider economy.[340] Every single water company has overspent its total expenditure allowances[341] – a total of more than £4 billion over 2020-21 to 2023-24. 15 out of 17 water companies have net penalties against Ofwat's outcome delivery incentives over 2020-21 to 2023-24.[342] The National Audit Office found that in the first four years of the PR19 control period, water companies made an operational loss equivalent to 3.4% of regulated equity on average.[343] These penalties reduce the amount of revenue available to water companies each year, creating strong incentives on them to defer or cut back maintenance activities. We consider this is an important contributing factor to what the Commission describes as a 'doom loop' and is explored further by Oxera in its new report for Water UK (as shown in Figure 16).

[339] 'Providing appropriate regulatory funding for capital maintenance activity: ensuring capital sustainability and service resilience', *Harry Bush and John Earwaker*, (May 2019)
[340] See, for example, 'Further Evidence on Frontier Shift at PR24', *Economic Insight*, (March 2024)
[341] 'Water Company Performance Report 2023-24', *Ofwat*, (October 2024), p. 29
[342] 'Water UK's Response to Ofwat's Draft Determinations on PR24', *Water UK*, (August 2024), p. 30-31
[343] 'Regulating for investment and outcomes in the water sector', *National Audit Office,* (April 2025), p. 46

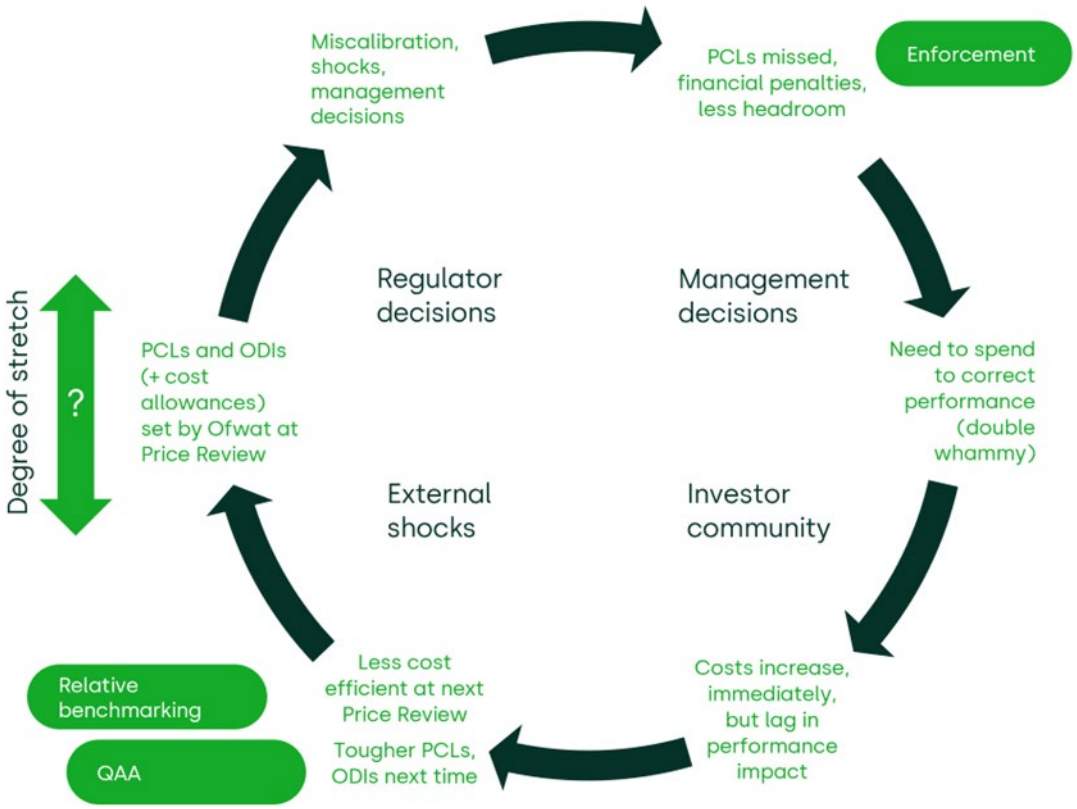

Figure 16 How a 'doom loop' may occur

Source: Oxera, 'A new approach to performance and supervision in the England and Wales water sector', April 2025

These issues are exacerbated by an approach that has undermined the ability and likelihood of the water sector to attract the finance for investment that it needs:

- **Ofwat has set allowed returns on equity that are well below the level expected by investors both now and in the future compared to other investment opportunities**. Returns since 2020 have averaged 2.78% against an average allowed return on equity of 4.09% at PR19.[344] This is partly the consequence of Ofwat's punitive cost and outcomes targets at PR19. While Ofwat eventually set an allowed return that 'aimed up' on the central estimate derived from the capital asset pricing model (CAPM) at 5.10% at PR24, it remains well below available returns in other sectors (well below those set out by Ofgem in its early view of the cost of equity for energy networks, and those proposed by energy networks in their December 2024 business plans[345]). Ofwat's relatively low returns are a consequence of policy decisions it has taken that have had the effect of artificially holding down its estimated range (such as deliberately excluding one out of three listed companies from its calculations). There are also fundamental challenges with the CAPM approach, which is largely based on historical data and therefore may be unable to adequately cope with new risk profiles and investment needs, as are expected in the water sector over the next 25 years.

[344] 'Monitoring Financial Resilience Report 2023-24', Ofwat, (November 2024), p. 24

[345] 'Cost of Equity for RIIO-T3', *NERA,* (November 2024), p.7. According to NERA, Ofgem's sector specific methodology decision set out a cost of equity range (converted to 55% gearing to enable comparisons with Ofwat's notional gearing) of 4.24% to 5.82% in July 2024. In estimating a cost of equity range for Scottish Power Transmission's business plan in December 2024, NERA suggested a range of 6.08% to 6.58% was required.

- **Sector risk has increased, driven by new legal and regulatory risks, reducing the predictability and stability of the framework**. The Water (Special Measures) Act 2025 and Ofwat's investigation into wastewater treatment works are examples of new legal and regulatory risks put on water companies, which may make the sector less attractive for new investment. Ofwat's enforcement cases have lasted years, undermining certainty, and some of Ofwat's decisions have been retrospective in nature, such as its interpretation of compliance with environmental obligations, or which elements of water company activities it considers to have been historically funded by expenditure allowances. Higher risk ultimately leads to higher bills, but it may also lead to water company inaction or reduced investment due to concerns over potential retribution from regulators.
- **Ofwat's tools have failed to keep pace with the changing scale and nature of water company investments, particularly through the lack of a clear framework for 'investability'**. As we have discussed above, Ofwat's approach to assessing expenditure is ill-equipped for the scale of investment expected over the next 25 years. Ofwat narrowly assesses 'financeability' when setting its price controls, focusing on the ability of companies to finance their debt rather than attract equity, and even then Ofwat's assessment is only based on its view of an efficient company that is notionally geared. Ofwat does not meaningfully assess the potential impacts of future risks, with no scenario analysis of its final determinations. Ofwat simply performed one 'headroom test' which considered the impact of a crude reduction in revenues or increase in costs and asserted that reduced dividends or new equity would be sufficient to offset those changes. There was no consideration of downside scenario or external financial or operational shocks and how they may interact and affect company performance or financial resilience.[346] Only in its final determination for PR24 did Ofwat attempt to make changes that would help to support investability.[347] But as Oxera has identified in its new report for Water UK, the need for billions of new equity over the next 25 years requires a framework that is attractive to investors and goes beyond Ofwat's current approach to financeability assessments. Ofwat has not developed a sustainable, long-term framework for investability that supports the level of equity required for the water sector's investment programme, and the associated risks.

Financial resilience has weakened, driven by both the regulatory framework and company decisions

The financial resilience of some water companies is relatively weak, despite record levels of investment needing to be delivered.

One measure of the financial resilience of a water company is its gearing levels – the level of debt as a proportion of a company's regulated capital value (RCV). Debt can be a prudent and low-cost way of securing finance for investment, but overly high gearing levels can leave companies exposed to economic shocks, inflation and interest rises.

We consider this increase in gearing and weakened financial resilience has partly been caused by a regulatory system that has contributed to it:

- **Miscalibration and underfunding in recent price reviews have increased risk, eroded reserves and deterred investment to make up for shortfalls.** As set out above, potential

[346] 'PR24 final determinations: Aligning risk and return – appendix', *Ofwat*, (December 2024), p. 72-73

[347] Changes include aiming up on the cost of equity, returning the expected dividend yield to 4% from 2%, removing a proposal to restrict dividends for companies with gearing greater than 70%, reversing downward adjustments to RCV run-off rates which artificially constrained cashflows, and introducing a range of new risk sharing mechanisms such as 'the outturn adjustment mechanism'.

returns have been heavily reduced by models, efficiency assumptions and policy choices that have starved water companies of the funding they need to maintain and upgrade their networks. Further risk has been built up in the system as potential operational resilience and asset health risks have not been addressed, which reduces the attractiveness of the sector to future investment if that investment is to be used to correct historic funding deficits, and so may not be able to be fully recovered.

- **Ofwat's policy choices have encouraged companies to increase their gearing to current levels.** Ofwat chooses to set a *weighted average* cost of capital and allow companies to choose their own capital structures. While the use of a weighted average can be an effective way of reducing financing costs for customers over time, when combined with pressures on allowed returns – such as through excessive cost challenges or excessive levels of risk – it can make equity investment less attractive. Water companies therefore face incentives to take on more debt rather than equity in order to work within Ofwat's overall allowed returns on capital and meet the return expectations of existing and potential investors.
- **Declining predictability and stability of the regulatory framework has led to downgrades by all three independent credit rating agencies in the last five months, indicating higher risk and directly increasing the cost of finance**. Moody's has twice downgraded its assessment of the predictability and stability of the regulatory framework over the last two price reviews, first from the highest rating of AAA in 2018 to AA, and a further time to A in November 2024.[348] Meanwhile, Moody's assessment of the regulatory framework for energy networks remains at AAA, and energy networks have higher ratings from all three credit rating agencies. The rating of the sector impacts the rating of individual firms and credit-worthiness affects the cost of debt, which has gone up relative to other sectors, as the National Audit Office has found.[349] The reduced creditworthiness of the water sector associated with these downgrades will mean customers paying an extra £27 a year through their water bills, more than the £8 a year difference between Ofwat's PR24 final determinations and water company proposals.[350]

The current level of financial resilience in the water sector has been driven by both the regulatory framework and water company decisions. Restoring financial resilience of the water sector requires time and a sustainable and long-term framework that supports investability.

The scale of the investment programme provides both a challenge – the nature and scale of risk is changing – and an opportunity, as the prospect of significant RCV growth over at least the next five years could support an equity-led recapitalisation of water companies centred on investment and delivery for customers and the environment.

Our analysis of reform proposals

Given the problems that we have set out, we consider there is a need for fundamental reform of the economic regulation of water company performance. More of the same is not viable to meet the challenges of the future and overcome the underfunding of the past.

In particular, we need a new approach to avoid placing a water company into a 'doom loop' which, in diverting ever-increasing amounts of money away from investment, reduces environmental and customer outcomes.

[348] 'Moody's Ratings downgrades South East Water to Baa3', *Moody's Ratings,* (November 2024)
[349] 'Regulating for investment and outcomes in the water sector', *National Audit Office,* (April 2025), p. 11
[350] 'A sustainable and investable regulatory framework for the England and Wales water sector', *Oxera*, (April 2025)

We therefore propose three actions that we consider the UK and Welsh governments must require the economic regulator to implement:

1. Urgent action on capital maintenance.
2. Reform of the approach to base expenditure and performance incentives.
3. Mandate a new framework for investability that supports long-term and sustainable investment.

Urgent action on capital maintenance

For the reasons we have set out above, the price review framework has led regulators and water companies to neglect capital maintenance due to a focus on short-term performance measures and a lack of asset health metrics. The problem of inadequate maintenance is an increasingly serious problem. Some regions of the country are now carrying significant operational, service, environmental and even safety risks. Change cannot wait until PR29.

New analysis from Oxera for Water UK has shown that while the asset base is expected to increase by 230% (in real terms) from 1995 to 2030, capital maintenance allowances set by Ofwat will only have increased by 60% (also in real terms). Over the next five years, the asset base is expected to grow by 34% but capital maintenance allowances have only been increased by 8%. As shown in Figure 17, capital maintenance allowances have not kept pace with growth of the asset base over the last 30 years, and will not by 2030.

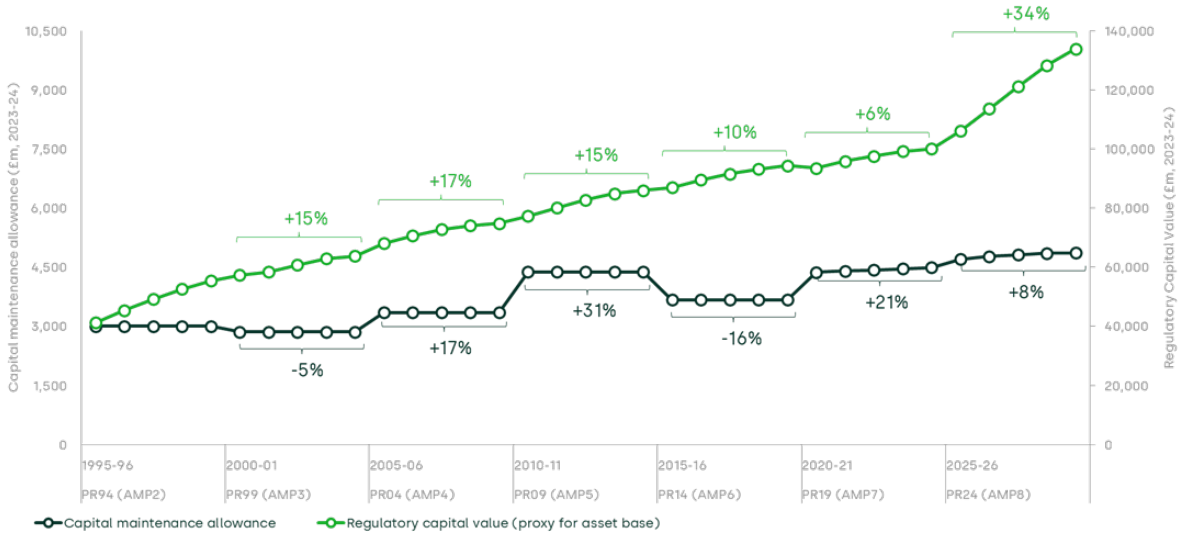

Figure 17 Capital maintenance allowances and regulatory capital values for English and Welsh water companies

Source: Oxera, 'A new approach to performance and supervision in the England and Wales water sector', April 2025

After years of inaction, including following a call for change from the National Infrastructure Commission in May 2023 (indeed, we understand Ofwat subsequent to this intervention suspended the responsible team for nearly a year before later reforming it),[351] in the late stages of PR24 Ofwat required water companies to undertake a certain level of maintenance activity over the 2025-30 period or face penalties. However, it is unlikely to be sufficient because it:

[351] 'Letter: Water company asset management', *National Infrastructure Commission,* (May 2023)

- Is not fully backed by new funding, with Ofwat retrospectively allocating historical base expenditure allowances to fund those activities.
- Only applies to a subset of assets, which may lead water companies to prioritise activity on assets that are less risky than others, in order to avoid penalties.

In the final determinations for PR24, Ofwat set out a 'road map' on its future plans for regulating asset health.[352] It suggested that it will take more than two years to collect information and decide whether further funding is required. We are concerned by the protracted timelines for this exercise, as well as the risk that Ofwat will simply apply its approach to mains renewals to other asset types, without taking a strategic view of the current risks within the sector or developing more fundamental reform of its approach to asset health and capital maintenance (building on industry work in 2024, which identified a range of policy packages that could be applied for the next price review).[353]

One alternative approach is that used by the water regulator in Scotland, which is based on estimated asset lives and replacement rates. In 2021, using this approach led to a substantial funding uplift for Scottish Water of around 80-123% over the long term. Recent analysis by Northumbrian Water that applies the same methodology suggests that funding for sustainable asset replacement should be at least twice as high as the historical expenditure set by Ofwat (from £110m a year to between £197m and £268m a year).[354] This suggests that the level of underfunding in the sector is stark – water companies in England and Wales may only have around half of the funding they need for sustainable asset replacement and renewals. This situation requires urgent action.

We therefore consider the economic regulator should be required to take urgent action on capital maintenance, ahead of a more fundamental review and reform of regulatory approaches. Building on a recommendation we made in response to Ofwat's draft determinations,[355] we consider that as early as 2026-27, an industry-wide revenue uplift should be applied to every company to improve their asset maintenance. In determining the size of the uplift, it should be proportionate to the scale of each company, and take account of previous submissions rejected by Ofwat. The uplift should allow flexibility in how it is spent (with companies able to target it at those asset classes at highest risk or in most need of replacement). To protect customers and ensure delivery, there should be a 'use it or lose it' ringfence provision to ensure that the additional allowance is spent, accompanied by enhanced monitoring and oversight.

Adopting this approach should provide water companies with the certainty and funding to invest in much-needed asset health improvements, without waiting until the next price review.

