A new approach to performance and supervision in the England and Wales water sector

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Report prepared for Water UK

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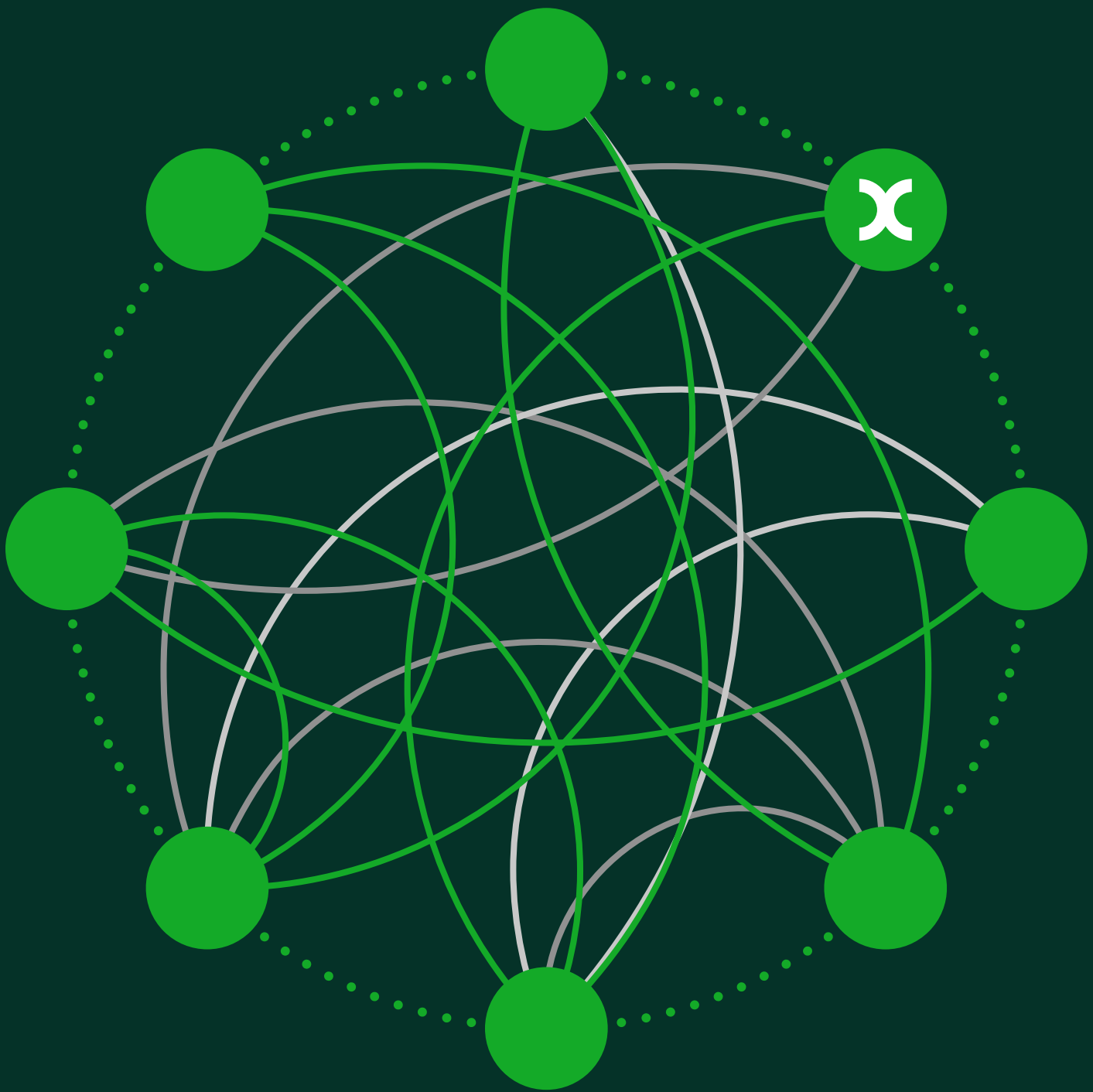

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Executive summary

Water UK has commissioned Oxera to support its response to the Call for Evidence by the Independent Water Commission ('the Commission'). In this report, we focus on two interrelated areas:

1. issues with **the current performance framework**, and how these could be addressed as part of a broader package of regulatory reform;
2. the possibility of **adopting a supervisory approach** to water sector regulation, including the extent to such an approach might facilitate better solutions to issues around company performance, as well as price control design and calibration.

Economic regulation of the water sector in England and Wales exists to ensure that regional monopolies deliver quality services to customers at a fair price. Ofwat is tasked with setting allowed revenues and service targets, but it faces an information asymmetry problem: companies know more about their efficient cost and performance levels than it does.

Ofwat's existing regulatory approach seeks to overcome this information asymmetry by:

- setting up 'ex ante' incentives to lead companies to behave in specific ways. The incentives built into the model were intended to lead to information revelation (around efficient costs of service) that would reduce the information asymmetry over time, and allow for benefits to be passed on to customers;
- using comparisons across regions, with (mostly) top-down benchmarking to understand comparative levels of efficiency and performance.

The existing approach does not seek to provide the economic regulator with a complete understanding of company business models or their operations. Nevertheless, it can help to avoid micromanagement by the regulator, leaving the company to decide the best way of achieving (or surpassing) the regulatory targets. This was arguably a successful approach in the years following privatisation, contributing to efficiency

gains, improved performance and increased investment in the assets.[1] However, this is no longer the case.

Current regulation is not leading to good outcomes for customers or investors

Ofwat's performance framework is not currently delivering in the public interest. In particular, we highlight concerns that the existing framework has not led to good outcomes for customers or investors in the following four main areas.

1 **There is evidence that funding for asset health falls short of the sustainable long-term level of funding**. This is highlighted by the fact that, since PR94, the regulatory capital value (RCV—a proxy for the size of the asset base) has grown by c. 230%, while capital maintenance allowances (i.e. the funds made available to replace these assets) have increased by only c. 60%.

2 **Performance targets have been set unrealistically high for the funding available, setting the sector up to fail**. Despite strong financial incentives, companies have been unable to meet these targets. Investors have been exposed to high levels of downside risk and high variability of returns, with four companies having their entire allowed equity returns wiped out by operational (i.e. cost and performance) incentives in the first four years of AMP7.

3 **The existing regime has not supported poorly performing companies** in addressing performance issues.

4 **Financial resilience in the sector is weaker** than in the past, with several companies at risk of financial distress.

The sector now faces myriad, complex, intergenerational challenges, including water supply pressures, adapting to climate change, tackling environmental problems, and meeting the needs of a growing population, with significant regional variations.

There have been highly publicised performance challenges, with some areas in which companies have (by their own admission) fallen short of expectations. There is also evidence that levels of asset replacement and renewal, and the levels of funding made available by regulators for

[1] See, for example, National Audit Office (2015), 'The economic regulation of the water sector', 14 October.

these activities, are below the levels required to maintain long-term asset health.

To address these challenges, **there will need to be unprecedently large increases in investment over multiple AMPs**. Investability issues are considered in more detail in a separate Oxera report for Water UK.[2]

One performance-related challenge to investability is the risk of 'doom loops' for underperforming companies, where interactions between operational context (e.g. extreme weather and companies' asset bases), the regulatory framework and companies' financial resilience create a spiral of increasing instability.

Incentive regulation relies on both rewards and penalties to align the interests of companies and customers. However, **if a company is unable to deliver performance within its funding allowance, no incentive or regulatory mechanism will change this**. The logical consequence of a regulatory regime that locks companies into successively mounting operational penalties is that poor performance will persist until the point at which either the current investors are forced to sell the company at a loss or it enters special administration.

The root causes of these issues

We identify five root causes of these problems, which stem from Ofwat's approach to overcoming information asymmetries when setting cost and performance targets through the use of 'comparative competition'. In particular:

- Ofwat's comparative competition approach relies heavily on top-down benchmarking that does not account sufficiently for regional and company-specific factors;
- the models used to set base allowances, including capital maintenance, are calibrated based on historical, outturn data;
- performance measures are driven by a range of controllable and uncontrollable factors, exposing companies to the risk of windfall gains and losses;
- backwards-looking monitoring does not allow for early identification and resolution of issues;

[2] Oxera (2025), 'Response to the Independent Water Commission Call for Evidence: Investability', 23 April.

- the resulting mutual lack of trust between companies and the economic regulator has led to tighter, more prescriptive and more onerous regulation.

Any reform to the existing regulatory regime will need to address these root causes. Reform options that reduce or eliminate the distortions created by the implementation of comparative competition, while still holding companies to account, will unlock significant improvements. To meet these competing objectives, options for future regulatory reform need to be based on less distortive mechanisms to reduce the information asymmetry between companies and the system of economic regulation.

Options for regulatory reform

Given the significant issues with current water sector economic regulation, which puts at risk the delivery of the transformational investment that the sector requires, change is needed. To rectify these issues, **we have identified three high-level regulatory reform options to address issues with the current framework**, which vary in scope across two main dimensions:

- **The approach to economic regulation:** how economic regulation is applied, including—for example—how cost allowances and performance targets are set, and the balance between a reliance on 'top-down' approaches versus a greater reliance on company-specific evidence.
- **The role of supervision:** what the appropriate relationship is between companies and regulators, and potential roles in which new supervisory arrangements could improve regulatory outcomes. The motivation for this dimension is in part the Commission explicitly asking whether a more supervisory approach may be warranted.

The three options we consider in this report are as follows.

- Option 1: **Addressing issues 'at source' within the existing framework.** Under this approach, economic regulation would continue to be overseen by a centralised economic regulation function. However, specific changes would be implemented to the way in which economic regulation is applied—in particular, how price controls are set. This would include a new recovery regime, to help companies that are failing to meet customer expectations and have weak financial resilience to turn around their performance**. As a general guide, we consider the**

Commission should interpret these changes as a 'do minimum' option.

- **Option 2: A prudential-style supervisory framework.** This would incorporate the reforms set out under Option 1 and build on them through 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 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 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 to scale the intensity of oversight based on each individual company's overall track record and performance.

Option 3 envisages a wider role for supervision than typically seen in financial services, reflecting the more fundamental role of economic regulation in water companies' business models than for firms operating in competitive markets. We refer to this as the 'assessor' model, to reflect the broader function of the assessors than that of a supervisor in a financial services setting, for example.

Assessment of options

The challenges the sector has faced and forward-looking uncertainties mean that any regulatory reform needs to consider multiple objectives and considerations, which include the following.

- **Different regional objectives**, based on unique geographic circumstances and local priorities—e.g. pressure on water supplies in the south-east of England, and environmental challenges for regions with long coastlines.

- **Differences in company business models and risks**—e.g. some companies are undertaking many large enhancement schemes and face different risks than those they faced in the past.
- **The need to make challenging trade-offs**—there is a difficult balance to be struck between unlocking investment to address the sector's biggest issues, while ensuring that companies are held to account for their performance and giving strong-performing companies flexibility in how they deliver for customers.
- **The past becoming a poor indicator of future requirements**, combined with a high degree of uncertainty stemming from a large number of unknowns.

The current regulatory approach, with fixed allowances and incentives set through a largely one-size-fits-all comparative approach, is ill-suited to tackling these challenges. Accounting for different regional priorities and business models in a common cost and performance framework is inherently challenging. Likewise, a top-down approach risks decisions being taken without a genuine understanding of the trade-offs that are being made. Risks and uncertainties are insufficiently captured and recognised, with the models treated as a 'source of fact'.

We show that **the current regulatory framework needs to change to ensure that customers receive the right outcomes**, that long-term infrastructure investment is funded, and that investors see the sector as attractive for investment.

In section 7, we appraise the three options in terms of their ability to better reflect the sector's challenges and address the root causes of the existing problems (as summarised in Table 7.1). Based on our assessment criteria, each of Options 1 to 3 has the potential to deliver an improvement in terms of outcomes for consumers and companies, relative to the status quo.

Recommendations

The changes set out in Option 1 are a minimum requirement. There is real merit in addressing these issues to provide a regulatory package that is investable and better delivers the interests of current and future customers. However, we have concerns about the ability of such an approach to adequately capture the differences in regional strategic objectives and realities.

Option 2 should lead to better outcomes than Option 1, due to greater levels of company-specific understanding, reduced information

asymmetry, and the ability to intervene earlier to address financial resilience issues using more targeted measures.

Moreover**, a more radical, 'assessor' model provides an alternative means of overcoming the information asymmetry between regulator and companies.** It provides a more focused role for comparative competition, while allowing the regulatory authority to develop deeper knowledge of the water companies and better understanding of their challenges, strengths and weaknesses. More importantly, it would allow the regulatory system to better account for differing local objectives and challenges, in a way that is unlikely to be feasible within the confines of the existing approach.

If implemented properly, this has the most potential benefit. However, the risks of such an approach would need to be carefully thought through and mitigated, as implementation issues or risks of regulatory error may be significant. **This would be a fundamental change in regulatory approach and material implementation considerations would need to be addressed** including:

- where the decision making process lies, in terms of appropriate institutional arrangements and powers;
- the capabilities and skills of assessors, given that they would have considerable power and responsibility in shaping regulatory allowances and targets;
- credibility of the process, in particular around avoiding scope for regulatory capture, and confidence that the approach is delivering materially different outcomes to the status quo;
- the appropriate checks and balances on the assessors to ensure that the system is effective and proportionate, and to prevent micromanagement;
- how to avoid scope creep, while stripping back unnecessary elements of the existing regulatory framework (e.g. certain regulatory mechanisms whose functions could be replaced or streamlined). This consideration is important given HM Treasury's recent commitment to reduce the administrative costs of regulation for businesses by 25% by the end of this Parliament.[3]

Based on our assessment of the potential opportunities, **we recommend that the Independent Water Commission give further consideration to a potential assessor model for the water sector in England and Wales,**

[3] HM Treasury (2025), 'A new approach to ensure regulators and regulation support growth', March.

notwithstanding that the scale of change that this would require should not be underestimated.

1 Introduction

1.1 Purpose of this report

Water UK has commissioned Oxera to support its response to the Call for Evidence (CfE) by the Independent Water Commission ('the Commission'). Specifically, we have been asked to provide our expert opinion on two interrelated areas:

- issues with the current **performance framework**, and how these could be addressed as part of a broader package of regulatory reform;
- the possibility of adopting **a more supervisory approach** to water sector regulation.

This report explores the potential links between these two areas, including the extent to which a more supervisory approach might facilitate better solutions to issues around company performance, as well as price control design and calibration.

1.2 What do we mean by 'performance framework'?

The performance framework includes the price control incentives, as set by Ofwat every five years, and the enforcement activities undertaken (outside of the price control framework) by Ofwat, the Environment Agency (EA), the Drinking Water Inspectorate (DWI) and Natural Resources Wales.

This performance framework provides incentives for:

- **efficiency**, through the setting of fixed-cost allowances (or total expenditure 'TOTEX' allowances), which represent Ofwat's view of the funding a company needs to deliver services and improvements if it is operating efficiently;
- **on-time delivery of investment**, through price control deliverables (PCDs) that generally relate to the delivery of specific outputs/activities (e.g. kilometres of mains renewed), or named enhancement schemes;
- **improvement in service and environmental performance**, through the system of outcome delivery incentives (ODIs); and,
- **compliance with statutory obligations**, through the aforementioned systems of enforcement.

An overview of the performance framework currently applicable to water companies is provided in Annex A1 at the end of this report.

1.3 The link between performance and supervision

As part of its CfE, the Commission is seeking views on alternative approaches to regulatory scrutiny and oversight. In this context, it has explicitly referenced the potential for Ofwat to 'supplement economic regulation with a more formal supervisory function'.[4] For ease of reference, the key references to supervision within the CfE are summarised in Table 1.1.

Table 1.1 Selected references to supervision in the Call for Evidence

p. 24, para. 56	For Ofwat, there may be lessons from other sectors around the role of supervisory oversight to ensure public policy objectives are delivered.
p. 28, para. 76	From 2015, Ofwat introduced a monitoring framework to better track companies' financial resilience. Doubts have been raised about whether this goes far enough, and also whether there is a case for Ofwat to expand its supervisory activities in this area. The Commission is seeking views on whether there should be changes to the financial resilience regulatory model.
p. 92, para. 253	Some have argued for an expansion in the skills mix within regulators. Lessons could be drawn from other regulated sectors where they deploy risk, delivery and engineering expertise to supervise and scrutinise the operational and financial activity of companies
p.107, para. 284	Economic modelling and analysis will always be a key element of economic regulation, but the Commission is interested in alternative approaches to regulatory scrutiny. As the regulatory system has evolved, Ofwat's duties have grown as has the complexity of economic regulation. It now appears that traditional economic regulation alone is not sufficient to manage market failures in the water industry. Recognising this, one option – covered in more detail later in *Chapter 4, Financial resilience* – would be for Ofwat to supplement economic regulation with a more formal supervisory function.
pp. 131–2, para. 341	Ofwat's reliance on credit ratings may limit its ability to identify internal weaknesses at companies early and do not account for their own influence on credit agency rating decisions… As set out in Box 15, in the financial services sector, the regulators moved to a supervisory model of assurance, in part to reflect concerns about credit ratings and provide a more nuanced and less reactive view of company risk profiles.
pp. 134–5, para. 354	As an alternative to an industry wide notional gearing level, companies could be required to maintain a defined level of equity proportional to the risk attached to their assets and liabilities. The Commission would welcome evidence on the possible impacts of this. An approach could be similar to the system of risk-weighted exposure used in financial services regulation. It would require a standardised risk assessment as part of a supervisory model under which the regulator would assign an equity risk proportion based on market factors.
p. 135, para. 355	The Commission is seeking views on whether financial oversight could be strengthened in the sector, potentially through a supervisory model. While Ofwat has taken an increasingly interventionist approach to monitoring pressures and decisions in recent years, they do not have a formal supervisory regime. This could include, for example, more robust stress testing of company finances, or the appointment of supervisors who have more detailed understanding of a company's position. This may potentially reduce reliance on credit ratings, by providing Ofwat with an independent method of verifying company finances. However, the adoption of such a regime may be intrusive, and this would need to be balanced against potential benefits. The Commission is also interested in potential barriers to adoption, including regulatory expertise

[4] Independent Water Commission (2025), 'Call for evidence: Independent Commission on the Water Sector Regulatory System', p. 107, para. 284.

The Commission is seeking views at this stage, and does not express a clear, single view as to what 'supervision' should entail. This provides scope for multiple options to be considered. Therefore, to give appropriate consideration to potential supervisory approaches to water regulation, **we explore two approaches to supervision in this report**:

1 under the first option—which most closely aligns to the CfE *Chapter 4, Financial Resilience*—supervision would be focused on **financial oversight**, with forward-looking risk assessments and resolution of issues before they arise;

2 a more radical, second option would involve **a broader remit for supervision**, with the economic regulator using the company-specific information and insights obtained through supervision to calibrate allowed revenues and associated deliverables at price reviews.

1.4 Structure of this report

The report is structured as follows.

- **Section 2** outlines why the existing framework has not led to good outcomes for customers or investors;
- **Section 3** explores the root causes behind the issues with the existing performance framework, and outlines three high-level options for reform;
- **Section 4** sets out Option 1: Addressing issues 'at source' within the existing framework;
- **Section 5** sets out Option 2: Supplementing at-source changes with prudential-style supervisory framework;
- **Section 6** sets out Option 3: Company-specific supervisors with expansive powers and responsibilities;
- **Section 7** presents our conclusions and recommendations.

2 The existing framework is not leading to good outcomes for customers or investors

Economic regulation of the water sector aims to address the issues that can arise due to the market power of monopoly water companies, with a view to ensuring customers receive value for money from their water and wastewater services. Putting in place effective cost assessment and incentive frameworks is therefore essential for:

- providing companies with the funding they need to deliver customer and environmental objectives, including long-term asset health;
- using incentives to align companies' incentives with the right outcomes for customers, broader society and the environment;
- attracting required levels of investment into the sector, with a proposition that represents a 'fair bet' for investors. This is particularly critical for a sector undergoing a large capital investment programme.[5]

In this section, we consider whether Ofwat's performance framework is delivering in the public interest. We highlight concerns that the existing framework has not led to good outcomes for customers or investors in the following four main areas.

1. There is evidence that **funding for asset health falls short of the sustainable long-term level of funding.** This is highlighted by the fact that, since PR94, the regulatory capital value (RCV—a proxy for the size of the asset base) has grown by c. 230%, while capital maintenance allowances (i.e. the funds made available to replace these assets) have increased by only c. 60%.

2. Performance targets have been set unrealistically high for the funding available, setting the sector up to fail. Despite strong financial incentives, companies have been unable to meet these targets. **Investors have been exposed to high levels of downside risk and high variability of returns**, with four companies having their entire allowed equity returns wiped out by operational (i.e. cost and performance) incentives in the first four years of AMP7.

[5] We consider this further, including the concept of a fair bet—in Oxera's separate report on investability, being submitted as part of Water UK's response to the CfE. See Oxera (2025), 'Response to the Independent Water Commission Call for Evidence: Investability', 23 April.

3. The existing regime **has not supported poorly performing companies in addressing performance issues**.

4. **Financial resilience in the sector is weaker** than in the past, with several companies at risk of financial distress.

We set out the evidence on each of these areas in turn below, before explaining why these outcomes are not in the customers' interest.

2.1 The current approach risks insufficiently funding asset health

Water companies are highly asset-intensive businesses. In 2009-10,[6] the replacement cost of water company assets (also referred to as the 'modern equivalent asset value') totalled £296bn,[7] relative to a turnover at the time of £10bn.[8] Almost all company activities rely on the use of these assets, and the majority of outcomes that affect customers and society directly also depend on these assets: including leakage, supply interruptions, sewer flooding and pollution incidents.

The level of performance that a company is capable of delivering is therefore closely tied to the size and condition of its asset base, at least over the long term. In this context, in its CfE (p. 207, para. 557), the Commission is seeking views on whether Ofwat's methodology for setting cost allowances adequately supports infrastructure resilience.

Despite the centrality of the assets of a company to its operations, expenditure on resilience can be deferred for a number of years or decades before the effects become apparent. This is a consequence of the length of asset lives in the water sector, which can range from up to several decades for above-ground assets to exceeding 100 years for below-ground assets.[9] Deferring refurbishment or replacement of such long-lived assets for a five-year period may therefore represent only a modest delay, which in turn could have only a correspondingly initial impact on serviceability.

Under a five-year price control regime, the temptation for the company is to delay capital maintenance in order to underspend allowances while

[6] This was the last year that Ofwat required companies to publish common data on modern equivalent asset values.
[7] Ofwat (2010), 'Financial performance and expenditure of the water companies 2009-10 – supporting information', September, p. 53. 2009/10 prices.
[8] Ibid., p. 2. 2009/10 prices.
[9] Estimated asset life ranges used by the Water Industry Commission for Scotland (WICS) in setting a sustainable funding allowance for Scottish Water at the 2021 review of charges. Water Industry Commission for Scotland (2020), 'Strategic review of charges 2021-27: Draft Determination', 8 October p. 64.

securing financial returns. A longer-term perspective is therefore needed, and should be reflected within the regulatory framework to avoid the deterioration of assets upon which current and future generations will rely.

As early as the 1989 principles of charging, such a long-term perspective was envisaged as part of the regulatory framework set out by Sir Ian Byatt:[10]

The formulation of sound plans for the maintenance, and improvement of the long lived assets, especially underground assets, is crucial to the future performance of the industry and hence to the long term needs of customers [...]

This approach was further developed at PR04 and PR09, with the establishment of a forward-looking Common Framework for assessing maintenance, and significant increases in capital maintenance allowances at PR04 and PR09.

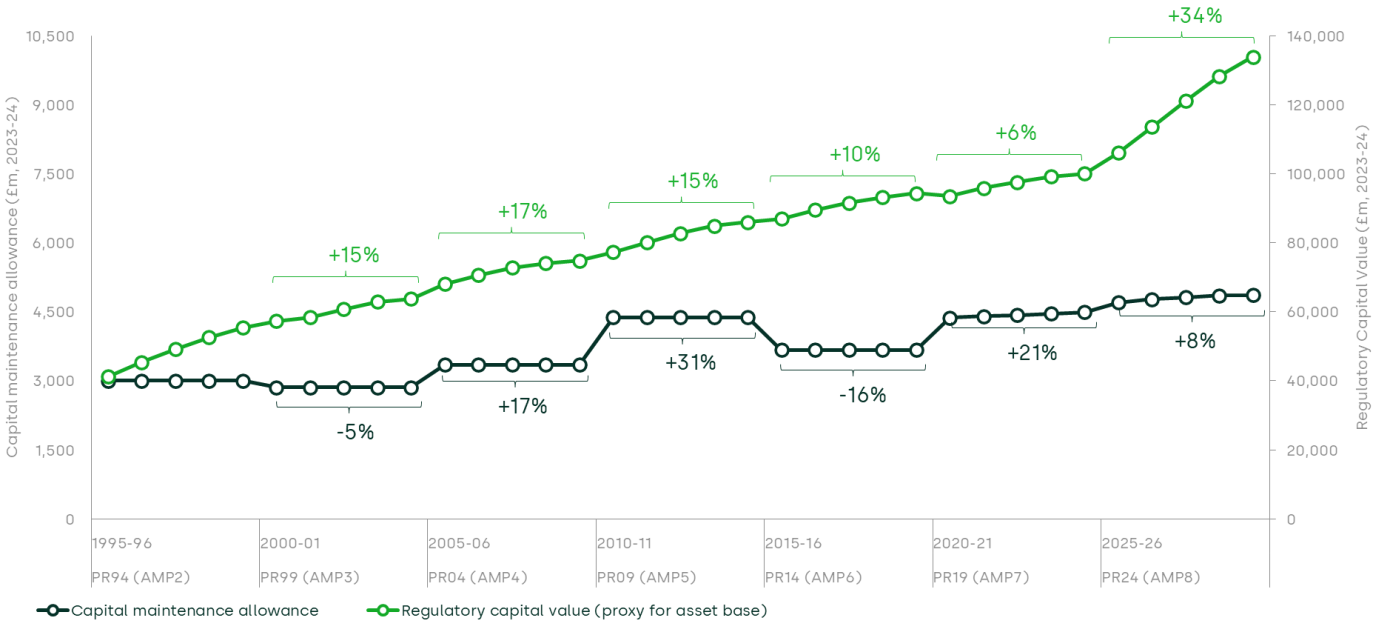
However, these forward-looking approaches to asset health were dropped at PR14, as Ofwat moved to a 'TOTEX and outcomes' framework. Under the approach that has prevailed since 2014, cost allowances for capital maintenance have effectively been based on historical levels of expenditure and cross-company modelling **that neither controls for differences in asset condition/activity between companies nor seeks to project how this might change in the future**.

Ofwat has explicitly chosen to exclude drivers of asset condition and asset activity from its PR14–PR24 cost benchmarking models, as it considers that these are under company control and would lead to statistical biases (due to endogeneity).[11]

The consequence of this approach has been that growth in capital maintenance allowances has not kept pace with growth in new assets (and their future replacement needs). Figure 2.1 below shows, by the dark line, capital maintenance allowances from PR94 to PR24 (left-hand axis), and the growth in the RCV as a proxy for how the asset base has changed, by the green line (right-hand axis).

[10] The Water Share Offers (1989), 'Prospectus', November, p. 45.
[11] In response to company proposals to include these drivers in its models, Ofwat commented that: 'These [asset health and condition] variables produced statistically significant results. But as we noted at PR19, both variables are under company control and could lead to perverse incentives. We therefore do not include them in our proposed models as they do not meet our base cost assessment principles.' Ofwat (2023), 'PR24 Econometric Base Cost Models Consultation', 5 April.

Figure 2.1 From PR94 to PR24 RCV has increased by c. 230%, while capital maintenance allowances have increased by c. 60%



Note: 2023/24 prices. Average annual values are shown for PR94 to PR14, as only a total capital maintenance allowance figure was published (PR94–PR09), or can be estimated (PR14). PR14, PR19 and PR24 capital maintenance allowances are based on the implicit allowance available from Ofwat's econometric models. For PR14, estimate is based on the published implicit allowance for capital maintenance published at the Risk Based Review, applied to Final Determination Basic Cost Threshold allowance. For PR24, the additional funding made available for mains replacement and meter replacement is also included, as well as HDD's CAC for reservoir maintenance.
Source: Oxera analysis of Ofwat price determinations and published RCV values.

While capital maintenance allowances grew at PR04 and PR09, they fell substantially at PR14, before recovering to PR09 levels at PR19 and plateauing thereafter. Growth in the RCV suggests that the asset base that this capital maintenance funding supports has grown by considerably more over the same period.[12] While there are limitations with using the RCV to approximate asset size—in particular, with respect to whether the opening RCV reflects the size of the asset base at privatisation—these factors would have to be large in magnitude to bring capital maintenance growth rates in line with growth in the asset base.

[12] The initial RCV was set with reference to the market value of the businesses at the time of privatisation and is not an 'asset register'. RCV growth may therefore not be a perfect proxy for asset growth. However, it does provide an indication of the extent to which investment in the asset base is outstripping the rate of depreciation.

Capital maintenance needs might not immediately increase as new assets are constructed. Typically, refurbishment and renewal costs increase as an asset approaches the end of its economic life—which, as set out above, can span into multiple decades. However, given: (i) the scale of growth in the asset base; that (ii) the conditions of these assets deteriorates every year; and that (iii) capital maintenance allowances have flatlined in the last 20 years,[13] **it is a matter of *when,* not *if,* expenditure on asset health will need to increase**.

In view of the current cost assessment framework, it is unclear how or whether this increase in investment will be accommodated via future capital maintenance allowances, such that companies are not required to absorb large losses. We set out in section 3.2 why this is the case .

