Our response to Ofwat's draft determination on our Business Plan for 2025–30

August 2024

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Response to Ofwat's draft determination

We submitted our business plan for 2025 to 2030 to Ofwat in October 2023, outlining our investment to improve our services, enhance our environment and increase our support for the most vulnerable.

Ofwat responded with a draft determination on our plan in July 2024. This document includes our response to that determination, as well as updates to our original plan.

Chapters

These are in this document and summarise our plans in each of Ofwat's key areas.

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An overview of our response to Ofwat from our Chair and CEO.

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A technical summary of our response to Ofwat's Draft Determination on our Business Plan 2025–30.

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You can find all our documents on our website
southernwater.co.uk/about-us/our-plans/business-plan-2025-30/

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	SRN-DDR-020	Economic Insight Customers Not Paying Twice Report
	SRN-DDR-021	Sustainable Botex Technical Annex
	SRN-DDR-022	Business Rates Cost Evidence Case
	SRN-DDR-023	KPMG Business Rates Evidence Report
	SRN-DDR-024	Environment Agency Changes to Charge Proposal for Water Discharges
	SRN-DDR-025	Energy Cost Evidence Case
	SRN-DDR-026	Real Price Effects Methodology
3.	**SRN-DDR-005**	**Retail – Bad Debt and Debt Management**
4.	**SRN-DDR-006**	**Enhancements**
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Key **Main chapter** **Technical annex to main chapter**

Chair & CEO Foreword

AMP8 represents a step-change in investment levels across England and Wales. This will improve our environment, ensure reliable access to clean drinking water, adapt to the impacts of climate change, progress towards net zero, and improve customer service. It is being demanded by our customers, our regulators, and by new legislation. On behalf of our Board, which has been deeply engaged since the beginning of this price review process, we understand the scale of this challenge and have confidence in our ability to deliver if the Final Determination delivers a package of cost allowances and risk-return that is financeable and investable.

Southern Water is in the most water-stressed part of the country. This is exacerbated by relatively high population growth and the impacts of climate change, as well as a mandated dramatic reduction in water abstraction from protected chalk-stream rivers in our region. At the same time, we have a large waste-water investment programme, including over £1 billion of storm overflows enhancement investment in AMP8. As such, Southern Water's enhancement investment programme is the largest of any company relative to its existing size and around five times larger than its AMP7 enhancement investment programme. The dimension of our plans is unmatched within the industry.

This investment programme represents a once-in-a-generation opportunity – and obligation on us – to deliver the outcomes that our stakeholders want. However, there are significant challenges to delivering this investment programme due to intense competition for resources, including in our supply chains as well as for the debt and equity capital required. Investor confidence in the UK water sector is currently lower than for other infrastructure opportunities, even within the UK.

We recognise that the increase in customer bills is significant, and that Southern Water is likely to have the highest customer bills given the unparalleled level of investment. Despite continued investment, customer bills have fallen for more than a decade partly helped by declining interest rates which have now increased. That said, we are cognisant of the strain this increase will put on many of our customers and hence we have expanded our Social Tariff for those customers who are struggling to pay, included a proposal to use underperformance penalties to support customer affordability schemes, and will introduce innovative tariffs in conjunction with the rollout of smart meters to help our customers save water and potentially reduce their bills.

We will also complete our Turnaround Plan, which has been supported by over £1.6 billion of equity injections from our majority shareholder over the last 3 years. We have already made significant progress in certain areas. Our drinking water quality compliance risk has significantly improved, moving us from bottom of the industry to one of its best performers. Pollutions performance has continued to improve with a 35% reduction in category 1-3 pollutions in the last year. We have reduced customer complaints by 59% by fixing the processes that are not working for our customers. However, we recognise that we remain below average on many key metrics and will need to go further in AMP8.

We welcome Ofwat's engagement in the PR24 process, which we seek to continue in attempting to find an appropriate balance of risk and reward across the whole price review package. We believe that it is essential that Ofwat sets the right Final Determination to support investment, to enable the service that our current and future customers need, and communities require as recreational use of bathing waters continues to increase.

Our response to the Draft Determination has been carefully constructed to use the new regulatory mechanisms Ofwat has introduced, including the Delivery Mechanism, to support delivery of some of the more challenging elements of our plan. Consistent with our original submission, we are proposing the use of Direct Procurement for Customers (DPC) and alternative market-based delivery where we believe these offer

best value-for-money for our customers. We have been actively engaging the market to assess the appetite for third party delivery and found strong support for our proposals. Based on a core plan of £7,246m (net of capital contributions) that utilises the Delivery Mechanism, DPC and alternative market-based delivery, the Board has assured this as financeable, deliverable, and investable, conditional on the other changes detailed in our response.

A key feature of the new regulatory mechanisms is flexibility to manage uncertainty. The increased flexibility is vital to secure additional further investment to our core plan, so we can fulfil all our statutory duties and regulatory obligations. In the run up to setting the Final Determination, and during AMP8, flexibility will be required between our core plan and additional further investment for Southern Water to deliver priorities for the region.

In this response, we outline why essential changes are required ahead of Ofwat's Final Determination. In its current form, Ofwat's Draft Determination will not support the sheer size and complexity of investment needed to run the business sustainably, to meet either our legal obligations or our customers' ambitions. We provide further evidence to inform the right decisions, that sets a fair balance between funding, allowances, and operational targets to ensure we avoid the curtailment of vital investment over the next five years. We would expect to engage with Ofwat over the next few months with a mutual aim to achieve an improved Final Determination.

We have five core areas where we request Ofwat to refine the Draft Determination to make the plan affordable, deliverable, financeable and investable:

- Adjust overall risk and return package to a fair level to support investability by recalibrating incentives and allowances
- Allow appropriate levels of WACC and RCV recovery rates to make the price control financeable
- Increase totex allowances to a level where we can sustainably run the business and deliver a step change in investment for customers and the environment
- Support the use of the Delivery Mechanism and alternative market-based delivery to diversify delivery risk and deliver value for money
- Endorse our approach to managing affordability and taking care of customers.

1) Adjust overall risk and return package to a fair level to support investability by recalibrating incentives and allowances

Our risk analysis shows that there is no path for us to secure a reasonable return during AMP8, given the calibration of various mechanisms in the Draft Determination. Returns are essential to attract debt and equity capital to finance our functions and investment plans for the benefit of our customers and the environment.

We have analysed the risk implied by each of the features of the price control. Based on a 50% probability (P50), a notional company is forecast to make a Return on Regulated Equity that is 4.18% lower than assumed by Ofwat. Even at a P90 confidence level, the Return on Regulated Equity is 1.27% lower than assumed by Ofwat. This is not an investable proposition. Our analysis also shows there is a material imbalance between risk and return if the historical performance of the sector and the asymmetry of the regulatory design are accounted for.

For Southern Water, a company in turnaround, the actual company analysis is even worse. The expected Return on Regulated Equity is 9.52% lower than set by Ofwat. This accelerates the punitive effect of the price control on companies in turnaround, rather than supporting their recovery; we do not believe this is in the interests of our customers or the environment.

When we analyse each of Ofwat's Draft Determination proposals in detail, the notional company is more likely than not to fail in each area of the price control. For example, this means any company should at least expect to over-spend totex allowances, expect to pay an ODI net penalty and pay significant punitive PCD penalties because of having a significantly larger and more complex enhancement programme.

The Draft Determination proposed a moderated approach to setting ODI targets, but from an AMP7 exit run-rate position that was projected 5 years ago in the PR19 Final Determination. With the benefit of hindsight, these targets were too stretching; of the 17 companies, most are forecasting ODI penalties for AMP7 from not achieving their CY24/FY25 PC targets. We request Ofwat to recognise this reality rather than compound this miscalibration by rolling it into AMP8. The excessive approach – certainly compared to say Ofgem's framework – of ODI incentives, contributes to what we believe to be a mis-calibration of the overall risk-return package.

Ofwat has introduced multiple mechanisms that remove allowances for varied reasons. The incentives from these mechanisms could be more significant than the allowances, as they represent additional increased risk which could de-rail investment if they are fixed ex-ante and calibrated incorrectly. We note that this is the most uncertain five-year period in which to introduce such mechanisms, so we urge caution. We ask Ofwat **to simplify PCDs and seek to avoid duplication of incentives and avoid unintended consequences.**

Funds managed by Macquarie Asset Management have supported the business and its turnaround through fresh equity investment into the Southern Water group amounting to over £1.6bn over AMP7. To secure ongoing support, Ofwat needs to demonstrate there is a genuinely fair and balanced prospect for investors in term of future returns. **The mechanisms need to be recalibrated for a turnaround company and our response includes positive suggestions for how Ofwat could recalibrate the mechanisms to mitigate the risk** in its Final Determination.

2) Allow appropriate levels of WACC and RCV recovery rates to make the price control financeable

The weighted average cost of capital (WACC) assumed by Ofwat's Draft Determination and decisions made to delay revenue recovery make the Draft Determination package unfinanceable and uninvestable. Without the support of debt and equity capital, we will not be able to finance its functions nor deliver the enhancement investment demanded by its customers and the environment.

Ofwat's assumed cost of equity is 52bps lower than a simple roll forward of the CMA's PR19 approach.

Ofgem's Sector Specific Methodology Decision (SSMD) for the upcoming electricity transmission price control has recognised the challenges in delivering and financing a significant enhancement programme. Despite having a more balanced and much narrower range of ODIs reward/penalties and a higher assessment of the regulatory framework by the credit rating agencies, Ofgem's SSMD has proposed a higher beta than Ofwat's Draft Determination and has signalled a potentially significant aiming-up.

Taking all factors into account, and assuming that cost allowances and risk-return is recalibrated as we outlined, we estimate that the allowed wholesale **cost of equity should be 105bps higher** than Ofwat's DD.

In our response to the Draft Determination, we have used the 4.49% midpoint WACC from the KPMG Club Project. Given the size, complexity, and scale of our AMP8 investment plan, Southern Water would be justified in arguing for a higher cost of equity (due to its high capex intensity and asset beta, also a higher aiming-up adjustment given the scale of equity required) and a higher cost of debt (due to a higher share of new debt, which is more expensive than embedded debt) than these mid-points.

Ofwat's assumed cost of equity in the Draft Determination is very low compared to the assumed cost of debt, and compared to equity returns available on infrastructure opportunities. Given the scale of enhancement investment in AMP8 and beyond, equity investors are also being asked to provide incremental capital with limited prospect of meaningful cash yield in the medium term.

The cost of capital for the UK water sector may have increased following the Draft Determination. Credit rating agencies may downgrade their assessment of the UK water regulatory framework. This is not factored into our response, but we recognise that Ofwat will consider this in its Final Determination.

Ofwat has decided to intervene to delay recovery of the RCV, instead of allowing capital assets to depreciate naturally over their economic lives. This results in costs being passed on to future generations. Our customer research found staunch support for intergenerational fairness, which Ofwat does not appear to have considered. This distortion from the natural rate of recovering the RCV negatively impacts cashflow, just at the point at which an increased rate of investment is required to meet regulatory requirements. Increased investment alone would stretch cashflow and would usually result in an advanced recovery of the RCV. Delaying recovery of the RCV leaves a significant gap in investment spending required in AMP8 and the funding made available in the price control. While there is a case for accelerating RCV recovery, we request Ofwat to **revert the rates to the rates of recovery set out in our originally submitted business plan** which were already reduced from the current period to help mitigate bill pressure.

The Board has assessed the Draft Determination and concluded that it is unfinanceable and uninvestable. In our response, we have carefully considered changes to the allowed return and RCV recovery rates, and other changes that need to be made, to provide Board assurance that our core plan, that uses the Delivery Mechanism, DPC and alternative market-based delivery, is financeable, deliverable, and investable, conditional on the other changes detailed in our response.

3) Increase totex allowances to sustainably run the business and deliver a step change in investment for customers and the environment

We ask Ofwat to provide the right regulatory package to balance risk and reward. One of the biggest areas of challenge relates to totex allowances.

When we consider the Draft Determination in the context of AMP7, we cannot see how the extent of the challenge, to both costs and performance, can be the right path for sustainable delivery. Most companies, including Southern Water, have invested more than their AMP7 allowances (by more than £1bn per year on average), at the same time as under-performing against the AMP7 performance commitment targets (by more than £800m of ODI penalties over the first four years of AMP7).

Our response to the Draft Determination represents an assessment of the actual cost of running our operation and is based on industry evidence, rather than notional modelling, grounded in the costs of delivering against an extensive programme of undertakings necessary to meet our water and wastewater operational obligations. We have gained valuable insight and experience since 2019 in understanding the sustainable botex needed to run our waste business, that other companies will not have. As a result, we see a systemic mismatch between the allowance estimated from the econometric modelling and our actual base costs.

We recognise that modern price controls are a collection of many individual assessments and decisions. However, we want to work with Ofwat to both provide further evidence to inform each decision, and to consider the package as a whole:

- **Botex (£536m, 20% gap):** Ofwat's modelling alone is insufficient to sense check the efficient level of sustainable spending. We provide further evidence to support our botex projections in this response. Our response requests Ofwat to **treat critical water resilience schemes as enhancement expenditure, allow appropriate and sufficient allowances for asset health and climate change, include necessary cost adjustment claims, and include business rates and appropriate indexation of energy costs**.

- **Enhancements (£1,971m, 60% gap):** Enhancement spending is increasing significantly in PR24, with many more projects. However, Ofwat's assessment is increasingly stretched, using abbreviated modelling and shallow dives to consider even more schemes, resulting in excessive cost challenge, despite additional customer protection mechanisms. We provide further evidence from industry benchmarking to support enhancement investment cost assessment. We ask Ofwat **to prioritise its assessment, and to only make cuts where there is clear evidence of inefficient and overinflated costs.**

We expect and take on the challenge of efficiency and improvement – we are setting a stretching efficiency ambition across our plan and PC targets that demonstrate leading rates of improvement on many of the metrics customer consider the most important. Our response to the Draft Determination provides the right allowances to support the right levels of investment for our customers.

4) Support for using the Delivery Mechanism and alternative market-based delivery to diversify delivery risk and delivery value for money

We recognise Ofwat's efforts to help the deliverability of the largest investment programme in Southern Water's recent history. The Delivery Mechanism is a sensible and flexible approach to ensuring that there is confidence, at both Southern Water and the regulators, that projects are needed, re-assessed as efficient and can be delivered, closer to their delivery date and part-way through the AMP.

We have championed the use of alternative forms of delivery to spread the burden of providing significant growth in delivery capacity and to diversify risk in addition to a number of other benefits, including accelerating innovation in delivery and unlocking economies of scale. We are therefore proposing that a market-based delivery route is enabled for identified projects for which we can create a market, and which could offer value for money.

We are asking Ofwat to agree the alternative market-based delivery route, and to establish a framework that will allow these projects to be delivered using this new approach. As with delivery via DPC, it includes responsibilities on Southern Water supported by Ofwat involvement to enable best value for customers and customer protection. **We encourage Ofwat to support the use of Markets Based Delivery of projects** where there is clear market appetite and a value-for-money proposition for customers.

5) Endorse our approach to managing affordability and taking care of customers

We recognise the challenges with the increase in bills that our customers will face over the next five years as we catch-up with expenditure needed to run the business and make the significantly greater investment to meet increased regulatory and environmental requirements. Our water bills, in nominal terms, have been the lowest in the industry for more than 20 years. Southern Water's bill for water has remained between 10% - 60% lower than the industry and other water and sewerage company (WASC) average bills over the same period, despite water scarcity and population growth challenges in the south-east of the UK.

Our approach to managing affordability includes multiple initiatives. We plan to start trialling new tariffs for full implementation later in AMP8 to improve affordability and incentivise companies to become more efficient. For those customers who are struggling to pay, our plans include significant ongoing support with a 45% discount, which will be a larger value discount on a larger bill, to help address these affordability concerns. Due to financeability constraints, we have been unable to smooth bill increases over the 5 years of AMP8 as per our original plan. However, we have included a proposal to further extend support by using any future penalties from underperformance into customer affordability schemes. **We seek endorsement from Ofwat for our proposals to use underperformance penalties to support customers struggling with bills,** this is not a reduction in penalty but an allocation to support customers who are struggling to pay.

Conclusions

The current management team, Board and shareholders are focused on completing the turnaround in performance and moving the Company forward to address the priorities of our customers. Our proposed investment plans have been designed to meet the demands of our customers, regulators and the environment. Given the significant investment in AMP7 over and above cost allowances by almost all companies in the sector – with Southern Water at the top end of this additional investment - we feel vindicated that our approach represents the true cost of maintaining asset health.

Whilst we disagree with Ofwat's conclusion that our business plan was inadequate and unambitious, we welcome Ofwat's opportunity to reverse the punitive effect of the QAA initial assessment by providing further Board assurances. This additional assurance has been given in parallel with incorporating an even larger enhancement programme following feedback from our regulators. In our response to the Draft Determination, prepared in a timeframe that was truncated by the timing of the UK general election, we provide our draft Delivery Action Plan, a commitment to Ofwat's Delivery Monitoring Framework and our Financing Action Plan, together with further evidence for Ofwat to consider ahead of making Final Decisions.

In summary we request that Ofwat refine its Draft Determination by:

- Adjusting overall risk and return package to a fair level – this will support investability by recalibrating incentives and allowances, address downside skew in risk.
- Allowing appropriate levels of WACC and RCV recovery rates. This will make the price control financeable, and in conjunction with a more balanced risk and return package, support increased investment.
- Increasing totex allowances - this will enable us to sustainably run the business and get back on track, improve asset health, address climate change and resilience and deliver a trebling in investment for customers and the environment.
- Supporting the use of the Delivery Mechanism, DPC and alternative market-based delivery – this will help to diversify delivery risk, deliver value for money, and provide vital flexibility to manage uncertainty around future investment to meet regulatory and statutory obligations.
- Endorsing our approach to managing affordability and taking care of customers – this will enable us to provide more support to more customers to help those struggling to pay so that vital investment is not curtailed and to reverse the past decline of bills for over a decade.

On this basis our Draft Determination response includes the need for further equity investment in AMP8 of £650m. Assuming Ofwat address the areas outlined in our Draft Determination response in its Final Determination, the Board has a reasonable expectation that the Company can raise this equity. Our Draft Determination response lowers gearing to 70% and proposes changes to our dividend policy to reflect this gearing level and to restrict dividend, should any be paid, to 2% of regulated equity over the AMP8 period.

Our Board has carefully considered the Draft Determination and has set out in its response the changes we request Ofwat to make in the Final Determination. In this context, the Board has given its assurance that our core plan, that utilises the Delivery Mechanism, DPC and alternative market-based delivery, represents a deliverable, financeable and investable programme. We expect to engage positively with Ofwat over the next few months **to achieve a mutually acceptable** Final Determination.

Executive Summary

We welcome the attention and effort Ofwat has put into the PR24 process. In attempting to seek an appropriate balance of risk and reward across the whole price review package, we have carefully noted and reviewed the range of new and evolving approaches that have been introduced. However, we have serious concerns around the cumulative impact of the Draft Determination decisions and what this means for the investability of the sector, and Southern Water.

In this response, we explain our assessment of the Ofwat Draft Determination and detail our evidence and analysis to support our position ahead of the Final Determination later this year. We start by focussing on the critical question of investability and the need to ensure an appropriate balance or risk and return. We then assess the key building blocks of the overall price review package in turn looking at Botex and Enhancement cost allowances followed by performance commitments and outcome delivery incentives. We then consider what this all means for deliverability, including price control deliverables, and financeability, before concluding with our developed Board Assurance Statement and response to the Quality and Ambition Assessment (QAA). Our response is accompanied by detailed appendices setting out supporting evidence and analysis.

1. Risk & Investability

Ofwat intended its PR24 methodology and Draft Determination to balance returns and risk. In our original business plan submission in October 2023, we assessed risk, through analysis of return on regulated equity (RoRE) and demonstrated an overall downward skew. We have since asked for mitigations to re-balance risk; however, despite Ofwat introducing several new risk and delivery mechanisms on the lines we included in our October 2023 plan submission, the overall calibration of the Draft Determination price review package remains deeply problematic in terms of investability and the need to raise new equity.

Based on the detailed workings that were published by Ofwat on the 20 August 2024 (5 working days before the Draft Determination response submission deadline), it appears that base case risk exposure has not been quantified nor analysed in any degree of detail and instead a general assumption was made that the expected return would be consistent with allowed return. There is no evidence that historical sector data has been used to inform the performance and risk ranges presented. We believe Ofwat's assessment has underestimated the risk across the whole probability curve.

We show that under the Draft Determination the expected return for a notional company like Southern Water is below the allowed return if the Draft Determination performance targets, cost allowances and regulatory mechanisms are considered together. Key drivers of this risk are: (1) allowances and targets which represent significant stretch compared to current performance combined with high incentive strength; (2) the unprecedented scale and complexity of the AMP8 capital programme; and (3) inherent asymmetries in the regulatory framework originating from PCDs and penalty only ODIs, among others. We highlight areas of risk, not taken into account by Ofwat, that pose a significant challenge to Southern Water. We also challenge Ofwat's decisions not to take account of specific company data, creating bias in the analysis; we also believe this gives a distorted positive picture of its RoRE analysis.

We explain that further calibration of the risk mitigations and allowed returns within the price review package are required to balance risk and return and we propose a range of adjustments that should be made. The consequences of not mitigating risk to a level that allows us to continue funding our turnaround could be potentially severe. Without sufficient mitigations to address the downward skew of the risk profile, the notional company like Southern Water would not be financeable, rendering the price control undeliverable. We want to deliver better service for our customers and enhance the environment and can only do so with a

supportive AMP8 framework. It is ultimately in the best interest of customers and the environment to balance risk and return.

If UK water is not a stable, low risk sector, many existing investors, including pension funds, would not be able to invest. The implied cost of equity would increase, but if this is not matched by the WACC, then this will limit future investment in the sector – at a time where investment is needing to grow significantly. Increased risk will impact the debt markets and raise the cost of debt. This will exacerbate the downward spiral.

Southern Water's Response

Further calibration of the risk mitigations and allowed returns, within the price review package, are required to balance risk and return and we propose a range of adjustments. These can be summarised as:

- Our response represents an assessment of the actual cost of running the business and Botex allowances should consider this cost evidence alongside traditional modelled benchmarks.
- Critical water resilience schemes should be treated as enhancement expenditure rather than assumed to be traditional capital maintenance.
- Our enhancement investment assessments should be cut where there is unambiguous evidence that costs are inefficient or where Ofwat benchmarks are demonstrably robust, given the level of increased customer protection mechanisms that have been introduced.
- Performance commitment levels should consider the rate of improvement from current performance levels and should not assume AMP7 targets are met given evidence from industry performance in AMP7.
- ODI rates should be recalibrated for several PCs where rates of penalty have increased by many multiples and penalties limited appropriately through collars.
- We ask that Ofwat fully assesses its proposals on PCDs and their intended and unintended impacts, including their appropriate implementation in conjunction with existing incentive mechanisms.
- New risk mitigations, such as Aggregate Sharing Mechanisms, should be fundamentally recalibrated as part of an overall assessment of the price review package.
- The ability to use alternative delivery routes should be widened beyond the prescribed DPC schemes to support a deliverable and financeable plan.

2. Base Expenditure (Botex)

In this part of our response, we explain our proposals on Botex, our progress and update on asset health and the costs to improving this, and the operational efficiencies we have applied. We include our proposals and justifications for updates to Ofwat's Botex models, Cost Adjustment Claims and unmodelled cost adjustments and explain why the Draft Determination allowances are insufficient. We have continued to look at the requirements for a sustainable level of capital maintenance across both water and wastewater assets and continued to develop a more holistic view of asset health needs.

Ofwat's Draft Determination does not allow sufficient Botex for Southern Water to properly conduct its functions. This is the result of specific cost disallowances, and the fact that Ofwat has not taken sufficient account of the rising cost challenges in the sector.

In AMP7, the sector has overspent its PR19 Final Determination allowances, and has still not been able to meet the stretching performance commitments that Ofwat set. In 2023/24, most common performance commitments have not been met across the sector, with companies incurring major outcome delivery

penalties in addition to cost underperformance (overspend). This strongly indicates that the PR19 Final Determinations were overambitious and incorrect.

Despite compelling evidence that performance targets and allowances were incorrectly set at PR19, Ofwat is now proposing that the sector meets even more stretching performance targets, with less Botex than companies' outturn levels. For most service measures, Ofwat is not allowing any additional enhancement funding to support service delivery. This is not a credible set of proposals. The industry is facing unprecedented cost pressures in the form of higher customer and regulatory expectations, and asset health related challenges. Ofwat's draft determinations have not taken sufficient account of these factors; including:

- Universal rejection of cost adjustment claims;
- Over reliance on econometric modelling without sufficient real-world cross checks Inappropriate adjustments to unmodelled costs;
- Re-allocated investment from enhancement into base;
- Insufficient recognition of general increasing cost pressures for the sector;
- Compromising sustainable asset health; and
- Lower bills driving long term underfunding against the true asset maintenance and renewal needs.

Southern Water's Response

Reassessment of the approach taken to assess sustainable levels of Botex, within the price review package, is required. We propose a range of adjustments for Ofwat to consider.

- **Cost adjustment claims - Cost adjustment claims should take a balanced approach, rather than disallowing claims in full:** We provide additional econometric evidence to demonstrate the significance of regional wages as a factor, the need for water treatment economies of scale to be allowed for and to ensure wastewater growth on network reinforcement is funded given we have the highest forecast growth in the industry.

  We provide a fully justified case with additional evidence, based on actual Southern Water costs, to demonstrate the cost premium of coastal works and materiality. We also provide case studies to demonstrate materiality and the causal link, such as significant costs of sea outfalls and coastal erosion. Finally, we argue that advanced anaerobic digestion should not be funded under base allowance and should be reassessed.

- **Econometric modelling results should be benchmarked with real-world cross checks:** Having reviewed Ofwat's models we have considered several adjustments Ofwat could reflect in their Final Determination, across water, waste, and retail models to improve the ability of the models to better reflect real world cost drivers. The key variables are average pumping head, wastewater aerobic/anaerobic transformation in sewers (WATS), pumping capacity per sewer length, population density and household numbers.

- **Adjustments to unmodelled costs:** On energy Ofwat could remove the ex-ante RPE adjustment for AMP8 which creates significant cash-flow risk and only use the historic index for the PRE end of AMP true-up. Business rates should be a straight cost pass through based on revaluations and uplifted EA licence fees should be fully included. Climate change resilience funding should be assessed on a project-by-project basis and not assessed sector wide based on a crude average that that amounts 0.7% of investment. Finally, the increased cost of regulatory reporting should be included to cover both the additional costs to companies and increased costs of Ofwat monitoring and regulating the industry, reflected in future licence fees.

- **Re-allocated investment from enhancement into base:** Since our October submission we have been progressing our delivery preparation for our enhancement investment and in doing so have reviewed the need, scope, and costs the programme. This has included integrating our capital maintenance plans to form efficient delivery packages and routes. As such we have confirmed the scope separation between enhancement schemes and our bottom up Botex plans. In some cases, we have identified overlaps and have accordingly reduced the enhancement funding request, however overall, we provide evidence in our enhancement case responses as to why Ofwat's assessment of what should be funded through Botex is not correct. Further detail is set out in the respective Botex chapter.
- **Insufficient recognition of general increasing cost pressures for the sector:** Maintaining our focus on continual improvement and productivity improvement we have undertaken an extensive review of our operational activities. In developing our forecasts and in readiness for AMP8, we have challenged ourselves to deliver for less. We established a centralised portfolio of initiatives across the business followed by a detailed cost benefit analysis for each. We then identified those initiatives we have the greatest confidence in being able to realise benefits to include in our business plan.

  Our phased opex efficiency plan expects to achieve efficiencies of £46.6m p.a. in wastewater and £17.2m p.a. in water by the end of AMP8, relative to our current 2024-25 run rate. Customers will benefit from these initiatives because of service improvements and the impact on customer bills. However, these initiatives will be fully funded by our shareholders - customers will only see benefits.

  We believe that Ofwat's frontier shift assumption should be reassessed as it is based on analysis from other sectors. It does not consider water sector specific challenges, such as increasing service standards, asset health challenges, rising customer and regulatory expectations, and sector-specific impacts of climate change.
- **Compromising sustainable asset health:** Since our October 2023 business plan submission, we have continued to develop and strengthen our Asset Risk Management tools which underpin our Botex plan, maturing our approach to Asset Health to a point where we feel it provides a clearer view of the asset requirements and therefore compelling evidence for adjustments to allowances in certain asset classes. Our approach seeks to understand the true 'health' of our asset base (taking a long-term 25-year planning view), and therefore determine what interventions, and associated level of investment are required.
  Our Asset Health methodology enables us to make use of a broad range of the latest cost and run rate data alongside asset information, including condition, age, deterioration, intervention, and performance to establish the sustainable, robust, pragmatic, and assured view of base expenditure.

  We have applied our Asset Health methodology broadly across the asset base and re-assessed all evidence, determining three specific asset classes, namely: Wastewater Pumping Stations, Rising Mains, and Water Service Reservoirs where there is a need for an additional £74m to reach a sustainable base maintenance. Our remedy is to have this added to the allowances for the respective Price Controls as follows:

  - Waste pumping stations: £30 million - Asset Health data details an increased investment need due to ageing asset stock. Additional investment required to deliver pollution performance;
  - Rising mains: £30 million - Asset Health data details an increased investment need due to premature failure of Rising Mains. Additional investment required to deliver pollution performance;
  - Water Service Reservoirs £14 million - Address escalating management costs and compliance risks identified from our aging asset base.
- **Lower bills driving long term underfunding against the true asset maintenance and renewal needs:** Southern Water has had the lowest water bill in the industry for a significant period; this does

not align to the heightened cost pressures with being in a water stressed area. This is clear evidence to show that Southern Water has not had the funding historically to keep up with the rest of the industry. For the past two asset management periods Botex allowances have been set based on econometric models where the data is derived from historic investments. This means AMP8 allowances will not provide allowances sufficient to allow Southern Water to keep up with the industry and maintain an asset base increasing in overall age. Furthermore, in our wastewater business during AMP7 we have invested significantly above allowances to support compliance with regulatory standards, these challenges are now only recently being seen by other companies and therefore the true Botex needs are not being reflected in historic models.

In other areas, we consider our October PR24 Botex plan as the best indicator of sustainable Botex.

3. Retail

Our retail response focuses on the total cost of doubtful debt and debt management costs in AMP8 and how we intend improving our collections performance in the face of unprecedented bill increases. It also provides an overview of our "Future of Retail" program. Through our research, customers have told us they understand bills need to rise to meet their priorities. Our business plan is about investing for the long-term to build a service that meets customers' rising expectations, and the significant challenges we face to secure reliable water supplies and protect our environment.

We recognise and share others' concerns that increasing bills, necessary for the investment needed in AMP8, will put financial pressure on households and our plans include increased funding to support to those most in need. We also have ambitious plans to continue improving our billing and collections performance as well as planning on implementing a new CRM & billing system. In addition to this we want to recognise in our total AMP8 retail costs that there will be increased total debt costs due to the increased bill size, which will be higher than others in the industry, and we seek additional financial support for this in our retail allowance.

Southern Water's Response

We do not propose altering any of the other retail costs previously submitted in our business plan.

4. Enhancements

In this part of our response, we explain the enhancement investment we are proposing in our response, detailing our evidence, and recognising the unique challenges present in our region. Our response represents a balanced approach to delivering essential services while ensuring long-term affordability for our customers. We also demonstrate clear market appetite and customer value for money for alternative market-based delivery.

Ofwat's Draft Determination assessment represents a significant cut of 18%, or £754m, against Southern Water's plan. This funding shortfall comes from various adjustments and assessment methodologies used by Ofwat. We believe many of these assessments require amendment. We expect this should lead to material revisions to our assessed allowances. Our response includes updates we have made to our plan costs since October 2023 and February 2024 submissions. These updates are driven by a deeper understanding of project needs, evolving and new regulatory requirements, and a commitment to delivering the most cost-effective and appropriate solutions for our customers. We urge Ofwat to carefully consider our detailed responses and evidence, recognising the unique challenges present in our region. Our response represents a balanced approach to delivering essential services while ensuring long-term affordability for our customers

We do not agree with the pre-assessment adjustments Ofwat made to our cost estimates, separating costs for specific enhancement cases and reallocating allowances to Botex. There has been significant rejection of

our enhancement cases on the basis that it should be covered by base. In total this non-allowed enhancement - amounts to over £250m.

The primary method of then assessing costs through modelled allowance benchmarking relies on median unit rates that in many cases do not reflect the unique complexities of our region and investment needs. We consider that Ofwat have in some cases, selected modelled approaches which, in our assessment are statistically insufficient, lack robustness or are fundamentally inappropriate for setting allowances.

Deep dive assessment, while appropriate for material cost lines, resulted in significant reductions based on perceived lack of need, questioning of chosen solutions, and cost efficiency concerns. Despite Ofwat questioning the need for certain investments, based on their assessment, our statutory obligations to deliver essential services and meet environmental standards remain unchanged. Our responses provide further evidence to substantiate the necessity of these investments, highlighting their alignment with long-term environmental goals and customer needs.

Shallow dives, made to less material investments, have applied top-down cost penalties based on modelled efficiency rates; these neglect project specifics and jeopardising deliverability. The overall approach is heavily biased to cost reduction even where compelling project specific evidence was available. We consider that in cases where there is direct evidence of the efficiency of a business case it is inappropriate and unnecessary to apply a challenge which is predicated on a company's average inefficiency in unrelated areas.

We have championed the use of alternative forms of delivery to spread the burden of providing significant growth in delivery capacity and to diversify risk in addition to a number of other benefits including accelerating innovation in delivery and unlocking economies of scale. We are therefore proposing that a market-based delivery route is enabled for identified projects for which we can create a market, and which could offer value for money. As with delivery via DPC, it includes responsibilities on Southern Water supported by Ofwat involvement to enable best value for customers and customer protection. We encourage Ofwat to support the use of Markets Based Delivery of projects where there is clear market appetite.

Southern Water's Response

In our response we have concentrated on building a compelling focussed evidence base:

- **Need and optioneering:** We have a large and complex scope which is of a greater scale than ever previously delivered, the overwhelming majority of which we are required to deliver due to regulatory requirements and FEO dates. We are of the view that Ofwat's methodology should recognise the risks that pertain in novel and atypical scope and in turn avoid applying upfront adjustments that significantly increases financial and deliverability risk.
- **Cost efficiency:** We believe that Ofwat should remove applied adjustments and arbitrary efficiency cuts for specific cases and consider the complexities and varying levels of design maturity (which have continued to progress post October 2023) with regards to scope.
- **Modelled allowances:** Our internal evidence of the efficiency of our costs is often contradictory to Ofwat's modelled assessment, and we have material concerns on the suitability and robustness of several models selected by Ofwat. We present evidence demonstrating that our unit costs are often lower than industry benchmarks when considering project complexities and maturity.
- **Investment maturity:** Driven by a commitment to efficiency and evolving needs, our response reflects significant changes in scope and cost for both Water and Wastewater enhancements. These have been driven through regulatory engagement (including WINEP, rdWRMP24) and an ongoing maturity in project development and benchmarking.
- **Market based delivery:** We are asking Ofwat to agree the alternative market-based delivery route, and to establish a framework that will allow these projects to be delivered using this new approach.

5. Performance Commitments & Outcomes Delivery Incentives

In some cases, we accept Ofwat's proposals at Draft Determination, but in others, our evidence leads us to make alternative representations that are detailed in this chapter of our response. The future target level of performance commitments (PCLs) and the associated incentive rates (ODIs) are especially important components of the overall price review package in terms of risk and return. If PCLs and associated incentives are calibrated incorrectly, in conjunction with cost allowances, then this can lead to significant challenges. This is exactly what we are seeing in AMP7 with companies overspending their allowances and most companies not meeting the AMP7 PCLs and so incurring penalties.

Our approach is to look firstly at performance commitment (PC) targets for the AMP8, where our view diverts from the Ofwat's Draft Determination proposals. We provide the evidence for our representations including quantified benefits from the base and enhancement activities in our plans, grounded in the evidential link between Botex allowances and industry mean performance arising from that Botex.

We then present a summary of our proposed ODI rates, collars to underperformance and deadbands, to ensure a balance of risk and return consistent with our proposed PCLs. We have also considered our customer priorities in setting an appropriate rate. In many cases we have stretched ourselves further and through historic analysis are proposing PCLs at a far greater risk than the P50 position.

Our representations are based on several principles which we summarise here:

- **Principle 1: The ODI package is mis-calibrated leading to excessive downside risk:** Our package of ODIs is mis-calibrated and leads to excessive downside risk. For example, if we delivered our 2023/24 performance in year 1 of AMP8, we would receive a gross penalty of £212m or -5.6% RORE, which is vastly outside the range assumed by Ofwat.

  This further exacerbates the wider issue we see in Ofwat's cost assessment approach which, as we explain in the report we have supplied by Economic Insight, does not engage with the operational realties that companies face in delivering outcomes for customers by expecting companies to deliver an ever-stretching level of performance.

- **Principle 2: 2024/25 baseline at level of AMP7 PCLs is unrealistically stretching and should be changed to observed industry mean:** Most companies are underperforming their AMP7 targets, despite spending above Botex allowances. Hence the performance that 'Botex buys' is more accurately reflected in the observed industry mean. Starting the improvement expected for AMP8 from an unrealistically stretching 2024/25 baseline creates an extra unwarranted performance stretch.

  A more balanced position would be for Ofwat to set the 2024/25 baseline at the level of the industry mean. Such approach would be consistent with how Ofwat calibrates the Botex allowances which are set based on industry average costs over the past 12 years. PC starting point targets (which are funded by Botex) should logically be calibrated on a similar basis, as that is what base buys – hence the 2024/25 baseline position based on current/historic industry mean.

- **Principle 3: Our AMP8 performance targets need to consider our rate of improvement:** The level of stretch from the 2024/25 actual baseline needs to consider the rate of improvement implicit in the targets, grounded in the evidential link between Botex allowances and industry mean performance arising from Botex, as well as the enhancement funding request to deliver step up improvement. AMP8 performance cannot just be based on simplistic industry mean/average, median or upper quartile absolute levels of performance. This is valid for all companies in the industry but particularly important for companies with a turnaround plan like Southern Water.

  Being a company in turnaround means we have further to go and more to do than the 'average' or 'median' company in the sector. Ofwat has accepted our turnaround plan. We are committed to continue

to turn our performance around, which is why we are proposing a level of stretch that puts us at upper quartile improvement rate from our actual 2024/25 baseline in four common PCs – water supply interruptions, water quality, internal sewer flooding and total pollution incidents.

- **Principle 4: Setting ODI rates based on RoRE results in too high ODI rates in many cases:** The need for ensuring that penalties are reinvested in improving our performance is particularly relevant in AMP8 as Ofwat has materially increased its proposed ODI rates for most performance commitments creating substantial penalty exposure. Ofwat proposes ODI rates that are up to 4 times the rates we face in AMP7 and 3 times higher than indicative rates Ofwat made available prior to business plan submissions. We propose alternative ODI rates to ensure a balance of risk and reward.

Southern Water's Response

Reassessment of PCs and ODIs, within the price review package, are, we submit, necessary. We propose a range of adjustments that should be made based on the following principles:

- Targets should be set based on forecast performance AMP7 outturn not AMP7 Final Determination targets given industry performance;
- Targets need to consider the rate of improvement during the period;
- ODI penalties should be used to support investment to tackle underlying issues;
- ODI rates are too high in many cases and should be re-evaluated; and
- Improvements must be supported by a sustainable level of Botex allowance.

6. Deliverability

The size and complexity of the programme to deliver our environmental requirements and other commitments creates deliverability risk. We have made plans for and put in place extensive arrangements to manage as many delivery risks within our control as possible, and we recognise Ofwat's efforts to help in this area. However, delivery risk beyond our control remains, and the Draft Determination has created more delivery risk. We recommend further Ofwat action and support to better manage and mitigate the remaining deliverability risk. Broadly, the Draft Determination has maintained the scope that we are required to deliver but has cut our Water enhancement budget by 22%, our Wastewater enhancement budget by 15% and our base expenditure budget by 11%. These allowances are significantly less than we assessed and below the levels needed to achieve the outcomes described in this response.

Our original submission included approaches such as phasing of some of our WINEP projects to reduce delivery risk and to smooth the investment profile across a longer period. We submitted an unassured plan update in February 2024 that showed a scenario without this phasing. DEFRA and the Environment Agency (EA) have rejected most of our proposals. We are continuing to engage with the Government and the EA to investigate ways in which we can phase some of our projects into AMP9 to reduce delivery risk and impact on our customers, but which still maintains the environmental benefits required under our WINEP. We seek to engage further with Ofwat around our deliverability challenges. In May 2024 we proposed the Delayed Approval Mechanism, which was broadly accepted by Ofwat in the Draft Determination. This allows us to manage some of our risk as our plan matures through AMP8.

Ensuring the deliverability of the right plan is very important for us. In our October 2023 business plan, we committed to taking action to ensure that we have the capability to deliver the PR24 programme. We report against this preparation in our Deliverability chapter and in the Delivery Action Plan appendix.

In PR24, Ofwat is spending more time developing incentive mechanisms that remove allowances for varied reasons. These incentives could be more significant than the allowances, as they represent additional

increased risk which could de-rail investment in the AMP, if they are set incorrectly. We note that this is the most uncertain five-year AMP period in which to introduce such mechanisms and we urge Ofwat to be cautious.

Price Control Deliverables

We always seek to work in our customers' interests. Therefore, we do not challenge the basic concept that underspent funds that are no longer needed should be returned to customers. This is fair and reasonable. However, we have significant concerns about the regulatory risk that the complex and novel design of Price Control Deliverables (PCDs), introduced as they were at a late stage in the PR24 process, imply.

We have concerns that PCDs add additional downside risk through a compounded effect, and it is not clear that Ofwat recognises any regulatory risk from PCDs. Ofwat assumes that fulfilling the enhancement project on time is easy and once applied, PCDs will not be employed. Based on recent history, we cannot agree with this.

Ofwat's approach does not recognise the inherent project risk of managing complex programmes and the increased scale of complex programmes in AMP8. Both the PCDs and the Delayed Delivery Cashflow Mechanism (DDCM) require funds to be returned to customers, leaving a potentially significant cash flow gap, which given the limits of financeability, may restrict our ability to deliver delayed projects, which would not be in the customers' interest. We maintain that PCDs should apply where customer protection is needed. However, for enhancements where there is already an incentive in place, from an ODI or a regulatory penalty (from the EA or DWI, for example), then PCDs should not be added.

We are concerned that Ofwat has not allowed for the increased costs of the proposed AMP8 monitoring regime to support PCDs and that this cost for Ofwat and companies – both of which are paid by customers – will be significant. We are also concerned with the punitive element to the Non-delivery PCD, where funds are returned to customers for projects not delivered on time, but the mechanism fails to recognise neither the work completed to date nor the complexity of the programme. This introduces distortions and perverse incentives.

DDCM is a duplication and should be discontinued. This mechanism is synonymous with PCDs as it returns cash to customers that is unspent. It is therefore confusingly overlaps with non-delivery PCDs. In addition, we are concerned that the DDCM potentially undermines incentives to efficiently underspend. We believe that this is a mechanism that adds little to the customer benefit and damages a positive incentive. We urge Ofwat to remove this mechanism.

We hope Ofwat will cautiously apply these mechanisms. Whilst PCDs can be seen as reasonable in their original purpose of returning funding for undelivered projects, we can foresee perverse incentives in the complicated and extended way that the Draft Determination has applied them. We therefore ask Ofwat to simplify PCDs. Similarly, given the risk of unintended consequences from the combination of mechanisms, we ask Ofwat to allow a formal process within the AMP, to assess the impact of mechanisms, such that the right outcome for customers are delivered.

Southern Water's Response

As noted above, whilst we can see PCDs as reasonable in their original purpose of returning funding for undelivered projects, we can foresee perverse incentives in the complicated and extended way that they have been applied. We therefore ask Ofwat to simplify PCDs, specifically:

- Avoid introducing PCDs where customer protection already exists (duplication of penalty risk);
- Reduce the cost and bureaucracy by targeting PCDs more effectively;

- Greater flexibility around delivery timing to better reflect project risk from complex programmes and to avoid financing risks arising (remove DDCM proposal);
- New delivery mechanisms should include delayed definition and agreement of PCDs in accordance with future funding decisions; and
- Implement an explicit re-opener for PCDs where damaging unintended consequences potentially emerge.

7. Financeability

Our October 2023 business plan was an ambitious plan, more than double the size of our PR19 business plan and one which recognised the significant investment necessary to deliver the outcomes we, and our customers, aspire to, and which the environment requires. Our October 2023 business plan also recognised the significant increase in external investment required, which was anticipated to be funded through the capital markets and our shareholders.

Although it was a stretching plan, our Board assessed it as financeable, but with limited financial resilience, based on our scenario testing. This assessment was reliant on:

- Our requested allowances for Botex and Enhancements being approved;
- Achievable PCs/ODIs being agreed;
- Our proposals to mitigate the RoRE risk being accepted;
- An outturn WACC above Ofwat's Final Methodology rate (we submitted a Plan based on a WACC level aligned with Ofwat methodology, plus an alternative WACC to recognise risk in the Plan);
- Resolution of the uncertainties still present at the time of writing the plan; and
- Our approach to the use of Market Based Delivery was maintained

Subsequently, in this Draft Determination response, we have increased our programme further to meet environmental outcomes driven by the WINEP as well as other regulatory and statutory requirements including latest cost evidence. However, we have proposed the 'Delivery Mechanism1' to aid deliverability and transparency for customers.

In the chapter, we outline the areas within Ofwat's Draft Determination which make our business plan non-financeable and discuss Ofwat's interpretation of its financeability duty. We then set out measures to recalibrate the overall risk and return balance to support the financeability of our response. Finally, we discuss potential changes to our tariffs.

We have assessed financeability considering the use of the Delivery Mechanism and our planned use of market based/alternative delivery, among other aspects, resulting in a plan of £7,426m for assessment. This includes the cases we have set out for Botex, Retail and Enhancement allowances. We have assumed a WACC consistent with the KPMG water UK club project of 4.49% and aligned RCV run-off rates with our

[1] Our proposal to Ofwat, ahead of publication of the Draft Determination, was for a 'Delayed Approval Mechanism' which Ofwat have included as part of its consultation but renamed 'Delivery Mechanism'.

October business plan with an average of 5.06%. We also set out the case for the risk to the plan to be re-balanced. We have included the results of our financeability stressed-testing.
Overall, on the basis set out above and in our full Draft Determination response, our plan is financeable on both a notional and actual basis, with the financeability assured our Board. This financeability assessment includes further equity in AMP8 of £650m. The Board has a reasonable expectation that the Company can raise this equity on the basis of our Draft Determination response, principally, but not limited to: the re-calibration of risk, the adjustments to a sustainable level of Botex, updated allowances for Enhancements and an uplift in the WACC to reflect market conditions and returns in other sectors.

Tariffs

Water and wastewater bills have been low for a long time. In nominal terms Southern Water has either the lowest or one of the lowest bills throughout the entire 20-year period since AMP 4. This is even though we live in a region of England that has some of the highest rates of population growth and greatest levels of water stress and scarcity. This situation must be reversed over the coming years and our plan for AMP8 begins to address this.

Our response highlights tariff measures that Ofwat could adopt to mitigate the increase in bills that might result from Ofwat's Final Determination, particularly for the most vulnerable of our customers. We want to do what we can to help those of our customers least able to afford the increase. We have proposals for the Social Tariff to increase.

We operate a social tariff, which offers a discount of 45% as a minimum to all eligible customers, and up to a maximum discount of 90%. We want to further increase this support. We are proposing a £7 annual increase to continue cross-region support, throughout AMP8, for the 158,000 customers already on Social Tariff by 2025. We also propose, should Ofwat allow, to use £15 million of the performance-related ODI financial penalties incurred for our performance between 2020 and 2025 to support a significant number of additional customers. Finally, we also proposed to use £5m of AMP7 ODI penalties toward the hardship fund, on top of the £1.25m already being contributed by shareholders. This will allow us to give £1,200 to over 5,000 customers across AMP8 to pay for various household necessities, including white goods like water efficient washing machines, among other items.

In 2022, we commissioned a report from NERA to explore the benefits of alternative charging structures. It recommended seasonal tariffs and rising block tariffs as the most progressive, cost-reflective and effective tariff for both affordability and water efficiency goals. We expect these to incentivise customers to become more efficient – supported by our smart metering programme and Target 100 campaign.

We plan to start trialling new tariffs in 2026–27, once we have implemented our new billing system, to understand the impact on customers' bills and water use. This will inform the detailed design of an innovative tariff to be rolled out in 2027–28 or 2028-29 to help deliver our affordability and sustainability goals

Southern Water's Response

We have assessed financeability considering the use of the Delivery Mechanism and our planned use of market based/alternative delivery, among other aspects, resulting in a plan of £7,426m for assessment. This includes the cases we have set out for Botex and Enhancement allowances. We have assumed a WACC consistent with the KPMG water UK club project of 4.49% and aligned RCV run-off rates with our October business plan with an average of 5.06%. We also set out the case for the risk to the plan to be re-balanced. We have included the results of our financeability stressed-testing.

Overall, on the basis set out in our Draft Determination response, our plan is financeable on both a notional and actual basis, with the financeability assured by our Board. This financeability assessment includes the receipt of further equity in AMP8 of £650m.

The Board has a reasonable expectation that the Company can raise this equity, on the basis of a business plan set out in our Draft Determination response, including principally, but not limited to: the re-calibration of risk, the adjustments to a sustainable level of Botex, updated allowances for Enhancements and an uplift in the WACC to reflect market conditions and returns in other sectors.

8. Board Assurance Statement

The Board endorses the Draft Determination response and gives its full support to the proposals therein as set out in the Board Assurance Statement (see SRN-DDR-010 Data and Assurance Chapter) itself. It recognises the need to debate and make difficult trade-offs in formulating the Draft Determination response. The Statement draws attention to:

- the approach taken by the wider Southern Water team to focus our response on prioritising areas of highest value and strongest evidence and through the utilisation of newly introduced mechanisms;
- the endorsement of the Draft Determination is necessarily qualified by the inherent uncertainties still present;
- the response as a point in time in an on-going engagement and dialogue with Ofwat and consequently there remain considerable uncertainties around the deliverability and financeability;
- the focus on challenging the quality of our business plan to seek to improve both deliverability and financeability;
- our view that we have been unduly penalised through the QAA process for being transparent about the real-world practicalities of delivering and financing a plan of this scale and ambition; and
- the Draft Determination response recognises our responsibility to ensure that the Company can meet its statutory and licence obligations, now and in the future.

The Board Assurance Statement also specifically provides assurance around investment Botex and Enhancement funding, Service, Delivery, Finance and Financeability.

1. Risk and Investability

1.1. Introduction

Southern Water's AMP8 programme is the largest in its history. The activity that we set out in our Revised Plan is the most complex series of projects and will approximately double the output that we need to deliver over the next 5-year period compared to AMP7. This challenge faces most water companies. However, the challenge is even larger for us, as our enhancement programme is the largest in the sector relative to RCV and we are in the process of turning our business around.

Not only will the complex programme be difficult to deliver, but it will require significant additional funding from our debt and equity investors. We urge Ofwat to set an achievable and financeable PR24 price control which recognises the risk implicit in the programme and sets an investable return.

Water company risk is largely decided by the choices that Ofwat will make in its final determinations (FD). Ofwat sets company funding allowances, operational targets, regulatory clawbacks, and other features of a complicated price control. Ofwat's price control review is meant to assess the efficient level of costs and the achievable level of performance. Components of the price control also feature stretches that incentivise better performance over time.

Each of these calibration decisions assumes that the assessments of efficiency are correct, and the stretches are achievable. The industry asked KPMG to perform an objective assessment of the calibration of the price control, in the context of the evidence of what is achievable, given recent performance from all water companies across England and Wales. This assessment is based on actual data and represents the most detailed assessment of the calibration of the price control.

KPMG has then assessed the risk implied by the assumptions and calibrations within the price control – for example, the risk that ODI targets are unachievable according to actual performance data, which leaves companies with ODI penalties. We then adopted a similar methodology to conduct our own analysis reflecting our own unique challenges and circumstances. Based on the results of our analysis, we are very concerned that the analysis shown in this chapter implies that there is a significant risk associated with the DD – and that the risk makes it implausible for an efficient notional company to achieve the base allowed equity return.

When expected return is insufficient to compensate for the risk facing investors, the price control represents an uninvestable proposition. This would undermine our ability to raise capital at a moment in time when we need additional funding for the significant growth implied by the AMP8 programme to deliver for our customers. The consequences of not mitigating risk to a level commensurate with the notional company being reasonably able to earn an allowed return are potentially severe.

This chapter discusses:

- Ofwat's view of risk;
- Our view of risk;
- How we have analysed risk;
- Risk mitigations;
- Final mitigated notional company RoRE risk; and
- Conclusion - The consequences of not mitigating risk are potentially severe on the investability of the business.

1.2. Ofwat's view of risk

Regulators use the Return on Regulated Equity (RoRE) in order to systematically quantify risk exposure of an efficient notional company under a proposed regulatory package primarily to ensure that risk and return is balanced. Ofwat initially assessed the RoRE risk implied by its PR24 Methodology as a balance of upside opportunities and downside risks, with the base case (P50 in probability terms) enabling the notional company to achieve its allowed equity return, based on a subset of the price control decisions in the Final Methodology. Ofwat concluded that risk and return package was balanced based on their calibration of the PR24 framework included in the Final Methodology (FM).

We re-assessed the risk in RoRE terms in our October 2023 business plan. We assessed risk holistically, with regards to all performance parameters in the price control, rather than the subset of parameters. We also used more detailed analysis of recent actual performance from companies across the country, compared with Ofwat's analysis. This demonstrated a significant downside skew in risk exposure implied by the FM, and an expectation that a notional company would make an equity return close to zero in a base-case scenario. This analysis was based on the empirical performance data from all water companies and was not affected by specific turnaround challenges.

To improve the risk position, we suggested a series of changes to the FM in our business plan (BP). These changes (risk mitigation) included using Ofgem's Return Adjustment Mechanism (RAMs), which capped both the total downside and upside implied by the FM.

In response, Ofwat recognised that the risk implied by its FM was significantly skewed to the downside. In the DD, Ofwat introduced a series of changes that mitigated some areas of risk that we identified in the business plan. Chief among these mitigations was the introduction of an Aggregate Sharing Mechanism (ASM) for totex, resulting in two separate mechanisms limiting upside and downside for each of totex and ODI with a much wider cumulative threshold, in contrast to RAMs.

In addition, the DD included several other mitigations that reduced the overall risk exposure. Ofwat selected many PC targets to sit between upper quartile and median of BPs, lowered sharing rates for enhancement totex and introduced even lower sharing rates and a gated process for more complex projects, introduced energy cost indexation in the base cost and ex-ante labour cost indexation in the retail cost, shifted the C-Mex upper bound from UKCSI maximum to upper quartile among other measures.

While we welcome these developments, other changes to the regulatory framework had an effect of increasing the risk, in particular: introduction of additional penalty-only ODIs, increase in the ODI rates, wider adoption of price control deliverables (PCD), significant totex efficiency challenges and the introduction of Delayed Delivery Cashflow Mechanism (DDCM).

Overall, our analysis shows that the risk mitigations proposed in the DDs are not strong enough to remove the downward RoRE skew and a negative base case exposure for the notional company. These measures are not sufficient to permit an efficient notional company to earn a base allowed return on a median-expected basis.

Ofwat's DD included the following analysis of the RoRE risk implied by the DD's decisions, as shown in the figure below. Analysis was provided on a per-company basis and we have represented Southern Water's position and the sector median. Notably, the P50 return is equal to the allowed return on equity (after QAA penalty), implying P50 risk of 0%.

Based on the detailed workings that were published by Ofwat on the 20 August 2024 (5 working days before the DD response submission deadline)[1], it appears that: (1) the base case risk exposure has not been quantified or analysed in any degree of detail and instead an assumption was made that the expected return equals allowed return for the presentation purposes, (2) P10 and P90 for the majority of the performance parameters (wholesale and retail costs, C-Mex, PCDs) have been based on hard-coded assumptions, and (3) there is no evidence that historical sector data was used to inform the performance and risk ranges.

We, alongside other companies in the sector, commissioned KPMG to perform an objective assessment of the RoRE risk given changes made by Ofwat in the DD. The conclusion (detailed in this chapter and SRN-DDR-011: KPMG Industry Risk Analysis hereafter referred to as KPMG PR24 Risk Analysis) is that Ofwat has underestimated the risk across the whole probability curve, i.e. in P10, P50 and P90 scenarios.

1.3. Our view of risk

Expected return for a notional company like Southern Water[2] is below the allowed return if the DD performance targets, cost allowances and regulatory mechanisms are considered together. Key drivers of this risk are: (1) allowances and targets which represent significant stretch compared to current performance combined with high incentive strength; (2) the unprecedented scale and complexity of the AMP8 capital programme; and (3) inherent asymmetries in the regulatory framework originating from PCDs and penalty only ODIs, among others.

Table: Components of risk for unmitigated notional-like SWS company

	P10	P50	P90
Totex	-2.67%	-1.31%	0.15%
Retail	-2.17%	-0.62%	0.92%
Measures of Experience	-0.37%	-0.05%	0.31%
ODIs	-3.30%	-1.72%	-0.55%
Financing	-1.86%	-0.35%	1.18%
Revenue and other	-0.18%	-0.03%	-0.00%
RoRE (additive)	-10.55%	-4.07%	2.00%
RoRE (simulated[3])	**-7.10%**	**-4.18%**	**-1.27%**

In comparison to the rest of the sector, risk for a notional company like Southern Water is higher due to it having highest in the sector capital intensity, a more complex enhancement programme, and additional environmental and ecological factors that it must navigate such as chalk streams and phosphorus removal requirements. For the avoidance of doubt, RoRE risk presented in Table 1 does not factor in risks and performance associated with our Turnaround.

[1] PR24 RoRE: The model calculates the overall risk rates for the PR24 period (published 20 August 2024); Draft determinations models - Ofwat

[2] A notional WASC with forward-looking capital intensity like that of SWS, operating in the Southeast of England.

[3] Statistical analysis of the probabilistic outcomes relies on Monte Carlo simulations which produce random outcomes. The consolidated picture of such simulations heavily depends on the relationships between various components of risk or correlations. If one assumes that all the simulated risks have a correlation of 1, it implies that all risks happen simultaneously and result in the probabilistic outcomes being additive in case of symmetric distributions. In practice, this overstates both the worst- and best-case scenarios because different components of performance are not perfectly correlated. Statistically, it is more prudent to run the Monte-Carlo simulations assuming that different components of risk are uncorrelated, and while for some performance parameters the worst-case scenarios occur, for others they do not, resulting in a lower risk variance.

The level of risk present in the DD necessitates additional changes to the regulatory parameters and mechanisms beyond those outlined by Ofwat. KPMG's PR24 Risk Analysis suggests sector-wide mitigations are required to address the risk related to (1) calibration of the notional company and (2) design of the regulatory framework.

The proposed suite of mitigations presented in that report is one example of achieving a balanced risk and return package. The mitigations to address calibration risk include the provision of sufficient allowances to make the required PC improvements, an enhancement re-opener to true-up allowances post-design specification, and a recalibration of the cost of new and embedded debt. Key mitigations for regulatory design risk include indexation of retail allowances, reducing asymmetry through deadbands on penalty only ODIs, reducing ODI rates and targets, refining the PCD mechanism based on empirical data, and narrowing of the Aggregate Sharing Mechanism's thresholds. These mitigations were sufficient to mitigate risk facing a notional company based on sector median. Table 2 shows the extent to which these mitigations are effective for a notional company like Southern Water.