This should be followed by a more strategic review and reform of the regulatory approach to capital maintenance and asset health, taking seriously the alternative approaches proposed by industry and applied by other regulators – such as the Scottish water regulator and Ofgem.[356]

Reform of the approach to base expenditure and performance incentives

For the reasons we have set out above, Ofwat's base expenditure models are unlikely to capture the characteristics of individual companies and regions. While differences in expenditure will partly be explained by relative efficiency, we are concerned that water companies are unintentionally being penalised for the weaknesses of Ofwat's models, and Ofwat's unrealistic efficiency assumptions, rather

[352] 'Roadmap for enhancing asset health understanding in the water sector', *Ofwat*, (December 2024)
[353] 'Infrastructure health in the water sector', *Water UK,* (2024)
[354] 'Northumbrian Water Limited Statement of Case', *Northumbrian Water*, (March 2025), p. 54
[355] 'Water UK's Response to Ofwat's Draft Determinations on PR24', *Water UK,* (August 2024), p. 18
[356] 'Improvements to the regulatory framework for asset health and operational resilience', *Reckon LLP*, (July 2024)

than their underlying performance. This only means that customers and the environment will not receive improved performance. While Ofwat can accept 'cost adjustment claims' to correct for deficiencies in its models, it has rarely accepted them – often rejecting them outright (only one was fully accepted, and seven partially accepted, at PR24[357]) or relying on sector-wide adjustments which are likely to similarly neglect regional and company-specific characteristics.

Outcome delivery incentives have enabled the delivery of improvements for customers and the environment. However, combined with excessively austere cost models, unrealistic efficiency assumptions and duplicative enforcement penalties, they prevent water companies from being able to turnaround their performance, and financial resilience has been undermined for some companies.

We consider a new approach is possible as part of the package of measures we are proposing throughout this document. Alongside a shift towards delivering major new infrastructure using all the tools that are available, we consider such a new approach can simultaneously provide incentives to innovate and deliver efficiencies while also ensuring that expenditure allowances better reflect reality and regional differences, supported by a radical simplification of the regulatory framework.

In developing a new approach, we have Oxera explore options for reforming the economic regulation framework based on a new supervisory approach. Oxera has developed three potential options (as shown in Figure 18):

- **Option 1 – Addressing issues 'at source' within the existing framework**. This option would involve incremental reform of the existing price control framework. Box 8 summarises Option 1, which includes the proposals from Oxera for incremental improvements to the economic regulation framework.

Box 8 – Oxera's recommendations for addressing issues 'at source' within the existing framework (Option 1)

In its report for Water UK, Oxera suggests the following changes:

- **Changing the way that cost and service targets are set.** This includes making greater use of evidence from other sources to complement top-down benchmarking, setting service performance targets in a manner that better accounts for company-specific factors and past performance trends, and a new approach to funding investment, particularly in asset health, based on forward-looking pressures.
- **Rebalancing the strength of performance incentives to manage risk exposure given the step change in the investment.** This includes reducing service performance and cost risk, moderating the level of return at risk to ensure that it is proportionate to the equity returns on offer and the maximum loss which companies can incur is smaller than the base allowed equity return, and providing greater protection for companies against service performance risks that are outside their control.
- **Greater use of forward-looking metrics for financial resilience.** Such as basic stress tests for companies that would seek to identify potential threats to financial resilience, for example through the use common scenarios that could affect all companies simultaneously, such as macroeconomic shocks.
- **A new recovery regime for companies in financial distress.** Balancing the need to 'short circuit' doom loops while avoiding potential moral hazards, such a regime would be based on trigger thresholds and that would require transformation plans, reduced risk and

[357] 'Final determination models', *Ofwat,* (April, 2025)

returns, and mandatory investment requirements (on a 'use it or lose it' basis) that would be accompanied by enhancement oversight and reporting obligations.

- **Option 2 – A prudential-style supervisory framework**. Building on the reforms under Option 1, this option would see the implementation of a new, prudential-style supervisory framework, to supplement financial monitoring and resolution mechanisms (rather than the wider economic price control framework). The framework would be modelled on elements of the approach applied in financial services, with supervisors focused on conducting forward-looking risk assessments and resolving issues before they arise. Supervisors would have discretion to increase the degree of monitoring, based on their assessment of risk.
- **Option 3 – A broader supervisory function, with a role in setting some regulatory allowances and targets at the level of individual companies**. Under this approach, company-specific supervisors—or assessors—with expansive powers and responsibilities would be introduced. As with option 2, these supervisors would have prudential style powers (allowing them to intervene quickly and mitigate risks as they arise). Critically however, these assessors would also use information and insights obtained through supervision to set specific aspects of companies' price controls; and scale the intensity of oversight based on the company's overall track record and performance.

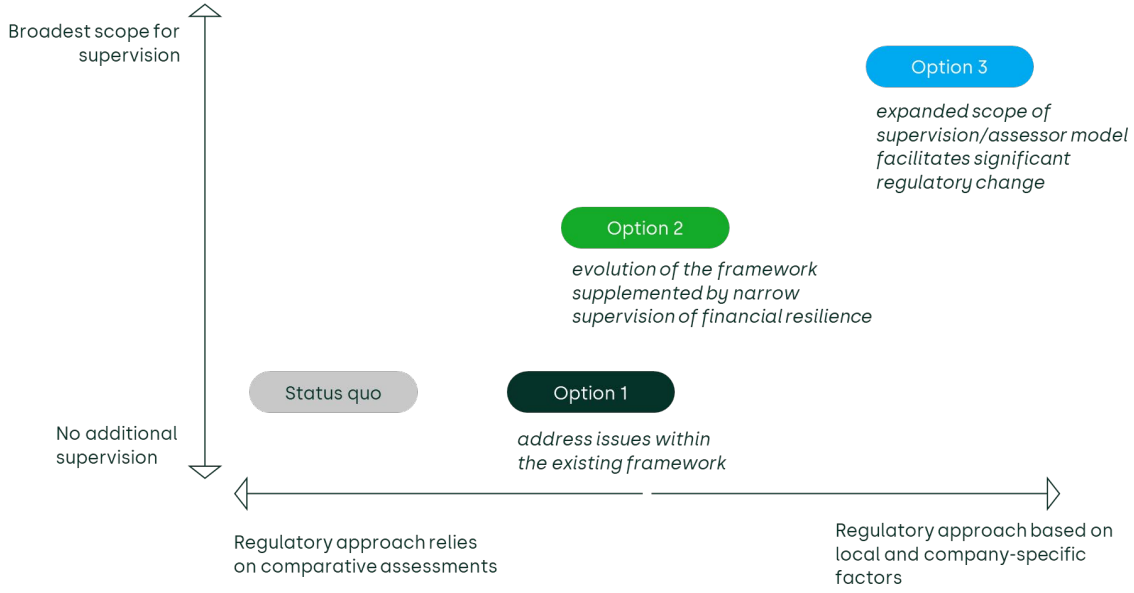

Figure 18 Options considered by Oxera for reforming the performance and oversight framework in the water sector in England and Wales

Source: Oxera, 'A new approach to performance and supervision in the England and Wales water sector', April 2025.

As a minimum, we consider that the economic regulator must adopt the recommendations in Option 1. But we do not consider it is sufficient on its own if the water sector is to secure the investment it needs, improve performance and restore trust with the public. While Option 2 is potentially an improvement on the status quo, principally because it incorporates forward-looking risk management and enables targeted intervention, we are concerned that it would increase regulatory burdens to those that already exist and misses an opportunity to tackle the shortcomings of the current performance and expenditure framework. **We therefore consider there would be merits in actively**

considering ways of integrating a new supervisory function with reform of the economic regulation framework.

To be successful, we consider such a model must be accompanied by a radical simplification of the regulatory framework to ensure that the net impact of regulatory burdens does not increase, in line with the ambition announced by the UK government in March 2025 to reduce regulatory burdens by 25% by the end of the parliament.[358]

We consider this new framework should be supported by elements of a tailored approach to regulating companies across England and Wales, appropriately adapted to reflect any unique circumstances. For example, some companies could be place in a 'recovery regime' that enables turnaround and would likely necessitate relatively high oversight and supervision (see further details on how such a regime could operate in Figure 19). In contrast, the best performers should be able to 'earn autonomy' as suggested by the Commission, with greater flexibility to deliver outcomes at a programme level and reduced oversight and reporting.

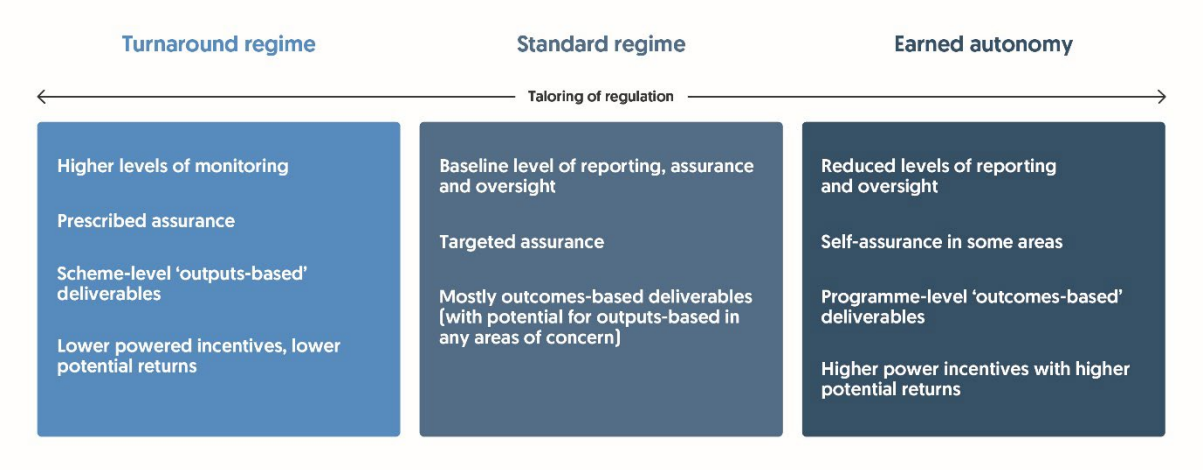

Figure 19 Spectrum of regulator supervisory approaches

Source: Oxera, 'A new approach to performance and supervision in the England and Wales water sector', April 2025

Our proposed approach in practice

As we set out above, **we recommend considering a new supervisory function that is integrated with reform of the framework for economic regulation (Option 3)**. Consistent with the wider recommendations we have made to the overall framework for the water industry in this document, we consider such an approach could be achieved in the following ways:

- **Performance incentives:** New environmental targets and resilience standards (as we propose in Section 2 of this document) should be the primary driver of performance expectations for water companies. Just as targets arising from the Environment Act and the drought resilience standard have now led to a 25-year trajectory on leakage reductions, similar targets and standards should form the basis of performance targets so that Ofwat is no longer required to set them using forecasts, efficiency challenges and assumptions that its base expenditure models can perfectly explain the differences between water companies.
    - Outcome delivery incentives should be retained for those areas customers value most, rather than the more than 20 currently set by Ofwat (no longer duplicating those compliance measures enforced by other regulators or mechanisms – such as the

[358] 'New approach to ensure regulators and regulation support growth', *HM Treasury,* (March 2025)

compliance risk index, which is overseen by the Drinking Water Inspectorate). Retaining outcome delivery incentives ensures that water companies are incentivised to deliver those targets, with rewards for going faster or further than funded. Similarly, penalties should incentivise delivery, provided they are proportionate.

    - We consider it is important to retain a form of comparative regulation, based on delivery and relative performance, so that it can continue to drive forward improved performance, provided water companies can be reliably compared and they are funded to meet them based on their operating circumstances. Supervisory teams could potentially agree a small number of bespoke performance measures with water companies, but only in material situations which genuinely reflect unique circumstances, or help to integrate catchment-level need.

- **Expenditure allowances:** Separating enhancement allowances for major projects and programmes, as we propose in Section 4.1, enables a new approach for day-to-day running costs that is more focused and supports the sustainable replacement and renewal of assets. In place of econometric models that do not work, supervisors should be empowered to set expenditure allowances that reflect the operating and capital maintenance expenditure that companies require to operate their businesses and deliver their statutory obligations. There is likely to remain a need for modelling, such as the approach taken by the Scottish water regulator which is based on estimated asset lives and replacement rates or the network asset risk metric approach used by Ofgem. But the overriding priority of a supervisory-based approach should be to ensure that water companies have sufficient funding to meet their operating, maintenance and investment needs.
    - As now, water companies should still have incentives for efficiency through the use of fixed revenue controls. Over time, the approach to setting base expenditure allowances could evolve to become simpler, such as through a CPIH+X approach, as trust and confidence is built between companies and supervisors based on delivery.
- **Monitoring delivery and financial resilience:** Supervisory teams would be responsible for reviewing water company business plans and monitoring delivery, supported by risk-based dialogue. Price control deliverables are a symptom of a regulatory system that lacks trust, with prescriptive requirements and a proliferation of penalties that duplicate the enforcement regimes of other regulators. As water companies gain the confidence of supervisory teams, price control deliverables should be simplified and streamlined in favour of regular engagement and transparent reporting.

As we explore further in the next section, supervisory teams would work with water companies to understand forward-looking financial risks and undertake stress testing. They would also be empowered to monitor and intervene to improve financial resilience.

While setting the allowed return on capital should remain as a central function of either the economic regulator, or a body responsible for multiple regulated sectors, we would expect supervisory teams would consider whether risk adjustments are required to reflect the specific circumstances and risks facing individual water companies. A central economic function can provide further support for supervisory teams where it helps to reduce unnecessary duplication, for example in the modelling of costs but only as an input into the ultimate decisions of supervisory teams.

While these proposals could be considered to be a radical departure from current arrangements, they are not unprecedented. The proposals echo the approaches taken both in the early years of the English and Welsh water sector – where significant investment was accompanied by a relatively simple regulatory approach – as well as the Scottish water sector, where long-term targets that are set by government drive investment decisions, and a more collaborative approach is taken to establish the

expenditure requirements needed to maintain and replace assets. The approach is also similar to how the Office for Rail and Road regulates operating regions of Network Rail using a combination of supervisory tools and economic regulation.[359]

When designing an approach to supervision, it is vital to consider the potential interactions with corporate governance. Supervisory teams should not be members of water company boards, as we consider they should remain as professional boards, dominated by highly capable independent non-executives as is currently expected by Ofwat under its board leadership and governance framework. Maintaining professional boards away from supervisory teams is important to preserve their independence and maintain appropriate incentives on company management. For similar reasons, other external organisations should not have an automatic right to sit on boards, as they are not aligned with the long-term success of the *company as a company* (an objective that is important in its own right) as opposed to the other objectives and interests that are served by the company (and which could be better represented through, for example, a presence on a regional tier of catchment management). Nonetheless, a review of Ofwat's existing corporate governance requirements would be merited should a supervisory approach be adopted.

We set out how our proposed package of reforms for economic regulation of the water industry in England and Wales could operate in Figure 20.

Figure 20 Our proposed package of reforms for economic regulation of the water industry in England and Wales

Source: Water UK.

Establishing long-term investability

For the reasons set out above, the financial resilience and investability of the water sector needs to improve if it is to support the unprecedented levels of investment required over the next 25 years. The size of the long-term investment programme creates a unique opportunity to recapitalise those water

[359] For an overview of the approach taken by the Office for Rail and Road, see Section A2.2 of 'A new approach to performance and supervision in the England and Wales water sector', Oxera, April 2025.

companies that need to reduce their gearing levels, but that can only be achieved with a sufficiently investable framework.

We consider there are two changes that could be made, which we consider in turn:

1. Restoring the predictability and stability of the regulatory framework.
2. Providing closer supervision and intervention over financial resilience.

Restoring the predictability and stability of the regulatory framework

We consider the regulator should be required to explain how it intends to restore the predictability and stability of the regulatory framework to a AAA (or equivalent) standard, as independently verified by two out of three credit rating agencies (similar to the requirement Ofwat puts on water companies in their licences). If this standard is restored, it would reverse the successive downgrades seen since 2018 and align the water sector in England and Wales with the current assessments of the regulatory framework for energy networks in Great Britain[360] and should lead to lower risk and lower bills for customers.

This requirement should be supported by a requirement for the economic regulator to develop and adopt an investability framework that supports long-term and sustainable investment – reflecting the paradigm shift in investment needs over the long term, which Ofwat's approach at PR24 does not adequately address as indicated by the record number of redeterminations currently being considered by the Competition and Markets Authority. As a starting point, we suggest that it is based on the principles-based investability framework developed by Oxera, which is summarised in Box 9.

Box 9 – Oxera's recommendations for establishing a sustainable and investable regulatory framework for the England and Wales water sector

Principle 1: Firm commitment to promoting investment and securing investability, through aligned policy and regulatory signalling.

- Streamlined set of duties for the economic regulator, with investability as a central component of the finance duty.
- Guidance on how the economic regulator should prioritise investment within the strategic policy statement.
- Firm and measurable regulatory requirements around promoting investment (e.g. A requirement on the economic regulator to set out a pathway to re-securing its previous AAA/Aaa score for regulatory stability and predictability).
- Ofwat to create an explicit investability framework.
- Clearer definition over the current and future use of financial levers to balance objectives.

Principle 2: A well calibrated risk-reward profile for a sector undergoing a significant long-term enhancement programme.

[360] For example, Moody's rates the stability and predictability of the regulatory framework for Great British electricity and gas transmission and distribution networks as AAA (compared to A for the water industry in England and Wales), Fitch rates the UK electricity and gas sector as A (compared to A- for UK water, ('Fitch on UK Water: Rating Approach for AMP8', *Fitch,* (March 2025), p. 5), and S&P's recently stated: "We consider the water sector riskier than electricity transmission networks, owing to a deterioration in public and political perception and weaker financial resilience across the sector" ('U.K. Water Regulatory Framework Support, Low Financial Flexibility In Coming Regulatory Period Drive Rating Actions', *S&P,* (February 2025)).