2.2 Performance targets have been set unrealistically high for the funding available, and high incentive rates expose companies to a large degree of risk

It is a widely accepted principle of economic regulation that companies that deliver strong performance at a fair price should be rewarded (as they would in a competitive market), while those that fail to do so should be held to account.[14] However, in its CfE the Commission notes that performance targets may have been set too stringently in recent price reviews.[15]

In this section, we show that:

- the mix of cost allowances and performance targets has penalised companies in AMP7, and the scope for outperformance has been limited;
- the magnitude of operational penalties that companies have faced for failure to meet these targets has driven high variability of returns between companies;
- this trend looks set to continue in 2025-2030.

Over the first four years of AMP7,[16] there was significantly greater likelihood of penalty than reward in the regulatory regime. In Figure 2.2

[13] As shown in the figure above, capital maintenance allowances have not increased significantly since PR09, 20 years before the end of AMP8.
[14] Ofwat recognises this principle: 'The outcomes package aims to reward good performance and penalise poor performance.' Ofwat (2024), 'PR24 Final Determinations: Delivering outcomes for customers and the environment', December.
[15] In particular, with regard to service incentives (i.e. ODIs), the Commission notes that: 'The impact of ODIs on companies has also changed in recent Price Reviews, moving from marginal net rewards at Price Review 2014 to significant penalties at Price Review 2019 (data to 2023-24) [….] [our analysis] suggests that a proportion of equity returns have been wiped out by ODIs in Price Review 2019 due to company underperformance.'
[16] Data for the final year of AMP7 (2024/25) is not yet available.

below, we show the average impact of cost (TOTEX) over-/underspends (the vertical axis), and ODIs (the horizontal axis) on companies' returns over the two most recent asset management periods (AMP6, 2015/16 to 19/20 and AMP7, 2020/21 to 23/24).

Over AMP6, some companies were able to outperform on both cost and ODI incentives, while others overspent allowances and/or received ODI penalties. By contrast, over AMP7 almost all companies overspent funding allowances and incurred penalties on ODI payments. Out of the 17 companies,[17] 16 reported negative operational return on regulated equity (RORE) over the first four years of AMP7, due to a combination of overspend relative to cost allowances and penalties under the ODI framework. **This widespread underperformance suggests that targets have been set at excessively stretching levels**.

Figure 2.2 Impact of operational performance on the notional RORE to investors, AMP6 and the first four years of AMP7

Source: Oxera analysis of data from Ofwat's monitoring financial resilience datasets. Accessed at: https://www.ofwat.gov.uk/regulated-companies/resilience-in-the-round/monitoring-financial-resilience/.

[17] We refer to 17 companies as, although Bristol Water and South West Water have operated under a single licence since February 2023 as a result of their merger, Bristol Water is subject to a separate wholesale price control and is effectively treated as a separate company in Ofwat's regulatory process.

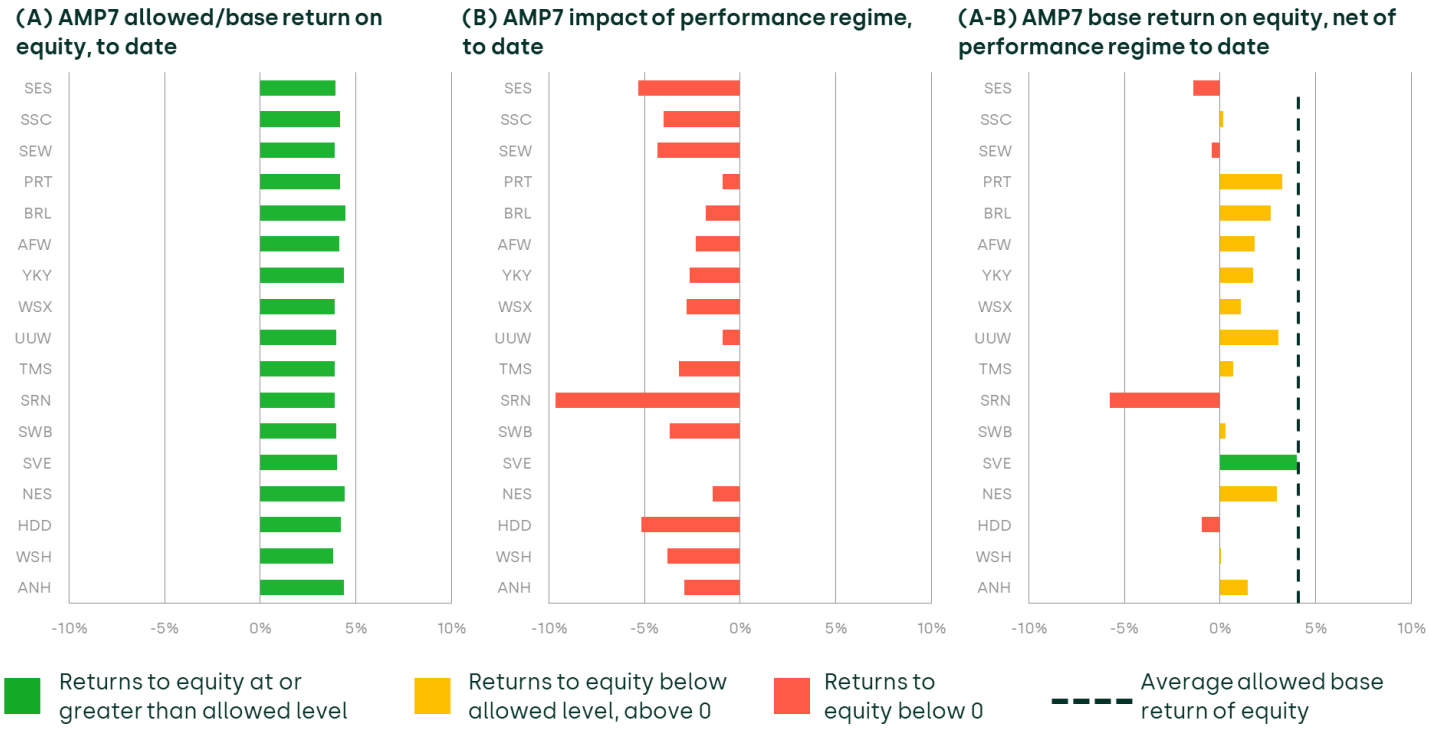
Ofwat's own assessment of water company performance demonstrates that its AMP7 performance targets have not been achievable for the industry. Ofwat has published a holistic categorisation of company performance since 2018/19, based on its assessment of companies' performance relative to the targets it has set.[18] Since 2021/22 no company has met sufficient performance targets to be assessed by Ofwat as 'Leading' .

The scale of risk exposure built into the PR19 determination—in particular through companies' exposure to cost overruns, and financial penalties for not meeting service quality targets—mean that underperformance against these targets has translated into a significant erosion of allowed returns.

In Figure 2.3, we show how the performance regime has affected returns over AMP7. The chart on the left shows the allowed base return for companies over AMP7;[19] the chart in the centre shows the total impact of the performance regime on company returns, based on performance on cost and service quality;[20] the chart on the right shows the return on equity net of any rewards or penalties under the performance regime.

[18] Ofwat, 'Water Company Performance', accessed at: https://www.ofwat.gov.uk/regulated-companies/company-obligations/outcomes/.
[19] Although Ofwat sets a common base return on equity, at the PR19 Final Determination (FD) an uplift to the cost of capital was granted to two small companies (Portsmouth Water, PRT, and South Staffs Water, SSC) which were assessed to be beneficial to Ofwat's incentive regime by providing examples of leading performance. See Ofwat (2019), 'PR19 final determinations: allowed return on capital appendix', December, p. 95. The four companies that referred the PR19 FD to the Competition and Markets Authority (CMA) (Anglian Water (ANH), Bristol Water (BRL), Northumbrian Water (NES), Yorkshire Water (YKY)) also received a higher return on equity from the CMA in its redetermination. See Competition and Markets Authority (2021), 'Final report', 17 March, Table 9-37, p. 1099.
[20] The impact of the performance regime based on operational out-/underperformance, as defined in Ofwat's Monitoring Financial Resilience report excluding 'other exceptional items'—the sum of out-/underperformance on (wholesale) TOTEX, ODI, and Retail.

Figure 2.3 Allowed/base return, impact of performance regime and base return net of the performance regime over 2020/21 to 2023/24 (AMP7 to date)



Note: 'Impact of performance regime' based on operational out-/underperformance as defined in Ofwat's Monitoring Financial Resilience report excluding 'other exceptional items'—the sum of out-/underperformance on (wholesale) TOTEX, on ODIs, and on Retail.
Source: Oxera analysis of Ofwat (2024), 'Monitoring Financial Resilience report 2023-24 charts and underlying data', 21 November.

This highlights the scale of risk exposure that the sector faces with respect to the performance regime. **Losses resulting from the performance regime in AMP7 exceed the allowed base return on equity for four companies (HDD, SRN, SEW, and SES)**, resulting in a net *negative* return to equity for these companies (before considering other sources of out-/underperformance, such as financing).

Looking ahead to AMP8, in its PR24 FD Ofwat has sought to recalibrate targets and introduce additional protections (relative to AMP7) in order to reduce downside risk and the overall level of risk exposure.[21] However, it is not clear that this aim has been achieved.

With respect to **expenditure**, companies are undertaking unprecedented levels of investment over AMP8—significantly increasing the scale of

[21] Ofwat (2024), 'PR24 final determinations: Aligning risk and return', December, p. 4.

cost risk relative to company size. Risks are further magnified by the large share of enhancement relative to business-as-usual activities, and the tying of base allowances to certain activities (rather than allowing companies to manage risk across their portfolios).

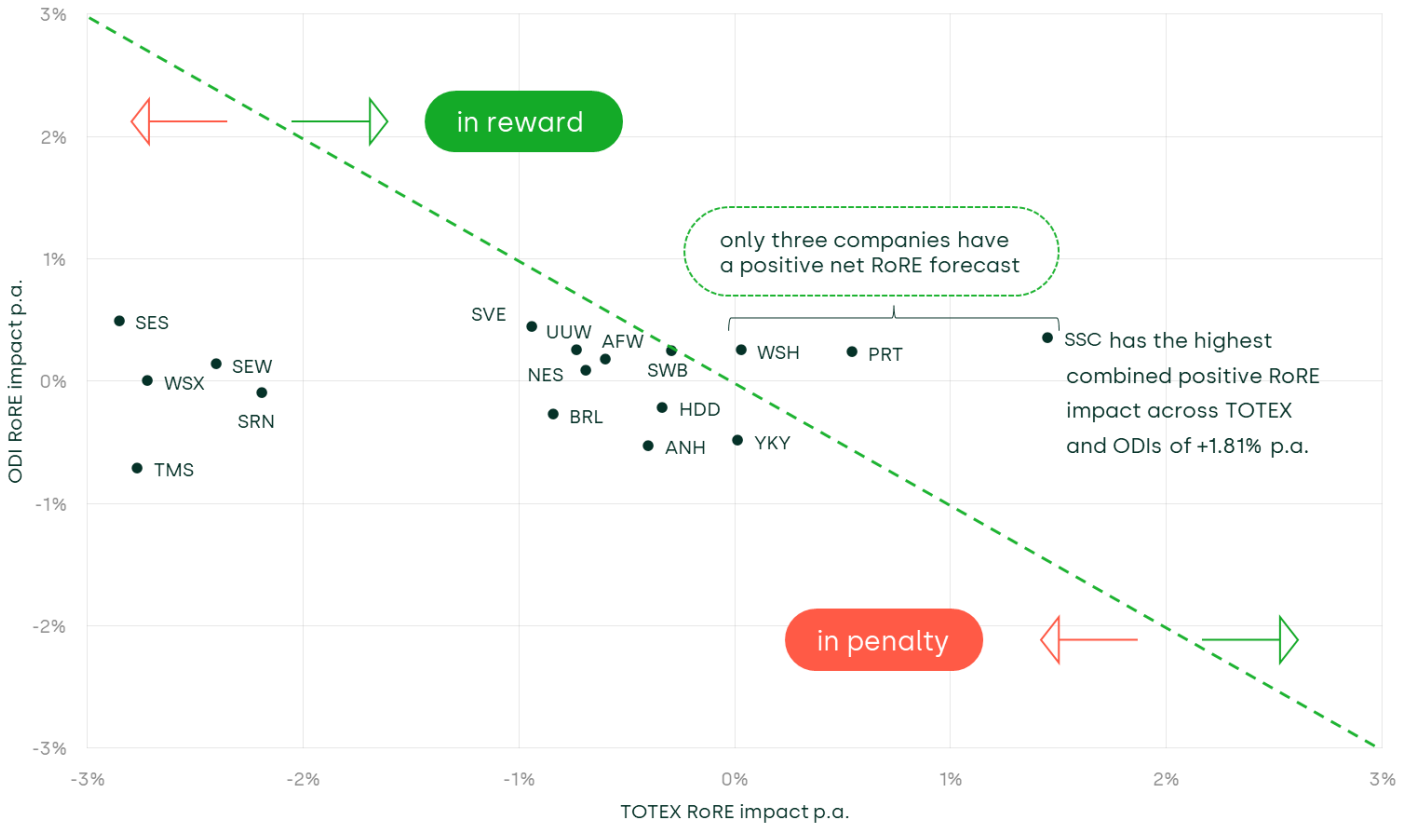
Service quality targets are predicated on delivering a step improvement in performance relative to AMP7. If performance were to remain at AMP7 levels, the average company would incur ODI penalties equivalent to 1.7% of notional regulatory equity before the application of Ofwat's outturn adjustment mechanism—equivalent to the ODI penalties of the worst-performing AMP7 company. Even after the application of Ofwat's outturn adjustment mechanism, the average company would still incur ODI penalties equivalent to 0.4% of notional regulatory equity.

Where companies have accepted the PR24 FD, this has been on the basis of ambitious company targets put forward in their Business Plans and/or Draft Determination Representations (DDRs). However, it is not clear that this improvement in outcomes will be achievable given AMP8 funding allowances. A number of companies have referred the PR24 FD to the CMA for a redetermination, with aspects of the performance regime across cost and ODIs featuring in the Statement of Case of all the appellants.

Even if companies achieve the significant improvement in performance forecast in their Business Plan submissions, the sector will remain in net penalty. Figure 2.4 below shows the impact of the performance regime in Ofwat's FD relative to company DDRs across performance (ODI RORE, vertical axis) and funding (TOTEX RORE, horizontal axis). The dashed line marks the point at which the performance regime has a neutral impact on expected returns—that is, where loses from an overspend on cost allowances would be offset by gains through outperformance on service incentives, or vice versa.

On the basis of this analysis, most companies could expect to be in penalty over AMP8—with only three earning net rewards. Moreover, five companies would face potentially very significant penalties if performance is in line with their DDR submissions.

Figure 2.4 The majority of companies would be in penalty across TOTEX and ODI incentives in AMP8 if they delivered on their DDRs



Source: Oxera analysis of company draft determination representations and Ofwat's PR24 Final Determination.

In summary, the performance regime has served to reduce investor returns over AMP7, in some cases by a substantial amount. It has exposed investors to large penalties—including for factors outside of management control—and has driven high variability of returns across companies. Companies will need to deliver a step change in performance over AMP8 in order to avoid further penalties affecting their returns, while also delivering a significantly larger investment programme. Even if companies deliver the plans set out in their DDRs, the majority are forecast to incur net operational penalties.

2.3 The existing performance regime has not supported poorly performing companies to address performance issues

An effective performance framework should allow companies that are not performing well to turn around their performance. Without this, the customers of underperforming companies could be faced with levels of service that are perpetually below expectations, and the companies will become less attractive for investment. In this section, we show that:

- empirical evidence suggests a degree of 'stickiness' in companies' operational performance—with certain companies overspending their cost allowances and failing to meet performance targets over successive AMPs;
- a regulatory regime that locks companies into poor performance, referenced by Cunliffe as a potential 'doom loop', leads to adverse outcomes for customers under the current framework.

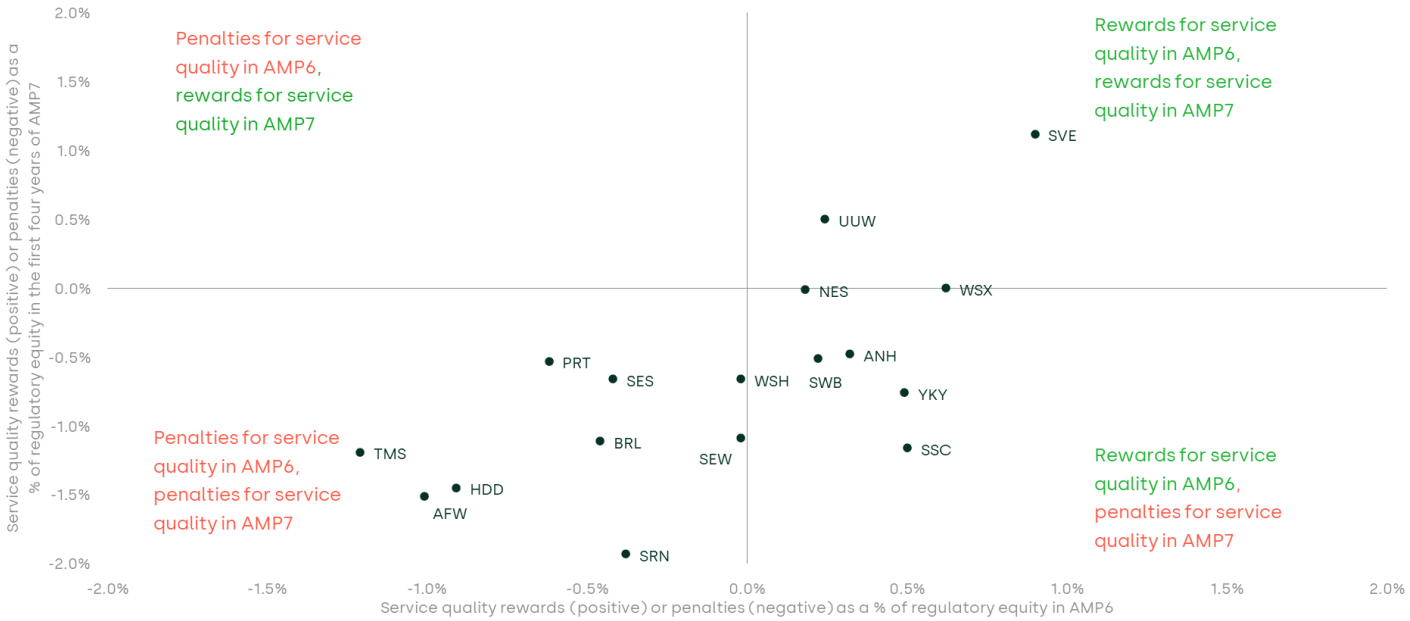
2.3.1 Empirical evidence of 'stickiness' in company performance

As the ODI regime for incentivising performance was introduced in AMP6 (from 2015/16 only), it is not possible to evaluate historical performance over more than two AMPs on a like-for-like basis, as can be done for over-/underspending allowances. In Figure 2.5 below, we show how each company has performed against the ODI regime, in terms of total rewards/penalties over the period to date. As in previous figures, reward/penalty is normalised by notional regulatory equity to account for company scale.

Over the two AMPs during which companies have been subject to the ODI regime, **companies that did not meet Ofwat's performance targets in AMP6 (and therefore accrued penalties) all missed targets and accrued penalties in AMP7**. The same companies have tended to overspend TOTEX allowances by more than peers over AMP6 and AMP7—specifically, of the nine companies in the bottom left quadrant in the figure below, all but one overspent allowances in AMP6 as well as AMP7.

Equally, companies that outperformed Ofwat's service quality targets in AMP6 are more likely to have incurred smaller penalties in AMP7, or even outperformed Ofwat's targets.

Figure 2.5 Service quality performance (ODI) penalties/rewards, AMP6 and first four years of AMP7, as a % of notional regulatory equity



Source: Oxera analysis of Monitoring Financial Resilience reports. Accessed at: https://www.ofwat.gov.uk/regulated-companies/resilience-in-the-round/monitoring-financial-resilience/.

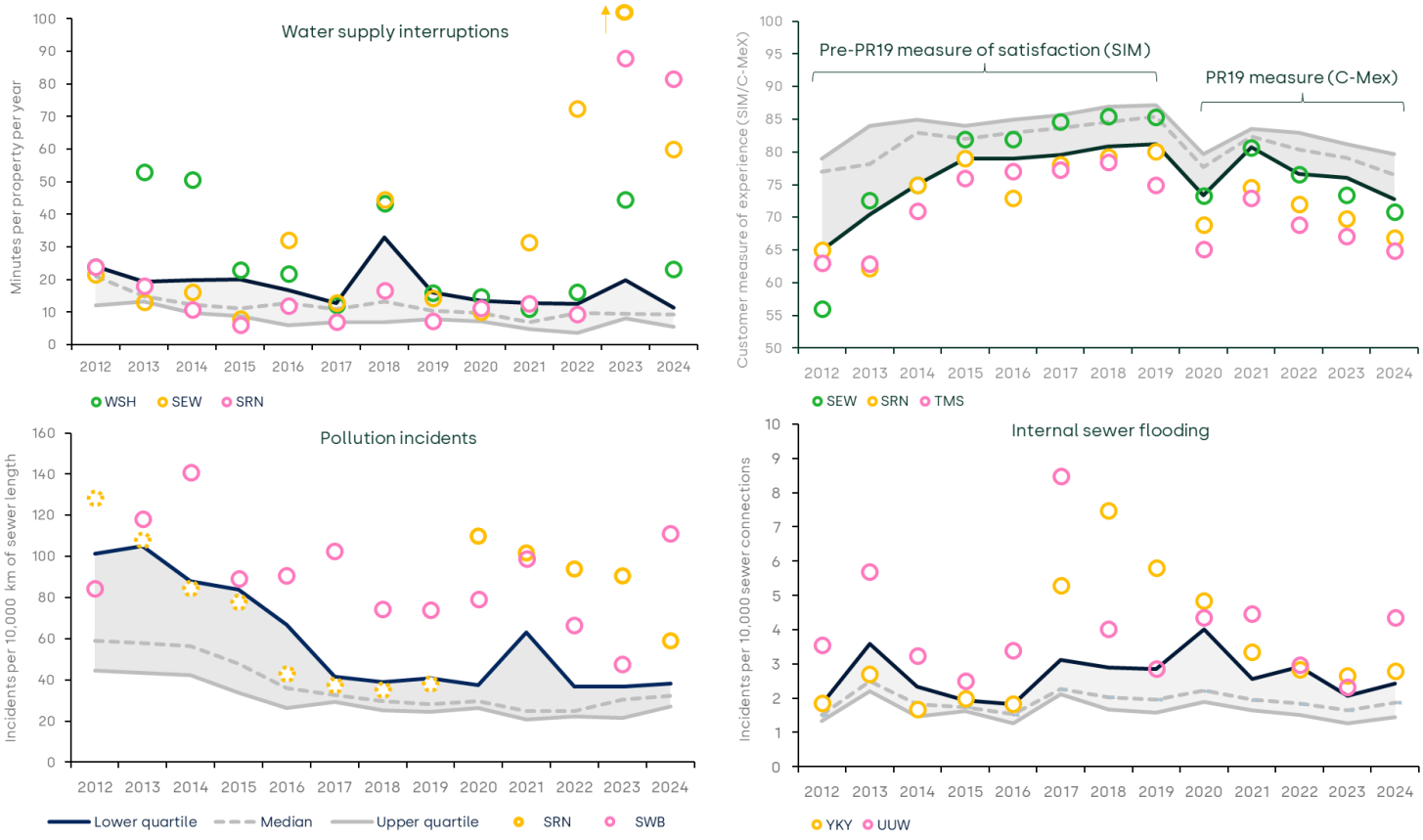
This analysis is corroborated by examining performance measures that have been collected consistently over longer timeframes. While many measures of performance were introduced only at PR19—or even PR24—Ofwat has collected data over a longer period on water supply interruptions; total pollution incidents; internal sewer flooding; and customer experience.[22]

Figure 2.6 below shows how industry performance has evolved across each of these measures since 2011/12. The grey area shows the industry distribution,[23] while the coloured markers (pink, yellow and green[24]) track the performance of the bottom-ranked companies for each measure in 2023/24. **This analysis shows that the worst performers on**

[22] Assessed against the Service Incentive Mechanism (SIM) pre-PR19, replaced by the Customer Measure of Experience (C-MEX) ahead of PR19.
[23] The grey line shows upper-quartile performance, the dashed line median performance, and the dark line lower-quartile performance, with the grey area showing the median (or 'middle') company's performance.
[24] We show the bottom three performers in water (17 comparators) and the bottom two performers in waste water (10 comparators).

any given metric have repeatedly underperformed the rest of the industry over the last 12 years.

Figure 2.6 Poor performance has been sticky on select service performance measures, 2011/12 to 2023/24



Notes: (i) Water supply interruptions based on the PR24 reporting definition data from 2021, and historical definition prior; (ii) South East Water (SEW) water supply interruptions performance in 2023 is outside the range shown (just under 167 mins/property); (iii) Southern (SRN)'s performance pre-2020 may understate actual underperformance, due to reporting inconsistencies[25]; (iv) Internal sewer flooding pre-2017 based on a different historical reporting definition.[26]
Source: Oxera analysis of data reported by Ofwat 2011/12 to 2023/24.

Multiple factors could explain 'stickiness' in the service performance trends observed, some within and some outside of company control. However, when evaluated alongside the evidence of consistent

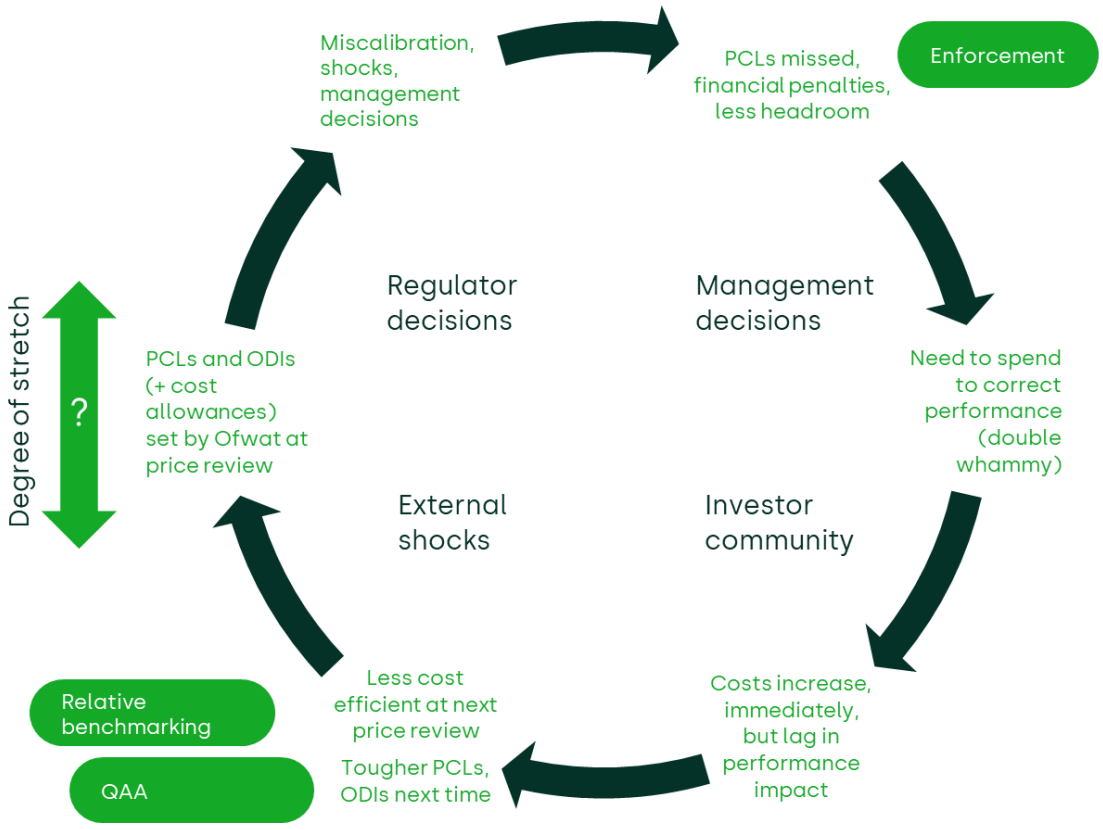
[25] See Ofwat (2019), 'Ofwat's final decision to impose a financial penalty on Southern Water Services Limited', 10 October.
[26] Ofwat (2018), 'Final reporting guidance for PR19. Reporting guidance – Sewer Flooding', 27 March. Data pre-2017 used as reported by CC Water (2016), 'Delving into Water 2016: Performance of the water companies in England and Wales 2011-12 to 2015-16', accessed 23 April 2024.

overspends and broader underperformance on service quality incentives (ODIs) over the last two regulatory periods (and previous to that in some cases), this indicates that **the existing system of regulatory incentives and cost allowances has not enabled underperforming companies to catch up with or overtake their peers.**

2.3.2 Drivers and consequences of persistent underperformance within the regulatory regime—the 'doom loop'

We discuss evidence on 'doom loops' in more detail in Annex A4. In Figure 2.7, we present a schematic depicting the types of feedback mechanisms that might underpin such a 'doom loop'.

Figure 2.7 How a 'doom loop' might occur



Source: Oxera.

The following example outlines how poor performance in one period could lock a company into successive operational penalties.

- Performance metrics are defined and targets are set at the price review, which do not adequately account for companies' particular circumstances.

- Subsequently, a specific company might be hit by an external shock (e.g. an extreme cold weather event), or might struggle with other challenges (e.g. an older asset base), which leads to operational problems.
- These in turn lead the company to miss performance targets, resulting in it paying service quality penalties and potentially being subject to enforcement action. This erodes the company's headroom to remedy the initial failure, which will be compounded if the company has an insufficient equity buffer or cash-flow issues.
- The company will then need to invest money to remedy the situation. This puts pressure on what may be an already stretched cost allowance, and may require new funding from investors—especially since the performance improvements associated with remedial spend may take time to materialise.
- Higher expenditure in turn leads to the company being assessed as less efficient at the next price review. Resulting Business Plan incentive penalties and additional stretch at the next price review further reduce funding to rectify the original challenge, and add further pressure on the company.[27]

Incentive regulation relies on both rewards and penalties to align the interests of companies and customers. However, **if a company is unable to deliver performance within its funding allowance, no incentive or regulatory mechanism will change this**. The logical consequence of a regulatory regime that locks companies into successively mounting operational penalties is that poor performance will persist until the point at which either current investors are forced to sell the company at a loss, or the company enters administration.