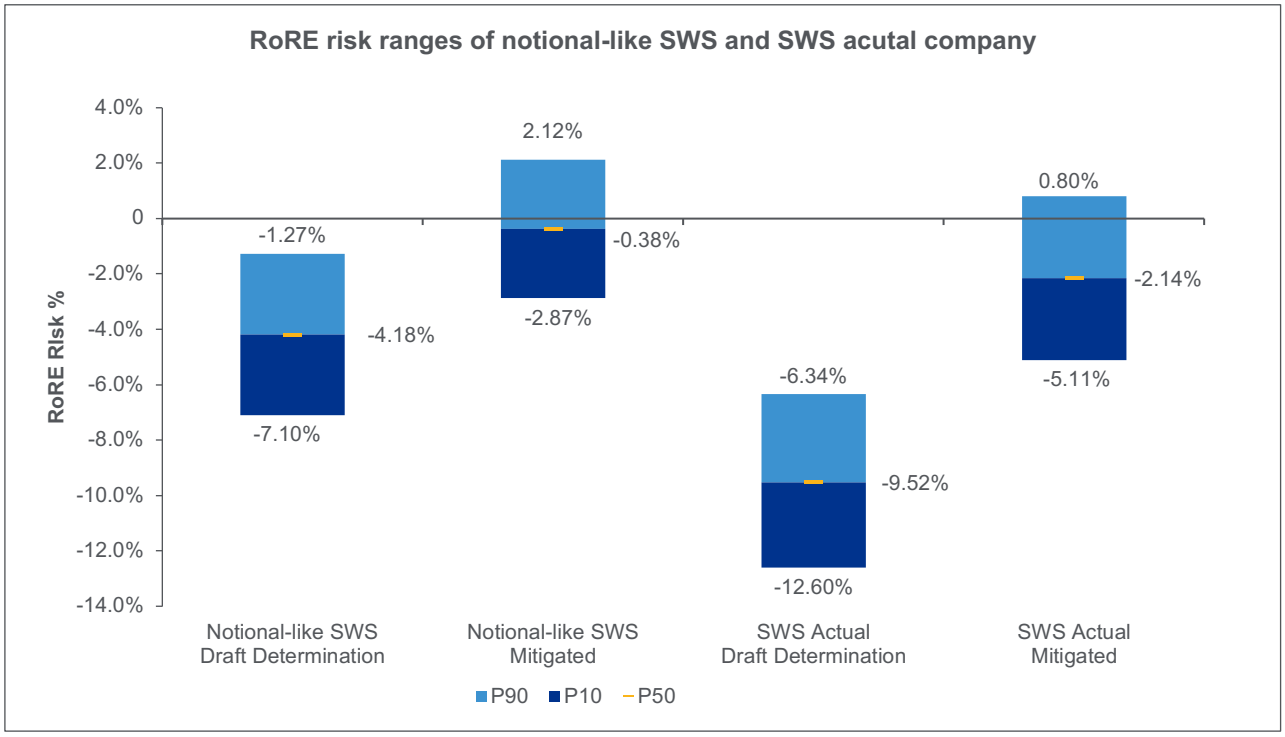
Table: Residual component risk for notional-like SWS company following example sector mitigations

	P10	P50	P90
Totex	-1.96%	-0.37%	1.05%
Retail	-1.55%	-0.00%	1.55%
Measures of Experience	-0.32%	0.08%	0.48%
ODIs	-2.81%	-1.38%	-0.45%
Financing	-1.51%	0.03%	1.54%
Revenue and other	-0.18%	-0.03%	-0.00%
RoRE (additive)	-8.32%	-1.66%	4.17%
RoRE (simulated)	**-4.79%**	**-1.90%**	**0.98%**

The elevated risk exposure of an efficient firm operating in the Southeast region is not fully addressed through these sector-wide mechanisms. This is reflective of the ODI targets aligned with the DD rather than the sector-median which results in the substantial base-case downside exposure under ODIs of -1.38%. Remaining downside for totex is due to a larger and a more complex capital programme compared with the sector-median. Additionally, some risk is present due to environmental challenges relating to reduced abstraction licences from chalk streams, higher degree of phosphorus removal in discharge permits than sector-median.

As a result, additional mitigations to address the residual risk are required. These mitigations include adjusted ODI targets for some of the performance commitments compared with the DD, a wider application of the reduced sharing rates and gated processes for enhancement programmes, further modifications to the PCD mechanisms, and reductions to Mex and ODI incentive strength.

Figure: RoRE risk ranges for notional-like and SWS actual company



These mitigations are needed to address risk arising from the characteristics of an efficient company operating in the Southeast of England reflecting a higher level of risk than the sector median. Notably, these mitigations do not fully mitigate the risk for the notional company like Southern because we are setting ourselves truly stretching performance targets and strive to improve service for our customers.

The actual company mitigated RoRE risk is substantially skewed to the downside across P10, P50 and P90 as we recognise that the turnaround plan will take time to implement and that we will need to continue investing in making our assets more resilient and improving the level of service. We are determined to continue achieving progress in our turnaround, and the level of risk needs to be conducive to this objective.

The consequences of not mitigating risk to a level that allows us to continue funding our turnaround could be potentially severe. Without sufficient mitigations to address the downward skew of the risk profile, the notional company like Southern Water would not be financeable, rendering the price control undeliverable. We want to deliver better service for our customers and can only do so with a supportive AMP8 framework. It is ultimately in the best interest of customers to balance risk and return.

1.4. How we have analysed risk

1.4.1. Expected notional company return is below the allowed return

In our October 2023 BP, we presented a RoRE range for a notional company operating in the Southeast of -9.94%, -3.59%, 2.56% for P10/50/90 respectively. We have refined this analysis for the DD changes and more recent sector performance (FY24). See SRN-DDR-011: KPMG Industry Risk Analysis for this report which includes explanations of the methodologies employed.

We have specified the notional company to have the characteristics of a firm operating in our region and having to deliver our scale of capital programme, which underpinned the risk exposure. Risk is higher in our region due to, for example:

- The largest enhancement programme by capital intensity (% of opening RCV) in the sector, with the intensity of spend related to Supply-Demand balance being highest in the industry. Protecting the region's chalk streams is critical to preserving the biodiversity and natural environment and we take this responsibility seriously. To protect the chalk streams our abstraction licenses include stretching reductions, requiring us to develop creative solutions. This is compounded by population growth. See our WRMP25 for more details;

- Some of the strictest discharge permits across the industry: we rank first for Phosphorus and third for Ammonia and BOD5. Our permitted Phosphorus levels are 40% lower than industry average (0.87mg/L vs 1.22mg/L) and are expected to be tightened by a further 25%. Our region is considered more environmentally sensitive and the resulting stricter permit levels require use of increasingly complex operational technologies for which additional funding is required; and[4]

- We are sector leading in terms of meter roll out, with nearly 90% penetration. Despite this, we struggled to influence customers' choice on water consumption during AMP7. The current and proposed configuration of the PCC incentive represents undue financial exposure as there are limited additional actions we can take to reduce consumption given we already provided meters to a high proportion of our customers.

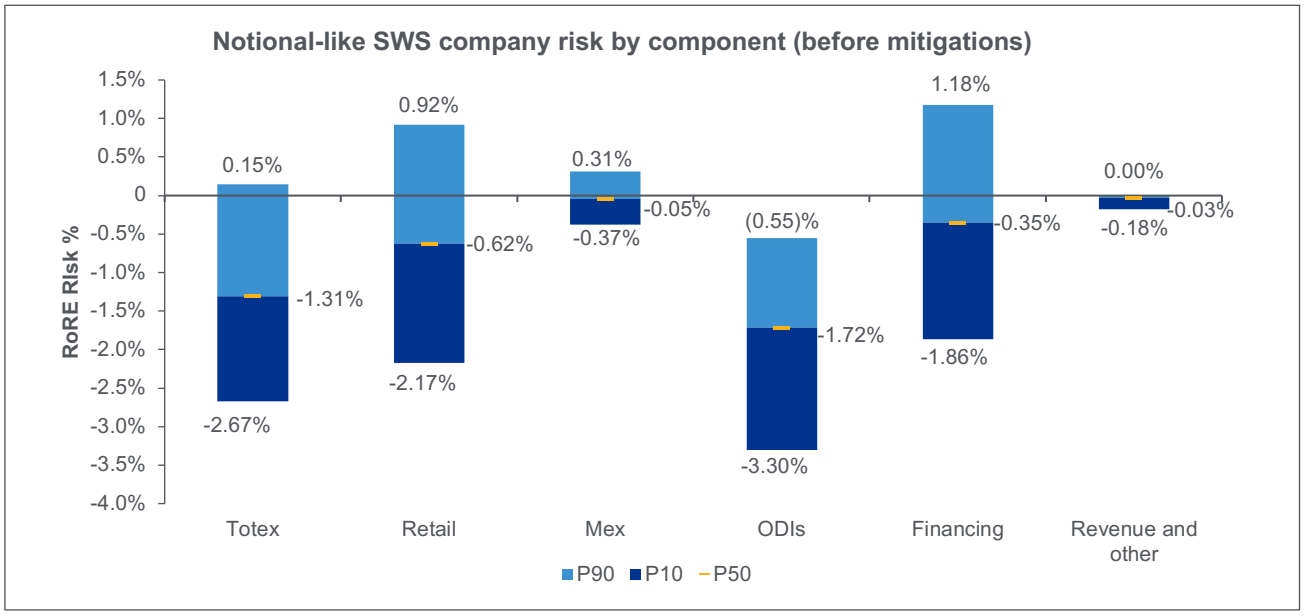
The resulting risk profile has material downward skew with P10/50/90 of -7.10%, -4.18%, -1.27%. See the table Table: Components of risk for unmitigated notional-like SWS companybelow.

Table: Components of risk for unmitigated notional-like SWS company

	P10	P50	P90
Totex	-2.67%	-1.31%	0.15%
Retail	-2.17%	-0.62%	0.92%
Measures of Experience	-0.37%	-0.05%	0.31%
ODIs	-3.30%	-1.72%	-0.55%
Financing	-1.86%	-0.35%	1.18%
Revenue and other	-0.18%	-0.03%	-0.00%
RoRE (additive)	-10.55%	-4.07%	2.00%
RoRE (simulated)	**-7.10%**	**-4.18%**	**-1.27%**

[4] Permit levels published by the Environment Agency.

Figure: Components of risk for notional-like SWS company, per Draft Determination



This level of risk is worse than a sector-median calibrated notional company due to the regional factors and characteristics. Compared with our assessment at business plan, the following changes have occurred:

- **Totex:** Despite a decline in sector performance in FY24, totex risk has marginally improved due to the inclusion of an Energy RPE, lower enhancement sharing rates and Totex ASM in the Draft Determination. Notably, the DD increased base totex allowances by 14% for AMP8[5] and this has helped alleviate some of the underperformance we simulated at BPs;

- **Retail:** The inclusion of FY24 data, where Retail performance was worse, resulted in a more downward skewed RoRE range. This was partially offset by the ex-ante indexation of salary and benefits costs and the increased retail profit margin;

- **Measure of Experience (Mex):** Small improvement in performance due to inclusion in the ODI ASM and replacing the maximum performance of UKCSI maximum to UKCSI upper quartile; and

- **ODIs:** The updated simulated RoRE range for Draft Determinations is significantly worse than in the BP submission due to more stretching targets and materially higher ODI rates across key ODIs where underperformance is likely based on historic levels – for example, total pollution incidents and external sewer flooding.

These risk ranges are materially worse than those presented by Ofwat in the Draft Determination. Ofwat aimed for a balanced risk profile, for example recognising that upper quartile targets were unachievable across the board for a single company, as per the CMA PR19 decision[6], and therefore aimed to set targets at the median level. However, their actions to exclude outliers distorts its RoRE analysis. Ofwat has a statutory duty to all companies in the sector and therefore none should be excluded from the analysis. Additionally, Ofwat's analysis omits the following factors from the risk range:

[5] PR24 draft determination: Expenditure allowance, Ofwat, p. 196.
[6] The CMA's PR19 redetermination decision stated that UQ targets could not be achieved in all areas by a single company.

- **Baseline totex underperformance.** The sector materially underperformed against base totex allowances in AMP7. Whilst some of this was caused by high energy costs addressed by Ofwat through an Energy RPE, other risks such as chemical prices which outpaced inflation in AMP7 remain. Despite this, the DD materially cut the allowances requested by companies in the October 2023 business plan submissions. Furthermore, this underperformance is potentially understated due to flexibility companies had in AMP7 to not deliver enhancement schemes and instead use the funding for base requirements. The introduction of PCDs on enhancement schemes removes this for AMP8;

- **Expected FY25 performance.** ODI targets for AMP8 were set assuming companies achieve the FY25 targets. However, FY24 data suggests performance across much of the sector is not on track to achieve the FY25 PCLs. Achieving DD targets would therefore require a step change in performance which is unlikely given historic improvement rates. This creates a baseline of underperformance from day one of AMP8 which is not factored into Ofwat's RoRE range;

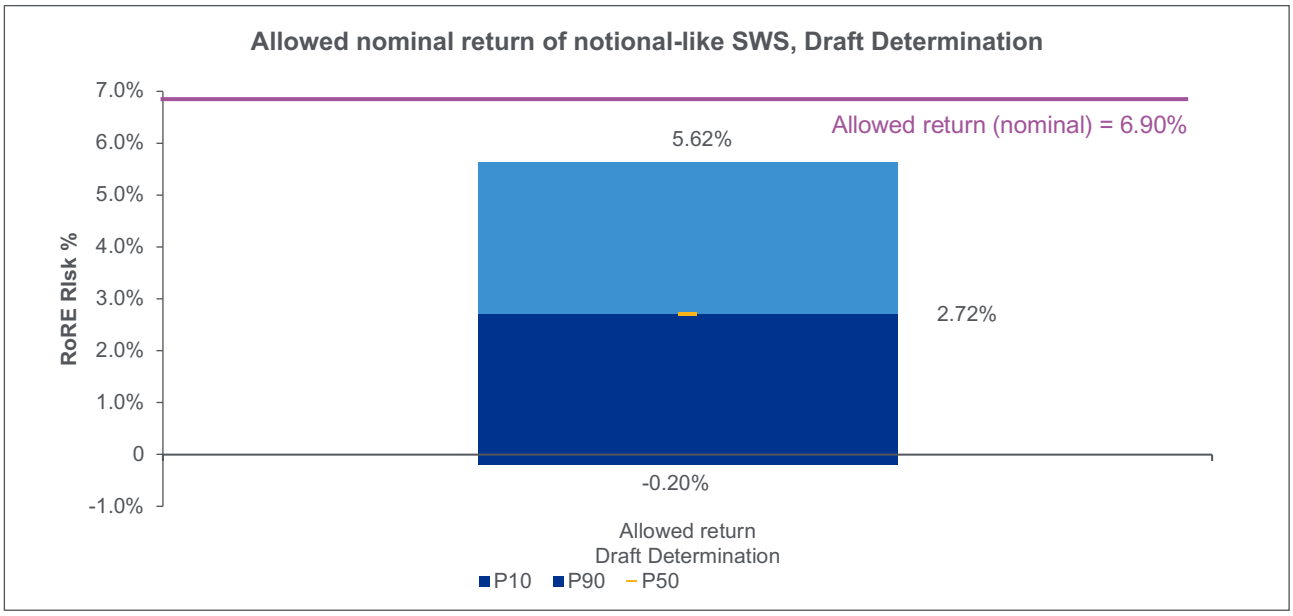
- **ODI improvement trajectory.** Ofwat's DD targets assume a rate of performance improvement above what historical performance would indicate is a likely base case. There is omitted risk relating to the deliverability of the schemes in AMP8 which facilitate these improvements due to volume of work creating supply chain constraints, labour shortages, and other macro issues. Furthermore, companies are being asked to deliver this improvement with lower allowances than requested at BP;

- **Non-Delivery PCDs**. Whilst we fully support the customer protection PCDs offer, it is important this downside only mechanism is included in the risk calculation, especially given the widespread application across the enhancement programme. Ofwat omitted Non-Delivery PCDs, which clawback allowances for schemes not delivered, from their risk analysis; and

- **Duplicative penalties**. The DD includes many areas where companies risk being penalised multiple times for the same performance failure. For example, the delivery of many WINEP and WRMP enhancement schemes have PCDs associated, and thus companies could face both EA fines and PCD financial repercussions if they failed to deliver. The Delayed Delivery Cashflow Mechanism (DDCM) also risks financial penalties for non-delivery already covered by PCDs and may create perverse incentives to delay delivery further given the in-period nature of the mechanism. Additionally, the total pollution incidents ODI includes serious incidents which are themselves a separate ODI – effectively resulting in double penalisation.

As a result of this risk profile, a notionally efficient company operating in the Southeast of England would not be expected to earn the allowed return, as demonstrated in the figure below. Note, this assumes no QAA penalty or reward.

Figure: Allowed nominal return[7] of an unmitigated, notional-like SWS company



1.4.2. Specification of the Notional Company operating in the Southeast of England

The notional company should be calibrated based on sector data and at a performance level achievable by companies to capture risks specific to objective characteristics of our assets such as geographical location and capital intensity but without capturing our ongoing challenges in meeting allowances and targets. To specify a notionally efficient company operating in the Southeast of England, we amended the definition of the notional company used in KPMG's PR24 Risk Analysis to have Southern Water characteristics where required. See the table below.

The challenges facing an efficient company operating in the Southeast region include ecological, environmental, and regulatory factors which are explored further in Key risk drivers for the Notional Company operating in the Southeast of England.

[7] The risk ranges simulated relied on real totex and ODI outcomes versus the real RCV / regulated equity. The real elements of risk in the numerator of the ratio are offset by the real elements in the denominator and represent a conservative estimate of nominal performance over the nominal regulated equity. The cash flow-based impact of risk (e.g. on financeability) would in effect be greater than is suggested in these ranges.

Table: Specification of the notional company operating in the Southeast of England

Component	Specification approach and rationale
RCV	Southern Water specific RCV, as this represents the asset base of a company operating in the Southern Water region
Totex	Southern Water specific base allowances and enhancement capital intensity and complexity. This ensures the notionally efficient company reflects the risk facing a Southeast-based water company. Baseline performance aligned with the KPMG Risk Report notional company on base totex. For enhancement totex, baseline performance factors in greater capital intensity and complexity of the programme than that of the notional company in the KPMG Risk Report.
PCDs	Southern Water specific coverage of PCDs as per the DD.
DPC Portfolio	Southern Water specific. One scheme delivered through DPC, and one through alternative delivery mechanisms. See SRN-DDR-006 Enhancements, section 1.5.3 The appropriate allocation of enhancement cases to mechanisms.
Measure of Experience	Baseline performance aligned with the KPMG Risk Report notional company: sector median in FY24. Performance distribution around the baseline determined from sector performance in AMP7.
ODIs	Baseline performance aligned with the KPMG Risk Report notional company: Average of sector median AMP7 average performance and sector median Oct-23 BP targets. Performance distribution around the baseline determined from sector performance in AMP7.
Financing	Aligned with sector-median notional company
Uncertainty Mechanisms	Southern Water specific.
Correlations	Southern Water specific, see Correlations.

1.4.3. Key risk drivers for the notional company operating in the Southeast of England

General risk factors

See Section 4.1 of SRN-DDR-011: KPMG Industry Risk Analysis which details the risks facing a water sector notional company across Enhancement totex, Base totex, Retail, ODIs, Measures of Experience, Market Based Delivery, and Financing risk.

This section of our report focuses specifically on where those risks are different for a notionally efficient company operating in the region served by Southern Water.

Regional risk factors

A water company operating in the Southeast of England faces risk due to the following factors:

- **Ecological factors:** For example a requirement to reduce abstraction from the environmentally protected chalk streams per our Water Resource Management Plan (WRMP). This plan also requires a reduction in leakage, increased water efficiency and expanded supply options to respond to population growth and climate change;

- **Environmental factors:** For example, increased exposure to climate change due to large coastal areas and propensity for droughts; and

- **Technical challenges:** For example, our WINEP programme includes the most amount of nitrogen removal in the sector, alongside phosphorus, which is complex. Performance improvements in the region also necessitates innovative solutions on e.g. Storm overflows and use of novel Sustainable Urban Drainage System (SuDS).

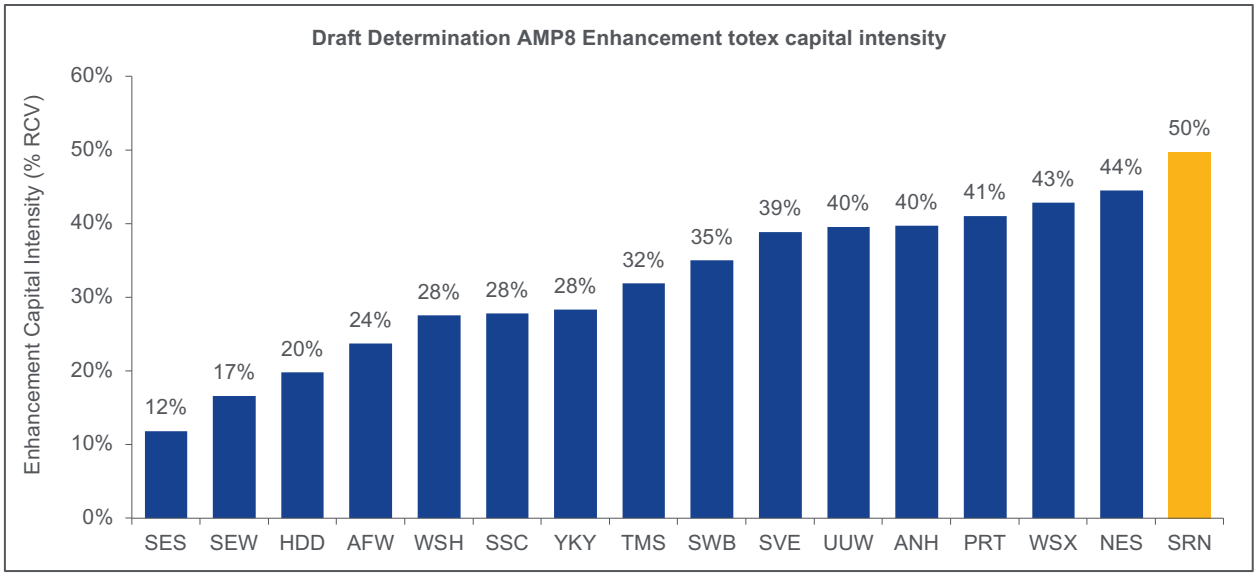
Size and complexity of capital programme

The scale of the capital programme being undertaken by Southern Water in AMP8 is the largest in the sector.

We calculated the capital intensity of each companies' enhancement programme per the Draft Determination, defined as the enhancement totex of the programme as a proportion of opening RCV. See Figure which demonstrates that Southern Water has the largest capital intensity in the sector with 49.7% capital intensity. This is a result of the specific regional challenges we are facing and is therefore applicable to a notionally efficient company operating in our region.

The environmental challenges we face drive the capital intensity and complexity of the programme. To meet the requirements under our WRMP24 and reduced abstraction licenses (resulting from the specific environmental factors in the region), we have needed to consider first of a kind solutions like water reuse and desalineation schemes, which are very complex and will take multiple AMPs to deliver. We take our stewardship of the environment seriously and want to deliver our largest and most complex programme to protect the unique environment specific to the South East of England.

Figure: Capital intensity of AMP8 enhancement scheme



Correlations

Correlation between components of the risk range widens the total range to which an efficient notional water company is exposed. Ofwat's approach for estimating risk in its Final Methodology and Draft Determination disregarded the relationships and correlations between risks[8]. Ofwat opted for an additive risk range noting it was an overestimation in total P10 and P90 and correlations were not needed as the overestimation of risk was adopted in support of companies. Ofwat's position remained unchanged at DDs. However, based on the modelling conducted as part of this report the notional company risk range is materially worse than Ofwat's estimate without consideration correlations. Therefore, the estimation of correlations as part of the risk analysis is critical to representing the expected range of returns reasonably expected at AMP8.

[8] PR24 RoRE: The model calculates the overall risk rates for the PR24 period (published 20 August 2024); Draft determinations models - Ofwat

Generally, a positive correlation between risks increases the width of the risk range while a negative correlation decreases it. The stronger the correlation, e.g. the higher absolute value of the correlation, the stronger the impact on the risk ranges. Notably, correlations would have no impact on mean RoRE[9], but would have an impact on the median or P50 position.

Correlation is not causation and is a general indication whether two variables move together either in the same direction or opposite direction. However, where risks have common risk drivers, this is supportive of a positive correlation. In effect, a company would be double penalised if two risks materialised from the same event, for example extreme rainfall causing storm overflows and pollutions related penalties at the same time; or extreme drought impacting water supply interruptions while also increasing costs by relying on tankering.

The robust calculation of correlations requires data with sufficient granularity to capture the relationship. Therefore, we:

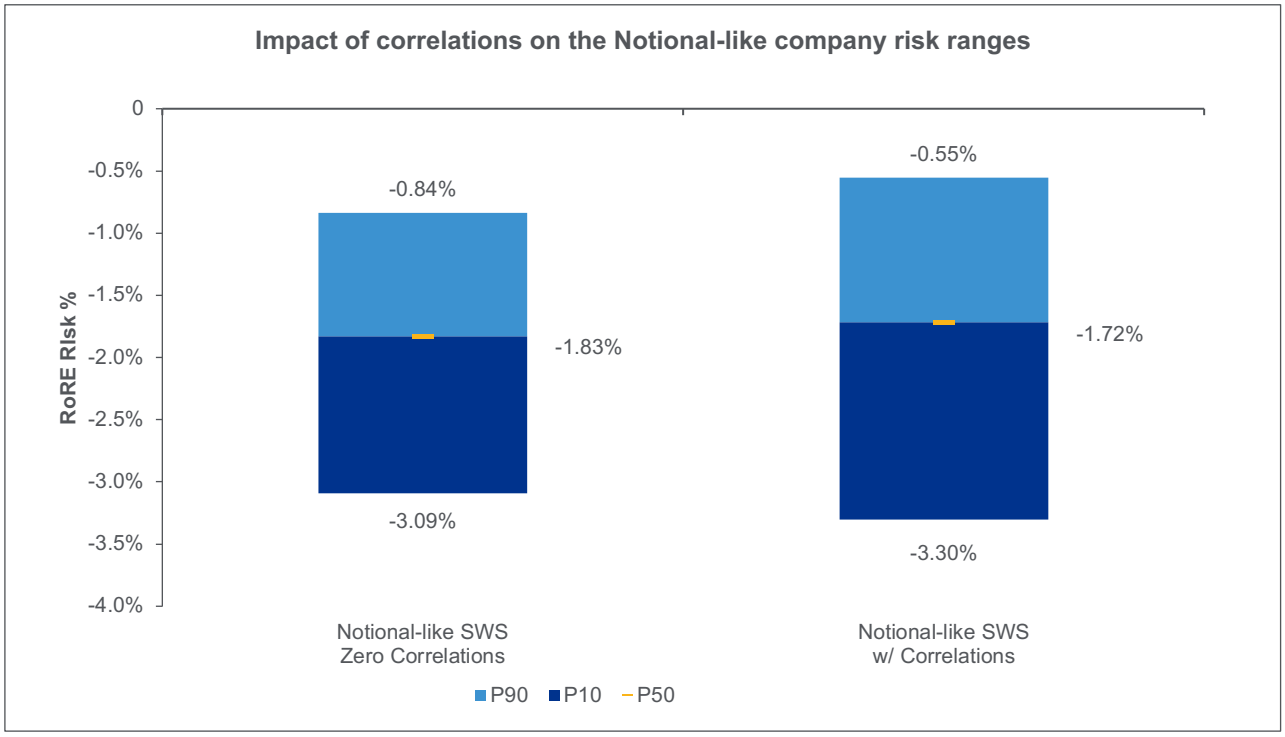
1) Used our own performance data, as available sector-wide data would not capture the relationships specific to the southeast region and is not available at sufficient granularity to derive robust results. To address the risk that our data may include relationships attributable to Southern Water specifically rather than the region in which we operate, final correlations used for the risk analysis were based on relationships expected to hold in an efficient notional company; and

2) Only included correlations identified which were material and based on sufficiently robust data. Low correlation can mean imply a weak relationship and given the limited insight provided by this, we applied a materiality threshold of +/-0.20. Also, data on some areas of performance, e.g. bathing water ODI, is only available on an annual basis as provided by the relevant regulatory body. In these cases, correlations were assumed to be nil.

Our analysis clearly shows strong correlations between ODIs and therefore refutes the assumption of zero correlation. The risk ranges worsen due to the inclusion or correlations, as demonstrated in the figure below.

[9] Linearity of Expectation dictates that $E[X+Y] = E[X] + E[Y]$ for any random variables X, Y regardless of their independence between each other. See: Tsun, A. "Probability & Statistics with Applications to Computing". Conversely, the standard deviation of the combination of two random variables, which dictates the normal distribution and therefore the P10 and P90, is dependent on the covariance between those variables per Bienaymé's identity. See: Klenke, Achim (2013). Wahrscheinlichkeitstheorie. p. 106.

Figure: Impact of correlations on ODI risk



Common Wastewater PCs

A sub-group of the common wastewater ODIs have a common risk driver of precipitation and therefore exhibit a positive correlation expected to impact a notional company. Our analysis identified four common performance commitments under the wastewater price control based on AMP7 data that will also be included in AMP8 with positive correlations. These include pollution incidents, internal sewer flooding, external sewer flooding and storm overflows. The resulting correlations are shown below:

Table: Correlations between common wastewater PCs

	Pollution incidents	Internal sewer flooding	External sewer flooding	Storm overflows	Rainfall
Pollution Incidents	1				
Internal Sewer Flooding	0.43	1			
External Sewer Flooding	0.62	0.56	1		
Storm overflows	0.62	0.43	0.63	1	
Rainfall	0.63	0.45	0.60	0.86	1

These PCs are inherently linked: performance on all those ODIs is driven by high volumes of rainfall. As a result of having the same root cause, they are strongly correlated with each other. Rainfall is outside of management's control and would be expected to impact the notional company. This builds on the work completed ahead of the Business Plan submission and included in the Risk Technical Annex[10] where the more granular data presented in this report was able to identify a stronger relationship.

[10] srn57-risk_redacted.pdf (southernwater.co.uk) p37 outlines correlations between: (1) external and internal sewer flooding was 0.5, (2) external sewer flooding and total pollution incidents was 0.38 and (3) internal sewer flooding and total pollution incidents was 0.37. All of which are weaker relationships than what was identified in this report.

The data is granular and shows strong positive relationships both across these PCs and with precipitation. The correlations shown above are on a weekly basis and the relationship generally held at all time intervals but was strongest at the weekly frequency. The notional company would be expected to exhibit similar relationships across its PCs.

While they all have a common risk driver that exhibits a positive correlation, there are also other intrinsic relationships between these PCs. One example is that a CSO can be classified as a pollution under certain circumstances. The below table illustrates the number of CSOs per year that were classified as pollution incidents summed across the entire water sector in England[11]:

Table: CSOs classified as pollution incidents

Reporting year	Number of pollutions incidents at a CSO & storm tanks	Total Pollution incidents	Per cent CSO of Total Pollutions
2020	91	1,952	4.7%
2021	121	1,725	7.0%
2022	88	1,883	4.7%

This adds further support to the notional company correlation between Total Pollutions incidents and Storm Overflows because a single incident can be classified on both PC definitions.

Due to data availability, bathing water quality was unable to be assessed on a more granular basis. However, it is reasonable to expect a positive correlation with storm overflows and total pollutions given these can have an impact on bathing water quality when they occur nearby. Because the assessment of bathing water quality is not done as frequently, the correlations were difficult assess. We have left this relationship as a nil correlation in the absence of data driven evidence.

For supporting evidence and explanation of our methodology for correlations analysis, please see SRN-DDR-012: Risk Appendix.

Total pollution incidents & serious pollution incidents

Under the EA definition, all serious pollution incidents are included in the total pollution incidents definition and would be reasonably expected to exhibit a positive correlation. Serious pollution incidents include category 1 and 2 pollutions while total pollution incidents include category 1, 2 and 3. The vast majority of total pollution incidents are category 3 and therefore we would not expect a particularly strong correlation. Nonetheless, the below correlation was identified in the table below:

Table: Correlation between total and serious pollution incidents

	Pollution incidents	Serious pollution incidents
Pollution Incidents	1	
Serious pollution incidents	0.24	1

[11] Sourced from the annul EPA data reports available publicly from the Environment Agency for each Water and Sewerage Company in England.

The correlation was identified on a monthly basis by county – this frequency provided a granular enough view to identify the positive correlation. Given the limited number of serious pollution incidents in relation to total pollution incidents, the relationship needed to be considered as granularly as possible to isolate the relationship where a serious pollution incident is always counted also as a total pollution incident. Because a single incident would be counted towards both PCs, the most granular time interval and geography split was expected to result in a stronger relationship.

A notional company would be expected to exhibit this relationship for a variety of operational reasons. Firstly, the category 1 and 2 pollution incidents count towards both ODIs. Category 1, 2 and 3 incidents also have similar risk drivers and proportion of incidents across asset types according to EPA reporting from 2020 – 2022.[12] More detail around this relationship is available in later section Deep dive analysis of Pollutions Incidents as a material ODI. Additionally, a category 3 pollution incident can become a serious pollution incident if is not addressed quickly enough. Therefore, the correlation identified is reasonably expected to be observed in the notional company's performance.

Water balance related PCs

A sub-group of the common water PCs are interrelated as the incidents of leakage and mains burst directly contribute to water loss and therefore water supply interruptions. The relationship logically holds across these three as less water due to leakage or burst mains means higher likelihood of water supply interruptions. Additionally, temperature is also considered alongside these metrics to further explain the relationships. The data show a positive correlation across these PCs and negative correlations with temperature.

Table: Correlations between water related PCs

	Leakage	Mains repairs	Water supply interruptions	Temperature
Leakage	1			
Mains repairs	0.61	1		
Water supply interruptions	--	0.28	1	
Temperature	(0.22)	(0.26)	--	1

By definition, a mains burst results in leakage and would trigger a mains repair and this relationship exhibits a particularly strong correlation. This was observed at the monthly frequency by county, and this relationship was broadly consistent across different time frequencies. Additionally, there is a common risk driver, temperature that exhibits a negative correlation meaning when temperatures are lower, instances of leakage and mains repairs are higher. This is likely because when ground temperatures drop below freezing the pipes can burst where water freezes and also because of freeze thaw events where significant ground movement breaks the pipes driven by sudden high temperatures following a period of persistently low or freezing temperatures.

Considering water supply interruptions, a positive correlation was identified with mains repairs, but not with leakage. This is because a mains burst is a more severe leakage event and more closely related to a water supply interruption event. Leakage is driven by other factors beyond mains burst. Small leaks, in particular, are more difficult to identify and typically go unaddressed for a longer period of time causing a chronic impact on the leakage metric. Small leaks result in little to no impact on a water supply interruption as only a small volume of water expects at a time and is sufficiently replaced by new water entering the system. In other

[12] Ibid.

words, all mains bursts result in leakage and some mains burst result in water supply interruptions. However, persistent small leaks drive the leakage result and have no impact on water supply interruptions.

Additionally, the relationship between water supply interruptions and temperature is not meaningful and this is because a supply interruption can be the result of mains burst from a freeze thaw event or frozen pipes, but also from high temperatures resulting in drought conditions where less water is available to enter the system. Extreme high and low temperatures increase the risk of supply interruptions creating a non-linear relationship not well explained by a correlation.

In conclusion, a notional company would be expected to exhibit these relationships and we have included these correlations in the notional company risk ranges.

Water quality related PCs

A sub-group of the common water PCs have a positive correlation where these PCs have a causal relationship with each other. The process of repairing a burst main involves flushing the pipe which disturbs the sediment and mixes it into the water supply. This results in higher levels of metals in the drinking water which can result in abnormal taste, which would be captured under the customer contacts on water quality PC.

Finally, a customer contact can trigger testing by DWI and if the testing detects levels above the acceptable levels for health and safety, a CRI incident can occur. Separately, small leaks in the water network can introduce air pockets that disrupt customer supply and trigger customer contacts on water quality. However, air bubbles are not a health risk so do not trigger DWI testing or a CRI incident. As expected, we can see a positive correlation across all of these metrics except leakage and CRI:

Table: Correlations between water quality related PCs

	Compliance risk index (CRI)	Leakage	Customer contacts on water quality	Mains repairs
Compliance risk index (CRI)	1			
Leakage	--	1		
Customer contacts on water quality	0.24	0.54	1	
Mains repairs	0.22	0.61	0.32	1

The results identified a positive relationship at the monthly frequency by county, and broadly similar relationships at monthly and weekly time intervals without considering county. Considering county more accurately isolates the relationship, where a main is flushed it would only be expected to impact the immediate area served by that particular main. Additionally, DWI sampling and testing triggered by a customer contact is also location specific, however due to a time lag between customer contacts and the CRI testing and incident being recorded, we have identified this correlation on a quarterly basis by county.

The primary driver of sediment in the pipes is the age of the pipes and in particular age of the water main. While we recognise that the relationship identified based on Southern Water specific data would capture the company specific risk from the higher average age of our water mains, the relationship still logically holds. While age of the infrastructure is a factor in the amount of sediment that has collected, it is not the only factor. Geology, chemical composition of the water and material of the pipe are also important factors in determining the amount of sediment present in a water main. Therefore, the relationship should still hold in an efficient notional company as proxied by the sector average.

The relationship is expected to persist in a notional company based on the interrelationship where a single incident can trigger all three PCs.

Additionally, customer contacts on water quality have a strong correlation with leakage. This is driven by both the displaced sediment from the repair process of a burst main, but also from smaller leaks that do not require flushing. When leaks occur, water leaves the system and air enters. This introduces air bubbles into the water supply and customers can experience inconsistent flow of water from their tap as the air bubbles escape. This prompts them to contact us related to their water quality. While air bubbles are not considered a health risk by the DWI and therefore do not impact the CRI, they do impact customer contacts. A single incident of leakage can trigger customer contacts creating penalties across both metrics and a mains repairs, which results in high levels of leakage, also results in customer contacts when sediment is displaced. Therefore, the relationship between leakage and customer contacts on water quality is expected to be positive and strong in a notional company.

C-Mex & storm overflows

Customer measure of experience includes the impact of customer views on the company's performance, which are largely driven by media coverage of storm overflows and customers experiencing water supply interruption. Evidence in the C-Mex survey results and reporting on the sentiment of media articles provide direct support that where poor performance on storm overflows is reported in the media, a lower C-Mex score follows. The customer comments in the C-Mex survey also include commentary on water supply interruptions associated with more negative scores indicating a potential causal relationship. The below correlations were identified:

Table: Correlations between C-Mex and storm overflows

	C-Mex	Storm overflows
C-Mex	1	
Storm overflows	(0.71)	1

Because of the high of visibility customers have to storm overflows and the importance of this performance areas to customers, it has a disproportionate impact on the C-Mex score. In particular, the CMEX score is broken down into the Customer Service Survey (CSS) and Customer Experience Survey (CES). The CSS is specifically measuring customer service for customers who recently interacted with our customer team and is closely associated with the actual service experienced. Conversely, CES is distributed to a random group of customers in the region and is closely associated with customer's general perception of company. This is heavily influenced by PC performance and in particular media coverage of the company as outlined in the Risk Technical Annex submitted as part of the Business Plan.[13]

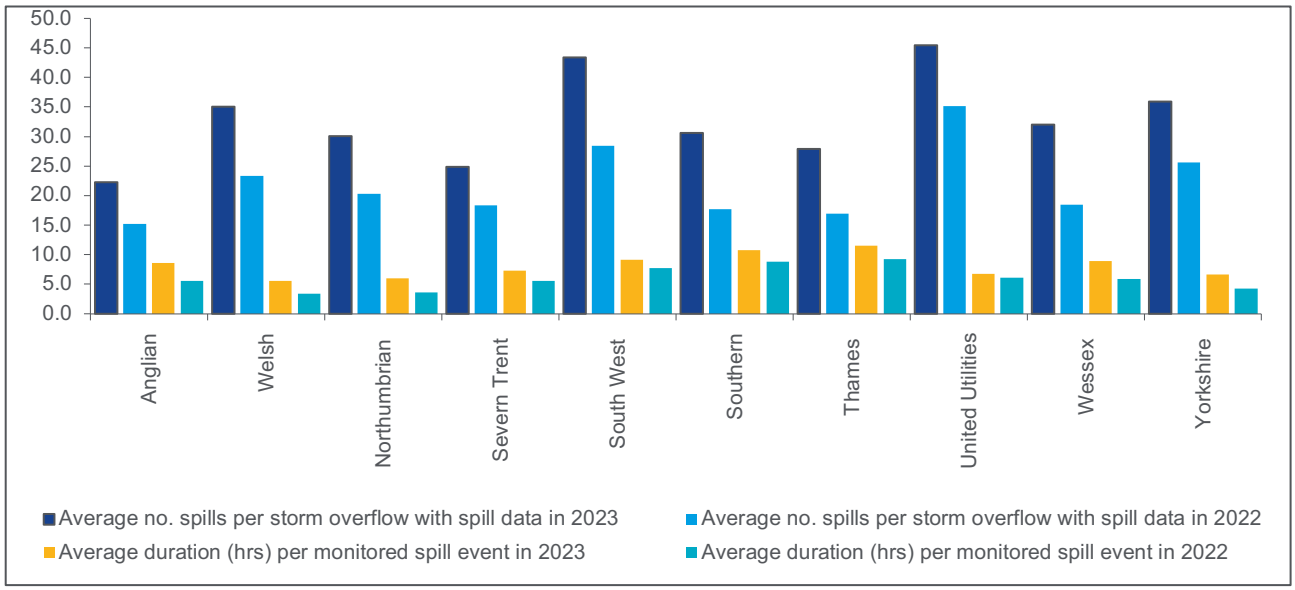
According to customer research we conducted as part of the PR24 process, customers indicated one of their top priorities for us included storm overflows – in fact it was the second most important priority for our customer. This is consistent with results observed in our C-Mex score, media attention and our responsibility as a steward of the environment.

Additionally, the EA released the 2023 results of the water sector's monitored spills and shows that our performance on monitored spills is close to the sector average. The 2023 and 2022 sector average performance on average number of monitored spills per CSO were 33.1 and 23.0 respectively and our

[13] srn57-risk_redacted.pdf (southernwater.co.uk) p44 Figure 18: CES scores in combination with media sentiment chart demonstrates the relationship is a positive correlation between CES score and the sentiment portrayed in media coverage. The relationship is weakened when adjusting the CES score by removing respondents who mentioned PC performance in the comments.

performance was 30.7 and 17.8 respectively. Since our performance is in line with the sector, we expect other WaSCs to experience a similar relationship between C-Mex and their performance on spills.

Figure: 2022 and 2023 Spill data



Finally, where performance is poor and customers indicate that they put greater importance on a particular PC, it increases the likelihood this will influence results of the CES. Given the current focus industry wide on storm overflows and clear feedback from customers on the importance of this metric, a notional company is exposed to this correlation.

Other sources of risk

The different sources of risk identified in reality have some relationship, however due to the complex and dynamic nature of these relationships they are difficult to estimate in a robust and defensible way. Therefore, we have not included any other correlations in our analysis of the notional company. This section describes several key areas we would expect to have a relationship but where we were unable to identify a robust, statistical basis for that relationship.

Totex and PCs: both base costs and enhancement cost should be expected to have a negative relationship with performance. Where a company is saving on base costs by not providing services like preventative maintenance, the company performance on PCs would be expected to suffer. Conversely where a company underdelivers their enhancement schemes to manage budgets, PCs in the long-term would be expected to suffer. The relationship would hold in a notional company as the same cost pressures that would result in underinvestment or cost cutting would be present for the notional company from time to time. Some examples include higher energy and chemicals prices observed in AMP7 where companies were not provided additional allowance and were expected to fund this themselves.
However, this relationship is very difficult to quantify due to:

- A significantly deeper level of granularity would be needed on company costs for both base and clear relationship to each allowed expense to a specific PC. Currently allowances are not awarded per budget item, rather provided to the company as a whole. The allowances could be assumed to apply proportionally based on the company's Business Plan submission, but this would not realistically

capture the allowances as companies may not be able to uniformly identify efficiencies across all areas. Any allowances subdivision done ex post would also be influenced by outturn performance and provide a less robust view of company performance. Additionally, prescribing a relationship between each budget item and PC performance would be extremely challenging requiring an estimate of repairs at the asset level (e.g. preventative maintenance on mains, proactive sewer clearing, etc) to create a robust enough relationship on which to base a correlation.

- There is a material time delay between enhancement investment and PC performance by design, as enhancement totex is expressly to improve performance in future AMPs and not in the current AMP. There would need to be prior AMP enhancement cases that can be assigned a specific allowance and tied to a specific PC. While it may be feasible to relate an enhancement scheme to a PC, it was not the case that Ofwat provided allowance per enhancement case historically. The data required to understand this relationship currently does not exist in an accessible format at the industry level.

Base totex and enhancement totex: historically, the relationship observed has been negative where overspend on base totex is offset by underspend on enhancement totex. This relationship is not expected to hold in AMP8 where PCDs are applied to nearly all enhancement totex. Enhancement schemes in the past could be underdelivered or not pursued to cover unexpectedly higher costs on base totex to ensure the current service to customers remains at a high level, however under PCDs where enhancement schemes fail to deliver the full benefit, the company will be subject to reduced allowances from Non-Delivery PCDs. Due to the nature of PCD application, i.e. on a project level basis, it is not possible to quantify the nature of this relationship

In conclusion, the remaining relationships are best estimated as nil in the absence of supporting data and we therefore have held all other relationships at nil.

Pollutions deep dive

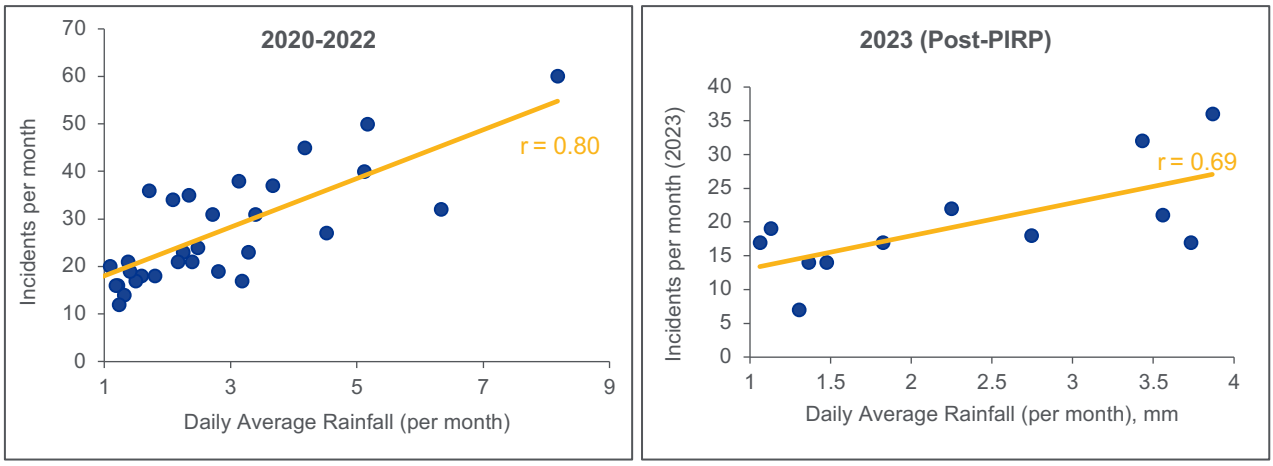
We identified that a key area of regulatory risk for AMP8 is pollution incidents, due to the (1) introduction of a Serious Pollution Incidents ODI, (2) inclusion of pollution incidents caused by named storms, (3) level of stretch in the Draft Determination targets, and (4) high incentive rate on both Total and Serious Pollution Incidents.

It is crucial that in a robust regulatory framework risk is assigned to the appropriate party, i.e. the party with the ability to control the risk driver. Our risk technical annex submitted as part of the October 2023 business plan highlighted a relationship between pollution incidents and rainfall and showed that that even with the caps and collars permitted by PR24 FM, Total Pollutions Incidents and Serious Pollution Incidents presented an asymmetric downward skewed risk profile.[14] We provide further analysis in this report from a risk driver perspective to demonstrate the high degree of risk outside of management's control and therefore the requirement for regulatory risk mitigations.

We determined that the total pollution incident ODI performance has a strong relationship with precipitation, where 83% of Southern Water's incidents in 2020-2022 had a root cause that is positively related to precipitation. This relationship is driven by the overwhelming of assets when exposed to high volumes of water. Crucially, we found this positive relationship between precipitation and incidents continued in 2023 despite our Pollution Incidents Reduction Plan (PIRP) which materially reduced the volume of incidents in the year. This positive relationship between incidents and rainfall suggests the notional company is exposed to changes in weather patterns and this risk is difficult to mitigate through asset enhancement.

[14] srn57-risk_redacted.pdf (southernwater.co.uk) p62

Figure: Relationship between Rainfall and Total Pollution Incidents



The direction of climate change is clear, with more volatile weather and more frequent and severe weather events. Climate change is driven by many positive feedback loops[15] where factors causing climate change are exacerbated by the results of climate change. As climate scenario models seek to understand the potential impact of different temperature pathways in the long term (i.e. 2050 or 2100), short-term, year-to-year changes are difficult to model.

As a result, we therefore did not use projected rainfall data to understand the potential impact of climate events on pollution incidents, Instead, we constructed exploratory scenarios to understand how varying rainfall levels could result in an ODI performance impact. As scenario analysis exercises are necessarily hypothetical, we make no assertions as to the likelihood of any such rainfall event occurring; but the exercise allows us to stress how varying degrees of rainfall could translate into financial impact.

Table: Total pollution incidents rainfall scenario analysis

	Increase in AMP8 pollution incidents		Financial impact of ODI penalty	
Scenario	**%**	**Standardised incidents**	**£m**	**% RoRE**
More rainfall:				
15% more total rainfall	6.6%	5.4	7.8	0.05%
7.5% more total rainfall	3.3%	2.7	3.9	0.02%
More winter rainfall:				
25% more during winter	7.0%	5.7	8.3	0.05%
12.5% more during winter	3.5%	2.8	4.1	0.03%
More surges:				
50% more surges	1.9%	1.5	2.2	0.01%
25% more surges	1.0%	0.8	1.2	0.01%

The table demonstrates the potential ODI performance impact of more volatile weather. Notional company impact may be further worsened by poor performance on other ODIs under these scenarios, as demonstrated by the positive correlations between pollution incidents and internal sewer flooding, external sewer flooding, and storm overflows, all of which had a positive relationship with rainfall. See Common Wastewater PCs.

[15] Physical Climate Processes and Feedbacks (2018), International Panel for Climate Change

Risk exposure is compounded by named storms, with pollution incidents caused by these storms being required to be included in reporting as of 2023. These catastrophic events are difficult to mitigate, as demonstrated by eight of the ten WaSCs experiencing incidents due to named storms between 2021 and 2022. The high winds, rainfall and flooding associated can result in asset failure and therefore pollution incidents. The severe weather also limits the ability to perform repairs and therefore increases the risk incidents become severe.

We considered two scenarios for named storms, (1) where the notional company region is moderately impacted by a named storm, i.e. a combination of yellow, amber, and red MET office warnings; and (2) where the notional company region is severely impacted whereby the majority of the region has a red warning in place, as experienced by Southern Water and Northumbrian Water during storms Eunice and Arwen respectively. We used sector impact of Storm Arwen and Storm Eunice to inform expected incidents under each case. See Named storms in SRN-DDR-012: Risk Appendix.

Table: Potential impact of named storms

Scenario	Expected incidents	Financial impact	% of Notional RoRE
Moderate storm impact, Ofwat incentive rate	27	£9.7m	0.06%
Severe storm impact, Ofwat incentive rate	63	£22.6m	0.13%

PR24 risk is further elevated by the duplicative nature of the novel serious pollution incidents ODI with total pollution incidents, as severe category 1 and 2 incidents are reported under both ODIs. We recognise the importance of reducing serious incidents due to their environmental damage, however, these incidents are difficult to predict. We found no clear key cause or geographical location, as any category 3 incident can become severe if not addressed in a sufficient timeframe.

Weather analysis indicated serious pollution incidents are moderately positively correlated (0.64) with temperature, likely due to hot weather both increasing the concentration of the pollutants in a spill and reducing the volume of water into which the spill is flowing. Therefore, as with the total pollution incidents ODI, performance will be impacted by increased volatility of weather driven by climate change. The Draft Determination includes a high ODI rate of £1.75m with no standardisation and incorporates only penalties with no deadbands. In the context of serious incidents being difficult to control, as demonstrated by our increase in serious incidents in FY24 despite successful implementation of our PIRP, this regulatory design presents a high risk for the notional company.

Overall, with stricter pollution incident PCLs in AMP8 and materially higher DD ODI rates, the strong relationship between rainfall and incidents implies high risk exposure for the notional company to weather events and our analysis demonstrates penalties as a result may be material due to (1) increasing volatility of precipitation, (2) the compounded risk associated with named storms, and (3) the duplicative nature of the serious pollutions ODI. Thus, the asymmetric downward skewed risk profile presented in our risk technical annex submitted as part of business plans may in fact be understated as it does not directly capture these risks. It is crucial that Ofwat balance the need to improve environmental performance and recognise customer priorities with the risk regulatory measures create for companies.

For supporting evidence and explanation of our methodology for the pollutions deep dive, please see SRN-DDR-012: Risk Appendix.

1.5. Risk mitigations

The risk profile as a result of our analysis in Section 1.4 demonstrates mitigations are required to ensure a balanced and reasonable risk profile that will allow a notionally efficient company operating in the Southeast of England to raise sufficient capital. This section covers:

- The example sector mitigations per KPMG's PR24 Risk Analysis.
- Mitigations specific to Southern Water and a notionally efficient company operating in our region.
- The risk position after mitigation.

1.5.1. The example sector mitigations per KPMG's PR24 Risk Analysis

Mitigations were selected based on an objective framework that ensures consistency with Ofwat's statutory duties. To facilitate this, the KPMG PR24 Risk Analysis used the following 6 questions to assess potential mitigations. Table 13 shows the sector mitigations we have adopted to address notional company risk. See SRN-DDR-011: KPMG Industry Risk Analysis for further details:

1) Are the proposed mitigations in the best long-term interest of consumers?
2) Do the proposed mitigations sufficiently preserve the incentive properties of the price control?
3) Do the proposed mitigations address the risk at source?
4) Do the proposed mitigations allocate the risk to the parties best placed to manage it?
5) Are the proposed mitigations consistent with precedents in other RAV-regulated sectors?
6) Are the proposed mitigations helping to achieve a greater risk symmetry?

Table: Sector-wide notional company mitigations adopted

Area of risk	Mitigations
Totex	• Appropriately fund improvements to PCs* • Enhancement project re-opener • Modified PCD application • Refined aggregate sharing mechanism
Retail	• Retail indexation
Measures of experience	• Rebased C-Mex on sector
ODIs	• Adjust glidepath of ODI targets based on AMP7* • ODI caps, collars and deadbands • Reduced ODI incentive strength (Total pollutions 0.4% RoRE, External Sewer Flooding 0.5% RoRE) • Refined aggregate sharing mechanism
Financing	• Appropriately calibrated cost of debt allowance

*The KPMG PR24 Risk Analysis assumed that appropriately funding the PCs and adjusting the glidepath of ODI targets eliminated ODI risk at the P50. In many cases, our ODI targets represent stretch above the P50 achievable level in recognition of the improvements required in AMP8 vs historical levels[16] and as such our application of these mitigations does not fully mitigate P50 ODI risk.

We note the importance of amendments to the Aggregate Sharing Mechanisms (ASMs) on Totex and ODIs to ensure sufficient protection for customers and investors. In our October 2023 BP submission we highlighted a Return Adjustment Mechanism (RAMs), similar to that used by Ofgem, as an effective mechanism for limiting extremes in operational RoRE for a notionally efficient company[17]. We remain of the view that RAMs are an effective regulatory mechanism, however in place of these appropriately designed ASMs could serve a similar purpose. The ASMs proposed in the Draft Determination still allow a very wide

[16] SRN-DDR-007: Performance Commitments and Outcome Delivery Incentives
[17] Southern Water, Risk Technical annex, 02/10/2023, p. 53

range of RoRE performance[18] and therefore we support the introduction of a second 90% sharing threshold on Totex and the lowering of thresholds across both ASMs.

We conducted a survey of customers which suggested support for sacrificing possibly lower bills to ensure stability, something which is supported by both RAMs and the redesigned ASMs per the above mitigations. Without a change to the thresholds proposed in the Draft Determination, a notionally efficient firm is less likely to achieve customer bill stability.[19]

The following chart shows the improvement in risk for a notionally efficient operating in the Southeast once these mitigations are implemented.

Figure: Impact of sector mitigations on total notional risk

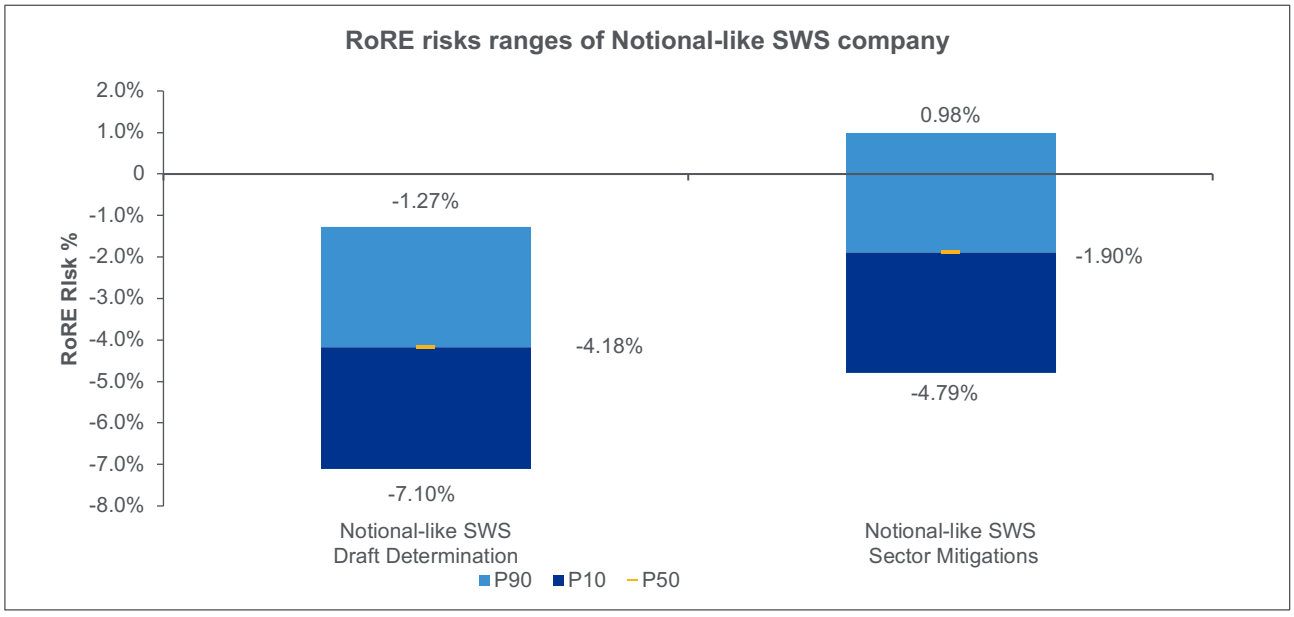


Table: Notional-like SWS risk with sector mitigations

	P10	P50	P90
Totex	-1.96%	-0.37%	1.05%
Retail	-1.55%	-0.00%	1.55%
Measures of Experience	-0.32%	0.08%	0.48%
ODIs	-2.81%	-1.38%	-0.45%
Financing	-1.51%	0.03%	1.54%
Revenue and other	-0.18%	-0.03%	-0.00%
RoRE (additive)	**-8.32%**	**-1.66%**	**4.17%**
RoRE (simulated)	**-4.79%**	**-1.90%**	**0.98%**

[18] See SRN-DDR-011: KPMG Industry Risk Analysis
[19] See SRN-DDR-007: Performance Commitments and Outcome Delivery Incentives, Appendix C. More details can be provided upon request/

1.5.2. SWS-specific mitigations are required to allow SWS to complete its turnaround.

The risk exposure for the notionally efficient company operating in the Southeast of England remains downside skewed after the application of the adopted sector mitigations. As discussed in Key risk drivers for the Notional Company operating in the Southeast of England, there are additional challenges facing a company operating in the region, including above average enhancement capital intensity, geological factors such as chalk streams, and exposure to extreme weather due to costal location and propensity for drought. In addition to these notional risks, Southern Water faces risk above the notionally efficient company operating in the region in AMP8, as the capital intensity, geological and environmental factors are compounded by the need for investment in our assets and performance improvements through our turnaround plan.