- Reduced exposure to service performance and cost risk via adjustments to cost sharing rates (to reflect the higher uncertainty around cost estimates) and outcome delivery incentive rates, in order to better align risk exposure to the allowed cost of capital.
- Moderating the level of return at risk to ensure that it is proportionate to the equity returns on offer and the maximum loss which companies can incur is smaller than the base allowed equity return.
- Greater protection for companies against service performance risks and changes in circumstances, which lie outside of their control.

Principle 3: A long-term approach to expenditure and performance, including assessment of long-term infrastructure resilience needs.

- Movement away from five-year focus to take account of long-term infrastructure requirements, price paths, and performance trajectories, rather than five-year focus.
- Longer-term modelling of expenditure requirements (e.g. Through greater use of long-term delivery strategies) and financeability.
- Consider multi-amp glide paths for performance targets and multi-amp cost allowances.
- New long-term asset health framework, including enhanced regulatory measurement of asset health;
- Investors should not be required to fund shortfalls that result from historical regulatory decisions.

Principle 4: Fair and competitive sector returns.

- Employ a fuller range of evidence (including a full suite of cross-checks) to ensure returns reflect current market conditions and are globally competitive, reflecting current market conditions.
- Consider indexation of directly observable components of the allowed return.

Principle 5: Actual investor preferences accounted for, rather than considering investors in the abstract.

- Notional company assumptions should be set with respect to investor requirements and be achievable, reflecting real-world scenarios.
- Clarity around the long-term dividend policy for the sector and required earnings and cashflow profiles.

Principle 6: Meaningful long-term assessment of financeability from equity and debt investor perspectives.

- Revised approach to financeability assessment, to incorporate a longer-term approach, looking at credit profiles over multiple amps (e.g. Through incorporating long-term delivery strategy forecasts).
- Integrated with investability, so any assumptions around changes to equity levels are realistic.

Source: Oxera, 'A sustainable and investable regulatory framework for the England and Wales water sector', April 2025.

Providing closer supervision and intervention over financial resilience

For the reasons set out above, Ofwat's approach to financial resilience is too retrospective and fails to enable a consideration of forward-looking risk or preventative action. It has also contributed to a situation where the largest water company in the country faces acute financing challenges, potentially putting unreasonable levels of risks and costs onto consumers.

Given the level of investment and risk now facing the water industry, we can see the merits of introducing 'minimum equity buffers'. If the Commission recommends minimum equity buffers, we strongly consider that it should be set on a graduated basis – so that interventions depend on the level of risk – and that it is supported by a supervisory model that focuses on reducing risks to consumers through maintaining and improving financial resilience.

Equity buffer requirements should not set using crude caps that are artificially high, with automatic dividend restrictions or financial penalties, as has been previously suggested by Ofwat but which were abandoned in the final determinations for PR24 due to concerns about the impact it would have on investability.[361] A superior approach would see graduated interventions for high levels of gearing, or another appropriate metric. For example, above a certain threshold a water company could be subject to enhanced oversight and supervision, with a requirement to provide to the supervisor an explanation of their gearing levels and plans for recapitalisation. At very high levels of gearing, financial interventions could be applied, such as proportionate reductions to the regulatory capital value or in the most extreme circumstances a 'dividend lock' (which must be balanced against the potential impact on investability). Conversely, low gearing and high financial resilience should lead to comparatively less supervision and oversight.

As this potential supervisory model develops, we consider it should be the responsibility of the supervisor to agree an appropriate minimum equity buffer for each company, based on an understanding of the company's financing arrangements and capitalisation plans as well as a consideration of forward-looking risk management, for example due to external shocks.

Injecting equity requires time and a supportive and investable regulatory framework. Any changes should be supported by transitional arrangements and, if necessary, a targeted reopening of price controls or adjustments to the regulatory capital value in order to secure equity injections, to be agreed by the supervisors.

[361] 'PR24 final determinations: Aligning risk and return - appendix', Ofwat, (December 2024), p. 39

Our recommendations

The UK and Welsh governments should:

- **Require the initiation of a process for accelerating the approval of capital maintenance activities, to urgently upgrade infrastructure to improve resilience**. This should take place prior to resilience standards being set by the UK and Welsh governments. To ensure delivery, these should be allocated on a 'use it or lose it' basis prior to a more strategic review and reform of the regulatory approach to capital maintenance and asset health.
- **Consider introducing a 'supervisory' model of regulation that radically reforms the approach to expenditure allowances at the level of individual water companies**. Expert supervisory teams should be empowered to really understand each individual business and what it requires in the long-term interests of customers. They would be responsible for ensuring water companies have the resources they need to maintain and renew their assets and be able to decide base expenditure allowances based on local needs. Larger teams would be justified for those water companies considered to be the highest risk, with a tailored approach that provides 'earned autonomy' for those water companies with a good track record of delivery and performance. Outcome delivery incentives should be simplified and focused on the most important measures, removing duplication with other regulators. Comparative regulation would be retained, with performance incentives based on delivery and relative performance.
- **Establish long-term investability through a new requirement for the economic regulator to restore the rating of the regulatory framework and closer intervention over financial resilience**. The economic regulator should be required to ensure the predictability and stability framework to a 'triple A' standard, as independently verified by credit rating agencies. The economic regulator should also be required to develop and adopt an investability framework that supports long-term and sustainable investment. Closer intervention on financial resilience is required to reduce the risk of company failure and negative effects on consumers, with new supervisors having the powers and tools to require a 'minimum equity buffer' and recapitalisation plans for affected companies, with escalating interventions available as financial resilience decreases. Lower risk and cheaper finance should reduce the costs to customers.

Empowering consumers

We want to return trust to the sector, ensure consumers are protected and provide confidence in the delivery of water company investments.

We recommend:

- **Strengthening the consumer voice** through a consumer champion ombudsman with the legal power to resolve disputes, bringing water into line with other sectors.
- **Improving monitoring and regulatory oversight of delivery**, including phasing out End Operator Self-Monitoring (OSM) and replacing it with a more robust system that includes third-party verification.
- **Reforming water charges to make them fairer** through mandatory smart metering and new tariffs that replace standing charges with an innovative alternative linked to the volume and timing of household water consumption, promoting more sustainable usage while protecting households with legitimate requirements for high water use.

The rest of this chapter deals with each of these in turn.

5.1 Strengthening the consumer voice

Where the current system is not working

We welcome the steps taken by the UK government to introduce new powers for consumers to hold water companies accountable, including through new consumer panels.[362] With the introduction of the panels, there will be three bodies who represent the interests of consumers in the sector:

1. **The Consumer Council for Water** is the statutory body responsible for representing the interests of water and sewerage consumers in England and Wales.[363] It has several powers and duties under the Water Industry Act 1991 (as amended by the Water Act 2003), including representing the interests of consumers, provision of advice and information and the handling of complaints.
2. **Citizens Advice** is not a statutory body in the water sector (unlike in energy and post), but it advocates and provides advice for consumers on cross-cutting issues. Citizens Advice regularly responds to Ofwat's sector consultations.
3. **New consumer panels** are being introduced to challenge and ensure greater customer representation in decision making.

In addition, in 2023, the Consumer Council for Water assumed responsibility for the **Alternative Dispute Resolution Service** which it appoints and oversees.[364] This process is voluntary. The appointed ombudsman adjudicates unresolved disputes between customers and water companies and it has the

[362] 'Government announces first steps to reform water sector', *Department for Environment, Food and Rural Affairs,* (July 2024); 'Water (Special Measures) Act: policy statement', *Department for Environment, Food and Rural Affairs,* (February 2025)
[363] 'Our legal functions, duties and powers', *Consumer Council for Water,* (April 2025)
[364] 'Changes make it quicker and easier for water customers to resolve complaints', *Consumer Council for Water,* (December 2023)

power to make awards up to £10,000 for household customers and £25,000 for non-household customers that are legally binding on the water companies.[365]

In its call for evidence, the Commission notes that, "Action could be taken to ensure that customer matters are investigated and, where necessary, enforcement action taken, to incentivise water companies to improve their service provision".[366] The Commission also seeks views on the powers and the effectiveness of the Consumer Council for Water in championing consumer interest.[367]

There are three major issues with how water customers are currently represented.

1. **The Consumer Council for Water has no power to resolve complaints.** Although set up to help water consumers resolve their complaints against their water company or retailer, it cannot enforce a resolution of the complaint against a company. Instead, customers must have been through the Consumer Council for Water's own mediation and/or investigation process and have the Consumer Council for Water's permission to have the complaint considered by the ombudsman before seeking a resolution. This seems to explain why only 3% of Consumer Council for Water complaints were referred to the Ombudsman in 2022-23.[368] This is in contrast to comparable sectors (such as energy, communications, financial services, rail and the water sector in Scotland) which all have an independent ombudsman that have to power to enforce a resolution. By having a 'gate keeper' to customers seeking a resolution, the water sector (in England and Wales) is an outlier and one that, if customer satisfaction is anything to go by, compares unfavourably. For example, satisfaction scores for the Consumer Council for Water's complaint resolution are significantly below average when compared with the energy, communications, financial services, rail and the water sector in Scotland in 2022-23, with a satisfaction score of only 55% satisfaction compared to an average of 67% and a high of 79% in energy supply and communications.[369] Indeed, in the last five years, the Consumer Council for Water's customer satisfaction has consistently remained below 60%, which is well below its own target of 80%.[370]
2. **The consumer voice landscape is unnecessary complex and inefficient.** The Consumer Council for Water and Citizens Advice both offer information and guidance to help consumers navigate issues relating to water and sewage services. The Consumer Council for Water's annual reports show some effectiveness in the campaigns it has run; however, we consider that there may be some duplication here with the role of Citizens Advice. Similarly, the role of both the Consumer Council for Water and Citizens Advice is to ensure that consumer interests are properly considered in decisions – they both offer information and guidance to help consumers navigate issues relating to water sewage services, including providing advice and support concerning support for paying bills, interruptions and how to make a complaint.[371] The consumer panels have been tasked with ensuring that there is greater customer representation in decision-making which the water industry fully supports. The UK

[365] 'Dispute resolution for CCW', *Dispute Resolution Ombudsman*, (December 2023)

[366] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural* Affairs, (February 2025)

[367] Ibid

[368] 'Household complaint handling report 2024', *Consumer Council for Water*, (October 2024)

[369] 'Consumer Council for Water: Annual Report and Accounts 2022-23', *Consumer Council for Water*, (March 2023); Energy Ombudsman's Annual Report, 2022-23, p. 13, *Trust Alliance Group*, (2023), p. 13

[370] 'Consumer Council for Water: Annual Report and Accounts 2022-23', Consumer Council for Water, (March 2023)https://www.ccw.org.uk/publication/annual-report-and-accounts-2022-23/

[371] 'Water', *Citizens Advice*, (April 2025)

government has set out that it expects Ofwat to work with the Consumer Council for Water to develop the rules to ensure optional outcomes for customers, however, the scope of the panels is yet to be set out in full. Unless handled carefully, there is a risk of unnecessary duplication.

3. **Existing consumers have been favoured at the expense of future consumers.** Despite the Water Industry Act 1991 explicitly requiring the Consumer Council for Water to have equal regard to future and existing consumers, the latter have been disadvantaged by the public's long-term interests have not been served well the continued advocacy by the Consumer Council for Water for the suppression of needed investment at several price reviews.[372] For example, in its response to the PR14 final determinations it celebrated a 5% cut in bills as a "significant victory."[373] Then, in PR19 and with bills predicted to fall by £50, the Consumer Council for Water hailed the final determination as a "good deal".[374] Indeed, it has persisted with this approach in their recent press release relating to the Competition and Markets Authority appeals.[375] The Consumer Council for Water continued this approach despite every company conducting extensive consultations ('Your Water Your Say') with their customers and the Consumer Council for Water's own research showing 75% of billpayers supported companies investment plans.[376] Whilst we recognise that a consumer body might believe that it should focus on the immediate bill financial impacts on customers, we are concerned that it is doing so at the expense of future customers who (other things being equal) will pay more for historically lower bills at the expense of under-investment (as discussed elsewhere). Furthermore, in its response to Ofwat's PR24 Draft Determinations, the Consumer Council for Water supported Ofwat's proposal to change the Regulatory Capital Value (RCV) run-off rates to extend the payback period for capital investment. Such a move would have artificially distorted the balance of fairness for paying for infrastructure between generations. First, and most fundamentally, it moves away from the important principle that customers in any single generation should pay their fair share for what they use. It will mean future customers pay disproportionately more for the same service, and also implies that some customers will pay for a service from which they get no benefit (because repayment may go beyond the lifetime of the asset). Second, by artificially changing the lifetime of assets and how they are depreciated, companies are denied funding in the short term. Third, the transfer of cost into future periods is not "free" for the customer. They pay companies for the additional financing costs of delayed repayment and so not only are future customers disproportionately affected, it also becomes more expensive overall. As such, the total burden on consumers would be greater. In the context of the even larger step-ups in investment expected in 2030-35, this will make future affordability challenges (which already look difficult) even more acute. It seems difficult to see how any of action can be in the equal service of existing and future consumers.

[372] 'Water Industry Act 1991', *HM Government*, (1991)
[373] 'Deal on water bills and service is a victory for customers, says watchdog', *Consumer Council for Water*, (December 2014)
[374] '2019 Price Review: Good deal in the pipeline for most water customers', *Consumer Council for Water*, (December 2019)
[375] 'Customers face long and anxious wait over price cap appeals', *Consumer Council for Water,* (February 2025)
[376] 'Draft Determinations research', *Consumer Council for Water*, (November 2024)

Our recommendations

To address the issues above, we recommend:

- **Provide new consumer ombudsman powers to protect customers**, with a targeted focus and strong new resolution and dispute powers that bring the water sector into line with other sectors.
- **Customers should be enabled to take complaints directly for adjudication and enforcement** once they've exhausted the company complaints process as is the case in the energy, communications and rail sectors.
- **The Consumer Council for Water's role as 'gate keeper' should be removed,** bringing the sector in line with other comparator sectors. There are a range of options for where new ombudsman powers could reside. Options include broadening the role of the Consumer Council for Water, or reviewing institutional arrangements and providing these powers in a different organisation (e.g. Citizens Advice).
- **The consumer voice landscape should be reviewed** for opportunities to remove duplication and increase efficiency, thereby making it easier for consumers to navigate.

5.2 Monitoring delivery

The Commission has invited views on potential weaknesses in how delivery and compliance are monitored in the water sector. It notes concerns around the robustness of Operator Self-Monitoring, including suggestions that it may be open to manipulation and lacks sufficient independent oversight. The Commission is exploring whether regulators have adequate powers to act before permit breaches occur and whether the current system sufficiently supports timely delivery of environmental upgrades. Questions are also raised about the Environment Agency's inspection and enforcement capabilities. Finally, it seeks views on improving transparency, public accountability, and the role of emerging technologies such as AI and automation in enhancing monitoring.

Where the current system is not working

The monitoring and oversight of water company performance in England and Wales is distributed across multiple regulators. The Environment Agency is responsible for monitoring compliance with environmental permits and obligations related to wastewater and abstraction in England. Similarly, Natural Resources Wales holds these responsibilities in Wales. The Drinking Water Inspectorate ensures compliance with drinking water quality standards in England and Wales, while Ofwat, as the economic regulator in England and Wales, assesses overall company performance, implements the licensing and enforcement regime, and monitors delivery of investment programmes agreed through the Price Review process.[377]

While each regulator performs important functions, the system as a whole has been criticised for having a clear lack of effective co-ordination - particularly in how environmental performance is tracked and data is shared.[378] For example, day-to-day monitoring of final effluent is carried out by companies through Operator Self-Monitoring, a system in which they collect and report compliance

[377] 'Price reviews', *Ofwat*, (2024)

[378] 'The affluent and the effluent: cleaning up failures in water and sewage regulation', *House of Lords Industry and Regulators Committee,* (March 2023)

data for discharges subject to numeric environmental permit limits.[379] Although companies are subject to extensive reporting requirements, these do not always provide strategic insight into the condition of assets or risks to delivery.

Regulators such as the Environment Agency use audits and inspections to verify self-reported data, but concerns have been raised about the robustness and consistency of this approach. The House of Lords' Industry and Regulators Committee found that enforcement action has often been delayed, saying that individuals and civil society have played a leading role in bringing pollution issues to light. It also concluded that government and regulators have not approached major challenges in a joined-up way, and that both funding and data access have historically limited the Environment Agency's ability to act.[380] The Environment Agency has recently made considerable investments to significantly expand its inspection capabilities and strengthen its audit and enforcement functions in response to these concerns.[381]

While certain breaches must be reported immediately and can trigger prompt investigations, regulatory action is more often reactive – typically following a permit breach. This limits the ability of regulators to intervene early and effectively to mitigate risks. A 2024 House of Lords' report highlighted these concerns and the need for a stronger and more proactive approach to oversight and enforcement of environmental law.[382] In practice, many of these issues also arise late in the investment cycle, due to the timing of investments within the Asset management plan cycles contributing to the delayed emergence and management of delivery risks and performance shortfalls.

There have been steps toward greater transparency, such as the online publication of Compliance Assessment Reports by Natural Resources Wales and recent commitments by the Environment Agency to expand similar reporting and environmental capabilities in England.[383] For example, digital reporting via initiatives, such as Water UK's National Storm Overflows Hub, which provides data on the operation of every storm overflow in England in near real-time, is both providing new data and new, improved mechanisms for regulators to gauge performance and gather evidence. However, the Commission is right in identifying the transparency of regulatory compliance activity as an important issue to enable the public to hold environmental regulators to account.