It is likely that the journey through initial poor performance to exit will be detrimental to the company's customers, as they receive poorer service quality throughout this period. The company experiencing a 'doom loop' may also aim to find other avenues to remain viable—cutting activities that are not subject to penalties, and taking a more reactive approach to asset maintenance. This may permanently compromise the operations and asset base of the company, even once sold to new investors. If this is the case, even once the company is sold, these new investors may find themselves grappling with a similar situation.

[27] There are interactions in this loop between the operational context (extreme weather, companies' asset bases), the regulatory framework, and companies' financial resilience.

2.4 Levels of financial health have deteriorated

Levels of financial health in the water sector have deteriorated, with high-profile issues affecting a number of companies. We note that:

- three companies (Thames Water: Caa3/CCC , Southern Water: Ba1/BBB-, and South East Water: Baa3/BBB-) are currently in cash lock-up due to credit rating agency downgrades below investment grade;
- Thames Water is undergoing a recapitalisation process to raise the new equity needed to finance its turnaround plan;
- in its 2023/24 monitoring financial resilience report, Ofwat has placed seven companies in its 'elevated' concern category.[28]

The reasons for this decline in the sector's financial health are multi-faceted. However, we consider there are at least three key factors at play:

1 **expectations around returns.** As shown above, these companies have faced a combination of overspending on TOTEX allowances and ODI penalties. The PR24 settlement also sets stretching penalties which mean they are likely to face penalties in AMP8 as well. This affects projected financial ratios;

2 **non-price control incentives (i.e. Ofwat and EA enforcement actions)** are also material and affect investor perceptions of risk for the sector.[29] In the past, penalties (mainly around misreporting) were typically between 0.3% and 3.5% of relevant company turnover.[30] These have increased over time, and have expanded into new areas.[31] For example in August 2024, Ofwat proposed a fine of £104m (9% of wastewater turnover) for Thames Water in relation to its management of wastewater treatment works and networks (and the impact on storm overflows);[32]

3 **financial decisions made by company management, for instance around capital structure**. Since privatisation, water companies

[28] Ofwat (2024), 'Monitoring financial resilience report 2023-24', p. 7.
[29] Under section 22A of the Water Industry Act 1991, Ofwat has powers to fine companies up to 10% of relevant turnover for breaches of licence conditions (or of other obligations specified in the Act).
[30] Ofwat (2017), 'Ofwat's approach to enforcement', January. For a comparison of fines based on relevant turnover over time, see also Ofwat (2019), 'Ofwat's final decision to impose a financial penalty on Southern Water Services Limited', October, paras 5.38–5.39.
[31] Since December 2023, when the £250,000 cap on the EA's Variable Money Penalties was removed, companies can be hit with unlimited financial penalties. From January 2015 to October 2024, the EA 'successfully concluded 63 prosecutions against water and sewerage companies for pollution offences securing fines of over £151 million'. See Department for Environment, Food and Rural Affairs (2023), 'Unlimited penalties introduced for those who pollute environment', 11 December.
[32] Ofwat (2024), 'Enforcement case in Thames Water's management of its sewage treatment works and sewerage networks', 6 August.

have predominantly chosen to raise debt to finance new investment. Although debt can be a prudent and efficient method of raising finance for investment, high debt levels can leave companies more financially exposed as they have to meet interest payments on debt.

2.5 Impact on consumers

Each of these issues represents a risk to the consumer interest being delivered. First, asset health underfunding and incentives on industry to defer asset health expenditure will have adverse outcomes for consumers:

- asset condition will decline over time, **increasing day-to-day costs and worsening performance**;
- since asset replacement cannot be deferred in perpetuity, **future customers' bills—or shareholder funds—will be needed to cover shortfalls**;
- **investors in assets today lack transparency** as to whether they will be remunerated for the costs of replacing these assets in the future;
- the lack of a clear long-term framework **erodes confidence in the sector today**, and when asset health needs arise in the future.

Second, imbalanced performance incentives that expose investors to high and variable returns will lead to adverse outcomes for consumers, for the following reasons:

- the consequence of insufficient funding is **poorer service quality for customers** than could otherwise have been achieved;
- a performance framework under which investors expect penalties requires an uplift elsewhere in the regime to remediate the expected return on equity/debt and secure new financing—**putting additional pressure on customer bills**;
- a lack of certainty over future returns **damages investor confidence in the sector. This threatens delivery of the investment programme** to the detriment of future customers and the environment;
- having unrealistic targets that companies fail to meet **damages the credibility of the sector as a whole**, undermining the legitimacy of the regulatory framework.

The existing system of regulatory incentives and cost allowances has not enabled underperforming companies to catch up to their peers and meet regulatory targets within existing funding allowances. This could

leave these companies locked in **a 'doom loop' of mounting penalties**, while simultaneously lowering the effective return on the additional investment required to remediate issues below investable levels. The resulting stasis for some companies—until exit or insolvency—leads to adverse outcomes for consumers through the following avenues:

- customers of companies caught in a 'doom loop' **face ongoing, unresolved performance issues,** until either existing investors exit or the business enters administration;
- the risk that management and investors of a company in a 'doom loop' prioritise short-term survival over long-term, sustainable approaches to asset management. The resulting **underinvestment in long-term resilience has an adverse impact on future consumers;**
- where investors observe a company entering a 'doom loop'—or consider that the regulatory regime may have forced a company now seen to be failing into a 'doom loop'—this may result in **wider contagion effects across the sector**. This means that a 'doom loop', even if only directly affecting a small number of companies, could have implications for customers of other companies.

The combination of the regulatory issues above, non-price control incentives and some financial decisions made by company management have led to levels of **financial health deteriorating across the sector**. This could lead to adverse outcomes for customers through the following avenues:

- less attractive water company investments risk **undermining the delivery of the large-scale investment** needed to meet long-term customer interests;
- excessive debts can leave companies exposed to the risk of underinvestment because **investment returns are then used to service debt first** (i.e. the 'debt overhang' problem);
- a higher cost of debt will **increase customer bills** over time.

3 There are multiple root causes underpinning the issues in the water sector

Regulation has a key role to play in ensuring that monopoly water sector providers deliver quality services to customers at a fair price. A robust performance regime, which rewards strong performers—and penalises firms that do not deliver—is a critical part of this. In this context, the use of price controls to set cost allowances for companies and service quality targets can be an effective model, as seen in multiple sectors and jurisdictions.

The challenge from the economic regulator's perspective is one of information asymmetry—companies know more about their efficient cost and performance levels than the regulator does. There are multiple potential ways of overcoming this information asymmetry and calibrating regulatory targets/allowances.

Ofwat's approach to overcoming information asymmetry is founded on the use of comparative competition, by comparing water companies against each other to set cost allowances and performance targets.[33] Ofwat also places greater weight on historical information than on companies' forecasts. This is combined with ongoing monitoring of performance against expectations.

While Ofwat's approach initially led to improvements in efficiency and performance,[34] over successive control periods the resulting impacts on company incentives have underpinned the issues outlined in section 2. In this section, we break down how an approach founded on comparative competition has fed into the four root causes of the issues identified earlier:

- Ofwat's comparative competition approach insufficiently accounts for **regional and company-specific factors**;

[33] 'To protect the interests of consumers, we make extensive use of comparisons between the water companies and, in particular, benchmarking. Benchmarking is a form of comparative assessment and a regulatory tool which uses comparisons to help us identify what good looks like, and incentivise companies to achieve and exceed these levels.' Ofwat (2025), 'Ofwat's approach to mergers and Statement of Methods', April, p. 6.
[34] National Audit Office (2015), 'The economic regulation of the water sector', 14 October. 'Today's report also finds that, since privatisation in 1989, most measures of service quality have improved markedly, including the quality of the UK's drinking and bathing water. […] Increases in bills have been moderated by Ofwat's challenges on efficiency gains, and by the sharing of those gains with customers. Ofwat's approach has encouraged greater company efficiency, resulting in lower customer bills, but the rate of saving is now smaller than in earlier years.'

- the models used to set base cost allowances, including for capital maintenance, are calibrated based on **historical, outturn data**;
- the performance measures used capture a range of controllable and **uncontrollable factors**;
- **backwards-looking** monitoring does not allow for early identification and resolution of issues;
- the resulting **mutual lack of trust** has led to tighter, more prescriptive and more onerous regulation.

We now discuss each of these issues. In section 3.5, we show how these factors interact with companies' incentives to drive adverse customer outcomes and erode trust and confidence between stakeholders. In section 3.6, we close with an outline of three high-level options for change, which form the basis of the options outlined in sections 4, 5 and 6, and our conclusions and recommendations set out in section 7.

3.1 The approach to comparative competition treats companies as one, while failing to capture regional differences

Use of relative benchmarking to set cost allowances and performance targets can be a powerful tool for economic regulators when used appropriately. However, the results from this analysis must be interpreted carefully to ensure like-for-like comparisons are being made.

Ofwat's approach has increasingly relied on outputs from top-down econometric modelling to assess companies' allowances, without complementing this with adequate cross-checks or alternative approaches that take engineering, regional and operational aspects of company activities into account. **At PR24, top-down econometric models were used to assess more than £70bn (c.70%) of companies' expenditure allowances.**

If the limitations of these models are well understood and the findings are used appropriately, they can help the regulator make better informed decisions. **In practice, however, Ofwat's approach exhibits overinterpretation or overreach, with the models used as a 'source of fact' rather than as a guide**. This is problematic, for the following reasons.

- **These models capture a small number of explanatory variables.** Operating and maintaining a water or wastewater network is an extremely complex operation, with costs driven by many

factors.[35] This complexity cannot be fully captured in a suite of simple econometric models that, at most, control for four characteristics.[36] There are likely to be legitimate reasons why some companies incur higher (or lower) costs than predicted by the models. Indeed, Ofwat excludes several operationally relevant drivers of expenditure from its models on the grounds that they are endogenous (within the company's control), including service measures (e.g. leakage); asset condition (e.g. asset age); and workload[37] (e.g. length of network replaced).[38]

- Ofwat's adoption of **an upper-quartile benchmark to set efficient allowances has never been supported by evidence**,[39] and may set an overly stringent challenge.

- **In general, Ofwat's approach assumes that any difference between its own estimate of a company's base costs and that company's actual base costs can be ascribed to (in)efficiency**. That is, if a company's actual costs are above those estimated by Ofwat's models, the regulator assumes that the company's base costs are inefficient. In contrast, if a company's base costs lie below Ofwat's modelled estimate, the regulator assumes that the company is operating efficiently. Relatedly, Ofwat typically assumes that including a cost driver (e.g. population density) in the models means that a particular characteristic (e.g. regional wages, WTW-level economies of scale, access costs) is sufficiently captured.[40] This is not always the case, given that these cost drivers capture operational characteristics imperfectly. While Ofwat has acknowledged this

[35] For example, Ofwat has noted: 'Maintaining and improving operational resilience requires companies to identify and manage a complex range of risks to make sure their assets operate effectively to meet current and future service needs. This includes the successful management of long-life assets and operational systems on a day-to-day basis while also ensuring mitigations are in place to manage the impact of low probability, high impact events.' Ofwat (2022), 'Operational resilience discussion paper', April, p. 2.
[36] See Annex A1.
[37] We note that Ofgem controls for measures of workload and other endogenous drivers in its cost assessment models, despite endogeneity concerns. For example, see Ofgem (2022), 'RIIO-ED2 Final Determinations Core Methodology Document', November, section 7.115. Indeed, Ofwat itself uses some endogenous drivers to develop enhancement models and construct post-modelling adjustments (e.g. meter replacement activity).
[38] See Ofwat (2023), 'Econometric base cost models for PR24', April, sections 3.3.5, 3.3.6 and 4.3.2.
[39] In recent price reviews, Ofwat has typically treated an upper-quartile benchmark as a baseline (driven by regulatory precedent) and explored whether a more stringent benchmark would be appropriate.
[40] To give just one example, in response to a cost adjustment claim submitted by Southern Water relating to regional labour costs, in its final determinations Ofwat concluded that the company had not provided compelling evidence of the need for an adjustment, and that 'Population density already sufficiently captures variation in regional wages between companies.' See Ofwat (2024), 'PR24 FD CA19 Base cost adjustment claim feeder model—Southern Water', December, tab 'CAC2'.

at PR24 for some factors and made adjustments accordingly,[41] this issue is likely to apply to more factors (such as scale, topography, treatment complexity).

- **Ofwat sets a high evidential bar for company-specific adjustments outside of the models.** Its approach does seek to correct for deficiencies that would otherwise arise from an excessively crude approach to benchmarking; for example, by allowing companies to make cost-adjustment claims where they believe cost drivers are not adequately captured in the models. However, Ofwat typically takes a stringent approach to assessing these cost adjustment claims by applying a high evidential bar such that few company-specific claims are accepted in practice.[42] Indeed, based on the information shown in Ofwat's feeder models, it appears that only one cost adjustment claim was fully accepted at PR24, with a further seven[43] claims only partially accepted and 24 claims rejected.

This means that companies' proposals are often assessed through a narrow prism of econometric modelling—using Ofwat's limited configuration of models—and reasonable proposals can be rejected based on this evidence.[44] This risks sector-wide underfunding, and a suboptimal level of investment. The simplistic nature of Ofwat's benchmarking can also create arbitrary winners and losers across the sector, with some companies under-rewarded and set up to fail, while others are over-rewarded.

3.2 The base cost models focus on historical data

Moreover, **Ofwat's focus on outturn data to estimate its models and set base cost allowances does not sufficiently capture forward-looking cost pressures.** The focus on outturn data may have been appropriate at previous price reviews when, in assessing company Business Plans, Ofwat did not expect investment and maintenance requirements to

[41] For example, Ofwat assumes that population density can capture economies of scale costs at the wastewater treatment works (WTW) level, as companies that operate in sparse regions are likely to have more and smaller WTWs, on average. However, some companies that operate in averagely dense regions have small WTWs such that, for them, the population density driver may not capture the costs associated with WTW size. Ofwat has accepted a cost adjustment claim (CAC) on this issue for three companies.
[42] At PR24, Ofwat made a greater use of industry-wide post-modelling adjustments to capture differences in efficient cost requirements between the outturn period and AMP8. However, few cost adjustment claims relating to company-specific factors were accepted.
[43] This figure excludes the industry-wide post-modelling adjustments.
[44] Ofwat's Business Plan incentives (BPIs)—specifically, its Quality and Ambition Assessment (QAA) used for its PR24 BPI—has been criticised for encouraging companies to submit undeliverable, low-cost plans. Companies have been penalised for requesting funding beyond what the cost models indicate is efficient spend. See, for example, Wessex Water (2025), 'PR24 CMA Redetermination—Statement of Case', 21 March, p. 6, para. 2.31; and Northumbrian Water (2025), 'Northumbrian Water Ltd—Statement of Case', March, p. 69, para. 222.

change materially across control periods. However, this approach is inappropriate given the sector-wide transition to a high-expenditure phase.[45]

Ofwat has sought to account for forward-looking cost pressures through the cost adjustment claim process, and by applying industry-wide post-modelling adjustments (such as its adjustment for increased mains replacement activity in wholesale water). However, these adjustments are only partial,[46] and inadequately capture the step change in requirements,[47,48] such that companies are likely to remain underfunded.

3.3 The performance framework applies financial incentives to performance measures that are influenced by uncontrollable factors

The regulation of performance and capital delivery is based on financial incentives that are determined at the time of price reviews. Since the performance is sensitive to factors outside of companies' control (e.g. extreme weather events), **it is generally not clear whether differences in companies' performance against targets stem from regulatory error, poor management, or external factors.**

This issue is compounded by the fact that, when levying ODI rewards and penalties, Ofwat takes only limited account of external issues such as the impact of weather or the actions of third parties. As a general rule, when defining performance metrics, Ofwat does not accept exclusions for factors outside a company's control. This approach has been carried through to PR24,[49] based on the rationale that, while external events are beyond a company's control, companies can mitigate the impacts through their own response, including by working with third parties.[50]

Severe weather can affect a number of metrics, including supply interruptions, mains bursts, and internal sewer flooding. Ofwat expects

[45] See Oxera (2025), 'Response to the Independent Water Commission Call for Evidence: Investability', 23 April, pp. 8–10.
[46] For example, there is no adjustment to account for non-infrastructure asset maintenance (such as water source renewals) or other infrastructure assets (such as booster pumping stations replacement).
[47] For example, Ofwat has assumed that a relatively high level of activity is implicitly funded through the models, such that a smaller adjustment is required. Similarly, Ofwat has made material challenges to companies' unit cost proposals through simplistic unit cost comparisons.
[48] See Oxera (2024), 'Cost adjustment claims', Prepared for South East Water, 27 August.
[49] See, for example, Ofwat (2025), 'PR24 final determinations: Delivering outcomes for customers and the environment', February, pp. 86–87.
[50] Ofwat (2022), 'Creating tomorrow, together: Our final methodology for PR24. Appendix 7 – Performance commitments', pp. 12–15.

companies to plan for and be resilient to these issues, but there is a question of the degree to which the variations in observed performance are entirely within companies' control (and the level of resilience for which they are funded). Ofwat's PR24 ODI package does include certain backstop protections (including deadbands, caps and collars), but the issue of external events is not addressed at source.

3.4 Ofwat's backwards-looking approach to monitoring has meant that intervention has not happened early enough

Ofwat undertakes wide-ranging monitoring activities across service performance and financial resilience. With the widespread implementation of price control deliverables at PR24, there will be increased monitoring of capital delivery during AMP8.

Importantly, however, Ofwat's regulatory reporting and monitoring are primarily backwards-looking, and/or rely on lagging indicators.[51] An approach that more systematically considers forward-looking risks and seeks to address them at an early stage could help to deliver better outcomes for customers.

One example of the issues with the existing approach is the extent to which Ofwat's financial resilience monitoring allows for sufficiently advanced identification and management of the financial difficulties faced by Thames Water. The CfE (p. 132) notes that this may be exacerbated by a reliance on credit ratings in assessing financial reliance: 'in the financial services sector, the regulators moved to a supervisory model of assurance, in part to reflect concerns about credit ratings and provide a more nuanced and less reactive view of company risk profiles'.

3.5 These root causes interact with company incentives to worsen outcomes for customers, and erode trust and confidence between companies, Ofwat and wider stakeholders

The root causes of the issues with the performance framework ultimately stem from a reliance on regulatory tools that:

- cannot calibrate a price control that is equally challenging for each company; or
- account for future changes in circumstances.

[51] For example, the CfE (p. 196, para 529) notes that: 'It is unclear whether Ofwat's data provides an accurate representation of the sector's true infrastructure resilience. For both England and Wales, Ofwat appears to only track when assets have failed, rather than providing an explicit assessment of condition of assets, or measuring preventative activity taken by companies.'

We now explore the adverse impacts this has on companies' incentives, and more generally the adverse impact on trust and confidence among parties across the sector.

3.5.1 Interaction of root causes with company incentives

The adverse impact on companies' incentives is best explained through an illustrative example.

When the economic regulator sets price controls for the sector, some companies receive excessive cost allowances and service quality rewards derived from insufficiently stretching targets (group A). At the same time, other companies receive cost allowances that are too low and do not account for future cost pressures, and also face penalties from the outset owing to overly stretching targets (group B). As a result, group A makes significant financial gains through outperformance, while group B cuts corners to 'live within' their regulatory settlements—for example, by deferring unmonitored asset health activity until future periods.

The economic regulator observes outperformance for group A and concludes that further cost efficiency improvements and tougher service quality targets can be set at the subsequent price review. Meanwhile, lower spend by group B on asset health feeds through to econometric benchmarking and in turn into lower base cost allowances. While this price review may deliver a balanced outcome for group A, the regulator's one-size-fits-all approach means that group B companies need to accommodate further cuts in funding and even tougher targets than in the previous control period. Group B companies then cut further corners to accommodate a tougher price control, but the business begins to feel the strain. Meanwhile, group A companies may also implement cuts to asset maintenance to secure the returns its investors have increasingly come to expect from these high-performing companies.

At the next price review, the economic regulator again sees group A outperforming, while group B companies are (again) overspending and failing to meet service quality targets. Group B companies' performance is attributed by the regulator to inefficiency and poor management, which customers should not pay for. The regulator once again sets even more challenging targets, with companies responding accordingly.

The outcomes driven by this process are exactly those outlined in section 2 above—specifically:

- underfunding and underspending on asset health, driven by benchmarking of historical expenditure (section 2.1);
- performance targets that ratchet up beyond the level that can be achieved by companies (section 2.2);
- poor performers entering a 'doom loop' of continual underperformance and underinvestment from which they cannot escape (section 2.3);
- deteriorating company financial health (section 2.4), and the broader operational headroom available to the business to accommodate future shocks;
- resulting detriments to customers (section 2.5).

3.5.2 Impacts on trust and confidence

As well as leading to poorer outcomes, the process outlined above also erodes trust and confidence between stakeholders. As Ofwat's trust in companies to 'do the right thing' has waned, this has resulted in an increasingly punitive and prescriptive regime, characterised by tougher regulatory settlements, additional regulatory mechanisms, tighter specifications of outcomes, and more onerous reporting requirements.

This is most clearly evidenced by the price control deliverables framework, which fundamentally changes the nature of the regulatory contract from outcomes-based to now containing a set of outputs-based deliverables. This increases the complexity of the regulatory regime and the regulatory burden placed on companies, with significant increases in compliance costs (including the 'Ofwat levy').[52]

In turn, companies are pressed to live within their price controls, and seek to maximise avenues to avoid losses. Some may take advantage of the information asymmetry to cut expenditure or under-deliver against Business Plans. Companies may become less transparent with the regulator, in an effort to increase the information asymmetry.

Finally, wider stakeholders observe a sector that is unable to deliver the targets set by the regulator, and a regulator that is unable to drive performance improvements. This erosion of trust damages the ability of the regulator and companies to justify any increases in costs and bills, since stakeholders assume that higher bills are driven by historical non-delivery.

[52] The Ofwat 2025/26 budget (of £72m) has roughly tripled in real terms since 2005. Based on Ofwat (2005), 'Annual report of the Director General of Water Services 2004-05', 9 June.

Tools designed to help the regulator reduce the information asymmetry have come to define the price control, driving companies and the regulator out of alignment with the consumer interest. A way forward is needed to realign the sector with the consumer interest, while ensuring that the system of economic regulation has the tools and information needed to hold companies to account.

In this report we set out three options for reform which could address these issues, before presenting our conclusions and recommendations.

3.6 How the sector can move forward: three options for reform

We have identified three high-level options for reform that would seek to address the root causes of the issues with the current framework. These options vary in scope across two main dimensions, namely:

- **the approach to economic regulation**—this relates to the way in which economic regulation is applied, including, for example, how cost allowances and performance targets are set, and the balance between a reliance on 'top-down' approaches versus a greater reliance on company-specific evidence;
- **the role of supervision**—beyond the mechanics of economic regulation, we also consider the wider question of the relationship between companies and regulators, and the role that new supervisory arrangements could play in this.

On this second point, the Commission has explicitly raised the question of whether a new approach to regulatory scrutiny may be warranted. Specifically, in the CfE (p. 107, para. 284), it states:

Economic modelling and analysis will always be a key element of economic regulation, but the Commission is interested in alternative approaches to regulatory scrutiny. As the regulatory system has evolved, Ofwat's duties have grown as has the complexity of economic regulation. It now appears that traditional economic regulation alone is not sufficient to manage market failures in the water industry.

To this end, the Commission is explicitly seeking views on whether **a new supervisory model** may be introduced in the water sector, as an avenue for strengthening financial oversight of companies.[53]

[53] Independent Water Commission (2025), 'Call for evidence: Independent Commission on the Water Sector Regulatory System', p. 355, para. 135.

Taking account of the above, the options we consider in this report are as follows.

- **Option 1: Addressing issues 'at source' within the existing framework**. Under this approach, a central economic regulator (potentially Ofwat)[54] would remain responsible for setting price controls, enforcement and monitoring financial resilience. However, specific changes to the way in which economic regulation is applied—and in particular, how price controls are set—would be implemented. **As a general guide, we consider the Commission should interpret these changes as a 'do minimum' option**.

- **Option 2: A prudential-style supervisory framework**. This would incorporate the reforms set out under Option 1, and build on these through 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 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: Company-specific supervisors and a new 'earned autonomy' regime**. Under this approach, company-specific supervisors (which we term '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, the assessors would also use information and insights obtained through supervision to: set specific aspects of companies' price controls; and reduce (increase) the intensity of oversight based on the company's overall track record and performance.

  This option envisages a wider role for supervision than typically seen in financial services, reflecting the more fundamental role of economic regulation in water companies' business models than for firms operating in

[54] We do not provide views as to whether—should Option 1 be implemented—the central economic regulation function should be carried out by Ofwat or another body (e.g. a new economic regulation function embedded within the EA).

competitive markets. We refer to this as an '**assessor**' model, to highlight the role in primary price control-setting as well as prudential-style supervision.

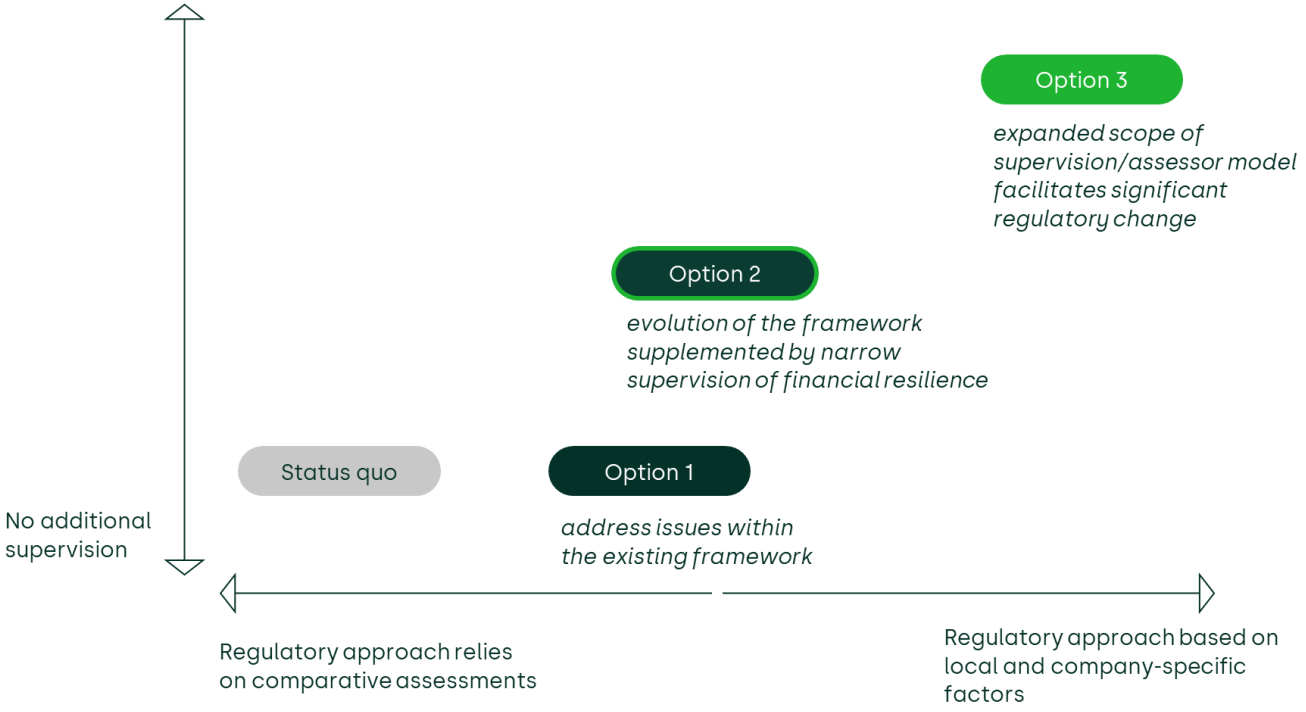
The concept of company-specific assessors to scrutinise companies' approaches to managing their asset base was part of the original principles for regulating the sector set out by Sir Ian Byatt ahead of privatisation in 1989:

> [...] The companies are required in their License to appoint an Assessor to report on changes to their [forward-looking] Asset Management Plans. I [Sir Ian Byatt] will have to approve each Assessor. I will have close contact with these Assessors so that I can be assured that the plans are sufficient to meet statutory requirements. I will also want to be assured that these investment plans are cost-effective without involving myself in matters which are properly the concern of the management of the companies. I will require appointed companies to monitor progress in achieving these plans. They should provide evidence not only of expenditure, but of progress in achieving objectives [...].[55]

Figure 3.1 below depicts these three options across the two dimensions identified above—the approach to economic regulation and the role of supervision—and compares these to the status quo for reference. As this shows, Options 1 and 2 broadly envisage a moderate, though still material, approach to economic regulatory reform—in particular, regarding the approach to setting price controls. However, Option 2 is placed above Option 1 in Figure 3.1, reflecting the proposed prudential-style supervisory framework.

[55] The Water Share Offers (1989), 'Prospectus', November, p. 45.

Figure 3.1 Set of options for reform



Source: Oxera.

In contrast to Options 1 and 2, Option 3 is shown in the upper right-hand side of the diagram, for two reasons:

- the introduction of company-specific supervisors (or 'assessors') with expansive powers and responsibilities would represent a much wider role for supervision than envisioned under Option 2 (or indeed under Option 1). While Option 2 would see the role of supervisors limited to assessing and managing financial risk, under Option 3 assessors would have a much broader remit, covering all aspects of company performance (including operational performance);
- more importantly, **more expansive supervision can potentially unlock a more radical change to how economic regulation is applied**. This is because assessors could make greater use of insights obtained through their activities to deploy a more tailored approach to regulation, which better reflects the needs of customers and local catchments and takes better account of unique companies' individual circumstances. We expand on this in section 6.