We therefore propose further mitigations on Totex, Measures of Experience, and ODIs in addition to those applicable to the sector. We have selected these with consideration for the objective criteria and their alignment with Ofwat's statutory duties, as set out in Section 1.5.1. These mitigations go beyond those applicable to the sector, but Ofwat have a duty to all companies in the sector and sufficient mitigation will facilitate the investment required to make our necessary performance improvements, which is ultimately in the interest of customers.

A key mitigation which provides an overall backstop to risk for both customers and investors is a revision to the Totex and ODI Aggregate Sharing Mechanisms (ASMs) such that in aggregate their thresholds align with the +/- 3% and +/- 4% of total RoRE set by Ofgem in the RIIO2 price control. It is critical that mechanisms of this type have appropriately set thresholds, as otherwise the protective effects are impaired. Ofgem note:

> "*We agree with stakeholders who see RAMs as a helpful mechanism that can improve confidence in the sector (for both consumers and investors). We also note the potential to undermine the incentive properties of the price control regime if RAMs are poorly calibrated."* and "*RAMs are intended to serve as a protective mechanism when returns are significantly outside ex ante expectations. A material potential cause of unexpectedly high returns is information asymmetry between Ofgem and the network companies when setting totex levels and incentives."*[20]

The ASMs included in the DD are not sufficiently narrow to provide the protection required. The Ofgem framework has shown evidence to be investable and therefore we support amending the ASMs to align with the level of protection provided by RAMs in this framework.

Totex mitigations

To reduce overall risk exposure and mitigate the asymmetry within the RoRE ranges for totex, we developed the following mitigations. These build upon those proposed at BP submission in light of the updated risk profile resulting from the Draft Determination. Our proposed mitigation of an RPE for power costs is removed as Ofwat implemented this as part of the DD:

- **Appropriately fund improvements to PCs:** The ODI performance targets set out in the Draft Determination represent material stretch compared to AMP7 performance. To deliver these improvements for the benefit of the customer, it is vital sufficient funding is provided. We are therefore proposing higher totex allowances than per the Draft Determination. See SRN-DDR-004 and 006 for details;

- **Wider application of the Enhanced Engagement and Cost Sharing (EECS), Large Scheme Gated Process, and Delivery Mechanisms:** The complexity and scale of our enhancement programme creates material downside risk. To mitigate this and aid delivery of the programmes, we are proposing

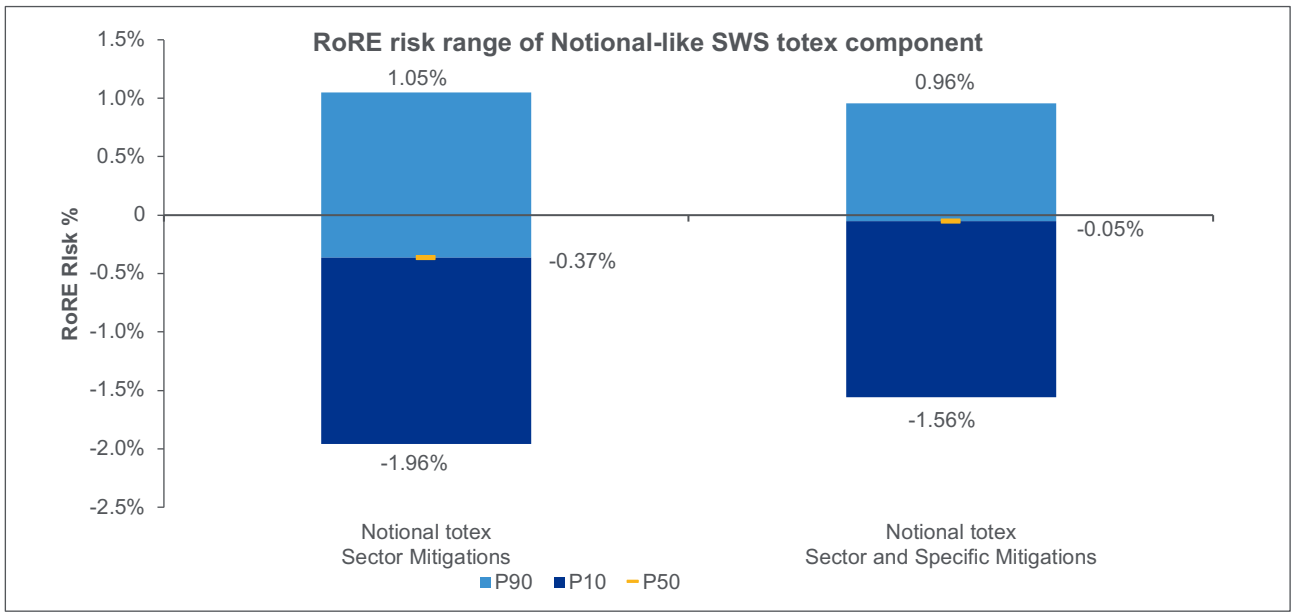
[20] RIIO-3 Sector Specific Methodology Decision – Finance Annex (ofgem.gov.uk)

further application of the lower sharing rates (25/25) and gated schemes set in the DD. See SRN-DDR-006 Enhancements, section 1.5.3 The appropriate allocation of enhancement cases to mechanisms;

- **Modified PCD Application:** We recognise and support the protection of customer interests provided by the PCD mechanisms but have material concerns about the regulatory risk they imply. We therefore propose to limit the application of PCDs to where four conditions are met: Portfolio PCDs for larger categories of enhancement spend, no double counting of penalties, timing/scope/design change flexibility/Assessment date in 2035. As part of these, we reflect the time incentive PCDs due to the importance of maintaining flexibility for delivery throughout the period. See SRN-DDR-052 Price Control Deliverables; and

- **Revised Aggregate Sharing Mechanism:** We propose to align ASMs with regulatory precedent set by Ofgem in the RIIO2 price control. Ofgem set 50% and 90% sharing thresholds at +/- 3% and +/- 4% of total RoRE respectively. We therefore add a second threshold to the Totex ASM and set the 50% sharing threshold to 1.5% and the 90% sharing threshold to 2.0% for each Totex and ODI ASMs, such that these thresholds sum to be equivalent to Ofgem's application.

Figure: Notional-like SWS totex risk: Impact of specific mitigations



Mitigations on Measures of Experience and ODIs

To mitigate the risk exposure on ODIs, we developed the following mitigations:

- **Adoption of PR19 Methodology**. To mitigate some of the risk associated with measures of experience, we propose that the calculations use retail revenue and developer services revenue for C-Mex and D-Mex. This is in place of the RoRE methodology proposed in PR24 Draft Determinations and instead aligns with the PR19 approach. See SRN-DDR-007: Performance Commitments and Outcome Delivery Incentives;

- **Adjusted ODI targets**. We have calibrated revised ODI targets based on feasible but stretching performance improvements. Many of these targets are above our P50 expected performance in AMP8 based on historic performance, however we recognise the need for improvement and therefore are

willing to adopt this risk as part of our turnaround plan. See SRN-DDR-007: Performance Commitments and Outcome Delivery Incentives;

- **ODI deadbands, caps and collars**. ODI risk is the most significant source of risk, partly due to our stretching targets in comparison to current performance. We therefore propose that collars be applied consistently across all ODIs at a level of -0.25% RoRE. We also propose deadbands on leakage and the three penalty-only ODIs: CRI, discharge permit compliance, and serious pollution incidents. This widespread application of collars is critical to ensuring investability, given the relationship between ODI performances and the potential severe downsides due to uncontrollable events such as named storms and climate change;

- **Reduced ODI incentive strength**. We recognise the importance of incentivising performance on high-priority ODIs and therefore propose to reduce ODI rates for ODIs which rank lower on customer priority. We proposed to reduce the RoRE at risk to 0.3% for these lower priority ODIs, as this allows for risk mitigation whilst keeping the RoRE at risk set in the Draft Determination for higher priority areas. We propose to reduce RoRE at risk to 0.20% for PCC and Business Demand given the limited control a company has over customer consumption, especially in light of our high penetration of smart metering; and

- **Revised Aggregate Sharing Mechanism.** We propose to revise the thresholds for 50% and 90% sharing to 1.5 and 2.0%, such that in combination with our revised Totex ASM there is alignment with Ofgem RIIO2 regulatory precedent. See Totex mitigations above.

The ODI targets proposed are listed below. We have set these targets at a stretching, but achievable level provided we are granted sufficient funding to make the required operational improvements. See SRN-DDR-007: Performance Commitments and Outcome Delivery Incentives. We accept the DD target for Sewer Collapse, External Sewer Flooding, Serious Pollution Incidents, River Water Quality, Biodiversity, and GHG emissions. The Water Supply Interruption target includes only baseline interruptions and excludes exceptional events which would be compensated for through the GSS, see SRN-DDR-007: Performance Commitments and Outcome Delivery Incentives, Part 1 Section 1: Water Supply Interruptions.

Table: Revised ODI targets

ODI	Unit	FY26	FY27	FY28	FY29	FY30
Leakage	Ml / d (3yr avg.)	96.03	83.45	73.37	70.94	68.44
Customer Contacts on Water Quality	No. of consumer contacts per 1,000 population	1.22	1.13	1.09	1.02	0.95
Water Supply Interruptions	minutes lost per property	8.10	7.20	6.30	5.40	4.50
CRI	CRI score	3.33	3.23	3.02	2.62	2.00
PCC	l / person / day (3yr avg.)	126.50	126.60	125.40	123.93	122.37
Mains Repairs	Num. repairs / 1000km of mains	150.00	150.31	150.63	151.18	152.90
Unplanned Outage	(Non-outage - % peak week prod. capacity) * 100	96.85	97.10	97.35	97.60	97.86
Pollution Incidents	Incidents / 10,000 km of sewer	37.76	31.27	27.52	25.02	24.02
Internal Sewer Flooding	Properties / 10,000 connections	1.52	1.44	1.37	1.35	1.33
Discharge Permit Compliance	(% compliance) * 100	99.09	99.09	99.09	99.08	99.09
Business demand	Ml / day (3yr avg.)	106.53	106.63	106.00	105.43	104.90
Serious Pollution Incidents	Incidents / 10,000 km of sewer	0.00	0.00	0.00	0.00	0.00

Our proposed deadbands apply to the three ODIs which are penalty only to mitigate the risk at P50: CRI, Discharge Permit Compliance, and Serious Pollution Incidents. We also propose a deadband on leakage. Our leakage target and deadband equal the DD target for FY28-FY30, however we propose a less stretching target and deadband in FY26-27 to reflect a realistic rate of improvement from our current performance.

Table: Proposed deadbands

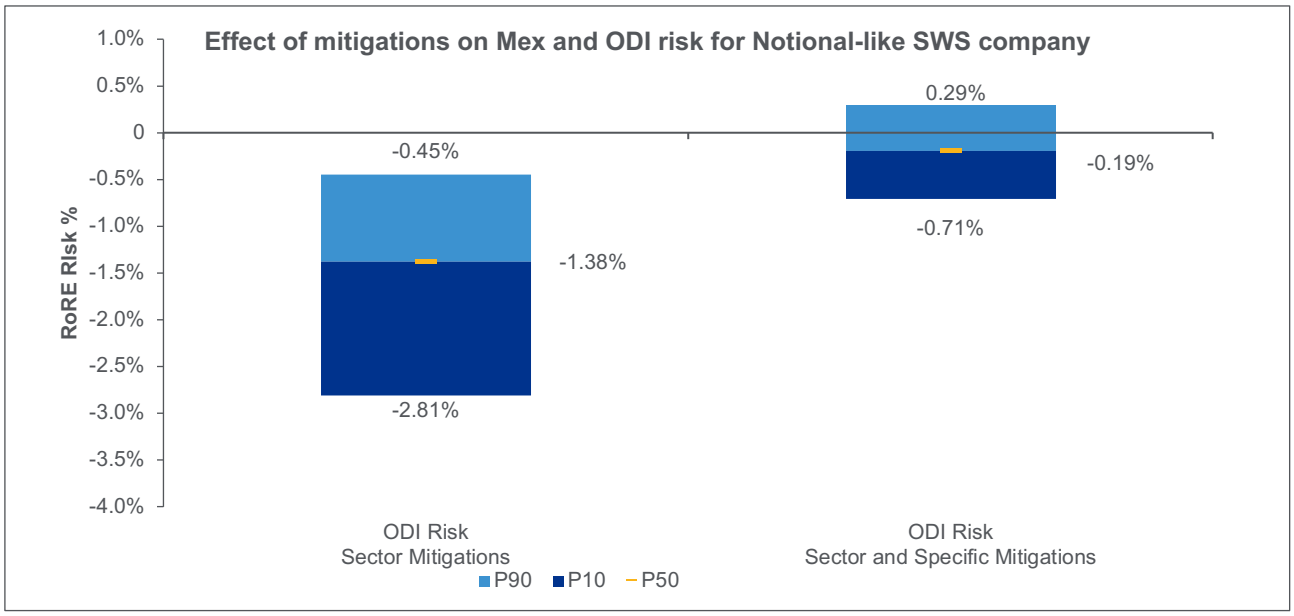
ODI	Unit	FY26	FY27	FY28	FY29	FY30
Leakage	Ml / d (3yr avg.)	100.28	88.15	73.37	70.94	68.44
CRI	CRI Score	3.33	3.23	3.02	2.62	2.00
Discharge Permit Compliance *	(% compliance) * 100	98.91	98.89	98.88	98.89	98.90
Serious Pollution Incidents *	Num. incidents	3.00	3.00	3.00	3.00	3.00
**Consistent with sector mitigation of 0.25% sub-sector RoRE*						

Table: Revised ODI rates

ODI	DD RoRE allocation	DD ODI incentive rate (£m/unit)	Our view of RoRE allocation	Our ODI incentive rate (£m/unit)
Water supply interruptions	0.60%	0.49	0.30%	0.247
Compliance risk index	0.60%	0.87	0.30%	0.433
Water quality contacts	0.60%	17.84	0.30%	8.921
Leakage	0.60%	0.91	0.30%	0.455
Per capita consumption	0.60%	0.51	0.10%	0.084
Business demand	0.40%	0.25	0.10%	0.063
Mains repairs	0.50%	0.11	0.25%	0.053
Unplanned outage	0.50%	2.73	0.25%	1.365
Internal sewer flooding	0.60%	12.78	0.30%	6.388
External sewer flooding	0.60%	4.75	0.25%	1.977
Total pollution incidents	0.60%	1.45	0.20%	0.485
Serious pollution incidents	0.50%	1.75	0.20%	0.699
Discharge compliance	0.50%	5.17	0.10%	1.033
Bathing water quality	0.40%	5.54	0.15%	2.079
Storm overflows	0.60%	0.77	0.30%	0.386
Sewer collapses	0.50%	3.38	0.10%	0.675

The impact of these mitigations on ODI risk for the notionally efficient company like SWS is shown in the figure below:

Figure: Effect of mitigations on Mex and ODI risk for notional-like SWS company



1.5.3. Impact of mitigations

Mitigated risk package – notionally efficient company

We have determined the risk profile for a notionally efficient company operating in the Southeast of England as a result of applying these additional mitigations on top of the sector mitigations, see the figure and table below.

Figure: RoRE risk ranges with mitigations for notional-like SWS

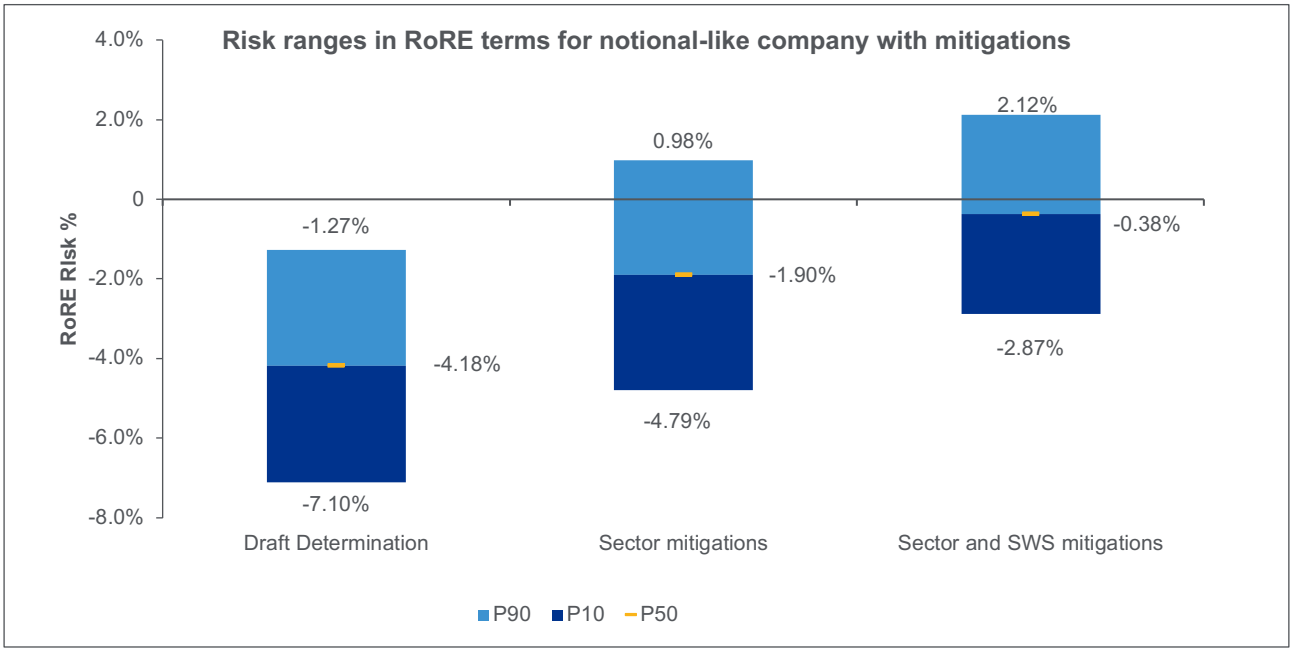


Table: RoRE risk ranges for notional-like SWS company with mitigations

	Unmitigated			Sector mitigations			Sector + SWS Mitigations		
	P10	P50	P90	P10	P50	P90	P10	P50	P90
Totex	-2.67%	-1.31%	0.15%	-1.96%	-0.37%	1.05%	-1.56%	-0.05%	0.96%
Retail	-2.17%	-0.62%	0.92%	-1.55%	-0.00%	1.55%	-1.55%	-0.00%	1.55%
Measures of Experience	-0.37%	-0.05%	0.31%	-0.32%	0.08%	0.48%	-0.22%	0.01%	0.26%
ODIs	-3.30%	-1.72%	-0.55%	-2.81%	-1.38%	-0.45%	-0.71%	-0.19%	0.29%
Financing	-1.86%	-0.35%	1.18%	-1.51%	0.03%	1.54%	-1.49%	0.01%	1.55%
Revenue and other	-0.18%	-0.03%	-0.00%	-0.18%	-0.03%	-0.00%	-0.18%	-0.03%	-0.00%
RoRE (additive)	-10.55%	-4.07%	2.00%	-8.32%	-1.66%	4.17%	-5.70%	-0.24%	4.60%
RoRE (simulated)	**-7.10%**	**-4.18%**	**-1.27%**	**-4.79%**	**-1.90%**	**0.98%**	**-2.87%**	**-0.38%**	**2.12%**

Our analysis shows that the downside risk position can be materially mitigated through a combination of sector-wide and SWS specific mitigations. There is minimal residual risk which, to an extent, we are happy to adopt as part of our turnaround plan.

Mitigated risk package – Southern Water

We have also calculated the risk to which Southern Water is exposed. This risk differs for the following reasons:

- **Measures of Experience and ODIs.** Baseline performance for AMP8 is calculated using the same methodology as for the notionally efficient company, however using data specific to Southern Water. Our baseline performance was therefore calculated as the average between AMP7 performance, and those targets submitted in our Oct-23 Business Plan.[21] Table 19 shows the baseline performance assumed for AMP8;

- **Financing.** The financing risk incorporates our estimate of our AMP8 all-in Cost of Debt. Given our embedded debt cost is above sector median, this incorporates underperformance at the P50; and

- **Historical performance.** Performance distributions against Totex allowances and around ODI baselines were calculated using our annual performance data from FY21-FY24. The notionally efficient company ranges utilised sector performance in line with the KPMG PR24 Risk Analysis. We adopted the distribution types used by the notionally efficient company where possible, but where our data did not yield a valid distribution for a specific component – for example with inverse gaussian – we used the normal distribution.

[21] Baseline Total Pollution Incidents performance used only FY24 (2023 calendar year) incidents as a historic anchor point in recognition of our improved performance resulting from the PIRP.

Table: Southern Water calibrated baseline ODI performance

ODI	Unit	FY26	FY27	FY28	FY29	FY30
C-Mex	C-Mex score	67.62	67.62	67.62	67.62	67.62
D-Mex	D-Mex score	75.04	75.04	75.04	75.04	75.04
Leakage	Ml / d (3yr avg.)	83.65	75.47	73.33	70.90	68.40
Customer Contacts on Water Quality	No. of consumer contacts per 1,000 population	1.25	1.18	1.12	1.05	0.99
Water Supply Interruptions	minutes lost per property	23.83	22.55	21.27	20.13	18.70
CRI	CRI score	4.84	4.53	4.22	3.91	3.59
PCC	l / person / day (3yr avg.)	127.98	127.27	126.68	125.97	125.21
Mains Repairs	Num. repairs / 1000km of mains	140.68	139.88	140.99	141.27	142.13
Unplanned Outage	(Non-outage - % peak week prod. capacity) * 100	95.85	96.32	96.79	97.26	97.73
Pollution Incidents	Incidents / 10,000 km of sewer	50.60	47.22	43.85	40.50	37.21
Internal Sewer Flooding	Properties / 10,000 connections	2.79	2.53	2.28	2.04	1.79
Sewer Collapse	Collapses / 1,000 km of sewer	7.61	7.47	7.33	7.19	7.05
Discharge Compliance (WaSC)	(% compliance) * 100	97.19	97.19	97.19	97.19	97.19
External Sewer Flooding	Properties / 10,000 connections	15.68	15.10	14.53	13.96	13.41
Business demand	Ml / day (3yr avg.)	114.01	114.26	114.56	114.93	115.28
Serious Pollution Incidents (WaSC)	Num. incidents	5.00	5.00	5.00	5.00	5.00

Using this specification of Southern Water, the risk per the (1) DD, (2) application of sector mitigations, and (3) combination of sector and SWS mitigations, is shown in the figure and table below.

Figure: RoRE risk ranges of SWS actual company with mitigations

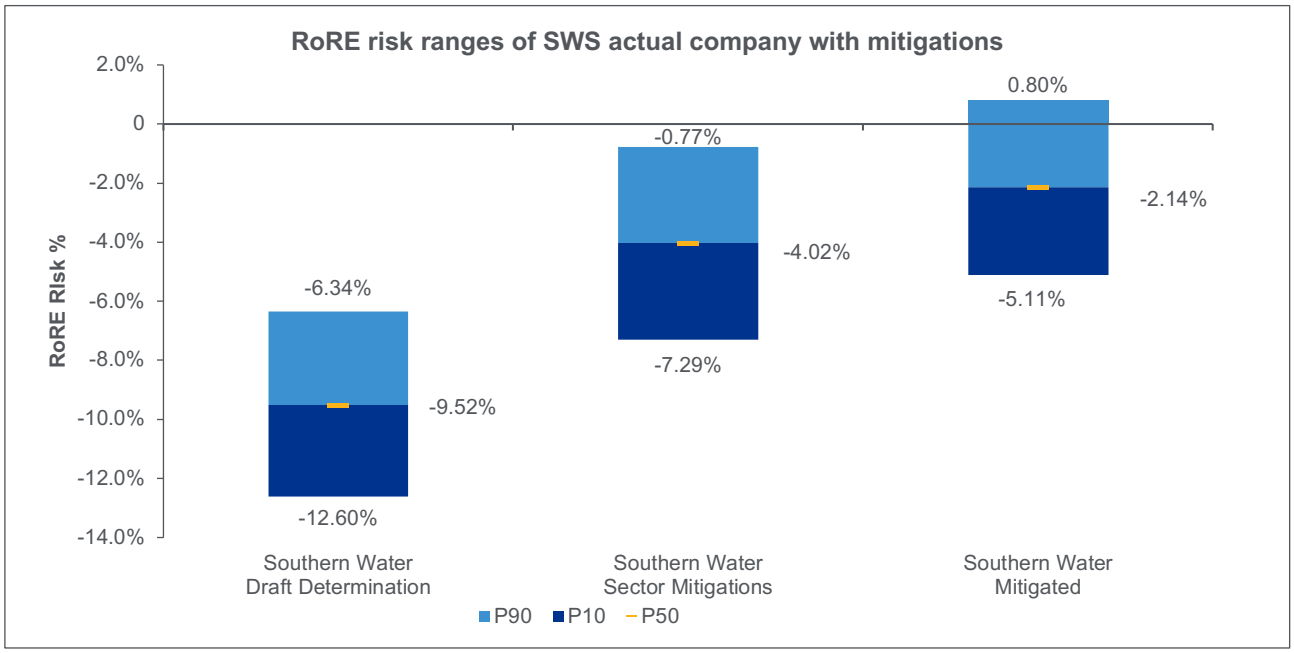


Table: RoRE risk ranges of SWS actual company with mitigations

	Unmitigated			Sector mitigations			Sector + SWS Mitigations		
	P10	P50	P90	P10	P50	P90	P10	P50	P90
Totex	-4.57%	-3.75%	-3.15%	-1.75%	-0.43%	0.76%	-1.10%	-0.18%	0.66%
Retail	-2.04%	-1.07%	-0.09%	-0.97%	-0.00%	0.97%	-0.97%	-0.00%	0.97%
Measures of Experience	-0.56%	-0.52%	-0.48%	-0.53%	-0.48%	-0.44%	-0.33%	-0.30%	-0.28%
ODIs	-3.16%	-2.35%	-0.81%	-2.70%	-1.86%	-0.65%	-0.78%	-0.40%	0.13%
Financing	-4.49%	-1.85%	0.76%	-3.90%	-1.24%	1.38%	-3.87%	-1.27%	1.36%
Revenue and other	-0.18%	-0.03%	-0.00%	-0.18%	-0.03%	-0.00%	-0.18%	-0.03%	-0.00%
RoRE (additive)	-15.00%	-9.57%	-3.77%	-10.03%	-4.04%	2.03%	-7.22%	-2.18%	2.85%
RoRE (simulated)	**-12.60%**	**-9.52%**	**-6.34%**	**-7.29%**	**-4.02%**	**-0.77%**	**-5.11%**	**-2.14%**	**0.80%**

As with the notionally efficient company, these mitigations leave some residual risk. Whilst some of this could be reduced through an aiming up adjustment, we also accept some small downside as part of our turnaround plan. However, the scale of the DD risk above – P50 = -8.54% – demonstrates the importance of mitigating the current risk levels.

In line with Ofwat's duty to all companies in the sector, these mitigations should be implemented in the regime as Southern Water needs these mitigations to achieve a more balanced risk profile to ensure financeability. Without these mitigations, our turnaround could be jeopardised which works against customers, as ultimately a turnaround is in their interests.

1.6. Final mitigated notional company RoRE risk

The overall risk package for a notionally efficient company operating our region is shown below. The sector and SWS specific mitigations ultimately reduce expected P50 risk to -0.72%. This residual risk demonstrates a potential requirement for an adjustment to the allowed return to support investment and therefore financeability.

We acknowledge that the scale of the downward P50 skew is larger than any potential "aiming up" adjustment. This residual skew is predominantly driven by ODI risk due to the stretching targets we have proposed which exceed the historically calibrated P50 performance for both Southern Water and the notionally efficient firm. Our view is that we are willing to accept residual risk at this level in light of the turnaround plan.

Figure: RoRE risk range for the final mitigated Notional-like SWS company

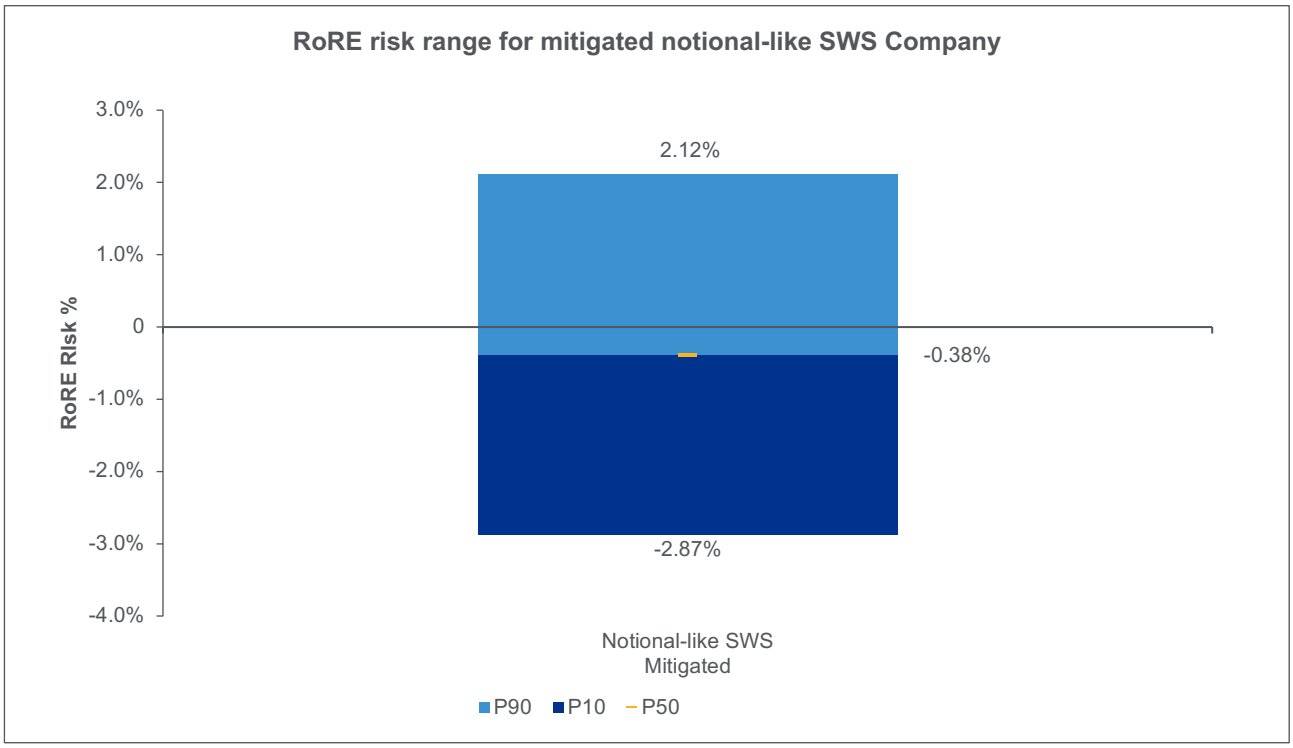


Table: RoRE risk ranges for notional-like SWS company with mitigations

	P10	P50	P90
Totex	-1.56%	-0.05%	0.96%
Retail	-1.55%	-0.00%	1.55%
Measures of Experience	-0.22%	0.01%	0.26%
ODIs	-0.71%	-0.19%	0.29%
Financing	-1.49%	0.01%	1.55%
Revenue and other	-0.18%	-0.03%	-0.00%
RoRE (additive)	-5.70%	-0.24%	4.60%
RoRE (simulated)	-2.87%	-0.38%	2.12%

1.7. Conclusion

The mitigated ranges in Sections 1.5 and 1.6 present a potentially investable outcome. Without the mitigations applied in these sections, the downward skew of the Draft Determination risk profile pushes expected returns materially below allowed returns. This asymmetry does not give a fair expectation to investors that the allowed equity return can be achieved, as a price control should provide.

This imbalance of risk and return is likely to result in new capital being unavailable, an especially pertinent issue given an AMP8 capital programme of c.50% of our RCV. Without the funds from sufficient levels of investment, the required asset health improvements and ultimate operational outcomes for customers cannot be made. This issue is not isolated to Southern Water. If risk and return are not balanced, the sector may struggle to continue to attract private capital from the existing investor pool. Appointees may be forced to seek other types of investors who would require a higher return to deploy capital.

This substantial increase in risk will impact debt investment as well as equity. Whilst Ofwat encourage the de-gearing of the sector, companies will have to rely more on debt financing should current or potential equity investors view the sector as uninvestable. This is in direct contrast to the punitive actions being considered by Ofwat should company gearing exceed 70%. The asymmetric risk profile will damage the view of the sector in debt markets and raise the cost of debt, given the competition for debt capital from other RAB-regulated asset classes. With an increased delta between actual and allowed cost of debt, the sector will lack the funds to provide the best quality services to customers, instead losing cash flow to debt interest.

Further, the negative risk profile is likely to impact credit ratings. Moody's stated in its August 2024 report *Ofwat's draft determination increases sector risk* that the DD increases the sector's business risk, which is a credit negative. Perceived reductions in regulatory stability and supportiveness could result in adjustments to their ratio guidance.[22] As appointees are required to maintain credit ratings from two agencies above BBB/Baa2 with negative outlook to avoid cash lock-up, degradation in credit agency opinion could lead to license breaches, should ratings fall below investment grade. In turn, a license breach would make equity financing less available.

There is already evidence of worsening ratings, with Moody's putting Southern Water on review for downgrade on 30 July 2024. Additionally, Moody's put South East Water's financing subsidiary on review for a downgrade in August due to their expectation that the draft determination would "… result in severe Outcome Delivery Incentive (ODI) penalties for SEW and total expenditure (totex) above regulatory allowances. The resulting reduction in operational cashflows would continue to depress SEW's AICR."[23] Similarly, in response to the Draft Determination, Fitch stated that Northumbrian Water, South West Water, and Wessex Water will "find it challenging to maintain their existing ratings for AMP8" should the Final Determination be in line with the Draft Determination.[24]

In conclusion, these three factors – equity uninvestability, increased reliance on more costly debt, and worsening credit agency outlook – act together to threaten the financeability of the sector as a result of a risk return imbalance. Oxera's report on Investability at PR24, commissioned by Water UK, similarly emphasises the increased levels of risk and uncertainty in the DD pertaining from highly stretching targets, high incentive rates, minimal downside RoRE protection, and an overall high level of complexity in the framework that makes it difficult for investors to understand.[25] Failure to mitigate the risk seen in the DD and encourage the levels of investment required would ultimately increase consumer costs of delivering new and maintaining existing water infrastructure in the UK.

[22] Ofwat's draft determination increases sector risk, Moody's Ratings, 14 August 2024
[23] South East Water (Finance) Limited Credit Option, Moody's Ratings, 9 August 2024
[24] UK Water Companies After the Draft Determination, Fitch, July 2024
[25] Investability at PR24, Oxera, August 2024

2. Base expenditure

2.1. Introduction

This chapter summarises our position on base expenditure (botex). It explains the gap derived from the efficiency cuts implied by the DD, the botex we are proposing in our revised sustainable botex case, and the evidence that we provide in support of our case – expressed in terms of asset health and Ofwat's framework.

Our 2023-2025 ambitious turnaround plan aims to deliver long-term operational improvements through cost reductions, performance improvements, serviceability and sustainability improvements. Our turnaround is enabled by investing in our people; maximising digital and technology opportunities; and challenging ourselves and supply chain to drive value for money activities. In maintaining our momentum and focus on continual improvement, we have undertaken an extensive review of our operational activities. The review identified opportunities to improve our business through a series of 'spend to save' efficiency initiatives which will be funded by our shareholders.

As described in our October 2023 business plan we have continued to look at the requirements for a sustainable level of capital maintenance across both water and wastewater assets and continued to develop a more holistic view of asset health needs. The 'Asset Health' appendix sets out those requirements.

We are concerned about that flaws have started to emerge in the calibration of Ofwat's system of assessing the efficiency of botex, based on the level of funding needed for running the operation, maintaining our asset health and meeting our operational PC targets.

The evidence that we provide in this chapter to justify the level of botex required by the operation in the revised sustainable botex case shows that we will need to spend £3,265m, which is higher than the £3,036m of botex allowances in the DD. Ofwat has also allocated up to £307m of enhancement funding to botex, which subtracts from the funding already needed for botex activity, as we will need to spend botex to pay for enhancements. This leaves a DD botex allowance of £2,729m, which creates a funding shortfall of £536m and implies that we will need to find 20% of efficiencies from botex, which is not achievable. This is in addition to efficiencies of £269m that we already had planned. We urge Ofwat to consider the evidence provided in this chapter and to amend its botex allowances in the FD. In this chapter, we discuss:

- Ofwat's actions;
- Revised sustainable botex case and efficiencies;
- Response – Asset health;
- Response - Flaws in the calibration of Ofwat's assessment; and
- Response – Ofwat's top-down assessment.

2.2. Ofwat's actions

Ofwat has modelled the botex costs needed to run our operation and maintain our assets. Our October business plan included a bottom-up reassessment of the botex we need across AMP8. Ofwat included £3,036m for botex allowances in the DD. In this section, we discuss:

- Cost adjustment claims;
- Unmodelled costs; and
- Enhancement costs reallocated to base.

2.2.1. Cost adjustment claims

Ofwat has rejected all of our CACs. This has created a substantial cut to our botex attributable to CACs of £388m, as shown in the table below.

Table: Summary of CACs request in the BP and the impact of the DD

	Requested in BP	Allowed in DD
Coastal population	£65m	£0
Water treatment economies of scale *	£24m	£0
Regional wages	£88m	£0
Wastewater growth network reinforcement	£98m	£0
Bioresources AAD	£113m	£0
Total	**£388m**	**£0**

Source: Southern Water BP; Ofwat DD. * The Water treatment economies of scale CAC was not submitted to Ofwat until after the BP.

2.2.2. Unmodelled costs

In the DD, there are a number of unmodelled adjustments to the base allowances. These include:

- **Energy adjustment:** The energy uplift does not take into account the most current information and its uplift does not reflect the industry and company specific costs of energy;
- **Business rates:** Ofwat have not considered the upcoming revaluations and the likely significant increase to business rates, instead Ofwat have proposed a 90:10 sharing rate. This creates an additional cash flow risk but also not fully reimbursing companies for an uncontrollable tax;
- **EA licences:** Ofwat have assumed EA charges are within modelled botex, although they have not considered the recent uplift in these charges from June this year;
- **Climate change resilience:** Ofwat have chosen a 0.7% additional adjustment for climate change. Ofwat confirmed that 0.7% was an average of company submissions for climate change resilience and added this as a botex adjustment where companies can provide evidence it is needed; and
- **Additional compliance and reporting costs -** We are concerned that Ofwat has not considered the increasing regulated burden on the industry and calculated the bureaucratic cost of creating the monitoring regime to support PCDs and the delivery monitoring framework.

2.2.3. Enhancement cost re-allocated to botex

We also note that in Ofwat's DDs there has been significant rejection of water companies' enhancement cases on the basis that it should be covered by base. In total c.£2.5 billion has been disallowed across the sector. For the sector, this equates to c.5% of the botex allowance for the whole industry. The overall level of challenge by Ofwat implies a great deal more needs to be delivered from base. This is not credible given the significantly lower levels of base cost allowance compared to recent outturn levels and upward trends.

For Southern Water, this enhancement non-allowance due to the expectation that it should be delivered from base comes to £307m[1]. Given the cost efficiency evidence we provide in this response, we are confident about our enhancement cost assessments. This means that the gap in enhancement spending will need to be found from base costs. At the same time, our botex case was already allocated to opex and capital maintenance. Therefore, the £307m reallocation from enhancement represents a cut in funding.

2.3. Revised sustainable botex case and efficiencies

We have revised our sustainable botex case, taking into account efficiencies. This recognises the additional sustainable level of cost that is required by the business to both operate and also to maintain our assets.

Table: Our revised sustainable botex case (£2022/23)

	Our sustainable botex case	Ofwat's DD	Variance
Water	£1,148m	£936m	
Wastewater	£2,115m	£1,836m	
Bioresources	£271m	£264m	
Efficiencies to reach sustainable botex	*(£269m)*		
Sustainable botex in DD response tables	**£3,265m**	**£3,036m**	**(£229m)**
*Reallocation from enhancement**		*(£307m)*	*(£307m)*
Total gap	**£3,265m**	**£2,729m**	**(£536m)**

Source: Southern Water; Ofwat's DD. * Reallocation from enhancement cost subtracts funding for the remaining botex case.

There is still a significant gap of £536m between the sustainable botex that we need to operate in the business and to maintain the assets and the botex that the DD is proposing. We are concerned about the modelled allowances, the loss of the CACs, which were all rejected and the reallocation of enhancement allowance to base, which will need to be spent on those enhancement cases regardless, and merely acts to reduce the botex allowances available to spend on botex items were had already been planned. We urge Ofwat to re-consider the allowance calculation, given the evidence provided in this response.

2.3.1. Efficiencies that enable us to reach the sustainable level of botex

Maintaining our momentum and focus on continual improvement and delivering productivity improvements we have undertaken an extensive review of our operational activities. In developing our forecasts and in readiness for AMP8, we have challenged ourselves to deliver for less.

Our Business Plan submission included significant efficiencies to be delivered through our Turnaround Plan. Although good progress is being made, our primary focus has been on delivery the performance our customers expect. It has become clear that this requires higher opex, particularly for wastewater services. We have adjusted our forecast opex to reflect this higher current base costs.

We established a centralised portfolio of initiatives across the business followed by a detailed cost benefit analysis for each. However, we have set out an ambitious programme of efficiencies that will reduce costs by £269m by the end of AMP8, moving operating costs to a sustainable level. The cost of implementing these efficiencies is not included in our submission and will be born by shareholders. Each initiative is discussed in turn in the table below.

[1] More detail is provided in the Enhancement Chapter in this response.

Table: Our revised sustainable botex case and efficiencies (£2022/23)

Water	Wastewater
Operational Asset Management (OAM): OAM improvements are based around upgrading our GIS, workforce and asset management systems. We have a DWI undertaking to implement a new Enterprise GIS which is fully integrated with the application estate to support Water quality processes. This will provide a single source of truth across many business systems and replace multiple legacy systems provide a range of benefits such as real-time information sharing and faster response times. Upgrading our asset management systems will reduce the risk of asset failures, improve works scheduling and enhance compliance and safety. We expect significant productivity benefits to be achieved as a result of these upgrades which are estimated to achieve £4.2m p.a. in opex efficiencies by the end of AMP8.	**Planned maintenance turnaround:** Current work balance between reactive and planned maintenance is 77%:23% and is generating excessive cost and performance drag across our wastewater operations. Our long-term strategy for all asset groups and areas to move to a planned maintenance state, enabling proactive interventions with our assets, reducing failure, associated costs and improving performance. We are moving from a reactive to planned maintenance approach in AMP7 with a full roll-out planned in AMP8. Our AMP8 plan will move us towards reliability centred maintenance giving a risk-based view on maintenance with a focus on wastewater pumping stations and assets across the Isle of Wight. This initiative is estimated to achieve £17.8m p.a. in annual opex efficiencies by the end of AMP8.
Stopping large incidents and Guaranteed Standards Scheme (GSS): Our stopping large incidents improvement programme aims to take a much more proactive approach to identifying and preventing large outages and associated supply interruptions before they happen. This initiative will shift management focus to preventative approaches and capability in our operational teams. There are 10 separate workstreams with improvements identified across, people, process and assets. We are also undertaking a root and branch review of the failures that lead to GSS payments to customers e.g. keeping appointments on time and ensuring planned work does not overrun. These initiatives are estimated to achieve £7.0m p.a. in opex efficiencies by the end of AMP8.	**Catchment based monitoring:** To improve our environmental performance, we must further deploy devices that gain insight into our asset health and warn of any potential asset failure or pollution incident. An increase in the alarm estate will support our environmental performance aspirations and enable reduced cost of failure. So far, we have 24,000 sewer level monitors (SLM's) installed across our network, giving us 4% coverage, we plan to increase this to 5.5% across AMP8. We plan to target locations where additional installs will decrease risk of pollution incidents, particularly those caused by blockages. This investment will provide much more data and enable proactive interventions. This initiative is estimated to achieve £2.6m p.a. in annual opex efficiencies by the end of AMP8.
Alternative water supply arrangements: This is a related activity to the commercial review of our tankering approach in wastewater. We have identified opportunities to drive efficiencies and enhance resilience through our contracting approach for tankering and alternative water supplies during incidents. These initiatives are estimated to achieve £1.4m p.a. in opex efficiencies by the end of AMP8.	**Planning and scheduling:** To enable our move toward planned maintenance we will need to improve our capability to plan, prioritise, schedule and deliver work orders to operatives and engineers. This initiative will strengthen and develop tools, processes and staff capability across our asset maintenance teams to deliver an estimated £1.2m p.a. in annual opex efficiencies by the end of AMP8.
Smart systems: Our vision is to have a responsive, connected network (smart system). We have several 'smart' projects in flight which are enablers for delivering on many of our long-term targets in leakage reduction, supply interruptions and energy savings. We are reviewing our organisational approach to delivering these projects to develop cohesive 'smart' strategy to maximise value from the investments made to date and minimise the future spend. Trials being undertaken to identify the most efficient operational practices for scaling up across the company. This initiative is estimated to achieve £3.5m p.a. in opex efficiencies by the end of AMP8.	**Logistics:** We have identified opportunities to deliver engineers, equipment and materials to jobs. Materials and plant hire have significantly increased in costs in recent years which has driven sharp focus on how we can manage these costs. Our initial focus is to establish visibility and control of our stock across store-rooms and suppliers – once we have built maturity in this space we will shift focus to contractor materials and the supply chain. This initiative is estimated to achieve £0.2m p.a. in annual opex efficiencies by the end of AMP8.
Water Network organisation: An internal review of our water networks organisational structure and design. This will include opportunities to improve capability and productivity through our contracting approach, end-to-end process review and operating model. We estimate this will achieve £1.1m p.a. in opex efficiencies by the end of AMP8.	**Tankering:** Wastewater tankering spend is at an all-time high and has the potential to continue to increase as our climate changes, in particular as a result of increased rainfall intensity. Our plan will: • Improve tactical actions including proactive responses to resolve or mitigate root cause of issues; • Review our commercial procurement strategy for both commercial and resilience benefits; and • Insourcing elements of tankering capability including support "core" emergency tankering needs to mitigate the use of external suppliers. These initiatives are estimated to achieve £9.5m p.a. in annual opex efficiencies by the end of AMP8.
	Other initiatives: Other wastewater efficiency initiatives will improve process efficiency including generation, including a separate Combined Heat and Power (CHP) plan, consumption, inter-site transport of sludge and the reduction of hire equipment. These initiatives could achieve £15.2m in annual opex efficiencies by the end of AMP8.

2.4. Our response - Asset health

Given this additional activity, it is clear that Ofwat's botex modelling and CACs are not providing sufficient funding. Ofwat's modelling is a top-down perspective, based on historic cost benchmarking. In the next section, we discuss technical problems with the modelling and CACs. However first in this section, we would like to provide bottom-up evidence that supports the need for additional funding based on an assessment of asset health[2]. The evidence provided here supports our revised botex case.

The proposed botex allowances will put in jeopardy the progress that we have made in our turnaround plan, associated improved performance and place considerable risk on the resilience and operability of our asset base.

Over reliance on historic, backwards looking data to specify future expenditure needs is ineffective. Our assessment identifies that in accepting these allowances it would place intolerable risk on the statutory and mandatory services, which our asset base is required to deliver to customers and to protect the environment.

2.4.1. Introduction

In seeking a solution to this failing, we have continued to develop our forward-looking Asset Management capabilities, and specifically our approach to Asset Health since our Botex business plan was submitted.

Asset Health is a critical component of good Asset Management in recognising and allowing for the effect of three converging factors on our sustainable rate of base maintenance requirement:

1. Upward pressure on base performance, and the principle that more cannot continually be delivered with less;

2. Implicit assumption in the level of allowance that assets can continue to provide resilient performance beyond their design life; and

3. Exogenous factors, such as the climate and increasing pressure on our assets.

Greater focus and emphasis on bottom up, forward looking, risk based methodologies must be given to the Final Determination allowances set by Ofwat, if companies are going to break the cycle of predominantly reactive maintenance and move to a position of operational resilience and sustainable base maintenance allowances.

2.4.2. Our methodology

Since our Business Plan submission, we have continued to develop and strengthen our Asset Risk Management tools which underpin our botex plan, maturing our approach to Asset Health to a point where we feel it provides a clearer view of the asset requirements and therefore compelling evidence for adjustments to allowances in certain asset classes. Our approach seeks to understand the true 'health' of our asset base (taking a long-term 25-year planning view), and therefore determine what interventions, and associated level of investment are required.

[2] In our business plan submission, we highlighted to Ofwat that we would be undertaking further work to understand our asset base in the context of increased pressures and risks posed in the future. SRN58, page 11.

Our Asset Health methodology is a forward-looking risk based approach that we have applied to our entire capital maintenance botex portfolio, and all asset classes. This has enabled us to make use of a broad range of the latest cost and run rate data alongside asset information, including condition, age, deterioration, intervention, and performance to establish the sustainable, robust, pragmatic, and assured view of base expenditure.

To determine the appropriate sustainable botex level, we have had regard to a range of different methodologies:

- **Historical data-based approaches:**
  - *Run rate analysis.* Historical and current costs of operating and maintaining our asset base (our 'historical run rate analysis'), including the *AMP7 Run Rate* and the *AMP6 Run Rate*; and
  - *Exit rate analysis.* Budget forecasting-based analysis of the AMP7 year 5 costs of operating and maintaining our asset base.

- **Predictive modelling-based approaches:**
  - *Asset Health modelling.* Determining the health of our asset base, based on the 'effective age of our assets'; and the investment required to maintain this 'health';
  - *Deterioration modelling.* Asset deterioration modelling through our [redacted] Asset Management System; and
  - *Performance schemes.* Historical and current performance against our performance commitments and developing 'bottom up' built schemes based on assessments of future benefits for specific proposals to improve performance.

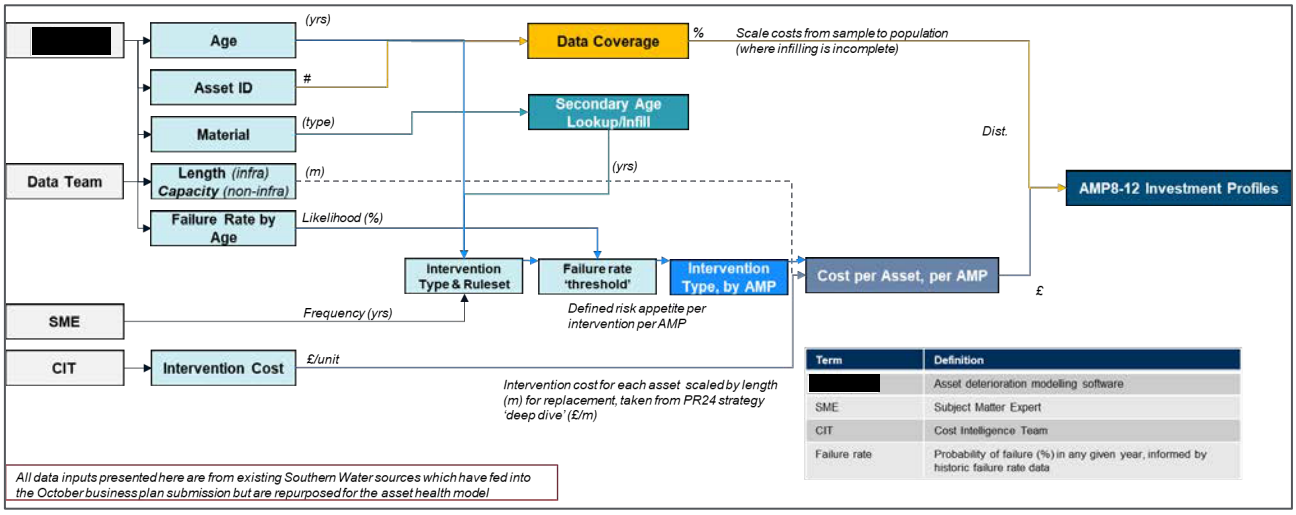
- **Additional external factors** (which influence the level of botex required such as growth, changing demands of the asset base).

These methodologies allow us to ensure that we understand history, how it provides insight and informs our forward look, which is then complemented by consideration of external factors and pressures. When considered alongside our Risk management framework we are then able to make an assessment to identify where the modelled allowances do not provide appropriate costs to meet the performance expectations.

This has allowed us to use a triangulation approach to identify where we believe there is the need for a significant justification for change to our original botex plan, and also validate our original planning assumptions.

Our asset health analysis assesses the 'effective age' of our assets and likelihood of failure in any given year. This develops a profile that aims to achieve 'no deterioration' of effective age over a 5 AMP period, made up of replacements and/or repairs that are equivalent to historic 'planned schemes'. The model logic is set out in the figure below.

Figure: Asset Health model logic



Source: Southern Water.

Assessing the effective age of our assets provides a valuable perspective and a more robust method of assessing the sustainable level of investment for AMP8 and beyond. For some asset classes the triangulation of available evidence indicated our PR24 Business Plan provided a challenging but appropriate level of expenditure. However, it showed that without further investment, there is a considerable risk to the performance of three asset classes.

2.4.3. Our conclusion – more funding required for asset health

From this we have determined three specific asset classes, namely; Wastewater Pumping Stations, Rising Mains, and Water Service Reservoirs where there is a need for an additional £74m to reach a sustainable base maintenance, our remedy it to have this added to the allowances for the respective Price Controls:

- **Waste pumping stations:** £30 million - Asset Health data details an increased investment need due to aging asset stock. Additional investment required to deliver pollution performance;
- **Rising mains:** £30 million - Asset Health data details an increased investment need due to premature failure of Rising Mains. Additional investment required to deliver pollution performance; and
- **Water service reservoirs:** £14 million - Address escalating management costs and compliance risks identified from our aging asset base.

In other areas, we consider our business plan botex as the best indicator of sustainable botex.

We are focused on continuing to accelerate the development of our forward looking, data driven Asset Management Tools to develop a more granular understanding of the sustainable level of expenditure to maintain asset health.

Further details and supporting evidence of the above costs are set out in SRN-DDR-020 Sustainable Botex Technical Annex.

2.5. Our response - Flaws in the calibration of Ofwat's assessment

We have serious concerns that the basis of Ofwat's botex calculation could have significant flaws, to the extent that modelling results no longer sufficiently estimate the efficient costs need to run the operation, maintain the capital stock and achieve PC targets.

There are concerning signs from company performance during AMP7, that the PR19 modelled botex was insufficient to maintain the operation, asset health and meet operational PC targets. This puts at serious doubt the underlying basis of botex modelling for AMP8, which is based on company performance over recent years.

The evidence provided here supports our revised botex case. In this section, we discuss:

- Botex costs have been rising and most companies have overspent botex at the end of AMP7;
- Most PCs have failed by the end of AMP7, while expectations on operational performance have increased;
- Evidence from recent Ofwat rulings over underinvestment in asset health, in spite of overspent botex;
- Additional botex funding awarded to Thames Water, outside of modelling;
- Ofwat's frontier shift is outstripping UK productivity; and
- Our bills have been lower than other companies for decades signalling historic underinvestment.

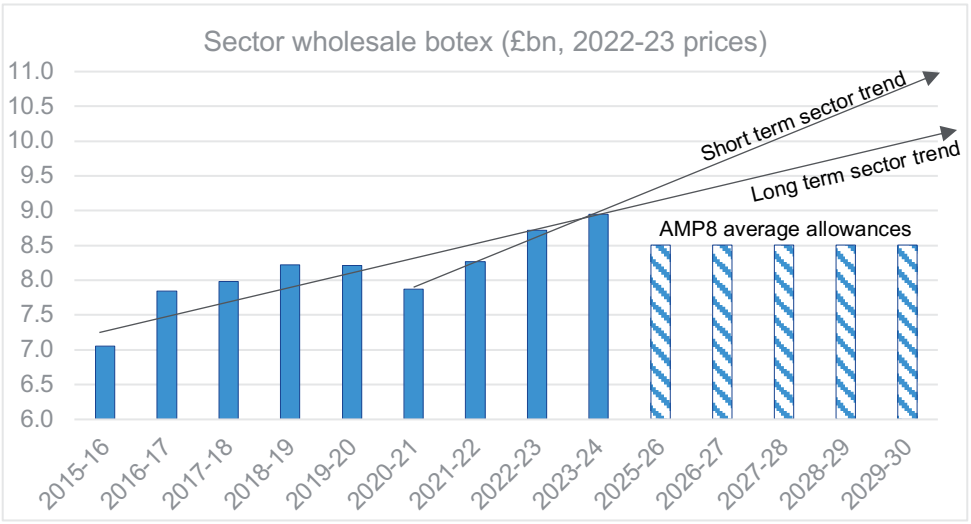
We commissioned Economic Insight to consider this area as further evidence SRN-DDR-019 (Economic Insight Issues with Ofwat's Approach with Base Cost Assessment).

2.5.1. Botex costs have been rising and most companies have overspent botex at the end of AMP7

Since the start of AMP7, the sector's botex has on average been increasing by 3.0% p.a. above the rate of inflation. This upward cost trend is further evidenced in the industry data for 2023-24 which shows even greater increases and suggests that the cost pressures for the sector are accelerating.

Ofwat's draft determinations allows less average botex than 2022/23 and 2023/24 outturn levels for the sector (c.4% lower than the average of those two years in real terms).

Figure: Long and short term increasing sector-wide botex pressure (£bn, 2022/23 prices)



Sources: Botex 2011-23 taken from Ofwat's DD feeder models; 2023/24 data from published APRs.

In AMP7, the sector has overspent its PR19 FD allowances, and has still not been able to meet the stretching performance commitments that Ofwat set. While historic overspent botex would naturally result in an increase to botex modelled allowances, the modelling averages company botex spending from 2011 onward.

Companies have a natural incentive not to overspend until they are compelled to, given the generally punitive cost sharing rates. In fact, before recent overspending, companies had more typically underspent on botex, spending the funding on enhancement projects. This means that overspending has been delayed to the later years of AMP7 and the impact of the increase in spending will be averaged lower by the earlier years without overspending. Therefore, the combination of underspending and more recent overspending against FD allowances is likely to mean that the AMP8 econometric modelling is unlikely to fully recognise the higher rates of botex spending that the industry needs.

Ofwat has not taken account of this rising cost trend in its approach to setting base cost allowances. The base cost models do not include a time variable; and none of the models include forward-looking variables reflecting the increasing pressures the sector is facing.

2.5.2. Most PCs have failed by the end of AMP7, while expectations on operational performance have increased

Setting a base cost allowance materially lower than recent outturn data and ignoring the rising cost trends does not represent a credible regulatory package, especially given that Ofwat expects companies to deliver a step change improvement in service levels (almost exclusively, from base expenditure).

In 2023/24, the majority of common performance commitments were not met in the sector, with companies incurring major ODI penalties. This was during a time in which botex was overspent. The combination of botex overspending and PC underperformance demonstrates that the calibration of botex to meet PC targets has broken down. We provide more analysis of these factors in our Risk chapter SRN-DDR-003 Chapter 1 (Risk).

Following this historical miscalibration, Ofwat is now proposing that the sector meets even more stretching performance targets, with less botex than companies' outturn levels. For the vast majority of service measures, Ofwat is not allowing any additional enhancement funding to support service delivery because

this is not reflected in historic botex benchmarking. Examples of some of the major improvements required from 2023-24 by 2029-30 are shown below. This is shown both as a percentage improvement from Southern Water's actual 2023-24 performance to its 2029-30 targets, and if Southern Water had the industry median performance for 2023-24.

Table: Increased operational performance expectations

PC	Unit	% improvement required from 2023-24	
		Southern	Industry median
Compliance risk index	Numerical score	100% ↓	100% ↓
Water supply interruptions	hh:mm:ss	94% ↓	46% ↓
Water quality contacts	Contacts per 1,000	46% ↓	62% ↓
Total pollution incidents	Incidents per 10,000 km of sewer	77% ↓	58% ↓
Internal sewer flooding	Incidents per 10,000 km of sewer	55% ↓	38% ↓

Source: Ofwat's DD.

These are significant performance improvements that Ofwat has assumed are deliverable from a lower level of base funding. This assumption is not supported by the AMP7 outturn evidence, where companies have failed to meet softer performance measures and have incurred higher costs than Ofwat's proposed allowances.