Finally, companies, government and regulators have been relatively slow in recognising the potential power of citizen science efforts.

Our analysis of reform proposals

The Call for Evidence has highlighted that regulators often only intervene once a permit breach has occurred, typically at the end of a price control period.[384] The current model relies heavily on exhaustive reporting that often fails to highlight emerging risks or enable timely intervention. Despite large volumes of performance data, regulators lack the capacity to analyse it effectively, and oversight remains reactive. This model is no longer sufficient in the face of complex, long-term investment programmes where early warning and course correction are critical. We consider that the system must shift from retrospective enforcement to forward-looking assurance. We support the streamlining of

[379] 'Water companies: operator self monitoring (OSM) environmental permits', *Environment Agency,* (May 2018)
[380] 'The affluent and the effluent: cleaning up failures in water and sewage regulation', *House of Lords Industry and Regulators Committee,* (March 2023)
[381] 'How we're bringing change to water industry performance – Creating a better place', *Environment Agency*, (July 2024)
[382] 'River pollution and the regulation of private water companies', *House of Lords,* (February 2024)
[383] 'Strengthening Environmental Science: A New Chapter in Water', *Environment Agency,* (March 2025)
[384] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural* Affairs, (February 2025)

reporting requirements and their replacement with a strategic, risk-based supervisory approach. Empowered supervisory teams would provide earlier insight into delivery risks, improve accountability, and ensure regulatory focus is directed where it can have the greatest impact.

Concerns have also been raised about the robustness of Operator Self-Monitoring arrangements. It is clearly unpopular and we have found no evidence that it was ever particularly sought by the industry. It was brought in by the Environment Agency in 2009, as part of its objective to reduce business administration costs by £17 million in 2008-09 and in the expectation that it would increase companies' focus on the performance of their sewage treatment works.[385] Even if it achieved a reduction in administrative burdens, there is clearly deep scepticism that it has come close to realising its other objective. Indeed, the last Secretary of State for Environment, Food and Rural Affairs, Steve Barclay, was reported by the media as wanting to "put an end to operator self-monitoring" as it allowed companies "to mark their own homework." [386] The then Shadow (and now) Secretary of State, Steve Reed, said, "Labour has long demanded the end of self-monitoring of sewage discharges , which allows water companies to cover up what's really going on…."[387] Not long after, Labour's Election Manifesto promised, "We will… ensure independent monitoring of every outlet."[388] The Liberal Democrats have called operator self-monitoring a "farce".[389]

The Commission is right to say that there are low levels of public trust in the water industry. Given the above, we would welcome an end to Operator Self-Monitoring. Doing so would help to restore trust.

Recent developments offer opportunities to modernise monitoring. The rollout of continuous water quality monitoring is already underway, with more than 7,100 real-time monitors being installed over the next five years. This marks a shift toward proactive, data-driven regulation. These technologies allow the Environment Agency to verify company performance in real time, rather than relying on retrospective reporting. The integration of AI and machine learning further enables dynamic risk-based sampling, auditing, and early identification of non-compliance. Continuous water quality monitors therefore open up one potential route for establishing a new paradigm for understanding the performance of assets, adding to the Operator Self-Monitoring approach.

Ofwat's Open Data Strategy represents a positive step. It outlines ambitions to promote better decision-making, innovation, and scrutiny by making regulatory data more accessible and usable.[390] However, progress remains mixed. While projects like the Stream initiative are beginning to open up company data, Ofwat's own regulatory data remains difficult to access, with key datasets not routinely published or presented in usable formats. This undermines efforts to build a culture of transparency and limits the ability of external stakeholders to scrutinise delivery and performance effectively.

Similarly, the Catchment System Thinking Cooperative[391], led by United Utilities and the Rivers Trust and funded by Ofwat, is working with stakeholders to develop a consistent approach to monitoring and collecting data. Such initiatives can greatly strengthen the value and robustness of citizen science and provide a cost-effective way to improve our understanding of rivers' health.

As these systems scale between now and 2030, there is also a requirement that real-time water quality data be made publicly available. This creates new transparency and accountability mechanisms.

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[385] 'Annual report and accounts 2008-09', *Environment Agency,* (2009), p. 5

[386] 'Minister vows to end water firms' pollution self-monitoring in England', *The Guardian,* (January 2024)

[387] 'Minister vows to end water firms' pollution self-monitoring in England', The Guardian, (January 2024)

[388] 'Change: Labour Party Manifesto 2024', *The Labour Party,* (June 2024), p. 59

[389] 'Govt sewage plan: Too weak and feeble. It's time to get a grip and hit water firms where it hurts', *Liberal Democrats*, (January 2024)

[390] 'Open data in the water industry', *Ofwat,* (2024)

[391] 'CaSTCo – Catchment Systems Thinking Cooperative', *The Rivers Trust,* (April 2025)

Unlocking the full value of this data will depend on coordinated regulatory frameworks and proactive monitoring to ensure these digital capabilities drive improved outcomes, not just more reporting.

Ultimately, new systems open up different routes for understanding what is happening in a catchment, at a far more granular and frequently-updated level than is currently possible. It should also offer opportunities for better decision-making about priorities and projects within the catchment, linking to our proposals on catchment management.

Our recommendations

In light of these issues, it is essential that monitoring and regulatory oversight keep pace with the technological developments and the scale of investment in the sector. Customers need trust and confidence that the investment programmes they have ultimately funded are delivered. Alongside greater transparency, effective monitoring can improve delivery if it enables sector regulators to better understand the state of assets and delivery risks.

The UK and Welsh governments should:

- **End Operator Self-Monitoring** and replace it with a more robust system that includes third-party verification. This would help restore public trust, address long-standing concerns about regulatory capture and data reliability, and align with political commitments to strengthen accountability and transparency in the water sector.
- **Promote transparency through open data,** so that the public, stakeholders and customers have the tools to hold companies and regulators to account. This should build on existing initiatives, such as Water UK's National Storm Overflows Hub for England, and expand across other key areas of performance, for example seizing on the opportunity provided to understand in more granular detail the long-term drivers of river quality once Continuous River Water Quality Monitors are installed in English and Welsh watercourses.[392] Regulators should be required to open up their own data, which were ultimately paid for by customers and which is currently not accessible to the public or external stakeholders.
- **Evolve regulatory frameworks so that new kinds of monitoring data can be put to best use**. This includes using continuous water quality monitoring data to inform understanding about the sources and nature of pollution within a catchment, as well as the priorities, projects and funding needed to fix them.
- **Develop formal routes to support citizen science and integrate findings**. This should include information and education, certification, and criteria for inclusion alongside official data for the purpose of understanding and reacting to issues within the catchment.

5.3 Reforming charges

In its Call for Evidence, the Commission is seeking views on stakeholder proposals to ensure bill acceptability, across the following areas:

- Increased use of smart meters to help customers better understand their water usage and improve water efficiency, and

[392] 'Storm overflows discharge reduction plan'https://www.gov.uk/government/publications/storm-overflows-discharge-reduction-plan', *Department for Environment, Food and Rural Affairs*, (August 2022)

- Exploring innovative water charging to support affordability and/or efficient use of water.

Where the current system is not working

In England and Wales, household water charges are primarily based on one of two approaches: unmetered charging based on a property's rateable value, and metered charging based on actual consumption. Charges are set by individual water companies in line with Ofwat's charging rules, which are designed to ensure fairness, cost reflectivity, and stability.[393]

Charging principles and governance

Ofwat sets the overarching charging rules that companies must follow, based on principles such as fairness, affordability, transparency, and environmental sustainability. Companies self-assure compliance and consult with the Consumer Council for Water (CCW) during annual price setting.

While these principles are broadly supported, the current framework does not provide sufficient flexibility to support modern tariffs that address climate resilience, deliver greater fairness and encourage behavioural change to conserve water.

Unmetered charges

Approximately 40% of households are charged on an unmetered basis using the rateable value of their home.[394] These rateable values, last assessed in 1990, were intended as proxies for rental value but no longer correlate reliably with income or household size. The continued use of rateable value for charging is increasingly unfair, because it is not cost reflective, and provides poor incentives for water efficiency.

Metered charges

Around 60% of households are on metered charges, which generally consist of a fixed standing charge and a uniform volumetric price for water consumption.[395] Although this approach is more reflective of individual consumption, the widespread use of flat volumetric tariffs means there is limited incentive to reduce usage beyond a certain point. The standing charge, because it is a fixed fee, can also be regressive. This means that it forms a larger share of costs for low-use or lower-income households and suppresses the financial signal to conserve water. These structural weaknesses reduce the overall fairness and effectiveness of the system, particularly as water scarcity pressures grow. A further barrier to behavioural change is the limited rollout of smart meters, which are essential for enabling more responsive and dynamic charging models that reflect real-time consumption.

Social tariffs

Unmetered and metered households can also receive social tariffs, which are normally deductions to their bills. All water companies operate discretionary social tariff schemes designed to reduce bills for low-income or financially vulnerable households. However, the eligibility criteria, application processes, and the level of support differ from company to company, creating a postcode lottery in the affordability of water services. The schemes are funded by cross-subsidies from other customers and vary in coverage, with most schemes supporting only a small proportion of potentially eligible households.

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[393] 'Charging', *Ofwat,* (April 2024). Ofwat's rules must comply with an array of specifications set out in s143B of the *Water Industry Act 1991*

[394] 'A summary of England's revised draft regional and water resources management plans', *Environment Agency,* (December 2024)

[395] Ibid.

Due to the Flood and Water Management Act 2010, companies can only fund social tariffs through a 'cross subsidy' paid by customers within their own regions, or from investor contributions. Due to UK government guidance published in 2012, companies are expected to obtain 'broad acceptance' from households that fund the social tariff.[396] Because some regions are more deprived than others, some companies have more customers facing difficulties paying their water bills than others and less ability and/or willingness of customers to fund social tariffs. We welcome the provisions in the Water (Special Measures) Act 2025 that now enable the UK government to make regulations for sharing the cost of social tariffs across companies, which may enable the introduction of a new affordability scheme to put in place more consistent and comprehensive social tariff support than is possible under the current legal and regulatory framework.

Industrial and non-household charges

Beyond households, industrial and commercial users of water also pay wholesale charges, which are set by regional water companies, following rules and guidance from Ofwat. These charges are intended to reflect the underlying cost of supplying water and wastewater services, and are published annually. However, some historical pricing structures, such as large user tariffs where the unit rate decreases with higher consumption, create distortions that may not align with environmental or efficiency goals.

In England, retailers set final prices for business customers on top of these wholesale charges through the competitive business retail market. In Wales, a different approach is applied: non-household customers remain under a full Ofwat price control. We do not explore that model here. The key point is that wholesale pricing structures continue to shape incentives in ways that may not always support sustainable or equitable outcomes.[397]

Highway drainage charges

Under the current charging and regulatory framework, the cost of highway drainage, meaning the removal of rainwater runoff from roads, is funded through wastewater customer bills. Around 6 to 7 percent of household wastewater charges are estimated to be spent on this function, which equates to approximately £17 per year per household across 24.5 million customers in England and Wales. These costs are managed by wastewater companies as part of their statutory duty to drain highways under the Water Industry Act 1991.[398] However, highway drainage provides a benefit to a much narrower group than household customers. There is growing concern about the fairness, cost reflectivity and transparency of this funding arrangement. Section 146(4) of the Water Industry Act 1991, prevents sewerage companies from charging highways authorities for the drainage services they use.[399] Enabling the economic regulator to authorise water companies to charge highways authorities so that they contribute to the costs of highway drainage would require government action or new legislation. As a result, highway runoff costs will continue to be covered by wastewater customers unless and until new policies allow a different approach.

Barriers to reform and emerging opportunities

There is growing momentum behind the case for more innovative charging structures to support water efficiency, resilience, and affordability. Tariffs such as rising block pricing, seasonal charging, and incentives to reduce surface water runoff could better align customer behaviour with long-term

[396] 'Company Social Tariffs: Guidance to water and sewerage undertakers and the Water Services Regulation Authority under Section 44 of the Flood and Water Management Act 2010', *Department for Environment, Food and Rural Affairs*, (June 2012)
[397] 'Business retail market update 2022-23', *Ofwat*, (September 2023)
[398] 'Time to think outside the box on water charging? Try thinking outside the boundaries', *Consumer Council for Water*, (March 2025)
[399] 'Water Industry Act 1991', *HM Government,* (1991)

environmental and infrastructure needs. The rollout of over 10 million smart meters over the next five years presents a key enabling opportunity.[400] However, a range of regulatory and practical barriers may hinder progress unless proactively addressed.

Key barriers include:

- **Legacy charging principles**: Current rules emphasise cost reflectivity and stability, which can make it difficult to justify new tariffs that deviate from uniform pricing, even if they promote better outcomes.
- **Technical and system constraints**: Many companies' billing systems are not yet set up to handle more dynamic or tailored tariff structures at scale.
- **Regulatory uncertainty**: Companies face unclear signals on how novel tariffs will be assessed for compliance, which deters innovation due to fear of penalties or customer pushback.
- **Limited flexibility in governance**: Approval and assurance processes may be too rigid or slow to enable rapid iteration and scaling of successful trials.

Emerging opportunities include:

- **Smart metering rollout**: With over 10 million meters being installed over the next five years, there is a major opportunity to enable real-time consumption data and more responsive pricing models.
- **Regulatory flexibility in PR24**: Ofwat has allowed funding for pilot tariff trials, and several companies are already engaging customers on alternative designs.
- **Improved data analytics**: Advances in AI and machine learning offer new ways to understand consumption patterns and tailor tariffs accordingly.

Unlocking the full benefits of these opportunities will require regulatory reform, clearer guidance on charging innovation, and more flexible governance structures that support iterative testing and learning.

Our analysis of reform proposals

Water UK commissioned independent analysis from the Social Market Foundation (SMF) to explore options for reform. Their report, "Refreshing water tariffs", which accompanies this submission, has been a key input into our analysis and recommendations.

Charging principles and oversight

The current regulatory framework, while grounded in strong principles, can also constrain innovation in tariff design. As the Social Market Foundation has noted, mechanisms such as Ofwat's Revenue Forecasting Incentive (RFI), which is a regulatory instrument used to incentivise accurate forecasting of revenues and cost recovery with financial penalties for under/over recovery, and strict interpretations of cost reflectivity may deter companies from introducing novel pricing structures such as rising block tariffs.[401] The Revenue Forecasting Incentive penalises companies if their revenue diverges by more than 2 to 3 percent from forecasts, which can discourage experimentation with dynamic tariffs that change customer behaviour and lead to less predictable revenues. Similarly, current charging guidelines require that pricing differences between customer types be based on differences in cost to serve, this limits the potential to introduce behavioural pricing that promotes water efficiency or supports vulnerable customers. It is unclear how well new tariffs, once fully

[400] 'Refreshing Water Tariffs' – Annex 6, *Social Market Foundation*, (April 2025)
[401] Ibid

implemented, would satisfy current charging principles around cost reflectivity under Ofwat's charging rules. This uncertainty needs to be addressed.

We recommend that the charging guidelines be updated, particularly the current principle 11c, to better reflect the possibility of volatility and/or non cost-reflectivity (meaning the relationship between tariffs and cost of supply would be loosened to facilitate more innovative approaches) in new tariff designs and provide water companies with greater clarity on how a move to new tariff structures will interact with principles on bill stability.

Unmetered charging (rateable value)

With around 40% of households still on unmetered tariffs, the rateable value system is increasingly out of step with wider objectives around affordability, water efficiency, and fairness. Reform of this outdated approach is long overdue, as recognised by reviews including notably the Walker Review in 2011.[402] Ofwat's current charging rules[403] permit the continued use of rateable value charges, while Defra's charging guidance[404] sets the high-level policy framework that governs water charging structures. Eliminating rateable value charging or transitioning customers to metered systems would require both an update to Ofwat's guidance and supportive policy direction or secondary legislation from Defra.

We recommend that the UK and Welsh governments should end the use of rateable value as a means of charging for water, and introduce compulsory metering for all areas, not only water-stressed areas, with smart meters as the default.[405] This view has also been explicitly endorsed by the Environment Agency. This would enable more progressive, consumption-based tariffs such as rising block or income-adjusted tariffs. Reforming or phasing out ratable value-based charging will require a coordinated approach between Ofwat, Defra, water companies, and potentially consumer groups to ensure a fair transition, maintain revenue neutrality, and protect vulnerable households.

Metered charging and tariff design

Most metered customers face flat volumetric tariffs, which offer limited incentive to reduce discretionary use beyond a certain level of consumption. We recommend reforming the standard flat-rate volumetric model by introducing rising block tariffs, where the unit price of water increases with higher consumption.[406] This would create stronger price signals to reduce excessive use, while protecting essential, low-volume usage for lower-income and water-efficient households. As water scarcity intensifies, a more progressive and sustainable tariff structure is critical to delivering both environmental and social outcomes.

Social tariffs and affordability support

The current system of social tariffs is highly fragmented, with schemes differing between companies in terms of eligibility, funding mechanisms, and level of support. This has created a postcode lottery in affordability support, with significant disparities in who receives help and how much.[407] While all companies are required to consult customers and the Consumer Council for Water on their social

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[402] 'The independent review of charging for household water and sewerage services (Walker review)', *Department for Environment, Food and Rural Affairs*, (December 2011)

[403] 'Charges Scheme Rules from April 2023', *Ofwat,* (December 2022)

[404] 'Water industry charging: guidance to Ofwat', *Department for Environment, Food and Rural Affairs,* (April 2018)

[405] 'A summary of England's revised draft regional and water resources management plans', *Environment Agency*, (December 2024)

[406] 'Refreshing Water Tariffs', *Social Market Foundation*, (April 2025)

[407] Ibid

tariffs, the absence of a single scheme undermines consistency. As the government begins to develop a new affordability scheme for England, this moment represents an opportunity for change.