Table 3.1 below shows how these three options compare in terms of the assumed institutional arrangements.

Table 3.1 Allocation of roles and responsibilities under each option

	Central economic regulation function	Supervision function
Option 1	The economic regulation function would retain the same roles and responsibilities as today. Changes would be targeted at improving the current performance framework, through modifications to the existing approach.	n/a
Option 2	*Broad.* The economic regulation function would retain responsibility for assessing Business Plans, setting price controls and monitoring ongoing performance. The changes to the performance framework under Option 1 could also be brought forward under this option.	*Narrow.* A specialist supervision function would be established with a focus on financial risk. Each company would have at least one dedicated supervisor with responsibility for assessing financial risk on a forward-looking basis. The supervisors would have powers to make targeted interventions based on their assessment of risk.
Option 3	*Narrow.* The role of the central economic regulation function would be considerably slimmed down, with a focus on setting the overarching framework, setting sector-wide parameters (e.g. the weighted average cost of capital, WACC), and providing supporting company information (e.g. unit cost benchmarking evidence) to supervisors.	*Broad.* Assessors would take responsibility for assessing company Business Plans and setting key price control parameters, including cost allowances and performance targets, at a company level. The assessor would then monitor ongoing performance across a broad range of areas (including capital delivery, performance and financial resilience).

Source: Oxera.

Finally, for the purposes of our assessment, note that we have deliberately excluded the following categories of options.

- Broad scope for supervision, regulation based on comparative assessments (i.e. the top left quadrant in Figure 3.1). Under this approach, there would be company-specific supervisors (or 'assessors') with expansive powers, but regulation would continue to be significantly reliant on comparative assessments, with no radical changes introduced to focus regulation primarily on local needs. We have excluded this potential option from our assessment since we consider that it would represent a disproportionate increase in regulatory burden (in particular, the administrative costs associated with resourcing the assessors), while delivering limited additional benefits.

- No additional supervision, regulation tailored to reflect local circumstances (i.e. the bottom right quadrant in Figure 3.1). Under this approach, no new supervisory regime would be introduced, but Ofwat (or another central economic regulator) would attempt to implement a more tailored approach to regulation, which better reflects local circumstances and needs.

While potentially desirable, we consider that this option is unlikely to be feasible in practice since it relies on the regulator having a much deeper understanding of each company and the needs of local stakeholders than is likely to be possible without some form of additional information-gathering/local teams—i.e. supervision.

In the following sections we explore in more detail Options 1–3, including the potential benefits and risks of each.

4 Option 1: Addressing issues at source within the existing framework

4.1 Institutional arrangements

From an institutional perspective, Option 1 would involve the least degree of change relative to the current arrangements. This is because a central economic regulator would retain responsibility for setting price controls, taking enforcement action and monitoring financial resilience.

Nevertheless, targeted changes would be implemented to improve the current performance framework. We turn to these next.

4.2 Changes to the regulatory framework

As noted earlier in this report, multiple issues with the existing approach to economic regulation have driven poor outcomes for customers and investors. These issues include:

- a performance regime that has led to a systematic **underfunding of asset health**;
- **the overall risk proposition facing investors**, including an incentive package where investors face more downside than upside risk, and excessive levels of risk overall that are not commensurate with the investment preferences of long-term infrastructure investors;
- the **deteriorating financial health** of specific water companies;
- a performance regime that makes it **difficult for companies to address performance issues**.

We now outline the specific changes we consider should be made to address these issues within the scope of the existing regulatory arrangements (i.e. with a single central regulator and no new supervisory function).

4.2.1 Changing the way that cost and service targets are set

As noted in section 2, a key issue with the existing framework is that targets are set at excessively challenging levels, and in a manner that risks creating arbitrary winners and losers. This can only be addressed by setting targets in a manner that takes into account companies' specific circumstances, including how its unique geography and network configuration influences its costs, and the extent to which the sector has achieved targets in previous control periods, for example.

We consider there are three specific changes that should be made to address this.

- **Greater use of evidence from other sources to complement top-down benchmarking**. Ofwat's focus on outturn data to calibrate its base costs models and set forward-looking cost allowances does not sufficiently capture forward-looking cost pressures. This approach might have been appropriate in previous price reviews when Ofwat did not expect investment and maintenance requirements to change materially over time. However, this approach is inappropriate with the sector now clearly moving towards a high-expenditure phase. The central economic regulator would therefore make greater use of bottom-up, engineering-based assessments alongside evidence from top-down benchmarking.

- **Setting service performance targets in a manner that better accounts for company-specific factors and past performance trends.** At PR24, Ofwat set targets that went significantly beyond many companies' Business Plan proposals, and in most cases did not take into account industry underperformance in AMP7. While Ofwat made adjustments to some performance commitment levels (PCLs) between the draft determination (DD) and the FD (including to the starting point for AMP8 and through risk protections such as caps and collars), such issues are better resolved at source. This could include greater use of company-specific targets, as opposed to common targets, to account for differences in historical performance, regional priorities and geographic circumstances.

- **A new approach to funding investment—particularly in asset health—based on forward-looking pressures**. The current approach to setting cost allowances means that if companies are not adequately funded to invest in maintaining their assets, their only option to deliver investment is either to overspend on allowances, or to cut back other areas of investment. This damages the investability of future assets since it creates a perception that the investments made today will impose an unfunded replacement liability in the future. A new framework is therefore needed to give companies and investors confidence that efficient increases in asset maintenance investment will be funded in future control periods.

4.2.2 Rebalancing the strength of performance incentives

Under the existing framework, companies are exposed to high levels of risk.[56] This is despite the mechanisms introduced by Ofwat to manage risk at PR24, including the Outturn Adjustment Mechanism (OAM) and the Aggregate Sharing Mechanism (ASM).

Regulators face trade-offs when deciding on the level of risk to allocate to companies and, by extension, to investors. In particular, regulators must balance the impact on companies' incentives to deliver efficiencies and service quality improvements alongside the upward pressure on their cost of capital.[57]

Given the step change in the investment that companies are expected to deliver—and the corresponding increase in operational risk facing investors[58]—it is necessary to consider whether the companies should bear the same level of risk through performance incentives. If performance risk remains at historical levels while the operational risk associated with the investment programme grows, this increases aggregate risk exposure for companies. Not only does this imply a higher level of required return, all else equal, but the resulting increase in aggregate levels of risk will also change the type of investor that considers the water sector investable.

The strength of performance incentives in other sectors has changed over time, to reflect changing priorities. For example, in the electricity transmission sector in Great Britain—another sector with high planned levels of future investment—the 'cost-sharing rate' (i.e. the proportion of overspends that are incurred by investors) has fallen over time. Specifically:

- at RIIO-T1, transmission operators faced a cost-sharing rate of 44–47%;[59]

[56] We provide more details on the changing risk profile of the water sector in our report on investability. See Oxera (2025), 'Response to the Independent Water Commission Call for Evidence: Investability', 23 April.
[57] This assumes that the additional risks placed on the company are both systematic and symmetrical (or at least not skewed to the upside).
[58] Under the existing regime, the move towards a high investment phase will, all else equal, lead to an increase in the cost risk that companies face. This is because losses (or gains) incurred via any over- or underspends will have a larger impact on RoRE in % terms than would otherwise be the case.
[59] Ofgem (2012), 'RIIO-T1: Final Proposals for National Grid Electricity Transmission and National Grid Gas Cost assessment and uncertainty Supporting Document', December, p. 118.

- the cost-sharing rate was reduced to 33%–39% at RIIO-T2, as Ofgem considered that there was too much uncertainty in a number of cost items;[60]
- for RIIO-T3, transmission operators proposed incentive rates as low as 10% in response to the RIIO-3 Sector Specific Methodology Consultation.[61],[62]

This demonstrates how the regulatory incentives and associated risks to which companies are exposed can and should be considered through the lens of the priorities of greatest importance to customers, and the overall level of uncertainty to which investors in these companies can reasonably be exposed.

Therefore, if it is desirable to keep the overall balance of risk and return consistent with historical levels (or at least to ensure that the level of risk does not increase further), this has implications for how high-powered the performance framework should be, net of new regulatory mechanisms (such as the Aggregate Sharing Mechanism and Outturn Adjustment Mechanism). Specific changes that could be made to bring the forward-looking risk/return balance into line with historical levels include:

- **reducing service performance and cost risk**—via adjustments to cost-sharing rates and ODI rates that better align risk exposure with an investable proposition, given the allowed cost of capital;
- **moderating the overall level of return at risk to ensure that it is proportionate to the equity returns on offer**, and the maximum loss that companies can incur is less than the base equity return provided by Ofwat's WACC allowance.[63] This could be achieved via adjustments to the existing aggregate sharing mechanisms (or the introduction of a new mechanism[64]);
- **providing greater protection for companies against service performance risks that are outside their control**—for example,

[60] Ofgem (2021), 'RIIO-2 Final Determinations - Core Document (REVISED)', February, p. 131; Ofgem (2024), 'RIIO-3 Sector Specific Methodology Decision – Overview Document', July, p. 156.
[61] Ofgem (2024), 'RIIO-3 Sector Specific Methodology Decision – Overview Document', July, p. 86.
[62] Although it noted that Ofgem has so far indicated that it intends to broadly retain the same rates used at RIIO-T2. See Ofgem (2024), 'RIIO-3 Sector Specific Methodology Decision – ET Annex', July, p. 81.
[63] We anticipate that this would be a symmetrical adjustment. However, alternative options could be considered and the most important consideration is that the calibration of such mechanisms and the overall symmetry of the risk distribution is consistent with allowed returns. Moreover, there could still be mechanisms to incentivise sector leading performance improvements that could be excluded from any cap (e.g. enhanced incentives).
[64] One option may be to implement a 'return adjustment mechanism', similar to that implemented by Ofgem at RIIO2. Under this approach, Ofgem applies a symmetrical adjustment to outturn RoRE returns where these deviate from the base return at predefined threshold levels. See Ofgem (2022), 'RIIO-ED2 Final Determinations Overview document', 30 November, p. 33.

under the existing performance framework, companies are not protected from the impact of extreme weather events. This includes no avenues to adjust PCD timing and delivery incentives to reflect exogenous shocks, and no funding for costs that are incurred against an investment that is not ultimately delivered (e.g. design costs for an investment that is later cancelled). This sits in contrast to regulatory precedent observed elsewhere, including in the UK.[65]

We recognise that there are trade-offs associated with lower risk exposure for companies, given the impact on incentives. However, a performance framework that is not consistent with the risk tolerance of infrastructure investors is unlikely to attract the type of long-term investment needed to deliver the desired step change in performance across the sector, which will ultimately be to the detriment of customers.

4.2.3 Greater use of forward-looking metrics for financial resilience

Under the existing regulatory framework, Ofwat collects and monitors various financial metrics to assess companies' financial resilience. If it assesses that a company's resilience should be strengthened, it increases its engagement and oversight. Companies are also subject to regulatory ring-fence licence conditions which include requirements to maintain a certain level of credit rating, or to prevent the company paying dividends under certain conditions, for example.[66]

Crucially, however, two key weaknesses of the existing approach are that Ofwat's assessments are primarily backwards-looking in nature;[67] and limited attempt is made to understand the underlying business models and risks of individual companies.

We outline how there is scope to materially improve the degree of financial supervision under the other options explored in this report.[68]

However, **even without the introduction of a new supervisory function (i.e. under Option 1), there may be scope to improve the approach to monitoring financial resilience**. For example, it should be possible (and desirable) for a central economic regulator to conduct basic stress

[65] See, for example, Frontier (2022), 'Managing Extreme Weather Event Risk in the Regulatory Framework', 4 October, p. 4
[66] More detail on the existing framework for monitoring companies' financial resilience is provided in section 5.
[67] Companies are required to provide long-term viability statements covering a forward-looking period of seven years or more. See Ofwat (2025), 'Monitoring financial resilience report 2023-24', November, pp. 39–40.
[68] This is explored in particular in detail under Option 2—see section 5.

tests for companies that would seek to identify potential threats to financial resilience, such as through the use of common scenarios (particularly with regard to systemic risks that could affect all companies simultaneously, including macroeconomic shocks or changes in business rates or other cost items.

4.2.4 A new recovery regime for companies in financial distress

An effective performance framework should enable companies that are not performing well to turn around their performance. Without this, the customers of underperforming companies could be faced with levels of service that are perpetually below expectations, and these companies will become less attractive for investment.

As noted in section 2, the existing performance regime has not supported underperforming companies to address performance issues. Indeed, as the Commission itself notes, questions have been raised as to whether the existing performance framework may have pushed companies into a 'doom loop'.[69]

The 'doom loop' could be addressed by temporarily reducing, or at the extreme eliminating, the penalties that would otherwise be applied through the normal operation of the regulatory regime. This should provide the company space (and crucially funding) to improve its performance, thus enabling it to 'short-circuit' the downward spiral it would otherwise find itself in.

However, a key challenge associated with any such turnaround regime is the risk of moral hazard.[70] If a company knows that it will receive some support upon entering financial distress, it could face incentives to undertake risky or irresponsible activities. For example, if it knew that support was available through the recovery regime, a company might:

- **underinvest in maintenance**—to reap short-term savings at the expense of long-term resilience and performance; and/or
- **adopt a highly geared financial structure**—to increase shareholder returns but also increasing the company's exposure to risk.

Mitigations would therefore be needed to minimise these risks.

[69] See Annex A4 for more on the 'doom loop'.
[70] Moral hazard refers to a situation in which an economic actor has an incentive to increase its exposure to risk because it does not bear the full costs associated with that risk.

In what follows, we outline what we consider should be the key elements of a recovery regime, which would provide space for companies in financial distress to turn around their performance while seeking to mitigate against moral hazard.

To begin with, as under Ofwat's existing 'turnaround oversight regime', the company should be required to set out a clear **transformation plan**.[71] This would identify the root causes of the underlying operational or financial issues that have led to the company being in distress, and how the company plans to address these issues. This could include a requirement for an independent monitor to oversee development of the plan, insofar as there are concerns regarding management's ability to deliver an effective plan.

Upon activating the recovery regime, the company would also be subject to **increased reporting obligations**. Through its reporting, the company would demonstrate that it is in fact implementing key actions identified in its transformation plan, while also noting new developments that may influence the steps needed to mitigate risks in future.

Second, an important aspect of any recovery regime would be clarity regarding the circumstances under which the regime would be triggered for any company. Since the aim of the regime would be to stop the 'doom loop' that would otherwise ensue due to a company's deteriorating financial performance, we consider that **trigger thresholds** based on indicators of financial health would need to be set. These could include, for example:

- **target financial ratios**—for example, if a company's forward looking adjusted cash interest cover ratio (AICR)[72] or the ratio of funds from operations (FFO)[73] to net debt fell below certain thresholds;
- **requiring specific credit ratings**—which has been the approach taken to assessing financial resilience to date.[74]

[71] Ofwat (2024), 'PR24 final determinations: Our approach', December, pp. 23–24.
[72] The adjusted cash interest cover ratio (AICR) is similar to interest cover, but measures the scope to make interest payments after meeting costs that have been expensed and RCV run-off. AICR is a more conservative measure than the unadjusted interest cover and provides an indication of coverage assuming companies could not reduce RCV run-off. This is a key financial ratio for the assessment of financeability. Ofwat (2019), 'PR19 initial assessment of plans: glossary', January.
[73] Funds from operations measures companies' debt burden in relation to operational income. This is a key financial ratio for the assessment of financeability. Ofwat (2019), 'PR19 initial assessment of plans: glossary', January.
[74] However, exclusive reliance on credit ratings alone may mean that interventions do not take place sufficiently early, particularly insofar as there are delays in rating agencies adjusting company ratings.

It may also be appropriate to set thresholds based on levels of service performance, given the role that deteriorating levels of service are assumed to play within the 'doom loop'. For example, there may be an argument that a deterioration in financial performance that is observed for a company that is otherwise performing well on operational metrics (i.e. service and efficiency performance) should not be eligible for support under the recovery regime, or, at the very least, requires a different form of intervention (given that its financial distress stems from non-operational performance).

Third, we consider that **smaller incentives and/or partial forbearance/deferral of penalties** are also necessary. This is because (as discussed in Annex A4), a key aspect of the 'doom loop' is that declines in operational performance lead to lower revenues under the regulatory regime. Short-circuiting this cycle therefore requires a temporary reduction in (or deferral of) penalties, which would otherwise be applied through the normal operation of the regulatory regime.

Three areas to consider here are:

1 **ODIs**—once the regime is activated, ODI penalties would be reduced, delayed or reinvested in the network to improve performance. This would be coupled with reduced ODI rewards (i.e. the adjustment would be symmetrical), to ensure ODI incentives continued to provide a fair bet for investors[75]

2 **cost-sharing**—when a company enters the recovery regime, its cost-sharing rate would be reduced (i.e. the company would face less exposure to cost risk). Again, this adjustment would likely need to be symmetrical to ensure compliance with the fair bet principle. The company would bear a smaller percentage of any cost overruns, but would also retain a smaller percentage of any cost savings;

3 **enforcement penalties**—under the recovery regime, we expect there would also be at least partial forbearance on penalties arising from enforcement action from Ofwat and other regulators such as the EA (assuming that the company had been subject to enforcement action).

[75] In regulation, the principle of a fair bet is that regulators should aim to set regulatory parameters at a level that ensures there is an equal likelihood of an efficient firm outperforming as there is of it underperforming, such that the firm would be expected to earn, on average, a return that is in line with its cost of equity. We consider that any reduction in ODI penalties would therefore need to be coupled with a corresponding reduction in awards to ensure ODI incentives continued to provide a fair bet for investors.

Using smaller ODI and cost-sharing rates will ensure that the company is not tipped further into distress in the event of short-term underperformance, providing greater funding to facilitate an improvement in performance. At the same time, smaller incentives will help ensure that the company cannot earn excessive rewards for delivering only mediocre performance.

We recognise, however, that **lowering penalties for a company in financial distress may be problematic from a moral hazard and legitimacy standpoint**: in particular, if this same company is failing to meet service and environmental performance targets.

Accordingly, an alternative approach to address the 'doom loop' challenge could involve ring-fenced, 'use-it-or-lose-it' allowances. Under this approach, the regulator would make ring-fenced allowances available to the company to address identified performance issues. These allowances would be ring-fenced, in that the company would have to demonstrate that the funding was directed to its intended purpose, and this funding would be clawed back if not spent (rather than the company being able to retain a fraction of savings via cost-sharing). A company granted such use-it-or-lose-it allowances should expect a high level of scrutiny over how the money was spent.[76]

Enforcement penalties sit outside the economic regulatory incentive regime, and therefore require a different approach to ODIs and cost-sharing. Companies could be given the option to defer a proportion of enforcement penalties into future periods and/or be permitted to commit the money that would have paid out to unremunerated investment into improving assets to turn around performance.

We note that this is already an approach that Ofwat has used in a non-turnaround context: for example, some of the redress programmes resulting from its recent treatment works compliance investigation have been taken the form of unremunerated investment rather than financial

[76] There is already some precedent for such an approach at PR24, with Ofwat providing Thames Water with an 'asset improvement gated allowance', which involves a conditional funding mechanism with funding released through a gated process. Thames Water will be required to meet the conditions set at each gate to access the allowance, with progress through the gates dependent on demonstrating sufficient evidence and completing required work to Ofwat's satisfaction. Failure to meet the standards at any gate will result in all or part of the £1 billion allowance being returned to customers through an end-of-period reconciliation. Thames will also be subject to stringent assurance requirements throughout this process. Thames must make financial contributions where its proposed asset improvements overlap with allowed base expenditure. Ofwat (2024), 'PR24 Final Determinations: Expenditure allowances – Thames Water asset improvement gated allowance appendix', December.

penalties.[77] Agreement would be required from the relevant regulator(s) and other affected stakeholders regarding the select area in which any 'regulatory savings' would be invested, possibly agreed to as part of the turnaround plan. Once the company has exited the recovery regime through restoring its performance, any deferred penalties could be paid.

Finally, where a company enters a recovery regime, there is an argument that **a lower WACC allowance** should also be applied because:

- the application of smaller incentives mean that the company is less exposed to systematic risk, which in turn should lower its underlying cost of capital (all else equal, and assuming that the allowed return for the industry is calibrated at the correct level);
- a lower WACC allowance should help reduce the moral hazard risks associated with the support received under the recovery regime.

Nevertheless, we understand that it may be challenging to lower the WACC allowance in the short term, since this will only serve to reduce the company's allowed revenues at a time when it is already in financial distress. One way of mitigating this could be to reduce the company's WACC allowance for a set period of time after it has exited the recovery regime, or when financial indicators suggest it has reached a sufficiently stable position that doing so would not tip it back into distress. This would need careful consideration, to avoid making it harder for the company to raise new equity.

The above measures could build on existing initiatives; Ofwat already monitors financial resilience and company performance annually.[78] Where companies fall into the 'action required' category on financial resilience, additional monitoring and engagement already take place. Similarly, where companies are classified as 'lagging' on service performance, they are required to publish 'service commitment plans'.

In addition, at PR24 Ofwat set out a framework under which companies with persistent poor performance in the round could subject to a turnaround oversight regime.[79] The approach we set out above goes beyond this turnaround oversight regime and provides more targeted

[77] Yorkshire Water (2025), '£40m redress package to be reinvested in local environmental projects by Yorkshire Water', 20 March.
[78] Ofwat (2024), 'Monitoring Financial Resilience Report 2023-24; Ofwat (2024), 'Water company performance report 2023-24'; Ofwat (2024), 'PR24 final determinations: Our approach', December, p. 21.
[79] Ofwat (2024), 'PR24 final determinations: Our approach', December, pp. 23–24.

means of promoting recovery (e.g. through reinvestment of penalties) than under Ofwat's framework.

4.3 Benefits and risks of this approach

To redress the customer detriment arising from the current performance regime within the current regulatory framework, we have summarised four key pillars of our proposals :

- changing the way that cost and service targets are set;
- rebalancing the strength of performance incentives;
- greater use of forward-looking metrics for financial resilience;
- a new recovery regime for companies in financial distress.

The key benefit with these proposals relative to the status quo is that they would, at the very least marginally, address the issues with the existing framework. In particular, they would help to reduce the risk of systematic underfunding of asset maintenance; promote the investability of the package (with a commensurate balance of risk and return); and provide scope for underperforming companies to turn around their performance. Improvements could also be delivered to the approach to monitoring financial resilience.

Nevertheless, we note the following drawbacks of this approach:

- **The scope for regulation to be tailored to individual company circumstances would be limited** (which prevents local customers from receiving a tailored service). While concrete steps can be taken under the current regime to ensure that more is done to take unique company circumstances into account in the performance framework (e.g. placing greater weight on engineering-based assessments of investment need), in practice a key challenge remains: a single, 'central' entity would be responsible for setting detailed targets and incentives for 17 very distinct companies, operating in separate areas and facing unique issues.

- **The regulator would still be reliant on company data to make comparisons to reduce information asymmetry**. We note a number of ways in which Ofwat could improve its decision-making within the current framework, such as through greater use of operational and engineering evidence. However, this option does not meaningfully change Ofwat's ability to gather information on companies' activities—and how these align to the customer interest—relative to the status quo.

- **There may also be broader 'legitimacy' challenges associated with such incremental reforms**. While we think the changes under this option are necessary and can be interpreted as a do-minimum intervention, in practice the scale of reform achieved under this approach might be seen as excessively incremental, given the challenges facing the sector. Accordingly, more radical change may be needed to ensure that key stakeholders perceive future regulatory arrangements as legitimate.

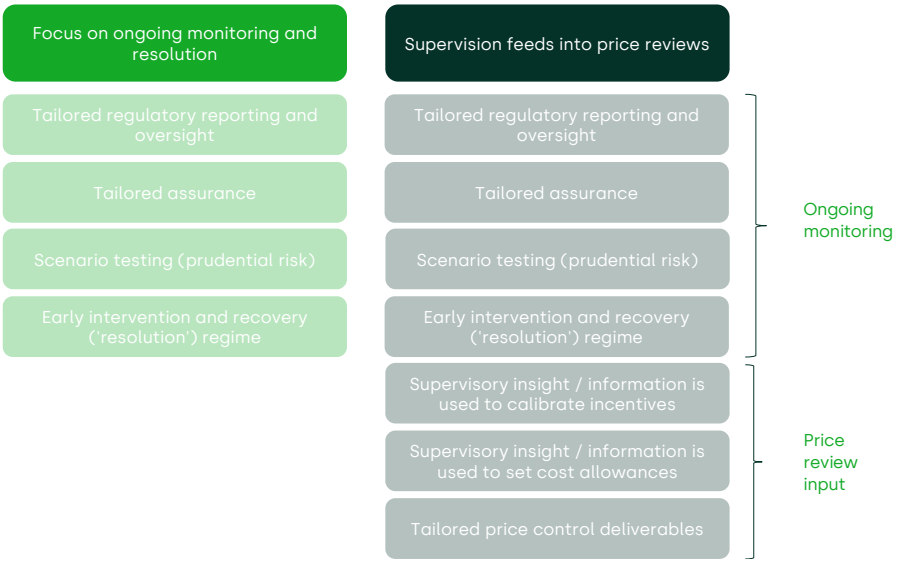
5 Option 2: Supplementing at-source changes with a prudential-style supervisory framework

The Commission is seeking views on whether Ofwat could supplement economic regulation with a more formal supervisory function. The CfE references supervision in terms of financial oversight in several places.[80]

We consider the establishment of a supervision function with responsibility for financial oversight as Option 2. Under this option, supervision would be focused on prudential risk (i.e. risks to financial stability),[81] with supervisors tasked with conducting forward-looking risk assessments and resolution of issues before they arise. This would include early intervention and recovery regime for companies that exhibit high financial risk. All changes outlined under Option 1 could also be brought forward under this option, as they are not mutually exclusive.

We discuss a more radical supervision framework in Option 3, under which the company-specific information and insights obtained through supervision would be used to calibrate allowed revenues and associated deliverables at price reviews.

Figure 5.1 Potential options for a more supervisory approach



[80] See Table 1.1 of this report. For example, 'The Commission is seeking views on whether financial oversight could be strengthened in the sector, potentially through a supervisory model.'
[81] See annex A2.4 for a summary of prudential regulation in the financial services sector.

5.1 Institutional arrangements

Under Option 2, teams of supervisors would be established and empowered to build a detailed understanding of the financial health of the companies and the risks these pose to customers' interests. Relative to the current model, the key change would be the introduction of a dedicated supervisory team for each company (potentially supported by a central pool of supervisors, with specialist skills and expertise).

5.2 Changes to the regulatory framework

In this option, we assume that all changes to the performance framework identified in Option 1 would also be applied. However, in addition, there would be enhanced supervision of financial resilience.

It is important to recognise that financial oversight is already built in to Ofwat's regulatory toolkit. Indeed, Ofwat has an existing framework for monitoring financial resilience and produces an annual report on this using information published by water companies in their Annual Performance Reports, as well as data from statutory accounts and credit rating agency reports.[82] Box 5.1 below gives an overview of Ofwat's approach and the licence conditions.

A key weakness of the current approach is that it is primarily backwards-looking, and limited attempt is made to understand the underlying business models and risks of individual companies.[83] **Supervisors should be able to develop a more detailed understanding of the firm's business model and operations than exists under the traditional model**.[84] A formal supervisory regime could seek to engender a greater focus on forward-looking and proactive assessment, alongside the processing and monitoring of historical data.[85] This would involve the supervisors undertaking forward-looking assessments of financial risk with stress-testing. A core aim of supervision is to provide an early warning of issues and take earlier action to address these.

[82] Ofwat, 'Monitoring financial resilience'.
[83] Notwithstanding the long-term viability statements that are produced as part of the Annual Performance Reports.
[84] For example, as part of its transition to a forward-looking, judgement-based conduct supervision model for retail banks and building societies, in 2013 the Financial Services Authority (FSA) analysed firms' business model strategies to understand whether the models were sustainable and to identify future conduct risks to customers. This was in the context of its statutory duty to secure an appropriate degree of protection for UK consumers. See Financial Services Authority (2013), 'Annual report: section 4 – delivering consumer protection', 10 July, p. 59.
[85] In financial services, supervisors employ a variety of tools to monitor whether a firm remains in compliance with regulatory requirements, including, but not limited to, desk-based reviews, meetings with management and other representatives of a firm, on-site inspections, transaction monitoring, use of auditors and skilled persons. See, for example, Financial Conduct Authority, 'FCA handbook'.

Box 5.1 Ofwat's existing approach to financial oversight

Ofwat collects and monitors financial metrics, as well as engaging with companies on an individual basis on their financial resilience. If it assesses that a company's financial resilience needs to be strengthened, it increases its engagement and oversight. This is with a view to 'encourag[ing] company decisions and actions aimed at maintaining and improving financial resilience, to ensure accountability and to drive change'.

Ofwat also has powers, and has placed licence conditions on companies, aimed at strengthening financial resilience. In March 2023, Ofwat confirmed its decision to make several changes to the regulatory ring-fence licence conditions that apply across the sector. The changes included:

- raising the cash lockup trigger from BBB-/Baa3 with negative outlook, to BBB/Baa2 with negative outlook (from 1 April 2025);
- requiring that dividend policies declared or paid take account of service delivery and the environment, current and future investment needs, and financial resilience;
- a requirement for companies to maintain an investment-grade credit rating with at least two separate ratings agencies;
- a requirement to notify Ofwat of any changes in credit rating.

This ongoing monitoring, reporting, publishing of information related to financial resilience represents a form of supervision, as does the possibility of Ofwat actively increasing its engagement and oversight when it recognises a company's resilience needs to be strengthened (or maintained, e.g. through preventing dividend payments).