2.5.3. Evidence from recent Ofwat rulings over underinvestment in asset health in spite of overspent botex

We are also concerned that the base cost inputs that Ofwat has used in its modelling do not include the full amount of expenditure required for companies to secure their functions. On the 6th of August, Ofwat published enforcement consultations regarding Northumbrian Water, Thames Water, and Yorkshire Water's management of their sewage treatment works and network. Ofwat concluded that the companies had material failings in operating and maintaining their assets. Ofwat's investigations into other wastewater companies are ongoing.

If the consultation position is correct – that there has been widespread under-delivery across multiple companies and for many years – then the vast majority of the historical data that feeds Ofwat's base cost models will understate the true costs required of operating wastewater systems. This risks setting allowances for AMP8 below the true level of costs required.

It should be noted that Southern Water underwent enforcement action before other companies in the sector. As a result of this, our costs have been higher throughout AMP7. Our AMP7 totex overspend has been higher than all other companies (apart from South West Water). A major contributing factor to this, has been specific costs we have incurred on our wastewater assets. As part of our S19 Undertaking, we have significantly developed and improved our operational process to track and identify risks of flow non-compliances. Progress is reported to Ofwat on a six monthly basis. During AMP7 we have invested over £50m to address flow non-compliance issues. Of this, £25m has been on specific schemes to ensure our treatment works are able to meet their Flow to Full Treatment permit conditions, with additional investment through our directly managed programme to address short-term, or transient issues. Further investment was delivered at the end of AMP6.

In water, we have spent over £400m above our AMP7 botex allowance to turnaround our water service performance through a systematic programme of hazard reviews and interventions across our water supply works. We need to sustain our investment in line with the stretching performance targets proposed for AMP8.

2.5.4. Additional botex funding awarded to Thames Water, outside of modelling

Ofwat's modelling is designed to equate the same botex for each company, given modelled characteristics which legitimately make the companies different. We note that this principle has been broken at the end of PR19 and is proposed to be broken again in the DD. In PR19, Ofwat awarded Thames Water an additional £300m of funding to cover water mains replacement in Central London, through the Conditional Allowance. This capital maintenance botex funding was awarded after botex modelling was completed for other companies, and so a fair allowance was not granted to SWS.

Ofwat is again proposing to award Thames Water funding for botex that sits outside of botex modelling (in this case, it is referred to as "asset health"). This additional funding could amount up to £1 billion. An equivalent sum is not reflected in our botex allowances.

We acknowledge the scale of Central London is significant. However, we challenge Ofwat to establish that the additional asset health and other funding requirements, particularly in asset maintenance are not equally as challenging for our operation. We call upon Ofwat to equate a similar allowance to SWS, in recognition of our challenges.

2.5.5. Ofwat's frontier shift is outstripping UK productivity

We are very concerned about Ofwat's assumptions about frontier shift, set at 1% p.a. Ofwat has relied on historical data, dating back to 1996 to model total factor productivity, as assessed by CEPA, which recommended a range of 0.8% to 1.2%[3]. It then cited the Office for Budget Responsibility forward long term assumption of labour productivity at 1% to 1.5%, which is also informed by the same historical comparison, and mentioned artificial intelligence use in the water sector as examples for how productivity could be applied.

Economic Insights has studied the appropriate frontier shift in a new report, which we use as evidence in this response[4] (SRN-DDR-018 Economic Insight Frontier Shift Report). This states that:

- **Under a benchmarking approach to determining frontier shift, one would generally expect the challenge to be 'higher' at times of high productivity and 'lower' at times of low productivity:** Based on underinvestment as a causal factor for low productivity, the report demonstrates investment relative to output has been declining more rapidly in the water sector than in the UK overall;

- **Historical data shows that, factually, over PR14 and PR19, the water industry delivered low productivity, in-line with the low and flat productivity performance of the UK:** The water industry is being affected by the wider UK slowdown in productivity. The report demonstrates that actual water productivity historically has been below Ofwat's frontier shift assumption. This calls into question the validity of speculation that the future productivity of the water industry, or the UK, will be materially better than the recent past in the short term; and

- **Productivity data shows that productivity performance tends to be greater in more 'high-tech' industries, and lower in more 'low-tech' industries:** While Ofwat discusses artificial intelligence, the

[3] Ofwat. "PR24 draft determinations: Expenditure allowances". P137.
[4] Economic Insight. "The importance of a balanced approach to frontier shift". August 2024.

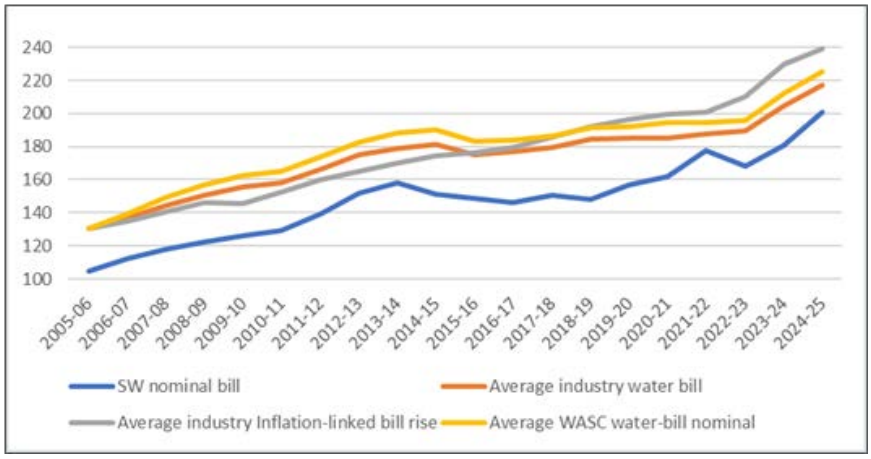
water industry is intrinsically not a 'high-tech' industry. The water industry, by virtue of having: (i) to provide a homogenous product, the fundamental characteristics of which cannot change, for perpetuity (unlike pharmaceuticals, whereby a continuous cycle of innovation is needed to develop new products); (ii) having a relatively low utilisation of technology (say, compared to semiconductor manufacturing); and (iii) long-lived assets (which means the speed of the introduction of new technology is inherently slower than industries where the opposite is true – all else equal), is inherently not a high-tech industry.

Based on this evidence and arguments in defence of its earlier report, Economic Insights re-recommended its frontier shift plausible range of between 0.3% and 0.6% p.a.[5] We urge Ofwat to consider these points and apply an appropriately lower frontier shift in the FD.

2.5.6. Our bills have been lower than other companies for decades signalling historic underinvestment

Our programme for AMP8 features a significant increase in investment, which has a significant effect on bills. The effect of the increase in investment and bills is marked by 2 lost decades of under-investment, particularly in the water network. Ofwat's regulatory decisions have suppressed investment and bills to such an extent that water bills in the Southern region have been the lowest among water customers for at least 20 years and significantly below the average national bills, as shown in the figure below.

Figure: Southern's water bill compared with national bills since 2005 (nominal terms)



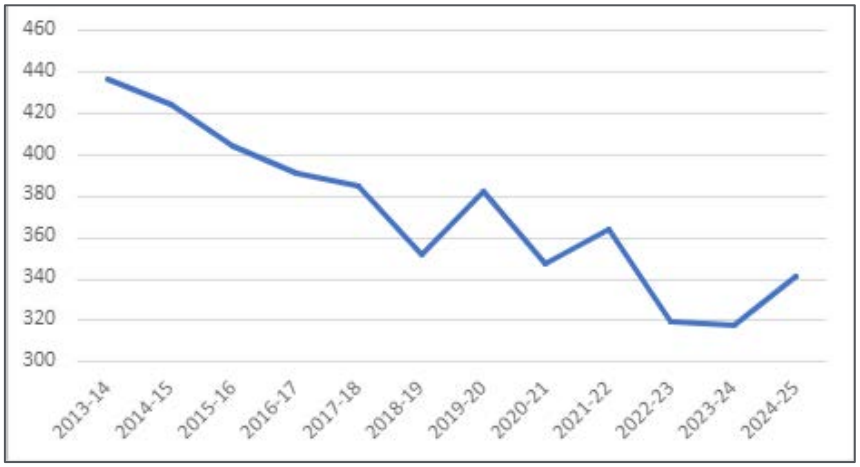
Source: Southern Water calculation.

In fact, Southern's nominal bill has remained between 10% and 60% lower for 20 years when compared to industry and water average bills. While the picture on the waste bill is less stark, Southern's combined bills have been consistently below the average industry level.

Southern's bills have also been reduced in real terms. The figure below shows how our bills have reduced by over 20% in real terms over the last decade. While we support efficient bills, we reflect that some of the bill reduction could have been used to invest in asset health over the last decade.

[5] Economic Insight. "Productivity and frontier shift at PR24". April 2023. Available for download at: https://www.economic-insight.com/wp-content/uploads/2023/05/Frontier-shift-at-PR24-05-04-23-STC.pdf

Figure: Southern's combined bill level in real terms (2013/14 prices)



Source: Southern Water calculation.

Our customers have told us that putting off investment to future generations is the wrong thing to do. What this analysis shows is that we are now the future generation that has to pay for the lost decades of investment. Had Ofwat decisions in the past allowed for greater investment, then this would have allowed for investment and bills to be spread across a longer time and the increase that we are portraying for the next 5 years may not have been required.

Clearly, Ofwat has a number of choices to make about how it will regulate Southern Water's bill. We urge Ofwat not to delay further the investment, which would merely delay the inevitable bill increase (likely to be a more significant increase) to future generations.

2.6. Our response – Ofwat's top-down assessment

In this section, we consider botex from the perspective of Ofwat's top-down assessment. We believe that the different techniques used by Ofwat have under-provisioned botex allowances. The evidence provided here supports our revised botex case. In this section, we discuss our response to the following areas:

- Ofwat's econometric modelling;
- Enhancement costs reallocated to base;
- Cost adjustment claims; and
- Unmodelled cost adjustments.

2.6.1. Ofwat's econometric modelling

We have considered Ofwat's decisions on the models and variables it is proposing in the draft determination, we have included the 2023/24 annual performance report data in these models to see the impact on the robustness and significance of the models and the outputs. We agree that Ofwat should update the models for 2023/24 data, but we have also considered several amendments to the models to improve them based on the standard criteria for assessing econometrics models, including the model fit (R squared measure), the robustness of the models, data quality, and the efficiency score range.

Having reviewed Ofwat's models we have considered a number of adjustments Ofwat should make in their final determination, these are proposed in the table below, with justification as to why it is the correct approach.

Table: Our concerns about Ofwat's econometric modelling

Water models	Wastewater models
APH: • **Conflict between APH and complexity variables:** We do not believe that the APH variable should be used in the econometric models for wholesale water. The inclusion of APH worsens the performance of the complexity drivers, which are key to the engineering rationale of the model. The efficiency scores also worsen significantly in the wholesale models when APH is included; • **Estimated data is likely to inaccurate, rather than actual data:** We have concerns about the data. Turner and Townsend report that a significant amount of the data is estimated rather than measured and state that there is a "wide spectrum of maturity across companies in relation to APH reporting methods". On that basis we do not believe that the data is sufficiently reliable. The performance of the variable in the econometric models is not enough to assuage these concerns as the results could be spuriously strong. Further evidence is needed to disprove this risk; Some of our concerns regarding the data are the following. At least four companies rely heavily on estimated data. Turner and Townsend question the methods behind these. Two companies use estimated lift data only (no measurements), one only uses measured data for only one price control (raw water abstraction), and another company has reported the same figure for 10 years. Other companies report similarly static figures. The proportion of measured data varies wildly; from 0 to 100%. Even where data is measured, it is often combined with estimated data, meaning the value is only as reliable as the estimation method used; • **Not a good proxy:** At DD, Ofwat used APH for TWD in both the TWD and wholesale water specifications. We do not agree with this. Turner and Townsend find that APD for TWD contributes 57.7% of wholesale APH. We find a figure of 54% when using the econometric dataset. In either case, we do not see APH for TWD as a sufficient proxy for wholesale APH. Further, there is strong variation between companies in the proportions of measured and estimated data used to measure APH for TWD to the other price controls. That signals inconsistency between companies but it also signals how APH for TWD is unlikely to be representative of APH in other areas for all companies and hence not a good proxy variable.	**WATS:** • **Use of WATS:** After analysing the econometric variables with the 2024 year of APR data, we believe that Ofwat should only use the WATS variable to measure economies of scale in the wholesale waste models at FD; • **Significance of the WATS variable in the SWT models:** The WATS variable is highly significant while the discrete variable (pctbands13) is not significant at all – it isn't even close to the 10% level of significance. The specification with the WATS variable also has a much better R Squared value – 5 percentage points higher. What is more, the efficiency scores are much better with the WATS variable, at less than half what they are with the discrete variable; • **Significance of the WATS variable in the wholesale models:** The WATS variable performs similarly to the discrete variable in terms of significance and R Squared. However, it again produces much better ranges of efficiency scores, to the magnitude of 25-40% improvement; • **Engineering rationale:** As we have previously argued, the WATS variable has a better engineering rationale than the discrete variable. The continuity allows for decreasing marginal costs as treatment size rises yet the discrete variable assumes only two categories: high and low. This assumption is unsuitable as there is strong variation in marginal costs within the high category and marked differences between companies with works in the higher category. So, the engineering rationale of the WATS variable is much more suitable than that of the discrete variable; **Pumping capacity per sewer length – forecast drivers – error:** The DD has forecasted the driver for pumping capacity per sewer length for Southern using its own method, which was based on Northumbrian's growth rate. We found an error in the calculation that we used to forecast pumping capacity for the business plan. We have amended it and restated it in the business plan tables. **Population density:** The DD used three measures of population density. We think that is too many. All three variables perform well in econometric terms but the properties per length variable gives the best R Squared value and the best range of efficiency scores. On that basis, we would prioritise the properties per length measure.
Log bias	**Retail models**
Ofwat has used a log-log model specification in all of its proposed wholesale models through taking natural logarithms of the dependent variables and the explanatory variables (besides those in percentage terms). To calculate the modelled allowance for each price control, predictions of the log-log models have to be exponentiated. In doing so, a bias is introduced to the predicted values of the model (we call this a 'log bias'). Ofwat recognises this issue and applies a form of correction in its enhancement models. We support this in our query response file on RP1, question 2.4. We consider that the same correction that Ofwat applied to enhancement models should be applied to base models. Our analysis shows that base models have a log bias of 6% in water, 4% in bioresources and 2% in wastewater network plus. These biases amount to £1.3bn in water, £469m in bioresources, and £305m in wastewater network plus across the industry. These are material for the sector and must not be disallowed simply due to a methodological bias. We note that based on the initial data share of the 2023-24 APR data the log biases appear to increase very significantly. We urge Ofwat to thoroughly review the quality of the new year of data before using it.	**Households:** We have analysed the suite of retail models with the added APR data for 2024. As a result, we believe that Ofwat should only use the total retail costs models with households included at FD. The two specifications that include it have higher R Squared values and better efficiency score ranges. So, there is econometric improvement to be made by eliminating the models that exclude the numbers of households. Besides that, it is intuitive for companies to incur lower retail costs per unit by serving more households so, in operational terms it makes more sense to use models that include it as it effectively captures economies of scale. It is consistent with the fact that our costs per unit decrease as we serve more customers.

2.6.2. Enhancement costs reallocated to botex

Since our October 2023 submission we have been progressing our delivery preparation for our enhancement investment and in doing so have reviewed the need, scope and our costs. This has included integrating our capital maintenance plans to form efficient delivery packages and routes. As such we have confirmed the scope separation between enhancement schemes and our bottom up botex plans. In some cases we have identified overlaps and have accordingly reduced the enhancement funding request. However, overall we provide evidence in our enhancement case responses as to why Ofwat's assessment of what should be funded through botex is not correct.

For wastewater, the main challenge was on the Operational Resilience enhancement cases with the original submitted value of £94m. Following the DD, we have both prioritised our needs and further reduced any scope that could potentially be determined as base investment. Our revised submissions now total £61m and we are confident there is no duplication with base expenditure:

- **The sewer sealing required for groundwater infiltration:** This is not due to asset deterioration but about making both public and private sewers watertight in high risk area. These are enhancements required to provide the resilience required for a changing climate. For avoidance of doubt, a 17% reduction has been applied to the public sewers costs based on the percentage of poor condition sewers – it is this work which could potentially overlap with base;

- **Our climate resilience enhancement case:** This has been prioritised to focus on the priority areas of Kent power resilience and flooding. In both cases the work is clearly enhancement and again, we have challenged any aspects which may potentially overlap with base investment. A 10% efficiency reduction has been applied to ensure no overlap; and

- **The Coastal Resilience case:** This has been prioritised to focus on the partnership schemes with the Environment Agency. Two Southern Water specific schemes have been removed, although we would still argue that enhancement is appropriate, at this stage, the costs may be better recognised via our Coastal Population CAC.

In water there has been a number of challenges. Ofwat has assessed that our 4 Sites Strategic Resilience Case had £65m of investment that should be funded in base. We have calculated an AMP8 base allowance of £62m for the operation and maintenance of all four WSWs. This cost is used to address ongoing opex and capital maintenance works at the sites. However, we have invested significantly more than this, £154.9m in AMP5 and 6, and £137m in the first 3 years of AMP7 across the four sites, [redacted] We are not making a like for like replacement, and the proposed investment will lead to resilience upgrades at all four sites and there is no overlap with base. Please see our response document SRN-DDR-026 for more details.

We propose to replace 300km of our distribution mains as part of our long term, leakage reduction strategy. Ofwat has derived that we should be replacing 0.4% of our network each year through base funding by what we consider to be an incorrect statistical analysis of the industry's historical replacement rates. We reassert that this 300km of mains replacement is for an enhancement in our leakage performance and is not accounted for within our base allowance.

Our further development of our NIS enhancement case has identified some overlap with base maintenance activities. This has resulted in a £4.4m reduction in our funding request where PLC replacements in the programme scope are considered to be included in botex. Other reductions have been made where we have identified other overlaps, not with botex but with other enhancements, such that we are highly confident we are not asking twice for funding of works. See our response document SRN-DDR-037 for more details.

Other enhancements have also had challenges on overlaps with base and we similarly address these in the relevant response documents.

2.6.3. Cost adjustment claims

We set out in our CAC cases why each of these cost adjustments are valid claims, and in need of accepting within the final determinations.

In general, Ofwat has taken an approach of if there is any criticism possible for a cost adjustment claim, that it will disallow the claim in full. This is not a balanced approach, and results in a negatively biased set of cost allowances. We set out our concerns in the table overleaf.

The total impact of removing our CACs is significant. The table below shows the magnitude of the cuts. We urge Ofwat to re-consider and allow for these CACs in the FD.

Table: Magnitude of the CACs that the DD disallowed*

	Requested in BP	Allowed in DD	Requested in DD response
Coastal population	£65m	£0	£65m
Water treatment economies of scale**	£24m	£0	£24m
Regional wages	£88m	£0	£88m
Wastewater growth network reinforcement	£98m	£0	£50m
Bioresources AAD	£113m	£0	£113m
Total	£388m	£0	£340m

Source: Southern Water BP; Ofwat DD.

* Excluding Metering CAC.

** The Water treatment economies of scale CAC was not submitted to Ofwat until after the BP.

Table: Summary of our concerns about cost adjustment claims

Water CACs	Wastewater CACs
Water Treatment Economies of Scale: This is a new claim which was only partially assessed at draft determination. The claim is not unique as it impacts a number of other companies, like South East Water, with smaller works. The adjustment to the allowances replicates the Weighted Average Treatment Size (WATS) factor applied in the wastewater econometric models. We provide further evidence of management control and provide accompanying files. We also provide evidence that the economies of scale variable is not correlated to population density. Any correlation is low and mainly driven by Thames Water, and exceptional outlier. Southern Water has moderate population density but a high number of small works which is largely outside management control to consolidate.	**Regional Wages:** We have provided further evidence to demonstrate that the correlation between the population density variable and regional wages is not significant (c.50%), and this reduces to below 20% when Thames Water (a significant outlier) is removed. We also show that for SWS this correlation is poor as we do not sit close to the linear best fit line – its regional wages are higher than its density, compared to the sector. Further, the other companies with a correlation above the correlation line are the water only companies operating in the South East region, which also face high wages with moderate population density. This demonstrates quite clearly that population density is not a good proxy for higher wages in the South East. We provide additional econometric evidence (in addition to the accounting method) to demonstrate the significance of regional wages as a factor. We point out that a regional wages adjustment is applied by Ofgem and provide analysis of Ofgem's cost adjustment using the pre-modelling adjustment method.
Meter Replacement: We welcome the approach to the sector-wide adjustment. We have updated the data table (CW18) to reflect the cost adjustment provided.	**Wastewater Growth – Network Reinforcement:** We accept that the growth at sewage treatment works enhancement expenditure has been assessed separately from base expenditure at DD. The network reinforcement component of the claim is immaterial. For network reinforcement, we have replicated the adjustment to allowance methodology used by Thames Water in their successful network reinforcement cost adjustment claim. The cost adjustment provided to Thames Water is directly relevant for Southern Water which has a higher forecast growth rate than Thames and is the highest of all companies. Our claim has been amended to reflect the adjustment to allowance for network reinforcement and the relevant data table (CWW18) has been updated.
Coastal Population: We provide a fully justified case with additional evidence based on actual Southern Water costs (from APR Table 7B) to demonstrate the cost premium of coastal works and materiality. We also provide case studies to demonstrate materiality and the casual link, such as significant costs of sea outfalls and coastal erosion.	**Advanced Anaerobic Digestion:** The DD did not assess our Cost Adjustment Claim for Advanced Digestion (SRN21), instead it reallocated it to enhancement and rejected it without much information except for the view that we did not provide sufficient and convincing evidence as to why this investment cannot be funded from base allowance. We disagree with Ofwat's view that this project should be funded under base allowance. We propose that the submitted cost adjustment claim should be reassessed by Ofwat. We argue that: • **Lumpy investment:** The scale and nature of the investment proposed is atypical and addresses the need for a step change from current operation. Ofwat base model captures the incremental nature of the historical technology change investments undertaken by the sector over the last 10 years. The data does not reflect, nor would appropriately fund, the step change required (i.e. strategic long-term investment); • **Comparative position:** Ofwat base model does not account for Southern Water's current position in the industry (one of the lowest AAD utilisation across the period), placing additional cost pressure from disproportionate CAD technology usage as compared to the industry norm; • **Reduced incentive benefits:** Some of the benefits of conversion to AAD listed in the DD such as incentives (e.g., Renewable Obligation Credits, Renewable Heat Incentives, Green Gas Support Schemes) are no longer available or where they are, significantly reduced in value, potentially understating the genuine and sustainable level of efficiency achievable by even the most efficient future company; • **Previously allowed by Ofwat:** Comparable atypical strategic investment for this step change in technology were undertaken by Northumbrian and Welsh in previous price control and allowed by Ofwat; • **Poor customer outcome:** The disparity between the sector utilisation of AAD and ours has further implications on our ability to achieve the efficient benchmark, making the need to invest in AAD more compelling and timelier to ensure these benefits are passed onto customers as soon as possible.

2.6.4. Unmodelled cost adjustments

Set out below we have proposed a number of responses to each of the unmodelled cost adjustments, these are reasonable and more information is proposed in each of the appendices where applicable, in the following areas:

- Energy adjustment;
- Business rates;
- EA licences;
- Climate change resilience; and
- Additional compliance and reporting costs.

Energy adjustment

We are concerned about the RPE treatment of energy costs. We urge Ofwat to consider:

- **Cash flow risk:** The use of an ex ante RPE adjustment for AMP8 which creates significant cash-flow risk for us and the sector as a whole. This was illustrated by the out-turn data for 2023/24 which could change sector cash-flows by over £1 billion. We believe that no ex ante RPE adjustment should be made and the focus for the RPE should be entirely end of AMP;

- **Ex ante RPE adjustment:** The use of different indices for the historic uplift and RPE creates unnecessary complexity and inconsistency. This can be addressed through removing the ex ante RPE adjustment and using the historic index for the RPE end of AMP true-up. If Ofwat is unwilling to remove the ex ante RPE adjustment a more pragmatic approach which does not raise cash-flow and financeability concerns should be employed; and

- **Correct cost definition:** It should also be made clear that any end of AMP true-up will be reflected in opex, as this reflects a cash cost for the business.

Outturn values for 2023/24 are now available for electricity costs as well as information needed to update the base totex models and AMP8 allowances. Just considering the out-turn electricity costs for 2023/24 has a material impact on allowances. More evidence and information is provided in SRN-DDR-025 (Energy Cost Evidence Case).

Business rates

We have provided a case for business rates that includes a calculation and proposition for the correct treatment of these costs in PR24. Business rates are outside of management control and as such, should be reflected in full in the price control allowances. We are proposing:

- **Revaluations taken into account:** Full account is taken within the determination of revaluations in 2023 and 2026 and we are allowed the amount as requested, this is in line with the previous valuations;

- **Pass-through:** The cost sharing mechanism is removed and a 100% pass through is provided; and

- **Correction for future revaluations:** An in-period true-up of actual rates costs is undertaken following the 2026 and 2029 revaluations.

More evidence and information is provided in SRN-DDR-022 (Business Rates Cost Evidence Case).

EA licences

Similarly, the cost of EA licences are outside of management control. Ofwat need to fully consider the uplifted charges imposed on the water industry and these charges need to pass through, more evidence and information is provided in SRN-DDR-024 (EA Changes to Charge Proposal for Water Discharges).

Climate change resilience

Ofwat need to consider each climate change resilience case on its own account and fund efficient allowances as long as evidence is provided to account for these projects. We have prioritised our proposals, reducing the overall case to £28.9m. We expect these to be considered in the final determination and for Ofwat to provide an appropriate and justifying allowance for these proposals.

Additional compliance and reporting costs

We note the significant additional regulatory burden that the DD implies, from such new items as the enhancement mechanisms and PCDs. Each of these new features require calculation, processing, assurance in some instances and Ofwat's time. Therefore, Ofwat need to allow extra funding for:

- **Our additional regulatory burden:** The growing regulatory reporting burden it is imposing on companies and to set out an allowance for these costs; and

- **Ofwat's additional burden, passed on through licence fees:** Ofwat's own costs on monitoring and regulating the industry, it is likely Ofwat will need to increase its own licence fee, this should be a pass through for companies and therefore if this is set to increase in AMP8 this should be allowed for in the final determination.

2.7. Conclusions

We are concerned about the shortfall in funding for botex. If the DD is applied to AMP8 unchanged, we would be shortfall of £536m, which implies that we would need to find 20% efficiencies from our botex funding - something that would not be achievable.

We are also concerned that the calibration of Ofwat's modelling and unmodelled botex calculation appears to have significant flaws, which undermines confidence in the approach. Companies across the sector have overspent botex and not achieved PC targets, at a time where demands on performance and hence botex are demonstrably increasing. Ofwat's modelling may not capture these demands, as the modelling benchmarks costs from each year from 2011 onward, with an equal weighting per year.

We are very concerned that Southern Water's own modelling has become range-bound into a low investment position. We have demonstrated that water bills have been the lowest in the industry for 2o years and overall bills have been falling in real terms for a decade. When allied with the requirement to more than double our investment in the next 5 years, this suggests that our capital maintenance been underfunded for a generation.

We provide evidence that our botex allowances should be greater than those indicated in the DD. We have provided three perspectives – demonstrating flaws in the calibration of Ofwat's assessment; we have provided asset health bottom-up evidence of the need for more capital maintenance; and we have shown that Ofwat's modelled and unmodelled cost assessment should be amended. We urge Ofwat to consider the points in this chapter and to consider whether it is reasonable to expect 20% efficiencies and act to increase our botex allowance in the FD.

3. Retail

3.1. Introduction

Southern Water remains committed to its AMP8 plan to improve service across its retail activity and continue to drive efficiency. This is underpinned by investment in new systems and improvements in processes and data as well as maximising the benefits from the installation of smart meters across out network. Work on the plans to deliver these changes has already commenced under a programme called Future of Retail. The Retail plan for PR24 remains mainly unchanged from the plan we submitted to Ofwat in October.

This document focuses mainly on the total cost of doubtful debt and debt management costs in AMP 8 and the need for the cost of bad debt to increase. This is to reflect the bad debt and cost of collections that are associated with the increase in customer bills. This cost increase factors in the efficiencies we intend to make in improving our collections performance in the face of unprecedented bill increases. Through our research, customers have told us they understand bills need to rise to meet their priorities. Our business plan is about investing for the long-term to build a service that meets customers' rising expectations, and the significant challenges we face to secure reliable water supplies and protect our environment.

We recognise that increasing bills will put financial pressure on households and our plans include increased funding to support those most in need. We also have ambitious plans to continue improving our billing and collections performance as well as planning on implementing a new CRM & billing system. In addition to this we want to recognise in our total AMP retail costs that there will be increased total debt costs due to the increased bill size, which is highest in the industry, and we seek additional financial support for this in our retail allowance.

We do not propose altering any of the other retail costs previously submitted in our Business Plan.

In this chapter, we discuss:

- Total debt costs;
- Future of retail.

3.2. Total debt costs

Debt management is an important function for Southern Water. In this section, we discuss:

- Debt management costs; and
- Doubtful debt.

3.2.1. Debt management costs

For Southern Water to deliver the debt transformation and customer improvement programme there will need to be a continued investment in debt management costs. Southern is currently in the process of preparing for AMP 8 by re-defining our debt strategy. We have robust plans in place to become more digital-focused and have a simplified debt strategy to engage with customers sooner, and to ensure we engage with them in their channel of choice. However, we will still need to utilise third-party debt collection agencies to deliver our collections strategy and to ensure we meet our ambitious doubtful debt target.

As part of this customer journey improvement process, all contracts with Debt Collection Agencies and relevant commission rates are being challenged to ensure that we are paying the best possible rate. We will be reviewing all commission rates and going through a tender process for DCAs by the end of 2025. Additionally, we will ensure that all correct affordability measures are undertaken to ensure that customers can afford what they have agreed to pay with the DCA.

We will be conducting an outbound debt collection trial in Cape Town, South Africa to work debt internally through a more robust internal strategy before being sent to a DCA. Currently our customers go to DCA between days 45 to 90 if there is non-payment on their account. The trial will mean that no customer would go to DCA before day 121. The trial will start on 30/09/24 and if successful, we will extend to a permanent way of working. We are forecasting a £1.9m benefit per year in debt management costs, along with efficiencies in operating costs and a reduction in customer complaints.

As debt management is a cost line in Table RET1a, we are proposing an increase to £39.2m (shown in Table 1 below). Currently over 70% of the cost is variable and directly related to the bill size and therefore total costs are expected to increase accordingly, but following the same assumed debt lag as currently. As part of our submission we have done a number of iterations to our financial model to reprofile revenues which impacts our bill size and thus impacts debt management and bad debt costs. Further, Ofwat should take these into account when approving mid-amp delivery mechanisms as a substantial change in the bill will increase our debt management costs.

To support an ambitious improvement to our performance in this area, we have already rolled out an extensive debt and collections improvement process in 2024-25 which covers the full lifecycle of the customer journey from meter-read all the way through to payment. Improvements range from data quality through all processes to final payment options and collections, including but not limited to:

- Reduction in void properties;
- Improved new connection process;
- Home move transactional processing improvements;
- Resolution of billing exceptions;
- Communications plan for metered payment schemes;
- Enhanced early collections journeys; and
- Revised debt account management framework.

The table below shows how we are targeting a reducing total debt costs profile.

Table: Summary total debt costs

	Unit	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	AMP8
2022-23 price base				**Forecast**	**AMP 8 - response to Draft Determination**			
Doubtful debt	£'m	17.8	31.0	29.3	29.5	29.3	29.7	148.8
Debt management costs	£'m	7.0	7.1	8.0	8.0	8.1	8.1	39.2
Total debt costs	**£'m**	**24.9**	**38.1**	**27.3**	**37.5**	**37.4**	**37.8**	**178.1**

Source: Southern Water calculation.

3.2.2. Doubtful debt

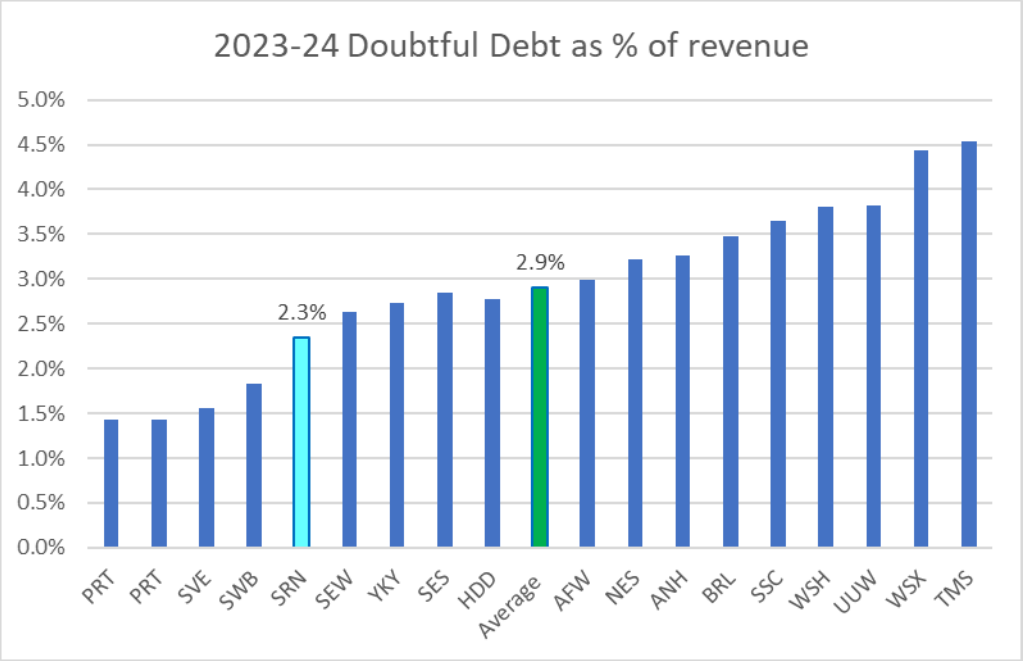
Doubtful debt is intrinsically linked to the bill size, and for each customer who refuses to pay their bill, this forms our doubtful debt costs. This means as the bill rises the doubtful debt cost will rise. Further, a higher bill also puts more pressure on the amount of customers refusing to pay their bill.

While our doubtful debt as a % of household revenue performance in 2023-24 was better than average and placed us in upper quartile performance in the industry, there are several factors that will contribute to additional risk in AMP 8.

Our concern is that we will likely have the highest bill increases in the industry, with increases far higher than inflation in this next AMP period, and that there are some elements of total debt costs that are inextricably linked to bill size. We also seek additional funding to make significant enhancements to our billing and collections activities. With adequate funding via our retail allowance, we believe we can put in place effective operational and customer experience improvements which will not only improve our performance from the start of the AMP through to the end but also allow us to maintain this improved performance.

In the figure below, which shows the 2023-24 Annual Performance Report industry results, Southern Water is in upper quartile performance at 2.3% while the industry average is 2.9%. Our underlying collections are closer to 3.4% when the cost-of-living provision release is excluded from this reported performance.

Figure: 2023-24 Annual Performance Report doubtful debt



Source: Ofwat 2023/24 APR.

While our doubtful debt as a % of household revenue performance in 2023/24 is reported as better than industry average, we still have concerns. The reported doubtful debt in our annual performance report includes a provision release relating to evidence of improved payments behaviour since 2021-22. Analysis of payments and debt collection show an improvement to the “cost-of-living' crisis, the impact of which we had been reflecting in our balance sheet provision for prudence. While this is encouraging to see, it is worth noting that the underlying in-year collections rate being closer to 3.4%, which is higher than the industry average reported for 2023-24.

We are confident the above operational enhancements will support our performance improvement and allow these to be sustainable throughout and beyond AMP 8. We are aware it will take time for results to become embedded and will be particularly challenging in the face of unprecedented bill increases.

As such, we believe that the below profile of doubtful debt as a % of household revenue is acceptable although we have done a number of iterations to our financial model to reprofile revenues this does impact our bill size and thus impacts doubtful debt. Further, Ofwat should take account of doubtful debt when approving mid-amp deliver mechanisms as a substantial change in the bill will increase our doubtful debt.

As per the Draft Determination allowance relating to Household revenue only, the % and values are as follows in the table below.

Table: Summary of doubtful debt allowance requested in DD response – these change as we iterate the financial model

Retail allowance request	Unit	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	AMP 8
2022-23 price base		Actual	Forecast	AMP 8 - response to Draft Determination					
Household (HH) revenue	£'m	620	661	1,159	1,138	1,138	1,155	1,191	5,783
Year on year increase	%			74.7%	0.8%	-0.7%	1.5%	2.7%	
Doubtful Debt	£'m			31.0	29.3	29.5	29.3	29.7	148.8
Doubtful debt as % of HH revenue	%			2.7%	2.6%	2.6%	2.5%	2.5%	

3.3. Future of Retail

Finally, our Future of Retail programme will target a number of aspects relating to our customer service ecosystem. The primary focus is to replace the aged Customer Relationship Management and Billing system as it will reach end of life from a supplier support perspective at the end of AMP8 Further, the current system is inflexible and any billing updates or application changes are costly and time intensive. The system is not efficient by modern standards, resulting in extended call durations as agents navigate multiple applications to resolve customer queries.

As well as System and process change Future of Retail will also look at the Operating model for Customer Service going forward and set a future strategy. There are a number of options to consider in this space from continuing with an outsourced supplier to insourcing all Customer Service within Southern Water.

In addition to the above efficiency challenges we have an aspiration to be able to significantly increase our digital capability offering to customers including utilising Smart metering data to be able to present back comprehensive usage information and suggestions around consumption reduction for example. Our current system cannot support this development so we must change.

We have started to assess the options in the market and consider how potential alternative solutions are designed to support improved debt management and customer behaviours so that we would be able to offer improved capability to help customers manage their accounts if and when they find themselves in a debt position on their accounts.

A programme of this scale and ambition is complex and requires proper planning and implementation to ensure our customers only receive a positive outcome as a result of the changes. We anticipate that it will take around 36 months to complete programme including customer migration.

4. Enhancements

4.1. Introduction

4.1.1. Context

This document summarises our response to Ofwat's Draft Determination assessment of AMP8 enhancement cost allowances. Ofwat's assessment, culminating in a reduced allowance of £3,269m, presents a significant gap from our business plan.

This funding shortfall comes from various adjustments and assessment methodologies used by Ofwat. We believe many of these assessments require amendment. This should lead to material revisions to our assessed allowances. Our plan also now includes revisions we have made to our plan costs since October 2023 and February 2024 submissions. These revisions are driven by a deeper understanding of project needs, evolving regulatory requirements, and a commitment to delivering the most cost-effective and appropriate solutions for our customers.

We provide a revised programme in response to the DD, which takes into account the costing evidence that underpins our plans. This evidence tells us that we will need to spend £5,240m, which is higher than the £3,269m of enhancement allowances in the DD. This creates a funding shortfall of £1,971m and implies that we will need to find 60% of efficiencies from the enhancement budget, which is not achievable.

We urge Ofwat to carefully consider our detailed responses and evidence, recognising the unique challenges present in our region. Our revised programme represents a balanced approach to delivering essential services while ensuring long-term affordability for our customers.

4.1.2. Summary of Ofwat's approach to setting enhancement allowances

- **Modelled Allowance (Benchmarking):** This primary assessment method, while useful for comparison, relies on median unit rates that in many cases does not reflect the unique complexities of our region and investment needs;

- **Deep Dives:** While appropriate for material cost lines, Ofwat's deep dives resulted in significant reductions based on perceived lack of need, questioning of chosen solutions, and cost efficiency concerns; and

- **Shallow Dives:** Adjustments made to less material investments apply a top-down cost penalty based on modelled efficiency rates; neglecting project specifics, jeopardising deliverability.

4.1.3. Summary of our response to Ofwat

- **Need and optioneering:** we have a large and complex scope which is of a greater scale than we have ever delivered before, most of which we are required to deliver due to regulatory requirements and FEO dates. Ofwat's methodology does not recognise the risks that pertain in novel and atypical scope and in turn applying upfront adjustments significantly increases financial and deliverability risk to Southern Water as well as providing less protection for customers;

- **Cost efficiency**: We believe Ofwat has applied adjustments and different efficiency cuts for specific cases and does not consider these complexities and varying levels of design maturity with regards to scope. With our proposed PCDs, we believe providing us greater flexibility with our delivery mechanisms would provide greater protection for customers as funding may not be committed to until definitive scope and costs are confirmed with Ofwat;

- **Modelled Allowances:** Our internal evidence of the efficiency of our costs is often contradictory to Ofwat's modelled assessment, and we have material concerns on the suitability and robustness of several models selected by Ofwat. We present evidence demonstrating that our unit costs are often lower than industry benchmarks when considering project complexities and maturity; and

- **Revised programme:** Driven by a commitment to evolving needs and a more matured understanding of our programmes, our revised programme reflects significant changes in scope and cost for both Water and Wastewater enhancements.

4.1.4. Purpose of this chapter

Ofwat's DD assessment of our plan enhancement costs was completed on a significant planned investment, with Ofwat's process setting a reduced allowance of £3,269m post-frontier shift. These reductions have been applied using Ofwat's different methods of assessing costs made across the DD process.

These methods include rejecting some costs due to a supposed allowance provided through base. Since our base cost stated in the business plan had already been allocated to activity, and Ofwat was not systematically adding additional base cost allowances, the effect of reallocation to base was to set an even greater efficiency challenge on the operation.

Given that our cost estimates were based on best data available to us and Ofwat is not allowing for a reduction in scope, these cuts represent a financing gap between the costs we will have to incur and the funding allowances from the price control.

We have developed responses for each of our Enhancement Programmes in responding to Ofwat's Draft Determination, where we provide further evidence requested. In recognition that this provides Ofwat a significant amount of information to assess prior to the Final Determination, this summary consolidates and summarises our position.

Finally, Ofwat has created a series of enhancement and delivery mechanisms which will regulate enhancement projects during AMP8. Each of the mechanisms treat the project's scope and efficiency assessment in different ways, with some being assessed during the AMP. In this chapter, we recommend which projects are best suited to which mechanism.

In this chapter we discuss:

- **Ofwat's actions:** A description of the actions that Ofwat has taken to cut allowances from our business plan in the DD;

- **Our response to Ofwat's different assessments:** We outline a summary of our critique of the different approaches taken by Ofwat to reduce enhancement budgets;

- **Our revised enhancement programme:** We set out our revised programme, that we want Ofwat to consider as part of its analysis towards the FD. This contains a summary of evidence that supports the project business cases, which is detailed in the individual cost evidence cases; and

- **Enhancement mechanisms:** Finally, we provide our recommendation for the projects that should be treated within each of the different enhancement mechanisms that Ofwat introduced in the DD.

4.2. Ofwat's actions

Ofwat has assessed the need and cost efficiency of our enhancement cases using different methods, which we response to in this chapter. In this section, we outline:

- Ofwat's pre-assessment adjustments and omissions.
- Ofwat's assessments;
- Ofwat's frontier shift is outstripping UK productivity; and
- Effect of Ofwat's DD on our Enhancement Business Cases.

4.2.1. Ofwat's pre-assessment adjustments and omissions

Prior to their assessment, Ofwat made several adjustments to the enhancement costs they would proceed to assess for efficiency. These alterations and their purpose are listed in the table below:

Table: Pre-assessment adjustments made by Ofwat

Area of Investment	Adjustment Value	Reason for adjustment
WRMP Supply	-206.8	To separate DPC costs for Aylesford and Ford from the Southern Water delivery allowance. The allowance has been included in our summary of Ofwat's draft determination allowance.
Metering	-3.8	Allowance to be allocated to base
PR19 WINEP Carry-over	+87.3	Reconciliation with PR19 for WINEP programme

Source: Ofwat's DD.

Material omissions in the DD

Ofwat's assessment included two material omissions, one, of our request for a Bioresources AAD allowance which was submitted as a CAC, moved to enhancement, and then granted no allowance with no provided justification. The other was for our Whitfield growth project, which was included within our Growth at STWs Enhancement Business case and was submitted as a DPC project. Whitfield was not included in Ofwat's modelled response.

Table: Material omissions in the DD

Area of Investment	Adjustment Value	Reason for Omission
Bioresources AAD	112.8	Submitted as a CAC and manually moved to enhancement by Ofwat. Rejected with no supporting assessment.
Whitfield	55.0	Originally included within SUP12 data table, rather than CWW3 due to proposal to deliver via alternative delivery

Source: Ofwat's DD.

4.2.2. Ofwat's assessments

Assessment was completed using three methods: modelled allowance (benchmarking), deep dive and shallow dive:

- **Benchmarking:** This is Ofwat's preferred approach, as it allows for costs to be compared across companies directly to estimate what an efficient cost for benchmarking is. This document summarises our response to the selected benchmark models, including where have suggested improvements Ofwat may consider, and signposting to where evidence is available to complete deep dives where we have concluded this would provide a more robust assessment of business plan costs;

- **Deep dive assessments:** These have been undertaken where costs are material and does not lend itself to statistical modelling. Naturally, deep dive feedback is specific to the type of enhancement under assessment. Nevertheless, we have summarised our responses within this document and signpost to where further detail can be obtained; and

- **Shallow dives** are completed on less material investment lines, by applying company specific challenge by examining the cost efficiency of the companies when compared to their performance against benchmark models As shallow dives do not interrogate any evidence specific to the investment being challenged, rather than respond providing enhancement specific evidence, we have instead summarised our position on the application of shallow dives and where this is providing too stretching an efficiency target.

4.2.3. Ofwat's frontier shift is outstripping UK productivity

We are very concerned about Ofwat's assumptions about frontier shift, set at 1% p.a. Ofwat has relied on historical data, dating back to 1996 to model total factor productivity, as assessed by CEPA, which recommended a range of 0.8% to 1.2%[1]. It then cited the Office for Budget Responsibility forward long term assumption of labour productivity at 1% to 1.5%, which is also informed by the same historical comparison, and mentioned artificial intelligence use in the water sector as examples for how productivity could be applied.

Economic Insight has studied the appropriate frontier shift in a new report, which we use as evidence in this response[2]. This states that:

- **Under a benchmarking approach to determining frontier shift, one would generally expect the challenge to be 'higher' at times of high productivity and 'lower' at times of low productivity:** Based on underinvestment as a causal factor for low productivity, the report demonstrates investment relative to output has been declining more rapidly in the water sector than in the UK overall;

- **Historical data shows that, factually, over PR14 and PR19, the water industry delivered low productivity, in-line with the low and flat productivity performance of the UK:** The water industry is being affected by the wider UK slowdown in productivity. The report demonstrates that actual water productivity historically has been below Ofwat's frontier shift assumption. This calls into question the validity of speculation that the future productivity of the water industry, or the UK, will be materially better than the recent past in the short term; and

- **Productivity data shows that productivity performance tends to be greater in more 'high-tech' industries, and lower in more 'low-tech' industries:** While Ofwat discusses artificial intelligence, the water industry is intrinsically not a 'high-tech' industry. The water industry, by virtue of having: (i) to provide a homogenous product, the fundamental characteristics of which cannot change, for perpetuity

[1] Ofwat. "PR24 draft determinations: Expenditure allowances". P137.
[2] Economic Insight. "The importance of a balanced approach to frontier shift". August 2024.

(unlike pharmaceuticals, whereby a continuous cycle of innovation is needed to develop new products); (ii) having a relatively low utilisation of technology (say, compared to semiconductor manufacturing); and (iii) long-lived assets (which means the speed of the introduction of new technology is inherently slower than industries where the opposite is true – all else equal), is inherently not a high-tech industry.

Based on this evidence and arguments in defence of its earlier report, Economic Insights re-recommended its frontier shift plausible range of between 0.3% and 0.6% p.a.[3] We urge Ofwat to consider these points and apply an appropriately lower frontier shift in the FD.

4.2.4. Effect of Ofwat's DD on our Enhancement Business Cases

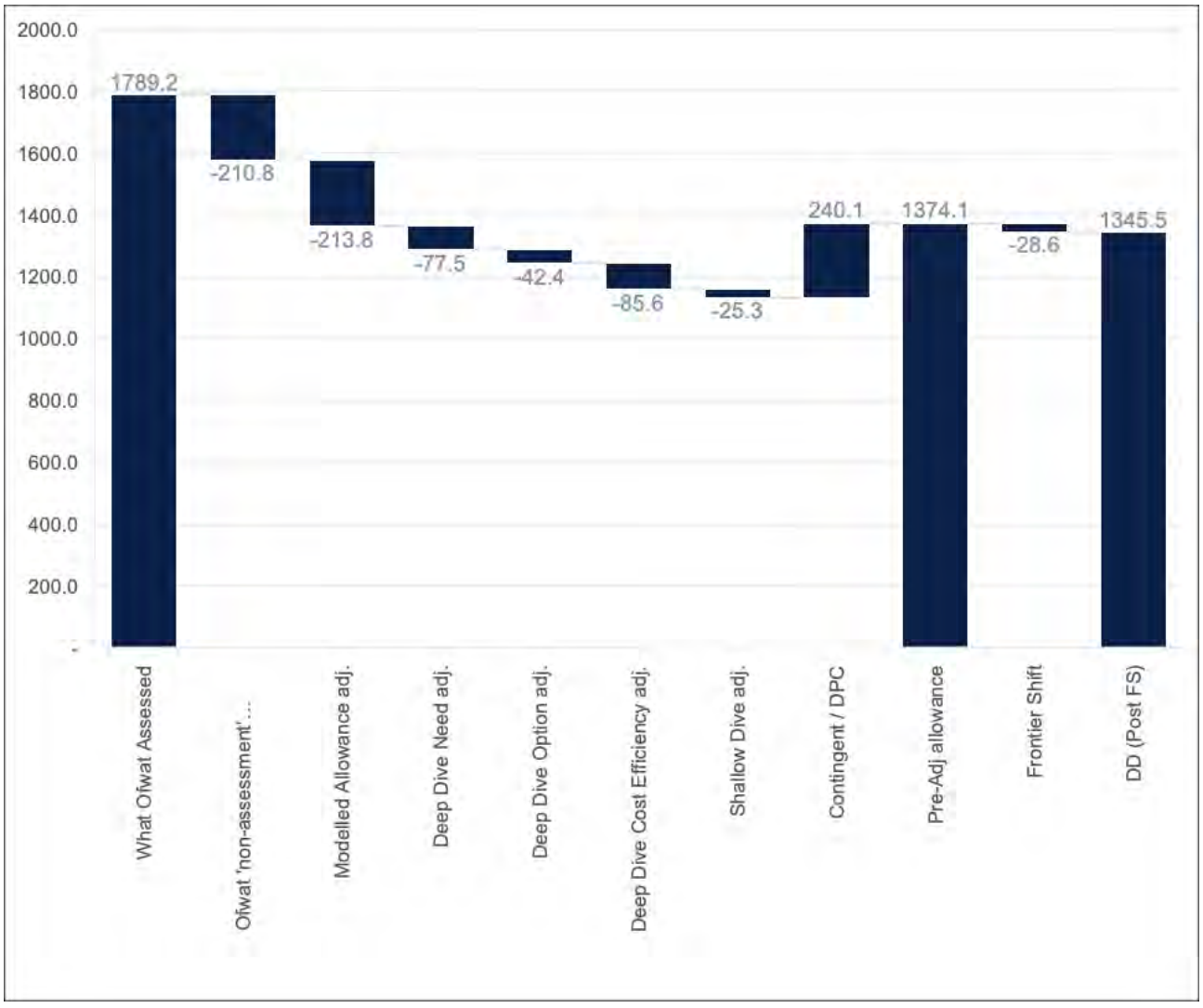
Shown below is a summary of our Enhancement Business Cases and the scale of challenge applied using each of Ofwat's methods of assessing costs. This captures the nature of the challenges applied across our enhancement cases and the total impact.

Water summary

The largest impact through model assessment was made to the WRMP Demand programme with Ofwat concluding material components of our programme would be covered by base allowances and the largest deep dive need adjustment was made to our resilience case due to being placed into the large, gated scheme mechanism, only allowing 6% of funding to enable work to progress until December 2026 at which point costs would need to be re-requested.

[3] Economic Insight. "Productivity and frontier shift at PR24". April 2023. Available for download at: https://www.economic-insight.com/wp-content/uploads/2023/05/Frontier-shift-at-PR24-05-04-23-STC.pdf

Figure: Effect of Ofwat's assessment on water enhancement programme

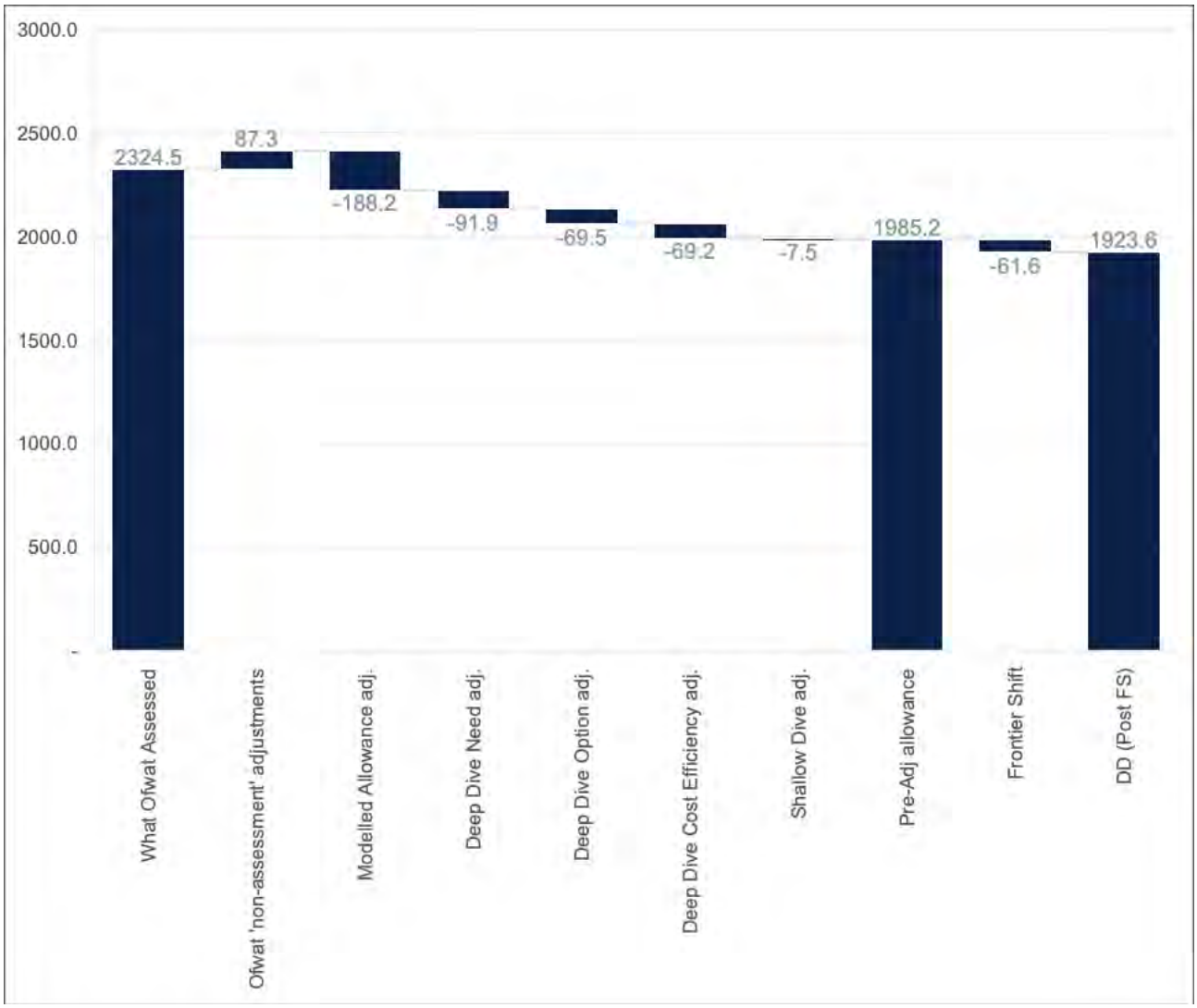


Source: Southern Water business plan and calculations; Ofwat's DD.

Wastewater summary

Across wastewater, the largest reductions included a modelled adjustment to Enhancing Wastewater Treatment and IED, for which, both models we believe have material weaknesses. Enhancing Wastewater Treatment was additionally impacted due to insufficient evidencing for optioneering, and efficiency and our Operational Resilience was impacted by due to an almost entire rejection based on need.

Figure: Effect of Ofwat's assessment on wastewater enhancement programme



4.3. Our response to Ofwat's different assessments

In the following sections, we will summarise our responses to each adjustment type, corresponding with the lines of enhancement shown in the table above. In this section, we set out our responses to:

- Ofwat's assessment of base overlap;
- Ofwat's Modelling assessments;
- Ofwat's Deep Dives: Broken into the following sub-sections:
  - Need for Investment;
  - Best Option for Customer; and
  - Cost Efficiency;
- Ofwat's Shallow Dives.

4.3.1. Ofwat's assessment of base overlap

We note that in the DD, there has been significant rejection of our enhancement cases on the basis that it should be covered by base. In total this enhancement non-allowance due to the expectation that it should be delivered from base approaches **£307 million**. The overall level of challenge by Ofwat implies a great deal more needs to be delivered from base.

Our response to Ofwat:

- We consider Ofwat has **incorrectly** assumed and **removed** specific elements from our enhancement cases based on assuming overlap with base allowances;
- Base funding has historically been **implicitly funded** through outturn spend across water companies. We urge Ofwat to reconsider its challenge on Base overlap and set out why we believe our requested enhancement allowance is distinct from any base allowances requested;
- We have **re-assessed** our enhancement cases and where we believe there are activities related to maintenance or an unknown driver, we have **removed** these from our requested allowances;
- We **are** requesting funding for activity which we deem as enhancement; **to improve** (CAPEX) and **operate** (OPEX); and
- We are **not** requesting funding for any activity which has previously been requested, and allowed in previous reviews.

4.3.2. Ofwat's modelling assessments

For our Water Programme, a total of **£213.8m** has been challenged through Ofwat modelling, i.e., revising our costs to align to modelled median unit rates. For our Wastewater programme, **£188.2m** has been challenged through Ofwat modelling.

We consider that Ofwat have in instances selected modelled approaches which in our assessment are statistically insufficient, lacking robustness or fundamentally inappropriate for setting an appropriate allowance.

These include:

- **Bioresources IED:** where Ofwat's model does not meet its own standard of statistical robustness. This model is insufficient at predicting costs for work of this type;

- **P-removal:** which omits key cost drivers such as the tightness of iron permits when setting the allowance. Following extensive discussions with the Environment Agency, a number of these permit requirements have now been relaxed for our programme by the Environment Agency, reducing the gap between our cost estimates assessed by Ofwat and our new costs. This is a scope rather than efficiency change, but illustrates the potential impact of additional cost drivers that are not included in the current models;

- **Storm Overflows:** for which the selected model aggregates the cost per m3 of storage for both grey storage and green/other, disproportionately impacting our programme. Ofwat themselves recognise the limitation of this, as when deep diving outlier schemes, they have granted us the full allowance for this exact reason; and

- **WRMP mains replacement:** we believe Ofwat's approach fails to recognize the changing regulatory context and pressures on base funding that have limited past replacement rates. We also contest the implied replacement rate funded through botex, which risks compromising the quality and feasibility of our program and don't reflect the greater scope of being leakage reduction driven.

4.3.3. Ofwat's deep dives

Ofwat's deep dive assessments use non-specific deductions which are based on applied percentage challenges across three areas; need for investment, best option for customer and cost efficiency. We believe applying blanket challenges does not accurately reflect efficiency and specific scope challenge by Ofwat.

In some instances, an enhancement request has received a 100% adjustment based on 'need for investment' (reducing our allowance to zero) and Ofwat has gone on to provide further feedback on best option for customer and cost efficiency. In these instances, we have responded both to the initial adjustment on need as well as the subsequent feedback in other areas.

Need assessment

- Ofwat's deep dive assessment of parts of our water plan has rejected **£78m**, based on need;

- For wastewater, Ofwat's deep dive assessments has resulted in **£92m** being rejected based on need;

- In some instances, Ofwat's deep dive assessments have flagged a perceived lack of need for our proposed investments, resulting in significant cost reductions. However, we believe these assessments often overlook crucial contextual factors and evolving regulatory pressures. Our determination responses provide further evidence to re-iterate the importance of these factors and pressures in informing each need case;

- It is important to emphasise that while Ofwat may challenge our allowances for certain investments based on their need assessment, our statutory obligations to deliver essential services and meet environmental standards remain unchanged; and

- Our responses provide further evidence to substantiate the necessity of these investments, highlighting their alignment with long-term environmental goals and customer needs.