In the meantime, water companies will continue to ramp up their affordability support for those households that need it, working with government, regulators and wider partners to raise awareness and explore potential reforms. Companies are planning to double the proportion of customers receiving social tariff support to 9% during the 2025 to 2030 period, compared to an average of 4% in 2020-25. This also includes debt support, hardship funds and other forms of financial support.[408] However, Water UK analysis highlights that low awareness and uptake remain challenges, with many eligible households still unaware of the assistance available.[409]

Industrial and non-household tariffs

There is a strong case for abolishing large user discounts for industrial customers. In the context of increasing water scarcity, climate pressures, and the urgent need to reduce demand, such discounts send the wrong signals about the value and cost of water. Removing these discounts would better align pricing with policy objectives on sustainability and fairness, ensuring that high-use customers pay proportionately for the services they receive. This would also free up headroom to expand affordability and environmental incentives for households and lower-usage business users.

Highway drainage

Government and the economic regulator should review the current approach to highway drainage cost recovery, with a focus on improving transparency and ensuring that costs are allocated fairly. There is a strong case for revisiting Section 146(4) of the Water Industry Act 1991 to enable highway authorities to contribute to the cost of drainage services associated with their networks. Legislative reform would help address concerns about cross-subsidisation, promote fairness between different users of the drainage system, and reduce pressure on household bills in future price control periods.[410]

We need a comprehensive reform of the water charging framework. With proposals for change stretching back more than a decade, and with new metering infrastructure and government affordability schemes now on the horizon, the sector is at a critical juncture. We propose to modernise the structure of charges, removing outdated mechanisms, and developing nationally consistent affordability schemes will be critical to achieving these objectives in the years ahead.

[408] 'UK Government priorities and our 2024 price review final determinations', *Ofwat*, (December 2024)
[409] 'Water companies to triple customer support, but further reforms needed', *Water UK,* (January 2025)
[410] 'Time to think outside the box on water charging? Try thinking outside the boundaries', *Consumer Council for Water*, (March 2025)

Our recommendations

The UK and Welsh governments should:

- **Require the removal of regulatory and technical barriers to the adoption of innovative charges.** This includes:
    - **Introducing compulsory metering for all households, with smart meters by default.** Currently compulsory metering can only be used in 'water stressed' regions, which limits the ability of water companies to offer their customers more innovative tariffs.
    - **Ensuring regulatory barriers are removed.** The UK and Welsh governments should revise their charging guidelines, and the economic regulator should be required to amend its charging rules, so that different types of charges can be applied to different customers based on their usage or other relevant characteristics. These changes would enable an enduring move to rising block tariffs, or other innovative charges such as seasonal charges, beyond the current trials permitted by the regulator. In addition, the regulator should be required to review the Revenue Forecasting Incentive (RFI) which currently financially penalises water companies for revenue volatility caused by innovative charges.
- **Introduce a fairer charging framework. This includes:**
    - **Continue to develop a single social tariff for England,** that would help to standardise the eligibility criteria and levels of support across the country, ensuring low-income households receive the support they need.
    - **Phase out the use of rateable value-based charging**, with government and the economic regulator coordinating regulatory and legislative changes to end reliance on this outdated method. Replacing it with cost-reflective, consumption-based tariffs will better support affordability and water efficiency.
    - **Require the economic regulator to enable the abolition of 'large user' discounts within wholesale charges** by revising its charging rules, ensuring that industrial customers pay their fair share relative to the cost to serve and that discounting does not undermine broader policy goals around equity and demand management.
    - **Reforming the allocation of highway drainage costs** by amending legislation to enable highway authorities to contribute directly. Under Section 146(4) of the Water Industry Act 1991, it is explicitly prohibited for sewerage undertakers (i.e. wastewater companies) to levy charges on highway authorities for discharging rainwater runoff from roads into the public sewer system. Ofwat lacks the legal authority to force a change under existing law, so any move to make highway authorities contribute would require government action or new legislation.

Wider reforms

Effective management of the water system involves different stakeholders; many of whom currently take no responsibility for the harm they cause. Failure to control pollution at source means the remediation costs are chiefly borne by water billpayers. Likewise, the failure to manage run-off increases pressure on wastewater infrastructure. Pressures on water supplies from population growth and climate change are exacerbated by inadequate water efficiency standards for new housing developments.

To ensure all sectors contribute their fair share toward sustainable water management, we recommend:

- **The UK and Welsh governments introduce a control at source principle for harmful substances** – including a ban on the manufacture and sale of non-essential uses of PFAS, and of mercury in dental amalgam – and an extended producer responsibility scheme to pay for advanced 'fourth-stage' sewage treatment to match European treatment standards.
- **Defra should immediately begin work on a National Rainwater Management Strategy** to inform its approach to catchment management in urban areas.
- **The UK government should implement changes to the planning system and building regulations in England to unlock economic growth** by speeding up construction of major infrastructure and improve water efficiency, creating headroom for new commercial development such as AI data centres.

The rest of this chapter deals with each of these in turn.

6.1 Control pollution at source

Where the current system is not working

No river in England meets good chemical status as defined under the main legislation for the protection of the water environment, the Water Framework Directive.[411] Mercury, along with two organic pollutants (Perfluorooctane sulfonate, or PFOS, and Polybrominated diphenyl ethers, or PBDE), is almost entirely responsible for the rivers' failures. As the Office for Environmental Protection highlighted in its review of the implementation of the water legislation in England and Wales, "there is a significant gap between the current state of most water bodies and the Environmental Objectives in the Water Framework Directive Regulations".[412]

The previous UK government's 25 Year Environment Plan committed to ensuring "that chemicals are safely used and managed, and that the levels of harmful chemicals entering the environment (including through agriculture) are significantly reduced."[413] It is clear from the results of the River Basin

[411] 'River basin management plans: updated 2022', *Environment Agency,* (January 2024)
[412] 'A review of the implementation of the WFD in England and Wales', *Office for Environmental Protection,* (May 2024)
[413] '25 Year Environment Plan', *Department for Environment, Food and Rural Affairs*, (February 2023)

Management Plans and the more recent monitoring data of our waterbodies that further action is required to meet this ambition.[414]

However, responsibility for addressing the harm caused by mercury, PFOS and PBDE should not fall entirely on water bill payers. The water sector in England and Wales has just embarked on its most ambitious period of investment in a generation, with an anticipated spend exceeding £100 billion over the next five years. A significant element of this expenditure (£22 billion expenditure by 2030 through the Water Industry National Environment Programme (WINEP)) is focused on the delivery of improved environmental outcomes. Securing the funding, both the equity and debt injections, to deliver this expenditure also means an unprecedented rise in water bills. Other sectors need to take responsibility for their pollution to achieve environmental targets.

Water companies are facing an increasing range of more complex and costly-to-treat pollutants arriving in an uncontrolled way at their wastewater treatment works. Many of these pollutants are manmade or result from commercial production and are used with limited (or no) regulatory control. Alongside this increasing suite of emerging substances are legacy pollutants such as lead and mercury, where increasing knowledge of health and environmental impacts means that more treatment will be required to remove them from water and wastewater systems. Where technologies exist to treat/remove these substances, they come with costs (both financial and in resulting carbon emissions). The use of 'single use' adsorbents also creates issues of sustainability and supply chain resilience.

The traditional response to these risks would be to add further treatment technologies at the water and wastewater treatment works level (i.e. end-of-pipe) and to recuperate the costs for investments and operations back to customers through bills. This is not consistent with the polluter pays principle, whereby the producer is responsible for addressing the resulting environmental and human health impacts. The end-of-pipe approach is also cost inefficient where it is possible to address pollution at source.

Our analysis of reform proposals

The Independent Water Commission provides an opportunity to re-think our approach to dealing with chemical pollution in a much more cost-effective and environmentally beneficial way by controlling the pollution at source. This will reduce the volume of long-lasting contaminants entering our sewers in the first place.

Box 10: The meaning of 'control at source'

Measures for controlling pollution at source prevent pollution from happening or limit any pollution as close as possible to the point at which the pollution is produced. For the water and wastewater sector, such measures include:

- **Prohibitions** (i.e. bans) on the manufacture of specific substances/materials/products (potentially leading to substitution with less harmful alternatives) and prohibitions on non-essential use of specific substances/materials/products. This would require regulatory change.

[414] 'B3: State of the water environment', *Department for Environment, Food and Rural Affairs,* (2024)

- **More stringent requirements on the quality of effluent discharges to sewer** (e.g. including pre-treatment in industrial sites prior to discharge) and on effluent discharged to the headworks of wastewater treatment works. Water companies could partly address this but would need support from regulators.
- **Guidance on the disposal of specific substances to sewers.** For example, campaigns to inform customers of the correct disposal of wet wipes. This would be entirely voluntary and require no policy/regulatory intervention.

We reviewed options for reducing the impact of pollution and accelerating the improvement of the environment, focusing on mercury, microplastics, PFAS, pharmaceuticals, and personal care products. For each substance, we have compared the costs and benefits of control at source, to the status quo or controlling at the end-of-pipe. Our review has concluded that control at source measures compare favourably against end-of-pipe measures for nearly all pollutants considered.

Where contaminants have the potential to harm human health or the environment (whether or not the risk is fully quantified) and are deemed to be non-essential (or alternatives are available), then source control in the form of a ban is the preferred option. Adhering to the polluter pays principle is essential to protect human health and the environment, ensure that costs are incurred by those parties that are in a position to manage the impacts associated with their products, and, importantly, drive economic opportunities through research and innovation.

Mercury

A case for further control exists in respect of mercury in dental amalgam, production and exports of which have recently been banned in the European Union (EU) and the ongoing use of which goes against the Minamata Convention, to which the UK is a signatory.

Mercury is a ubiquitous, persistent, bio-accumulative, and toxic' substance (uPBT) that threatens ecosystems and public health. It is classified as a priority hazardous substance by law and is dangerous to humans, even in small amounts. Monitoring shows that over 80% of freshwater samples have levels of mercury above allowed levels.[415] To improve the chemical status of rivers, reducing mercury must be a priority. We welcome previous UK government commitments to reduce land based emissions of mercury to air and water by 50% by 2030,[416] but the Office for Environmental Protection concluded that there were insufficient actions to meet this target.[417]

Mercury has generally been banned for non-essential uses to reduce the risks from its bioaccumulation. Remaining inputs to the environment are reportedly mainly from thermal power plants and wastewater treatment works. Literature suggests that dental amalgam is responsible for a large proportion of the input to wastewater treatment works[418] and that up to two-thirds of dental mercury is eventually released into the environment.[419]

[415] 'Mercury: sources, pathways and environmental data', *Environment Agency,* (October 2019)
[416] '25 Year Environment Plan', *Department for Environment, Food and Rural Affairs*, (February 2023) p. 30
[417] 'Progress in improving the natural environment in England 2022/2023', *Office for Environmental Protection* (January 2024), p. 76-77

Dental amalgam has been banned in the European Union since 2025. The benefits of a ban would be the reduction of mercury entering the environment (estimated at up to 80 kg /year in England and Wales), which is equivalent to human health benefits (in reduced air emissions) worth £1.2 million.[420] While sources suggest that a similar ban of mercury dental amalgam in the UK could increase costs of fillings between 20-50%,[421] the European Union ban is likely to push up costs regardless.[422]

Currently, the UK government estimates that the good chemical status of water bodies will not be reached before 2063.[423] A ban on dental amalgam would support achieving this objective sooner. Based on similar example of bans of substances (i.e. Hexabromocyclododecane, or HBCDD, banned in 2015 and tributyltin, or TBT, banned in 1987 with some uses allowed until 2008), five to ten years is the typical time lag to start seeing some impact on concentrations in released effluents following a ban which would accelerate the achievement of the government's objectives. Finally, a ban on the use of dental amalgam would be in keeping with the Minamata Convention[424] to which the UK is a signatory. A ban would also ensure the UK is not falling behind the levels of environmental protection in the European Union.

Microplastics

In recent years, the ubiquity of microplastics in our environment has gained significant attention. Whilst the long-term health impacts are not fully understood, there is increasing evidence that bio-accumulation of microplastics in the human body causes a range of health issues.[425] Microplastics are removed effectively[426] from the water fraction as part of wastewater treatment, however, they partition to the solids waste and as such can remain in the environment.[427]

WSP calculations - see Annex 7. based on 'Impact Assessment Report', *European Parliament,* (July 2023). Th

[421] 'Government failure on amalgam ban could break NHS dentistry', *British Dental Association*, (January 2025) BDA research on treatment times and costs, indicates that costs of fillings are over 50% higher for composite fillings compared to amalgam.These figures are challenged by the European Network for Environmental Medicine, which cites that in the Republic of Ireland, which is rapidly transitioning to mercury-free dentistry, the price difference between amalgam and composite is just 20%: ('Financial Impact of Phasing Out Dental Amalgam in Northern Ireland', *European Network for Environmental Medicine*, (July 2024)). For context, fillings represent around a quarter of all courses of NHS treatment delivered in England, with amalgam used in around in around a third of procedures.

[422] 'Dental amalgam – everything you need to know about its use and ban', *Dentistry,* (January 2025) See for example reporting from *Dentistry* indicating that Southern Dental Industries Limited (SDI) a global leader in the manufacture of dental amalgam has announced its intention to cease production of dental amalgam by around 2028.

[423] 'A Review of Implementation of the Water Framework Directive Regulations and River Basin Management Planning in England', *Office of Environmental Protection,* (May 2024) p. 63. The Office of Environmental Protection stated in its review that "The achievement of Good Chemical Status in surface water bodies has been extended to 2063 due to the presence of certain 'ubiquitous, persistent, bio-accumulative and toxic' (uPBT) chemicals". See also Defra's response:'Coverage on water targets and River Basin Management Plans', *Department for Environment, Food and Rural Affairs,* (December 2022)

[424] The Minamata Convention on Mercury is an international treaty that seeks to protect human health and the environment from the adverse effects of mercury. It came into force in 2017 and includes a number of measures to reduce emissions of mercury to land, air and water by banning, regulating, phasing-out or phasing-down activities and uses that lead to mercury pollution.

[425] 'Microplastics in Seafood and the Implications for Human Health', *Smith, M., Love, D.C., Rochman, C.M. et al,* (2018).

[426] UKWIR assessed the removal efficiency to range between 95-99% depending on the treatment used, noting that most of the separation happens during the settling in stage at primary and secondary treatment.

[427] 'PFAS and waste water – prevalence, reduction options and costs', *UKWIR,* (2022)

Unlike other contaminants discussed, microplastics in water do not derive from intentional manufacture but predominantly from degradation/wear and tear of products, most significantly from tyre wear. The European Union is developing standards to improve the management, labelling and degradation performance of tyres to reduce the release of microplastics. These changes will also likely benefit the UK, as almost half of the tyres sold in the UK are imported from the European Union. Direct policy interventions in the UK to adopt similar standards to the European Union would ensure that we more rapidly realise the full benefits.

These measures would not fully eliminate microplastics from tyre wear. Nor would they deal with the second most prevalent source of microplastics – road markings. Highway runoff is a significant source of environmental pollution, containing not only microplastics but also significant levels of hydrocarbons, copper, zinc, cadmium, fluoranthene, pyrene and polyaromatic hydrocarbons (PAHS). Furthermore, highway runoff puts significant strain on combined sewer networks and downstream wastewater treatment works during periods of rainfall (see Section 6.2 below), contributing to the billions of pounds that need to be invested in eliminating sewage spills. Until the segregation of wastewater and rainwater from combined sewers, microplastics will continue to enter the environment. This is one example of the complex pathways for microplastics to reach the environment and signposts the need for a range of interventions to reverse the trend of microplastics entering the environment.

Recent analysis of data from ENDS identified 262 high-risk outfalls discharging polluted water near protected sites.[428] We believe that there is a case for a multi-agency review of pollution from highways with the objective of managing pollution at or close to source to maximise environmental outcomes and ensure costs are apportioned fairly.

Forever chemicals (PFAS)

Per or poly-fluorinated alkyl substances (PFAS) are a large class of anthropogenic chemicals that have been used over decades in a wide array of industrial and commercial applications. Estimates suggest more than 10,000 different substances exist and they are popular due to their unique combination of desirable properties, including water-resistance, oil-resistance and thermo-chemical stability.[429]

The exact scale of the risk posed by PFAS is unknown, but the effects of PFAS on human health are documented with increasing certainty, in particular its involvement with thyroid disease, cholesterol, liver damage, kidney cancer and testicular cancer.[430] There is growing support for restrictions and prohibitions of use from a range of stakeholders including Eureau,[431] CHEM Trust[432], Breast Cancer

[428] '250 'high risk' outfalls discharging toxic cocktail into waterways near protected sites', *Tess Colley and Jamie Carpenter,* (March 2025)
[429] 'Analysis of the most appropriate regulatory management options (RMOA)', *Health Safety Executive,* (March 2023)
[430] 'Cleaning up UK drinking water', *Royal Society of Chemistry*
[431] 'PFAS Phase out: a prerequisite for a Water Resilient Europe', *Eureau*, (January 2025)
[432] 'Universal PFAS Restriction', *CHEM Trust*

UK[433], Marine Conservation Society[434] and CIWEM.[435] While there are now requirements to monitor and treat PFAS from drinking water, stakeholders are calling for further action. [436]

In many cases, alternative substances are now available that mirror the functionality of PFAS without the associated environmental impact. Some production will remain essential for specific applications (e.g. where the use is critical to safety), pending the development of low-impact alternatives. The current absence of alternatives in some applications could offer a springboard for a new green chemistry sector in the UK.