To increase its level of supervision in certain scenarios, Ofwat has introduced additional processes and mechanisms. For example, In 2024, after Thames Water lost its investment-grade rating (which it is required to maintain as part of its licence), it specified a number of commitments that the company must comply with, including the appointment of an **independent Monitor** with access to company information and which frequently reports back to Ofwat on the company's progress.[86]

Source: https://www.ofwat.gov.uk/regulated-companies/resilience-in-the-round/monitoring-financial-resilience/

[86] Ofwat, 'Ofwat looks to appoint independent Monitor to Thames Water'.

Supervisors could work with companies to understand forward-looking risks and undertake stress-testing that would seek to identify issues. Under this option, this stress-testing would be focused on threats to financial resilience. For example, this could include modelling the potential impact of:

- macroeconomic shocks, including inflation and input prices;
- movements in financial markets (i.e. in the cost of debt);
- regulatory incentives or enforcement actions;
- extreme weather events;
- large individual capital schemes, and the cumulative effect of overruns due to circumstances outside a company's control;
- large asset health shocks;
- changes in specific cost items (e.g. business rates).

As in Option 1, the supervision framework could include **an early intervention and recovery regime**, intended to identify issues at an early stage and help companies turn around their performance. The potential components of the recovery regime could be the same as those set out in Option 1.

However, under Option 2, the trigger points for the recovery regime could be different. As discussed in Box 5.1, under the current financial resilience measures, companies are required to hold investment-grade credit ratings with two credit rating agencies and intervention trigger points are linked to these ratings (e.g. cash-lock up and dividend policy conditions). Supervisors (who would need to be suitably qualified, technical experts) would instead provide their own independent assessment of company financial risk, and use their expert judgement to determine when action is needed.[87] **This could allow for reduced reliance on credit ratings in financial resilience assessments.**[88]

The supervisors would need to be able to intervene to mitigate potential risks at an early stage. This means that **the supervisors would need to have levers available to them to make a difference.** The CfE raises the potential that the supervisor could have the ability to impose:

[87] In financial services, a central tenet of supervision is that the supervisors are given discretion and allowed to make judgement-based decisions around what level of information is required and what interventions might be needed, if any. This requires suitably qualified supervisors and an acceptance that supervisors will make judgements on a case-by-case basis.
[88] The CfE notes (p. 131, para. 341): 'Ofwat's reliance on credit ratings may limit its ability to identify internal weaknesses at companies early and do not account for their own influence on credit agency rating decisions.'

- restrictions on capital structures (e.g. absolute gearing caps); or
- minimum equity requirements that are set on a proportionate basis for each company, reflecting an assessment of the risk of that company's assets and liabilities.

As discussed in section 2.4, company decisions around capital structure (e.g. excessive leverage) can affect financial resilience. As companies are tasked with delivering large capital programmes, balance sheets could be put under further stress—higher levels of operating risk may indicate that lower levels of financial risk are prudent. However, sector-wide gearing caps that do not reflect individual company risk are a blunt tool and could have adverse effects (e.g. on borrowing costs and equity investment). Therefore, we expect that **any actions would need to be more targeted around individual company circumstances and risks** (e.g. through the proportionate risk assessment suggested in the CfE), which supervision would enable.

5.3 Benefits and risks of this approach

5.3.1 Potential benefits

In addition to tackling some of the issues with existing regulatory mechanics by making the do-minimum changes under Option 1, **the introduction of supervisors focused on assessing prudential risk should provide additional protection from the risk of financial instability**, with risks identified at an earlier stage.

Where interventions around capital structure and financial resilience are being considered, **company-specific prudential supervision should allow this to be done more effectively and proportionately, targeting actions based on a greater awareness of company-specific factors and risks of unexpected consequences.** This would lower the costs of such interventions relative to blunt, sector-wide regulations (e.g. Ofwat's previously proposed 70% gearing cap and gearing outperformance sharing mechanisms).

5.3.2 Risks

Here it is important to note that the economic regulation function would continue to play a fundamental role in shaping company revenues, cash flows, and incentives through five-yearly price reviews. Financial supervision and minimum equity buffers might help to strengthen short-term financial resilience, to the extent that these issues arise from companies' financing decisions (e.g. excessive leverage).

However, the long-term financial sustainability of water companies is tied to being able to earn a reasonable return on equity, which is determined by economic regulation. **Financial supervision will not directly resolve a situation in which financial issues are the result of regulatory error—i.e. a regulatory system that provides insufficient funding and a return on equity that is permanently below the competitive level.** The success of this option therefore partly depends on the reforms outlined in Option 1 successfully addressing these root causes of the issues.

Absent more fundamental changes to the way in which cost allowances and performance targets are set (as considered under Option 3 below, where supervision would be a more fundamental input into price reviews), there would be constraints on supervisory discretion and the levers that the supervisors would have available to them. Consequently, while this may help to identify issues, the supervisors would have less ability to address these issues directly than under Option 3.

Given the above, **there is a risk that this option would overlay an additional layer of regulation on top of an already burdensome regulatory regime without fully tackling the issues that result from the way in which regulatory outcomes and incentives are currently set.** This would be inconsistent with the government target to cut the administrative costs of regulation by 25% in this Parliament.

Finally, there may be fundamental differences in the mindsets between economic regulation and prudential supervision that would need to be bridged. Economic regulators have generally considered financeability and efficiency through a notional company lens. From a supervisory perspective, actual company financial health may be more relevant than a notional construct. This could lead to differences between the 'economic regulator perspective' and the 'supervisor perspective' that would require reconciliation. If these views could not be reconciled, this could lead to lack of intervention when it is needed and uncertainty for investors/consumers.

6 Option 3: the 'assessor' model

6.1 Institutional arrangements

Under this option, individual companies would be overseen by teams of company-specific supervisors with a broader remit than under Option 2.[89] We refer to these as 'assessors'. Specifically, the assessors would have additional responsibilities for:

- general oversight of companies and their operations (beyond financial resilience);
- assessing companies' Business Plans and overseeing delivery of these plans;
- making risk-based interventions to resolve emerging issues, as required.

There would still be a role for a central economic regulation function. However, this would either have more limited scope (e.g. focus on areas of cross-cutting relevance, such as cost of capital), or act entirely in an advisory capacity helping to inform the work of the company-specific assessors, and promoting consistent application of the regulatory methodology and decisions across companies (where appropriate).

6.2 Changes to the regulatory framework

The key difference between this option and Option 2 is that there would be a feedback loop between the supervision and the calibration of the price settlement. To facilitate this feedback loop, the coverage of supervision would need to be broader than just financial resilience. We discuss each of these differences below.

6.2.1 A broad remit for supervision

Ofwat's current monitoring activities cover financial resilience, capital delivery, performance and environmental compliance. These could all be areas covered by future supervision and there are clear links back to (current) statutory duties and the sector's objectives. These would include:

- **financial resilience**—as under Option 2;
- **capital delivery**—given the scale of the investment programmes that companies expect to deliver in coming AMPs, any reporting

[89] Supervision is a relatively flexible tool and, if such an approach were adopted, could be implemented around catchments instead of the 16 current regions, for example.

and supervision will need to provide confidence that the company is delivering investment in the interests of customers;
- **performance**—the supervisors could monitor performance relative to regulatory targets, taking account of more leading indicators of performance where feasible;
- **environmental compliance**—in this area, it will be important to consider the appropriate roles and responsibilities of Ofwat and the EA, given the risk of overlapping requirements and supervision;
- **asset management/asset health**.

In addition, assessors could consider more qualitative factors, such as organisational culture, behaviours and capabilities.

Relative to Option 2, this would result in a much broader remit for the supervision function. Although Ofwat already conducts monitoring in the areas identified above, the nature of the oversight from the supervision function would look different to the approach applied today. In particular, supervision would be more forward-looking and risk-based than the current approach.

6.2.2 Changes in how price reviews are set

The fundamental building blocks of economic regulation would not need to change. That is, there would still be:

- cost allowances set ex ante, with incentives for companies to deliver efficiently—this could cover all expenditure or just parts of it (e.g. this framework could work flexibly if enhancements planning/funding were to be taken out of the price review process);
- performance targets and other regulated deliverables—there would still be expectations around what companies would need to deliver for the funding allocated to them, such that they could be held to account for their delivery;
- incentives—the regime could preserve financial incentives to encourage better performance and/or faster delivery of capital programmes. However, careful consideration would be needed in designing the regulatory framework around the appropriate balance between ex ante incentives and ongoing supervisory discretion.

Nevertheless, **the way in which these aspects of performance would set, incentivised and monitored could look materially different under this approach**, as follows.

- **The role of assessors in assessing Business Plans.** The company-specific assessor team would draw on intelligence from supervision—including ongoing dialogue, monitoring, site visits and challenge meetings—to apply targeted, risk-based challenges when assessing company Business Plans.[90] Assessors would provide a more bottom up, engineering-led assessment of the need for (and efficiency of) any proposed investment. This could be a critical input into cost assessment, thereby reducing the weight that is placed on top-down econometric evidence for some costs.

- **Base costs would be determined by both top-down modelling and company-specific intelligence**—the current approach of primarily modelled cost estimates, with limited post-modelling adjustments, would be reversed, with benchmarking retained as an important source of evidence but used as an input alongside other information gathered by the assessor (and other sources of evidence). A changed approach would include placing greater weight on operational evidence, while different weights could be placed on modelling results, depending on the area. For example, benchmarking might continue to play a primary role in informing OPEX allowances, while funding for capital maintenance would be informed by an assessment of required asset maintenance activity given the company's specific asset base (see the next bullet).[91]

- **Assessing asset maintenance need**—the need for investment in asset maintenance would be determined by the company and their team of assessors working together, allowing for a move away from econometric benchmarking of historical costs in determining the right level of investment. However, company-specific assessors could potentially request evidence from the central regulator on the **efficiency** of asset maintenance cost forecasts. New sources of data and expert assessors could help to provide new insight into the extent to which asset health is underfunded and the quality of asset management within companies. Indeed, the move to ethical business regulation in

[90] We anticipate that companies would continue to prepare Business Plans as part of the price review process. However, the scope and structure of those plans could look different to the current plans in order to provide the assessors with the most relevant and targeted information. Separate documents (Strategic Plans) may be needed for other stakeholders, e.g. to explain the company's plans to customers.
[91] We note that in Scotland, WICS continues to use top-down benchmarking for OPEX, as well as a modelled approached to asset replacement requirements.

Scotland (see Annex A2) has facilitated better discussions around asset health and longer-term funding.

In each aspect of the price control, there would be options in terms of the balance between assessor-led and comparative approaches. For example, on performance incentives, there could continue to be common performance measures with comparative targets or **deeper local knowledge could be used to set performance targets that are more tailored to local factors** (or a combination of both).[92]

Supervision is a flexible tool that could take account of regional differences, by allowing supervisors to make decisions on a case-by-case basis. Owing to their deeper knowledge of local considerations, company-specific assessors could enable greater use of bespoke performance measures and targets, reflecting the issues of greatest importance to local customers and catchments. Alternatively, if these targets were to be derived from national resilience standards (as Water UK has suggested), the assessors could oversee how companies plan to adopt these standards at the regional (or catchment) level.

The role that assessors could play in unlocking more tailored regulation should not be underestimated

In theory, a central economic regulator could implement a more tailored performance framework for different companies, with no need for the introduction of company-specific supervisors/assessors. For example, a central regulator might allow companies to be regulated under highly divergent performance frameworks, and simply accept that their ability to benchmark companies' performance would suffer as a result.

In practice, however, **we consider that a central regulator is inevitably prone to a strong institutional bias towards 'standardisation'**. An example of this is how Ofwat's performance framework has evolved since its introduction at PR14. While the framework initially made wide use of bespoke performance commitments (which reflected company-specific priorities/circumstances) and fewer than ten common performance commitments,[93] by PR24 Ofwat had greatly reduced the role for bespoke performance commitments and almost exclusively

[92] Given the detailed understanding that the assessors would need to have to determine cost allowances, we see benefits in the assessors also being involved in performance assessment, particularly given the current cost-service disconnect in Ofwat's methodology.
[93] Ofwat (2017), 'Delivering Water 2020: Our methodology for the 2019 price review Appendix 2: Delivering outcomes for customers', 13 December, p. 5.

focused on common performance commitments, stating in its final methodology that:[94]

We expect at most two or three bespoke performance commitments per company at PR24. In response to stakeholder comments, we clarify that this is not a hard limit if the above tests are satisfied. However, based on our experience from previous price controls, we would not expect this to be the case. Where possible, we intend to use standardised definitions.
[Emphasis added]

In the PR24 FD, Ofwat accepted a total of seven bespoke performance commitments across the whole sector.[95]

The potential benefits of reduced reliance on a central economic regulator have been explored by Professor Stephen Littlechild—the original designer of the RPI-X regulatory model introduced when the UK utilities were privatised in the 1980s, and former regulator of the energy sector. Specifically, Professor Littlechild argues that reducing the central regulator's 'monopoly' on price control decision-making can 'open up a wider range of processes that can be used in order to bring different and potentially more acceptable and indeed more attractive options'[96] than would otherwise be identified under the standard regulatory process.

Even with greater accounting for local priorities, we envisage that under the assessor model there would still be some sector-wide performance measures/incentives where like-for-like comparisons can be made and local circumstances can be properly accounted for (e.g. C-MeX for customer service). These could be coupled with company-specific measures and targets with financial incentives determined by the assessor, focused on the performance areas that are identified as most important to customers and the local environment.

As a result, the central economic regulation function could be scaled back to play a more limited role. For example, this might include:

- setting up the overarching regulatory framework within which supervisors make company-specific decisions;

[94] Ofwat (2022), 'Creating tomorrow, together: Our final methodology for PR24—Appendix 7 Performance commitments', December, p. 9.
[95] Ofwat (2025), 'PR24 Final Determinations: PR24 final determinations: Delivering outcomes for customers and the environment ', February, p. 16.
[96] Littlechild, S. (2020), 'Submission to the CMA on Ofwat price determinations', 24 May, p. 5.

- setting certain, cross-cutting aspects of price controls (e.g. the cost of capital and real price effects (RPE) adjustments or mechanisms);
- horizon scanning and compiling top-down evidence to complement the insights gleaned from assessors when setting key price control parameters (e.g. unit cost benchmarks to inform discussions with companies on cost allowances).[97]

6.2.3 Changes in the nature of ongoing supervision

The dynamics of information-sharing, and the ways in which that information is used by Ofwat, could change substantially.

The approach should aim to support a **continuous, risk-based dialogue** between the company and the assessors focused around the biggest risks to the consumer interest being met. Companies could be encouraged to more proactively share the information that is most relevant to the sector's objectives, with open discussion around the limitations of data, and the key risks and issues. The regulator would also need to change its own behaviour to respond in the right way to this information, and promote openness and transparency.[98]

By focusing on key risks to the consumer interest, the nature of reporting would change, with the potential to significantly streamline the current annual performance reporting. Companies that are performing well could be given greater ownership of how they report information to build trust and confidence from stakeholders (including consumers). This would allow for a **move away from populating a large number of data tables with historical data**, to discussion of key emerging risks and issues.

There would still need to be a **defined baseline level of reporting** that all companies would be subject to in order to allow the economic regulation and supervision functions to conduct their respective roles. For better-performing companies, which present lower levels of risk to Ofwat's objectives, assessors may be able to depend on this baseline

[97] For example, in the Office of Road and Rail's (ORR) regulation of Network Rail, route-based funding settlements are supported by top-down benchmarking undertaken centrally, as discussed in Annex A2. Moreover, this would be similar to the role of WICs in the SRC15 negotiated settlement between Scottish Water and the Customer Forum (i.e. where it provided analysis and information to give guidance and frame the negotiation between the company and the Customer Forum, which ultimately decided on the price control parameters).
[98] In the Scottish water sector, for example, it was recognised that the transition to a regulatory framework base around the principles of ethical business practice and regulation required reciprocal change: WICS vis-à-vis the regulated company, and vice versa.

level of reporting. **A core aim should be to reduce and consolidate reporting requirements to focus on key risk areas.**

Supervision of capital delivery should provide confidence that companies are carrying out their investment programmes efficiently and effectively. Use of company-specific assessors would enable more responsive regulation for large CAPEX projects. For example, where a large CAPEX project has run into difficulty and the company highlights factors outside its control (e.g. issues in securing planning approval), a company-specific assessor would be much better positioned to evaluate whether the issue was genuinely outside the company's control and the most appropriate regulatory response (e.g. whether an increase in cost allowances within period might be warranted or timing penalties waived).[99]

This ongoing supervision could provide greater flexibility to respond to changing circumstances that arise during the control period. For example, there could be provisions for the assessors to reopen the regulatory settlement under certain circumstances and/or to release conditional/ring-fenced allowances where there is evidence that these are needed.

6.2.4 Tailoring regulation based on company performance

Supervision should allow for better tailoring of regulatory oversight and incentives to individual companies based on the levels of trust and confidence in their performance (both at the time of price reviews and during ongoing monitoring activities). Assessors would be able to scale oversight up or down according to the circumstances they observe. A key principle of this approach would therefore be that good performers are rewarded with 'earned autonomy' (and opportunities to earn higher returns), and poor performers are subject to relatively higher levels of scrutiny.

Potential dimensions of this tailoring could include:

- **tailored reporting requirements**—for higher-risk or worse-performing companies, the assessors could use their discretion to request more detailed and specific information from the company to better understand the drivers of poor performance and design potential interventions. Ofwat arguably already uses its powers in this way—e.g. by requiring relatively poor

[99] A potential model for this is Tideway's Liaison Committee, which was used to agree cost allowance increases and target date extensions due to extraordinary measures during COVID-19. This included an independent reporter function, and was observed by Ofwat and the EA.

performers to develop action plans—but this could potentially be more targeted and risk-based if overseen by specialist assessors;

- **tailored assurance**—as well as differences in the extent of reporting, companies could have differentiated requirements around the levels of prescribed assurance based on the assessor's assessment of the quality of data that the company has historically provided. We note that Ofwat previously developed such an approach as part of the company monitoring framework. It discontinued this framework in 2019 (with new requirements for AMP7), although it expected continued compliance to maintain improvements in reporting and comparability of information across the sector;

- **tailored approach to how regulatory deliverables are specified**—as discussed below, supervision could also facilitate the application of earned autonomy for better performers and a 'recovery' process for companies that are struggling to meet regulatory and customer expectations. **This could include flexibility in terms of the specification of regulated deliverables. In particular, there could be a tailored approach to PCDs, in which better performers might be set more outcomes-based (or programme-level) deliverables, while poor performers would have more prescriptive output-based/scheme-level PCDs as applied in PR24, for example.** This would effectively be a tailored PCD framework, where the deliverables would be tailored to the assessors' confidence in the company's delivery;

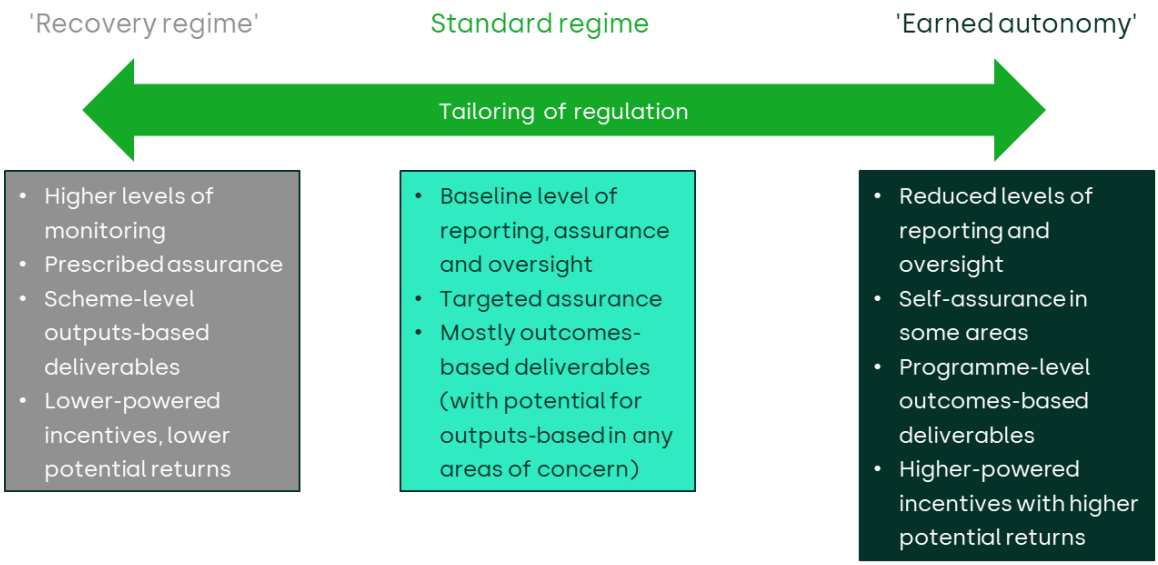
- **tailored incentives based on performance**—as discussed above, incentives could still be in place to reward companies that perform well. The assessors' assessment/confidence levels in the company, and the information they glean from their supervisory activities, could be used to calibrate regulatory incentives.[100] Companies that are top performers and have been granted earned autonomy could receive a higher-powered incentive package, while companies within a recovery regime could have lower-powered incentives while they address performance issues.

[100] Ofwat has previously considered 'track record of delivery'/'past delivery' as part of its Initial Assessment of Plans at PR19 and within the Quality and Ambition Assessment at PR24, but this could be based on a more formalised (and potentially less subjective) assessment undertaken by each company's assessors.

The tailoring approach would be applied on an absolute rather than relative basis by the assessors—i.e. companies would be moved up or down based on whether they are meeting expectations, rather than placing a fixed proportion of companies in each category based on their relative performance.

This would also be a dynamic process with a potential glide path as companies built trust and confidence—i.e. given current sector performance, there might be no companies in the top category to begin with and autonomy would have to be earned. However, over time, the assessors would consider whether companies could move towards the top category, to allow for a rolling back of oversight over time where a company consistently demonstrates a high level of performance and alignment to the customers' interest.

Figure 6.1 Tailoring under a supervision-based framework



Source: Oxera.

6.3 Benefits and risks of this approach

6.3.1 Potential benefits

The potential benefits of this approach are as follows.

1 **Better understanding of regional objectives.** Supervision could start from an understanding of local strategic objectives to an extent that is not feasible under a comparative competition regulatory model. The sector faces myriad objectives and challenges and these are felt unevenly across different regions, with different companies having different local priorities based

on their geographic circumstances—e.g. pressure on water supplies in the south-east of England, environmental challenges for regions with long coastlines. A key potential benefit of supervision would be the scope to better understand and tailor regulation to these objectives.[101]

2 **Overcoming information asymmetries.** Supervision provides an alternative means of overcoming the information asymmetry between the regulator and companies. It has the potential to enable a move away from the comparative competition regulatory model (in all or in some targeted areas). It would provide a framework within which the regulatory authority could develop deeper knowledge of the water companies and better understanding of their challenges, but also the areas in which there is genuine room for improvement. Assessors could consider capability and culture, rather than being purely focused on setting incentives or measuring performance against common metrics. Where capability or leadership issues are identified, the assessor would be able to take action targeted at addressing these root causes.[102]

3 **Potential for improved regulatory calibration.** As discussed in section 3, a key challenge within the existing regime is that Ofwat has limited ability to ascertain whether deviations in company performance from regulatory targets are the result of regulatory error/mis-calibration, management decisions or external factors. This leaves the regulator in a difficult position when it comes to re-setting targets at the next price review (as at PR24, where the underlying causes of company underperformance in AMP7 were debated). Intelligence from supervision (and a deeper knowledge of the regulated companies) could help to understand the drivers of performance, and inform the appropriate regulatory response.[103]

4 **Greater ability to reflect regional characteristics in the performance framework**. The use of supervisory input into cost

[101] However, it is not for supervisors to determine these objectives and, hence, greater clarity in this area would need to come through other reforms (e.g. to strategic planning frameworks and government policy statements).
[102] The exact nature of these actions would depend on the powers of the regulator. This could range from name-and-shame, to recommendations for the recruitment of a non-executive director or staff with certain capabilities.
[103] For example, Ofwat has stated in its most recent company performance report that 'companies need to change and that has to start with addressing issues of culture and leadership'. A more supervisory approach may help to establish what this means in practice—i.e. what are the cultural issues that need to be addressed. Ofwat (2024), 'Water company performance report 2023-24', October.

and performance assessment would allow for greater utilisation of company-specific information and local priorities in setting regulatory allowances/targets.

5 **Better tailoring of regulatory incentives and reporting requirements** to individual companies based on the levels of trust and confidence in their performance. Tailored supervision would allow strong performers more flexibility as to how to allocate funding to meet outcomes. Poor performers would be held to more prescriptive targets.

6 **Supervision could increase levels of trust and confidence between companies and regulator** by addressing the information asymmetry and facilitating expert-to-expert conversations around key issues. Companies would need to respond to supervision in the appropriate way and provide information that supports trust and confidence.

7 **Better use of data**—a more decentralised supervisory framework would benefit from identification of bespoke, leading indicators of performance and risk. This could draw on new sources of data that are underutilised in the current regulatory framework because they do not fit into the existing comparative benchmarking approach. This could include real-time data from sensors on assets that could give much more valuable insight into asset health; and continuous river water quality monitors.

6.3.2 Risks

While there are clear benefits with effective implementation of this option, there are also numerous challenges/risks that would need to be mitigated, including the following.

1 **Substitution of modelling with value-based assessments.** Assessors would need to make subjective, case-by-case assessments based on the information they collect. The success of the regime would depend on the quality of the assessors' assessments (and the information available to them). There is no guarantee that assessors would make better decisions than are currently made by the economic regulation function.[104] This highlights the importance of the assessors having the right capabilities and technical expertise.

[104] This is one reason in support of maintaining a central economic regulation function, which would provide supervisors with additional economic analysis to support decisions. The combination of top-down evidence and bottom-up supervisory insight has the potential for better decision-making.

2 **Risk of regulatory capture**. A potential risk of supervision is that the supervisors are (either in reality or perceived to be) 'captured' by the regulated company. There would need to be appropriate checks and balances on assessors. Supporting evidence provided by the central economic regulation function may help to some extent. Moreover, the risk of capture may be reduced if there is a team of assessors as opposed to concentrating supervision in the hands of a single individual.[105]

3 **The direct costs of supervision**. For assessors to get the level of understanding needed to make informed choices, the resource costs would be high. While elements of Ofwat's functions could be stripped back (or potentially eliminated entirely), use of company-specific supervisory teams would be expensive given the need to employ large numbers of staff with the right skills to properly oversee and challenge 16 different companies. However, we note that Ofwat has already been scaling up in terms of budget and personnel, and that the reporting process it has put in place for PCDs in AMP8 already represents a significant resource cost (for both Ofwat and companies). Supervision could replace some of these activities (and, over time, potentially even lead to their removal).

4 **The potential for micromanagement and potentially an overall increase in administrative burden**. Responsibility for management decisions should remain with companies. Micromanagement is a particular risk of supervision given the close working between the assessor and the company. There would be a need to ensure that the assessors operated under appropriate checks and balances and individual incentives to avoid excessive scrutiny or improper interventions in company decisions. If company-specific assessors were introduced alongside a central regulator/adviser, this could be particularly onerous for companies and would increase the number of regulatory interfaces.[106]

5 **Risk of inconsistent application across companies**. Given that assessors are generally given discretion to make judgement-

[105] Boyer, P. C. and Ponce, J. (2012), 'Regulatory capture and banking supervision reform', *Journal of Financial Stability*, **8**:3, pp. 206–217.
[106] Even if the central regulator provided only an advisory function (e.g. providing benchmarking evidence to inform the work of company-specific assessors), they would still require data submitted by every single company to underpin this analysis.

based decisions on a case-by-case basis, there could be differences in approach across companies. This may be for justified reasons (e.g. due to tailoring to individual company performance and risks, as discussed above), but there is also a risk of inconsistency that stems from assessors simply taking different approaches.[107] Processes could be put in place to reduce this risk. In particular, the central function could be tasked with mitigating this risk by providing central guidance and looking across all companies. Assessors could also employ standardised risk assessment frameworks, as is the case in financial services.

As discussed in our investability report for Water UK, the water sector needs to access large and unprecedented amounts of equity capital to finance anticipated investment requirements.[108] The regulatory framework needs to provide investors with a level of commitment and certainty around the recovery of their invested capital and the returns on offer. This is primarily through the recommendations set out in the investability report, which include an appropriate long-term framework with commitments to stability and predictability of decision-making, an adequate risk–reward balance, and sufficient funding for enhancement investment and asset health. The impact of a more supervisory approach to setting price reviews on investor sentiment towards the sector would need to be explored further, to ensure that these investability objectives are met.

Overall, this is the most radical of the three approaches and brings both the greatest potential benefits through taking a very different approach to price reviews and ongoing oversight, but also the greatest risks.

[107] For example, if the WACC were to be set by the central function and supervisors were allowed to change other aspects of control, there could be unintended differences in the risk/return package across the regions (on top of any intentional differences).
[108] See Oxera (2025), 'Response to the Independent Water Commission Call for Evidence: Investability', 23 April.

7 Conclusions and recommendations

In this report, we have shown that **the current framework of economic regulation needs to change to ensure that customers receive the right outcomes**; that long-term infrastructure investment is funded; and that investors see the sector as attractive for investment.[109]

The current regulatory approach, with fixed allowances and incentives set through a largely one-size-fits-all comparative approach, is ill-suited to tackling the challenges that the sector faces. Accounting for different regional priorities and business models in a common cost and performance framework is inherently challenging. Likewise, a top-down approach risks decisions being taken without a genuine understanding of the trade-offs that are being made. Risks and uncertainties are insufficiently captured and recognised, with the models treated as a 'source of fact'.

Building on the CfE's references to more supervisory approaches, we have considered the scope for three options to address these challenges.