Examples of our areas where we have responded to Ofwat's challenge on need with additional evidence are:

- **Resilience:** To allow us to meet our WRMP and DWI commitments, we are proposing a new resilience scheme at Weir Wood to enhance the zonal system's resilience and support environmental sustainability reductions at other abstractions;

- **NIS:** With a notice recently issued to us by the DWI, we are now required to achieve the Enhanced Specification NIS regulations. In March 2024, we responded to Ofwat's query with initial costs to meet the updated CAF commitments. We have since developed our funding request and propose it is delivered through the Large Scheme Gated Process due to the uncertainty and complexities faced by Cyber solutions; and

- **Operational Resilience:** Our revised need case for infiltration reduction emphasizes the increasing frequency and severity of high groundwater events, rendering previous management options inadequate. We present compelling evidence demonstrating that enhancing sewer systems to withstand higher groundwater levels is essential for improving service reliability and protecting the environment.

Best option for customer

- A total of **£42.4m** has been challenged by Ofwat across our Water programme, and a total of **£69.5m** has been challenged across our Wastewater programme;

- Ofwat has highlighted the lack of optioneering and evidence that has been presented with many of our enhancement cases. However, we believe we believe where applicable we have demonstrated our approach to selecting best options for customers;

- It is important to understand that many of our options proposed in the WRMP and WINEP have been subjected to regulatory optioneering processes, which includes selecting the most cost-efficient solution as part of our submissions to the Environment Agency; and

- In many of our cases (e.g. the Strategic Resilience Enhancement Programme), we have only completed optioneering where we have not been limited by our FEO dates/DWI obligations/requirements.

Examples of our areas where we have responded to Ofwat's challenge on best option for customer with additional evidence are:

- **Strategic Resilience Enhancement Programme (SREP)**: We have provided additional engineering evidence around the certainty in our engineering justification and the Totex of preferred solutions in our optioneering;

- **ENIS**: We note Ofwat's comment that there has been no consideration of cost benefit analysis and best value decision making. We will be addressing this within the Discovery phase and will submit this information as part of the Large Scheme Gated Process;

- **Reservoir Safety**: The main item of additional scope is an overflow spillway. We have used the flood report for the Weir Wood reservoir which included analysis and an option appraisal. Our response also provides further detail on the Drawdown options and why the preferred option was selected;

- **Monitoring:** We have provided further evidence of our optioneering approach, detailing output of survey/investigations done to determine scope require at each site and categorisation of complexity of work required; and

- **Enhancing waste treatment**: We have provided additional evidence detailing our options appraisal approach. This includes a detailed account of the decision flow chart for n-removal options appraisal, qualitative and quantitative assessment of unconstrained/constrained options lists, cost benefit assessments and examples of our approach in practice at Charing WwTW.

Cost efficiency

- A total of **£85.6m** has been challenged by Ofwat across our Water programme, and a total of **£69.2m** has been challenged across out Wastewater programme;

- We believe these challenges often stem from a limited understanding of the unique complexities and specific circumstances we face, thus our responses provided further evidence and context to demonstrate these issues and the efficiency of our proposed solutions, supported by updated benchmarking analysis undertaken by our cost intelligence team, third-party assurance, and further detail of cost breakdowns that we have submitted;

- We believe Ofwat has applied adjustments and different efficiency cuts for specific cases where there are known complexities and varying levels of design maturity with regards to scope;

- Ofwat's efficiency challenge does not consider the uncertainty arising from scope maturity, complexity or novelty and therefore only provides a blanket adjustment; and

- With our proposed PCDs, we believe providing us greater flexibility with our delivery mechanisms would provide greater protection for customers as funding may not be committed to until definitive scope and efficient costs are confirmed with Ofwat.

For water, the main cost efficiency challenges were driven by Ofwat's median allowances and citing lack of benchmarking evidence:

- **Strategic Resilience Enhancement Programme (SREP):** The challenge was on cost efficiency evidence and we have therefore provided details of our shadow costing and benchmarking which shows our costs are efficient and we have further challenged ourselves, applying a further cost stretch target;

- **Leakage reduction mains replacement:** Ofwat has applied a median unit cost that does not reflect the complexities and scope of our leakage programme where we need to replace all communication pipes in addition to replacing the mains and in challenging areas where extensive traffic management and stakeholder engagement are required; and

- **Reservoir Safety:** Our cost intelligence team have re-estimated our Weir Wood and Darwell Drawdown estimates based on site specific design rather than a pro-rated cost of our Bewl site which we originally submitted. We believe this is cost is demonstrably efficient and justified based on the mandatory scope required by our ARPE.

Wastewater was challenged primarily on cost evidence and not providing sufficient evidence in benchmarking and modelling:

- **Enhancing wastewater treatment:** A significant challenge to our wastewater treatment programme, primarily due to a perceived lack of cost evidence. We have note that Ofwat's draft determination modelling approach found our revised p-removal costs to be efficient, thus evidencing that our n-removal costs are also efficient. We have also provided additional benchmarking evidence to validate the efficiency of our approach;

- **Monitoring:** This was also challenged with Ofwat citing insufficient cost evidence. We have provided additional detail of our flow monitoring costing approach based on historical delivery costs and site surveys/investigations. We have also validated part of the scope through a 're-costing' exercise and included benchmarking evidence to support the costs.

4.3.4. Ofwat's Shallow Dives

Ofwat has assessed the cost of enhancement using *shallow dives* where investment lines are considered less material. Materiality is assessed as expenditure over **0.5%** of the water ***or*** wastewater wholesale totex ***and*** more than **£10 million** (or schemes with higher risk close to these thresholds). Enhancement below these thresholds is assessed via shallow dives.

Our response:

- Shallow dives are not a direct assessment of the investments that the cost estimates represent. It operates as an automatic cost penalty applied top-down;

- The immateriality of the cost estimates bears no relationship to efficiency, design maturity, customer preference or the severity of need and is unrelated to the extent of any harm to customers. To illustrate this, please see our case on Water WINEP, where we have provided evidence that despite their individual immateriality, we have clear evidence of customer preference, high priority needs and challenging efficiency rates in the cost build up. A penalty being applied to these costs increases the deliverability risk beyond what we would deem acceptable given there is no component of justification that relates to these activities that Ofwat have provided feedback upon;

- We question the quality and robustness of the underlying models Ofwat have used to assess efficiency elsewhere. The models we are most concerned with, are playing a disproportionate role in setting our shallow dive efficiency rate;

- We consider that in cases where there is direct evidence of the efficiency of a business case in fact it is inappropriate and unnecessary to apply a challenge which is predicated on a company's average inefficiency in unrelated areas; and

- We draw Ofwat's attention to the fact the Frontier Shift they have already applied to the programme and should consider this sufficient to protect customers in the case of smaller projects.

Impact of models used to set shallow dive:

Conducting 'shallow dives' based on modelled inefficiency rates can only be a robust method if the underlying models used are themselves of a high standard of statistical robustness or appropriateness. Shown below is a summary of the input modelled cost and allowances that have set our shallow dive efficiency rates. The Water table illustrates that 89% of the shallow dive rate was driven by the Leakage model. The Wastewater table illustrates that 3 models drove the rate; Bioresources IED (98%), P-removal (67%) offset by Growth at STWs (-47%).

Table: Water shallow dive input costs and final efficiency score

Water					
Area of cost	**Assessed via benchmark model**	**Allowance**	**Efficiency score**	**Assessd vs allowance**	**% of total**
Supply interconnectors	146.09	136.53	107.01%	9.56	4%
Supply	324.24	325.02	99.76%	-0.78	0%
Demand	21.44	2.99	718.28%	18.45	9%
Metering	59.61	75.68	78.77%	-16.07	-8%
Lead	2.34	3.37	69.30%	-1.03	0%
Leakage	239.03	49.78	480.18%	189.25	89%
Raw water deterioration	60.85	53.65	113.43%	7.2	3%
Investigations	12.05	5.83	206.68%	6.22	3%
Total	**865.65**	**652.83**	**132.60%**	**212.82**	**100%**
Capped efficiency score			**120%**	9.56	**% of total**

Table: Wastewater shallow dive input costs and final efficiency score

Wastewater					
Area of cost	**Assessed via benchmark model**	**Allowance**	**Efficiency score**	**Assessd vs allowance**	**% of total**
CWQM	24.55	36.49	67.27%	-11.94	-11%
Chemical removal	18.83	15.49	121.59%	3.34	3%
P-removal	444.46	373.56	118.98%	70.9	67%
Sanitary parameters	109.02	112.10	97.25%	-3.08	-3%
Sludge cake storage	31.60	38.15	82.83%	-6.55	-6%
Growth at STWs	217.57	267.06	81.47%	-49.49	-47%
First time sewerage	5.64	6.52	86.47%	-0.88	-1%
IED	174.31	70.59	246.95%	103.72	98%
Total	**1025.98**	**919.95**	**111.53%**	**106.03**	**100%**
Capped efficiency score			**112%**		

As we have noted in our section on modelling, we have material concerns relating to the statistical robustness and general appropriateness of several of Ofwat's preferred models used to set allowances. These include:

- **P-removal:** which we have highlighted has a significant sensitivity to cost drivers as the presence of un-modelled cost drivers such as iron-permits. The relaxation of these on our programme have altered our new submitted costs significantly through revised preferred options which has, in turn, improved our performance against comparable models. Our 'efficiency' has not been impacted by these changes, simply the scope of work we are obliged to deliver;

- **Bioresources IED:** which we have responded with our serious concerns over the statistical robustness and completeness of Ofwat's approach. Due to the model's low predictive power, we do not consider it to be sufficiently robust for predicting cost allowances; and

- **Leakage:** for which we believe the model materially overlooks the pressure on base funding that limited past replacement rates and the inappropriateness of the imposed unit cost.

These are three models where we have expressed considerable doubt over their applicability and suitability, and they materially influence the shallow dive efficiency rate. With these three models omitted from Ofwat's shallow dive data set, our Wastewater efficiency challenge would be entirely removed (as our efficiency score would revise to 86%) and our Water efficiency rate would reduce to 4% (with a revised efficiency score of 104%). This illustrates the sensitivity of the shallow dive approach to material models, which in turn requires Ofwat to ensure that their preferred material models pass the highest threshold of robustness and applicability, as their impact on reducing allowances extends beyond just the costs they directly assess.

Given the sensitivity of our applied shallow dive efficiency rate to these models, we urge Ofwat to re-run the shallow dive efficiency application once the re-assessment of costs and any alterations of models have been completed prior to Final Determination.

Summary

In conclusion, as the shallow dive method operates as an automatic penalty rested upon models of material weakness, we would encourage Ofwat to consider the application of their frontier shift as a sufficient cost efficiency challenge across the industry to immaterial lines of investment.

4.4. Our revised enhancement programme

In this section, we provide an outline of the revised enhancement programme that we are submitting to Ofwat in response to the DD. This programme is based on the cost efficiency evidence that we are providing in this response.

Further, we believe Ofwat should consider the extent of plan efficiency already applied via our business planning preparation as part of their broader assessment of efficiency. We have developed our plan to be a step improvement in efficiency above AMP7, carefully benchmarking direct and indirect costs. The application of our stretching PR24 multiplier uplifts have reduced **cost estimates by circa £1bn** when compared to our AMP7 rates. Beyond this, we applied an additional stretch of **£195m** in recognition that we must continually improve. Overly ambitious cost penalties applied to an already lean programme risks creating such a material cost shortfall that under delivery and under performance risk become material. This risk is more pertinent when considering the **complexity**, **novelty**, and **scale** of the AMP8 programme, almost all of which is driven by legislation.

In this section, we address:

- **Revised programme for water and wastewater:** Driven by additional enhancement needs and improved scope maturity;

- **The atypical and novel nature of the AMP8 plan:** How excessive efficiency challenge would compound the inherent risk of delivering a uniquely complex programme at scale; and

- **Efficiency that was already in the plan:** The 'top-down' efficiency embedded within the plan, achieved through stretching multiplier uplifts and targeted efficiency challenges applied across base and enhancement.

4.4.1. Revised programme for water and wastewater – summary

We have reassessed our enhancement cases, as provided alongside this response. Overall, the total cost for both water and wastewater enhancement projects has increased, in line with our cost efficiency evidence provided in response to the DD. The table at the end of this chapter contains both our response to the DD's treatment of the cases, and our revision to the cases. We further describe how the following have contributed to our updated plan:

- We have worked closely with regulators over the past year – resulting in programme changes;
- We have reviewed our enhancement programme; and
- We have made further material changes from previous submissions.

We have worked closely with regulators over the past year – resulting in programme changes

Since our October submission, we have extensively engaged with Ofwat, Environment Agency, DEFRA and DWI on our enhancement cases, and therefore believe our revised programme is justified and accurately reflects the changes imposed by our stakeholders, in particular where our costs have increased. Some examples of our engagement include:

- **WINEP:** our WINEP programme has been consulted with EA and DEFRA to reach agreement following our phasing proposal, rejected in December 2023. The full cost impact of our un-phased plan has now been assessed and is reflected in our latest submission;

- **WRMP:** our WRMP has been subjected to thorough engagement with our relevant regulators and stakeholders. Primarily, with the Environment Agency on its development, as part of the further WRSE regional modelling and finalising a compliant plan. DEFRA have confirmed we can now consult on our revised plan, commencing in September 2024; and

- **ENIS & SEMD:** We have engaged with the DWI on NIS and SEMD who have provided us with Notices to deliver against requirements. For SEMD, DWI have provided support where scope change has been required following DWI site inspections and for ENIS we have been provided a notice with delivery due dates.

Our plans have been iterated via engagement with our key stakeholders and therefore our revised programme reflects the necessary need, solutions, and costs to meet regulatory obligations.

We have reviewed our enhancement programme

Since our October 2023 and February 2024 submissions, we have undertaken a rigorous review of our enhancement plans, driven by a commitment to delivering the most efficient and effective solutions for our customers and the environment. This process has involved challenging scope definitions, refining design specifications, conducting robust benchmarking analyses to validate costs, interrogating the necessity of proposed activities, and responding to evolving regulatory requirements. As a result, our revised enhancement plans are materially different from those initially assessed by Ofwat:

- **Changes to scope:** In addition to the drivers listed above, the changes are also driven by a deeper understanding of the projects themselves, which has been developed over the past 10 months. This has resulted in significant changes to scope and cost of elements of both our Water and Wastewater enhancement plans, as detailed in the following sections; and

- **Revision to some project costs:** In some areas we have revised project costs. More details are provided in each of the project cost cases appended to this response.

We have made further material changes from previous submissions

Below are some of the key areas where our revised programme differs significantly from previous submissions:

- **Storm Overflows:** Our revised storm overflow program represents a considerable investment increase, reflecting our best endeavours commitment to meet all Defra SODRP targets and all WINEP targets. This program includes a significant increase in the number of overflows addressed and reflects the challenging timeline for delivery;

- **Growth (Incl. Whitfield):** Our revised programme reflects a substantial increase in costs for the new Whitfield WwTW. This increase stems from a deeper understanding of project complexities and the need to ensure long-term deliverability. We propose delivering the Whitfield WwTW through the large scheme gated process to manage these complexities effectively;

- **Water Resource Management Plan (WRMP) Supply:** Since October we have updated our plan to take account of the revised delivery dates of four major schemes creating our revised draft WRMP24. We submitted our revised programme to Defra for review in August 2024 and will begin consultation in September 2024;

- **Water Network Resilience and Disinfection:** The introduction of a new Enhancement Business Case to cover our need to improve the resilience of our Hastings Water Supply system, resilience of water suppliers to the Isle of Sheppey and to reduce the health and safety risk in relation to the use of chlorine gas as the basis for disinfection of treated water; and

- **Supply Resilience Enhancement:** The inclusion of our Weir Wood site within our Supply Resilience Enhancement Programme to ensure continued utilisation of Weir Wood Water Supply Works amid water quality issues, aging assets, and the fact the site can no longer be maintained due to bacterial growth.

4.4.2. AMP8 Atypical and innovative scope

Our plan incorporates emerging or atypical industry solutions and technology to meet these needs, intending to deliver at scale for the first time within the Water industry. Examples of these include:

- **Nitrogen Removal:** Our nitrogen removal plan, which we calculate accounts for 41% of the total industry allowance set at Draft Determination, represents an atypical programme being delivered at true scale;

- **Storm Overflows:** Our Storm Overflows plan, proposes to deliver significant spill reduction using innovative techniques such as SuDS, Separation and Wetlands which have not been delivered anywhere at the scale we intend to in AMP8; and

- **Water Recycling:** This has not been delivered in the United Kingdom before and we are looking to build five new recycling plants, four of which are to be fully operational by 2031.

These examples illustrate the considerable complexity, novelty, and a-typical nature of our enhancement plan. Applying any efficiency challenge to solutions of this type present an unacceptable challenge to our successful delivery, due to the inherent uncertainty associated with deploying work for the first time at scale.

4.4.3. Efficiency that was already in the plan

To demonstrate the extent to which we have endeavoured to apply a level of efficiency challenge prior to submission, we have examined what our AMP8 programme would have costed were we to have omitted two key steps under-taken prior to submission:

- **Usage of challenging multipliers:** The application of stretching multiplier uplifts for Indirect Costs, Risk and Corporate Overheads. The impact of this is shown in the table below, in the difference between our submitted plan using AMP7 rates and the plan we ultimately submitted, cutting out **£1bn** of our eventual estimates. These multiplier uplifts were benchmarked as part of our submission preparation and found to be industry leading, further details of this can be found in our Cost and Optioneering Technical Annex; and

- **Freeform efficiency:** The application of a further **£117m** of efficiency across the enhancement plan, submitted to Ofwat through the freeform lines in CWW3 and CW3. These created an additional target for us to realise through AMP8 with the flexibility to apply where most appropriate.

4.5. Enhancement mechanisms

We support Ofwat's use of different mechanisms, given the challenges of the PR24 programme. However, given the higher stakes of a larger programme comes the need to be cautious about the application of new mechanisms for ensuring deliverability and finance-ability – and the need for Ofwat to fully analyse and consider the impact of such mechanisms.

In this section, we discuss:

- Enhancement mechanisms could have merits but need a risk assessment;
- How the mechanisms should work;
- The appropriate allocation of enhancement cases to mechanisms; and
- Uncertainty mechanisms.

4.5.1. Enhancement mechanisms could have merit, but need a risk assessment

In the DD, Ofwat introduced several new mechanisms for regulating enhancement cases, each with different features:

- **Enhanced Engagement and Cost Sharing Mechanism (EECS):** Enhanced monitoring from Ofwat and less punitive cost sharing rates for schemes with greater cost uncertainty;

- **Large Scheme Gated Process (LSGP):** A 2 gateway process within-AMP, similar to RAPID, to allow for greater scrutiny of schemes with higher scope, deliverability, complexity uncertainty or novel solutions; and

- **Delivery Mechanism (DM):** For Southern, this mechanism allows for a funding request to be made within-AMP for approval of the scheme, rather than during the 2024 PR24 process.

In general terms, we support the use of different mechanisms given the complexity and size of the PR24 enhancement programme. In particular, the use of gateways in the Delivery Mechanism and the Large Scheme Gated Process is a welcome development for assessing the appropriate scheme design and cost estimates closer to the delivery time. Further, the use of less punitive cost sharing rates for schemes with less cost certainty in the Enhanced Engagement and Cost Sharing mechanism is a sensible development.

However, given the significance of the mechanisms to the delivery of such a complex and risky programme, Ofwat needs to conduct a full risk analysis to consider the impact of such mechanisms. We understand that this has not happened so far and some of the details about how the mechanisms should work is still uncertain. In the next section, we outline how we suggest the mechanisms should operate.

4.5.2. How the mechanisms should work

We have concerns about some of the specific details as to how some of the mechanisms could work, including:

- Enhanced Engagement and Cost Sharing Mechanism;
- Large Scheme Gated Process; and
- Delivery Mechanism.

Enhanced Engagement and Cost Sharing Mechanism (EECS)

We note that Ofwat has created the EECS mechanism for schemes in which there is concern about cost certainty, for example where there is a significant gap between the requested value and Ofwat's DD allowance for the scheme. We acknowledge that there are cases where enhancement cost sharing rates and enhanced engagement both protect customers and the deliverability of the scheme.

As part of our draft determination response, we are providing additional evidence to support the certainty over scope, and selected solutions within several of our programmes but material uncertainty over the likely final cost. We therefore propose Ofwat consider these programmes within the EECS mechanism. The list of programmes will be listed in the next section.

Large Scheme Gated Process

We support the introduction of the Large Scheme Gated Process (LSGP), with the ability to better assess scheme scope and costs through gateways in the AMP.

We acknowledge that the LSGP would grant up front development cost allowances of 6%, with the remaining funding permitted only on progressing through two gates. However, we note that some schemes which are suited to being regulated through the LSGP have progressed past the initial development stage (and in certain instances they have passed the first gate). We urge Ofwat to be flexible in the application of development allowances larger than 6% and/or advancement ~~t~~ straight to the second gate, should this be proven appropriate for individual schemes. It would not be in the interests of customers for schemes that could benefit from the LGSP to be partially unfunded or to be scrapped and re-started to ensure full funding.

Delivery Mechanism

The Delivery Mechanism (DM) would allow SWS to access additional funding when we are able to deliver the extended list of schemes. We acknowledge that the genesis of this Mechanism lies in a proposal we made to Ofwat in May 2024.

We note that the DD did not include all the details about how the DM would work. However, owing to the size of the programme proposed to be in the DM and the importance to our customers' interests of not mis-specifying mechanisms, we wanted to help Ofwat by setting out proposed features of the DM that were not included in the DD. These features are important to the smooth running of the DM during the AMP.

We understand the features of the DM includes:

- **Multiple mechanisms:** The Mechanism exists alongside Ofwat's usual approach to funding allowances and other new mechanisms that the DD introduces. The "extended" programme would comprise schemes in the Mechanism, while the "core" programme would remain outside the DM;

- **Delivery plan:** A delivery plan is required to set out milestones (on a site-by-site basis and including milestones consistent with the gated process in the DM) for both core and extended programmes;

- **Delivery action plan:** This plan sets out the actions the company proposes to take to expand its delivery capability and is required by all companies by April 2025;

- **Reporting:** We would be responsible for reporting between every 3 and 6 months on progress against the delivery plan and delivery action plan, with a monitoring third party commenting on our report;

- **Defining extended plan:** We would define schemes in the core and extended programmes in April 2025 (together with issuing the delivery plan and delivery action plan);

- **Known allowances in 2024:** Revenue allowances in the PR24 programme would only include core schemes; while extended schemes would only be counted upon an in-AMP determination by Ofwat;

- **Practical working of the DM:** We would request funding in years 2-4, for extended schemes to be delivered in the subsequent year, with evidence for the assessment. Ofwat would make a draft determination for consultation on the approval of the Funding Request and subsequently issue a final determination by 15 December, ahead of the bill charges decision for the subsequent year;

- **Bills:** The bill profile would be adjusted to include the RCV run-off and WACC return. Ofwat would confirm the updated RCV to account for additional investment approved; and

- **PCs:** Ofwat would also determine the appropriate performance commitment targets for the decision on funding.

Given the proportions and size of schemes that would be managed through the DM, it is clearly important that all remaining features for applying the DM are known. We make the following proposals for the remaining features that were not discussed in the DD:

1. **Criteria for allocating to the DM:** We recognise that the primary criteria for allocating schemes to the Mechanism is to maximise the deliverability of the SWS PR24 programme. Clearly, the uncertainty that remains around some schemes is a challenge to the deliverability of that scheme. The ensuing time between now and its inclusion in the Funding Request during the AMP needs to be used to resolve the uncertainty ahead of an Ofwat assessment;

2. **Updated info:** Therefore, business cases that comprise part of the Funding Request would be based on up to date information and costings at the time of submission, and the Ofwat assessment would be made afresh on that basis, during the AMP;

3. **Parts of projects:** Owing to the longevity of some projects, we are currently considering specifying parts of projects as extended schemes and within the Mechanism. If all of schemes needing to be in the Mechanism had to be included in their entirety, this would remove the opportunity for the core programme to take forward early projects in a timely manner for delivery early in the AMP;

4. **Timing of funding:** Following the in-AMP Ofwat determination to approve allowances for a scheme and an update to the RCV run-off, we would intend to update bills to reflect the remuneration of those allowances within the AMP, rather than wait until the end of the AMP. This is needed to enable the schemes to be financeable;

5. **RPEs:** Any change in real price effects within the project should be reflected in the Ofwat determination;

6. **Cost sharing rates:** Owing to the reduction in both risk and opportunity for a delayed approval, the cost sharing rates for these projects should be changed to 50:50;

7. **PCDs:** Owing to the uncertainty about projects today, relevant PCDs would also be set at the time of the in-AMP regulatory determinations, rather than in 2024;

8. **Licence adjustment:** Relevant licence adjustments to reflect updated allowances would be made following the in-AMP regulatory determination; and

9. **Appeal rights:** Following regulatory precedent, all in-AMP regulatory determinations on funding allowances would receive appeal rights, as if the decisions were made during the PR24 process in 2024 (i.e. appeals to the CMA).

4.5.3. The appropriate allocation of enhancement cases to mechanisms

We have re-considered schemes in our enhancement programme against the criteria for different mechanisms set out in the DD. On the basis of the suggestions for how the mechanisms could work given above, we have re-allocated the schemes to different mechanisms. Clearly, if Ofwat was to apply a different working for a mechanism, it would be appropriate for Ofwat to consult us again about the appropriate allocation of schemes.

Further, we note that Ofwat has set a deadline of April 2025 for Southern to allocate schemes into the Delivery Mechanism. While we set out a preliminary allocation in this response, given that we will need to allow Ofwat to allocate schemes into mechanisms, we reserve the right to make a final allocation in April 2025, as requested.

For completeness, in the table below, we include schemes which we maintain should be within Alternative / Market Based Delivery structures.

We have followed Ofwat's methodology for allocating mechanisms, with exceptions for specific reasons. Therefore, the following characteristics make the scheme relevant to the following mechanisms:

- **EECS mechanism:** Primarily, these schemes are driven by the cost challenge placed on them by Ofwat. The schemes are also large, being over Ofwat's £100m allowance threshold. Finally, schemes that need to be delivered earlier in the AMP are better suited to this mechanism, given that they are not subject to further gateways and assessment. Ofwat did not include any Southern schemes in the EECS in the DD;

- **LSGP:** Primarily, these schemes have a high degree of either scope or deliverability challenge, as well as being of significant size, with allowances over £100m. The schemes are not delivered early in the AMP, to allow for gateways to be conducted.

  Ofwat allocated 4 WSTW to the LSGP; however, we only see Sittingbourne WTW as suitable, with the other schemes being better suited to the EECS; and

- **DM:** Finally, we have allocated schemes that are not suited to the LSGP, but have relevant deliverability factors to the DM. This may be because they are smaller than Ofwat's £100m threshold. These schemes would benefit from gateways in which scheme scope and costs could be re-considered for their deliverability within the AMP.

The table below shows our proposed allocation.

Table: Allocation of schemes to enhancement mechanisms

	Enhancement Business Case	Project	Scope uncertainty	Cost uncertainty	Uncertainty due to Deliverability, Complexity or Novel	Cost Criteria	Best Mechanism
Water	SREP	[redacted]		✓		Over £100m	EECS
	SREP	[redacted]		✓		Over £100m	EECS
	SREP	[redacted]		✓		Under £100m	EECS
	SREP	[redacted]		✓		Under £100m	EECS
	SREP	Weirwood WTW		✓		Under £100m	EECS
	SREP	Water Resilience (e.g. Hastings)	✓	✓	✓	Under £100m	DM
	WRMP Supply	Sandown WTW		✓		Over £100m	EECS
	WRMP Supply	Sittingbourne WTW	✓	✓	✓	Over £100m	LSGP
	Raw Water	Water Studies	✓	✓	✓	Under £100m	DM
	NIS & SEMD	NIS and SEMD	✓	✓	✓	Over £100m	LSGP
	WRMP Supply	SLM		✓		Over £100m	EECS
	WRMP Supply	Other WRMP Supply Schemes	✓	✓	✓	Under £100m	DM
	WRMP Demand	WRMP Mains Replacement			✓	Over £100m	DM
Wastewater	Monitoring	Continuous Water Q Monitoring			✓	Under £100m	DM
	Enhancing Waste Treatment	P Schemes			✓	Over £100m	DM
	Enhancing Waste Treatment	N Schemes			✓	Under £100m	DM
	Storm Overflows	Storm Overflows (2035s)			✓	Over £200m	DM
	Storm Overflows	Storm Overflows (all 2027's)		✓		Over £200m	EECS
	Growth	Whitfield	✓	✓	✓	Over £100m	LSGP
Market Based Delivery	WRMP Demand	Smart Metering			✓	Over £100m	Market Based Delivery
	Bioresources	Bioresources AAD			✓	Over £100m	Market Based Delivery
	Storm Overflows	Local Authority SUDS			✓	Under £100m	Market Based Delivery
DPC	WRMP Supply	Aylesford re-use & Ford re-use bundle			✓	Over £200m	DPC
	SRO	HWTWRP			✓	Over £200m	DPC
	SRO	SESRO			✓	Over £200m	DPC
	SRO	T2ST			✓	Over £200m	DPC

We provide further detail on the applicability of individual projects to these mechanisms in each of our supporting case documents.

4.5.4. Uncertainty mechanisms

As part of Ofwat's draft determination they proposed a number of uncertainty mechanisms. These mechanisms are there to predominantly manage any areas where due to unforeseen circumstances there could be a large change in costs.

We welcome the flexibility these additional mechanisms will give us and have proposed a number of other uncertainty mechanisms for Ofwat to consider.

Table: Treatment of uncertainty mechanisms in our revised enhancement programme

Investment area	Source	Mechanism	£m in scope of uncertainty mechanism	Costs within SW business plan, £m
Metering – boundary boxes	New proposal	Boundary boxes uncertainty mechanism	£177m	£42m
Bioresources – landbank availability	New proposal	Notified Item	n/a	0
PFAS Uncertainty	New proposal	Hybrid uncertainty mechanism	n/a	0
Indexation of RPEs	Ofwat's DD	Ex post true ups	n/a	n/a
Monitoring of emergency overflows increased scope of investment by 2030	Ofwat's DD	Storm overflows uncertainty mechanism	£70m (estimated)	0
Storm overflows 2030 programme – 129 overflows	Ofwat's DD	Storm overflows uncertainty mechanism	£338m	£338m

We discuss each investment area and its uncertainty mechanism treatment below.

Boundary boxes[4]

We have assumed 6.7% boundary boxes will need repair or replacement within our business plan. However, there is a risk there could be significantly more boundary boxes needing repair and replacement. We will only know exactly how many need replacement once our providers have completed pre-installation surveys to plan each meter replacement. We will need to repair these boundary boxes as soon as the inspection is complete, any delay to the boundary box replacement will impact our smart meter delivery.

The financial implications of this risk are considerable. As per the evidence set out in Appendix 7.1 of our case SRN-DDR-031 (Water Resources – Smart Metering), the proportion of boundary box replacements could be up to 35%. If this were the case, this would require an extra £177m funding on top of the £42m we are already accounting for within our smart meter replacement programme.

Therefore, we are proposing an uncertainty mechanism to cover the risk of there being more boundary box replacements than we are estimating. This will ensure there are reduced financeability risks when we are replacing the boundary boxes.

As per our draft determination response we are estimating the need to replace 6.7% boundary boxes. A 6.7% of boundary box replacement is equivalent to 66,065 replacements. We are proposing the following uncertainty mechanism, as shown in the table below.

[4] SRN-DDR-031 - Water Resources - Smart Metering Enhancement Cost Evidence Case, Section 5.

Table: Proposed boundary box uncertainty mechanism

Unit	Number of replacements for uncertainty mechanism to start	Unit rate £/replacement 22/23 prices	Incentive form	Cost Sharing	Timing
Boundary box replacements	66,065 (6.71%)	£643.25	revenue	90/10	In-period

Source: Southern Water.

We recognise that in the draft determination, Ofwat rejected Anglian Water's bespoke uncertainty mechanism. We agree that it is not a bespoke issue, although as the evidence we have provided proves it is a material risk. We would encourage Ofwat to set this as a common uncertainty mechanism as Smart metering is crucial for the whole water industry and Ofwat should limit any obstacles to ensure the roll out is successful.

Bioresources Landbank availability notified item[5]

Ofwat proposes a Notified Item to protect companies against the risk of loss of landbank for recycling treated bioresources products. We have a number of concerns with this mechanism as Ofwat have proposed it, and with the industry we are proposing a number of updates to this mechanism for landbank.

PFAS uncertainty[6]

There are a number of uncertainty areas for PFAS in water these are set out below and described in more detail in the Jacobs report:

- Requirement for additional unfunded catchment investigations, in accordance with the PFAS Undertakings;
- Requirement that additional source(s), determined to be in Tier 3 within AMP8, are removed from supply, as uneconomic to mitigate the PFAS concentrations through treatment or blending. This has the associated costs of supplying water from other sources and the reduction in the resilience of the supply system, with potential Outcome Delivery Incentives (ODI) impacts;
- Requirement that source(s), determined to be in Tier 3 within AMP8, are temporarily removed from supply until unfunded mitigations can be designed and installed;
- Requirement that unfunded changes to operational deployment of source(s), determined to be in Tier 3 within AMP8, to achieve sufficient mitigation, through blending, either as the most efficient mitigation, or until mitigation can be installed;
- Additional, unfunded, analytical laboratory costs and potentially research costs to develop suitable analytical methods for the detection of new analytes;
- Additional, unfunded, waste disposal operational costs for water treatment sludges;
- Requirement for additional temporary, and mobile, treatment on temporary discharge consents to comply with environmental requirements. This treatment is unfunded within the existing programmes of work; and
- Unfunded increases in construction costs for planned investment where previously unidentified PFAS contaminated materials cannot be reused and appropriate disposal routes are required.

[5] Biosolids Notified Item Appendix 9 of SRN-DDR-016: Bioresources AAD.
[6] Jacobs. WaterUK submission on PFAS uncertainty at PR24.

There are further areas of uncertainty in wastewater too, these are described in more detail in Jacobs report[7].

- Requirement for unfunded investigations (e.g. trade effluent permit investigations) driven by water price control issues (loss of water source due to PFAS issues);
- Identification of problematic trade effluent imports, whether via sewer or tanker trade, and preventing those imports occurring will impact on commercial income;
- Requirement for unfunded investigations (e.g. trade effluent permit investigations) driven by Bioresources price control industrial emissions directive issues (sampling of PFAS in liquor returns);
- Implications of and cost of R&D and piloting new treatment trials (e.g. New research suggesting current methods of treatment are not optimal, and cost of redesign of anything currently in design, plus the cost of piloting those new processes);
- Cost of additional risk of EA imposing new permit conditions requiring new treatment processes for new EQS. Whilst there is an increasing desire by the EA to see new regulations met within the plan period rather than in the next plan period, it is probable that this requirement would be funded through WINEP and PR29;
- Cost/resource implications of additional monitoring at WwTW driven by Water price control supply issues;
- Cost/resource implications of additional monitoring at WwTW driven by regulatory requirements (e.g. New EQS - although this would most likely be funded through WINEP at PR29);
- Potential to reduce acceptability of sludge transfers into digestion sites which will impact on biogas utilisation income and require a new sludge outlet identifying; and
- The implication of new regulations or standards happening late in AMP8 that frustrates the development of LTDS, DWMP or PR29, and requires late changes.

Ofwat need to consider how to control for these uncertainties, in the Jacobs report they set out a number of potential uncertainty mechanisms that could be applied to mitigate the uncertainty around PFAS[8].

Indexation of RPEs

Ofwat proposes to apply ex-post true ups for RPEs on labour costs for wholesale labour, labour costs for retail labour, energy costs and a true up on materials, plant and equipment enhancements.

We welcome Ofwat's approach in applying these ex-post true ups although, specifically the separation of labour RPEs and the true up on the construction indices for enhancement expenditure.

We have made a separate representation on SRN-DDR-025 Energy Cost Evidence Case where we discuss our concerns with your current approach to the cost adjustments and the ex-post energy true-up.

[7] Ibid.
[8] Ibid.

WINEP - Emergency Overflow flow monitoring[9]

Defra sent an email to us on 7 August 2024 saying:

> "*we are likely to require monitors to be installed at 100% of emergency overflows by 2035. This would likely mean increasing requirements in PR24 for roll-out from 25% to 50%. A formal confirmation of this approach will follow, subject to some final internal decisions, but we would be grateful if you could start preparing your response to Ofwat's Draft Determinations accordingly*".

The email was received too late to change our response to the Draft Determination. However, we request that Ofwat utilises its Storm Overflow Uncertainty Mechanism to enable us to deliver any such changes in the regulatory requirements for AMP8.

The costs of the programme to address the highest priority 25% of sites by 2030 is almost £70 million. We have not costed to the same robust level of detail the next 25% of sites, so our best estimate of the materiality of this request from Defra is the addition of a further £70 million to our WINEP.

The Storm Overflow Uncertainty Mechanism would provide the additional funding through the PR24 reconciliation at PR29 for the overspend from these additional 25% of monitor installations delivered.

Storm Overflows uncertainty mechanism[10]

Ofwat proposed a Storm Overflow Uncertainty Mechanism in its Draft Determination to enable water companies to swap in or out overflows if the regulatory requirements change during AMP8. It also allows water companies, where it is not possible to swap out existing schemes, to deliver any additional storm overflow schemes and storage in the 2025-30 period.

The uncertainty mechanism will provide additional funding for companies through the PR24 reconciliation at PR29, if companies have delivered additional work in AMP8 and have overspent the storm overflow storage scheme allowances. We support the introduction of this uncertainty mechanism.

4.6. Conclusion

In conclusion, this document has summarized our response to Ofwat's Draft Determination assessment of our AMP8 enhancement cost allowances.

The funding shortfall stems from various adjustments and assessment methodologies used by Ofwat, many of which we believe require amendment and re-assessment based on the new evidence we have provided, which should lead to material revisions to our enhancement allowances.

In addition, our plan also now includes revisions we have made to our plan costs since October 2023 and February 2024 submissions. These revisions are driven by a deeper understanding of project needs, evolving regulatory requirements, and a commitment to delivering the most cost-effective and appropriate solutions for our customers. We recognise the challenge this affords the regulator as well as ourselves, and we have proposed use of the mechanisms introduced by Ofwat at Draft Determination to balance delivery capacity and uncertainty.

We urge Ofwat to carefully consider our detailed responses and evidence, recognizing the unique challenges present in our region. Our revised programme represents a balanced approach to delivering essential services while ensuring long-term affordability for our customers.

[9] SRN-DDR-045: WINEP – Monitoring Enhancement Cost Evidence Case, Section 3.3.
[10] SRN-DDR-046 – WINEP Storm Overflows Enhancement Cost Evidence Case, Section 5.

Table: Summary of responses on enhancement cases

Enhancement Case	Assessed Plan	DD Allowance	Ofwat 'non-assessment' adj.	Ofwat: Shallow Dive	Ofwat: Modelled	Ofwat: Need Assessment	Ofwat: Cost Efficiency	Ofwat: Best option for Customers	Revised programme	Ofwat Challenge	Southern Water Commentary
WINEP	74.36	50.46	-	-7.24	-6.4	-	-5.22	-5.22	74.36	Ofwat asked for investigations to be categorised into 3 categories: desk based, simple modelling and complex modelling then only applied a flat median unit cost rate for investigations as opposed to an expected tiered approach. Of the 7 schemes within the Biodiversity and Conservation category there are 4 schemes that are proposed for AMP8 pending completion of the AMP7 investigation, that are shown as holding lines (as per WINEP guidance). Ofwat has requested that additional information is required to support the "best option for customers" and has applied a 20% adjustment. Ofwat has requested that we provide evidence of how cost efficiency has been considered and assured by a third party.	We have outlined how all of our investigations are more complex in nature with no desktop studies, thus making an application of the median unit rate unrepresentative and unfair. We also note that the model for investigations produces highly skewed outcomes, with companies receiving wildly disparate funding levels compared to the initial requests. Ofwat's proposed 20% reduction for optioneering clashes with the Environment Agency's (EA) mandated process, which requires AMP8 requirements to be finalized once AMP7 investigations are complete. We will submit the necessary options information as it becomes available. Despite acknowledging that three schemes met the required information level, Ofwat applied a blanket 20% reduction to the entire category. We believe this is unreasonable and request the removal of this reduction.
WRMP Supply	590.09	326.61	-207.0	-12.74	-9.58				743.7	Challenges on supply related to non-PR19 delivery, non-enhancement (base overlap), Scope justification, and reallocations of DPC cases into Large Gated delivery mechanisms For supply multiple factors led to modelling changes to the amount based on Ofwat's determination of scheme complexity and if previously funded in AMP7. For interconnectors the challenge was based on the total cost of the schemes to be included in the modelling to output the updated.	We have updated our PR24 submission to align with our revised draft WRMP24 and have included updated costs where we have continued to refine the scope and costs in line with market values. For schemes that remain in the new WRMP24 that were also part of the PR24 WRMP, evidence has been provided to substantiate efficiency challenges. Our enhancement requests for the Andover Main Link and Southampton Link Main interconnector schemes have been updated, reflecting current scope, delivery dates (now aligned with our revised draft WRMP24 for 2030 completion), and benchmarked costs to ensure efficiency. For supply schemes, we've provided more evidence on scheme maturity and project development if remaining in WRMP24. Since October we have updated our plan to take account of the revised delivery dates of four major schemes creating our revised draft WRMP24.

											We have updated Sandown cost evidence with revised cost estimates and benchmarking.
SROs	200.98	151.34	-	-	-	-	-49.60	-	336.60	15% cost challenge to the development allowance for SESRO and T2ST	T2ST – We challenge the basis of the 15% pre-construction development cost challenge applied due to a lack of transparency regarding the benchmarking data used. We maintain that our cost estimates are robust and well-assured, supported by a comprehensive cost assurance exercise completed for RAPID Gate 2 and ongoing engagement with RAPID throughout the Gate 3 and Gate 4 stages. SESRO - While Southern Water has not independently assured the SESRO cost profile, we note that the original cost estimates were based on Thames Water's (Lead Developer) RAPID Gate 2 submission, which included external assurance from Jacobs. Significant scope and cost changes have been developed and evidenced for the 3 SROs: The Hampshire Water Transfer and Water Recycling Project (HWTWRP), Thames to Southern Transfer (T2ST) and South-East Strategic Reservoir Option (SESRO).
WRMP Demand	260.48	52.77	-	-	-207.66	-	-	-	173.4	Ofwat deems our unit costs excessively high compared to their benchmarks and question whether the activities are already accounted for in their existing models. Ofwat specifically demands greater transparency in our benchmarking. As a result, they propose using an industry-median unit cost based on our reported benefit, significantly reducing the allowed funding. For leakage and mains replacement, Ofwat has adjusted our proposed costs based on their calculated industry median unit rates. This adjustment aims to align our funding with the expected volume of benefit from our leakage reduction and mains renewal activities.	We believe Ofwat's reliance on a median unit rate benchmark for water efficiency investments is flawed, as it overlooks company-specific circumstances and the varying maturity of different initiatives. Since our initial submission, we've refined our programme to focus on the most cost-effective activities, including optimized audit programs, our innovative Business Partnership Fund, and continued investment in water efficiency education. This revised program, requiring a minimum funding uplift to £7.574 million, is essential to enable us to achieve our contribution towards our WRMP aligned business demand and PCC targets. For leakage and mains replacement, we believe Ofwat's approach fails to recognize the changing regulatory context and pressures on base funding that have limited past replacement rates. We also contest the imposed unit cost and PCD profile, which risk compromising the quality and feasibility of our program. Leakage - propose several new leakage management interventions including advanced find and fix, digitalisation / smart networks and advanced pressure management which will help us to reduce leakage in line with the requirements of our latest water resources management plan (WRMP24)

Raw Water Deterioration	100.41	85.28	-	-5.3	-7.2	-	-1.3	-1.3	90.1	Ofwat modelling suggests that our DFRP costs are more expensive than the industry median, thus they have allowed us less than we requested. Ofwat suggests we have not provided sufficient evidence that we have considered the full impact that each option would provide for our two Nitrate schemes subjected to deep dive. For our Emerging Contaminants Study, Ofwat believes we have not evidenced the decision-making process to justify the optioneering process and proposed solution fully. Ofwat noted minor concerns as to whether the investment for the two Nitrate schemes deep dived is efficient due to a lack of cost comparison evidence and third-party assurance. They also believe we need to show further evidence that our emerging contaminants study investment is efficient (e.g., output from SME's or benchmarking, to demonstrate.	No changes to the scope of work since our October 2023 submission. In recognition of the challenges received to our Water Programme, we have applied a further efficiency challenge to all of the schemes within this enhancement area of 5%, thus our updated funding request is for raw water deterioration is £95.2m. We have included updated benchmarking which shows our direct UV costs are cheaper than comparable WaSCs benchmarked. Thus, our total costs are higher due to additional complexities that we face at our sites (e.g., complex planning mitigations, ecology/habitat factors and land purchase requirements) resulting in our overall scheme costs being more expensive. We have outlined the additional complexities faced at each of our sites. We have reaffirmed that our original business case demonstrates a robust, customer-focused approach to selecting the most cost-effective Nitrate solutions. We've further strengthened our proposal through close collaboration with the DWI, ensuring our chosen interventions are technically sound and prioritize public health. We have included benchmarking from Mott's MacDonald which shows that our sampled Nitrate projects were cheaper than the average of 8 comparable UK WaSCs benchmarked. For the emerging contaminants study, we have demonstrated our cost efficiency by outlining the tendering process for this work (cheapest bid selected)
SREP	304.10	249.49		-	-	-28.8	-18.3	-7.265	399.1	£217.5m relates to [redacted] which have been put into the large scheme gated process. Ofwat assumes a 6% (£13.9m) funding allowance for these WTW's is sufficient to develop the scheme till the next investment gate 3 in Nov 2026. For the other two WTW's, Ofwat have noted that we have not provided sufficient and convincing evidence that there are no overlaps with base allowances and previously funded enhancement schemes. Ofwat challenged that we have not provided sufficient and convincing evidence to demonstrate that the	We request the additional £217.5m through the large schemes Enhanced Engagement and Cost Sharing (EECS) mechanism because: • Our programme is largely underway and driven by FEO dates • We are putting forward and additional resilience scheme to improve he resilience of the zonal system and [redacted], hence rebuilding Weir Wood at £74.3m. This also allows us to meet our WRMP and DWI commitments • We have since identified cost efficiencies, e.g., [redacted] ceramics This investment does not overlap with base, we have not been funded for this works before, e.g., we have not been funded for GAC and RDF at [redacted] in the past For majority of our investments, we have been mandated by DWI on the type of interventions, i.e., how each issue is to be addressed, therefore we have not been able to consider

										chosen options are the most cost beneficial in comparison to alternatives. Ofwat challenged that we have not provided sufficient evidence around the certainty in the engineering justification and the Totex of preferred solutions in our optioneering. Ofwat noted that no cost curves are provided in the business plan and there is no breakdown of cost estimation for individual components. The company has stated there was a cost assurance process from a third party, but no information is provided on the scope or rigour of this process.	options for all of our interventions. We have only completed optioneering where we have not been limited by our DWI obligations. We have provided additional engineering evidence around the certainty in our engineering justification and the Totex of preferred solutions in our optioneering. A 6% (£13.884m) funding allowance for [redacted] through LSGP is not sufficient to develop the scheme till the next investment gate 3 in Nov 2026. These programmes are in flight, and we require a total of £60m. We are putting forward an additional resilience scheme (Weir Wood) to improve the resilience of the zonal system [redacted] hence rebuilding Weir Wood at £74.3m. This also allows us to meet our WRMP and DWI commitments We are proposing all five sites for the Enhanced Engagement Cost Sharing (EECS) mechanism.
Metering	63.40	75.68	-3.8	-	16.064	-	-	-	184.2	Ofwat has allowed £16.1 more enhancement expenditure than requested by the Smart Metering Enhancement Business Case.	There remains risk to this allowance based on what Ofwat deems to be in-scope of the unit rate allowed. We will therefore log a query with Ofwat, before judging whether to accept or challenge this allowance. We have further considered our cost evidence relating to the large scale replacement of our meter portfolio. In particular this has focused on establishing the proportion of meter replacements that will be simple (i.e., a screw-out / screw-in) or complex (i.e., a boundary box needs to be excavated and reinstated before a meter can be installed). We have also further refined the allocation of in-house costs vs costs that will form part of Market Based Delivery.
Reservoir Safety	21.19	9.40		-	-	-3.440	-4.238	-4.238	30.9	Ofwat identified £2.425m related to general maintenance and provides insufficient evidence all investment is enhancement rather than base maintenance. Ofwat believes there is limited range of alternative options that have been considered and whether the proposal is best value for money including cost benefit analysis. Ofwat stated there is insufficient evidence that the proposed costs	We believe the £2.425m Ofwat identified relates to the valve actuation and piezometer works and we have excluded these as part of our revised submission as we have identified these activities as being part of maintenance. We now have greater scope certainty from the All Reservoirs Panel (S10 report) which includes minor changes to mandatory scope. The main item of additional scope is an overflow spillway. We have used the flood report for the Weir Wood reservoir which included analysis and an option appraisal for size, location, and design of the emergency overflow spillway. Our response also provides further detail on the Drawdown options and why the preferred option was selected.

										are efficient including benchmarking and assurance.	We have revised cost estimates for Drawdowns at Weir Wood and Darwell based on site specific design.
ENIS	122	36.6	-	-	-	-36.6	-24.4	-24.4	99.4	Ofwat finds insufficient evidence of information, scale and timing and that there are no overlaps with base allowances and previously funded enhancement security schemes in either water cyber documents. Ofwat stated there was insufficient evidence to justify costs and had concerns about base overlap. Concerns were mainly for the larger parts of the programme and how the costs were built up. Ofwat believes we present limited optioneering, which is of a strategic nature in the NIS submission. Ofwat did not find evidence how solution options have been robustly assessed and evidenced.	Our response now provides a detailed breakdown of the proposed works for each project and the overall needs case for the programme of work as well as a breakdown of PMO costs to oversee it. Additional scope has been added since Feb 24 Submission including Risk management and Physical Security. We are proposing the use of the Large Scheme Gated Process, which will enable us to complete our Discovery phase and submit the required evidence providing greater customer protection. Revised cost of £99.36m with an approach of inclusion with SEMD for the Large Scheme Gated Process to meet DWI deadlines of compliance. We have re-assessed our proposed programme of cyber improvement and where we have deemed the activity is related to maintenance or an unknown driver, we have removed these costs from our revised estimate. The review removed £20.74m.
SEMD	11.3	7.75	-	-	-	-2.3	-1.1	-	50.5	Ofwat challenged the need for the full investment due to concerns about potential overlaps with base allowances and previously funded enhancement schemes. Ofwat finds insufficient evidence demonstrating how base overlap was considered, particularly regarding the replacement of existing security measures, and seeks clearer explanation of the company's risk identification and management processes. Ofwat has questioned the cost efficiency of the proposed SEMD investment. They find the claimed 17% efficiency challenge unsubstantiated and lack evidence of external benchmarking to support the final costs. Additionally, Ofwat seeks further details on the independent security expert involved in assuring the	Identified external security consultancy used to undertake mandatory annual compliance audits and detailed methodology of the audits. The more detailed site audits in 2024 revealed a significantly larger scope of work required to meet compliance standards. We engaged the external security consultancy to scope and cost the identified interventions required for compliance. We have included benchmarking results from Mott Macdonald which concluded that costs were efficient. Significant change in scope of SEMD interventions we need to deliver in order to achieve compliance in AMP8 with SEM22, PSG and WUKSS. Revised cost of £50.498m has been requested to cover additional sites and scope. We

										scope and costs, specifically their identity and the assurance process used.	
Lead	2.34	3.37	-	-	1.0	-	-	-	19.9	Ofwat proposed rates are slightly lower than our proposed rates.	We believe there is an error in the original calculation for lead replacement, although this is superseded by the changes to our pipe numbers (detailed in our response document), we have captured the information to allow the original model to be corrected. The increase of 1,200 communication pipes has been accepted by the DWI and the Section 19 legal Undertaking (ref SRN-2023-00012), issued to Southern Water on 22nd May, includes these additional communication pipes. We have additionally determined that a further 3,748 properties with lead comm pipes will be identified through our smart metering programme. The lead pipes discovered through our metering programme are not in addition to those agreed with DWI. The new requested pipe totals are as shown in the following table.
Freeform	32.0	85.0	-	-	-	-	53.0	-	174.5	-	-
Enhancing Waste Treatment	893.3	710.6	-	-5.6	-70.5	-	-53.3	-53.3	794.4	Ofwat have applied a modelled approach to p-removal costs at a scheme level, applying a £70.16m efficiency challenge to our submitted estimates For Nitrogen removal, Ofwat requests further evidence of alternative options for each site and cost benefit analysis to demonstrate that the chosen option is the right one. Ofwat indicated that we have not provided sufficient evidence that the proposed costs efficient, noting only a high-level explanation of our costing approach and limited evidence (such as benchmarking) of efficiency.	We have assessed our new costs (reflective of relaxed iron permits) against a suite of models that compare with the preferred model Ofwat have taken at Draft Determination. Our position materially improves when using our new costs, with these new costs merely reflecting a change of scope to meet a different regulatory driver, rather than any supposed improvement in efficiency. We have provided additional detail to complement the existing evidence detailing our options appraisal approach. We have highlighted the overlap in assets between nitrogen removal and phosphorous removal / sanitary parameter tightening. We have also provided additional benchmarking evidence across our level 1 cost estimates and 5 projects scoped to level 2 design, supporting the efficiency of our costs.
Monitoring	140.8	119.4	-	-0.9	11.9	-6.9	-18.6	-6.9	161.1	Ofwat have applied an uplift to our allowance to bring costs closer to the industry median unit rate and raised concerns that the proposed investment is not fully consistent	Our view of Continuous Water Quality Monitoring costs has changed and been revised to provide a thorough account of the scope required to deliver this in-house.

										with the company's WINEP schemes. For U_MON4 Ofwat noted that the proposed investment is not fully consistent with the company's water industry national environment programme (WINEP) schemes. A lack of correlation between action numbers submitted in our Sep 23 WINEP and supplementary information we provided on the breakdown of the 2025-2030 programme was noted. Also, Ofwat raises some minor concerns regarding our categorisation of flow monitoring sites based on the complexity of installation work, requesting justification for our approach and detail as to how it is site-specific and has also noted incomplete evidence of cost efficiency. For our U_MON6 actions, Ofwat has stated that we have not provided evidence of the assumptions we have made or the evidence of how costs have been developed and have not obtained third party assurance or benchmarking for these costs.	Our initial monitoring data tables mistakenly included both U_MON3 and U_MON4 actions. Revised tables will only include U_MON4 actions, consistent with the September 2023 WINEP and eliminating any double counting. We have provided further evidence of our optioneering approach, detailing output of survey/investigations done to determine scope require at each site and categorisation of complexity of work required We have detailed our costing approach based on historical delivery across the key drivers assessed as part of our scoping work (complexity and size). We have also included benchmarking evidence to support the U_MON4 costs. For U_MON6, we have included a detailed explanation of further work we have done to 're-cost' the U_MON6 scope, validating the costs we submitted in October. We have also included benchmarking evidence to support these costs. Our response additionally captures changes to our planned actions due to revised agreements with Defra/EA for AMP8 and confirms costs for CWQM in line with previous Ofwat query.
Storm Overflows	702.9	661.5	-	-	-39.0	-	-2.2	-	1132.3	Ofwat's draft determination models for grey storage applied a £39m challenge to our submitted costs. Ofwat made a minor adjustment on our costs deep dived of £2.2m	Our changes since February 2024 and our resulting storm overflows pro gramme signifies a considerable investment into storm overflows. It will meet all the Defra SODRP targets and aligns with the version of the WINEP provided by the EA on 5 July 2024. Our programme now also meets the timetable set by the EA for the Water Framework Directive regulations requirements. But it remains a challenging programme in terms of affordability and deliverability. Costs have changed significantly across our Storms plan. Evidence to support these new costs is provided within our response document.

											New programme includes 297 overflows – 118 more than in October 2023 – with 4 to be completed by March 2027, 50 by June 2027, 129 by March 2030 and 114 that need to start in 2028 to meet the Defra targets by March 2035.
Wider Environmental Enhancement (WINEP inc. Investigations)	67.0	48.6	-	-1.0	-	-	-11.5	-5.8	47.4	Ofwat raised minor concerns suggesting we had provided inadequate evidence to demonstrate how our categorisation of complexity had been applied Ofwat highlighted inadequate evidence of benchmarking or assurance to support efficiency of costs.	The total number of investigations now required for AMP8 is 345. This is 114 less than the 459 investigations we had reflected in the February 2024 data table submission. We have provided a summary document detailing how complexity assessment has been completed and subsequently apportioned to investigations. As 4 out of the 7 schemes are reliant on the outcomes of pending AMP7 investigations, as required by the EA, we will submit the required evidence to support the cost efficiency in September 2024 and January 2025, once the relevant information is available. For the 3 remaining schemes we have provided third-party assurance on the cost estimates of the best value options. We have highlighted the overlap in assets between nitrogen removal and phosphorous removal / sanitary parameter tightening, with Ofwat's draft determination modelling approach finding our revised p-removal costs to be efficient, providing some sequential evidence our n-removal costs are also efficient. We have also provided additional benchmarking evidence across our level 1 cost estimates and 5 projects scoped to level 2 design, supporting the efficiency of our costs. In recognition of Ofwat's assessment, we have applied a 10% challenge on our costs.
Bioresources	31.6	38.2	-	-	6.6	-	-	-	51.1	Ofwat unit rate model applied a slight increase to our allowances for Cake Storage.	We have updated our plan costs for Cake Storage to include a portion of costs designed to be included within our AAD alternative delivery case which has been rejected. We expect this will alter the unit cost allowance set by Ofwat at Draft Determination, as will all other companies estimates for Cake Storage. We have also explored models for 'Other; costs and found that control & monitoring and sampling costs may be accurately modelled, but permitting and other costs cannot. We evidence that we are confident that our funding request includes IED scope items for which we have clear guidance and direction from the EA and are therefore confident in the scope.

											Highly uncertain scope items have been omitted from scope. We are engaging closely with the EA and industry to manage these. Additional evidence is provided to enable Ofwat's assessment. This is structed according to Ofwat's enhancement assessment criteria. This includes site specific scope and cost breakdowns, and benchmarking.
Bioresources IED	172.1	69.7	-	-	-102.4	-	-	-	171.1	Ofwat's preferred modelled approach has assessed secondary containment and tank covering costs individually and aggregated all other cost line items into a single category called 'other'. This Ofwat modelling process resulted in significant material cost reductions for secondary containment.	We have material concerns over the statistical strength of the selected model for secondary containment, highlighting that the model does not meet the robustness standards of Ofwat's own 'high' importance tests. Due to the model's low predictive power, we do not consider it to be sufficiently robust for predicting cost allowances. Ofwat have in addition, applied a 66% efficiency factor to secondary containment allowances that we would propose is inappropriate due to the model's weakness at predicting costs. We suggest that consolidating the remaining cost types into a single 'other' category and assessing based on unit cost efficiency in terms of sludge production does not align with engineering rationale, due to sludge production being an irrelevant cost driver for most cost lines Ofwat have grouped together for this model. We have completed our own econometric modelling to determine whether we can propose a more statistically robust approach for Ofwat to adopt for Final Determination. We have been unable to create an approach that would satisfy our assessment of robustness, so would propose Ofwat instead assess costs via deep dive. We have provided the necessary evidence pertaining to Bioresources IED to enable Ofwat to take this approach. We evidence that we are confident that our funding request includes IED scope items for which we have clear guidance and direction from the EA and are therefore confident in the scope.
Growth	237.2	241.5	-	-	4.3	-	-	-	348.0	Modelled approach (with deep-dive assessment of outliers) increased AMP8 allowance by £4.3m.	The Modelled assessment with treatment of outliers appears robust, however we note that the assessment did not capture the costs for Whitfield within modelled approach. We argue the need for Ford, which requires a process capacity upgrade to accommodate additional flows and loads. We request a funding allowance is made for Ford WwTW using the deep dive approach applied to other outlier schemes. We request Whitfield is included in the large capital works gated process. We have further developed the options for Whitfield, including upgrading the existing Broomfield Bank plant. We have further

											developed these options, which has resulted in a substantial increase in the expected cost for Whitfield and a similar cost for Bromfield Bank but with greater understanding of the deliverability risk. Due to the complexities of both options and the uncertainty around viability of the Broomfield Bank option, there is still significant uncertainty in scope, complexity, and therefore cost. We therefore propose to deliver the new WwTW solution using the large scheme gated process. Evidence is provided to support Ofwat's assessment of these options.
Operational Resilience	94	2.1	-	-	-	-85.0	-3.5	-3.5	61.2	Ofwat have rejected our request for Power, Heat Stress, Coastal and Infiltration enhancement funding in the first instance through their assessment of need (although we have been challenged in instances on Best Option for the Customer and Cost Efficiency in some instances). Ofwat have introduced an enhancement mechanism to allow an 0.7% uplift of base for Water and Wastewater to act as a climate resilience uplift. Ofwat made frequent reference to a lack of benchmarking or assurance evidence to support cost estimates across our Operational Resilience cases. The majority of these cases had already had their request for funding rejected due to need, however Ofwat provided further feedback pertaining to cost efficiency.	Response on need required further evidence on frequency and severity of environmental events. Issue not related to asset deterioration. Additional evidence of need for our remaining resilience cases has been included within our response to the climate resilience uplift mechanism We have provided further evidence to support the optioneering and cost benefit analysis in our Infiltration Reduction and Climate Resilience Uplift document We have evidenced the increase the infiltration case to demonstrate the efficiency of our unit rates for traditional sewer sealing.in the model. We have provided additional benchmark evidence to support our Climate Resilience Uplift response. This exercise indicated our costs were efficient when compared with industry costs.