Without immediate government restrictions on its use in products, the volume of PFAS entering the environment is likely to continue growing. Combined with its long persistence, this will make it ever harder over time to limit people's exposure (including through drinking water).

This is for three reasons:

1. The engineering difficulty of removing every last trace of PFAS.
2. The cost of treatment technologies (for drinking water this is around £2.6 billion over the next 20 years alone, funded by bill payers)[437].
3. Crucially, the question of what to do with waste PFAS once it has been extracted from circulation around the environment.

Residual PFAS waste cannot be burned in conventional incinerators (because this can form even more dangerous chemicals) or buried (because it does not break down over time). It can only be destroyed through high-temperature incineration, which is available at only limited sites in the UK. The UK water industry, therefore, agrees with the growing international consensus that the only meaningful solution to the problem of PFAS contamination is to ban its use as far as possible.[438]

The UK and Welsh governments should, therefore, ban PFAS for non-essential uses and introduce an extended producer responsibility (EPR) scheme to recover costs for mitigating the impacts of residual production for essential applications.

The end-of-pipe techniques used to capture and then destroy PFAS can also be used to attenuate other substances of concern, such as pharmaceuticals and, depending on the fourth-stage treatment used, microplastics. Where the manufacture of these substances remains essential, then costs for capture and treatment could similarly be shared across sectors in line with the polluter pays principle to protect water billpayers.

The benefits of reducing PFAS in the UK could generate a benefit (in avoided health costs) of £6.7-10.9 billion per year through the implementation of a ban.[439] For context, the annual cost of diabetes in the

[433] 'PFAS and breast cancer', *Breast Cancer UK*
[434] 'Ban 'forever chemicals' PFAS', *Marine Conservation Society*, (February 2020)
[435] PFAS risks and management in the water industry, *CIWEM,* (November 2024)
[436] 'Our call to clean up PFAS', *Royal Society of Chemistry*
[437] Data collated by Water UK
[438] 'PFAS Phase out: a prerequisite for a Water Resilient Europe', *Eureau*, (January 2025); 'States Lead the Way: New PFAS Restrictions Going into Effect in 2025', *Safer States,* (January 2025)
[439] WSP calculations - see Anne 7. Based on 'Emerging chemical risks in Europe — 'PFAS'', *European Environment Agency,* (December 2019); 'The Cost of Inaction: A socioeconomic analysis of environmental and health impacts

UK is around £14 billion.[440] The cost impact on chemical companies in the UK is not clear due to a lack of available information on sources of PFAS, but the estimated annual Gross Value Added of the industry in the UK is £31 billion. If the impact were 10-20% then costs might amount to £3-6 billion per year.

In contrast, end-of-pipe solutions to completely remove PFAS from wastewater were estimated by UK Water Industry Research (UKWIR) to have a net present value cost of c.£21 billion.[423] Water companies have committed to £2.6 billion in capital expenditure from 2025-2045 and £0.4 billion operating expense to mitigate PFAS pollution in drinking water in accordance with the Drinking Water Inspectorate of 100 nanograms per litre for 48 PFAS substances. If source control at the producer level could reduce releases by 97% (an upper bound possibility), these costs would be lowered to circa £13 billion.[441]

Without additional measures to tackle PFAS and other micropollutants, England and Wales risks falling behind other countries:

- The European Union now requires a mandatory upgrade to fourth-stage for the largest wastewater treatment works by 2040.[442] The new legislation will be implemented in the Republic of Ireland, with some possible effects in Northern Ireland. The Scottish Government is also expected to implement this new legislation as far as possible based on its expressed intention to "to maintain policy alignment [with the European Union] wherever possible… and legislative alignment where it is meaningful and appropriate to do so".[443]
- The European Unio Chemicals Agency is currently reviewing a universal ban application for all PFAS, allowing their use only where the substances are proven to be irreplaceable and essential to society.[444] In the meantime, many EU countries have started to adopt specific legislation to ban, at least partially, PFAS manufacture and use.[445]

Pharmaceuticals and Personal Care Products

Pharmaceuticals deliver positive health benefits to society but can be harmful to the freshwater environment.[446]

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linked to exposure to PFAS', *Nordic Council of Ministers, (2019)*. Estimate based on avoided health costs from EEA 2019 study and pro-rata for UK population.

[440] 'Cost of diabetes to UK estimated at £14 billion, research shows', *University of York,* (June 2024)

[441] 'PFAS and waste water – prevalence, reduction options and costs', *UKWIR,* (2022)

[442] 'Directive (EU) 2024/3019 of the European Parliament and of the Council of 27 November 2024 concerning urban wastewater treatment (recast) (Text with EEA relevance)', *Official Journal of the European Union,* (December 2024)

[443] 'The Scottish Government's Policy of EU Alignment', *Constitution, Europe, External Affairs and Culture Committee,* (November 2024)

[444] 'Per- and polyfluoroalkyl substances (PFAS)', *European Chemical Agency*

[445] 'Tout savoir sur l'interdiction progressive des PFAS', *Ministère de l'Économie des Finances et de la Souveraineté industrielle et numérique,* (April 2025). For example, France adopted legislation stating that as of January 1st 2026, the following products containing PFAS will be prohibited from manufacturing, importing, exporting and placing on the market: cosmetics; ski waxes; and clothing, footwear and their waterproofing agents (with the exception of protective clothing and footwear such as that used by the military or firefighters). From January 1st 2030 this ban will be extended to all textiles (with some exceptions that will be listed by decree).

[446] 'Pharmaceuticals in freshwater environments and their potential effects on freshwater invertebrates', *Buglife,* (September 2021)

Currently, pharmacies in the UK are obliged to operate take-back schemes for unused pharmaceuticals, but the success of these relies on continued communication and engagement with consumers, and it has been estimated that less than 50% of unused pharmaceuticals are captured in this way for appropriate waste disposal systems.[447] A number of active ingredients in pharmaceuticals, and functional substances in personal care products (such as synthetic fragrances, preservatives and UV filters), do not break down during conventional wastewater treatment and can cause environmental impact to receiving waterbodies.

While take-back schemes are only partly successful, it is obvious that some pharmaceutical compounds cannot and should not be banned. The emphasis in Europe has instead been on EPR schemes to recoup the costs of additional wastewater treatment to remove these substances. Pharmaceuticals and personal care products accounted for around 75% of the load of chemical pollutants at a European Union level, an extended producer responsibility scheme was developed to pass the majority (80%) of the required fourth-stage treatment back to the producers of these products.

Currently the costs for removing these compounds from wastewater are borne by the whole of society rather than the pharmaceutical companies. As such, the introduction of an extended producer responsibility scheme to recover costs for mitigating the impacts of residual production would be a fair way to mitigate the environmental harm. The end-of-pipe techniques used to capture and then destroy pharmaceutical and personal care product residues can also be used to attenuate other substances of concern, such as residual PFAS and pesticides.

Alongside end-of-pipes, other control at source measures could be encouraged, including tackling over-prescribing of medicines[448] and issue guidance on more sustainable use of products, including of veterinary products. For example, finopril, a common flea treatment substance used in the UK whose use is severely restricted due to its possible hazardous impacts.[449] Finopril has been identified in a study for the Office for Environmental Protection as a 'high risk' substance for water quality. Monitoring from the Environment Agency has revealed the extent of the pollution which has been called out by eNGOs.[450] The substance sits on pets' skin and enters the environment via hand washing, contact, and washing pets, pet beds and human bedding.[451] While veterinary treatments are necessary, more guidance on safe use (e.g. quantities, frequency) and handling would reduce the quantities of substances escaping to the environment.

[447] 'Medicines', *Wales Recycles;* 'Medicines', *Recycle Now*

[448] 'National overprescribing review report', *Department of Health and Social Care,* (September 2021)

449 See for example: 'Information note on EU measures concerning the illegal use of fipronil on some poultry farms', *European Commission,* (August 2017). Finopril is not to be used on any food producing animal due to risk to human health and risks of contamination of food.

[450] 'Pharmaceuticals in freshwater environments and their potential effects on freshwater invertebrates', *Buglife,* (September 2021)

451 ~~Atkins 2024 Stocktaking on water quality - A report for the OEP https://www.theoep.org.uk/sites/default/files/reports-files/Water%20quality%20stocktake%20report%20%281%29.pdf~~

Our recommendations

We propose that the UK and Welsh governments introduce:

- A general principle for controlling pollution at source (where the costs of doing so do not outweigh the benefits), which would result in regulatory restrictions on the most damaging substances, including a ban on the manufacture of non-essential uses of PFAS and on the use of mercury in dental amalgam and guidance on safe uses of pharmaceuticals and veterinary products; and
- An extended producer responsibility scheme to pay for fourth-stage treatment or other advanced treatment that would remove from water and wastewater a range of long-lasting pollutants for which further use restrictions cannot be imposed. That would include, as a minimum, PFAS, microplastics and pharmaceuticals and care products. The funding generated through the scheme should be used for an upgrade programme for water and wastewater treatment works prioritised on a risk-based approach, targeting 'hot spots' so as to deliver maximum value for money.

6.2 A National Rainwater Management Strategy

Urban water management represents a distinctive take on the issues discussed in Section 3.2 on catchment management. Urban water management involves many complex interactions across an area[452] (often a drainage catchment). Responsible entities and regulations vary across different elements of the urban water cycle.[453] Rain falls directly onto roofs, roads and other impermeable surfaces. Capturing and using this water (especially for non-potable uses requiring light or no treatment) could significantly reduce the wasteful use of world-class drinking water for inappropriate purposes.[454] Aside from modestly sized water butts for gardening, rainwater harvesting at either a community or individual property scale in England and Wales is rare (though no precise data exist). Absent any regulatory requirements or strong incentives, we continue to use potable water for nearly all of our water needs.

As well as failing to capture rainwater, we also manage any excess flows unsustainably thereafter, with too much rainwater discharging to the environment via the sewerage network – this is the major driver of storm overflow spills. The Storm Overflow Discharge Reduction Plan states clearly that "better rainwater management is key to achieving a reduction in sewage discharges from storm overflows".[455] Sustainable Drainage Systems (SuDS) "mimic nature and typically manage rainfall close to where it falls"[456], though England currently does not require Sustainable Drainage Systems for new-build as a

[452] 'Systems water management for catchment scale processes: Development and demonstration of a systems analysis framework,' *Environment Agency,* (May 2021). See figure 7.
[453] 'England and Wales legislation and regulation', *Susdrain*
[454] 'Water Neutrality: Practical Guidance,' *Waterwise,* (January 2021)
[455] 'Storm Overflows Discharge Reduction Plan', *Department for Environment, Food and Rural Affairs,* (September 2023)
[456] 'Sustainable drainage', *Susdrain*

matter of law[457] and lacks a standard regulatory mechanism for long-term adoption and maintenance of these assets. Excess surface waters also pose a large and increasing risk of flooding.[458]

These interactions would benefit from more coordination than they currently receive. Many of the shortcomings of current arrangements are set out in Annex 8, written by Wessex Water.

Rainwater management provides a useful lens through which to consider the currently disparate issues of water resources, sustainable drainage, surface and river flooding, as well as storm overflows and water quality. An integrated approach to rainwater management could overcome the paradoxical situation of simultaneous water scarcity (such as the 5 billion litre per days deficit identified in the National Framework for Water Resources) and excess surface water flows (such as the 4.6m homes at risk from surface water flooding).[459]

New figures from the engineering firm Stantec (responsible for the original Storm Overflow Evidence Project[460] used to set spill targets), commissioned for this submission, demonstrate that, with the right enabling actions**, implementing the principle of managing rain where it falls could reduce spill numbers by 180,000 per year (more than double the current expected spill reduction by 2030).**[461] We believe that to achieve this would require government to take a series of enabling actions. The previous UK government had already committed to examine many of these to reduce run-off into sewers (see next table).

By way of comparison, the current Water Industry National Environment Programme comprises £12 billion of spend on overflows and is expected to deliver 85,000 fewer spills per year[462] so **a sustainable approach based on sound integrated water management principles alone could achieve double the spill reduction benefits by 2030 if implemented immediately.**

At present, different parts of Defra, the Ministry of Housing, Communities and Local Government and the UK government more widely are looking independently at issues of water resources, Sustainable Drainage Systems, storm overflows and flood risk etc. This means that the combined benefits of an integrated approach to rainwater management are often missed in making the case for specific interventions (such as rainwater harvesting) and disparate funding streams are uncoordinated.

[457] A weaker requirement is introduced in the National Planning Policy Framework s181

[458] 'National assessment of flood and coastal erosion risk in England 2024', *Environment Agency,* (January 2025)

[459] Ibid.

[460] 'Storm Overflow Evidence Project', *Stantec,* (November 2021)

[461] Based on diverting or better managing run-off from around 10% of impermeable surface, one of the scenarios discussed in the Storm Overflow Evidence Project. We judge that this would only be possible by implementing a series of policy choices similar to those addressed overleaf, though the precise policy design (and which options were chosen) would be for government to consider based on further policy work and an assessment of costs and benefits.

[462] 'Water Industry National Environment Programme (WINEP)', *Environment Agency,* (January 2025)

Our recommendations

- **Government should immediately begin work on a National Rainwater Management Strategy** to inform its approach to catchment management in urban areas. The strategy should form the basis of national guidance for catchment plans in line with the reforms set out in A National Rainwater Management Strategy above.
- **We have also identified several regulatory gaps and omissions** that would better enable water companies and others to implement the principles of better rainwater management ahead of any wider reforms (as shown in Table 2). Many of these have been identified previously by policymakers, though action to date has been sluggish.

Table 2: Illustrative changes that could be made under a rainwater management strategy

	Issue	How could it be resolved?	Has the blocker be recognised by policy makers?
Rainwater capture and reuse			
	New properties do not have to be built with infrastructure to capture and reuse the rain landing on them.	Amend Building Regulations Approved Document G to mandate, Code of Practice: BS EN 16941-1:2018 On-site non-potable water systems - Systems for the use of rainwater.	No
Rainwater disposal			
	New properties are not required to be constructed with infrastructure that enables the rain to be returned to the environment as close to where it lands as possible	Enact Schedule 3 of the Flood and Water Management Act making sustainable drainage for new development mandatory. Note this would need taking down to property level (current level is >1 house and >100m^2 of area connected). The automatic right to connect rain to sewers carrying sewage (Section 106 Water Industry Act) would have to be amended to be made conditional on downstream asset owner acceptance.	Yes. In the Storm Overflows Discharge Reduction Plan (Sept 2023)
	Redevelopment: Existing properties do not have to reduce the amount of rainwater being added to sewers carrying sewage when undergoing modifications affecting connected impermeable areas.	Building Regulations Approved Document H cover rainwater drainage provision but should require rainwater capture in the first instance (see above) followed by disposal via the SuDS hierarchy. A stated expectation of net reduction of rainwater flow off the site from historical levels should be required.	
	Water companies cannot disconnect privately owned pipes carrying rain and provide private property level soakaways	Amend Section 114A of the Water Industry Act to provide conditional powers to require such modifications to enable decentralisation of rainwater management through construction of private assets	Yes. In the Storm Overflows Discharge Reduction Plan (Sept 2023)
	Highways: A rainwater drainage service is an unchargeable service between a sewerage undertaker and highway authority	Section 115 of the Water Industry Act. This currently removes economic incentives for local authorities to disconnect rain from highways connected to combined sewers. The sewerage undertakers' customers currently pay for this highway rainwater drainage cost within their standing charges. This should be reviewed so that the user of the service pays the provider of the service to provide fiscal levers for rainwater removal from pipes carrying sewage.	
	Assessing the role of highway drainage as a rainwater drainage system.	Flood Risk Planning Practice Guidance sets out a hierarchy of drainage options to discharge rainwater runoff, as follows: • into the ground (infiltration); • to a surface water body; • to a surface water sewer, highway drain, or another drainage system; • to a combined sewer. In practice however, highway authorities refuse to allow connection to highways drains. There is no legal obligation for them to do so nor any mechanism in place for them to recover revenue for the service. This can steer developers to connect rain to the combined sewers. This needs to be addressed to enable highways drains to be part of the rainwater drainage network.	Yes. In the Storm Overflows Discharge Reduction Plan (Sept 2023)
	Providing a right to discharge rain to watercourses	Drainage Infrastructure providers such as sewerage undertakers and developers should be enabled to discharge new and existing rainwater to the nearest watercourse (where discharge to ground is not possible). Currently they have no rights to do this, and riparian owners can either prevent or demand prohibitively high fees for discharges. This makes separation of rainwater from combined sewage systems a costly or impossible option. A conditional right to discharge should be enabled – similar to the right that highways authorities enjoy under Section 100 of the Highways Act	Yes. In the Storm Overflows Discharge Reduction Plan (Sept 2023)

6.3 Planning reform and building regulations

Where the current system is not working

Water scarcity and the limitations of existing water infrastructure are increasingly becoming a barrier to the building of new housing, businesses, energy infrastructure and data centres. This risks limiting the growth potential of the UK just as the UK government seeks to make economic growth its number one priority.