1 **Better calibration of the existing regulatory approach** to account more effectively for regional strategic priorities and company-specific factors.
2 **Better calibration, while adding a prudential-style supervisory function** to allow for more effective understanding of business models and financial risks.
3 **A broader supervisory function**, with a role in setting regulatory allowances and targets at the level of individual companies. We refer to this as an '**assessor**' model to highlight the role in primary price control-setting as well as prudential-style supervision.

Table 7.1, we appraise these options in terms of their ability to better reflect the sector's challenges and address the root causes of the issues identified in section 3. **Each of Options 1–3 should represent an improvement in terms of outcomes** for customers and companies, relative to the status quo.

[109] Changes to the economic regulation framework alone are unlikely to be enough to deliver the strategic objectives of the sector. Greater clarity of objectives would need to come through other reforms (e.g. to strategic planning frameworks and government policy statements).

The changes set out in Option 1 are a minimum requirement. There is real merit in addressing these issues to provide a regulatory package that is investable, and better delivers the interests of current and future customers. However, we have concerns about the ability of such an approach to adequately capture the differences in regional strategic objectives and realities.

Option 2 should lead to better outcomes than Option 1, due to greater levels of company-specific understanding, reduced information asymmetry, and an ability to intervene earlier to address financial resilience issues with more targeted measures.

Moreover, **a more radical assessor model provides an alternative means of overcoming the information asymmetry between the regulator and the companies**. It provides a more focused role for comparative competition, and would allow the regulatory authority to develop deeper knowledge of the water companies and better understanding of their challenges, strengths and weaknesses. More importantly, it would **allow the regulatory system to better account for differing local objectives and challenges in a way that is unlikely to be feasible within the confines of the existing approach.**

If implemented properly, this has the most potential benefit. However, **the risks of such an approach would need to be carefully thought through and mitigated, as implementation issues or risks of regulatory error may be significant.** This would be a fundamental change in regulatory approach, and there are material implementation considerations that would need to be addressed, including:

- where the decision-making process lies, in terms of appropriate institutional arrangements and powers;
- the capabilities and skills of assessors, given that they would have considerable power and responsibility in shaping regulatory allowances and targets;
- the credibility of the process, in particular around avoiding scope for regulatory capture and confidence in delivering materially different outcomes to the status quo;
- the appropriate checks and balances on the assessors to ensure that the system is effective and proportionate, and to prevent micromanagement;
- the avoidance of scope creep, while stripping back unnecessary elements of the existing regulatory framework (e.g. certain regulatory mechanisms whose functions could be replaced)—this is an important consideration in light of HM Treasury's

commitment to reduce the administrative costs of regulation for businesses by 25% by the end of the Parliament.[110]

Based on our assessment of the potential opportunities, we recommend that the Independent Water Commission gives further consideration to a potential assessor model for the England and Wales water sector, notwithstanding that the scale of change this would require should not be underestimated.

[110] HM Treasury (2025), 'A new approach to ensure regulators and regulation support growth', 31 March.

Table 7.1 Options appraisal

	Option 1: Refinements to existing approach	Option 2: Prudential-style supervision	Option 3: Assessor model
Ability to take account of differing strategic objectives and consumer priorities at the regional level	Previous attempts to take account of local objectives (e.g. through customer challenge groups and bespoke incentives at PR19) have not been successful	No additional change relative to Option 1	This could start from an understanding of local strategic priorities and objectives, with greater potential tailoring of regulation to these regional priorities.
Ability to take account of different company characteristics	Ofwat aims to consider company -specific factors, e.g. in post-modelling adjustments and enhancement 'deep dives', and these measures could be developed further (e.g. through greater use of bottom-up evidence). However, there would be limits on this where top-down modelling continues to play a significant role in cost and performance assessment.	Better understanding of individual company's business models and risks, allowing for better targeted interventions around financial and operational resilience.	Scope for greater use of company-specific information, including bottom up, engineering-led evidence.
Ensuring long-term infrastructure resilience for the benefit of future customers	Development of a forward-looking approach to asset health between Ofwat and companies. The focus of this approach would necessarily move away from backward-looking assessments of historical expenditure, towards an approach based on a more granular assessment of the company's asset base, condition and required levels of activity in the future. This would draw on more operational/bottom-up evidence, and would require collaboration with the industry to overcome information asymmetry.	No additional change relative to Option 1	New sources of data and expert supervisors could help to provide new insight into the extent to which asset health is underfunded and the quality of asset management within companies. The move to ethical business regulation in Scotland (see Annex 2) has facilitated better discussions around asset health and longer-term funding.
Promoting investment in water and wastewater networks	The proposed changes identified under Option 1 take account of the need to rebalance risk and ensure that the sector is investable. This is addressed further in Oxera's separate investability report.	Prudential-style regulation has the potential to improve financial resilience, thereby improving long-run investability. However, any interventions (e.g. on gearing and dividend restrictions) would need to be carefully designed to avoid deterring investment.	The impact of a more supervisory approach to setting price reviews on investor sentiment towards the sector would need to be explored further, to ensure that investability objectives are met.

	Option 1: Refinements to existing approach	Option 2: Prudential-style supervision	Option 3: Assessor model
Regulatory risk	The risk of incremental individual improvements is the lack of strategic overview at the company level (i.e. how each of the individual components leads to a sensible overall framework for the company in question).	Financial supervision will not directly resolve a situation in which financial issues are the result of regulatory error—i.e. a regulatory system that provides insufficient funding and a return on equity that is permanently below the competitive level. The success of this option is therefore dependent on the reforms under Option 1 successfully tackling issues in the price review process.	Risks of micromanagement and regulatory capture. The quality of decision-making would also be reliant on the capabilities of assessors, which is not guaranteed to be an improvement over current models.
Administrative costs	There may be some increase in cost relative to the status quo due to the greater use and analysis of bottom-up evidence, as well as any resource costs associated with the recovery regime.	There is a risk that this option would overlay an additional layer of regulation on top of an already burdensome regulatory regime. This could increase costs relative to the status quo. However, it might allow for the removal of some of the existing company reporting and licence requirements around financial resilience (e.g. companies might no longer be required to hold multiple credit ratings).	Resource costs would be high as the assessors would need to have a detailed understanding of the companies they are overseeing. The assessors would replace much of the work of the existing central function, so the overall impact on regulatory costs is unclear, but may be lower in the long run (or at least there may be more effective regulation for the same quantum of resource). However, we anticipate that, at least initially, this would be a more expensive regulatory model to run (in terms of direct costs).
Practicality to implement	Easiest approach to implement given it is based on refinements to the existing framework.	This should be practical to implement as it would involve setting up a team of supervisors, potentially based on various financial services precedents.	This is the most radical option and would involve fundamental change. As noted above, there would be significant choices around institutional design, decision-making processes, and recruitment of suitably qualified assessors.

A1 Context—the performance regime applicable to water companies

Water companies provide essential services for society. As such, it is important that they have appropriate incentives to deliver high-quality services and value for money to consumers. Companies that deliver strong performance at a fair price should be rewarded, while those that fail to do so should be held to account.

Since privatisation, regulators have designed various incentive frameworks to encourage water companies to deliver high-quality services to customers and for the environment. This includes price control incentives set by Ofwat; and performance incentives outside of the price control, set by a wider set of regulators including Ofwat, the EA, the DWI and Natural Resources Wales.

A basic overview of this regulatory landscape is provided below.

A1.1 Performance incentives in the price control

Under Ofwat's price control framework, water companies in England and Wales are regulated under an ex ante revenue cap approach, which is intended to give companies incentives to become more efficient over time. Ofwat also uses the framework to hold companies to account for the service levels they deliver and to incentivise improvements.

Ofwat's price control framework includes a wide range of mechanisms that seek to incentivise companies to deliver performance improvements. Key mechanisms are set out below.

A1.1.1 Cost allowances

A core part of the price review process involves Ofwat estimating each company's efficient costs for each year of the price control period. To do so, Ofwat applies a range of cost assessment techniques.

Ofwat's regime makes use of a TOTEX regulatory framework, modelling OPEX and CAPEX together. However, it currently models and assesses most enhancement costs separately from base costs (BOTEX).

Base costs are routine, year-on-year costs, which companies incur in the normal running of their business (OPEX and capital maintenance). This includes operating treatment works and repairing pipes. In contrast, **enhancement costs** are those incurred when delivering improvements above current levels of service. Much of this relates to the CAPEX

programme (though not exclusively), and includes expenditure to deliver the statutory environmental programme.

Given the industry structure adopted in the England and Wales water sector, with multiple regional monopolies, Ofwat has chosen to make extensive use of evidence from top-down econometric models to assess efficiency levels across companies. These models play a major role in the determination of allowed costs, in particular for BOTEX.

The BOTEX econometric models use historical data, and seek to capture the relationship between costs and cost drivers such as scale, density, topography and complexity. Ofwat then uses these models to understand how far each company is from the efficiency 'frontier' (defined in PR24 as the upper quartile, or the threshold performance level for the top 25% of companies). Companies further from this frontier receive a more stringent efficiency challenge, whereas those outperforming the benchmark may receive a higher cost allowance than requested in their Business Plans.[111]

Table A1.1 outlines the cost drivers included in Ofwat's wholesale base cost modelling.

Table A1.1 Cost drivers included in Ofwat's wholesale base cost modelling

	Water	Wastewater
Scale	• Connected properties • Length of mains	• Sewer length • Load received • Total sludge produced
Treatment complexity	• Proportion of water treated in complexity bands 3 to 6 • Weighted average complexity	• Proportion of load with ammonia consents below 3mg/l
Topography / pumping requirements	• Average pumping head • Booster pumping stations per km of mains	• Pumping capacity per km of sewers
Population density[1]	• Weighted average density (LAD) • Weighted average density (MSOA) • Properties per km of mains	• Weighted average density (LAD) • Weighted average density (MSOA) • Properties per km of sewer

[111] Ofwat (2024), 'PR24 final determinations: Expenditure allowances', December, pp. 25–26.

	Water	Wastewater
Treatment works level economies of scale	N/A	• Weighted average treatment plant size • Proportion of load treated in size bands 1 to 3 • Number of sewage treatment works per property
Weather and climate	N/A	• Urban rainfall per km of sewer

Note: Ofwat does not use all of the cost drivers included in the table above in any single model; rather, it triangulates across different models that (at most) control for one cost driver for each characteristic. [1] In the water models, Ofwat models a quadratic (i.e. 'U-shaped') relationship between density and expenditure. LAD and MSOA refer to Local Authority District and Middle Layer Super Output Areas, respectively, and refer to the different levels of granularity on which population density is measured.
Source: Ofwat (2024), 'PR24 final determinations: Expenditure allowances - Base cost modelling decision appendix', December.

In general, Ofwat's approach assumes that any difference between its own estimate of a company's base costs and that company's actual base costs can be ascribed to (in)efficiency. That is, if a company's actual costs are above those estimated in Ofwat's modelling, Ofwat assumes that the company's base costs are inefficient. In contrast—if a company's base costs lie below Ofwat's modelled estimate—Ofwat assumes that the company is operating efficiently.

However, Ofwat does recognise that its own models are unlikely to perfectly represent reality, and therefore takes additional steps when estimating base cost allowances including:

- **model triangulation**—Ofwat estimates multiple base cost models and then triangulates[112] between them, in order to mitigate the risk of error in any one base cost model;[113]
- **cost adjustment claims (CACs)**—companies are also able to submit CACs if they believe that the models do not take account of their specific situation (albeit these claims must be evidenced and relate to factors outside of management control).

[112] The triangulation process relies on averaging results obtained across the various models (including results from Ofwat's 'high-level of cost aggregation', 'medium-level of cost aggregation' and 'disaggregated' cost models. For example, for details of Ofwat's approach to triangulation for water cost models at PR24, see: Ofwat (2024), 'PR24 final determinations: Expenditure allowances - Base cost modelling decision appendix', December, p. 29.
[113] Ofwat (2024), 'PR24 final determinations: Expenditure allowances', December, pp. 25–26.

In contrast, when estimating enhancement costs Ofwat uses a mix of top-down models and bottom-up reviews, with around £30bn (c. 60–70%) of these costs being modelled at PR24[114] (a significant increase relative to past reviews).[115] The enhancement cost models use both historical and the forecast data outlined in companies' Business Plans.

Importantly, for several enhancement lines, Ofwat's top-down models were used as the 'first stage' in Ofwat's assessment of efficient costs. For schemes that were identified to be inefficient in the models, Ofwat undertook a more detailed investigation into the efficiency of such schemes on a bottom-up basis. If there was evidence to suggest that the scheme was particularly unique such that it could not be benchmarked against other schemes, Ofwat increased the allowance accordingly, up to a maximum value of the requested expenditure.

Some enhancement expenditure is bespoke in nature, such that Ofwat considers that benchmarking models would be inappropriate. Where this is the case, a qualitative assessment is undertaken—through a combination of 'shallow' and 'deep' dives—based on engineering evidence, to establish the need for the scheme and understand the associated costs.

A1.1.2 Cost-sharing

As noted, during the price review Ofwat sets each company a fixed cost allowance (or 'TOTEX' allowance), which represents Ofwat's view of the funding the company needs to deliver services and improvements if it is operating efficiently. Under a pure revenue cap, companies who then deliver against this TOTEX allowance would earn the cost of capital assumed in price limits. A company is then incentivised to be efficient over the five year period, since if it since if it underspends relative to the allowance, it earns more returns (and retains these additional benefits up until the next price review).[116]

In practice, in the water sector a cost-sharing approach is used, rather than a pure revenue cap.[117] Here, if a company overspends (or underspends) relative to this allowance, it is able to share some of the

[114] The £30bn figure is mentioned in Ofwat (2024), 'PR24 Final Determination: Expenditure allowances', December, p. 99. This compares to allowances of £43.5bn or requests of £49bn by companies (i.e., c. 60-70%). We understand that 'modelled' in this context refers to unit cost as well as econometric modelling.
[115] For example, see Ofwat (2024), 'PR24 final determinations: Expenditure allowances - Enhancement cost modelling appendix', December, section 2.3.
[116] Conversely, companies underperforming against the TOTEX allowance would earn returns lower than the assumed cost of capital.
[117] This approach has been in place in some form since PR09.

loss (or is required to pass on some of the savings) to customers during the period. The specific proportion of the overspend (or underspend) which is borne by the company is determined by the cost-sharing rate (e.g. 50:50 for base expenditure at PR24[118]). In this way, while still providing incentives for efficiencies over an AMP, outturn cost risk is shared between a company and its customers.

A1.1.3 Outcome Delivery Incentives

Since PR14, Ofwat has adopted an outcomes-based approach to measuring and incentivising performance, with a view to encouraging companies to focus on aspects that customers and society value the most.

For a set of performance measures (Performance Commitments, or PCs), Ofwat sets targets (Performance Commitment Levels) at the start of the price control period. ODI rewards (or penalties) are then applied when companies deliver higher (or lower) levels of performance than the target.

We provide a summary of Ofwat's approach to setting performance commitment levels at PR24 below.

[118] 50:50 was adopted at PR24 for companies assessed as 'outstanding' or 'standard' in the BPI assessment. Here, the company bears 50% of overspend risk (the rest passed on to customers in bills) and keeps 50% of any underspend (again, passing the rest onto customers). Less beneficial cost-sharing rates would have been applied to companies outside of these categories as assessed at the DD, but in all but one case 50:50 was applied at the FD. Different rates were also adopted for enhancement (40:40), large schemes (25:25) and business rates (10:10).

Box A1.1 Ofwat's PR24 approach to setting performance targets

There are two key parts of Ofwat's target setting that determines the overall level of stretched faced by companies:

- the starting point (or 2024-25 'baseline', year zero);
- the subsequent stretch/improvement to 2029/30.

As a 2024–25 baseline, in its DD Ofwat assumed that companies would all achieve the performance commitment levels assumed in the PR19 determination by the start of AMP8. While Ofwat did make some adjustments to this at final determinations, there was not always a complete adjustment to the PR19 performance commitment level.[119]

The subsequent stretch to 2029/30 was set beyond PR19 performance levels for each common performance target. At final determinations, and as a high-level decision, the industry median forecast for 2025-30 was adopted as a minimum, to challenge lagging companies to make significant improvements. Therefore, in a number of areas, targets were more stretching than set out in many companies' Business Plans.[120] Some of the targets were set on a common basis across the sector (e.g. supply interruptions) whereas others were company-specific (e.g. external sewer flooding).

An underlying principle adopted by Ofwat early on in the PR24 process was that, over time, more improvements should be self-funded from base expenditure (i.e. delivered through efficiencies, rather than through additional funding). In practice, at the FD, some PCs were assumed to be delivered solely through base allowances (e.g. total pollution incidents). For certain areas, PCs were assumed to be delivered through enhancement expenditure (e.g. per capita consumption). In other areas, PCs were assumed to be delivered through a combination of base and enhancement allowances (e.g. internal sewer flooding).

Source: Ofwat (2024), 'PR24 final determinations: Delivering outcomes for customers and the environment'.

As noted, through the ODI framework companies will face penalties (or rewards) if they fall short of the performance targets (or outperform against them) over the next five years. At PR24 ODI rates were initially to be based on customer preferences—informed through centralised Ofwat research. However, due to methodological issues, these rates were instead derived using a 'top-down' approach, targeting a risk range. The ODI rates set at PR24 are higher than at PR19.

In addition, while Ofwat regarded the package as symmetric, the industry expressed concern of significant downside skew,[121] although additional risk protections were included between draft and final determinations (specifically, more caps, collars and deadbands).[122]

A1.1.4 PR24 incentives and mechanisms in the round

The incentives highlighted above are part of a broader package of mechanisms Ofwat has developed over successive price reviews. For PR24, they are as follows.

1 **Business Plan Incentives**—Ofwat has used BPIs in price reviews to encourage companies to submit (what Ofwat considers to be) high quality plans and reveal information about their own efficient costs.[123] At an early stage of PR24, Ofwat announced incentives that would be based on its assessment of the levels of quality/ambition shown by companies' in their Business Plan submissions (the QAA). Depending on the outcome of this assessment ('outstanding', 'standard', 'lacking ambition' or 'inadequate'), companies would be faced with financial rewards

[119] Adjustments were made to account for company forecasts or more recent outturn performance data. On the basis thereof, a less stretching baseline was assumed for over a third of the performance commitments.
[120] Indeed, for certain common PCLs, the targets set were arguably equivalent to upper quartile company outturn performance (for water supply interruptions, internal sewer flooding and pollution incidents). Based on Oxera analysis of Ofwat PR24 PCLs.
[121] That is, an expectation that companies were more likely to be in a 'penalty' situation than a 'reward' situation across the regulatory incentives.
[122] Ofwat (2024), 'PR24 final determinations: Delivering outcomes for customers and the environment', pp.-65. Caps and collars, when applied to a PCL, set out limits to ODI outperformance and underperformance payments, respectively. Deadbands set out a range of performance levels around a given PCL where ODI underperformance or outperformance payments are zero. At final determinations collars were applied to 80% of all PCs and caps were applied to 70% of PCs (compared to 60% for both at the DD). At the DD, deadbands applied only to the compliance risk index. This was extended to discharge permit compliance, repairs to burst mains and serious pollution incidents at final determinations.
[123] However, Ofwat's BPIs—specifically, its Quality and Ambition Assessment (QAA) used for the PR24—have been criticised for encouraging companies to submit undeliverable, low-cost plans. See, for example, Wessex Water (2025), 'PR24 CMA Redetermination—Statement of Case', 21 March, p. 6, para. 2.31; and Northumbrian Water (2025), 'Northumbrian Water Ltd—Statement of Case', March, p. 69, para. 222.

or penalties (up to ±30bps RORE). In addition, companies assessed as 'lacking ambition' or 'inadequate' would (through cost-sharing) bear more of the burden of any overspends while also retaining less of the benefits of any underspend.[124]

2 **PCDs**—these provide specific targets and incentives linked to non-delivery or late-delivery of certain projects and improvements. PCDs differ from the PCs within the ODI framework in that they generally relate to delivery of specific outputs/activities (e.g. kilometres of mains renewed) or named enhancement schemes. PCDs apply to around 80% of allowed enhancement expenditure.[125] Certain areas of base expenditure are also covered by PCDs, including mains renewals, network reinforcement and company-specific programmes.[126] Companies are required to report on progress against PCDs twice a year.[127]

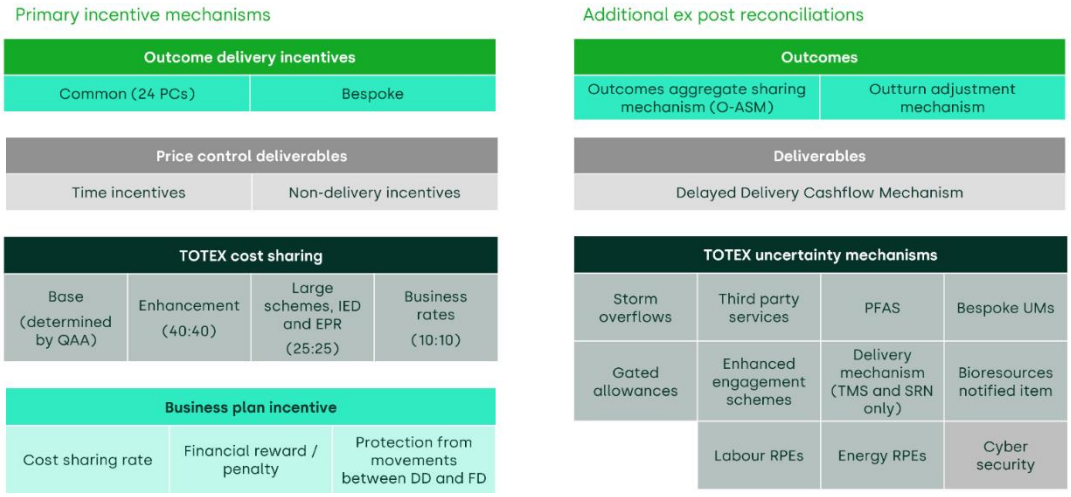
3 **Overall protection mechanisms**—the ASM applies separately to outcomes and costs, and adjusts a company's aggregate returns in the event that its performance exceeds (or falls below) certain trigger thresholds based on RoRE. The OAM provides additional security for companies if there is sector-wide underperformance against performance targets (or shares outperformance with customers), around a deadband.[128]

4 **TOTEX uncertainty mechanisms (UMs)**—finally, a number of 'uncertainty mechanisms' seek to manage uncertainty at the time the price control is set. For example, the RPE mechanism mechanistically adjusts companies' cost allowances in response to movements in energy, plant, materials and labour costs.

The price control regime is complex. If companies meet all their cost and performance targets, they will earn the base return assumed by Ofwat in its final determinations (i.e. the allowed WACC). What the above discussion highlights, however, is that companies' returns may be higher or lower than the WACC, depending on their performance (and how this feeds through each of the incentive and uncertainty mechanisms outlined above).

[124] Companies classed as 'outstanding' were also protected from reductions in allowed returns and base cost allowances between the DD and FD.
[125] Ofwat (2025), 'PR24 final determinations: Expenditure allowances', February, p. 313.
[126] Ofwat (2025), 'PR24 final determinations: Price control deliverables appendix', February, section 3.
[127] The PCD regime allows for c. £35–£40bn of funding to be clawed back from companies in the event of non-delivery (equivalent to around one-third of PR24 TOTEX). Time incentives (with late delivery penalties) apply to around half of the enhancement programme.
[128] For a summary, see Ofwat (2025), 'PR24 final determinations', Ofwat webinar, 14 January, slide 25.

Figure A 1.1 Price control incentives/mechanisms at PR24



Note: Other mechanisms: revenue forecasting incentive, water trading incentive, land sales, retail reconciliation, bioresources reconciliation, tax reconciliation, cost of debt indexation.
Source: Oxera.

A1.2 Performance incentives outside of the price control

Outside of the price review process, Ofwat has powers to investigate companies and issue financial penalties for regulatory breaches. The EA and National Resources Wales also have powers to investigate companies regarding specific environmental issues and to levy penalties for non-compliance. Finally, the DWI, as the quality regulator for public water supplies in England and Wales, has its own enforcement powers. These actions have been material, and will affect investor perceptions of risk for the sector.

A1.2.1 Ofwat's enforcement powers

Ofwat has powers under section 22A of the Water Industry Act (WIA 1991), to fine companies up to 10% of relevant turnover for breaches of licence conditions (or of other obligations specified in the WIA). While the regulator has recently consulted on its overall approach to enforcement[129], its approach to assessing financial penalties dates from 2010. From February 2024 Ofwat has new powers to act against any water company that provides poor customer service.

Table A1.2 gives a breakdown of the issues considered by Ofwat when determining whether a penalty should apply and, if so, the broad level of

[129] Ofwat (2025), Consultation on Ofwat's Enforcement Guidance, February.

penalty (as a percentage of relevant turnover). This broad level is then adjusted for aggravating and mitigating circumstances.

Table A1.2 Factors considered by Ofwat when calculating penalties

Considerations	Aggravating and mitigating factors
The seriousness and duration of the contravention	Repeated contraventions or failures
The degree of harm caused, including any increased costs incurred by customers	The continuation of a contravention or failure
Whether a penalty would be likely to create an incentive to comply and thereby deter future contraventions	Any involvement of senior management
Any financial or indirect gains made by the licensee as a result of the contravention	The level of cooperation with any investigation carried out
Any damage to other market participants	Proactive reporting of the contravention
Avoiding double jeopardy (i.e. not levying a penalty when the licensee is being, or has already been, prosecuted for the contravention concerned)	Taking appropriate action to rectify the contravention
Precedents set under equivalent provisions for other utilities	Activities to provide restitution and compensation

Source: Ofwat (2010), 'Section 22A Water Industry Act 1991: Statement of penalties with respect to financial penalties', November.

In the past, penalties (mainly around misreporting) were typically between 0.3% and 3.5% of relevant company turnover.[130] These have increased over time, and have expanded into new areas. In August 2024, following an investigation, Ofwat proposed fines totalling £168m for three companies in relation to their management of wastewater treatment works and networks (and the impact on storm overflows). Taking into account each company's wastewater turnover, Ofwat proposed the following fines:[131]

- Thames Water £104m (9% of turnover)
- Yorkshire Water £47m (7% of turnover)[132]

[130] Ofwat (2017), 'Ofwat's approach to enforcement', January. For a comparison of fines based on relevant turnover over time, see Ofwat (2019), 'Ofwat's final decision to impose a financial penalty on Southern Water Services Limited', October, paras 5.38–5.39.
[131] Ofwat (2024), 'Enforcement case in Northumbrian Water's management of its sewage treatment works and sewerage networks', 6 August.
[132] Yorkshire Water subsequently provided undertakings to Ofwat, including a £40m redress package funded by shareholders. Ofwat (2025), 'Enforcement case in Yorkshire Water's management of its sewage treatment works and sewerage networks', 20 March.

- Northumbrian Water £17m (5% of turnover).

In addition to the proposed penalties, Ofwat consulted on proposed enforcement orders to require each company to rectify the issues identified. Ofwat also stated that the companies would not be able to recover the money paid in penalties from customers, and that customers would not be charged twice where additional maintenance was required.

A1.2.2 Environment Agency enforcement powers

The EA has a variety of enforcement powers, including through prosecutions and the associated fines, through imposed civil sanctions (including Variable Money Penalties), and through voluntary enforcement undertakings (such as payments by companies to wildlife trusts and commitments to undertake investment). Variable Money Penalties were previously capped at £250,000 but this cap was removed in December 2023, meaning that companies can now be hit with unlimited financial penalties.[133]

From January 2015 to October 2024, the EA 'successfully concluded 63 prosecutions against water and sewerage companies for pollution offences securing fines of over £151 million'. This has included most recently:[134]

1 Severn Trent being fined £2m after pollution entered the River Trent in Staffordshire;
2 Thames Water being fined £3.3m for polluting two rivers near Gatwick Airport with sewage.

The EA states 'enforcement alone is not our long-term solution. We aim to identify the root causes of environmental harm and non-compliance with water companies to prevent it from occurring in the first place'.[135]

National Resources Wales has similar enforcement powers to the EA, including powers to prosecute, to impose civil sanctions, and seek voluntary enforcement undertakings.[136]

[133] Department for Environment, Food and Rural Affairs (2023), 'Unlimited penalties introduced for those who pollute environment', 11 December.
[134] Environment Agency (2024), 'How the EA uses its enforcement powers to hold water companies to account', 30 October.
[135] Ibid.
[136] National Resources Wales, 'Enforcement and sanctions policy'.

A1.2.3 DWI enforcement powers

The main way the DWI oversees the water companies is through guidance and advice, and through voluntarily compliance. However, there are times when formal enforcement action is undertaken, through civil or criminal sanctions:[137] statutory notices or orders requiring or prohibiting companies to take certain steps; statutory undertakings; and criminal prosecution before the courts (or a caution if a prosecution is not deemed appropriate).

The most recent examples of fines include:[138]

- Wessex Water being fined £280,000 (with costs agreed out of court of around £22,000) for supplying tap water with an unacceptable taste; and
- South West Water being fined £233,333 (with costs of around £84,000) for supplying tap water with an unacceptable taste and odour.

A1.2.4 The guaranteed standards scheme

Finally, all customers of water and sewerage companies are entitled to guaranteed minimum standards of service, as laid down by the UK and Welsh governments under the guaranteed standards scheme (GSS).[139] Where a company fails to meet any of these standards of service, it is required to pay a minimum specified payment to the affected customer.

The guaranteed standards scheme is separate from the ODI framework applied within the price control, since it relates to payments to specific customers affected by a service failure, in addition to failure to meet broader outcomes targets or incentives (PCLs).

[137] Drinking Water Inspectorate, 'Enforcement Policy – Drinking Water Quality Regulation'.
[138] Drinking Water Inspectorate, '30 May 2023 – Wessex Water Services Limited fined for drinking water offence'; and '20 September 2022 – South West Water fined for drinking water offence', press releases.
[139] Ofwat (2017), 'The guaranteed standards scheme (GSS): summary of standards and conditions', April.