5. PCs and ODIs

5.1. Introduction

This document provides the evidence supporting our representations on a sub-set of performance commitments following Ofwat's Draft Determination (DD).

The table below summarises our representations.

Table: Summary of our PCs and ODIs representations

Performance commitment	Our response to Ofwat DD proposals			
	PC targets	ODIs	Caps and collars	Deadbands
Water supply interruptions	Representation	0.247	+/-0.25% RoRE	
Compliance risk index	Representation	0.433	+/-0.25% RoRE	Representation
Water quality contacts	Representation	8.921	+/-0.25% RoRE	
Leakage	Representation	0.455	+/-0.25% RoRE	Representation
Per capita consumption	Representation	0.084	+/-0.25% RoRE	
Business demand	Representation	0.063	+/-0.25% RoRE	
Mains repairs	Representation	0.053	+/-0.25% RoRE	
Unplanned outage		1.365	+/-0.25% RoRE	
Internal sewer flooding	Representation	6.388	+/-0.25% RoRE	
External sewer flooding		1.977	+/-0.25% RoRE	
Total pollution incidents	Representation	0.485	+/-0.25% RoRE	
Serious pollution incidents		0.699	+/-0.25% RoRE	Representation
Discharge permit compliance	Representation	1.033	+/-0.25% RoRE	Representation
Bathing water quality	Representation	2.079	+/-0.25% RoRE	
Storm overflows	Representation	0.386	+/-0.25% RoRE	
Sewer collapses		0.675	+/-0.25% RoRE	
Biodiversity	Representation		+/-0.25% RoRE	
Operational GHG (wastewater)	Representation		+/-0.25% RoRE	
Operational GHG (water)	Representation		+/-0.25% RoRE	
C-Mex	Representation	Lower of 0.5% RoRE or 5% of retail control revenue		
D-Mex	Representation	Lower of 0.25% RoRE or 5% of developer services revenue		
BR-Mex	Representation	0.1% of RoRE		

This document is organised in two parts as follows:

- **Part 1: Performance commitment targets**. This sets out our representations on performance commitment (PC) targets for the Asset Management Period 8 (AMP8), where our view diverts from Ofwat's DD proposals. We provide the evidence for our representations including quantified benefits from the base and enhancement activities in our plans, grounded in the evidential link between botex allowances and industry mean performance arising from that botex; and

- **Part 2: Incentive rates**. This presents a summary of our proposed Outcome Delivery Incentive (ODI) rates and caps and collars to ensure a balance of risk and return consistent with our proposed performance commitment levels (PCLs). The risk analysis set out in SRN-DDR-012 Risk Appendix and

SRN-DDR-011 KPMG Industry Risk Analysis (club project) shows that the notional company even after sector-wide mitigants still does not have P50 that delivers the base equity return and the package remains with a downside skew. The main driver of this is the suite of ODIs and we propose changes to the calibration to dampen the overall effects of each ODI, while still preserving the already strong incentives that ODIs provide.

Our representations are based on several principles which we summarise here.

Principle 1: The ODI package is mis-calibrated leading to excessive downside risk

Our package of ODIs is mis-calibrated and leads to excessive downside risk, as we detail in our risk analysis (SRN-DDR-012 Risk Appendix). For example, if we delivered our 2023/24 performance in year 1 of AMP8, we would receive a gross penalty of £212m or -5.6% RoRE, which is vastly outside the range assumed by Ofwat.

This further exacerbates the wider issue with Ofwat's cost assessment approach which, as we explain in our report by Economic Insight, does not engage with the operational realties that companies face in delivering outcomes for customers by expecting companies to deliver an ever-stretching level of performance. For details, see SRN-DDR-019 – Economic Insight - Issues with Ofwat's Approach to Base Cost Assessment Report.

Principle 2: 2024/25 baseline at level of AMP7 PCLs is unrealistically stretching and should be changed to observed industry mean

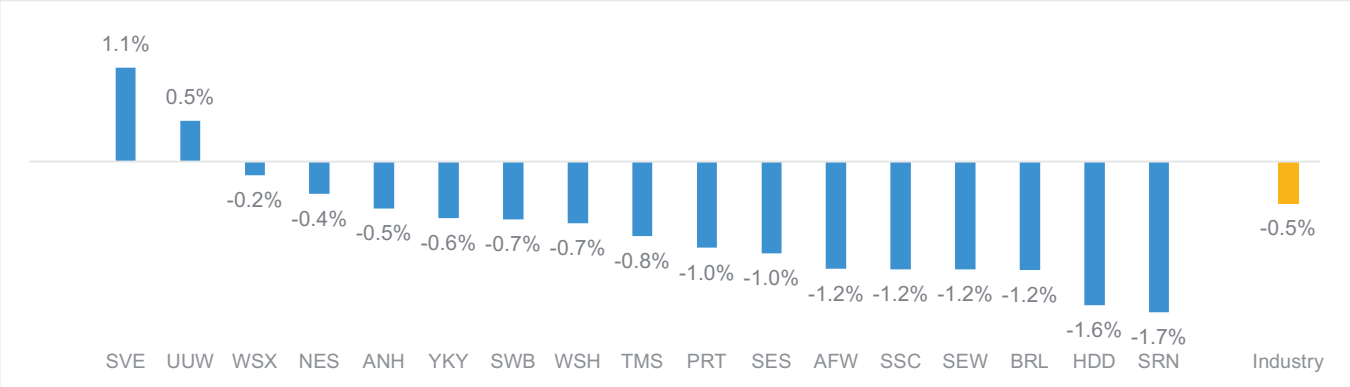
For many performance commitments, Ofwat sets the 2024/25 baseline at the level of the performance commitment target it set at AMP7 on the assumption that companies will meet their AMP7 targets. This assumption does not recognise the reality that AMP7 targets were, in hindsight, too stretching. As we show in the figures below, most companies are underperforming against their AMP7 targets, despite spending above botex allowances. Hence the performance that 'botex buys' is more accurately reflected in the observed industry mean. Starting the improvement expected for AMP8 from an unrealistically stretching 2024/25 baseline creates an extra unrealistic additional stretch.

A more balanced position would be for Ofwat to set the 2024/25 baseline at the level of the industry mean. Such approach would be consistent with how Ofwat calibrates the botex allowances which are set based on industry average costs over the past 12 years. PC starting point targets (which are funded by botex) should logically be calibrated on a similar basis, as that is what base buys – hence the 2024/25 baseline position based on current/historic industry mean.

Our representation addresses this principle for each relevant performance commitment.

At high-level, data from annual performance reports (APR) shows categorically that the targets that Ofwat set for the sector in AMP7 where not achievable. As the figure below shows, in AMP7 to 2024/25, 15 out of the 17 companies have incurred cumulative ODI penalties. Once bespoke ODIs are removed, 16 out of 17 are underperforming with the only company outperforming being SES, a small water only company.

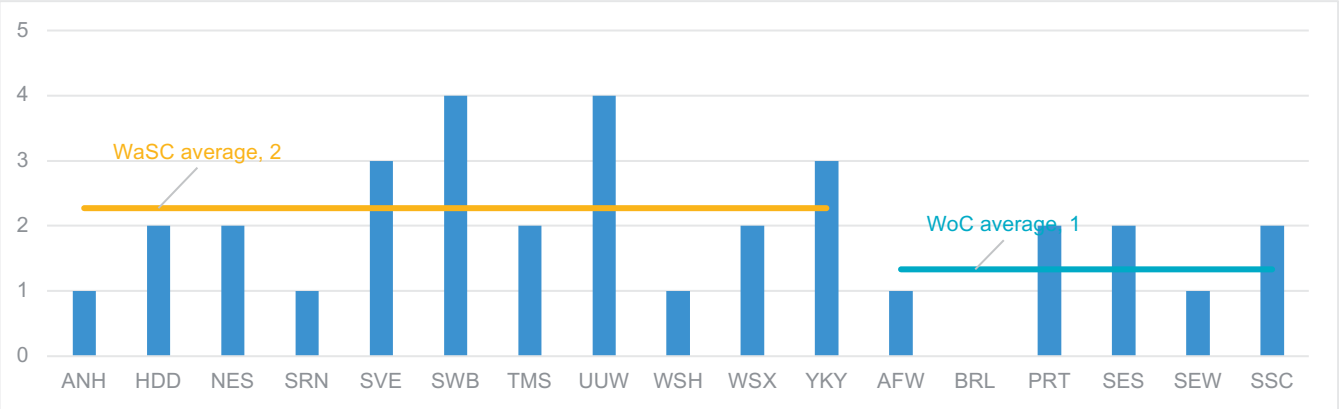
Figure: ODI payments in AMP7 to 2024-25 for common and bespoke PCs – Average RoRE



Sources: 2020-2023 - Ofwat's 2022-23 Water company performance report (WCPR); 2024 - APR data.
Note: ODI Payments exclude C MeX and D MeX payments. ODI payments include the total of in-period revenue, end of period revenue and end of period RCV payments.

As the figure below shows, no WaSC has met more than 4 (out of 10) common PCs in all years of AMP7 to 2024/25. Three WaSCs met only one of the 10 common PCs in all years to date (which happens to be unplanned outage). Among WoCs the evidence is equally striking, with no company meeting more than 2 (out of 6) common PCs in AMP7 to date in all years.

Figure: Number of common PCs met in all years of AMP7 to 2024/25



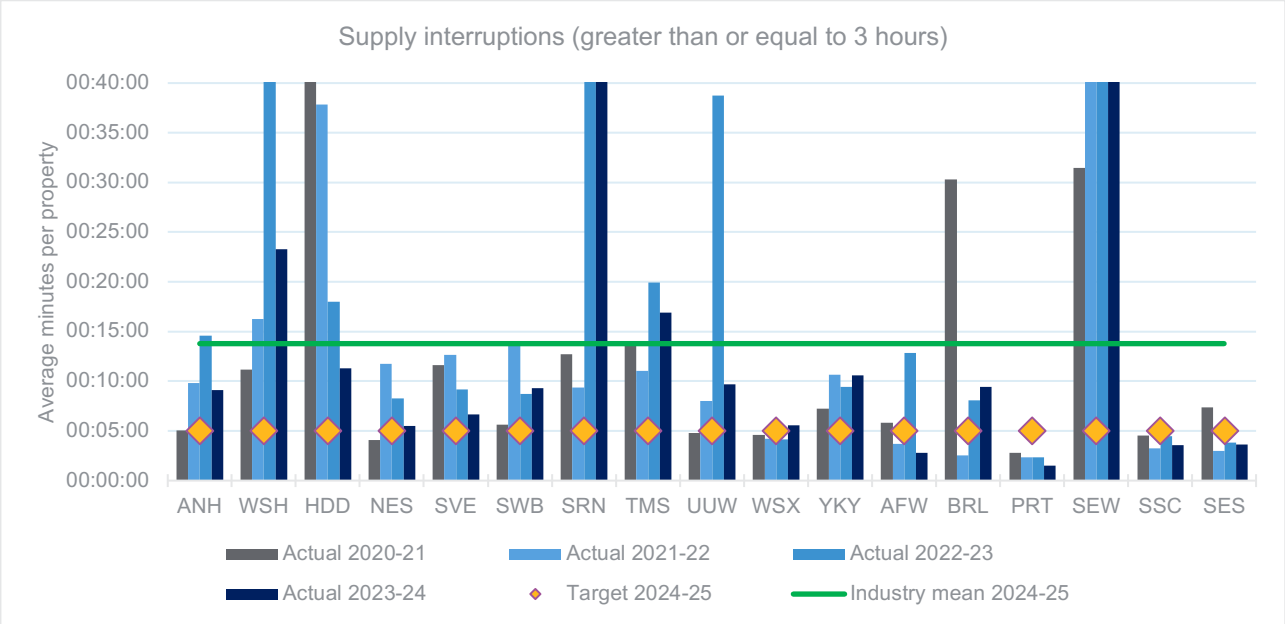
Sources: 2020-2023 - Ofwat's 2022-23 Water company performance report (WCPR); 2024 - APR data.
Note: The six water common performance commitments in AMP7 are: wate supply interruptions, water quality compliance, leakage, per capita consumption, mains repairs and unplanned outage. The four wastewater common performance commitments in AMP7 are: internal sewer flooding, total pollution incidents, sewer collapses, and treatment works compliance.

The water supply interruptions PC illustrates why setting the baseline for AMP8 at the AMP7 PCL is unrealistically stretching. The figure below shows the outturn performance of each company in each year of AMP7 to date against the 2024/25 PCL target of 00:05:00, which Ofwat sets as the common baseline for AMP8. It shows that 15 of the 17 companies have failed to meet the 00:05:00 in all years of AMP7 to date. Portsmouth Water (PRT) and South Staffs Water (SSC) are the only two companies to have met this threshold in all years of AMP7 to date.

We cannot see how Ofwat can set a realistic and balanced 2024/25 baseline at 00:05:00 when only the two smallest water-only companies have been able to meet such stretching target in AMP7.

According to the information companies submitted in their business plans, the industry mean performance in 2024/25 is 00:13:47, which is substantially less stretching than the Ofwat assumption of 00:05:00.

Figure: Water supply interruptions performance in AMP7 vs 2024/25 target – All companies



Sources: 2020-2023 - Ofwat's 2022-23 Water company performance report (WCPR); 2024 - APR data and companies PR24 business plan data (Feb-24 submissions).

Principle 3: Our AMP8 performance targets need to take into account our rate of improvement

The level of stretch from the 2024/25 actual baseline needs to take into account the rate of improvement implicit in the targets, grounded in the evidential link between botex allowances and industry mean performance arising from botex, as well as the enhancement funding request to deliver step up improvement. AMP8 performance cannot just be based on simplistic industry mean/average, median or upper quartile absolute levels of performance.

This is valid for all companies in the industry but particularly important for companies with a turnaround plan such as Southern Water.

Being a company in turnaround means we have further to go and more to do than the 'average' or 'median' company in the sector. We are proposing a level of stretch that would be an upper quartile improvement rate from our actual 2024/25 baseline in four common PCs – water supply interruptions, water quality, internal sewer flooding and total pollution incidents.

We would expect Ofwat to recognise that AMP8 targets need to take into account the rate of improvement implicit in the targets as we are proposing in our representations.

Principle 4: Setting ODI rates based on RoRE results in too high ODI rates in many cases

The need to ensure penalties are reinvested in improving our performance is particularly relevant in AMP8 as Ofwat has materially increased its proposed ODI rates for most performance commitments, creating substantial penalty exposure.

At PR24, Ofwat proposes to set ODI rates based on a percentage of RoRE. As the table below shows, the resulting ODI rates that Ofwat proposes at DD are up to 4 times our rates in AMP7 (3rd column in the table below). Compared to the indicative rates Ofwat made available prior to business plan submissions, the rates Ofwat proposes at DD are 3 times higher for sewer collapses; about 2.5 times higher for water quality, leakage and unplanned outage; and 2.3 times higher for discharge permit compliance.

Table: Comparison of ODI rates, DD vs AMP7

Performance commitment	Ofwat DD ODI rate £m/unit, 2022-23 prices	% change from AMP7rate	% change from Ofwat indicative rate
Water supply interruptions	0.493	71%	-28%
Compliance risk index	0.866	17%	29%
Water quality	17.842		164%
Internal sewer flooding	12.776	95%	44%
External sewer flooding	4.746		19%
Biodiversity	4.195		n/a
Operational GHG water	0.000		-6%
Operational GHG wastewater	0.000		-6%
Leakage	0.909	191%	149%
Per capita consumption	0.506	141%	-46%
Business demand	0.254		-30%
Total pollution incidents	1.454	291%	62%
Serious pollution incidents	1.747		53%
Discharge permit compliance	5.166	-56%	126%
Bathing water quality	5.545		18%
River water quality	[reputational]		n/a
Storm overflows	0.772		25%
Mains repairs	0.105	6%	-13%
Unplanned outage	2.731	158%	158%
Sewer collapses	3.377	55%	290%

Note: the % change from AMP7 rates was calculated after converting the AMP7 rates into prices of 2022-23.

We make representations on ODI rates in Part 2 of this document where we propose alternative ODI rates to ensure a balance of risk and reward.

Part 1. PC targets

In our business plan submission, we proposed a bespoke PC on “Abstraction Incentive Mechanism”. Ofwat considered it to be unsuitable to be progressed. We do not make any further representations on that PC.

We make representations on the targets that Ofwat sets at DD for the following PCs:

- Water supply interruptions;
- Compliance risk index;
- Customer contacts about water quality;
- Leakage;
- Per capita consumption;
- Business demand (we have re-stated the baseline to be consistent with the convergence method);
- Mains repairs;
- Internal sewer flooding;
- Total pollution incidents;
- Discharge permit compliance;
- Bathing water quality;
- Storm overflows;
- Biodiversity; and
- Operational GHG (water and wastewater).

We also propose underperformance deadbands for:

- Compliance risk index;
- Leakage;
- Serious pollution incidents; and
- Discharge permit compliance.

We make our representations for each of these PCs in turn in the following sections. Our representations provide evidence that our proposed PC levels are stretching yet achievable, anchored in our base and enhancement programmes and are logically consistent with the botex modelling approach.

5.2. Water Supply Interruptions

This performance commitment incentivises companies to reduce the number and duration of water supply interruptions, which, in turn, improves the reliability of supply and reduces the detriment to customers of having no water supply. It is measured in hours, minutes, seconds (hh:mm:ss) per property.

In its Draft Determinations, Ofwat raises the following points:

- Ofwat sets the 2024/25 baseline and AMP8 targets flat at 00:05:00 for all companies, the same as the PR19 PCL for 2024/25. This is too stretching a target and baseline as it starts from an unachievable AMP7 target. In AMP7 to date, no company (except Portsmouth Water (PRT) and South Staffs Water (SSC), which are two small WoCs) has met its AMP7 targets consistently every year. The industry mean/average across the whole period covered by the base models is 00:15:17. Given this has been funded out of botex, the mean represents what the industry has been able to deliver with the botex it has spent. For us, the 00:05:00 target and baseline is out of sync with our Execution Plan, which has an underlying performance for 2024/25 of 00:09:00, against Ofwat's assumption of 00:05:00. This is why we propose a glidepath to reach 00:04:30 by 2029/30.

- Ofwat expects enhancement expenditure to deal with company-specific challenges. We agree with this view. We have faced several exceptional incidents recently with detrimental impact on our performance owing to the condition of our assets. Our enhancement supply resilience programme at [redacted] is key to reducing the risk of re-occurrence of exceptional incidents throughout AMP8 and shifting from the bottom of the performance league in 2024/25 to upper quartile performance by 2029/30.

- Ofwat proposes a new additional PC for severe water supply interruptions at or above 12 hours at final determinations. We disagree with this proposal as it would add unnecessary regulatory burden while the same benefits can be achieved within existing regulatory mechanisms. We agree that customers should be protected from extraordinary events and are proposing an enhanced Guaranteed Standard Service (GSS) compensation to that end.

The table below summarises our position on water supply interruptions PC.

Table: Summary of our position on water supply interruptions PC

Unit: hh:mm:ss	2024/25 baseline	2025/26	2026/27	2027/28	2028/29	2029/30
Our underlying performance target	00:09:00	00:08:06	00:07:12	00:06:18	00:05:24	00:04:30
Ofwat DD target	00:05:00	00:05:00	00:05:00	00:05:00	00:05:00	00:05:00
Industry mean/average	00:15:17 *					
Any other relevant information	We disagree with the proposal for a new additional Water Supply Interruptions PC for severe interruptions at or greater than 12 hours. We acknowledge that we should not receive outperformance payments unless we outperform our turnaround plan forecast. We are of the view that our proposal for an enhanced Guaranteed Standard Service to our customers at 2.5x the current GSS provides equivalent customer protection with less regulatory burden.					

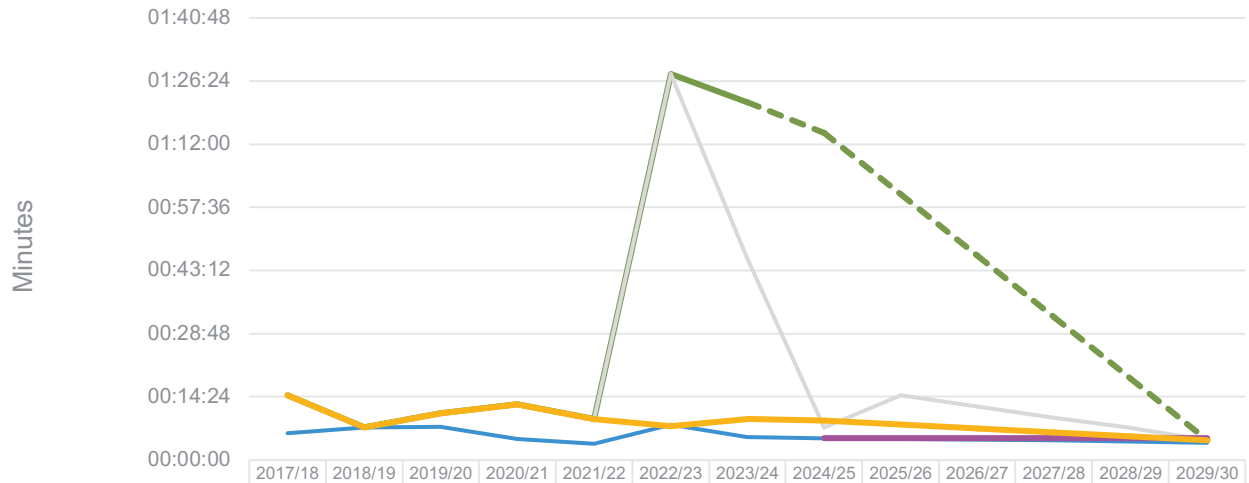
Note (*) average over the 2011/12 to 2024/25 period.

5.2.1. Rationale for our performance

We agree with Ofwat that we should target reaching an appropriately calibrated industry upper quartile performance in AMP8. This is why we target our underlying performance, i.e., our performance excluding exceptional incidents, to be close to industry upper quartile and, indeed Ofwat DD target, by 2029/30.

As the figure below shows, our outturn performance in 2023/24 (01:21:33) was worse than forecasted at business plan submission (00:45:49) due to several exceptional incidents (more on this below). The year of 2024/25 has started with another major supply incident at Hastings, which has led us to review upwards our forecast performance for 2024/25 to 01:14:34 vs business plan (00:07:24). This means that we are starting from the bottom performance in the industry in 2024/25 and will need more time to improve than anticipated at business plan submission. Our enhancement water resilience investment case will reduce the risk of exceptional interruptions to supply by 80% by 2033. We will see the benefits of these investments materialising gradually in AMP8 (with full benefits expected in AMP9), meaning that our underlying performance will gradually improve throughout AMP8 from the bottom of the industry ranking in 2024/25 at 09:00:00 to reach 00:04:30 by 2029/30, outperforming Ofwat's DD target of 00:05:00.

Figure: Our water supply interruptions performance targets for AMP8

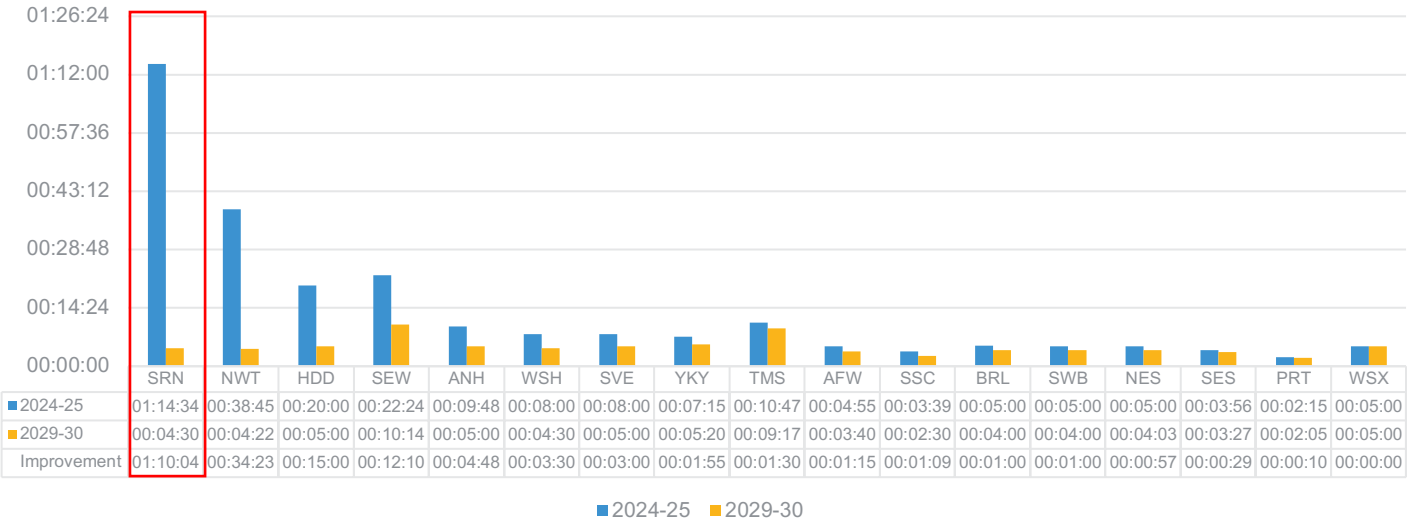


	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
SWS DD rep (w/ excep'al events)	00:14:46	00:07:23	00:10:41	00:12:43	00:09:22	01:28:00	01:21:33	01:14:34	01:00:34	00:46:34	00:32:33	00:18:32	00:04:30
SWS BP Feb-24	00:14:46	00:07:23	00:10:41	00:12:43	00:09:22	01:28:00	00:45:49	00:07:24	00:14:46	00:12:12	00:09:38	00:07:21	00:04:30
Industry UQ Feb-24 BP	00:06:08	00:07:23	00:07:33	00:04:46	00:03:43	00:08:03	00:05:15	00:05:00	00:04:50	00:04:39	00:04:27	00:04:15	00:04:00
Ofwat DD								00:05:00	00:05:00	00:05:00	00:05:00	00:05:00	00:05:00
SWS DD rep underlying performance	00:14:46	00:07:23	00:10:41	00:12:43	00:09:22	00:07:46	00:09:23	00:09:00	00:08:06	00:07:12	00:06:18	00:05:24	00:04:30

Sources: Southern Water; Ofwat.

Our performance, including exceptional incidents, will cut interruptions in supply to our customers by one hour and 10 minutes in only five years, from 01:14:34 in 2024/25 to industry upper quartile at 00:04:30 in 2029/30. This is by far the largest improvement in the industry, as the figure below shows.

Figure: Improvement in water supply interruptions performance from 2024/25 to 2029/30



	SRN	NWT	HDD	SEW	ANH	WSH	SVE	YKY	TMS	AFW	SSC	BRL	SWB	NES	SES	PRT	WSX
2024-25	01:14:34	00:38:45	00:20:00	00:22:24	00:09:48	00:08:00	00:08:00	00:07:15	00:10:47	00:04:55	00:03:39	00:05:00	00:05:00	00:05:00	00:03:56	00:02:15	00:05:00
2029-30	00:04:30	00:04:22	00:05:00	00:10:14	00:05:00	00:04:30	00:05:00	00:05:20	00:09:17	00:03:40	00:02:30	00:04:00	00:04:00	00:04:03	00:03:27	00:02:05	00:05:00
Improvement	01:10:04	00:34:23	00:15:00	00:12:10	00:04:48	00:03:30	00:03:00	00:01:55	00:01:30	00:01:15	00:01:09	00:01:00	00:01:00	00:00:57	00:00:29	00:00:10	00:00:00

Source: Ofwat.

However, there is a substantial residual risk of major incidents occurring in AMP8 while we are delivering this major investment programme. This is why we are proposing an enhanced Guaranteed Standard Service throughout AMP8 to protect our customers from any potential exceptional incident throughout AMP8. This tails off by 2029/30 when the benefits of our AMP8 investment programme materialise. This will ensure our customers are protected and we are not penalised for underperforming while undergoing substantial investment.

The enhanced GSS payment will be applied once a single incident has a water supply interruption greater than 12 hours. Our standard GSS payment is £30 per household affected by an unplanned interruption greater than 12 hours with a further payment of £30 for each additional 12 hours without supply. For businesses, our GSS is currently £75 per unplanned interruption greater than 12 hours with a further payment of £30 for each additional period of 12 hours without supply. We have made goodwill payments to our customers in 2022/23 of two times our GSS. For PR24, we are proposing an enhanced GSS payment of 2.5 times our standard GSS payment. At the level of our current standard GSS, the enhanced GSS will be £75 for households and £187.5 for non-households for each 12 hours without supply. If this enhanced GSS was applied to all customers affected by interruptions to supply in 2023/24, the equivalent ODI incentive rate would be £0.42m per minute lost (in 2022/23 prices). This is 1.46 times the standard water supply interruptions incentive rate we have in AMP7 (at £0.288m in 2022/23 prices). We propose to keep our enhanced GSS at 2.5 times our standard GSS in AMP8.

Our customer research shows that customers who are more frequently affected by water supply interruptions attribute a greater value to long interruptions than customers who do not face such long interruptions. Indeed, according to Ofwat's Willingness to Accept research for PR24, our customers valued a longer loss of supply interruption about twice as much as a shorter one (24hr = £204, 6hr = £121).

5.2.2. Root cause of poor outturn performance and residual risk

Our investment plan supports our ambitious performance improvement. We analysed the root cause of our poor performance in 2022/23, 2023/24 and 2024/25 and traced it back to a small number of exceptional incidents owing to the condition of our below ground water assets. We compared these root causes against our investment plan to assess the residual risk to supply interruptions in AMP8.

The table below shows the results. It shows that our investment plan reduces the risk of most of the exceptional incidents by at least one third. The risk of mains bursts owing to asset condition remains high in AMP8. Our plan includes an enhanced mains replacement programme to replace 300 km of mains over AMP8. But the benefits of this programme for water supply interruptions will likely materialise only in AMP9, once the programme is completed, with no material benefits to supply interruptions expected in AMP8.

Table: Exceptional incidents affecting our supply interruptions performance and residual risk

No.	Incident description	Residual risk in AMP8 with RAG	Interruption to supply
		2022/23	
1	Incident in the Isle of Sheppey due to mains burst – Burst on 18" Trunk Main, mass depressurisation across Isle of Sheppey	Additional resilience has been added as we now have 4 mains running to the IoS 600mm, 18" and 2x400mm mains. However, the source of these mains is still a single 600mm main on the mainland, which is [redacted]	00:34:00
2	Rumfields site in Broadstairs Kent – Leak on 15" Trunk Main affecting downstream 7 DMA's	15" main still a [redacted].	00:12:26
3	Yew Hill WSR in Hampshire – Issue on site with Chemical entering Contact Tank and out of service RGF being opened meaning no supply from Otterbourne to Yewhill. 21 downstream DMA affected	Yew Hill WSR asset condition is still poor as it awaits refurbishment dependant on enabling works to be completed.	00:15:04
4	Yew Hill WSR in Hampshire - Supply/Demand issues meant Yewhill Reservoir was isolated – causing multiple DMA to go out of supply	Yew Hill WSR asset condition is still poor as it awaits refurbishment dependant on enabling works to be completed	00:17:04
5	Rumfields - Mains Power lost to Rumfields WBS – Issues with getting power back on – pressure lost to 7 downstream DMA	Rumsfield WBS [redacted] and susceptible to power issues.	00:02:00
		Total exceptional incidents – 2022/23	**01:20:14**
		2023/24	
6	[redacted]	[redacted]	00:34:05
7	[redacted]	[redacted]	00:33:12
8	Udimore, Hastings, caused by a strategic trunk main burst between Udimore Reservoir and the downstream DMA's	Rezone option being delivered Aug 2024 to mitigate risk and mains replacement Q4 of 2024.	00:04:43
		Total exceptional incidents – 2023/24	**01:12:00**
		2024/25 Year to Date (from 01/04/2024 to 16/06/2024)	
9	Hastings – Darwell to Beauport Mains burst	Actions in place to provide additional resilience, mitigate risk and provide enhanced monitoring. But Darwell to Beauport planned mains replacement is complex and will only deliver benefits at the end of AMP8.	01:05:34
		Total exceptional incidents – 2024/25 YTD	**01:05:34**

Note: YTD: Year to Date (from 01/04/2024 to 16/06/2024)

RAG	Description
	>66% risk going into AMP8
	>33 - <66% risk going into AMP8
	<33% risk going into AMP8

As the table below shows, excluding exceptional incidents, we would have met or outperformed our Execution Plan target in 2022/23 and 2023/24 and would be on track to outperform our target in 2024/25.

Table: Underlying performance vs AMP7 targets

Water supply interruptions	2022/23	2023/24	2024/25 [1]
Overall performance (a)	01:28:00	01:21:33	01:14:34
Performance due to exceptional events (b)	01:20:14	01:12:00	01:05:34
Underlying performance. i.e., excluding exceptional events (a) – (b)	**00:07:46**	**00:09:33**	**00:09:00**
Execution Plan target	00:07:13	00:12:00	00:09:00
PR19 Final Determination target	00:06:30	00:06:08	00:05:45

5.2.3. Build-up of our performance

We have an ambitious but achievable investment plan for AMP8 which is forecast to move us to industry upper quartile performance by 2029/30 and meet Ofwat's DD target of 00:05:00.

In line with Ofwat DD proposals, our plan is anchored in a combination of:

- Business-as-usual activities funded through base to improve our underlying performance; and
- A once-in-a-generation enhancement investment programme to increase the resilience of supply at four sites plus an enhancement programme to replace 300 km of mains. These investments will reduce the risk of exceptional incidents.

Our base plan includes activities to reduce the risk of interruptions in supply to our customers owing to asset deterioration, as well as activities to improve the condition of our assets beyond asset deterioration. The later are estimated to deliver improvements of about 9 minutes over AMP8. These improvements above asset deterioration will take us from our current underlying performance of 9 minutes in 2024/25 to an underlying performance target of 00:04:30 in 2029/30.

The prevalence of PVC and cast-iron mains in poor condition in our network has caused deterioration in our performance in the last few years. In 2023/24, two incidents caused by bursts of PVC and iron cast mains contributed 00:00:54 (or 0.9 minutes) to the interruption of supply to our customers. We therefore estimate asset deterioration to contribute 00:00:54 (0.9 minutes) to customer lost minutes in AMP8.

The table below shows the build-up of our underlying performance target from our base plan by activities, on an annual basis, in minutes.

[1] We forecasted our underlying performance for 2024/25 as follows. In the 11 weeks year to date (YTD), i.e., to 16/06/2024, our performance was 01:05:45, of which 01:05:34 was due to the exceptional incident at Hastings. Discounting this exceptional incident, our baseline performance in the 11 weeks YTD was 00:00:11. Extrapolating this baseline performance to the remaining of 2024/25 would lead to a performance of 00:00:52. Minor incidents are likely to occur in 2024-25 and will add to this 00:00:52 baseline performance. Based on experience from previous years, minor incidents will add 00:08:08 to our performance in 2024-25, which brings our performance for 2024-25 comes at 00:09:00, at the level of Execution Plan Target for 2024-25.

Table: Build up of our underlying performance to water supply interruptions

Unit: minutes	2023/24 (actual)	2024/25 (forecast)	2025/26	2026/27	2027/28	2028/29	2029/30
AMP7 exit performance	9.48	**9.00**					
Entry performance			9.00	8.11	7.21	6.32	5.41
Asset deterioration			0.90	0.90	0.90	0.90	0.90
Base improvements			-1.79	-1.79	-1.79	-1.81	-1.81
Mains Renewals Isle of Wight			0.45	0.45	0.45	0.45	0.45
Mains Renewals Rownhams			0.45	0.45	0.45	0.45	0.45
Other BAU mains renewals			0.68	0.75	0.75	0.77	0.77
BAU find and fix			0.04	0.04	0.04	0.04	0.04
Operations initiatives including inspections			0.06	0.06	0.06	0.06	0.06
Alternative response including tankering			0.11	0.04	0.04	0.04	0.04
AMP8 underlying performance target			**8.11**	**7.21**	**6.32**	**5.41**	**4.50**

Note: BAU: business as usual.

We recognise that in AMP8 some risk of exceptional incidents remains while we are undergoing major enhancement investments. This is why we are proposing an enhanced GSS payments to protect customers of exceptional incidents. Our proposed enhanced GSS will run for the whole of AMP8, when benefits from enhancement programmes materialise.

Our enhancement plan significantly increases the resilience of our water supplies through a once-in-a-generation investment at [redacted] and will reduce the risk of supply interruptions by 80% by 2033. This will be a substantial step forward to prevent exceptional large interruption to supply incidents.

However, we will see the benefits of this enhancement investment materialising only gradually in AMP8 reducing interruptions by 00:13:07 per annum, with full benefits likely to be seen only in AMP9. Since business plan submission, we have revised up the benefits from the Supply Resilience Enhancement cases from 4 minutes to 13 minutes per annum by better calibrating our asset deterioration model with actual data from recent incidents.

Our enhancement plan also includes an enhanced mains replacement programme to replace 300 km of mains over AMP8, which will further improve the condition of our below-ground assets. But the benefits in terms of interruptions to supply are likely to be only visible in AMP9 once the full replacement programme is completed.

We have identified other enhancement activities in our plan which will likely contribute to reducing the risk of exceptional water supply interruption incidents in AMP8 (and AMP9) further. However, these were difficult to quantify and / or attribute to specific schemes and we did not consider them in our performance build up.

The table below summarises the breakdown of benefits to supply interruptions from our enhancement programme.

Table: Breakdown of improvements to water supply interruptions from enhancement expenditure

Unit: minutes	2025/26	2026/27	2027/28	2028/29	2029/30
Supply Resilience ([redacted] upgrading programme - [redacted]	13.10	13.12	13.12	13.12	13.12
Mains replacement enhancement	Benefits only materialise in AMP9 when the programme is completed				
Supply-side improvements delivering benefits in 2025-2030	Direct benefits are difficult to quantify				
Internal interconnectors delivering benefits in 2025-2030					
Supply demand balance improvements delivering benefits starting from 2031					
Strategic Water Resource Options (SROs)					
Operational resilience (heat stress, power resilience, flooding)					
Total	**13.10**	**13.12**	**13.12**	**13.12**	**13.12**

5.2.4. Our view on an extra WSI performance commitment

Ofwat proposes to set an extra performance commitment focused on severe water supply interruptions at or greater than 12 hours. We are of the view that this extra PC is unnecessary. It would create disproportionate regulatory burden while equivalent customer protection benefits can be achieved through less burdensome methods. We agree with Ofwat that customers should be protected against exceptional incidents. We do think, however, that our proposed enhanced GSS will provide sufficient customer protection within the existing regulatory mechanisms, thereby avoiding unnecessary additional bureaucratic costs.

5.2.5. Protection against extraordinary incidents

Our enhancement supply resilience programme at [redacted] and our enhanced mains replacement programme are key to reduce the risk of exceptional incidents in AMP8. But the benefits, in terms of reduction of interruptions to supply, are likely to be only visible gradually in AMP8 with full benefits only expected in AMP9, meaning that we still face a considerable level of risk of facing exceptional incidents throughout AMP8.

To ensure a fair balance of risk and return, it is essential for us to mitigate the risk of very large fines by not being penalised twice for long duration incidents while undergoing significant investments to turn around our performance. We propose to mitigate such risk as follows:

- Our AMP8 PC target is set based on our underlying performance (as explained above);
- ODI penalties and rewards are based on our outturn performance excluding exceptional incidents against our underlying performance targets;
- We propose an enhanced GSS in AMP8 of 2.5 times the standard GSS in case of exceptional incidents, to protect customers; and
- We acknowledge that we should not receive outperformance payments unless we outperform our turnaround plan forecast.

As shown above, it is the small number of very long duration incidents that makes the metric perform poorly against Ofwat targets. The enhanced GSS currently being consulted on would ensure that those customers directly impacted in those incidents receive compensation directly. There is thus an overlap between GSS payments and the ODI that needs to be reconciled. We make further representations on Ofwat's proposed ODI rates in Part 2 of the document.

5.3. Compliance Risk Index

The compliance risk index (CRI) performance commitment is designed to incentivise full compliance with our statutory obligations related to treated water compliance and thereby limit water quality failures. Lowering the CRI performance commitment will promote customer confidence that our water is clean and safe to drink.

In its Draft Determinations, Ofwat sets our performance target at 0.0 with a common underperformance deadband on a glidepath from 1.83 to 1.0. This is more stretching than the industry mean/average performance expected of 3.86 across the period covered by the base cost models. Given this has been funded out of botex, the mean represents what the industry has been able to deliver with the botex it has spent. Ofwat's target is also more stretching than the deadband we proposed at business plan (from 4.50 to 2.00). We have reviewed the starting point of our proposed deadband in 2025/26 from 4.5 down to 3.33, recognising the better outturn performance in 2023/24 than anticipated at business plan submission. We remain of the view that a deadband to a score of 2.0 by 2029/30 is the most stretching and realistic target we can achieve. It is also consistent with a 2024/25 baseline at the industry mean/average of 2.52. The fundamental reason we set our deadband at 2.0 is the fact that all our assets are under Notice with the DWI, which inflates our CRI score through the assessment score multiplier. We estimate this multiplier to increase our score by 0.5 score points per annum on a like-for-like basis with other companies.

Arriving at a like-for-like CRI comparator by adjusting for the DWI CRI score multiplier applied to Southern Water assets under notice

A significant number of our assets are under DWI investigation notice which have agreed completion dates with the DWI in 2030. Our score remains inflated until these notices are removed as these will not be downgraded or reassessed by the DWI until after the enforcement date agreed. This means that our CRI score will continue to be calculated using an assessment score multiplier of 4, out of a multiplier scale from 1 = satisfactory to 5 = enforce. We estimate our CRI uplift by virtue of applying the multiplier of 4 to be at about 0.5 score points per annum throughout AMP8. Our AMP8 business plan includes investment schemes to address the DWI concerns that led to the DWI notices issues. While these investments take place, we should not be further penalised through a performance commitment. This is why we are proposing a wider deadband than Ofwat's proposed deadband.

We expect Ofwat to apply the multiplier correction across all companies with assets under DWI notice to establish a like-for-like baseline and targets across the sector.

The table below summarises our overall position on compliance risk index PC. As a minimum, we expect Ofwat to calibrate our deadband with the DWI multiplier impact to be on a like-for-like basis with other companies.

Table: Summary of our position on compliance risk index PC

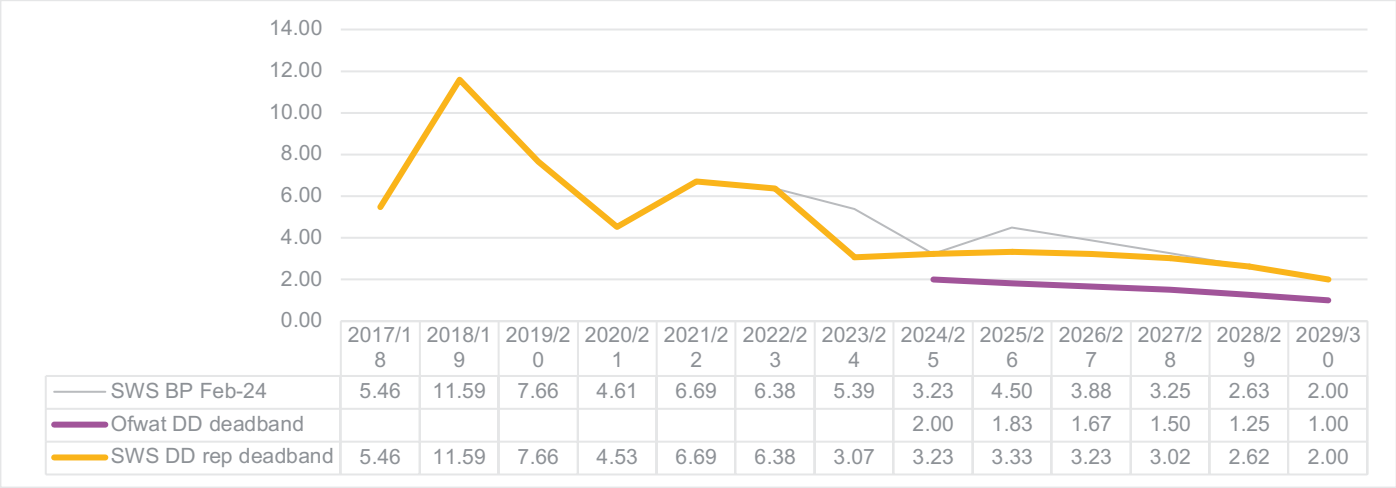
Unit: numeric score	2024/25 baseline	2025/26	2026/27	2027/28	2028/29	2029/30
Our performance target	3.23	0	0	0	0	0
Our proposed underperformance deadband		3.33	3.23	3.02	2.62	2.00
Ofwat DD underperformance deadband	2.0	1.83	1.67	1.50	1.25	1.00
Ofwat DD underperformance deadband adjusted for DWI multiplier*	2.5	2.33	2.17	2.00	1.75	1.5
Industry mean/average	3.86 **					
Any other relevant information	Our CRI score is inflated by the DWI multiplier as a result of our assets being under Notice with DWI. This multiplier inflates our CRI score by an estimated 0.5 score points per annum. We acknowledge that we should not receive outperformance payments unless we outperform our turnaround plan forecast.					

Note: (*) adjustment to make it like-for-like with other companies. (**)

5.3.1. Rationale for our performance

We agree with Ofwat that our ambition is to bring CRI down to zero as fast as we realistically can, and we recognise that seven out of the 17 water companies have set their targets at zero for AMP8. As the figure below shows, we have reviewed our deadband for 2025/26 down from a score of 4.5 at business plan submission to 3.33, following a better than forecasted outturn performance in 2023/24. We have also adjusted the deadband for 2026/27 and 2028/29 down vs our business plan proposals.

Figure: Our CRI performance targets and proposed deadband for AMP8



	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
SWS BP Feb-24	5.46	11.59	7.66	4.61	6.69	6.38	5.39	3.23	4.50	3.88	3.25	2.63	2.00
Ofwat DD deadband								2.00	1.83	1.67	1.50	1.25	1.00
SWS DD rep deadband	5.46	11.59	7.66	4.53	6.69	6.38	3.07	3.23	3.33	3.23	3.02	2.62	2.00

Ofwat's deadband starts from a very stretching 2024/25 baseline of 2.0 and is out of sync with industry historical performance. Over AMP7, the industry has shown a sector average of 3.6. This is materially higher than the deadband that Ofwat proposes. Had the industry delivered 2023/24 performance in year 1 of AMP8, 12 of 17 companies would start AMP8 in penalty.

Table: Industry compliance risk index performance in AMP7

Unit: numeric score	2020/21	2021/22	2022/23	2023/24	2024/25*	Average
Industry mean / average	2.41	3.23	3.59	5.16	2.52	3.38
Number of companies that missed their deadbands	10 (out of 17)	11 (out of 17)	10 (out of 17)	10 (out of 17)	12 (out of 17)	

Note: (*) based on industry business plans (Feb-24 submissions)

Hence, we do not consider the starting point for the deadband has been correctly calibrated and should rather start at 2.52, which is the mean/average industry performance expected for 2024/25.

5.3.2. Build-up of our performance

Our performance in AMP8 is the combination of improvements from activities funded through base, improvements from our Water First Programme and improvements from our enhancement water supply resilience programme at [redacted]

In our performance build up, we take account of the potential impact on CRI from having all our assets under Notice with the DWI which results in a multiplier of 4 (out of a scale from 1 to 5) being applied to the calculation of our CRI score.

The table below shows the build-up of our performance target against our base and enhancement programmes and DWI notice risk.

Table: CRI performance build-up

Unit: score	2023/24 (actual)	2024/25 (forecast)	2025/26	2026/27	2027/28	2028/29	2029/30
AMP7 exit performance	3.07	3.23					
Entry performance			3.23	3.33	3.23	3.02	2.62
Base improvements			-0.74	-0.74	-0.74	-0.74	-0.74
Additional improvements (Water First Programme)			-0.75	-0.75	-0.75	-0.75	-0.75
Asset deterioration			1.5	1.3	1.2	1.0	0.8
DWI notice risk			0.5	0.5	0.5	0.5	0.5
Enhancement improvements			-0.412	-0.412	-0.412	-0.412	-0.412
AMP8 Performance target			**3.33**	**3.23**	**3.02**	**2.62**	**2.00**

As we explain above, our target takes into account the fact all our assets are under Notice with DWI. This has the potential impact of inflating our CRI score by 0.5 per annum. This means it is more challenging for us to stretch our target further to enter the deadband Ofwat sets at DD.

Base activities in our AMP8 plan give a total benefit of 0.74 score points each year with further operational benefits delivered through the Water First programme (people, process, data and assets) providing an additional annual benefit of 0.75 score points.

Asset deterioration will be phased through AMP8 from 1.5 in 2025/26 to 0.8 in 2029/30. The reduction aligns with the delivery of major site upgrades.

The table below details the improvements from our base plan by activities.

Table: Breakdown of improvements to CRI from base expenditure

Unit: score	2025/26	2026/27	2027/28	2028/29	2029/30
WSW Hazrev Main Ringfenced Pot - AMP8	0.05	0.05	0.05	0.05	0.05
Water tank, clean and inspect	0.08	0.08	0.08	0.08	0.08
Water tank Membrane Replacement	0.12	0.12	0.12	0.12	0.12
WSR Hazrev	0.10	0.10	0.10	0.10	0.10
Operator & inspector competence and capability	0.04	0.04	0.04	0.04	0.04
Assurance Training	0.06	0.06	0.06	0.06	0.06
AMP 7 continuation - Mains Flushing as a result of Water Quality Contacts Notice (Rownhams 1 and 2, Alvington High and Brading)	0.05	0.05	0.05	0.05	0.05
Proactive Mains Flushing	0.04	0.04	0.04	0.04	0.04
Enhanced valve maintenance	0.02	0.02	0.02	0.02	0.02
Lab & sampling	0.02	0.02	0.02	0.02	0.02
WSW sample kiosk CCTV	0.04	0.04	0.04	0.04	0.04
Sample kiosk improvements	0.04	0.04	0.04	0.04	0.04
Hygiene audits	0.08	0.08	0.08	0.08	0.08
Total	**0.74**	**0.74**	**0.74**	**0.74**	**0.74**

Enhancements to [redacted] will deliver benefit through AMP8 with an annualised figure of 0.41 score points. We have quantified these benefits using our asset deterioration modelling with and without the proposed investments, as explained in SR18: Performance Commitment Methodologies. As the table below shows, other enhancement activities in our plan are likely to also contribute to improve our CRI score further but the benefits are difficult to quantify.

Table: Breakdown of improvements to CRI from enhancement expenditure

Unit: minutes	2025/26	2026/27	2027/28	2028/29	2029/30
Supply Resilience [redacted] upgrading programme - [redacted]	0.41	0.41	0.41	0.41	0.41
Addressing raw water quality deterioration (grey solutions)	Direct benefits are difficult to quantify				
Addressing raw water quality deterioration (grey solutions)	Direct benefits are difficult to quantify				
Total	**0.41**	**0.41**	**0.41**	**0.41**	**0.41**

5.4. Water Quality contacts

This performance commitment incentivises us to reduce the number of contacts from customers complaining about the taste, odour and appearance of our water. A reduction in the number of contacts about the quality of drinking water indicates an increase in the acceptability of water to our customers and a reduction in disruption and other negative social impacts for our customers.

At DD, Ofwat sets our performance targets flat at 0.67 for both the 2024/25 baseline and for AMP8 targets. This level of stretch is equivalent to industry upper quartile performance, based on companies' business plan submissions.

This is an inappropriate target that has not been correctly calibrated. In AMP7, Ofwat set us a target of 0.67 and has simply proposed this as our 2024/25 baseline and for each year of AMP8. We note that the AMP7 targets were not set on a common basis across the industry, with ranges from 1.58 to 0.40. Neither was the improvement rate consistent across companies either, ranging from a 0% to -45% 5-year improvement over AMP7. Ofwat gave Southern Water a 37% improvement in AMP7, the second highest in the industry. By contrast, Severn Trent had easier targets to hit each year and only a 6% 5-year improvement trajectory. Hence the AMP7 PCLs needs to be treated with due caution in being applied in a blanket way, as Ofwat seems to have done. Ofwat has far better data now to compare performance across the sector and set rates that are challenging, yet fair and consistent to all. Ofwat argues that *"We consider that companies have been funded to achieve these levels at PR19 and as such adjusting the 2024-25 baseline would mean customers would be double paying for funded levels"*. The highly variable improvement targets applied across companies shows that an inconsistent approach was followed and the assertion that 'companies have been funded' is incorrect.

Ofwat insists that for AMP8, Southern Water should start at 0.67 (the industry UQ) and stay at that level. By comparison, SVE start at 1.09 and only need to get to 0.96. This illustrates the enormous inconsistency in the approach adopted by Ofwat as the targets for AMP8 reflect the inconsistent approach adopted in AMP7.

A better, more consistent and reasonable approach would be to consider common targets and catchup trajectories applied in a consistent way for all companies. For some companies such as Southern Water, the PR19 stretch was excessive, for others it was not. PR24 is the opportunity to rebase to a more measured approach.

We are proposing the 6th largest improvement from our view of 2024/25 baseline (1.31), putting us at the industry upper quartile improvement. Our enhancement supply resilience programme at [redacted] is key to reach such level of improvement in water quality contacts.

The table below summarises our overall position on consumer contacts about water quality PC.

Table: Summary of our position on customer contacts about water quality PC

Unit: customer contacts per 1,000 population	2024/25 baseline	2025/26	2026/27	2027/28	2028/29	2029/30
Our performance target	1.31	1.22	1.13	1.09	1.02	0.95
Ofwat DD target	0.67	0.67	0.67	0.67	0.67	0.67

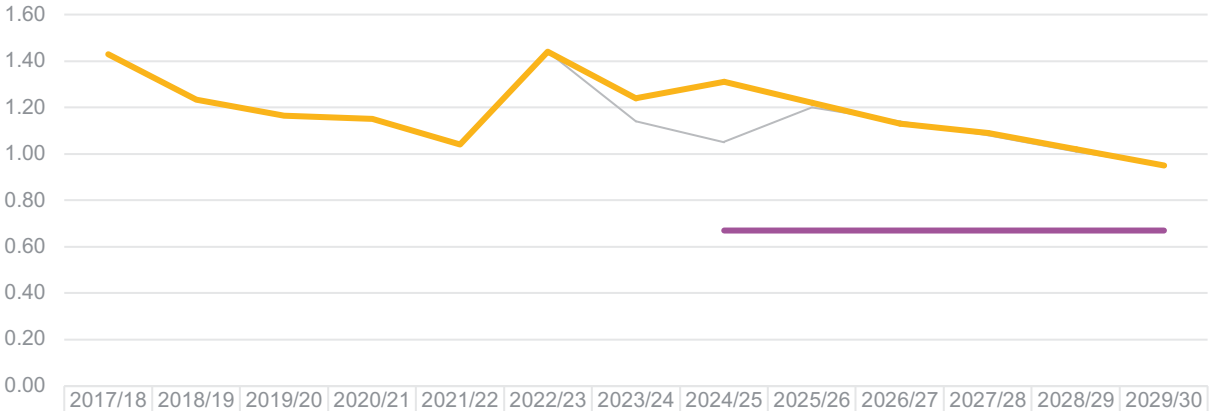
We evidence our position on each of Ofwat points in turn below.

5.4.1. Rationale for our performance

We agree with Ofwat we should aim at achieving an appropriately calibrated industry upper quartile performance. We have reviewed our base cost proposals and enhancement proposals to see if we could stretch our AMP8 targets further to bring our targets close to Ofwat's target of 0.67, which is consistent with industry upper quartile. However, we remain of the view that our proposed targets (see figure below) are realistic and stretching, considering our starting position in 2024/25 (we rank 11th out of 17 companies) and the expected benefits from our planned base and enhancement activities in AMP8.

Our starting position in 2024/25 is predicted at 1.31, not 0.67 as Ofwat proposes. We disagree with Ofwat's view that our AMP8 targets should start from the target Ofwat set at PR19. The realistic starting position is the level of performance we can achieve in 2024/25.

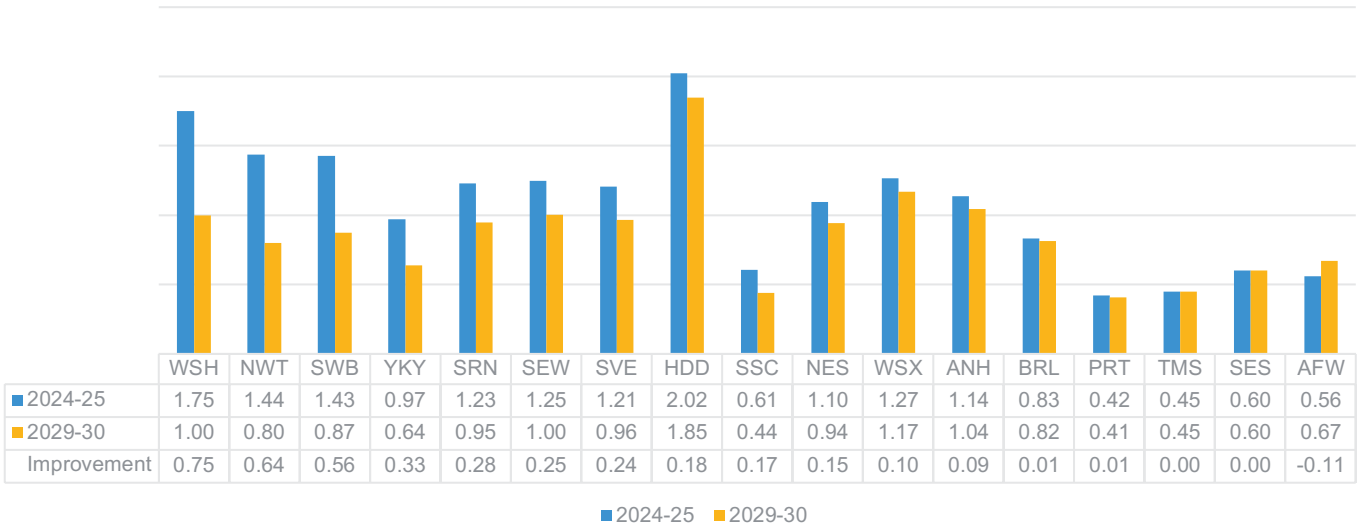
Figure: Our water quality contacts performance targets for AMP8



	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
SWS BP Feb-24	1.43	1.23	1.16	1.15	1.04	1.44	1.14	1.05	1.20	1.14	1.08	1.01	0.95
Ofwat DD								0.67	0.67	0.67	0.67	0.67	0.67
SWS DD rep	1.43	1.23	1.16	1.15	1.04	1.44	1.24	1.31	1.22	1.13	1.09	1.02	0.95

Our proposed targets for AMP8 mean that we will reduce the number of customer contacts by 0.28 contacts per 1k population, between 2024/25 and 2029/30. As the figure below shows, this is the 5th largest improvement across the industry and sets the industry upper quartile in terms of performance improvement from our 2024/25 position.