The Environment Agency anticipates that by 2050, there will be a shortfall of nearly 5 billion litres of water per day.[463] This deficit could impede the growth of housing, technology, energy and heavy industry – all of which rely on adequate water supplies and are essential to growing the economy.

Water scarcity challenges are not evenly distributed across the country – the East and South East of England, the most economically productive regions of the UK,[464] are more severely affected due to their combination of high housing demand, commercial growth projection and low water availability. Given the cost of developing new water supply options and reducing demand is far lower than the costs of holding back economic growth, we will need to increase water availability in the areas with the greatest potential for economic growth, rather than attempt to redistribute demand across the country (see Section 3.3).

The new UK government has come to office with an ambitious target of building 1.5 million new homes over the course of this parliament. But water scarcity and lack of wastewater treatment capacity – which has in part resulted from underinvestment in previous asset management periods – is already acting as a barrier to the development of the new homes the UK desperately needs. Research estimates that two in five of the additional homes in the east and south east of England required by the government's housing targets are undeliverable due to water scarcity. Absent further action, this could cost the UK economy £25 billion over the next five years, amounting to £7 billion in lost tax receipts – around 70% of the Chancellor's fiscal headroom in the same period in lost tax receipts – around 70% of the Chancellor's fiscal headroom in the same period.[465] In reality, water companies will divert available headroom away from business growth, but this brings its own challenges.

The UK government's central mission is economic growth. However, water scarcity is now limiting the ability of businesses to grow. Water companies have a statutory obligation to supply new homes with water, meaning the increased housing delivery the government hopes its planning reforms will unleash will take precedence over commercial growth in areas with constrained water supplies. The result is that where housing development is already challenging, new businesses have no chance of establishing themselves and others are unable to expand**.** For example, there is already a moratorium on new or increased water connections for non-domestic purposes in the Hartismere water resource zone in Suffolk.[466] This is expected to remain in place until 2033, when new supply schemes will be operational - but it is already forcing businesses to leave the region.[467] It has been estimated that

[463] 'A summary of England's revised draft regional and water resources management plans', *Environment Agency,* (December 2024)
[464] 'Subregional productivity: labour productivity indices by UK ITL2 and ITL3 subregions', *Office for National Statistics,* (June 2024)
[465] 'The Economic Cost of Water Scarcity', *Public First*, (April 2025), p.3; 'Spring Statement 2025', *HM Treasury*, (March 2025)
[466] 'All you need to know about the moratorium on new supplies for non-domestic water use', *Essex and Suffolk Water*
[467] 'Suffolk water shortage zone forcing firms to leave region', *Eastern Daily Press*, (October 2024)

limiting business growth in this way would still cost the economy between £8.5 billion and £13 billion over five years, or 25%-40% of the Chancellor's fiscal headroom.[468]

And where new houses do get built, these are not required to meet sufficiently high water efficiency standards, reducing the headroom for further development. While building regulations do include provisions for the reuse of household greywater, new homes are not required to be built with water recycling infrastructure.[469] This is despite the Defra minister's recognition that "it is completely bonkers that in this country we use drinking water to flush our toilets. That does not happen elsewhere".[470]

The consequences of water scarcity on economic growth will only become more significant in the years ahead. Data centres are increasingly vital to our economy, as they power cloud computing services and house the computers used to train artificial intelligence models. Similarly, gigafactories, hydrogen production, and carbon capture and storage are all expected to play a key role in the transition to net zero. However, these sectors require large amounts of water.[471] The UK government has recently identified Culham in Oxfordshire to be the UK's first artificial intelligence growth zone, but there are fears that this opportunity will be hindered by being in the area most at risk of running out of water, according to the Environment Agency.[472] More generally, the UK government's laudable ambitions on artificial intelligence look to be delivered several years before the major water infrastructure projects that will add to water supply are likely to come on stream.

The Public First economic analysis also looked at a scenario in which the government focussed resources on delivering artificial intelligence computer capacity – this found the water intensity challenge would lead to act as a barrier to £1.3 billion of economic growth from other sectors.[473]

Dealing with these challenges will require major investment in new infrastructure, which the regulator has historically sought to limit in favour of lower bills. Recent decisions as part of the 2024 price review process to increase investment in water resources are welcome, but the operation by Ofwat of a 'just in time' model of approving new projects is a fundamental issue in the current structure of economic regulation that will continue to act as a drag on growth. Even where Ofwat does allow for new infrastructure works, such developments are frequently held up by a slow and cumbersome planning system. Water companies, alongside other developers, report that even minor planning applications can take a year or more to approve. The speed with which applications are dealt with is entirely out of step with the urgent need for new water and sewerage infrastructure.

Even after planning permission has been granted, for major water infrastructure schemes like those given approval at PR24, development will take years before the benefits will be seen. Water companies are planning to build 10 new reservoirs, with works already underway at the first reservoir to be built since the early 1990s. However, even the first of these – Havant Thicket in Hampshire – is not due to open until 2031[474] and the 150 billion litre Abingdon reservoir in Oxfordshire will not be finished until 2039. New water transfer schemes will also carry water from wetter parts of the country to drier parts

[468] 'The Economic Cost of Water Scarcity', *Public First*, (April 2025), p. 3
[469] MHCLG, Approved Document G
[470] 'Hansard: Water (Special Measures) Bill [HL]', *UK Parliament,* (October 2024)
[471] 'Global land and water limits to electrolytic hydrogen production using wind and solar resources', *David Tonelli et al,* (September 2023)
[472] 'Water shortage fears as Labour's first AI growth zone sited close to new reservoir', The *Guardian*, (January 2025)
[473] 'The Economic Cost of Water Scarcity', *Public First*, (April 2025), p.3
[474] 'Reservoir construction timeline', *Portsmouth Water*

when needed. However, these will take time to deliver, with most coming online from the mid-2030s at the earliest.[475]

Our analysis of reform proposals

To enable growth, the government must maximise the supply of water infrastructure, whilst also ensuring that households and businesses use water more efficiently. Ministers should factor water supply and water efficiency into their growth plans and require the water regulators to focus on how they can support growth.

Maximising supply of water infrastructure

Preventing water scarcity is better than trying to cure the problem once it has arisen. Fundamentally, that means building far more water infrastructure than has been allowed in recent years, including allowing for investment ahead of need. This will require a change in approach from the economic regulator – moving away from its 'just in time' model to one that ensures water infrastructure is built today for the needs of future communities.

Assumptions of future demand – including, for example, housing growth – are critical to getting the level of investment right. There is evidence to suggest Ofwat has been encouraged to use low demand growth assumptions in previous price review cycles to keep bills low. In the long-run this approach leads to water scarcity costs and the need to build infrastructure at greater speed and cost down the line. The economic regulator should take into account a range of inputs in estimating future demand, including at the local level the Local Plan prepared by the Local Planning Authority and at the national level targets such as the government's 1.5 million new homes target. It should also allow a degree of 'headroom' in these assumptions to ensure that what is built is sufficient to meet the needs of unplanned 'windfall' development. More generally, water resource planning should pay more attention to potential for growth in non-household demand, as per Section 3.3 of this paper, which outlines our proposals for a national water grid.

There is a parallel here with the energy sector, where there has been a recognition of the need for significant network infrastructure build to achieve ambitious climate targets. In 2022 the energy regulator Ofgem introduced a new Accelerated Strategic Transmission Investment (ASTI) framework to accelerate the "delivery of the strategic electricity transmission network upgrades needed to meet the UK Government's 2030 renewable electricity generation ambitions".[476] And the following year the energy regulator introduced a new cost allowance regime for "Anticipatory Investment" made in the design of offshore network infrastructure to allow developers to build offshore assets that are designed to be co-ordinated and shared with future users.[477] In both of these decisions, the regulator recognised that it was better to invest ahead of need, and to expect consumers to pay for that investment, in order to have infrastructure ready for the huge increase in renewable generation expected over the period to 2030.

Improving the planning regime for new infrastructure development

Water companies recognise the urgent need for new water and sewerage infrastructure, and want to be able to build the facilities needed. The planning system should support such investment and not hold it back.

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[475] 'Our final determinations for the 2024 price review: sector summary', *Oftwat,* (April 2025)
[476] 'Decision on accelerating onshore electricity transmission investment', *Ofgem,* December 2022
[477] 'Decision on the Early-Stage Assessment for Anticipatory Investment', *Ofgem,* December 2023

The new government's manifesto recognised that "Britain is hampered by a planning regime that means we struggle to build either the infrastructure or housing the country needs"[478] and has set out ambitious reforms to the planning regime. However, the government has not yet addressed some the relatively light-touch interventions needed to ensure that planning does not act as drag on its growth agenda by thwarting essential infrastructure.

Water companies have permitted development rights for certain water infrastructure assets, many of which are set out in part 13 of Schedule 2 to the Town and Country Planning (General Permitted Development) (England) Order 2015.[479] These rights include, for example, "development not above ground level required in connection with the supply of water". However, these permitted development rights need to be ungently updated. This should focus on the relatively new class of above-ground, offsite works that accounts for many thousands of unnecessary planning applications – in particular the case of Continuous Water Quality Monitors. Parallel consents such as Flood Risk Activity Permits are likewise acting as a brake on rolling out monitors and a more proportionate approach should be adopted, given that the location of these monitors is largely determined by statute.

The urgent need for water infrastructure should be set out once by government and should not then need to be reassessed in each individual planning application. Investment projects that are determined through regulatory or engineering constraints are frequently relitigated or reassessed through the planning system, adding no value to decision-making but delaying crucial infrastructure. A supportive set of national planning policies and guidance notes for decision-makers should ensure that only relevant and important matters are assessed and refined through the planning process. For example, an overall and urgent presumption in favour of any development that is identified in Water Resources Management Plans (or other statutory planning documents) should be introduced.

There is a parallel here in the treatment of renewable electricity generation infrastructure in the planning system, where the Energy National Policy Statements provide planning guidance which includes the determination that "the government has demonstrated that there is a need for those types of infrastructure which is urgent" and that "the Secretary of State has determined that substantial weight should be given to this need when considering applications for development consent under the Planning Act 2008".[480]

Increasing the efficiency of water use

The measures above should ensure that the potential supply of clean water is increased, reducing the risk and impact of water scarcity. But as population and economic growth add strain on water resources, there is a role for demand side measures to be considered too.

A simple example of how the demand-side could be addressed is through better water efficiency labelling. The previous UK government consulted on introducing a mandatory water efficiency label for products such as taps, showers, toilets, dishwashers and washing machines.[481] This would inform consumers and encourage the purchase of more water efficient products for both domestic and business use. By way of comparison, energy efficiency labelling in the EU has been found to impact

[478] 'Change – Labour Party Manifesto 2024', *Labour Party,* (June 2024)

[479] 'The Town and Country Planning (General Permitted Development) (England) Order 2015 No. 596', *UK Statutory Instruments*

[480] 'Overarching National Policy Statement for Energy (EN-1)', *Department for Energy Security and Net Zero*, (November 2023)

[481] 'UK mandatory water efficiency labelling', *Department for Environment, Food and Rural Affairs, Department of Agriculture, Environment and Rural Affairs (Northern Ireland), The Scottish Government and Welsh Government,* (September 2022)

most appliance purchase choices[482] and is expected to help save 230 million tons of oil equivalent by 2030.[483] While water labelling this is not likely to be the biggest driver of demand change, it shows how small measures could have an impact. The Energy Saving Trust also report that, "around 12% of a typical gas heated household's energy bill is from heating the water for showers, baths and hot water from the tap,"[484] so efforts taken to increase household water efficiency can also help to lower energy bills.

The water-stress challenge presented by the growth of artificial intelligence and datacentres presented above needs to be addressed from within these sectors as well as by addition to water supply. Water efficiency measures are already available for many of the high-growth, water-intensive sectors. For example, Google will deploy air-based cooling in its £790 million data centre in Waltham Cross.[485] Currently, water companies can refuse water connections for non-domestic demand that is uneconomic to serve or would negatively impact existing customers. Where water is scarce this amounts to a 'first come, first served' approach that can fail to reflect the economic significance of applicants. The UK government could help by providing direction in these circumstances, in particular by issuing a clear policy statement on where water supplies should be prioritised to support the growth of the wider economy.

The Planning and Infrastructure Bill will introduce England-wide cross-authority spatial planning in the form of Strategic Development Plans. The plans will, among other objectives:

- Identify strategic locations for development and an indication of the scale of development required.
- Identify key infrastructure requirements to enable the spatial strategy to be implemented.[486]

These 'infrastructure requirements' should not be limited to provision of new pipes and resources. Introducing regionally-informed policies on water efficiency, such as by using non-potable supplies, should form part of Strategic Development Planning. We recommend that the UK government introduces a requirement on strategic planning to assess water resource constraints when allocating areas for both household and non-household growth. Where land is being allocated for non-household sectors, in consultation with water companies, Strategic Development Plans should introduce appropriate sector-specific efficiency policies to ensure that constrained water supplies do not act as a barrier to growth. Early clarity on the need to, for example, include rainwater harvesting or mechanical cooling technologies, will enable project developers to factor and design these in at the earliest stages of development process.

In the case of new housing, which has a right to connect to a public water supply network, there are opportunities to build homes that are more water efficient by design, helping to manage the impact that growth in housing supply has on water demand. Most households across England and Wales have one source of usable water in their homes – world-class, mains drinking water. We do not need this water to flush our toilets and water our plants. Introducing a dual-pipe network into homes would allow households to use water of a quality that is suitable for these tasks, reducing their bills, benefiting the environment and increasing water conservation. The government should deliver a plan setting out how it will enable and require the building of new homes with a dual-pipe supply system to utilise rainwater or recycled grey water for uses such as toilet flushing.

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[482] 'Standard Eurobarometer 91 – Spring 2019, August 2019', *European Commission,* (August 2019)
[483] 'Consumers', *European Commission*
[484] 'Saving water at home', *Energy Saving Trust*
[485] 'Our $1 billion investment in a new UK data centre', *Google,* (January 2024)
[486] 'Factsheet: Strategic planning', *Ministry of Housing, Communities and Local Government,* (March 2025)

This could be through updating the water efficiency standards in Approved Document G of Building Regulations – we understand that such an exercise is under active consideration by Defra and Ministry of Housing, Communities and Local Government, and could be launched soon.

Our recommendations

- **Regulation should plan to build water infrastructure ahead of need to prevent scarcity arising.** Defra and the Environment Agency must work together to update National Planning Policy and regional planning to better reflect forecasts for future water demand. Assumptions around the future demand for water allow a degree of 'headroom' to ensure that what is built is sufficient to meet the needs of unplanned 'windfall' development. The economic regulator should acknowledge the need for water infrastructure to be built on an anticipatory basis – and be explicit in expressing the advantages of asking current consumers to fund anticipatory investment. The economic regulator should give clarity to companies on the need and benefit of anticipatory investments ahead of future price control periods.
- **Government should set out in planning policy the urgent need for water infrastructure** and should ensure planning rules mean this does not then need to be reassessed in each individual planning applications.
- **Government should update water companies' Permitted Development rights** so that urgently needed (and sometimes legally required) works can be undertaken without the need for complex planning applications which delay environmental improvements.
- **Government should introduce mandatory water efficiency labels** for products such as taps, showers, toilets, dishwashers and washing machines.
- **Government must ensure that high-demand economic sectors plan positively for water use.** This should include the power for Local and Strategic Planning Authorities to set region-specific and (as appropriate) sector specific standards on water efficiency, re-use or non-potable demand.
- **Government should give direction on resource allocation where supplies are insufficient** by issuing a clear policy statement on where water supplies should be prioritised to support the growth of the wider economy.
- **Government should consider how to encourage new homes to be built to utilise rainwater or to recycle water as part of any review into Part G of Building Regulations.** This should be through updates to Building Regulations to consider dual-pipe systems in new homes to allow households to use non-potable water for tasks that do not require drinking quality water.

Ownership models

In this section we respond to the Commission's questions about ownership.

Water UK represents all water and wastewater companies in the UK. Our members include the privatised, for-profit companies in England (including listed and non-listed companies); Dŵr Cymru (Welsh Water), which is a not-for-profit company limited by guarantee; Scottish Water, which is a Statutory Public Corporation; and Northern Ireland Water, which is a Non-Departmental Public Body sponsored by the Department for Infrastructure of the Northern Ireland Executive.

Our associated members include Jersey Water, a public company; Guernsey Water, a government owned company overseen by the States' Trading Supervisory Board; Irish Water, a publicly owned company; Manx Utilities, a Statutory Board of the Isle of Man Government sponsored by the Department of Infrastructure; Tideway, a private company owned by a consortium of investors; the Independent Networks Association, a trade association representing the UK's independent network operators; and the Independent Water Networks Limited, a private company part of the BUUK Infrastructure Group. We also work closely with a range of water utilities across Europe,[487] ranging from wholly publicly-owned utilities to private operators of publicly-owned infrastructure.

As an industry body, our experience is that there are some differences produced by different ownership models (for example on public perception of trust, readiness of access to debt markets, or the 'push' on management teams by equity owners). However, these differences are (i) typically small in comparison to other issues raised in this submission, and; (ii) act in different directions such that each model has various advantages and disadvantages. Our experience is that performance ultimately rests on a clear direction set by government; good quality regulation; and access to sources of investment (which some countries have told us they find harder under a publicly-owned model). These three factors are among the most significant influences on outcomes.

Within the privately-owned model, we have seen good performance from both listed and non-listed companies. Looking back over the last two decades, we have also seen examples of poor performance from both. We are not convinced that there is clear evidence of significant correlation (though, there are also few data points).