A2 Supervision—lessons from other sectors

Supervision refers to the oversight of regulated firms, and of the individuals controlling them, to promote positive outcomes and protect consumers from harm.[140] It involves monitoring, assessment and intervention to ensure that key regulatory objectives are met. Key elements of supervision typically include:

- articulation of **strategic objectives**;[141]
- **establishing minimum requirements** that firms must meet, and continue to meet, to obtain and retain an operating licence (referred to in UK financial services as threshold conditions).[142] These minimum requirements can cover various aspects of a business, such as financial and operational performance, as well as broader factors like corporate governance;
- a proactive and ongoing approach to ensure these standards are properly implemented. Supervisors employ a **variety of tools to monitor** whether a firm remains in compliance with regulatory requirements. Including, but not limited to; desk-based reviews, meetings with management and other representatives of a firm, on-site inspections, transaction monitoring, use of auditors and skilled persons;[143]
- **intervention**—in the event that threshold conditions are at risk of not being met (non-compliance), a supervisor may judge it necessary to intervene to mitigate the risks a firm is creating.

Importantly, supervision (as practiced in UK financial services) is not simply about adherence to a set of rules. It is also about understanding firms, their practices and financial condition so that judgements can be formed in the round about whether each firm poses material risks to regulatory objectives and what these risks might be, whether or not rules are being broken.

This ongoing monitoring can help the supervisors to assess both a firm's current and future risks, and therefore the likelihood that regulatory

[140] Financial Conduct Authority (2024), 'Our approach to supervision', March.
[141] For example, the FCA has a single strategic objective (to ensure financial markets function well) and three operational objectives (to protect consumers, protect the integrity of the UK financial system, and promote effective competition). It has set out a three year strategy to achieve these by reducing and preventing serious harm, setting and testing higher standards, and promoting competition and positive change. See Financial Conduct Authority (2024), 'Business Plan 2024/25', 19 March.
[142] Prudential Regulation Authority and Financial Conduct Authority, 'The PRA and FCA's threshold conditions'.
[143] Financial Conduct Authority, 'FCA handbook'.

objectives will be achieved.[144] This is intended to enable early intervention before issues escalate.

Regulatory interventions often serve multiple purposes. For example, supervisory powers can be used to address risks which have materialised (remedial), or to assist in preventing risks from escalating (preventative).[145]

The approach aims to provide the supervisor with an holistic and comprehensive view of an institution's risk profile (in terms of risks to regulatory objectives) that is as complete as possible, considering all relevant risks and their possible mitigations.[146]

Note, however, that FS supervision is of firms that operate in competitive markets, rather than regulated monopolies, as in the water sector.

A2.1.1 Key takeaways

Supervision provides a framework for assessing whether a regulated firm's business model, conduct or decisions are aligned to delivery of strategic objectives. The intention is that—through ongoing dialogue and monitoring of firms—supervisors can identify risks to the strategic objectives and make targeted interventions to mitigate these risks. This requires that a clear long-term vision and set of strategic objectives for the sector is in place.

A2.2 Ethical business regulation in the Scottish Water sector

A2.2.1 Background

WICS is the economic regulator of the water sector in Scotland. It has three main functions:

- To determine charge caps and, in so doing, promote the interests of customers of Scottish Water both in terms of the quality of services provided and the charges that have to be paid. This involves WICS determining the level of revenue Scottish Water needs to collect through customer charges in order to deliver the objectives set for it by Scottish Ministers.

[144] 'Our supervisors rely on judgement in taking decisions; we assess firms not just against current risks, but also against those that could plausibly arise further ahead; and we focus on those issues and firms that are likely to pose the greatest risk to our objectives.' Prudential Regulation Authority (2023), 'The Prudential Regulation Authority's approach to banking supervision', July, p. 3.
[145] See Financial Conduct Authority 'FCA Handbook: Tools of supervision'.
[146] European Central Bank (2024), 'Supervisory methodology 2024' .

- To monitor and comment on Scottish Water's reporting of its performance, challenging Scottish Water to become more efficient and sustainable.
- To facilitate a competitive framework for retail water and sewerage services.

In the context of the Strategic Review of Charges 2021–27 (SRC21), WICS concluded that, while a cash-based approach with fixed, six-year price settlements had delivered benefits for Scottish customers historically, it was no longer the optimal regulatory approach in light of the long-term challenges facing the sector (in particular, decarbonisation, climate adaptation and asset replacement).

Its rationale was that the rigidity and short-term nature of this approach, as well as the strong incentives that it placed on Scottish Water to minimise cash costs in the current regulatory period, were unlikely to best support the achievement of the sector's target long-term outcomes.

Consequently, it made a significant change to its approach, adopting a new model of regulation based on the principles of Ethical Business Practice and Ethical Business Regulation championed by Professor Chris Hodges and Ruth Steinholtz.[147] The intention of Ethical Business Practice is that a company commits to creating an ethical culture and adopting a set of behaviours centred around doing the right thing, and communicating this to stakeholders openly and transparently. Ethical Business Regulation is the regulatory framework and interactions that encourage and support Ethical Business Practice. In adopting this approach, WICS argued that 'a regulatory system will be more effective in influencing the behaviour of individuals when it supports and facilitates ethical and fair behaviour.'[148]

Key elements of this approach included:

- the company taking full ownership of developing its strategy, decision-making, meeting its commitments, and the communication of its progress to relevant stakeholders, to gain trust and build consensus;

[147] Hodges, C. and Steinholtz, R. (2017), *Ethical Business Practice and Regulation: A Behavioural and Values-Based Approach to Compliance and Enforcement*, Bloomsbury Publishing.
[148] Water Industry Commission for Scotland (2018), 'Strategic Review of Charges 2021-27: Methodology refinements and clarifications', November, p. 7.

- enhanced communication between the regulated business, the regulator, and other stakeholders, with frequent conversations at all levels of the organisations to ensure confidence in the system and the company's performance. These interactions were intended to be continuous in nature (with a 'little and often' mantra), as opposed to the regulator periodically 'dipping in and out' at set touch points;
- openness, transparency and a willingness to engage in candid conversations among all parties—including around key risks and issues;
- ensuring that customers and communities are engaged in company decision-making processes, including at the planning stage, with a step change in customer and community engagement relative to what has been expected historically;
- keeping traditional tools and powers open to WICS (but with the expectation that these would be used sparingly).

The concepts of Ethical Business Practice and Ethical Business Regulation underpinned the approach that was taken to SRC21. There are two points of particular interest in WICS's SRC21 approach.

First, unlike with previous SRC processes, Scottish Water's investment programme was no longer fixed for six years as part of SRC21, and instead has been continually developed and updated using a new Investment Planning and Prioritisation Framework. The approach was intended to allow for a more agile and dynamic approach to investment decision-making, with greater ability to make trade-offs between the competing priorities of stakeholders. The counter to this is that there has been considerably less certainty over what will be delivered, as there is no longer a technical specification to monitor progress against.

Second, to provide funding for the substantial increase in investment that is required to decarbonise, adapt to climate change and replace ageing assets, WICS indicated that it would allow real bill increases of up to 2% p.a. from SRC21 until 2050. This provides an interesting contrast to England and Wales, where Ofwat continued to require companies to make cuts to real bills at PR19, before reversing this with large bill increases at PR24. It also highlights WICS's intention to adopt a long-term perspective on prices and investment, rather than focusing on a single price control period.

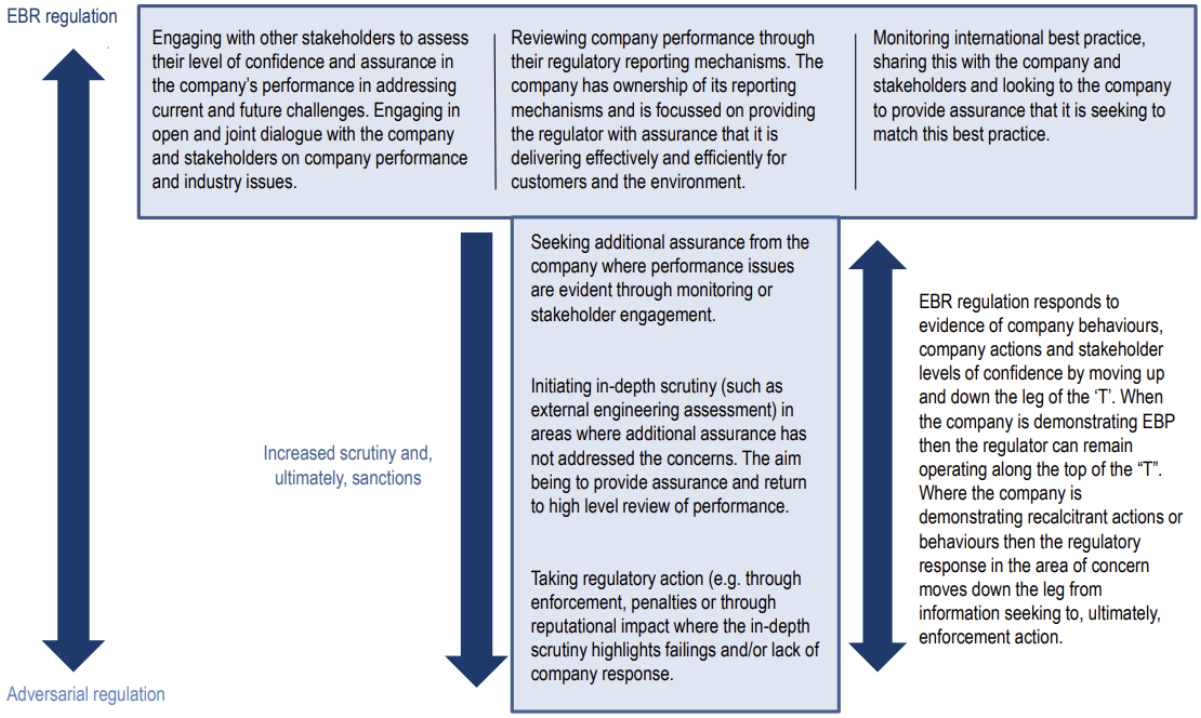
Table A2.1 WICS' regulatory approach at SRC21

Traditional economic regulation	Intention of EBP&R	Example of what this means in practice
Prices and investment fixed for a six-year period (in the form of a fixed technical specification)	*Promote a longer-term view*	Prices set in a longer term context with an expectation of a CPI+2% price path to 2050 at the time of the SRC21 determination
	Ongoing investment prioritisation to best meet strategic objectives	Investment programme updated on a rolling basis through an Investment Planning and Prioritisation Group (IPPG) with representatives from multiple stakeholder organisations
Customer engagement on the Business Plan (through the Customer Forum)	*Ensure that the customer voice is integrated into all levels of the companies' decision-making*	Scottish Water commitment to always take decisions based on what it would do if the customer were in the room Establishment of an Independent Customer Group within Scottish Water
Regulatory interactions are focused around key milestones / set pieces	*Build stakeholder trust and confidence through proactive, frequent and dynamic engagement and communication*	Co-creation of the Strategic Plan for SRC21 Frequent bilateral and multilateral meetings to update on key areas Joint working groups on a number of topics
Regulator defines the information for the company to report and when	*Company leads on deciding what information it believes will help to build confidence and provides warts and all reporting on performance and prospects*	Review and streamlining of performance reporting Annual Report Performance and Prospects covers lessons learned and what the company intends to do differently in future as a result
Stakeholders learn of issues once they have materialised	*Open and candid conversations around key strategic issues/risks*	Monthly Stakeholder Advisory Group meetings to discuss key strategic issues Weekly liaison meetings (WICS/SW)
Tendency for company to 'hide behind' its regulators and government	*SW ownership of its decisions*	Creation of a new Strategy Directorate within SW to lead on long-term strategy development and capital allocation

As discussed above, WICS maintained its traditional tools and powers in the event that Scottish Water was not meeting expectations. It developed a 'T' diagram showing a potential escalatory process it might

take in response to evidence of non-compliance. It was intended that these actions would start small (e.g. seeking additional information) and escalate accordingly.

Figure A 2.1 WICS's approach to regulatory escalation



Source: WICS, as reproduced in OECD (2022), 'Scotland's Approach to Regulating Water Charges'.

A2.2.2 Comparability of context

There are clear parallels between the WICS case study and the context within which Ofwat economically regulates, as follows.

- First, and most obviously, this example relates to the regulation of a water and wastewater companies and is therefore directly relevant in terms of the type of business that is subject to regulation.
- WICS' EBP/EBR approach was applied in the context of a charges regulation framework, in which the regulator's role includes determining the maximum level of charges that Scottish Water can recover from customers. This dynamic is quite different to the financial services case study discussed above, and there are clear parallels to Ofwat's statutory responsibilities with regard to companies England and Wales.

- This case study covers a similar multi-stakeholder environment with similar institutional arrangements in terms of the economic regulator (WICS), Scottish government, the technical regulators (SEPA and DWQR) and consumer representatives.
- The Scottish water sector face similar issues (e.g. asset health and climate adaptation) that companies in England and Wales regard as their most significant long-term challenges.

Despite these similarities, there are some potentially important differences that may affect the extent to which lessons can be directly drawn for E&W water. In particular, in the wholesale market, WICS regulates a single company (Scottish Water), compared to 16 in England and Wales. Scottish Water is a government-owned company.

A2.2.3 Key takeaways

WICS' new approach sought to reduce information asymmetries and regulatory 'gaming' by moving away from rules-based regulation, encouraging open dialogue and reporting, and promoting a culture of doing the right thing for customers. WICS adapted its role to be more supervisory, rather than setting 'ex ante incentives' in the way that might be expected of a traditional economic regulator.

The move to this approach has allowed for different and better conversations, an enhanced collective understanding of where different stakeholders are coming from and why certain things are important to them, and focus on big picture issues for the sector (e.g. around asset replacement and the need for bill increases to allow for investment).

Importantly, this approach should not be confused with 'light-touch' regulation. Certainly in the case of WICS/Scottish Water, there was not a reduction in the regulatory burden and both the frequency of interactions and the expectations on the company around information sharing increased. The quality of the conversations between the regulator (or supervisor) and the company are reliant on having good quality information, and WICS developed the mantra that "candour + analysis = confidence".

In this specific case, the changes WICS made to its regulatory framework went beyond defining a set of behaviours and principles around regulatory monitoring and compliance. For example, the move to a flexible investment prioritisation framework and co-creation of the Strategic Plan. However, these are not necessarily things that would need to be replicated for a supervisory framework to be used in England and Wales water.

A2.3 GB Rail Regulation

A2.3.1 Background

The ORR holds Network Rail (the GB rail infrastructure manager) to account for its delivery of funders' priorities and regulated outputs. ORR oversees five-yearly periodic reviews that establish Network Rail's funding and outputs. The last two price reviews (PR18 and PR23) have focused on operations, support, maintenance, and renewals (OSMR) activities. Enhancements projects have been taken out of the price review and are managed under a separate process overseen by the Department for Transport and Transport Scotland, with a rolling programme of investment.

Network Rail has adopted a devolved structure, split into five regions and 14 route-based business units. Each region receives its own settlement as part of the price review, with its own budget to fund its activities, and its own regional performance trajectories. We understand that the ORR has also organised itself around these regional teams.

At price reviews, ORR uses a multidisciplinary approach and multiple sources of evidence to assess Network Rail's Business Plans. This is 'a cross-office exercise that draws on our expertise in economic regulation, railway engineering and operations, regulatory finance, cost management and health and safety.'[149] ORR conducts top-down statistical cost benchmarking combined with more engineering-led assessments, including challenge sessions with Network Rail, intelligence gathered from site visits and review meetings, targeted assurance reviews, and input from independent reporter reviews.

For PR24, the ORR's assessment of plans focused on: health and safety, asset management, deliverability, cost efficiency and allocation, train performance, financial risk management, innovation and technology adaptation, environment, and accessibility. The independent reporters supplement the ORR's internal knowledge by providing technical advice on Network Rail's capabilities and performance across asset management and operational delivery, programme and project management and data quality.

ORR publishes annual assessments of Network Rail's performance, with comparisons of regional performance. It undertakes target assurance reviews to gain detailed understanding of emerging issues, risks and opportunities. Recent targeted assurance reviews have covered

[149] Office of Road and Rail (2022), 'How Network Rail's CP7 funding and outputs are determined: Guidance for funders and stakeholders', March.

Network Rail's technology adoption, approach to asset management and weather resilience plans.

A2.3.2 Comparability of context

This is an example of use of expert technical knowledge to set allowed revenues and performance targets across regional business units for an infrastructure provider. However, there are some important differences. In particular, Network Rail is publicly owned. The Department for Transport plays a significant role in determining available funding and the outputs that must be delivered (through the high-level specification of outputs and statement of funds available). The regulator's role is focused on assessing whether Network Rail's Business Plan will achieve this and represents value for money. The price review is now focused exclusively on OSMR activities, and enhancements are overseen by the government.

A2.3.3 Key takeaways

The ORR's regulatory framework, while drawing on insights from top-down benchmarking, is more focused on bottom up evidence. ORR considers Network Rail's capabilities and uses independent reporters, with expert technical knowledge, to assess the region's capabilities, culture and delivery capacity.

A2.4 Application of supervision in the UK financial services sector

A2.4.1 Background

Regulation of financial services in the UK is overseen by two regulatory authorities: the PRA and the FCA. The regulators' supervisory approaches are informed by their statutory objectives.

- The PRA supervises banks, investment firms and insurance companies for prudential regulation, and its primary objectives are to promote the safety and soundness of regulated firms, and to protect policyholders of insurance companies.
- The FCA supervises prudential risk for firms not under the PRA's oversight and conduct across approximately 40,000 firms operating in retail and wholesale markets. Its primary objectives relate to consumer protection, market integrity and promoting competition. [150]

While both regulators supervise prudential risk for FS firms (i.e. risks to financial stability), the FCA's remit also includes supervision of firms'

[150] It has a secondary objective to facilitate the international competitiveness and growth of the UK economy.

compliance with a wider set of regulations. This covers rules on conduct of business, including compliance with the Consumer Duty (an outcomes-based regulation introduced in 2023 aimed at ensuring firms deliver good consumer outcomes in retail financial services).

Supervision does not exist in a vacuum—it is part of a scheme of regulatory powers and tools, each of which (in principle) can be dialled up or down to achieve desired regulatory outcomes in the most efficient and effective way. In the case of the FCA, the regulatory scheme broadly involves:

- authorisation of firm / approval of persons—firms that undertake regulated financial activities must be authorised. As part of the authorisation process, the firm must demonstrate evidence that meets certain conditions specified by the FCA. Individuals performing 'controlled functions' (e.g. directors, non-executive directors and CEOs) must go through an approval process to ensure they are fit and proper;
- supervision;
- enforcement—formal investigation potentially leading to a range of sanctions from fines to forced exit from carrying on regulated business.

All of the above is underpinned by regulation, in the sense of a set of detailed rules that set out requirements for authorisation, approved persons, the Permissions regime (being fit and proper for specific activities), conduct of business, characteristics of firm (including capital and liquidity), and processes of enforcement.

The FCA adopts an outcomes-based regime—firms are responsible for conducting business in a proper and responsible way—and supervises to understand risks to these outcomes.

Box A2.1 FCA expectations under an outcomes-based supervision

The FCA considers four overarching outcomes it expects from firms it supervises:

- **Fair value:** Consumers receive fair prices and quality. Professional market participants have the information and transparency they need to make well informed assessments of value and risks.
- **Suitability and treatment:** Consumers are sold suitable products and services, and receive good treatment.
- **Confidence:** Consumers are confident about participating in markets, particularly because of (1) minimised harm when firms fail and (2) minimised financial crime. Markets are (1) resilient to firm failures and (2) clean, with low levels of market abuse, financial crime and regulatory misconduct.
- **Access:** The needs of different consumers are met through (1) reliable services and (2) a range of widely available products and services.

The FCA also operates a senior managers regime whereby individuals are held accountable for areas of their business, and must meet five minimum standards:

- act with integrity
- act with due care, skill and diligence
- be open and cooperative with the FCA, the PRA and other regulators
- pay due regard to the interests of customers and treat them fairly
- observe proper standards of market conduct

Source: FCA (2024), 'Our approach to supervision'.

The FCA and PRA approach supervision under a number of principles.[151]

- **Judgement-led.** This accepts that supervision will to a certain extent rely on an element of individual judgment, which can differ to firms' views.
- **Forward-looking.** Supervision aims to identify and assess longer term risks, pre-empt poor conduct, and prevent harm from materialising.

[151] Bank of England and the Prudential Regulation Authority (2023), 'The Prudential Regulation Authority's approach to banking supervision', July.

- **Proportionality and Risk focused**. Focussing on the most material risks, taking into account firm size, business model, culture and leadership.
- **Outcomes-focused.** Where systematic harm is identified, a range out powers are available to the regulator (e.g. addressing drivers of harmful culture and business model, enforcement action, redress schemes).
- **Transparency.** Engagement with consumers and firms. Outlining areas of good and poor practice, and forward-looking supervisory priorities.
- **Integrated and coordinated**. Supervisors working closely with other functions (e.g. authorisation, enforcement, policy), and with other regulators and jurisdictions.

The FCA and PRA approach to supervision involves a number of key elements and tools which are used to apply the above principles. First, supervised firms are required to meet a set of minimum requirements, known as threshold conditions before they are authorised to operate.[152] For example, the Prudential Regulation Authority's (PRA) threshold conditions broadly require firms to have an appropriate amount of capital and liquidity, to have appropriate resources to measure, monitor and manage risk, to be fit and proper, conduct their business prudently and be capable of being effectively supervised by the PRA.

This comes alongside a senior managers regime which outlines a duty of responsibility on accountable individuals within regulated firms.[153]

Following the principle of 'Transparency', the supervisory regimes adopt an approach of engagement with firms which aims to provide ongoing dialogue between the regulator and firms. Supervisor teams can draw on economics and policy experts, as well as technical experts within the regulator (i.e. individuals with a close knowledge a particular sector).

For larger firms, a dedicated supervisory team or individual may be assigned as a first port of call contact point, and for day to day ongoing dialogue. For other firms, they may be supervised as part of a supervisory portfolio. For large firms, the FCA currently sets a detailed two-year supervisory programme, but has indicated a more flexible approach going forward in its 2025 five-year strategy, with 'less

[152] Prudential Regulation Authority and Financial Conduct Authority, 'The PRA and FCA's threshold conditions'.
[153] The Senior Managers and Certification Regimes are designed to ensure firms assess the fitness and propriety of key personnel, and holds senior managers accountable for taking reasonable steps to preventing regulatory compliance breaches.

intensive supervision for those demonstrable seeking to do the right thing'.[154] The FCA is also moving to reinstate dedicated contact points for more firms, having moved to a more centralised 'call centre' approach in recent years.

The FCA in particular states that it takes a business model approach to supervision – that is developing an understanding of the business models, culture and strategies of firms to better identify areas where the risk of harm associated with poor conduct or disorderly failure is more likely to materialise. In theory, a supervisory approach to regulation enables the regulator to better understand individual firms' business models, and better assess the potential for harm to emerge.

In practice, a broad range of supervisory tools are used to identify potential harm and react to emerging issues. Which combination of tools and remedial action is applied depends on the supervisors' judgment of the potential scale and severity of harm. Supervisory tools used by the FCA and PRA include using desk-based reviews, liaison with other regulators, meetings with management, on-site inspection, analysis of periodic returns, reviews of past business, transaction monitoring, use of auditors, and thematic reviews. One key element within the supervisory toolkit is the use of regulatory reporting through regular data returns, and data gathering through ad hoc requests, and meetings between supervisors and the firms.

The PRA and FCA also draw on Skilled Person reports as an additional supervisory tool.[155] From firms' perspectives, these can often be seen as costly and time consuming processes to manage. Anecdotal evidence and public statements from the FCA and PRA indicate that this supervisory tool has increasingly being used by the regulators in recent years.

A2.4.2 Comparability of context

In comparing approaches to supervision applied by Ofwat and the FCA/PRA, it is helpful to recognise where there are similarities and where there are differences in market context.

[154] Financial Conduct Authority, 'Our strategy 2025'.
[155] Skilled Persons reports are commissioned through the regulators' powers under s166 of the FSMA (either directly commissioned by the regulator, or by the firm on the direction of the regulator). A Skilled Person would typically be a professional services company commissioned to produce a report for the regulator in support of its supervision of a particular firm. A Skilled Person report could be used for a range of reasons, including for monitoring purposes or to diagnose, investigate or remediate potential harm. In principle, the use of a Skilled Persons report 'does not imply any presumption of wrongdoing or rules breaches on a firm's part in and of itself'.

There are certain parallels between the supervisory regimes in financial services, and regulation of the UK water sector, perhaps most clearly in relation to the prudential regulation of financial services firms.

There may be similar concerns regarding the extent to which external information (e.g. credit rating agencies) is able to identify risks and provide sufficiently early warning indicators of emerging financial resilience issues. In financial services, this issue came to the fore following the 2007/08 banking crisis, and shaped the supervisory approach of the FCA and PRA.

Potential for contagion risk in financial services informs the supervisory approach, in relation to data reporting and regulators' forward-looking and risk-based approach. Contagion in the water sector may also be a potential concern where financial resilience issues regarding one water company may impact on other water companies or the wider industry (e.g. impact on water company bonds from the Thames Water situation).

There may be some parallels with supervision of conduct requirements, for instance on the treatment of customers in vulnerable circumstances. In both the financial sector and the water sector, a large number of customers could be considered to have characteristics of vulnerability as defined by regulators. The FCA publishes guidance on identifying and dealing with vulnerable customers, shares example of good and poor practice, communicates with individual firms, and assesses firms' outcomes monitoring metrics. Ofwat has set out minimum standards, guidance and licence conditions in relation to vulnerable customers.

However, there are also some marked differences to bear in mind when drawing lessons from financial services supervision to the water sector, in terms of rationale, regulatory powers/tools, scope and practicality. These include:

Rationale for regulation—market failures

The rationale for and objectives of financial services regulation are not the same as those of utility regulators. For utility regulators, the aims are to address market power stemming from natural monopoly by controlling prices and mimicking the outcomes of competitive markets. The FCA and PRA are not economic regulators (in the sense that they do not regulate the revenues or prices of firms directly).

In financial services sector, the aims are to provide stability to the financial system, protect deposit holders and limit potential harm from

systemic risk (as in banking and insurance), or to address potential market structure issues to ensure market competition works in the interest of consumers, and to ensure consumers are protected from potentially harmful firm conduct. In other words, it aims to give the market the best chance to deliver good (competitive) outcomes.

Regulatory powers and tools

Ofwat's regulatory activities are a combination of:

- overseeing a licensing system (company Instruments of Appointment);
- conducting 'ex ante' price reviews, which determine the allowed revenues that companies are allowed to raise from customers, and any associated regulatory obligations (e.g. service quality targets);
- ongoing monitoring of delivery against these regulatory obligations; and
- enforcement ((with powers to enforce the Water Industry Act, Urban Waste Water Treatment Regulations and company Instruments of Appointment).

This has some similarities to the FCA/PRA toolkit but a significant difference is that, in the water sector, supervision would need to sit alongside direct economic regulation in the form of a price control regime. In particular, it would need to take account of the role that Ofwat plays in shaping financial outcomes through its price-setting process.

Scope and practicality

In terms of scope and practicality, there is a clear difference in the number of firms that are regulated (and the scope of activities and business models). Together, the FCA and PRA supervise over 40,000 firms including large multinationals, and SMEs. Ofwat regulates 16 water and wastewater companies, business water retailers and licensed infrastructure providers.

Finally, it is worth noting that the prudential supervision of UK firms is not done in isolation, but operates alongside (and in many cases in conjunction with) international standards and reporting requirements.[156]

A2.4.3 Key takeaways

Supervision takes into account the rules, the observed outcomes and the risks of bad outcomes based on judgement exercised in relation to business models, culture, competence and so on.

Given the differences set out about, any 'supervisory regime' would need to be tailored to the water sector. A model that is appropriate for financial services regulation is unlikely to be directly applicable in the case of the water sector. Nonetheless, there are a number of insights arising from the way in which financial supervision has operated in the UK which will be relevant to consider, should a more supervisory approach be taken to water regulation.

Many of the overall principles which govern financial services supervision are likely to be appropriate in the case of greater supervision of the water sector (namely a focus on a forward-looking, risk-based approach, and the benefits of a good understanding of firms' business models).

The increase in supervisory activity and principles-based oversight has not generally led to a reduction in the number of rules, reporting requirements, or compliance efforts of firms. The introduction of the Consumer Duty, for example, has shifted the onus onto firms to demonstrate that they are delivering good outcomes. In practice, this has come on top of the existing rulebook, adding a further layer of reporting, monitoring and supervisory activity. The FCA is currently consulting on measures to address concerns about the length and complexity of rules and guidance.[157]

There is also a balance to be struck between predictability and flexibility in the way a supervisory function operates. An overly prescriptive, 'tick-box', approach to supervision may lead to unnecessary requirements and an inflexible approach to rules. Conversely, a purely judgment-led assessment can make it more difficult to predict how regulatory requirements will be applied over time or between firms. Striking the right balance is inevitably a difficult challenge, and is likely to involve

[156] For example the Basel III reforms that apply to internationally active banks.
[157] Financial Conduct Authority (2025), 'FS25/2: Immediate areas for action and further plans for reviewing FCA requirements following introduction of the Consumer Duty', 25 March.

adopting an evidence-based approach, and maintaining an open channel of communication between supervisors and firms.

Another insight that can be drawn from the example of financial services regulation is that incentives on the individual supervisors is an important factor to consider. Supervisors may have the incentives to be overly-cautious, knowing that they may face the blame in the event something 'goes wrong'.

This means that some degree of transparency in the supervisory process and decision-making is important to maintain (albeit difficult to achieve in practice). In the case of financial services regulation, major policy proposals or rule changes require a Cost Benefit Analysis to be undertaken, which can be subject to independent scrutiny. Supervisory activity is not subject to such CBA oversight.