Figure: Improvement in water quality contacts performance from 2024/25 to 2029/30



	WSH	NWT	SWB	YKY	SRN	SEW	SVE	HDD	SSC	NES	WSX	ANH	BRL	PRT	TMS	SES	AFW
2024-25	1.75	1.44	1.43	0.97	1.23	1.25	1.21	2.02	0.61	1.10	1.27	1.14	0.83	0.42	0.45	0.60	0.56
2029-30	1.00	0.80	0.87	0.64	0.95	1.00	0.96	1.85	0.44	0.94	1.17	1.04	0.82	0.41	0.45	0.60	0.67
Improvement	0.75	0.64	0.56	0.33	0.28	0.25	0.24	0.18	0.17	0.15	0.10	0.09	0.01	0.01	0.00	0.00	-0.11

5.4.2. Build-up of our performance

Our performance targets for AMP8 are based on our position in 2024/25 and improvements coming from base activities and from our enhancement supply resilience programme at [redacted]

The table below shows the build-up of our performance targets.

Table: Water quality contacts performance build-up

Unit: contacts per 1k population	2023/24 (actual)	2024/25 (forecast)	2025/26	2026/27	2027/28	2028/29	2029/30
AMP7 exit performance	1.24	1.31					
Entry performance			1.31	1.22	1.13	1.09	1.02
Base improvements			-0.22	-0.23	-0.18	-0.15	-0.15
Asset deterioration			0.13	0.14	0.14	0.14	0.14
Enhancement improvements			0.00	0.00	0.00	-0.06	-0.06
AMP8 Performance target			**1.22**	**1.13**	**1.09**	**1.02**	**0.95**

Base activities in our AMP8 plan give a total benefit ranging from 0.22 to 0.15 contacts per 1k population. The table below breaks down the improvements from our base plan by activities.

Table: Breakdown of improvements to water quality contacts from base expenditure

Unit: contacts per 1k population	2025/26	2026/27	2027/28	2028/29	2029/30
AMP 7 continuation - Mains Flushing as a result of Water Quality Contacts Notice (Rownhams 1 and 2, Alvington High and Brading)	0.07	0.07	0.06	0.05	0.05
Proactive Mains Flushing	0.07	0.07	0.06	0.05	0.05
Proactive Ice Pigging	0.07	0.07	0.06	0.05	0.05
Pipeline protection maintenance	0.01	0.01	0.01	0.00	0.00
Total	**0.22**	**0.23**	**0.18**	**0.15**	**0.15**

Enhancements to [redacted] will deliver benefits in the last two years of the AMP with an annualised figure of 0.06 contacts per 1k [redacted]. We have quantified these benefits using our asset deterioration modelling with and without the proposed investments, as explained in SR18: Performance Commitment Methodologies. As shown in the table below, other enhancement activities in our plan are likely to also contribute to reduce contacts about water quality but the benefits are difficult to quantify.

Table: Breakdown of improvements to water quality contacts from enhancement expenditure

Unit: minutes	2025/26	2026/27	2027/28	2028/29	2029/30
Supply Resilience ([redacted] upgrading programme - Otterbourne [redacted]	0.00	0.00	0.00	0.06	0.06
Addressing raw water quality deterioration (grey solutions)		Direct benefits are difficult to quantify			
Addressing raw water quality deterioration (grey solutions)		Direct benefits are difficult to quantify			
Strategic Water Resource Options (SROs)		Direct benefits are difficult to quantify			
Total					

The benefits from base and enhancement activities offset deterioration in performance owing to asset deterioration and ensure we improve contacts related to water discolouration to meet the DWI discoloration notice. We have assumed that all other appearance contacts and taste and odour contacts remain stable as our AMP8 plan does not include interventions targeting these issues. The table below shows the profile of water contacts by type of contact that underpin our performance targets.

Table: Profile of water quality contacts by type of contact underpinning performance targets

Unit: contacts per 1k population	2025/26	2026/27	2027/28	2028/29	2029/30
Discolouration contacts (*)	0.48	0.46	0.42	0.41	0.4
Other appearance contacts	0.29	0.29	0.29	0.29	0.29
Taste and Odour contacts	0.24	0.24	0.24	0.24	0.24

Note: (*) in line with targets set by the DWI Discolouration Notice.

5.5. Leakage

Reducing leakage is an important part of our water resources strategy. It also demonstrates to our customers that while we are asking them to use water more efficiently, we are also making efforts to reduce water losses by as much as we can. Reducing leakage will help us improve our long-term water supply-demand balance, reduce water abstraction and increase the asset health of our water supply network.

This performance commitment measures three-year average leakage in megalitres per day (Ml/d) and as a percentage reduction from the baseline.

The target for leakage reduction we set at business plan submission is industry upper quartile and aligned with our WRMP. Ofwat accepted our proposed targets for leakage reduction from 2026/27 onwards but set us a more stretching reduction target for 2025/26. We disagree with Ofwat's target for 2025/26. This is based on an optimistic view of our outturn 2023/24 performance and of our 2024/25 baseline. We are proposing to re-base our outturn leakage to align with the convergence method of reporting required by the PR24 leakage performance commitment definition. The convergence method results in a higher outturn leakage in 2023/24 and 2024/25, meaning that we will have to achieve a much bigger reduction in year 1 and year 2 of AMP8 to deliver the stretching targets we set ourselves at business plan submission (and WRMP). As a safety factor, we are proposing a deadband in year 1 and year 2 of AMP8 so we are not penalised for underperformance that results purely from a change in the reporting method. The convergence method also results in a higher baseline, meaning that our re-stated percentage reduction targets differ from the reduction targets we proposed at business plan submission. We expect Ofwat to re-set our leakage targets to take account of these methodological changes.

The table below summarises our overall position on leakage PC.

Table: Summary of our position on leakage PC

	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Annual leakage (Ml/d)							
Our performance target	111.9	100.7	75.0	73.8	70.1	67.7	66.3
Our proposed deadband		100.7	87.9	75.1	70.1	67.7	66.3
Ofwat DD target	85.0	76.9	75.4	74.2	70.5	68.1	66.7
3-year rolling average leakage (Ml/d)							
Our performance target	109.7	109.6	95.9	83.2	73.0	70.5	68.0
Our proposed deadband	n/a	n/a	100.2	87.9	73.0	70.5	68.0
Ofwat DD target	n/a	n/a	79.1	75.5	73.4	70.9	68.4
% reduction from 2019/20 baseline (Ovarro reporting method)							
Our performance target	-5.5%	2.6%	16.2%	24.4%	26.6%	29.0%	31.5%
Ofwat DD target		15.0%	20.8%	24.4%	26.5%	29.0%	31.5%
% reduction from 2020/21 baseline (Convergence reporting method)							
Our performance target	-4.3%	-4.1%	8.9%	21.0%	30.7%	33.0%	35.4%
Our proposed deadband	n/a	n/a	4.8%	16.5%	30.7%	33.0%	35.4%
Ofwat DD target	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Notes: Ofwat DD levels of leakage in Mld for 2023/24 and 2024/25 are calculated based on the outdated Ovarro method of reporting and are not comparable to our re-stated levels based on the Convergence method. We have made small adjustments to our annual Ml/d targets for AMP8 vs what we set in our business plan submission to account for the different treatment of NAVs as per Ofwat request. Without these adjustments, our annual Mld targets for AMP8 would be aligned with our business plan AMP8 targets which Ofwat has accepted at DD.

5.5.1. Rationale for our performance

We agree with Ofwat that reducing leakage should be a key priority. Our WRMP24 and our AMP8 investment plan include our full smart metering roll out, replacing 300km of mains and enhanced leakage improvement activities such as enhanced find and fix and advanced pressure measurement. Combined with our business-as-usual activities funded through base, our plan will put us on a trajectory to reach upper quartile leakage performance from 2026/27 onwards.

We have made only minor adjustments to our annual leakage Ml/d targets vs what we set in our business plan submission as a result of changing the treatment of NAVs. After October BP submission, Ofwat clarified that customers served by NAVs and their water consumption, should not be considered as part of our performance commitment targets. Therefore, we have now treated NAV consumption as an export. Because NAVs make an assumption about consumption per connection that differs from our assumption, this has resulted in a minor adjustment to our leakage targets versus business plans. The table below shows the changes.

Table: Adjustment to AMP8 leakage targets from treatment of NAVs

	2025/26	2026/27	2027/28	2028/29	2029/30
	Annual leakage (Ml/d)				
Our DD representation	75.0	73.8	70.1	67.7	66.3
Our business plan submission	75.4	74.2	70.5	68.1	66.7
Ofwat DD target	75.4	74.2	70.5	68.1	66.7

We have re-stated our leakage historic performance for 2023/24 and 2024/25 to align it with the convergence method of measuring leakage required by the performance commitment definition for PR24. The convergence method results in a higher outturn leakage in 2023/24 and 2024/25.

We have also revised our leakage baseline from 99.9Ml/d to 105.2Ml/d to align it with the convergence method. In line with what we agreed with Ofwat and confirmed in our letter to Ofwat dated 18 August 2021, we re-set our baseline as the average from 2020/21 to 2022/23, measured through the convergence method. This is because we were unable to back-cast our leakage in 2017/18 to 2019/20 using the convergence method.

The table below shows the impact of applying the convergence method consistently across historical performance and AMP8 targets. The numbers in purple are the re-stated leakage levels calculated according to the convergence method. The difference between our business plan submission and DD representations result from using the convergence method consistently across both outturn and forecasts leakage in our DD representation (plus minor adjustments from 2025/26 owing to the treatment of NAVs). In our business plan submission, the AMP8 levels used the convergence method but the 2023/24 and 2024/25 were reported using the outdated Ovarro method.

Table: Leakage performance in Ml/d, business plan vs draft determination representation

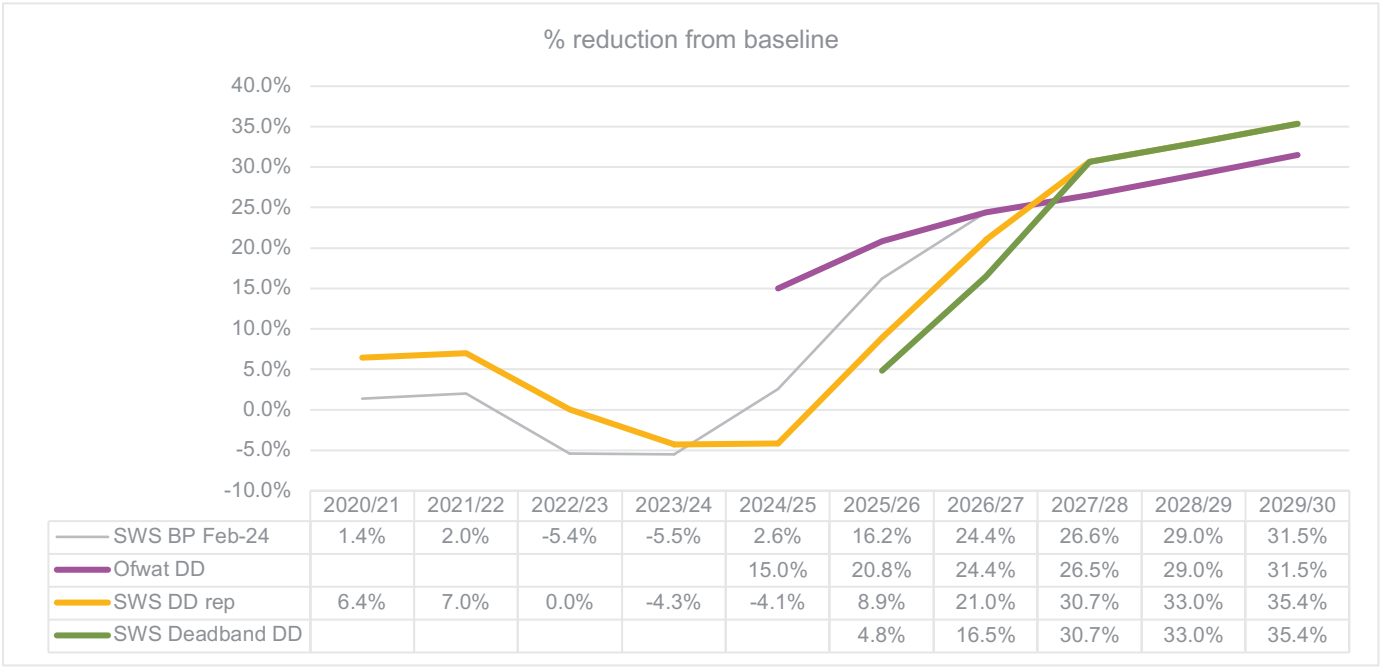
Metric: Ml/d	Baseline	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Ml/d, annual								
Our business plan submission	n/a	98.7	76.9	75.4	74.2	70.5	68.1	66.7
Our DD representation	n/a	111.9	100.7	75.0	73.8	70.1	67.7	66.3
Ml/d, 3-year rolling average								
Our business plan submission	99.9	105.3	97.3	83.7	75.5	73.3	70.9	68.4
Our DD representation	105.2	109.7	109.6	95.9	83.2	73.0	70.5	68.0

The compounded effect of a higher baseline and higher 3-year average leakage from 2023/24 to 2026/27 has resulted in us re-stating our percentage reduction leakage targets for AMP8, even though we keep the level of annual leakage in AMP8 unchanged (bar minor adjustments from treatment of NAVs).

As a result, and as the figure below shows, our revised leakage percentage reduction target for 2029/30 is now 35.4%, up from 31.5% at business plan submission and our leakage reduction target for 2025/26 is 8.9%, down from 16.2% at business plan submission.

The convergence method results in a higher outturn annual leakage in 2023/24 and 2024/25 meaning that we will have to achieve a much bigger reduction in year 1 and year 2 of AMP8 to deliver the stretching targets we set ourselves at business plan submission (and WRMP). As a safety factor, we are proposing a deadband in year 1 and year 2 of AMP8 so we are not penalised for underperformance that results purely from change in the reporting method.

Figure: Our leakage performance targets for AMP8



	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
SWS BP Feb-24	1.4%	2.0%	-5.4%	-5.5%	2.6%	16.2%	24.4%	26.6%	29.0%	31.5%
Ofwat DD					15.0%	20.8%	24.4%	26.5%	29.0%	31.5%
SWS DD rep	6.4%	7.0%	0.0%	-4.3%	-4.1%	8.9%	21.0%	30.7%	33.0%	35.4%
SWS Deadband DD						4.8%	16.5%	30.7%	33.0%	35.4%

5.5.2. Build-up of our performance

Our business plan includes an ambitious enhancement investment programme to bring our leakage target to industry upper quartile, in line with our WRMP24. Our business-as-usual activities funded through base will offset performance deterioration as a result of asset deterioration.

The table below shows the build-up of our performance target against our base and enhancement programmes.

Table: Leakage performance build-up

Unit: Ml/d annual	2023/24 (actual)	2024/25 (forecast)	2025/26	2026/27	2027/28	2028/29	2029/30
AMP7 exit performance	111.9	100.7					
Entry performance			100.7	75.0	73.8	70.1	67.7
Base to keep leakage constant			-122.0	-122.0	-122.0	-122.0	-122.0
Advanced pressure management			-7.8				
Carried over benefits from dropping leakage in 2024/25			-16.4				
Asset deterioration			122.0	122.0	122.0	122.0	122.0
Enhancement improvements			-1.5	-1.2	-3.7	-2.4	-1.4
AMP8 Performance (annual)			**75.0**	**73.8**	**70.1**	**67.7**	**66.3**

Base activities will offset deterioration in performance owing to asset deterioration. We will conduct extra advanced pressure management activities in 2025/26 funded through base to reduce leakage by 7/8 Ml/d. We expect some benefits from AMP7 base activities implemented to reduce leakage in 2024/25 to carry over into 2025/26.

Our enhancement programme as set out in our DD response will deliver further benefits ranging from 1.5 Ml/d to 3.7 Ml/d throughout AMP8. Our enhancement programme includes the activities listed below, which were estimated as part of our WRMP24.

Table: Breakdown of leakage improvements from enhancement expenditure

Unit: minutes	2025/26	2026/27	2027/28	2028/29	2029/30
Find & Fix	0.95	0.55	0.41	0.31	0.18
Advanced Pressure Management	0.25	0.21	0.38		
Smart Metering			1.95	1.26	0.54
Digitalisation/Smart Networks	0.07	0.06	0.11	0.09	0.07
Fibre Optic Networks					
Comms Pipe Replacement	0.16	0.13	0.22	0.17	0.12
Mains Replacement	0.11	0.25	0.63	0.57	0.50

5.6. Per Capita Consumption

This performance commitment measures our efforts to help customers reducing water consumption. We operate in a water stressed area. Water consumption reduction is an important part of our water resources strategy to reach supply/demand balance and reduce water abstraction.

This performance commitment measures three-year average per capital consumption (PCC) in litres per household per day (l/h/d) and as a percentage reduction from the 2019/20 baseline.

Ofwat set us an AMP8 target reduction from our 2019/20 baseline more stretching than industry upper quartile. We agree with Ofwat that reducing per capita consumption is a key priority for our company as we operate in a water stressed area. Our PCC in litres per person per day (l/p/d) has consistently been among the lowest in England and Wales since 2019/20. Our proposed targets for AMP8 keep us above upper quartile performance in l/p/d. Having one of the lowest performances in l/p/d in the industry means that we have less opportunities for percentage reductions as compared to most of the industry as we are reducing from a much lower base than other companies. As an example, we have the second highest meter penetration in the industry, having a high proportion of metered properties is the most significant driver to falling PCC. We therefore remain of the view that our proposed targets for percentage reduction in PCC are stretching, because they keep our PCC in l/p/d at a level better than industry upper quartile across AMP8. We note that we have amended our baseline to 2020-21 to 2022-23 convergence method figures as per ongoing discussion with Ofwat following proposed water balance methodology changes and agreement to shift to a PR24 baseline. Our proposed percentage reduction targets reflect this methodological change.

The table below summarises our overall position on per capita consumption PC.

Table: Summary of our position on per capita consumption PC

	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Annual PCC (l/p/d)							
Our performance target	125.2	127.5	126.8	125.5	123.9	122.4	120.8
Ofwat DD target	121.7	118.6	118.2	117.8	117.4	117.0	116.5
3-year rolling average PCC (l/p/d)							
Our performance target	127.8	126.1	126.5	126.6	125.4	123.9	122.4
Ofwat DD target	129.6	121.8	119.5	118.2	117.8	117.4	117.0
% reduction PCC from 2022/23 baseline							
Our performance target	3.1%	4.4%	4.1%	4.0%	5.0%	6.1%	7.3%
Ofwat DD target		4.8%	6.6%	7.7%	8.0%	8.3%	8.6%

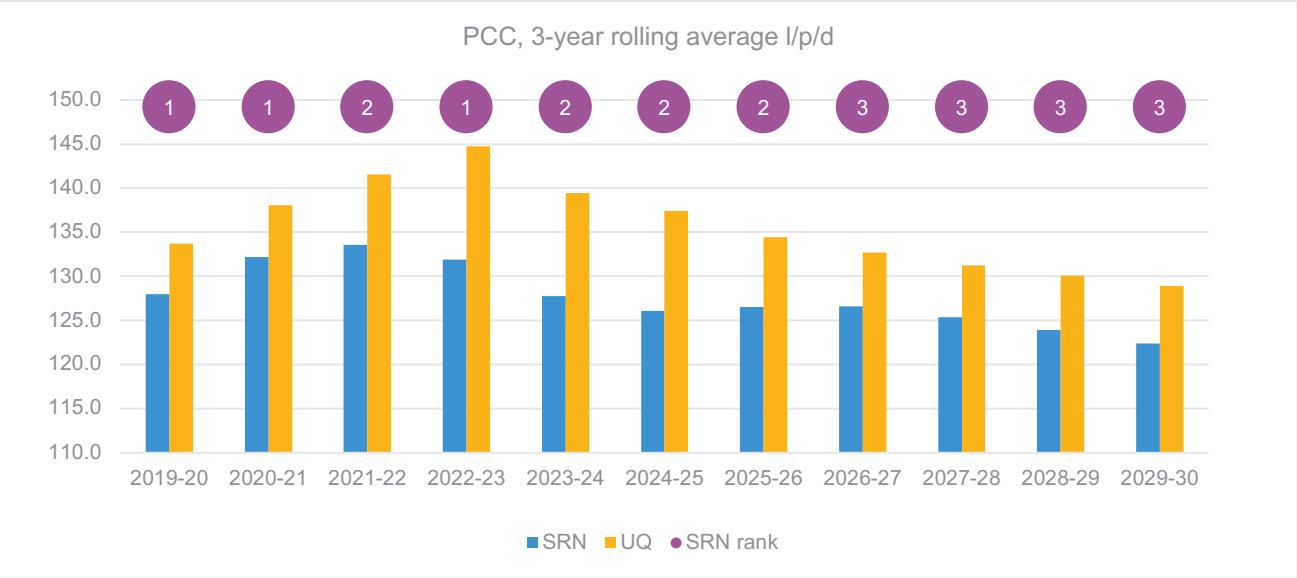
5.6.1. Rationale for our performance

We agree with Ofwat that we should strive to reduce water consumption as this is an efficient and environmentally friendly way of addressing the challenges of operating in a water stressed area.
Our historic PCC in l/p/d is among the lowest in England and Wales. As the figure below shows, our 3-year rolling average PCC in l/p/d has been either the first or second lowest in the industry since 2019-20, substantially below the industry upper quartile performance. Our PCC levels have also been the lowest among our neighbouring water companies in the South East (Affinity Water, Portsmouth Water, SES Water, South East Water and Thames Water).

Our demand management target in our WRMP24 is also more ambitious than our neighbouring water companies. We are aiming to achieve a dry-year PCC of 110 l/p/d by 2045 instead of 2050 as required by

the Government. In our case, a dry-year PCC is equivalent to a normal year PCC of 100 l/p/d. Our trajectory to reach the target of 110 l/p/d by 2045 means reducing annual PCC to 120.8 l/p/d by 2029/30, which is equivalent to a 3-year rolling average of 122.4 l/p/d. As the chart below shows, this is the third lowest level of PCC in the industry, comfortably below the industry upper quartile.

Figure: Our PCC performance in l/p/d vs industry

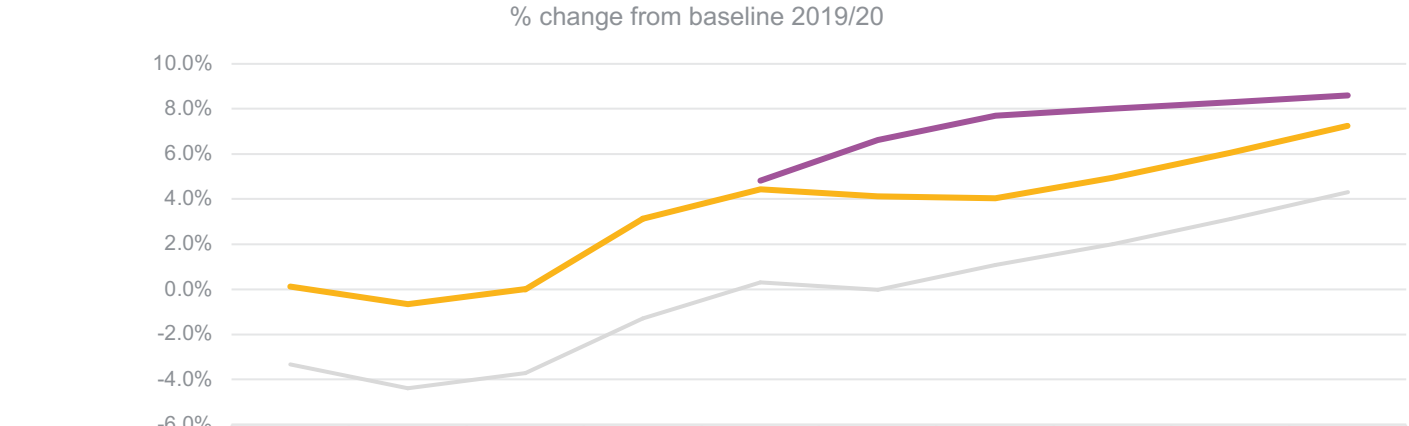


We have amended our PC baseline to 2020-21 to 2022-23 convergence method figures only as per ongoing discussion with Ofwat, following proposed water balance methodology changes and agreement to shift to a PR24 baseline. This has been agreed and confirmed in our letter to Ofwat dated 18 August 2021.

We therefore remain of the view that our proposed PCC targets for AMP8, in percentage reduction from our stretching 2022/23 baseline (chart below), are industry leading. They translate into an industry leading low level of consumption (in l/p/d), comfortably below the industry upper quartile level of consumption. To be clear, our target of 122.4 l/p/d by 2029/30 (3-year rolling average) means a reduction of 7.3% from our 131.9 l/p/d baseline (and frontier position) in 2022/23.

We have made small adjustments to our targets vs what we set in our business plan submission as a result of changing the treatment of NAVs. After October BP submission, Ofwat clarified that customers served by NAVs and their water consumption should not be considered as part of our performance commitment targets. Therefore, we have now treated NAV consumption as an export. Because NAVs make assumptions about consumption per connection that differ from our assumptions, this has resulted in a minor adjustment to our PCC targets versus business plans.

Figure: Our PCC performance targets for AMP8



	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
SWS DD rep	0.1%	-0.7%	0.0%	3.1%	4.4%	4.1%	4.0%	5.0%	6.1%	7.3%
SWS BP Feb-24	-3.3%	-4.4%	-3.7%	-1.3%	0.3%	0.0%	1.1%	2.0%	3.1%	4.3%
Ofwat DD					4.8%	6.6%	7.7%	8.0%	8.3%	8.6%

5.6.2. Build-up of our performance

We are starting AMP8 at a leading performance in consumption levels (in l/p/d). This means that improving our performance further to reach the ambitious AMP8 targets will require investing in activities that enhance our level of service, and thereby our PCC performance, such as smart metering and advanced find and fix. Investment in business-as-usual activities funded through base is insufficient to reduce PCC below what is already one of the lowest levels in the industry. This is why our plan assumes that improvements in PCC came fully from enhancement activities. The table below shows the build-up of our annual PCC performance measured in l/p/d.

We have made no amendment to our PCC forecast for 2024/25 and for PR24 and it remains the same as our WRMP24 forecast submitted on the 30th of June, based on which the benefits are calculated.

Table: PCC performance build-up

Unit: l/p/d, annual	2023/24 (actual)	2024/25 (forecast)	2025/26	2026/27	2027/28	2028/29	2029/30
AMP7 exit performance[1]	125.2	127.5					
Entry performance			127.5	126.8	125.5	123.9	122.4
Base improvements			0.00	0.00	0.00	0.00	0.00
Benefit adjustment[2]			-0.21	0.01	-0.09	-0.02	0.03
Asset deterioration[3]			n/a	n/a	n/a	n/a	n/a
Enhancement improvements			-0.49	-1.31	-1.52	-1.48	-1.63
AMP8 Performance (annual)			**126.8**	**125.5**	**123.9**	**122.4**	**120.8**

Notes:
(1) Our exit 2024/25 performance at 127.5 l/p/d annual is consistent with our WRMP24 exit performance.
(2) Adjustment to account for the fact that benefits were calculated vs the baseline demand without water efficiency interventions, as opposed to exit 2024/25 position.
(3) n/a because PCC is driven by behaviour and there are no assets involved.

In line with our WRMP24, our plan includes enhancement activities to increase our domestic meter penetration to 92% and replace our entire existing household meter stock with smart meters over AMP8. We consider smart metering to be a key enabler for further promoting and sustaining water efficient behaviour among our household customers.

In developing our household water efficiency strategy, we have heavily relied on the work commissioned by Water UK[2] and Ofwat[3] along with first-hand data we have gathered through our water efficiency initiatives such has home visits.

The table below details the contribution of our enhancement activities to our PCC targets in AMP8, which were estimated as part of our WRMP24.

Table: Breakdown of PCC improvements from enhancement expenditure

Unit: l/p/d, annual	2025/26	2026/27	2027/28	2028/29	2029/30
Smart metering	0.00	0.82	1.03	1.00	1.15
Home audits	0.08	0.08	0.08	0.07	0.07
Tariffs	0.00	0.00	0.00	0.00	0.00
Water efficiency enablers	0.01	0.01	0.01	0.01	0.01
Govt initiatives	0.40	0.40	0.40	0.40	0.40
Total	**0.49**	**1.31**	**1.52**	**1.48**	**1.63**

[2] Artesia, 2019. Pathways to long-term PCC reduction. Report number 1286. Link
[3] Artesia, 2018, The long term potential for deep reductions in household demand. Report number AR1206) along Link

5.7. Business Demand

This new performance commitment is designed to incentivise us promoting water efficiency among business customers. We operate in a water stressed area. Water consumption reduction is an important part of our strategy to reach water supply/demand balance and reduce water abstraction.

This performance commitment measures three-year average business consumption reduction, in megalitres per day (Ml/d) and as a percentage reduction from the 2019-20 baseline.

We are pleased to see that Ofwat accepted the AMP8 targets we proposed in our business plan submission for business demand. We agree with Ofwat that the targets we proposed at business plan submission are stretching and aligned with our WRMP.

We note, however, that at DD we have amended our Business Demand baseline to 2022-23 convergence method figures only. This is as per ongoing discussion with Ofwat following proposed water balance methodology changes and agreement to shift to a PR24 baseline. This has been agreed and confirmed in our letter to Ofwat dated 18 August 2021.

The amended baseline has a knock-on impact on our performance target measured as a percentage reduction. We expect Ofwat to amend our percentage reduction targets at Final Determination to reflect the change in our baseline (as per bottom two lines in the table below).

The table below summarises our overall position on business demand PC.

Table 1: Summary of our position on business demand

	Baseline	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Annual Business Demand (Mld)							
Our performance target	-	108.2	107.7	107.2	106.7	106.2	105.6
Ofwat DD target	-	108.2	107.7	107.2	106.7	106.2	105.6
3-year rolling average Business Demand (Mld)							
Our performance target	-	107.4	107.8	107.7	107.2	106.7	106.2
Ofwat DD target	-	107.4	107.8	107.7	107.2	106.7	106.2
% reduction Business Demand from 2019/20 baseline							
Our performance target	115.7	7.2%	6.8%	6.9%	7.3%	7.8%	8.2%
Ofwat DD target	115.7	7.2%	6.8%	6.9%	7.3%	7.8%	8.2%
% reduction Business Demand from 2022/23 baseline							
Our re-stated performance target	100.6	-5.8%	-5.9%	-6.0%	-5.4%	-4.8%	-4.3%
Ofwat DD target	100.6	n/a	n/a	n/a	n/a	n/a	n/a

5.8. Mains Repairs

This performance commitment measures the number of repairs to burst water mains per 1,000 km of our mains network. It counts as mains repairs both proactive and reactive mains repairs.

As currently defined, this PC disincentivises maintenance and inspection activities critical to improve leakage performance and, indeed, long term asset health. This is a perverse outcome for Ofwat to incentivise at a point when the industry is actively targeting leakage reduction. Greater maintenance and inspection of water mains network results in greater detection of mains in need of repair, increases proactive mains repair activities and leads to deterioration in mains repairs performance commitment.

We are of the view that Ofwat should limit the mains repairs performance commitment to reactive mains repairs and exclude proactive repairs from the measure. Excluding proactive repairs would eliminate the disincentive for conducting maintenance and preventive activities, which are critical to improve leakage and asset health. Ofwat has the information it needs to exclude proactive repairs from this metric. The split between proactive and reactive mains repairs is already defined in the regulatory accounting guidance and the industry has reported it retrospectively starting in 2011/12 (as per business plans, Table OUT4.91-92).

At DD, Ofwat kept both reactive and proactive mains repairs as part of the mains repairs performance commitment. We disagree with this approach. For us, this means that the substantial proactive find and fix to reduce leakage generate greater mains repairs activity and inevitably lead to a deterioration in our mains repairs performance, despite doing the right thing by actively improving asset health. It effectively applies an additional penalty when doing proactive mains repairs that other forms of leakage reduction do not have. At the margin it incentivises less rather than more mains repair. Given that the original purpose of this metric is to monitor and incentivise improving asset health, the current formulation is not delivering against that intention.

Ofwat failed to take this detrimental knock-on effect into account in setting our 2024/25 baseline and our performance targets for AMP8. Instead, Ofwat stretches our AMP7 performance further to a level beyond industry upper quartile as per companies' business plan proposals. We disagree with these targets as they are too stretching, out of sync with the activities in our plan and fail to recognise our efforts to reduce leakage and corresponding detrimental impact on mains repairs performance. Ofwat notes that it adjusted our 2024/25 baseline to a less stretching level than our PR19 2024-25 PCL to allow for greater mains repairs to tackle leakage. The 2024/25 baseline that Ofwat set to us of 117.7 is based on the average of the best five historical years. We do not understand why Ofwat has cherry picked years. Instead, Ofwat should have set our 2024/25 baseline at the industry mean/average over the full duration of years covered by the botex modelling in setting the botex model allowances, which would come at 140.85. This is further reinforced by the fact that mains bursts are dependent on weather, meaning that calibrating the right industry starting point needs to include all the years in the data series to closely represent the fluctuation we would anticipate over AMP8.

The 2024/25 baseline of 117.70 that Ofwat set to us is 21% more stretching than the 150.0 baseline we consider we will be able to realistically deliver taking into account the level of leakage reduction activity underway. We therefore remain of the view that both the baseline and target we set at business plan submission are the levels of performance we can deliver and are aligned with the base and enhancement activities we have in our plan.

The table below summarises our overall position on mains repairs.

Table: Summary of our position on mains repairs PC

Unit: Number per 1,000 km of mains	2024/25 baseline	2025/26	2026/27	2027/28	2028/29	2029/30
Reactive and proactive mains repairs						
Our performance target	150.0	150.00	150.32	150.63	151.18	152.90
Ofwat DD target	117.70	115.60	113.50	111.40	109.30	107.30
Industry mean / average	140.85 *					
Reactive mains repairs						
Our performance target	97.13	96.4	95.3	93.5	91.9	90.0

Note (*) average over the 2011/12 to 2024/25 period.

We evidence our position on each of Ofwat points in turn below.

5.8.1. Rationale for our performance

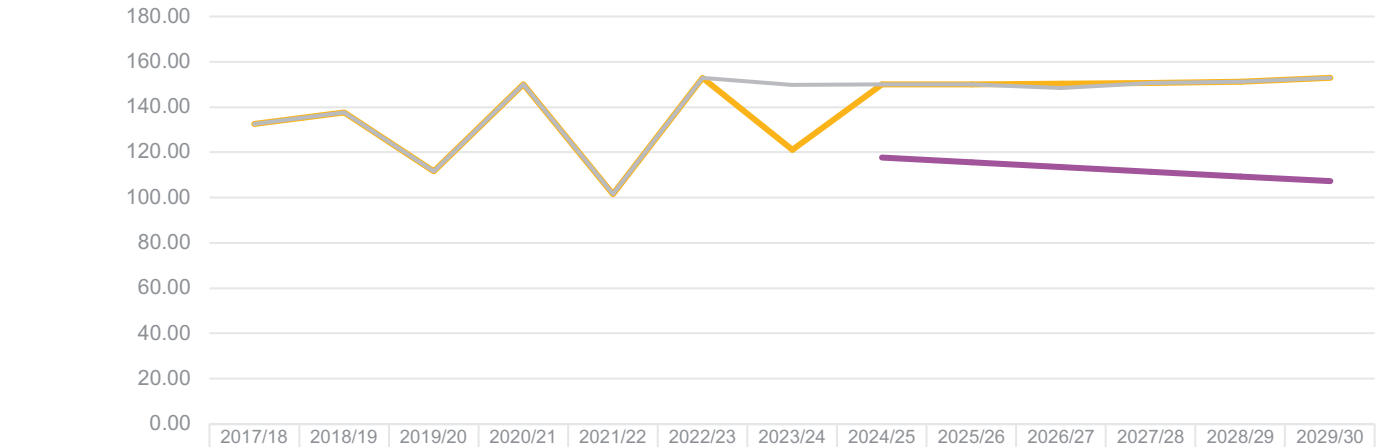
The 2024/25 baseline and AMP8 targets that Ofwat set to us at DD are too stretching and not supported by the activities we have in our plan. Our AMP8 plan includes two types of activities that impact our performance on mains repairs PC in opposite directions:

- Our proposed enhancement programme to replace 300 km of mains in AMP8 is a step to improve our performance in mains repairs. However, this programme means replacing only 2.4% of our c.14k km of water mains which are in poor condition. Indeed, as we explain above as part of our water supply interruptions evidence, the risk of mains bursts remains high in AMP8. This is due to the prevalence of PVC and cast-iron mains in poor condition across our c.14k km of mains network. Affordability and financeability considerations led us to keep our mains replacement programme limited to critical replacements so we could prioritise investments to meet statutory requirements such as storm overflows and p-removal.

- Our proactive find and fix programme needed to meet our leakage targets will involve repairing a larger number of mains as we find leaking mains, thereby causing some deterioration in our mains repairs PC. This programme will improve the future asset health of our water network contributing to bring down the level of mains repairs to 98.1 per 1,000 km by 2049/50. It will also contribute to ensure greater water reliability for future generations, which is what our customers told us that they wanted. But in AMP8, it will drive some deterioration in our mains repairs performance.

Therefore, we have kept the AMP8 targets we proposed at business plan unchanged as we remain of the view that these are realistic, stretching and in line with our investment plans for AMP8.

Figure: Our mains repairs performance targets for AMP8



	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
SWS DD rep	132.61	137.62	111.47	150.00	101.50	152.80	121.09	150.00	150.0	150.3	150.6	151.2	152.9
SWS BP Feb-24	132.61	137.62	111.47	150.01	101.55	152.81	149.79	150.00	150.00	148.40	150.62	151.18	152.90
Ofwat DD								117.70	115.60	113.50	111.40	109.30	107.30

We acknowledge that our outturn performance in 2023/24 at 121.1 mains repairs per 1k km of mains was better than the 149.8 we had forecasted at business plan submission. However, this was not a reflection of an improvement in our underlying asset condition, but rather the result of the weather in 2023/24 being more stable and without the variance in temperature experience in previous years. Indeed, mains bursts (and thereby the need for mains repairs) are largely impacted by variance in weather temperatures. High variance in weather temperatures explains the peaks in the historic number of mains repairs, for us and for the industry, in 2022/23, 2020/21 and 2018/19. As the table below shows, these were years of significant temperature variance, according to the Met Office Annual reports. Given this weather dependency, calibrating the right industry starting point needs to include all the years in the data series to closely represent the fluctuation we would anticipate over AMP8.

Table: Weather temperatures in UK

	Met Office temperature highlights	Source
2022/23	"2022 was a **record warm** year for the UK, made more likely by climate change"	Met Office, State of the OK Climate 2022 Link
2021/22	"Overall, UK temperature and sunshine for 2021 **were near average** and rainfall slightly below.."	Met Office, State of the OK Climate 2021 Link
2020/21	"Year **2020 was third warmest**, fifth wettest and eight sunniest on record for the UK. No other year has fallen in the top-10 for all three variables for the UK	Met Office, State of the OK Climate 2020 Link
2019/20	"2019 was the 12th warmest year for the UK in a series from 1884, and 24th warmest for Central England in a series from 1659.	Met Office, State of the OK Climate 2019 Link
2018/19	"Summer 2018 was the **equal-warmest summer for the UK** in a series from 1884, and the warmest in the series for England"	Met Office, State of the OK Climate 2018 Link
2017/18	2017 was the **fifth warmest** year for the UK in a series from 1910, and eighth warmest for Central England in a series from 1659"	Met Office, State of the OK Climate 2018 Link

5.8.2. Build-up of our performance

Our performance targets for AMP8 are based on the improvements that we can achieve from the base and enhancement activities in our plan and expected deterioration in performance caused by asset condition and

knock-on impacts of our proactive find and fix leakage enhancement programme to reach our leakage targets.

The table below shows the build-up of our performance targets.

Table: Mains repairs performance build-up

Unit: mains repairs per 1k km of mains	2023/24 (actual)	2024/25 (forecast)	2025/26	2026/27	2027/28	2028/29	2029/30
AMP7 exit performance	121.09	150.00					
Entry performance			150.00	150.00	150.31	150.63	151.18
Base improvements			-150.20	-150.20	-150.20	-150.20	-150.20
Asset deterioration			150.50	151.13	151.69	152.04	153.73
Enhancement improvements			-0.30	-0.62	-1.17	-1.29	-1.80
AMP8 Performance			**150.00**	**150.31**	**150.63**	**151.18**	**152.90**

Our base programme funds business as usual mains repairs which will keep our performance stable at the 2024/25 level of c.150 mains repairs per 1k km of mains. The table below shows the breakdown of improvements from base across the activities in our plan.

Table: Breakdown of improvements to mains repairs from base expenditure

Unit: mains repairs per 1k km of mains	2025/26	2026/27	2027/28	2028/29	2029/30
Mains Renewals Isle of Whight	0.02	0.02	0.02	0.02	0.02
Mains Renewals Rownhams	0.07	0.07	0.07	0.07	0.07
Advanced pressure management	0.44	0.44	0.44	0.44	0.44
Other BAU mains renewals	149.66	149.66	149.66	149.66	149.66
Total	**150.20**	**150.20**	**150.20**	**150.20**	**150.20**

The prevalence of PVC and cast-iron mains in poor condition is expected to cause deterioration in performance which our asset deterioration models estimate at around 150.50 per annum. The proactive find and fix programme to reduce leakage will further deteriorate our performance in AMP8 (before we see the benefits in asset health in AMP9 and beyond). This explains the deterioration over AMP8 above the 150.50 estimate from our deterioration models and growing over time, in line with the intensification of our proactive find and fix programme in AMP8.

Our enhancement programme to replace 300km of mains throughout AMP8 (or 2.1% of our mains network) is expected to reduce mains repairs by a rate ranging from 0.3 repairs per 1k km of mains in 2025/26 and 1.8 in 2029/30. These benefits were estimated as part of our WRMP24.

Table: Breakdown of improvements to mains repairs from enhancement expenditure

Unit: mains repairs per 1k km of mains, annual	2025/26	2026/27	2027/28	2028/29	2029/30
Enhancement programme to replace 300km of mains	0.30	0.62	1.17	1.29	1.80
Total	**0.30**	**0.62**	**1.17**	**1.29**	**1.80**

5.9. Internal Sewer Flooding

This performance commitment incentivises reducing the number of properties flooded from a public sewer. A reduction in the number of internal sewer flooding incidents indicates a reduction in disruption and other negative impacts for our customers. It is measured in total number of incidents and incidents normalised by 10,000 sewer connections.

At Draft Determinations, Ofwat sets common performance targets for internal sewer flooding in AMP8 across the industry and at a level close to industry upper quartile, starting in 2025/26. At business plan, we had proposed targets aiming at upper quartile performance by 2029/30. However, our outturn performance in 2023/24 of 2.57 did not meet our original forecast of 1.57 at business plan submission. We have, therefore, reviewed our position for AMP8. Our revised targets mean we are proposing the fourth largest improvement from our 2024/25 position, placing us close to upper quartile improvement. The activities included in our plan support this level of stretching but are not likely to be sufficient to meet Ofwat's target at upper quartile level. For example, affordability and financeability considerations led us to de-prioritise enhancements to reduce risk of sewer flooding to properties over statutory investments, e.g., p-removal and storm overflows.

The table below summarises our overall position on internal sewer flooding PC.

Table: Summary of our position on position on internal sewer flooding PC

Unit: Incidents per 10,000 sewer connections	2024/25 baseline	2025/26	2026/27	2027/28	2028/29	2029/30
Our performance target	1.63	1.52	1.44	1.37	1.35	1.33
Ofwat DD target	1.34	1.31	1.29	1.24	1.20	1.16
Industry mean/average	2.37 *					

Note (*) average over the 2011/12 to 2024/25 period.

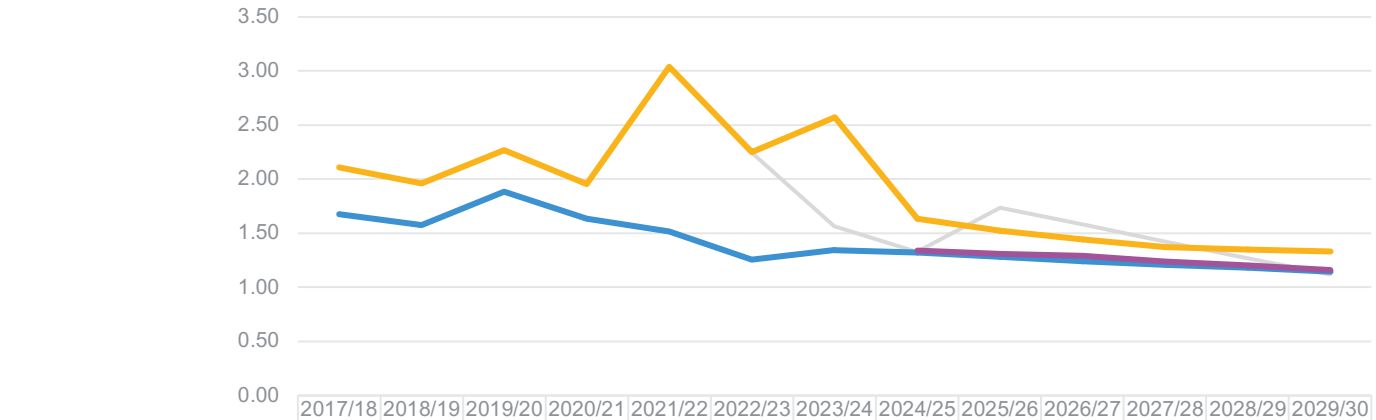
5.9.1. Rationale for our performance

At business plan, we had proposed targets for internal sewer flooding that would take us to upper quartile level of performance by 2029/30. At DD, Ofwat set common targets for all companies which for us mean even more stretching targets than we proposed at business plan. We consider Ofwat's targets to be too stretching and out of sync with the activities we propose in our business plan. As the chart below shows, our outturn performance in 2023/24 was 2.57 incidents per 10k connections We now forecast our baseline performance in 2024/25 to be 1.63, against Ofwat assumption of a more stretching baseline performance of 1.34.

We have reviewed our investment plans and concluded that the AMP8 performance targets for internal sewer flooding that we set at business plan submission can no longer be achievable, considering that we have to recover from a 2024/25 baseline of 1.63 vs 1.33 at business plan submission, while the benefits from the base and enhancement activities in our plan remain the same.

The figure below shows our revised AMP8 targets, normalised by 10k sewer connections, vs our targets at business plan submission and the targets Ofwat set to us at DD.

Figure: Our internal sewer flooding performance targets in AMP8



	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
SWS BP Feb-24	2.11	1.96	2.27	1.96	3.04	2.25	1.57	1.33	1.74	1.58	1.42	1.27	1.12
Industry UQ Feb-24 BP	1.67	1.58	1.88	1.63	1.52	1.26	1.34	1.32	1.28	1.24	1.21	1.18	1.14
Ofwat DD								1.34	1.31	1.29	1.24	1.20	1.16
SWS DD rep	2.11	1.96	2.27	1.96	3.04	2.25	2.57	1.63	1.52	1.44	1.37	1.35	1.33

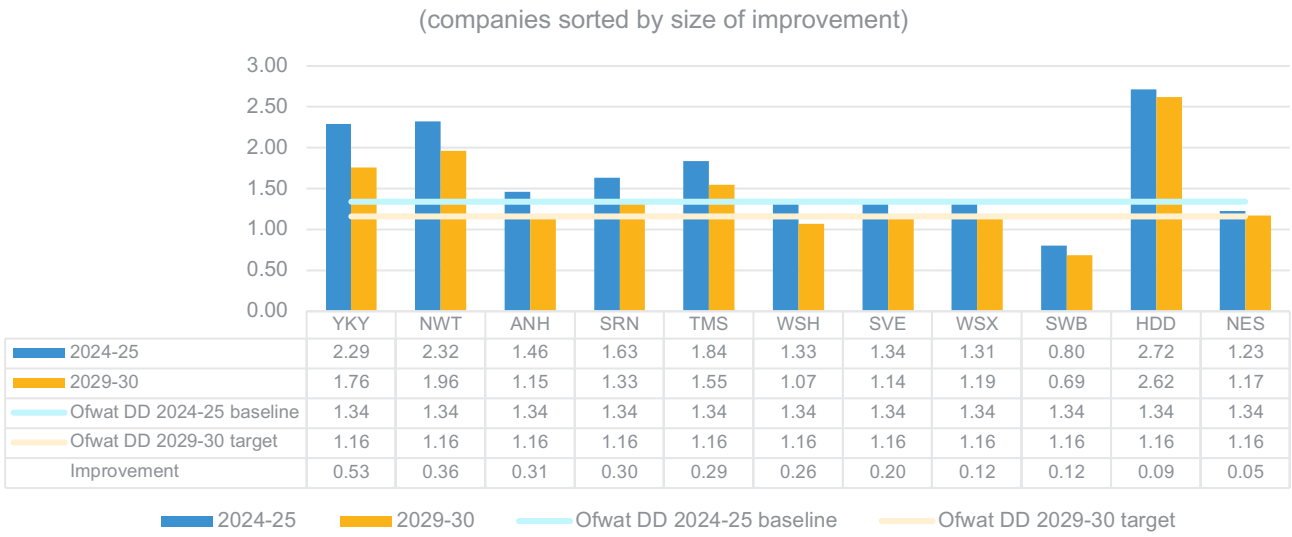
In number of incidents, we are targeting reducing to 286 sewer flooding incidents by 2029/30 from 335 forecast in 2024/25; a 15% percent reduction. As the table below shows, this is a greater reduction than the 12% reduction we forecasted at BP submission.

Table: Internal sewer flooding incidents, business plan vs draft determination response

Metric: number of incidents	2024/25	2029/30	% Change
Business plan submission	274	240	-12%
DD response	335	286	-15%

Our revised performance targets for AMP8 are stretching. By 2029/30, our number of internal sewer flooding incidents, normalised by 10k connections, will be 0.30 lower than in 2024/25. As the figure below shows, this is the fourth largest improvement across the industry, placing us close to upper quartile improvement.

Figure: Improvement in internal sewer flooding performance from 2024/25 to 2029/30



	YKY	NWT	ANH	SRN	TMS	WSH	SVE	WSX	SWB	HDD	NES
2024-25	2.29	2.32	1.46	1.63	1.84	1.33	1.34	1.31	0.80	2.72	1.23
2029-30	1.76	1.96	1.15	1.33	1.55	1.07	1.14	1.19	0.69	2.62	1.17
Ofwat DD 2024-25 baseline	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34
Ofwat DD 2029-30 target	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
Improvement	0.53	0.36	0.31	0.30	0.29	0.26	0.20	0.12	0.12	0.09	0.05

5.9.2. Build-up of our performance

Our performance targets for AMP8 are based on our starting position in 2024/25 and improvements coming from base activities in our plan that will directly reduce internal sewer flooding incidents.

Our improvements from enhancement are nil because we made the conscientious decision to de-deprioritise enhancements to reduce the risk of sewer flooding to properties. Affordability and financeability constraints led us to prioritise investments to meet statutory requirements, e.g., p-removal and storm overflows over non-statutory investments such as reducing sewer flooding to properties.

The table below shows the build-up of our performance targets, in number of incidents.

Table: Internal sewer flooding performance build-up

Unit: Incidents	2023/24 (actual)	2024/25 (forecast)	2025/26	2026/27	2027/28	2028/29	2029/30
AMP7 exit performance	527	335					
Entry performance			335	319	304	291	288
Base improvements			-13	-13	-13	-3	-2
Asset deterioration			n/a	n/a	n/a	n/a	n/a
Enhancement improvements – Infiltration resilience			-3	-2	0	0	0
AMP8 Performance			**319**	**304**	**291**	**288**	**286**

Note: n/a not applicable.

Our resilience enhancement programme for infiltration will cut 5 internal sewer flooding incidents in 2025/26 and 2026/27.

Our base programme includes activities to reduce flood mitigation and alleviation and asset maintenance. These activities will reduce 44 internal sewer flooding incidents across AMP8, with an annualised rate

ranging from 13 to 2 incidents. The table below shows the breakdown of improvements from our base plan by activities.

Table: Breakdown of improvements to internal sewer flooding from base expenditure

Unit: incidents	2025/26	2026/27	2027/28	2028/29	2029/30
Flood mitigation and alleviation	12	12	12	2	2
Asset availability / maintenance programmes	1	1	1	1	
Total	**13**	**13**	**13**	**3**	**2**

5.10. Total pollution Incidents

The total number of pollution incidents performance commitment is reported in number of incidents and normalised by 10,000 km of sewer length. It applies only to our wastewater activities as it measures the pollution incidents from discharges or escapes of contaminants from our sewerage assets affecting the water environment.

Ofwat DD sets a common target for total pollution incidents across the industry for AMP8, which results in a level of stretching close to industry upper quartile. This is an inappropriate target that has not been correctly calibrated. Ofwat starts from an unrealistically low 2024/25 common baseline of 19.5, which is the PCL it set for 2024/25. In 2023/24, no company met such level of performance. Given this has been funded out of botex, the mean represents what the industry has been able to deliver with the botex it has spent. A better and reasonable approach would be for Ofwat to set a common 2024/25 baseline at the level of the mean/average for the industry over the full period covered by the botex modelling, which would come at 51.49.

The targets Ofwat sets for the sector in AMP8 represent a 30% 5-year improvement from an already unrealistically stretching 2024/25 baseline of 19.5. Has the industry delivered 2023/24 performance in year 1 of AMP8, all the 11 WaSCs would start AMP8 in penalty.

At business plan, we proposed targets close to upper quartile performance by 2029/30. We have reconsidered these in light of our outturn performance in 2023/24 and forecast for 2024/25 and have set stretching but less ambitious targets for AMP8. Our revised targets are stretching. They correspond to the largest improvement from our 2024/25 baseline position (we rank 10th out of 11 companies) meaning that our improvement is comfortably better than the industry upper quartile improvement. The activities included in our plan support this level of stretching but will not be sufficient to meet the target that Ofwat set us at DD. We emphasise that securing funding for our enhancement power and infiltration resilience activities is critical for achieving our AMP8 targets.

The tables below summarise our overall position on total and serious pollution incidents PC.

Table: Summary of our position on total pollution incidents PC

Unit: Incidents per 10,000 km of sewer length	2024/25 baseline	2025/26	2026/27	2027/28	2028/29	2029/30
Our performance target	56.4	37.8	31.3	27.5	25.0	24.0
Ofwat DD target	19.5	18.3	17.2	16.0	14.8	13.7
Industry mean /average	51.49 *					
Any other relevant information	Our targets are set on the understanding that pollution incidents classified by the EA as Category 4 are excluded from the performance commitment. This is in line with Ofwat's definition published in May 2023.4 We are aware that the EA is considering changing its guidance to eliminate Category 4 incidents from January 2026. If the EA does eliminate Category 4 incidents in the updated guidance, this will mean that incidents currently classified as Category 4, and thereby excluded from the PC, will be reclassified as Category 3 (or above) becoming part of the PC. We expect Ofwat to calibrate our pollution targets to account for this reclassification of pollution incidents, should the EA approve this change to their guidance.					

Note (*) average over the 2011/12 to 2024/25 period.

[4] Source: Ofwat, PR24 Total pollution incidents, May 2023. Link

We evidence our position on each of Ofwat points in turn below.

5.10.1. Rationale for our performance

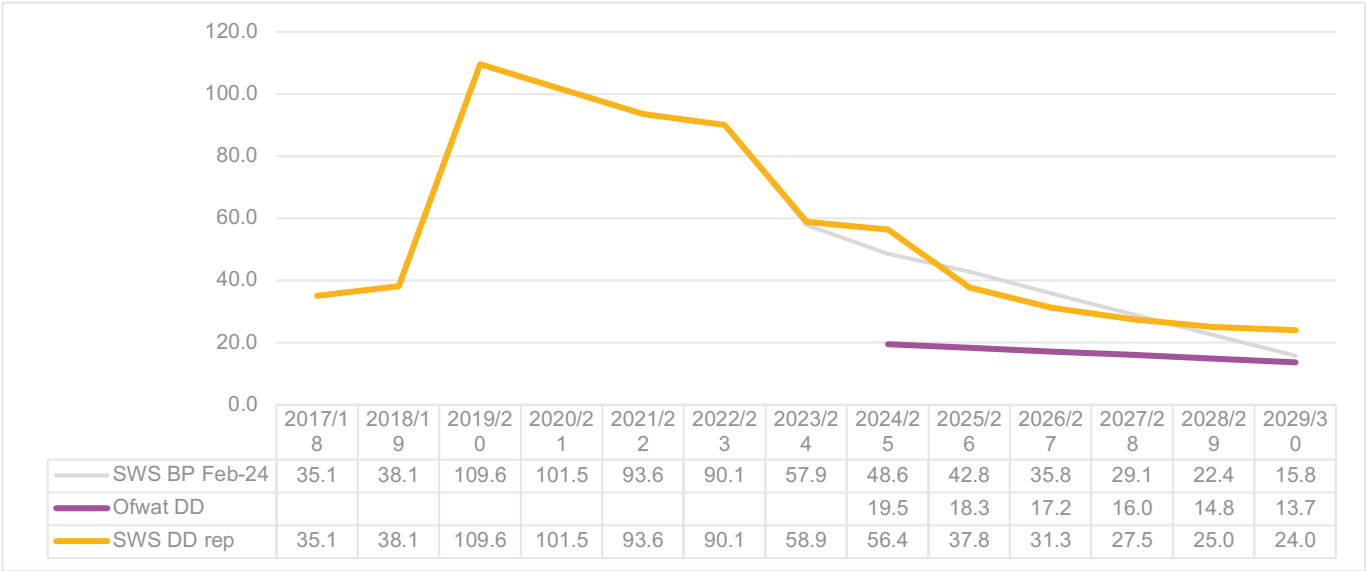
The targets we set for total pollution incidents at business plan submission would have taken us close to industry upper level of performance by 2029/30. Ofwat has stretched these further by setting common targets close to industry upper quartile. Ofwat starts from a common 2024/25 baseline of 19.50, which is tighter than the 2024/25 baseline position predicted by seven (out of 11) companies, including Southern Water. Ofwat's 2024/25 baseline and AMP8 targets are too stretching and not supported by the activities we have in our plan.

Ofwat's targets (and 2024/25 baseline) are not supported by the historical performance in the industry either. Ofwat DD targets for AMP8 stretch the already stretching AMP7 targets further, at a time when most of the companies in the industry are showing a deteriorating performance. The latest outturn data shows that in 2023/24, 10 out of 11 companies missed their pollution targets (only HDD met its target). Six out of 11 WaSCs forecast a worse 2024/25 position than their performance when AMP7 began in 2020/21.

The targets we proposed at business plan aimed at upper quartile performance by 2029/30, following from the improvement trajectory we embarked on since AMP7 started in 2020/21. Indeed, we forecast our position in 2024/25 to reach 56.4 normalised pollution incidents, down from 101.5 in 2020/21.This is in line with the historical industry average of 51.49 across the period covered by the botex modelling, and therefore in line with the level of performance funded through base allowances. Since business plan submission, our outturn performance in 2023/24 and forecast for 2024/25 deteriorated vs our forecasts at business plan submission, given updated data that has become available to us. While we have revised upwards the benefits expected in AMP8 from the base activities we have in our plan, this benefit increase is insufficient to compensate the deterioration in our 2024/25 position. We have, therefore, set stretching but less ambitious revised targets for AMP8.

The figure below shows our revised AMP8 pollution targets, normalised by 10k of sewer length, vs our targets at business plan submission.