We are not surprised, therefore, that most objective studies on questions of ownership find no clear correlation between ownership and performance.

For example, in 2023 the consultants WRc, commissioned by the Consumer Council for Water, examined the differences between water utility ownership models. After examining 185 papers, reports, websites and journal articles, and interviewing over 20 independent experts, they concluded that:

> **"…academic evidence of whether ownership models in England and Wales correlate with performance outcomes appears to be inconclusive."[488]**
>
> **WRc, 2023.**

[487] For example, Water UK is a member (and sits on the board equivalent) of EurEau, the cross-European association of water utilities.

[488] Water industry reform and water company ownership models review. *WRc,* (June 2023)

Looking at more recent data, in the Environment Agency's most recent Environmental Performance Assessment, three water and sewerage companies received the top (four star) rating.[489] They were the publicly listed Severn Trent Water and United Utilities, as well the privately-owned Wessex Water. In addition, the privately-owned Northumbrian Water received a 3-star rating with the remaining companies receiving 2-stars. Historically, Wessex Water and Northumbrian Water have been among the better environmental performers, along with Severn Trent Water and United Utilities.

Likewise, in Ofwat's most recent Water Company Performance report, there appeared to be little to suggest ownership structures significantly improved outcomes. No company received the top 'leading' ranking with most companies (listed and privately owned alike) being judged 'average' and not-for-profit Dŵr Cymru receiving the lower 'lagging behind' rating from Ofwat.[490]

We, therefore, agree with the findings of the Commission that "research on water ownership models in other countries has also failed to generate clear conclusions on whether ownership change would drive improved outcomes".[491]

The reality is that every water utility in Europe faces similar challenges, regardless of ownership, from climate change, aging assets, higher environmental and drinking water targets, changing public expectations, new technology, emerging pollutants and shifts in the way businesses use water.

On storm overflows, for example, most Western countries have the same combined sewerage systems for areas built prior to the 1960s that we do in the UK. As such, they also suffer from the associated discharges that come during heavy rainfall. The difference in England and Wales is that, thanks to the fact that monitoring occurs at each and every combined storm overflow, we know the extent of the problem and have a plan to put it right. Many countries in Europe don't even know how many overflows are present in their infrastructure.[492]

In Paris, the water system is publicly owned and operated but this does not make them immune to the challenges caused by extreme, changing weather. For example, during the 2024 Paris Olympic Games, the triathlon heats were postponed due to water quality issues caused by discharges from the combined system they have in the city.

On other performance metrics the UK is largely in line with other European nations. On leakage, for example, the UK is around average with lower leakage than countries like Italy and Norway.[493]

While there are no clear benefits to changing the ownership models of either Wales or England, there are obvious costs. Those costs and disbenefits are even more serious when investment is increasing sharply (and over £12 billion of new equity is required). We are therefore strongly of the view that focussing on ownership models is to miss the point of what really makes a difference for customers, society and the environment; we are opposed to this changing.

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[489] 'Water and sewerage companies: Environmental Performance Assessment 2023', *Environment Agency,* (July 2024)

[490] 'Water Company Performance Report 2023-24', *Ofwat,* (October 2024)

[491] 'Call for Evidence: Independent Commission on the Water Sector Regulatory System', *The Department for Environment, Food and Rural Affairs*, (February 2025)

[492] 'Review of BAT and BEP in Urban Wastewater Treatment Systems focusing on the reductions and prevention of stormwater related litter, including micro-plastics, entering the Marine Environment', *Ospar Commission,* (2019), p.12. This is consistent with our own conversations with utilities in several other countries.

[493] 'Europe's Water in Figures: An overview of the European drinking water and waste water sectors', *EurEau,* (2021)

Appendices

Appendix A – Call for Evidence questions mapped to response document

The following table maps the questions in the Call for Evidence questions with where we address them in this document.

Cunliffe Chapter	Question	Water UK relevant section of response
Chapter 2 – Overarching Framework for the Management of Water	Q10. Thinking ahead to what you would like the water system to look like in the future (e.g. in 25 years' time), what outcomes from the water system are most important to you?	Section 2 - Establishing a new mandate for the water sector
Chapter 2 – Overarching Framework for the Management of Water	Q11. To what extent do you believe the overall water framework already delivers the outcome you chose as your [priorities]?	Section 2 - Establishing a new mandate for the water sector
Chapter 2 – Overarching Framework for the Management of Water	Q12. Who do you believe should be responsible for making decisions about what outcomes to prioritise from the water system?	Section 3.2 - Devolving power to catchments and regions
Chapter 2 – Overarching Framework for the Management of Water	Q13. Do you believe there should be changes to roles and responsibilities for water management across local, regional and national levels?	Section 3.2 - Devolving power to catchments and regions
Chapter 2 – Overarching Framework for the Management of Water	Q14. Do you believe changes are needed to help reduce the siloed approach to water management across different sectors? If so, what changes do you believe would be beneficial?	Section 3.2 - Devolving power to catchments and regions Section 3.3 - Establishing a National Water Grid for England Section 2.1 - Clearly defined outcomes
Chapter 2 – Overarching Framework for the Management of Water	Q15. Do you believe there are barriers to money being spent more effectively and efficiently across different sectors to deliver the best outcomes for the water system?	Section 3.2 - Devolving power to catchments and regions
Chapter 2 – Overarching Framework for the Management of Water	Q16. In your opinion, is it more important that regional water system governance aligns with hydrological or local government boundaries?	Section 3.2 - Devolving power to catchments and regions
Chapter 2 – Overarching Framework for the Management of Water	Q17. Do you believe changes are needed to the WFD Regulations, including for 2027 onwards? If so, which areas would benefit the most from change? Q18. Do you believe changes are needed to improve how we monitor and report on the health of the water environment?	Section 3.1 - Clearly defined outcomes
Chapter 2 – Overarching Framework for the Management of Water	Q19. Do you believe changes are needed to improve how we monitor and report on the health of the water environment?	Section 5.2 - Monitoring delivery
Chapter 2 – Overarching Framework for the Management of Water	Q20. What role do you believe the government can play in providing strategic direction for the water industry?	Section 2.3 - Clear remits and refocused duties for regulators Section 3.3 - Establishing a National Water Grid for England

Chapter 2 – Overarching Framework for the Management of Water	Q21. What changes, if any, should be made to how the government provides strategic direction for the water industry?	Section 3.3 - Clear remits and refocused duties for regulators
Chapter 2 – Overarching Framework for the Management of Water	Q22: Do you believe there are barriers to effective long-term water industry planning? `	Section 3.2 - Devolving power to catchments and regions Section 3.3 - Establishing a National Water Grid for England
Chapter 2 – Overarching Framework for the Management of Water	Q23: What changes, if any, would help water companies to use planning frameworks more effectively to fulfil their duties and deliver their functions?	Section 2.1 - Clearly defined outcomes Section 3.1 - Improving strategic planning frameworks
Chapter 3 – The Regulators	Q24: How would you rate the performance of the water regulatory framework?	Section 2 - Establishing a new mandate for the water sector Section 3.3 - Clear remits and refocused duties for regulators
Chapter 3 – The Regulators	Q25: To what extent do water regulators coordinate effectively in the regulation of the water industry?	Section 3.3 - Clear remits and refocused duties for regulators
Chapter 3 – The Regulators	Q26: What changes, if any, do you consider are needed to the framework of water regulators to improve the regulation of the water industry? Please consider both potential benefits and costs of any proposed changes.	Section 3.3 - Clear remits and refocused duties for regulators Section 5.2 - Monitoring delivery
Chapter 3 – The Regulators	Q27: To what extent do you think the water industry regulators have the capacity, capabilities and skills required to effectively perform their roles?	Section 2.3 - Clear remits and refocused duties for regulators
Chapter 4 – Economic Regulation	Q28: To what extent do you think the economic regulatory framework is delivering positive outcomes?	Section 3 - Better targeting of investment Section 5 - Empowering consumers
Chapter 4 – Economic Regulation	Q29. How do you think the Price Review process should balance the need to keep customer bills low with the need for infrastructure resilience?	Section 2.2 - Legally binding resilience standards Section 4.1 - Facilitating agile investment Annex 5 - Investability
Chapter 4 – Economic Regulation	Q30. What, if any, changes could be made to the Price Review process to better enable the water industry to deliver positive outcomes?	Section 4.1 - Facilitating agile investment
Chapter 4 – Economic Regulation	Q31. What, if any, changes could be made to the Price Review process on assessing and setting base expenditure to effectively support infrastructure maintenance?]	Section 4 - Accelerating investment to enable growth Annex 5 - Investability
Chapter 4 – Economic Regulation	Q32: What, if any, changes could be made to the Price Review process on assessing and setting enhancement expenditure to effectively support infrastructure improvements?	Section 2.2 - Legally binding resilience standards Section 4 - Accelerating investment to enable growth Annex 4 - A New Approach to Performance and Supervision in the England and Wales Water Sector

Chapter 4 – Economic Regulation	Q33. What, if any, changes could be made to the Price Review Process on assessing and setting the Weighted Average Cost of Capital (WACC) to effectively attract investment in the water industry?	Annex 5 - Investability
Chapter 4 – Economic Regulation	Q34. What, if any, changes could be made to the Price Review process on assessing and setting performance incentives to effectively secure infrastructure delivery? This could be across Outcome Delivery Incentives (ODIs) to effectively deliver for customers, the environment and public health; and/or across Price Control Deliverables (PCDs), for example.	Section 4 - Accelerating investment to enable growth Annex 4 - A New Approach to Performance and Supervision in the England and Wales Water Sector
Chapter 4 – Economic Regulation	Q35. To what extent does the economic regulatory framework deliver acceptable water bills for customers?	Section 5.3 - Reforming charges
Chapter 4 – Economic Regulation	Q36. What, if any, changes would help ensure customers are paying fairly for the water they use	Section 5.3 - Reforming charges
Chapter 4 – Economic Regulation	Q37. To what extent does the regulatory framework protect customers from poor service? (Please select one)	Section 2.3 - Clear remits and refocused duties for regulators
Chapter 4 – Economic Regulation	Q38. To what extent does the regulatory framework ensure that vulnerable customers are effectively supported?	Section 5.3 - Reforming charges
Chapter 4 – Economic Regulation	Q39. What, if any, changes to the regulatory framework would better incentivise water companies to deliver and maintain high customer standards?	Section 5.3 - Reforming charges
Chapter 4 – Economic Regulation	Q40. What, if any, changes to the regulatory framework would improve support for customers in vulnerable circumstances?	Section 5.3 - Reforming charges
Chapter 4 – Economic Regulation	Q41. To what extent is change required to the economic regulatory framework to support water companies' financial resilience?	Section 2 - Establishing a new mandate for the water sector Section 4 - Accelerating investment to enable growth
Chapter 4 – Economic Regulation	Q42. Which of the following changes to the economic regulatory framework, if any, would improve outcomes for the water industry?	Section 2 - Establishing a new mandate for the water sector
Chapter 4 – Economic Regulation	Q43. Do you think there is evidence on the historical relationship between debt, dividends, and expenditure at water companies that the commission should be looking at? Please answer and explain below, providing supporting examples and evidence, where possible.	Section 4 - Accelerating investment to enable growth
Chapter 4 – Economic Regulation	Q44.To what extent does the economic regulatory framework support or hinder investment into the sector?	Section 4 - Accelerating investment to enable growth Annex 4 - A New Approach to Performance and Supervision in the England and Wales Water Sector
Chapter 4 – Economic Regulation	Q45. How do financial returns in the water sector compare to other similar sectors (for example, energy)? Please answer and explain below, providing supporting evidence and examples, where possible.	Section 4 - Accelerating investment to enable growth Annex 4 - A New Approach to Performance and Supervision in the England and Wales Water Sector

Chapter 4 – Economic Regulation	Q46. What options, if any, would incentivise investment in the water sector? Please answer and explain below, providing supporting evidence and examples, where possible.	Section 4 - Accelerating investment to enable growth Annex 4 - A New Approach to Performance and Supervision in the England and Wales Water Sector
Chapter 4 – Economic Regulation	Q47. How does the public and political portrayal of water companies in the media and elsewhere affect the attractiveness of the water sector to investors?	Section 4 - Accelerating investment to enable growth Annex 4 - A New Approach to Performance and Supervision in the England and Wales Water Sector
Chapter 4 – Economic Regulation	Q48. To what extent should further competition in the water industry be encouraged through regulation? Please answer below and provide evidence and examples, where possible.	Section 4.2 - Refocusing markets on the delivery of new infrastructure
Chapter 4 – Economic Regulation	Q49. Which of the following schemes, if any, have failed to provide effective levels of competition and efficiency? (Please select all that apply)	Section 4.2 - Refocusing markets on the delivery of new infrastructure
Chapter 4 – Economic Regulation	Q50. Which of the following changes to competition schemes, if any, would improve outcomes for the sector? (Please select all that apply)	Section 4.2 - Refocusing markets on the delivery of new infrastructure
Chapter 4 – Economic Regulation	Q51: To what extent would greater market tendering of infrastructure delivery projects improve outcomes? Please answer below and provide evidence and examples, where possible.	Section 4.2 - Refocusing markets on the delivery of new infrastructure
Chapter 5 - Water Industry Public Policy Objectives	Q52. Do you believe that legal and/or regulatory requirements would benefit from review or consolidation? If so, please explain your answer and provide evidence and examples, where possible	Section 2.3 - Clear remits and refocused duties for regulators
Chapter 5 - Water Industry Public Policy Objectives	Q53. Do you believe that the system of environmental regulation, monitoring and enforcement is ensuring water company compliance with environmental standards?	Section 5.2 - Monitoring delivery
Chapter 5 - Water Industry Public Policy Objectives	Q54. Which of the following changes to water industry environmental regulatory requirements, if any, would improve outcomes from the sector?	Section 2.1 - Clearly defined outcomes Section 3 - Better targeting of investment
Chapter 5 - Water Industry Public Policy Objectives	Q55. Which of the following changes to the water industry environmental regulation, monitoring and enforcement framework, if any, would improve outcomes for the sector?	Section 5.2 - Monitoring delivery
Chapter 5 - Water Industry Public Policy Objectives	Q56. What changes, if any, could be made to the drinking water regulatory system to maintain world leading drinking water quality?	Section 3 - Better targeting of investment
Chapter 5 - Water Industry Public Policy Objectives	Q57. To what extent is the overall water regulatory framework securing resilient long- term supplies of water?	Section 3 - Better targeting of investment
Chapter 5 - Water Industry Public Policy Objectives	Q58: What changes, if any, could be made to the overall water regulatory framework to ensure it can secure a resilient long-term supply of water?	Section 3 - Better targeting of investment
Chapter 5 - Water Industry Public Policy Objectives	Q59. To what extent does the overall water regulatory framework support or hinder infrastructure resilience? When considering your answer, please think about future pressures including factors such as climate change and population growth.	Section 2.2 - Legally binding resilience standards

Chapter 5 - Water Industry Public Policy Objectives	Q60. To what extent does the overall water regulatory framework support or hinder infrastructure security? When considering your answers, please think about evolving security threats such as cyber security.	Section 2.2 - Legally binding resilience standards
Chapter 5 - Water Industry Public Policy Objectives	Q61. To what extent does the overall water regulatory framework support or hinder effective management of supply chain risks? When considering your answers, please think about disruption in and constraints from supply chains.	Section 2.2 - Legally binding resilience standards
Chapter 5 - Water Industry Public Policy Objectives	Q62. What changes, if any, could be made to the overall water regulatory framework to better support infrastructure resilience?	Section 2 - Establishing a new mandate for the water sectorLegally binding resilience standards
Chapter 5 - Water Industry Public Policy Objectives	Q63. What changes, if any, could be made to the overall water regulatory framework to better support infrastructure security?	Section 2.2 - Legally binding resilience standards
Chapter 5 - Water Industry Public Policy Objectives	Q64. What changes, if any, could be made to the overall water regulatory framework to better manage risks from supply chains?	Section 2.2 - Legally binding resilience standards
Chapter 5 - Water Industry Public Policy Objectives	Q65. To what extent does the overall water regulatory framework currently support or hinder innovation?	Section 5.2 - Monitoring delivery Section 5.3 - Reforming charges
Chapter 5 - Water Industry Public Policy Objectives	Q66. Which of the following changes in the sector, if any, would enable innovation outcomes?	Section 5.2 - Monitoring delivery Section 5.3 - Reforming charges
Chapter 5 - Water Industry Public Policy Objectives	Q67. What opportunities, if any, do new technologies present for companies and the regulators?	Section 5.2 - Monitoring delivery Section 5.3 - Reforming charges
Chapter 6 - Ownership	Q68. What impact, if any, has consolidation of water companies had on their performance?	Section 7 - Ownership models
Chapter 6 - Ownership	Q69. What impact, if any, does whether or not a water company is listed on the stock exchange have on their performance?	Section 7 - Ownership models
Chapter 6 - Ownership	Q70. What impact, if any, do complex company structures like Whole Business Securitisation have on water company performance?	Section 7 - Ownership models
Chapter 6 - Ownership	Q71. What impact, if any, does the type of investor (for example, private equity firms, pension funds) have on water company performance?	Section 7 - Ownership models
Chapter 6 - Ownership	Q72. How effective has Dŵr Cymru Welsh Water's not-for-profit model been in driving improved outcomes?	Section 7 - Ownership models
Chapter 6 - Ownership	Q73. What are the risks associated with Dŵr Cymru Welsh Water's not-for-profit model?	Section 7 - Ownership models