A3 Regulatory approach to asset health

As we set out in section 2.1, the current approach to setting cost allowances risks underfunding asset health. This annex presents additional information on how the regulatory approach to asset health has evolved over time. In section A3.1, we summarise the approach from PR94 (the first review of charges) up to PR09. In section A3.2, we outline the changes made since PR14, which represents the point at which capital maintenance allows broadly plateaued relative to the growth in RCV (as a proxy for the physical asset base). We close with a summary of the key arguments with respect to asset health advanced by some of the companies seeking a redetermination of the PR24 FD from the CMA.

A3.1 Approach up to PR09

As noted in section 2.1, the principles of the regulatory framework set out in1989 was to adopt a long-term and forward looking approach to asset health. However, this was not achieved immediately.

At **PR94** and **PR99**, Ofwat set relatively flat capital maintenance allowances—at PR94 it simply allowed companies to roll forward the existing level since privatisation, while at PR99 Ofwat applied an 11% efficiency challenge to company outturn capital maintenance expenditure (which was slightly higher than the allowed level).

At PR99 Ofwat relied heavily on its 'serviceability methodology'—a top-down, backward-looking approach. If there was 'no deterioration' in various higher-level indicators, the same spend (less efficiencies) was used as the basis for determining future allowances. Efficiency was assessed through a combination of econometric modelling and through the 'cost base' approach (the latter examined the unit cost of undertaking various specified activities).

Following the PR99 review, Ofwat set out the case that the sector needed to develop a better understanding of the drivers of capital maintenance expenditure ahead of PR04—based on analysis of serviceability, cost and risk.[158] The following developments also contributed to a change in approach:

[158] Ofwat (2000), 'Letter to the Managing Directors of all water only companies and water and sewerage companies from the Director General, Ofwat (MD 161): MAINTAINING SERVICEABILITY TO CUSTOMERS', 12 April.

- In reviewing price limit appeals by two companies, the (then) Competition Commission was critical of Ofwat's heavy reliance on the serviceability approach, since it was based on historical trends in serviceability rather than a forward-looking assessment of the likelihood of asset failure. The Commission also stated that the industry needed to do more to understand the relationship between asset condition and serviceability.[159]
- The Environmental Audit Committee stated that OFWAT's 'no deterioration approach' amounted to 'intellectual neglect' of the maintenance problem, and that OFWAT should be clear on what analysis it expected companies to present for the next periodic review.[160]

Given the above, the industry developed the Common Framework for assessing maintenance.[161]

At **PR04** Ofwat set out that 'companies must sustain stable serviceability – fitness for purpose – throughout the period and beyond. Where the current position is not satisfactory we have assumed that the company will have achieved stable serviceability by the end of 2008-09 or earlier where specified.'[162] In addition, based on improved frameworks developed with industry—in particular the Common Framework—Ofwat allowed significant percentage increases in allowed expenditure at **PR04** and then at **PR09**—comprising an increase of c. 50% from PR99 over the two AMPs.[163] At this point, Ofwat raised the question of whether it had attained a 'sustainable level of capital maintenance for the future'.

A3.2 Approach since PR14

PR14 marked a turning point. At this review Ofwat moved away from an output-based approach to estimating how much funding companies required. Instead, following the Gray Review,[164] the regulatory regime moved towards more customer-driven outcomes, given a

[159] Competition Commission (2000), 'Mid Kent Water plc: A Report on the References under Sections 12 and 14 of the Water Industry Act 1991', September; 'Sutton & East Surrey Water: A Report on the References under Sections 12 and 14 of the Water Industry Act 1991', September.
[160] Environmental Audit Committee (2000), 'Water Prices and the Environment', Seventh Report, SO, November
[161] UKWIR (2002), 'Capital Maintenance Planning: A Common Framework'.
[162] Ofwat (2004) 'Future water and sewerage charges 2005-10: Final determinations', December, p. 22.
[163] Ibid., p. 22; and Ofwat (2009), 'Future water and sewerage charges 2010-15: Final determinations', November, p. 76.
[164] Gray, D. (2011), 'Review of Ofwat and consumer representation in the water sector'.

recommendation to 'reduce the burden of regulation on the companies to encourage them to be more flexible and innovative'.[165]

While the industry assessed its capital maintenance needs (using various frameworks) from the bottom-up, at PR14 Ofwat relied heavily on 'TOTEX' modelling. This treated all operating and capital expenditure together, and was intended to remediate concerns that '[Ofwat's] approach may create perverse incentives, ranging from a bias towards capex to a rigid, technical and inflexible approach from companies'.[166] Ofwat set aggregate funding allowances for companies, primarily based on top-down econometric benchmarking models using historical data. Consequently the funding available for capital maintenance at PR14 was (approximately[167]) unchanged from PR09.

At both **PR19** and **PR24** Ofwat continued to use historical benchmarking allowances to set aggregate funding allowances.

- At PR19 it categorised a number of service quality incentives (ODIs) in relation to asset health (mains repairs, unplanned outage, sewer collapses, external sewer flooding, sewer blockages, water quality and low pressure). However, these were based on benchmarking on these relatively high level KPIs, rather than a holistic assessment of serviceability.[168]
- At PR24, Ofwat introduced additional ringfenced funding to increase mains repair levels and provide for meter renewals,[169] but no additional funding for other assets. The aggregate allowance for capital maintenance did not considerably increase, relative to the growth in the asset base, at either price review.

These different phases to the approach taken can be seen in how maintenance allowances have evolved relative to RCV over time presented in Figure 2.1. The impact of the common framework is reflected in the growth in capital maintenance allowances at PR04 and

[165] Ibid., p. 5.
[166] Ofwat (2012), 'Future price limits – statement of principles', May, p. 31.
[167] As funding from PR14 onwards has been based on a benchmarking approach that aggregates capital maintenance with operating expenditure and some enhancement costs, companies do not receive a specific, ringfenced level of funding for capital maintenance. However, an estimate of the 'implicit' funding for capital maintenance can be estimated by comparing the funding allowance provided by the benchmarking model with the allowance if capital maintenance is excluded from the historical data period. Ofwat (2022), 'Creating tomorrow, together: consulting on our methodology for PR24. Appendix 9: Setting expenditure allowances', p. 39.
[168] Ofwat (2019), 'PR19 final determinations: Delivering outcomes for customers policy appendix', December, p. 17.
[169] Ofwat (2024), 'PR24 final determinations: Expenditure allowances', pp. 78–79.

PR09. The move towards TOTEX and outcomes since PR14 coincides with a reduction in capital maintenance allowances.

A3.3 PR24 CMA appeals

Several of the companies seeking a redetermination of the PR24 FD have highlighted concerns with the prevailing approach to resilience and securing asset health. We summarise these below, in particular where they have raised concerns that are consistent with the findings of this report.

Anglian highlights that setting an allowance based on backwards-looking models is not sufficient to fund future capital maintenance requirements. Anglian estimates the shortfall in capital maintenance based on two different methodologies at c.£100m to c. £400m p.a..[170] Anglian also highlights that the pressure placed on its base allowance and underfunding risks sustaining the asset condition of storage points and gravity sewers by £150m.[171]

Northumbrian set out that only 29% of its Business Plan proposals to improve asset health and adapt to climate change were allowed by Ofwat in its FD (£113m relative to a proposal of £394m).[172] Estimating the long term sustainable level of asset health needs, applying a similar methodology to the Water Industry Commission for Scotland (WICS), Northumbrian identified a 50% gap between this level and its historical run rate.[173]

Northumbrian outline shortcomings in Ofwat's approach to funding forward-looking asset health requirements, particularly in relation to cost adjustment claims. Northumbrian highlight that only 28% of company requests for capital maintenance funding were allowed, and 0% of funding requests based on a step change in capital maintenance funding requirements.[174]

Wessex outlines its view that '[…] the criteria Ofwat use [for assessing cost adjustment claims] are not well designed to address concerns relating to asset health and capital maintenance […].'[175] It highlights

[170] Anglian (2025), 'Anglian Water PR24 CMA Redetermination Statement of Case', 21 March, Chapter E.2.
[171] Ibid., Chapter E.1.
[172] Northumbrian Water (2025), 'Northumbrian Water Limited Statement Of Case', 21 March, p. 50.
[173] Ibid., para. 1.74.
[174] Ibid., para. 205.
[175] Wessex Water (2025), 'PR24 CMA Redetermination Statement of Case', 21 March, p. 203.

that its planned base expenditure was built up using bottom-up engineering evidence and asset deterioration modelling.[176]

[176] Ibid., p. 52.

A4 Existence of a 'doom loop'

As discussed in section 2, there is evidence that poor performers have struggled to turn around their performance. Where companies start from a high cost, low service quality position (as assessed by Ofwat), the performance regime serves to reduce the funds available to effect performance improvements from the start of the AMP, as well as decreasing the attractiveness of the company as an investment proposition for new equity (and increasing its cost of raising debt finance). Taken in the round, this has the potential to leave companies with the most pressing need to increase investment with the least funding and financing available to do so.

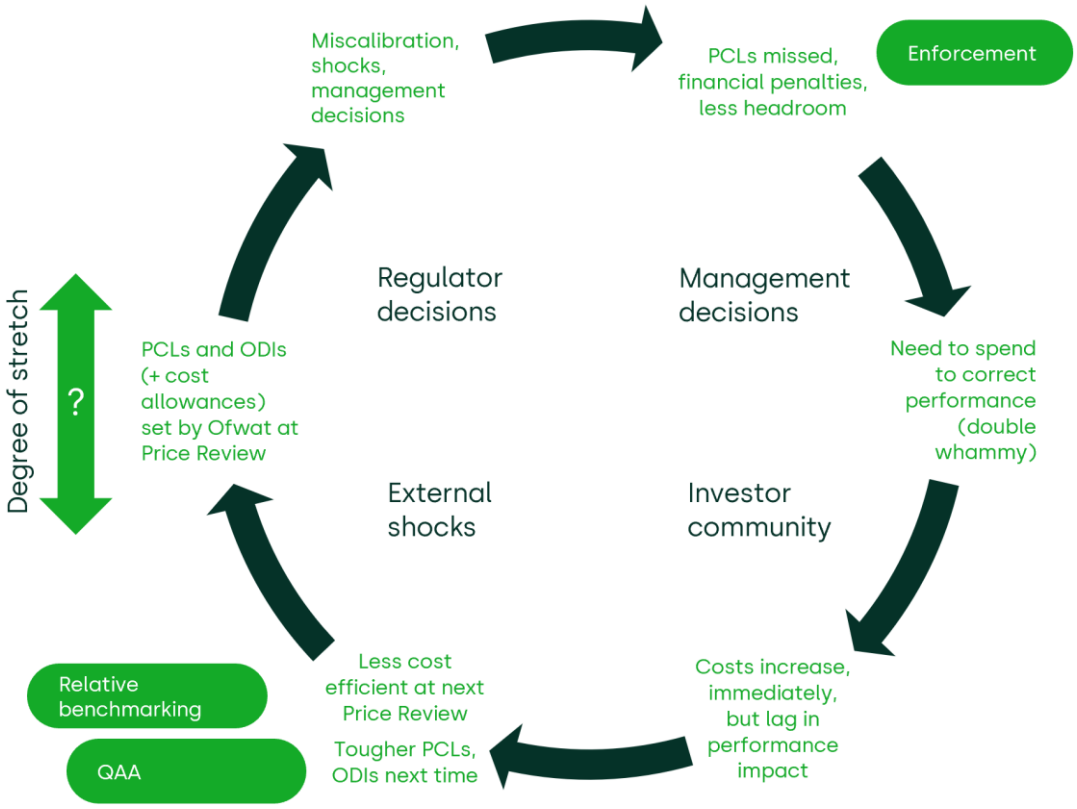
This aligns with a concept raised in the CfE—that where companies enter into difficulty, the performance regime may push them into a downward spiral (or 'doom loop'). While the specific mechanisms at play may be complex, the basic idea here is that:

- a company incurs some form of loss (due to either enforcement action, excessively stretching regulatory targets driven by issues with the performance benchmarking framework, or some management failure); and,
- this in turn inhibits its ability to recover its performance, such that a negative spiral ensues.

A4.1 How might a 'doom loop' occur

Below we present a schematic which depicts the types of feedback mechanisms which might underpin such a 'doom loop'.

Figure A4.1 How a 'doom loop' might occur



Source: Oxera

To help give more of a flavour as to how the 'doom loop' depicted above might operate in practice, consider the following example.

- Performance metrics, performance targets, ODI payment rates and TOTEX allowances are set at the price review for five years, based on an assessment of what each company can be expected to deliver if operating efficiently. This may or may not adequately account for company's particular circumstances.
- Subsequently, a specific company may be hit by an external shock (e.g. an extreme cold weather event), which leads to operational problems (such as burst water mains, interruptions to supply and customer complaints): this will test the management model in terms of operational resilience—to respond, remedy and recover.
- The company's PCLs may already have been set at too challenging a level. This, in combination with the extreme weather event, would lead to financial penalties, and—potentially—enforcement action as well. As a result of this, the company will have less headroom to remedy the failure, which will be compounded if the company has an insufficient equity

buffer or cashflow issues (due for example to past management decisions).

- The company will then need to invest money to remedy the situation. This serves as a 'double whammy': reducing already stretched expenditure budgets or requiring shareholder funds—especially since the performance improvements associated with remedial spend may take time to materialise.
- The additional expenditure may also lead to the company being classed as less efficient relative to other companies at the next price review (in Ofwat's benchmarking). This could lead to both penalties through any Business Plan incentives, and the company may find it has even less funding to rectify the situation (if it's still ongoing at the point of the next price review) since Ofwat will then set tougher PCL and cost targets

There are important interactions here. For example, an exogenous shock may hit a company (such as an extreme weather event), but the regulatory framework and a company's adopted financial structure—which may be permitted under the regulatory regime—may hinder recovery.

A4.2 Evidence on the 'doom loop'

It is difficult to ascertain whether such 'doom loops' exist in practice and—if so—whether these are driven by general issues with the regulatory framework, specific issues with how Ofwat calibrates parameters (e.g. excessively stretching targets) or company specific performance issues. Assessing the existence of the 'doom loop' is further complicated by the fact that the performance incentive framework has changed over successive price reviews.

Nevertheless, as we now demonstrate, we note that:

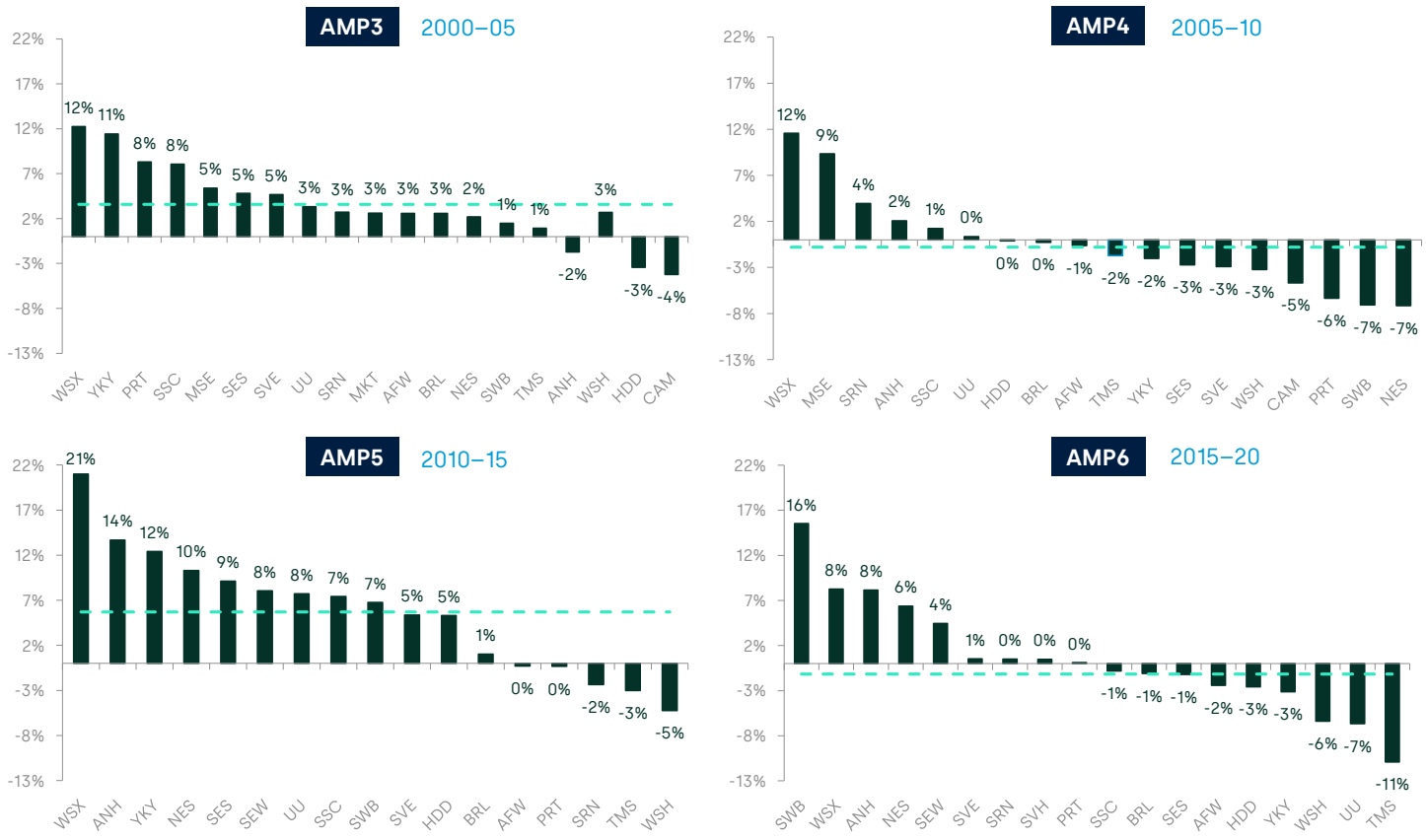
- Some companies have repeatedly overspent their allowances over successive control periods. For example, Thames Water and Welsh Water have overspent Ofwat's expenditure allowances in each of the last three completed AMPs (AMP4 to AMP6), as well as in the first four years of AMP7.
- Over the last two AMPs, some companies have found it particularly challenging to meet regulatory targets. Across AMP6 and AMP7, several companies have overspent their cost allowances and received ODI penalties—this includes Thames, Southern, Affinity and Hafren Dyfrdwy.

4 There has also been an observable 'stickiness' in service performance, over the metrics that have remained in place consistently over time (supply interruptions, pollution incidents, sewer flooding and perceptions of customer experience, as measured through the SIM and C-MeX metrics).

Overspend

Figure A4.2 shows the levels of TOTEX performance relative to regulatory allowances from AMP3 to AMP6. Positive numbers refer to TOTEX outperformance (i.e. under-spend relative to allowances), while negative numbers mean the company overspent relative to allowances. At the industry level, there is large variance across companies in terms of levels of over- and under-spend. However, some companies have repeatedly overspent their allowances over successive control periods.

Figure A4.2 TOTEX overspend by AMP



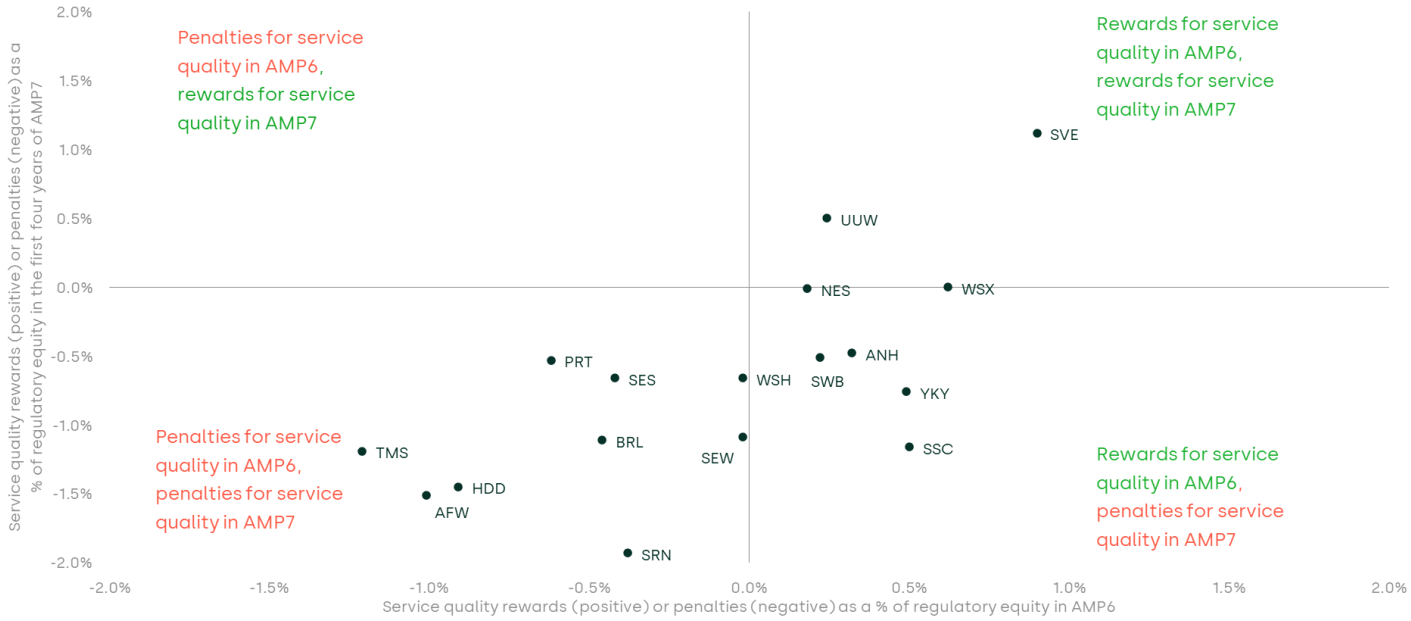
Service quality/performance

The ODI regime for incentivising performance was only introduced in AMP6 (from 2015/16). Therefore, it is not possible to evaluate historical

performance over more than two AMPs on a like-for-like basis, as can be done for over/underspending allowances. In the figure below, we show how each company has performed against the ODI regime, in terms of total rewards/penalties over the period to date. As in previous figures, reward/penalty is normalised by notional regulatory equity to account for company scale.

It can be seen that, over the two AMPs that companies have been subject to the ODI regime, companies that have not met Ofwat's performance targets in AMP6 (and therefore accrued penalties) are more likely to have missed targets and accrued greater penalties in AMP7. Equivalently, companies that outperformed against Ofwat's service quality targets in AMP6 are more likely to have incurred smaller penalties in AMP7 or even outperform Ofwat's targets.

Figure A4.3 Service quality performance (ODI) penalties/rewards, AMP6 and first four years of AMP7, as a % of notional regulatory equity



Source: Oxera analysis of Monitoring Financial Resilience reports.

While it is not possible to evaluate all the current PR19 measures of service performance consistently over prior AMPs, Ofwat has collected data on the following measures of performance over a longer period:

- water supply interruptions;
- total pollution incidents;

- internal sewer flooding;
- aggregate measures of customer experience (assessed against the Service Incentive Mechanism (SIM) pre-PR19, replaced by the Customer Measure of Experience (C-MEX) ahead of PR19).

Notably, since PR19 Water supply interruptions, internal sewer flooding and total pollution incidents have each been subject to common industry targets. These three measures were regarded by Ofwat as the most comparable at PR19, with the targets set being based (in part) on an upper quartile assessment across companies.[177] The question is whether this approach took adequate account of company-specific factors including the ability to improve.

We show how industry performance has evolved on these measures over time in Figure A4.4 (noting some definitional changes over time). The grey line shows upper quartile performance, the dashed line median performance and the dark line lower quartile performance, with the grey area showing the median (or 'middle') company's performance. The pink and yellow markers indicate the two bottom-ranked performers on a given metric in 2023/24, and traces how they performed over time (and green marker does the same for the third-from-bottom performer on measures covering all 17 companies).

The figure below shows that the bottom-performers on any given metric have fairly consistently underperformed the rest of the industry over the last 12 years. This is even clearer over AMP7, where the bottom two or three companies have consistently performed at-or-below the lower quartile level (and often considerably below).

[177] For a summary, see Oxera (2019), 'Ofwat's PR19 Final Determinations', Agenda, December.

Figure A4.4 Select service performance measures (2011/12 to 2023/24)

Notes: (i) Water supply interruptions based on the PR24 reporting definition data from 2021, and historical definition prior; (ii) South East Water (SEW) water supply interruptions performance in 2023 is outside the range shown (just under 167 mins/property); (iii) Southern (SRN)'s performance pre-2020 may understate actual underperformance, due to reporting inconsistencies[178]; (iv) Internal sewer flooding pre-2017 based on a different historical reporting definition.[179]
Source: Oxera analysis of data reported by Ofwat 2011/12 to 2023/24

There are a number of drivers that could explain 'stickiness' in the service performance trends observed—some within and some outside of company control. However, when evaluated alongside consistent overspend and broader underperformance on service quality (ODIs) over the last two regulatory periods (and prior in some cases), this indicates that the existing system of regulatory incentives and cost

[178] See Ofwat (2019), 'Ofwat's final decision to impose a financial penalty on Southern Water Services Limited', 10 October.
[179] Ofwat (2018), 'Final reporting guidance for PR19. Reporting guidance – Sewer Flooding', 27 March. Data pre-2017 used as reported by CC Water (2016), 'Delving into Water 2016: Performance of the water companies in England and Wales 2011-12 to 2015-16', accessed 23 April 2024.

allowances is not always sufficient to support underperforming companies to catch-up to and to overtake peers.

As noted in section 2, most companies have under-performed relative to performance targets in the current control period. To the extent that a subset of companies consistently underperform relative to their peers, these 'underperforming' companies will still be locked into consistent penalties, even if the performance of the sector recovers in future regulatory periods. This risks placing such companies in financial distress, thereby compromising their ability to turn around their performance.

A compounding factor is that in setting performance commitments ex ante, and in levying ODI rewards or penalties ex post, Ofwat takes only limited account of external issues such as the impact of weather or the actions of third parties. As a general rule, in defining performance metrics, Ofwat does not accept exclusions for factors outside a company's control. This approach has been carried through to PR24.[180] The rationale is that, while external events are beyond a company's control, companies can mitigate the impacts through preparing and responding to such factors, including by working with third parties.[181] Severe weather can impact on a number of metrics, including supply interruptions, mains bursts and internal sewer flooding. While companies should manage these issues, there is a question of the degree to which the variations in observed performance are within company control. Ofwat's PR24 ODI package does include certain backstop protections (including deadbands, caps and collars), but the issue of external events is not addressed at source.

A4.3 Potential costs of a 'doom loop'

Ultimately, the special administration regime (SAR) acts as a last-resort provision should a water company enter a 'doom loop' and fail. The SAR is untested in water, although variants of it have been used in rail and in energy.[182] The aim of special administration is to maintain the essential functioning of a water company (in contrast to standard administration,

[180] See, for example, Ofwat (2025), 'PR24 final determinations: Delivering outcomes for customers and the environment', February, pp.86–87.
[181] Ofwat (2022), 'Creating tomorrow, together: Our final methodology for PR24. Appendix 7 – Performance commitments', pp.12–15.
[182] For example, Railtrack went into administration in 2001, and Bulb Energy was placed into Special Administration in 2021. See, House of Commons Library (2010), 'Railways: Railtrack administration and the private shareholders, 2001-2005', 10 August; and National Audit Office (2023), 'Investigation into Bulb Energy— Department for Energy Security and Net Zero', 29 March.

where closing and liquidating the assets of a company is permissible to repay creditors).

Unlike standard administration, which is triggered by insolvency, special administration may be invoked on financial or performance grounds. The administrator would temporarily run the business, restructuring it as necessary so that it can be transferred to new owners. There is a high bar for the imposition of a SAR and to invoke it, Ofwat—or government—would need to apply to the High Court.

However, there are multiple reasons why relying on SAR as a 'back stop' to deal with the 'doom loop' problem may not be desirable. In particular, if the company is not receiving the right level of upfront funding, and is having further funding removed via performance incentives and enforcement actions:

1 the company will have insufficient funding to deliver the investment needed to address the underlying performance issues in the first place; and,
2 Being aware of this dynamic, investors will be reluctant to commit the equity capital needed to finance investment.

This could be particularly problematic if the company suffers a 'slow death', such that multiple years pass before the SAR regime is activated, as this could greatly delay delivery of much needed investment.

Second, it is important to note that there are drawbacks associated with implementation of the SAR process. In particular, the need for government to finance investment while the company is nationalised may prove problematic from a fiscal standpoint, potentially leading to further delays in delivery of investment.

Third, if investors observe a company entering a 'doom loop'—or consider that the regulatory regime may have forced a company now seen to be failing into the loop—this may result in wider contagion effects across the sector.

Finally, as a company approaches SAR, it is likely to incur significant additional administrative costs (e.g. legal fees) in an attempt to find a

market-based alternative to SAR.[183] These costs are likely to continue to mount in SAR.

A4.4 Summary

Some companies have exhibited repeated underperformance across successive control periods over time. While this may be driven by multiple factors—including issues with the regulatory regime, Ofwat's application of it, or company specific issues—this experience raises concerns that the performance regime creates a 'doom loop' for some companies.

There are multiple reasons why relying on SAR as a 'back stop' to deal with the 'doom loop' problem may not be desirable. This has implications for the design of the regulatory regime which the Commission should consider. We have set out a potential 'early intervention and recovery' regime intended to help address the 'doom loop'.

[183] In a recent court judgment in relation to Thames Water's restructuring, the judge noted that: 'The costs of finance and adviser fees in the present case are very high. Indeed, they might be described as eye-watering and, as Mr Day submitted, well over 50% of the Scheduled Loans go round in a circle and back into the pockets of the Plan Creditors who advanced the £1.388 billion in the first place.' See Approved Judgment In The Matter Of Thames Water Utilities Holdings LIMITED, p. 173.

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