Figure: Our total pollution performance targets vs industry upper quartile

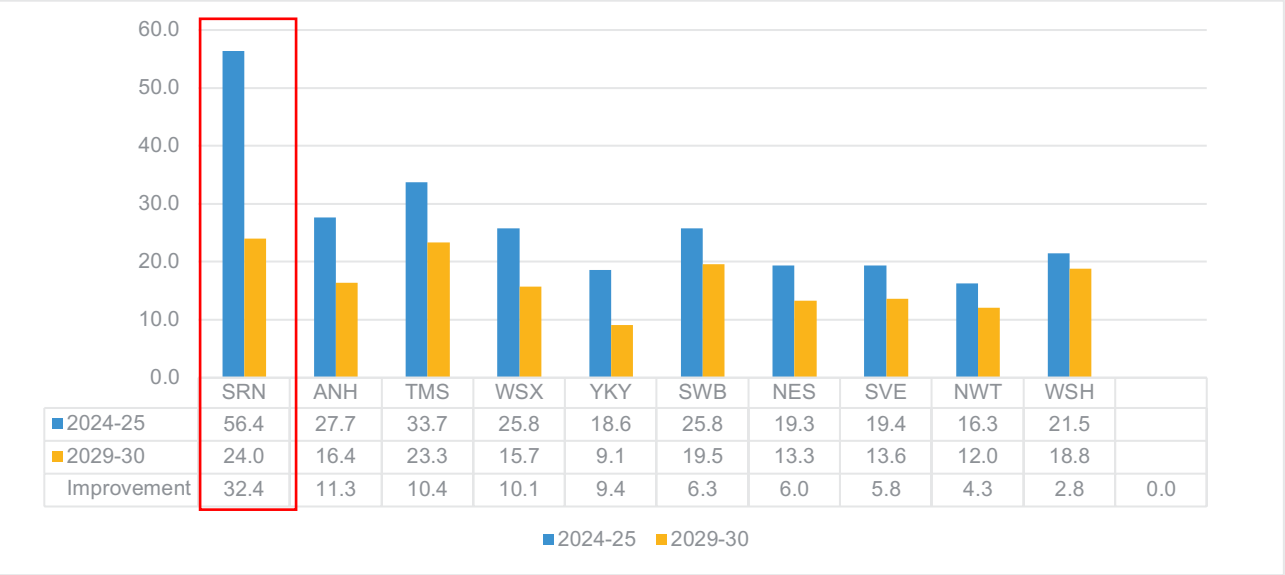


	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
SWS BP Feb-24	35.1	38.1	109.6	101.5	93.6	90.1	57.9	48.6	42.8	35.8	29.1	22.4	15.8
Ofwat DD								19.5	18.3	17.2	16.0	14.8	13.7
SWS DD rep	35.1	38.1	109.6	101.5	93.6	90.1	58.9	56.4	37.8	31.3	27.5	25.0	24.0

We note that our targets are set on the understanding that pollution incidents classified by the Environment Agency (EA) as Category 4 are excluded from the performance commitment. This is in line with Ofwat's definition published in May 2023.[5] We use the data reported to the EA for classifying and reporting the category of any of our incidents causing a pollution to water. We are aware that the Environment Agency (EA) has a Task and Finish (Taf) working group in place to review the reporting guidance for pollution incidents. One of the changes proposed is to eliminate Category 4 incidents from January 2026. The EA is currently consulting on this change. If the EA does eliminate Category 4 incidents in the updated guidance, this will mean that incidents currently classified as Category 4, and thereby excluded from the PC, will be reclassified as Category 3 (or above) becoming part of the PC. We expect Ofwat to calibrate our pollution targets to account for this reclassification of pollution incidents, should the EA approve this change to their guidance.

Our revised performance targets for AMP8 are stretching. By 2029/30, our total number of pollution incidents, normalised by 10k of sewer length, will be 32.4 lower than in 2024/25. As the figure below shows, this is the largest improvement across the industry, and comfortably better than the industry upper quartile improvement of 10.2.

Figure: Improvement in total pollution performance from 2024/25 to 2029/30



	SRN	ANH	TMS	WSX	YKY	SWB	NES	SVE	NWT	WSH	
2024-25	56.4	27.7	33.7	25.8	18.6	25.8	19.3	19.4	16.3	21.5	
2029-30	24.0	16.4	23.3	15.7	9.1	19.5	13.3	13.6	12.0	18.8	
Improvement	32.4	11.3	10.4	10.1	9.4	6.3	6.0	5.8	4.3	2.8	0.0

5.10.2. Build-up of our performance

Our revised performance targets for AMP8 are based on our baseline position in 2024/25 and the improvements that we can achieve from the base and enhancement activities in our plan.
We have revisited up the benefits we can achieve from the base activities in our plan and have now added benefits from our enhancement activities related to power resilience and infiltration resilience. Securing funding for these activities is critical for achieving our pollution targets in AMP8.

The table below shows the build-up of our performance targets, in number of pollution incidents.

[5] Source: Ofwat, PR24 Total pollution incidents, May 2023. Link

Table: Total pollution performance build-up

Unit: Incidents	2023/24 (actual)	2024/25 (forecast)	2025/26	2026/27	2027/28	2028/29	2029/30
AMP7 exit performance	234	224					
Entry performance			224	150	125	110	100
Base improvements			-74	-21	-11	-8	-4
Asset deterioration			n/a	n/a	n/a	n/a	n/a
Enhancement improvements			0	-4	-4	-2	0
AMP8 Performance			**150**	**125**	**110**	**100**	**96**

Note: n/a not applicable.

Our base expenditure funds activities to reduce pollution from WTWs and from the network. These activities will cut 118 pollution incidents across AMP8. The table below shows the breakdown of improvements from our base plan by activities.

Table: Breakdown of improvements to total pollution from base expenditure

Unit: incidents	2025/26	2026/27	2027/28	2028/29	2029/30
Sentrix models	7				
WPS resilience	20				
Electrical resilience - generator blackstarts	7				
Planned maintenance	7				
Ground water plans	6				
Additional 8,000 Sewer Level Monitors	15	5			
Asset availability / maintenance programmes	8	6	4	5	3
Rising main / WPS programme	2	3	2	2	1
PIRP refinement	2	7	5	1	
Total	**74**	**21**	**11**	**8**	**4**

Enhancement resilience activities will cut a further 10 pollution incidents by the end of AMP8, with an annualised reduction ranging from 2 to 4 incidents.

Table: Breakdown of improvements to total pollution from enhancement expenditure

Unit: minutes	2025/26	2026/27	2027/28	2028/29	2029/30
Infiltration resilience: Enhanced sewer sealing across groundwater sites		**2**	**2**	**1**	
Power resilience: [redacted] in Kent terminal WPS and key sites. Additional S/B generation		**2**	**2**	**1**	
Total	**0**	**4**	**4**	**2**	**0**

5.11. Serious pollution Incidents

The serious pollution incidents performance commitment is a new performance commitment at PR24 for us. It is reported in number of serious incidents resulting from discharges or escapes of contaminants from our sewerage assets or water supply assets affecting the water environment. It applies to all our water and wastewater activities.

At Draft Determination, Ofwat set us a flat target of zero serious pollution incidents across AMP8 This is in line with the targets that we had proposed at business plan submission. However, Ofwat also assumes a 2024/25 baseline at zero, which is more ambitious than the baseline of 2 serious incidents that we forecast.

A target of zero serious pollution incidents across AMP8 for us means reducing from 13 serious pollution incidents in 2023/24 to 3 in 2024/25 and zero on 2025/26 and keep such level of performance throughout AMP8. This is an ambitious improvement that sets us at frontier improvement from our 2024/25 baseline.

Our risk analysis has identified serious pollution risk as a key area of regulatory risk for AMP8 due to (1) inclusion of pollution incidents caused by named storms, (2) level of stretch in the Draft Determination targets, and (3) high incentive rate. Our Risk Appendix (SRN-DDR-012) highlights the strong relationship between pollution incidents and rainfall and shows that that even with the caps and collars permitted by PR24 DD, Serious Pollution Incidents present an asymmetric downward skewed risk profile.

Such risk is outside of management's control and therefore requires regulatory risk mitigation that will allow a notionally efficient company operating in the Southeast of England to raise sufficient capital.

We are, therefore, proposing as a risk mitigation an underperformance deadband of 3 serious pollution incidents.

The tables below summarise our overall position on total and serious pollution incidents PC.

Table: Summary of our position on serious pollution incidents PC

Unit: Incidents per 10,000 km of sewer length	2024/25 baseline	2025/26	2026/27	2027/28	2028/29	2029/30
Our performance target	2.0	0.0	0.0	0.0	0.0	0.0
Ofwat DD target	0.0	0.0	0.0	0.0	0.0	0.0
Our proposed underperformance deadband	**n/a**	**3.0**	**3.0**	**3.0**	**3.0**	**3.0**

5.12. Discharge Permit Compliance

This performance commitment measures the percentage of water and wastewater treatment works compliant with discharge permit limits. Meeting the discharge permits of our treatment works help to improve the status of the water bodies into which we discharge. At PR19, this applied only to wastewater treatment works. At PR24 it applies to both water and wastewater treatment works. The performance reported here refer to the combined performance of our water and wastewater treatment works, in line with Ofwat guidance. We note that the metrics are based on current EA definition and if these change, the targets will need recalibrating.

At DD, Ofwat sets a common performance target across the industry of 100% of compliance throughout AMP8 without a deadband. We agree with Ofwat that we should aim at reaching 100% compliance. However, given the risk-based nature of this PC, which shares several communalities with CRI for which Ofwat set a deadband, we consider we should retain the deadband around 99% that we had in AMP7.

A target of 100% without a deadband is unrealistically stretching. In 2023/23 (the latest outturn data) the industry average performance was only 98.81 with the median at 99.03. Southern Water's 2023/25 performance of 99.36 was better than industry average and, indeed, better than industry median. Only one company reached 100% performance in 2023/24 (who happens to be HDD), meaning that has the industry delivered 2023/24 performance in year 1 of AMP8, 10 of 11 companies would start AMP8 in penalty.

The table below summarises our overall position on discharge permit compliance PC.

Table: Summary of our position on discharge permit compliance PC

Unit: percentage treatment works compliant	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Our performance target	99.0%	100%	100%	100%	100%	100%
Ofwat DD target	100%	100%	100%	100%	100%	100%
Our underperformance deadband	99.0%	99.1%	99.1%	99.1%	99.1%	99.1%
Ofwat underperformance deadband	99.0%	none	none	none	none	none
Industry mean/average	98.15 *					

Note (*) average over the 2011/12 to 2024/25 period.

5.12.1. Rationale for our performance

We recognise that Ofwat sets out in its PR24 Methodology an expectation that companies would achieve a discharge permit compliance performance level of 100% in AMP8. Indeed, 13 (out of 17 companies) propose reaching 100% performance in AMP8 in their plans.

However, in the Draft Determination, Ofwat states as justification for a deadband in the compliance risk index (CRI) that *"(…) this is a risk-based compliance measure [rather than an absolute one], which [full compliance] can be affected by some factors outside companies' control like internal pipework and fittings at customer properties".*[6]

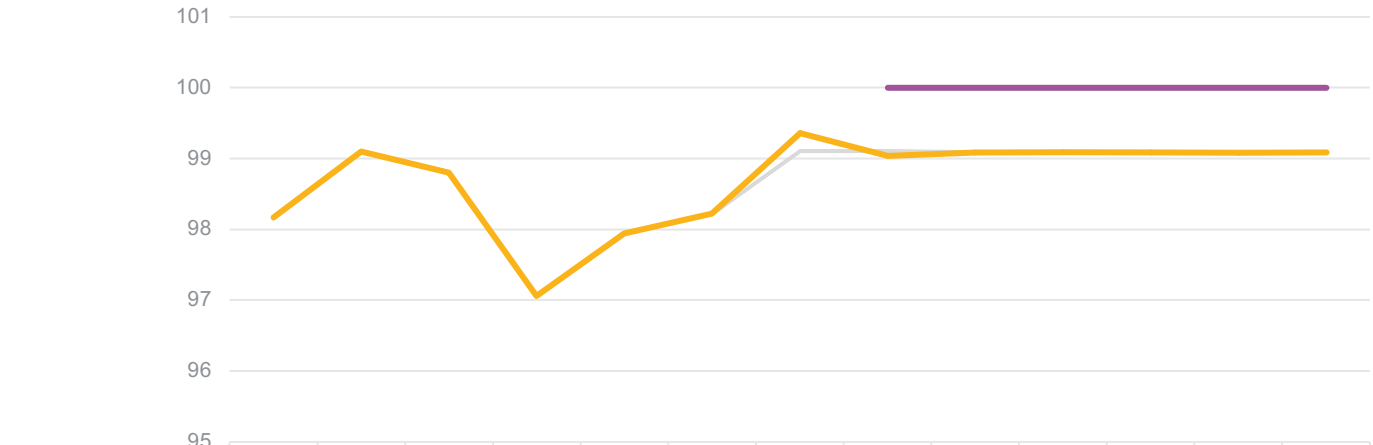
The discharge permit compliance share the same risk-based nature as CRI where full compliance can also be affected by factors outside companies' management control, such as weather conditions. This is why we propose to mitigate the risk of missing full compliance for reasons outside management control by keeping an underperformance deadband to 99.1%, similar to what we had in AMP7.

[6] https://www.ofwat.gov.uk/publication/pr24-draft-determinations-delivering-outcomes-for-customers-and-the-environment/ , page 62.

Also, our enhancement growth programme means that we are re-building about 40% of our sites, which increases the risk of non-compliance while conducting the works, as the changes of accidental discharges increase while rebuilding works take place.

For all these reasons, we remain of the view that a stretching, but balanced, risk position requires us to target 100% compliance with a deadband to 99.1%, as we proposed at business plan submission. The chart below shows our position.

Figure: Our Discharge permit compliance performance targets in AMP8



	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Ofwat DD								100.0	100.0	100.0	100.0	100.0	100.0
SWS BP Feb-24	98.2	99.1	98.8	97.1	97.9	98.2	99.1	99.1	99.1	99.1	99.1	99.1	99.1
SWS DD rep	98.2	99.1	98.8	97.1	97.9	98.2	99.4	99.0	99.1	99.1	99.1	99.1	99.1

Source: Southern Water analysis of PR24 business plan data, Feb-24 submission.

5.12.2. Build-up of our performance

At DD, Ofwat accepts that companies may require enhancement expenditure to reach their discharge permit compliance targets, moving away from its position in the PR24 methodology, where they set an expectation that 100% compliance in AMP8 would be fully funded from base expenditure. We agree with Ofwat position to accept enhancement funding to support delivery on this PC. Considering our 2024/25 starting position (we rank 6th out of 17 companies) and estimated deterioration rate (see below for details), keeping the level of performance flat will require interventions to enhance the level and quality of the service provided, which are inherently enhancement activities.

The table below shows the build-up of our performance target.

Table: Discharge permit compliance performance build-up

Unit: % points	2023/24 (actual)	2024/25 (forecast)	2025/26	2026/27	2027/28	2028/29	2029/30
AMP7 exit performance	99.4	99.0					
Entry performance			99.0	99.1	99.1	99.1	99.1
Base improvements			0.00	0.00	0.00	0.00	0.00
Asset deterioration			-0.6	-1.6	-3.3	-6.6	-33.4
Enhancement improvements			0.5	1.6	3.3	6.6	33.4
AMP8 Performance target			**99.1**	**99.1**	**99.1**	**99.1**	**99.1**

We have quantified the discharge permit compliance benefits from enhancement ranging from 0.5 percentage points in 2025/26 and 33.4 percentage points in 2029/30. Our enhancement programmes help to manage our natural deterioration owing to complying with tighter permits in the future. Our performance would drop from 99.1% to 65.7% without these enhancement investments. The table below shows the split of benefits by enhancement activities. For details on how we quantified the benefits from enhancement, see our SR18 Performance Commitment Methodologies.

Table: Breakdown of improvements to discharge permit compliance from enhancement expenditure

Unit: % points	2025/26	2026/27	2027/28	2028/29	2029/30
Growth at wastewater treatment works	0.5	1.6	3.3	6.6	7.9
WINEP programme for enhancing wastewater treatment:					
Treatment for chemical removal	0.5	1.6	3.3	6.6	7.9
Treatment for total nitrogen removal (chemical)	0.0	0.0	0.0	0.0	1.1
Treatment for total nitrogen removal (biological)	0.0	0.0	0.0	0.0	15.1
Treatment for tightening of sanitary parameters	0.0	0.0	0.0	0.0	0.8
Catchment management - chemicals source control	0.0	0.0	0.0	0.0	6.4
Catchment management - catchment permitting	0.0	0.0	0.0	0.0	2.1
Total	**0.5**	**1.6**	**3.3**	**6.6**	**33.4**

The natural rate of deterioration has been calculated as the benefits that would need to be realised to maintain performance, i.e., in a 'do nothing' investment scenario. Because we have forecasted performance improvements vis-à-vis the 'do nothing' scenario, the estimated benefits only offset the natural rate of deterioration.

5.13. Bathing Water Quality

Bathing water quality is a new performance commitment introduced at PR24. It is a single overall average 'score' measuring the quality of our waters designated for swimming, ranging from 0 (all bathing waters are of poor quality) to 100 (all bathing waters are of excellent quality).

We support the policy principle of maintaining historical performance of bathing water quality, but two actions are necessary to enable this approach. Firstly, the frequency of bathing water quality sampling by the EA needs to increase such that the data can support this approach. In practice the limited sampling by the EA means that the data can show bathing waters moving classifications annually even though there are no significant changes in the quality of the bathing water or the discharges from our treatment works and storm overflows over the bathing water season. Secondly, the base expenditure needs to reflect that we are now in a position for all bathing waters at sufficient or poor classification where it is not the impact of our operations that is causing these bathing waters to not be in good or excellent classification. It means we need to take action to address causes from other sources, such as agriculture, highway run-off and surface water drainage, customer behaviour and actions by local businesses. This second point requires a collaborative effort between water companies, the local Councils, businesses and customers to make the desired impact on bathing water quality.

Ofwat's proposed interventions to maintain the historical performance for each bathing water is not appropriate for the reasons set out above. The bathing water classifications in our region will vary year on year, and despite us working hard to maintain excellent classifications, third party actions and events can mean that the annual classification can fall below excellent for individual bathing waters. We therefore commit to achieving an overall performance of level across all 87 bathing waters in our region but we do not commit to maintain historical performance of each individual bathing water.

The AMP8 targets that Ofwat set us at DD are more stretching than industry upper quartile performance, as per companies' business plan submissions. We agree with Ofwat that we should aim to achieve upper quartile performance in AMP8. This is why at BP submission we proposed reaching upper quartile performance from 2026/27 onwards. We disagree with the targets Ofwat set to us at DD because they do not reflect two changes in the data – new bathing waters added in Spring 2024 and treatment of 'pollution risk forecasting process', following clarification from Ofwat in May 2024. We have re-stated our historic and forecast performance to account for these two data changes, which result in recalibrated targets than Ofwat is proposing at DD. We expect Ofwat to correct our targets at FD to reflect the underlying data changes. Our re-stated performance targets for AMP8 are also reflective of the performance dip in 2024/25 to 2026/27, which is factored into the AMP8 targets as the targets are based on pooled four years of samples. We note that our performance in 2024/25 was affected by a short period of extreme sample results, which are outside of areas of control. We continue to investigate the reasons that caused these sampling results.

On a wider point, we disagree with the way bathing water quality performance is measured. We are of the view that performance should be measured based on the in-year samples, as opposed to being based on pooled samples across four years (Defra method). Ofwat has deviated from the Defra method in the way it treats the 'pollution risk forecasting process', so it should not oppose deviating also to measure performance through in-year samples rather than pooled samples. Reporting bathing water quality based on in-year samples is reflective of the current quality of our bathing waters, which is what our customers want to know, rather than what happened on average over the past four years. However, this will need more frequent sampling by the EA as the monthly samples can vary considerably and are not a true reflection of the water quality throughout the bathing water season. The pooled 4-year sampling method is also asymmetrically skewed towards 'poor' status. As we have fewer bathing waters classified as 'poor' quality (about 10%) than 'excellent' (over 50%), one single bathing water downgraded to 'poor' has a much bigger deteriorating impact

on our overall performance than the improvement that would result from upgrading one bathing water to 'excellent' quality.

The table below summarises our overall position on bathing water quality PC in accordance with how Ofwat defines and measures this PC.

Table: Summary of our position on bathing water quality PC

Unit: Percentage (%)	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Our performance target	74.1	75.7	81.0	84.5	85.6	85.6
Ofwat DD target[1]	85.5	89.1	89.9	90.3	90.3	90.7

Note: [1] Ofwat DD target is not reflective of two data changes since business plan submission - new bathing waters added in Spring 2024 and treatment of 'pollution risk forecasting process', following clarification from Ofwat in May 2024.

5.13.1. Rationale for our performance

At business plan, we submitted AMP8 targets with a level of stretch equivalent to industry upper quartile performance. We have not changed the level of stretch of our AMP8 targets as we consider that upper quartile performance in bathing waters quality is achievable, supported by our investment programme for AMP8.

However, two data changes since business plan submission have led as to re-state our AMP8 targets. They are:

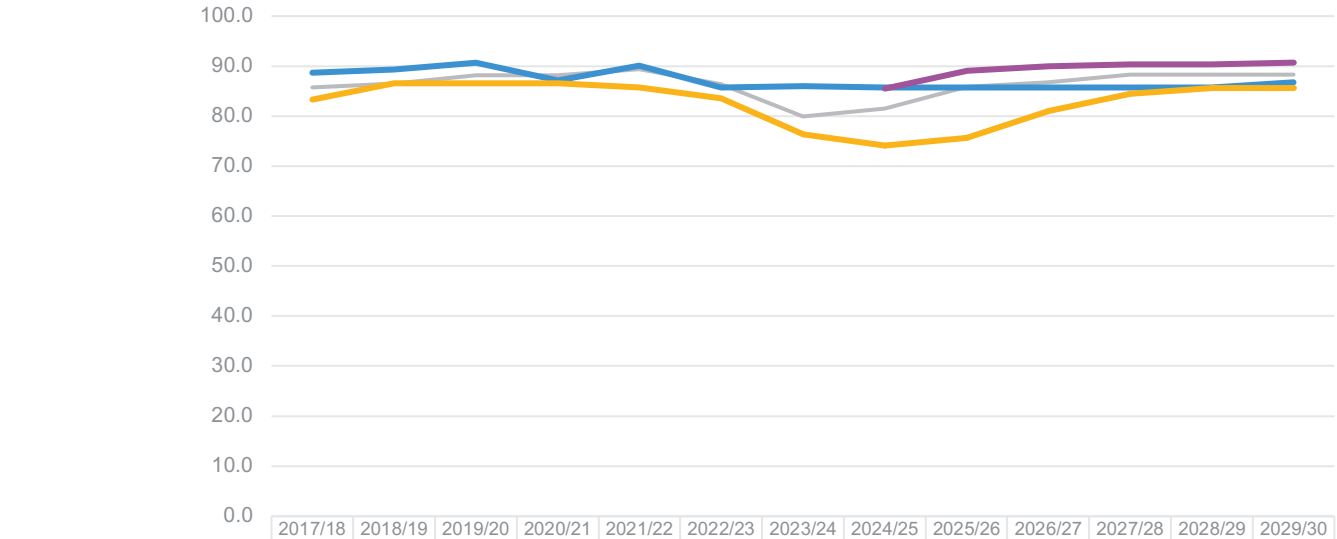
1) Treatment of samples discounted under the 'pollutions risk forecasting' process. Ofwat clarified via email on the 21 of May 2024 that samples discounted under the 'pollution risk forecasting' process should be included in our bathing water quality performance commitment. We have re-stated our historic and forecast performance accordingly. At business plan submission we had followed the Defra assessment methodology and had excluded samples which have been discounted under the pollution risk forecasting process. Ofwat has deviated from the Defra method on this point. Deviating from the Defra method also by setting performance based on in-year samples, as opposed to Defra's pooled 4 years of samples, would not create any additional regulatory burden.

2) Number of bathing waters. We have increased the number of bathing waters from 2023/24 onwards from 84 to 87. In Spring 2024, Defra designated three additional bathing waters in our area, following a public consultation it run in early 2024.[7] Our forecast classifications for 2024 bathing water season at his point in time (based on our knowledge of adjacent bathing water classifications and our infrastructure) are:
    a. Rottingdean Beach = excellent
    b. Worthing Beach House = sufficient
    c. Goring Beach = good

The figure below shows our re-stated performance commitment target versus industry upper quartile, Ofwat DD target and business plan submission. It shows that we remain committed to reach upper quartile performance starting in 2027/28, as we were at business plan submission. The data adjustments have not changed the level of stretch of our AMP8 targets. Our re-stated performance targets for AMP8 are also reflective of the performance dip expected in 2024/25, which is factored into the AMP8 targets as the targets are based on four years of samples.

[7] Consultation on Designation of 27 Sites as Bathing Waters - Defra - Citizen Space

Figure: Our Bathing water quality performance targets in AMP8



	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
SWS BP Feb-24	85.7	86.5	88.2	88.2	89.4	86.3	79.9	81.5	85.9	86.7	88.3	88.3	88.3
Industry UQ Feb-24 BP	88.7	89.3	90.7	87.2	90.0	85.7	86.0	85.7	85.7	85.7	85.7	85.7	86.8
Ofwat DD								85.5	89.1	89.9	90.3	90.3	90.7
SWS DD rep	83.3	86.6	86.6	86.6	85.8	83.5	76.4	74.1	75.7	81.0	84.5	85.6	85.6

5.13.2. Build-up of our performance

Our stretching upper quartile performance targets for AMP8 are achievable through our investment in misconnections and sewer relining, which are funded through base expenditure. We are aware that our programme to reduce storm overflow spills will also contribute to improve the quality of our bathing waters. However, we were unable to collect the granular data necessary to estimate the benefits from our enhancement storm overflow spill reduction programme in the short period since Ofwat published the final definition of this PC (May 2023). We have, therefore, assumed that these were equal to zero.

The table below shows the build-up of our performance target.

Table: Bathing water quality performance build-up

Unit: % points	2023/24 (actual)	2024/25 (forecast)	2025/26	2026/27	2027/28	2028/29	2029/30
AMP7 exit performance	76.4	74.1					
Entry performance			74.1	75.7	81.0	84.5	85.6
Base improvements			1.5	5.4	3.5	1.2	0.0
Asset deterioration			n/a	n/a	n/a	n/a	n/a
Enhancement improvements			0.0	0.0	0.0	0.0	0.0
AMP8 Performance target			**75.7**	**81.0**	**84.5**	**85.6**	**85.6**

Our base investment programme in misconnections and sewer relining will improve the quality of our bathing waters from 74.1% in 2024/25 up to 85.6% in 2029/30. We have estimated the benefits from base expenditure using our asset deterioration model. These have been calculated as the difference between the level of performance with the misconnections and sewer relining schemes in the PR24 plan versus a 'do nothing' scenario without these schemes.

5.14. Storm Overflows

Storm overflows is a new performance commitment at PR24. It incentivises a reduction in the adverse effects of discharges from our storm overflows on public health and the environment. It is measured as the average number of monitored and unmonitored spills per storm overflow. The unmonitored storm overflow adjustment is calculated as the percentage of the year the storm overflow was unmonitored times 100 spills.

At Draft Determinations, Ofwat set our target for average number of monitored spills, as opposed to targeting the number of monitored plus an adjustment for unmonitored spills. However, Ofwat retains the adjustment of 100 spills per each unmonitored storm overflow. We disagree with this unmonitored adjustment because it is arbitrary and very high. Ofwat sets a target for uptime starting at 97% with a glidepath to 98% in 2029-30. We consider this to be too stretching. According to data from the Environment Agency, in 2023 (latest outturn), the upper quartile uptime in the sector was only 94.3% and the industry median was only 93.3%. Our uptime in 2023 was 92.2%, and the maximum that we have delivered in a year was 96.2%. We remain of the view that our stretching but realistic uptime remains at 97% across AMP8. A 97% uptime target would mean adding three unmonitored spills to our target with the proposed adjustment of 100 spills per each unmonitored storm overflow.

We understand that Ofwat also proposes to stop outperformance payments where the company's actual average monitored spills (without the unmonitored storm overflows adjustment) does not meet its performance commitment level.

The table below summarises our overall position storm overflows.

Table: Summary of our position on storm overflows for AMP8

Unit: average spills per overflow	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Monitored spills						
Our performance target for monitored spills	18.0	17.4	17.4	16.6	16.6	14.3
Ofwat DD target for monitored spills monitored spills	18.0	17.6	16.5	16.5	15.3	13.3
Uptime						
Our uptime target	97%	97%	97%	97%	97%	97%
Ofwat DD uptime target	n/a	97%	97.3%	97.5%	97.8%	98.0%

We evidence our position on each of Ofwat points in turn below.

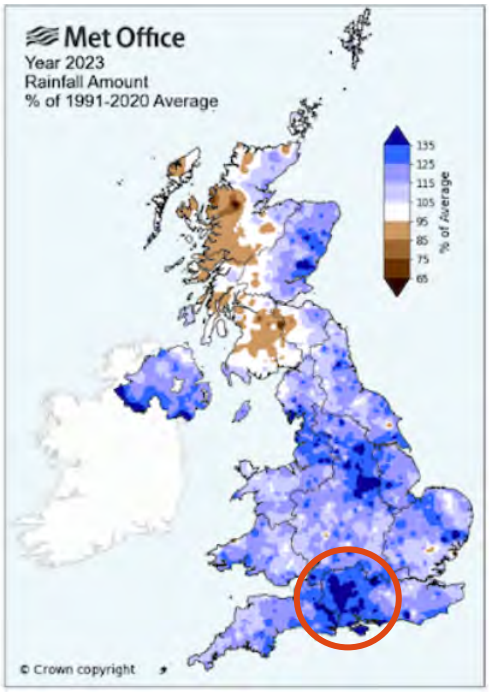
5.14.1. Rationale for our performance

Our updated plan that we submitted in February 2024 in response to Ofwat Query OFW-OBQ-SRN-205 included delivering in AMP8 the WINEP programme that we had re-phased into AMP9 in our October 2023 business plan submission. In our February 2024 plan we set a stretching level of performance for the number of average spills per overflow. Our proposed average number of monitored spills ranks us first or second in the industry throughout AMP8.

Since February 2024, we have updated our WINEP investment programme to meet EA's changes. Such changes in scope have kept our target for monitored spills at first or second in the industry. We aim at reducing the average number of monitored spills per overflow from 18 in 2024/25 down to 14.3 in 2029/30, against an industry upper quartile of 16.5 monitored spills in 2029/30.

We recognise that our outturn performance in 2023/24 at 30.7 average monitored spills per overflow is substantially higher than the 17.8 average monitored spills we had forecasted at business plan submission. However, according to the Met Office, 2023 was the 11th wettest year since records began in 1836.[8] Also, as the figure below shows, our region faced particularly higher volumes of rain fall vs the 1991 – 2020 average. Despite the abnormal rainfall in our region, our outturn performance in 2023/24 at 30.7 monitored spills was better than industry average and better than neighbouring South West Water, which recorded 43.4 average monitored spills in 2023/24, up from 28 average monitored spills in 2022/23.

Figure: Rainfall in 2023

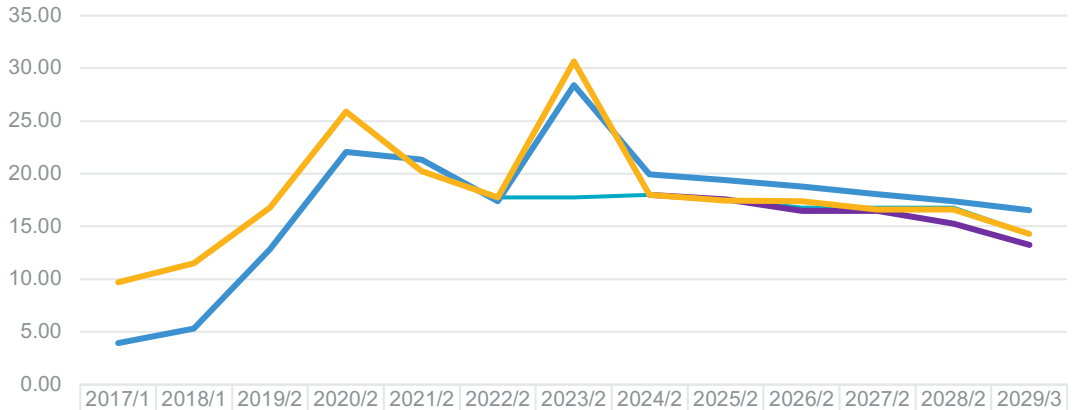


Source: Met Office, A review of the UK's climate in 2023. Link

The figure below shows our performance commitment targets for monitored spills versus Ofwat DD target and industry upper quartile. It shows that we remain committed to be top quartile performer across AMP8, as we set in our February 2024 updated plan.

[8] Source: Met Office, A review of the UK's climate in 2023. Link

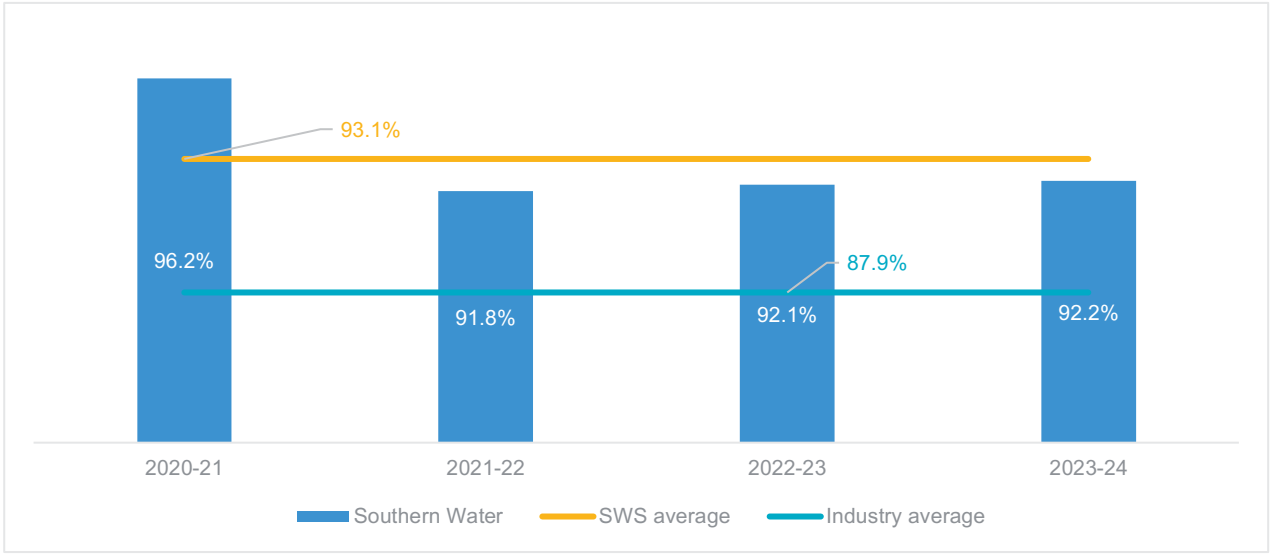
Figure: Our monitored spill targets in AMP8



	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
SWS BP Feb-24 - monitored	9.70	11.50	16.80	25.89	20.23	17.77	17.77	18.02	17.59	16.77	16.77	16.77	14.30
Industry UQ Feb-24 BP-monitored	3.93	5.28	12.82	22.04	21.34	17.38	28.41	19.97	19.40	18.79	18.09	17.39	16.52
Ofwat DD - monitored								18.0	17.6	16.5	16.5	15.3	13.3
SWS DD rep -monitored	9.70	11.50	16.80	25.89	20.23	17.77	30.66	18.0	17.4	17.4	16.6	16.6	14.3

Our uptime (percentage of the time that the event duration monitors are working) has been 93.1%, on average, throughout AMP7, better than the industry of 87.9%. The latest Environment Agency data for 2023 shows that the industry average uptime was only 93.3% (and upper quartile uptime in the sector was 94.3%). Our uptime in 2023 was 92.2% and the maximum that we have delivered in a year was 96.2%. Given our historical track record and indeed the lower industry historical record, we remain of the view that our achievable and realistic uptime remains at 97% across AMP8. This well beyond any performance we have been able to achieve to date The uptime adjustment of 100 spills per each unmonitored storm overflow would add three unmonitored spills to our target. We disagree with this adjustment as it is arbitrary and too high.

Figure: Our historic uptime vs industry average



5.14.2. Build-up of our performance

The driver for improving our storm overflows performance is our AMP8 storm overflows WINEP programme. In line with the rest of the industry, our plan does not include activities funded through base aimed at reducing our average spills per overflow.

The table below shows the build-up of our performance target for monitored spills.

Table: Storm overflows monitored spills performance build-up

Unit: monitored spills	2023/24 (actual)	2024/25 (forecast)	2025/26	2026/27	2027/28	2028/29	2029/30
AMP7 exit performance	30.7	18.0					
Entry performance			18.0	17.4	17.4	16.6	16.6
Base improvements			0.0	0.0	0.0	0.0	0.0
Asset deterioration			n/a	n/a	n/a	n/a	n/a
Enhancement improvements			-0.6	0.0	-0.8	0.0	-2.3
AMP8 Performance target			**17.4**	**17.4**	**16.6**	**16.6**	**14.3**

Note: n/a – not applicable

Our starting position in 2024/25 is an average of 18 monitored spills per overflow. Base expenditure only would keep our performance unchanged at 18 monitored spills. Our WINEP storm overflows enhancement programme for storm overflows will reduce monitored spills from an average of 18 in 2024/25 to 14.3 in 2029/30.

The table below shows the split of benefits by enhancement activities. For details on how we quantified the benefits from enhancement, see our SR18 Performance Commitment Methodologies.

Table: Breakdown of improvements to storm overflows from enhancement expenditure

Unit: spills	2025/26	2026/27	2027/28	2028/29	2029/30
Increase storm system attenuation / treatment on a Sewage Treatment Works (STW) - green solution	0.00	0.00	0.14	0.00	0.44
Increase storm tank capacity at STWs–grey solution	0.00	0.00	0.18	0.00	0.77
Storage schemes to reduce spill frequency at CSOs, etc-grey solution	0.00	0.02	0.29	0.00	0.49
Storm overflow - source surface water separation	0.22	0.01	0.08	0.00	0.30
Storm overflow- sustainable drainage/ attenuation in the network	0.33	0.01	0.08	0.00	0.30
Storm overflow- infiltration management	0.00	0.00	0.02	0.00	0.05
Total	**0.55**	**0.04**	**0.80**	**0.00**	**2.35**

5.15. Biodiversity

Biodiversity is a new performance commitment that incentivises companies to conserve and enhance biodiversity, as well as ensure biodiversity does not deteriorate from a baseline across company estates. It measures the net change in the number of biodiversity units (BDUs). It is reported in BDUs and BDUs per 100km^2 of land in our water and wastewater estate, but can also include land the company nominates within its operational area – enabling partnership project delivery.

At DD, Ofwat set a common performance target across the industry at a level greater than zero for 2028/29 and 2029/30. We disagree with this approach and targets. By virtue of the PC definition, performance is measured as the change in BDUs seen in ecological baseline surveys completed by suitably qualified ecological experts every four years vs the previous survey. We are in the process of undertaking prioritised ecological baseline assessment of our estate (prioritising those sites where potential for biodiversity uplift can be maximised – not every single site within our estate will be surveyed as some are unsuitable for uplift – e.g. if they are hardstanding). This means that our first 4-year surveys will be conducted towards the end of after the AMP8 cycle. As surveys will be undertaken on a rolling 4 year programme, not all sites will be surveyed across the estate during this time frame. This is why we remain of the view that that a net change of zero BDUs throughout AMP8 is the target we can commit to deliver. In its response to our query PR24-DD-PCD_Biodiversity, Ofwat has recognised that it had overstated the industry median benefits it used to set the common AMP8 targets by using cumulative benefits, instead of annual additions. Using a median approach in its calculations, makes little relevance to individual organisational estate opportunities put forward in the business plans – and as such is not effectively grounded in deliverability.

We also note that Ofwat sets the PC target based on the sum of water and sewerage service areas (data table OUT 4.112 to OUT4.120). This approach risks double counting the area served by WaSCs for which there are substantial overlaps between water and sewerage supply areas. As our sewage supply area is the larger measure (water supply area is part of sewage supply area) we have zero'd the water supply area in the combined water and waste tables to ensure the areas are not double counted. But other companies may not have corrected this error and double counting across the industry is likely to remain an issue.

Given all the data and methodological difficulties encountered with this PC, we are of the view that Ofwat should revert this PC to reputational only in AMP8.

The table below summarises our overall position on biodiversity PC.

Table: Summary of our position on biodiversity

Unit: change in biodiversity units	2025/26	2026/27	2027/28	2028/29	2029/30
Our performance target	0	0	0	0	0
Ofwat DD target	0.00	0.00	0.00	0.08	0.73
Other information	We note that it appears that Ofwat has overstated the industry median benefits it used to set the DD targets for AMP8 by using cumulative benefits, instead of annual additions, in its calculations. We also note that Ofwat appears to set the targets based on the combined water and wastewater PC which risks double counting the areas of land served for where water and wastewater served area overlap. Given all the data and methodological difficulties encountered, we are of the view that Ofwat should revert this PC to reputational only in AMP8.				

5.15.1. Rationale for our performance

Ofwat introduced the biodiversity performance commitment for the first time at PR24. It measures the change in BDUs after a 4-year re-survey cycle from the ecological baseline. We are in the process of developing our ecological baseline and plan as described above - – ie a rolling 4 years survey programme. Most priority sites with potential for biodiversity uplift within our estate will have been completed by 2028/9.

We are at the early stages of developing our biodiversity baseline and data recording process. We conducted our first holistic biodiversity survey in 2022/23 – the which Kent Wildlife Trust 2023 "Natural Capital Baseline". This report was undertaken using remote census techniques, such as satellite GIS data layers, and was delivered with assumptions and exclusions, e.g., no operational constraints on our land, and no ecological ground truth surveys undertaken by suitably trained ecologists, hence limiting the practical application of this data to set our baseline in a manner consistent with Ofwat's Biodiversity PC definition. This means that we are not in the position to report change in BDUs in AMP8 because our baseline will be ready consistent with the Biodiversity PC methodology, we will need to wait 4 years until the next survey cycle to count BDU changes. This will take us to reporting BDU changes for the first time in 2030/31, year one of AMP9.

We acknowledge that other companies have developed their baselines earlier, meaning that their 4-year re-survey cycle will fall within AMP8 and, therefore, they will be able to report BDU changes against the Biodiversity PC in AMP8. However, in most cases this is because they rely on established biodiversity recording data, pre-existing bespoke biodiversity performance commitments, and long-term proactive management of their estate and partnership projects.

We and other companies (e.g., South West Water) are in an earlier stage of this process. We expect Ofwat to recognise this and set company-specific performance targets reflective of companies' starting position and readiness for collecting and reporting data in accordance with this new performance commitment. As such we request that this PC is adjusted accordingly a set to bespoke company deliverability.

We also note that it appears that Ofwat has overstated the industry median benefits it used to calculate the AMP8 targets it set at DD by using cumulative benefits, instead of annual or bespoke company projected additions. We have raised this issue with Ofwat through the Draft Determinations Q&A process.

We are therefore requesting that the Biodiversity Performance commitment be amended to a reputational ODI.

5.16. Operational Greenhouse Gas Emissions (Water & Waste)

Operational greenhouse gas emission performance commitments measure our progress in reducing carbon emissions to ultimately be net zero by 2050. Ofwat has set two separate PCs, one measuring progress in reducing operational emissions from water activities and a separate one measuring operational emissions from wastewater activities. This section covers these two PCs. These PCs are reported in Carbon dioxide equivalent (CO2e) emissions and the percentage reduction since 2024-25.

Ofwat set our DD targets for operational greenhouse gas emissions (water and wastewater) by applying a level of stretch from the baseline emissions that is above the mid-point between the median and upper quartile of industry improvement by 2029-30. Ofwat claims this has resulted in a level of stretch of about 6% reduction from the 2024/25 baseline. We disagree with Ofwat targets. We remain of the view that the targets should be set based on bottom-up, build up of emissions determined by the activities in our plan. Using a bottom up approach and after updating our emission targets to reflect the 2023/24 outturns, our revised emissions result in a percentage increase of 5% in water and 6.8% in wastewater from our 2024/25 baseline. This is a reflection of the permits and obligations set out by the WINEP and WRMP, which are driving the need for enhancing our treatment processes with additional power and chemical requirements.

The table below summarises our overall position on the operational carbon emissions PCs.

Table: Summary of our position on operational carbon emissions PCs

	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Water (tonnes CO2e)						
Our performance target	50,342	51,768	52,350	52,819	53,348	52,839
Ofwat DD target	56,380	57,336	57,412	57,488	57,748	55,634
Wastewater (tonnes CO2e)						
Our performance target	173,573	175,142	174,114	174,722	176,549	185,332
Ofwat DD target	171,798	171,219	170,542	170,095	171,063	174,750
% reduction from 2024/25 baseline						
Our performance target (water)	-	-2.8%	-4.0%	-4.9%	-6.0%	-5.0%
Our performance target (wastewater)	-	-0.9%	-0.3%	-0.7%	-1.7%	-6.8%

Note: Ofwat DD targets are not available in % reduction from the 2024/25 baseline

5.16.1. Rationale for our performance

Since business plan submission, we have published our outturn emissions for 2023/24 in our APR 2023/24. We have used these to re-estimate our emissions for 2024/25 and for AMP8. In line with the PC definition[9], we have used the UK Water Industry Research Ltd Carbon Accounting Workbook (CAW17) (version 17 published in 2023) to re-forecast our emissions.

We have forecasted our operational emissions bottom up as a result of the emission estimates from individual schemes in our plan.

The table below shows our revised emissions targets in tonnes of CO2e and in percentage change from 2024/25. We note that 2024/25 is the new baseline according to the revised PC definition that Ofwat published at DD. Our bottom-up revised emissions result in a percentage increase of 5% in water and 6.8%

[9] https://www.ofwat.gov.uk/wp-content/uploads/2023/05/Operational-greenhouse-gas-emissions-water.pdf

in wastewater from our 2024/25 baseline. This is a reflection of the higher volume of activities we will incur to deliver our ambitious AMP8 plan.

Table: Our proposed targets for operational carbon emissions

	2024/35 (baseline)	2025/26	2026/27	2027/28	2028/29	2029/30
			Tonnes CO2e			
Water	50,342	51,768	52,350	52,819	53,348	52,839
Wastewater	173,573	175,142	174,114	174,722	176,549	185,332
			Change % from 2024/25 baseline			
Water		-2.8%	-4.0%	-4.9%	-6.0%	-5.0%
Wastewater		-0.9%	-0.3%	-0.7%	-1.7%	-6.8%

Note: All the emissions above are calculated using a location-based approach and the UK government fixed national grid emission factor published in 2022. In line with the PC definition, the emissions do not take into account any potential for decarbonisation of the grid.

The table below shows the build-up of our operational emissions performance targets for 2029/30, for water and wastewater, distinguishing between carbon from base activities and enhancement activities. The table also shows a breakdown of carbon from enhancement activities by areas of PR24 enhancement.

Table: Operational carbon emissions target build up

Unit: tonnes of CO2e		Water 2029/30	Wastewater 2029/30
Emissions from base activities		49,537	174,860
Emissions from enhancement activities	Bioresources	n/a	-1,795
	WINEP	0	12,267
	WRMP	2,317	n/a
	Other	985	0
	Total enhancement	3,302	10,472
Total emissions		**52,839**	**185,332**

The main source of our operational emissions is the use of electricity to power our pumps, operate our treatment works and, to a lesser extent, to light our offices. While the use of electricity contributes to the total carbon dioxide emitted by us, emissions from our water and wastewater treatment processes, contribute to our process emissions. Process emissions primarily account for our methane (CH4) and nitrous oxide (N2O) emissions, both of which have a significantly higher global warming potential than carbon dioxide. However, to maintain consistency, emissions from all our sources are accounted and reported as carbon dioxide equivalent. Carbon dioxide equivalent, or CO2e, is a measurement of the total greenhouse gases emitted, expressed in terms of the equivalent measurement of carbon dioxide.

Our SR46: Net Zero Technical Annex details our methodologies for forecasting our carbon emissions from base activities and from enhancement activities. As the SR46: Net Zero Technical Annex explains, for the majority of enhancement schemes in the plan, they correspond to Level 1 carbon estimates using the current emissions factors from the CAW over the remainder of the project life. It also explains that our emissions are calculated using a location-based approach and decarbonised using the UK government fixed national grid emission factor published in 2022.

5.17. C-MeX

At Draft Determination, Ofwat defines this performance commitment as the average customer service score resulting from two sets of customer surveys, the customer service survey and the customer experience survey. The total C-MeX score will be derived from equal weighting from survey results from billing, operational service and customer experience.

In its July 2023 consultation, Ofwat set out its intention to make greater use of cross-sector benchmarks in C-MeX with very little detail on how it may do this. Ofwat provided some details on how it plans to make use of external benchmarks during webinars held in November / December 2023. There was no consultation on this proposal. We understand that Ofwat is planning to rely on UK Customer Satisfaction Index (UKCSI) benchmarks for setting C-MeX scores.

With the limited detail provided in the July 2023 consultation, most of the industry challenged this approach, as Ofwat acknowledges on page 13 of its PR24 Draft Determination "Outcomes - Measure of experience performance commitments appendix".[10]

In the draft determination, Ofwat have not shown evidence it has fully considered the challenges companies raised at business plan submission in October 2023 or challenges it has received following from the webinars held in November/December 2023.

5.17.1. Our response

On the 14th of December 2023, we sent to Ofwat's representative a letter setting out our concerns with this approach. We provide a copy of this letter in Appendix A. In this letter, we set out nine specific concerns with Ofwat proposed approach to using a cross sector benchmark. We also strongly urged Ofwat to hold further consultations prior to draft determination in light of the extra detail it provided in Nov/December 2023.

We did not receive a response from Ofwat.

At Draft Determinations, Ofwat only responded to one of our nine concerns where we stated that *"There has been no evidence of consideration of benchmarking against similar organisations or utilities as opposed to all organisations."*

Ofwat response was at DD was: *"We consider that core aspects of customer service are comparable across sectors and there have been instances where organisations in the utilities, transport and public services sectors have been in the upper quartile of the UKCSI. Therefore, we do not consider there is strong enough rationale that water companies should not be compared to other sectors."*

This response does not fully consider our concern. Further the draft determination does not consider any of our eight remining concerns.

As part of the draft determination webinar on C-MeX, Ofwat set out what the UKCIS benchmarks would have been for PR19. Below, we set out the number of companies in reward each year and the value of those rewards if UKCSI was used at PR19 vs the current C-MeX definition.

[10] https://www.ofwat.gov.uk/wp-content/uploads/2024/07/PR24-draft-determinations-Outcomes-Measure-of-experience-performance-commitments-appendix.pdf

Table: UKCSI benchmarks vs companies performance

	2020-21	2021-22	2022-23	2023-24
UKCSI average benchmark	85.14	82.72	82.42	84.5
UKCSI UQ benchmark	88.98	86.04	86.26	89.25
UKCSI minimum benchmark	55.69	67.77	67.2	64.02
Companies in reward	3	6	4	0

The number of companies receiving rewards are limited; in 2023/24 it would have been zero.

This shows that, based on historic performance, using the cross-sector UKCSI benchmark creates an unbalanced incentive.

We re-iterate our proposal that Ofwat should not use cross-sector benchmarks and should retain C-MeX as a relative target, as in PR19. We welcome the change in weightings to the surveys and we encourage Ofwat to increase the number of surveys to produce more robust results.

Part 2. Incentive rates

Our representations on ODI rates and collars to underperformance are derived to ensure a balance of risk and return consistent with our proposed performance commitment levels (PCLs). We have also considered our customer priorities in setting an appropriate rate. In many cases we have stretched ourselves further and through historic analysis are proposing PCLs with higher risk than the P50 position – marked in purple in the table below. We also mark in purple the cases where our position differs from Ofwat's DD proposals.

We explain the build-up of our incentive rates below. The detailed evidence and methodology can be found in SRN-DDR-012 Risk Appendix and SRN-DDR-011 KPMG Industry Risk Analysis (club project). The table below summaries our position.

Table: Summary of our representations on Incentive rates

Performance commitment	'P' position implied in our proposed PCLs	Our view of RoRE allocation	Incentive rate (£m/unit)	Caps and collars
Water supply interruptions	Near P50	0.30%	0.247	+/-0.25% RoRE
Compliance risk index	Above P75	0.30%	0.433	+/-0.25% RoRE
Water quality contacts	Near P50	0.30%	8.921	+/-0.25% RoRE
Leakage	Above P75	0.30%	0.455	+/-0.25% RoRE
Per capita consumption	Near P50	0.10%	0.084	+/-0.25% RoRE
Business demand	Near P50	0.10%	0.063	+/-0.25% RoRE
Mains repairs	Near P50	0.25%	0.053	+/-0.25% RoRE
Unplanned outage	Above P75	0.25%	1.365	+/-0.25% RoRE
Internal sewer flooding	Above P75	0.30%	6.388	+/-0.25% RoRE
External sewer flooding	Near P50	0.25%	1.977	+/-0.25% RoRE
Total pollution incidents	P50 to P75	0.20%	0.485	+/-0.25% RoRE
Serious pollution incidents	Above P75	0.20%	0.699	+/-0.25% RoRE
Discharge permit compliance	Above P75	0.10%	1.033	+/-0.25% RoRE
Bathing water quality	n/a	0.15%	2.079	+/-0.25% RoRE
Storm overflows	n/a	0.30%	0.386	+/-0.25% RoRE
Sewer collapses	Above P75	0.10%	0.675	+/-0.25% RoRE
Biodiversity	n/a			+/-0.25% RoRE
Operational GHG (wastewater)	n/a			+/-0.25% RoRE
Operational GHG (water)	n/a			+/-0.25% RoRE
C-MeX		Lower of 0.5% RoRE or 5% of retail revenue control		
D-MeX		Lower of 0.25% RoRE or 5% of developer services revenue		
BR-MeX		0.1% of RoRE		

Note: n/a – not available as a result of lack of comparable historic data.

5.18. Build-up of our proposed ODIs

We have considered Ofwat's incentive rates. We agree with Ofwat that the incentives should be set with consideration to the amount of risk each ODI is adding to the overall risk and reward balance.

However, we fundamentally disagree with the level of RoRE allocation that Ofwat as set for each PC because it is arbitrary, results in a disproportionate asymmetric downside risk and is not reflective of our customers' priorities.

Ofwat starts with an allocation of 0.5% RoRE to each PC. This is an arbitrary starting point that Ofwat has failed to justify. To put this is in context, the spread between cost of equity and cost of new debt is about 1.6%. This means that each individual ODI (and there are 22 of them) is worth more about a third of the equity spread above new debt costs. That is extremely highly powered for an individual ODI, let alone the package of ODIs, for a utility business that should be a low-risk investment with low volatility of cash flows.

Ofwat then adjusts this 0.5% RoRE allocation within a 0.4% - 0.6% RoRE range, allegedly based on its own research on customer priorities. This has resulted in an asymmetric adjustment upwards with 9 (out of 16) PCs adjusted up to 0.6% RoRE and only 2 (out of 16) PCs adjusted down to 0.4%. Ofwat kept 5 (out of 16) PCs at 0.5% RoRE. We do not recognise the validity of this adjustment either. Ofwat has failed to show evidence that customer priorities justify the magnitude of the adjustment and, indeed, the direction of the adjustment. Equally important, Ofwat has failed to take into account that customer priorities vary across companies. For example, our customers consider external sewer flooding to be 'average' priority (more on this below); yet Ofwat adjusted the RoRE allocation up to 0.6% RoRE, in clear contrast to our customers' priorities.

Ofwat recognises that its attempt to set ODI rates based on common customer research has failed and that its alternative top-down approach based on RoRE allocation is not consistent with individual companies' customer priorities in its 'PR24-DD-Delivering outcomes for customers and the environment', p. 18:

> *"PR24, we want to provide a more consistent approach to setting ODI rates. For most performance commitments, we planned to do this using a 'bottom-up' approach based on customer surveys. Due to difficulties mapping our performance commitments definitions to survey results from service incidents customers could relate to, we were unable to derive robust marginal benefit estimates. Therefore, we moved to a 'top-down' approach based on equity return at risk which we adjusted to reflect customer priorities from our research."* (emphasis added)

Overall, the ODIs RoRE allocation that Ofwat sets at Draft Determination results in a disproportionate downside risk exposure across our package of common ODIs vs the exposure we faced at PR19 (which was already over-powered). The table below shows our potential ODI penalties with ODI rates as Ofwat proposes at DD vs our PR19 ODI rates for our package of common PCs, excluding measures of experience. We show the potential penalties that would result have we delivered our 2023/24 performance in year 1 of AMP8, against the targets Ofwat sets at DD and against the targets that we propose in our DD representation. The results are striking. Our annual penalties would range from -£132m and -£188m with the ODI rates that Ofwat proposes at DD, vs -£70m to -£41m with the PR19 ODI rates; or an increase of 2.7 to 2.9-fold. This increase of penalty exposure is the combined effect of:

- Ofwat proposing ODI rates at DD that are between 17% and 291% higher than the PR19 rates (after adjusting for inflation) – see Table; and

- The widening of the common ODI package at PR24 to cover a much broader set of performance metrics, which compounds to our risk exposure.

Table: ODI penalties exposure across common performance commitments (excluding measures of experience)

Performance commitment	AMP8 Year1 penalties with Ofwat PR24 incentive rates (£m, 2022/23 prices)		AMP8 Year1 penalties with SWS PR19 incentive rates (£m, 2022/23 prices)	
	If SWS delivers its CY24/FY25A against Ofwat targets	If SWS delivers its CY24/FY25A against SWS DD proposal	If SWS delivers its CY24/FY25A against Ofwat targets	If SWS delivers its CY24/FY25A against SWS DD proposal
Water supply interruptions	-34.3	-33.7	-20.0	-19.7
Compliance risk index	-1.5	-0.3	-1.3	-0.3
Water quality contacts	-10.0	-2.6	0.0	0.0
Leakage	-32.9	-28.7	-11.3	-9.9
Per capita consumption	-4.8	-1.3	-2.0	-0.5
Business demand	0.2	-0.1		
Mains repairs	-4.1	0.1	-3.8	0.1
Unplanned outage	-1.3	-1.3	-0.5	-0.5
Internal sewer flooding	-10.5	-8.4	-5.4	-4.3
External sewer flooding	1.0	1.0		
Total pollution incidents	-58.8	-39.7	-15.0	-10.1
Serious pollution incidents	-3.5	1.7		
Discharge permit compliance	-4.7	0.0	-10.8	0.0
Bathing water quality	-19.0	-19.0		
Storm overflows	-4.0	-1.2		
Sewer collapses	0.1	0.1	0.1	0.1
Biodiversity	-0.7	0.0		
Operational GHG water	1.3	0.4		
Operational GHG wastewater	-0.4	0.7		
Total	-187.9	-132.2	-70.1	-45.1
% of 2025/26 revenue	*-18%*	*-13%*	*-7%*	*-4%*
Total – Water	-87.5	-67.5	-39.0	-30.8
% of 2025/26 revenue	*-24%*	*-18%*	*-10%*	*-8%*
Total - Wastewater	-100.4	-64.7	-31.1	-14.4
% of 2025/26 revenue	*-15%*	*-10%*	*-5%*	*-2%*

An ODI penalty of this magnitude equates to 18% to 24% of water revenue and 10% to 15% of wastewater revenue. This is vastly in excess of the penalties Ofwat has applied for enforcement of non-compliance with licence conditions. For example, the extensive case against Southern's misreporting of wastewater in 2019 yielded an Ofwat penalty of 6.7% of revenue. We struggle to see why delivering against ODI targets should be calibrated at 1.4 to 3.5x that rate given the weight of evidence for that enforcement case. Indeed, the primary legislation for enforcement penalties set caps at 10% of turnover for a reason – to set a punitive and material amount, without risking the financial viability of the business. Ofwat's calibration of ODIs seems to miss the mark.

We are, therefore, proposing a recalibration of our ODI rates to narrow the risk range and P50 position.

The KPMG Industry Risk Analysis (SRN-DDR-003) identify the cases where the incentive rates that Ofwat proposes at DD are too large, thereby causing an asymmetric downside risk to the notional company. In the same report, we also explain what the calibrated allocation of RoRE for each ODI should be to ensure a balance of risk and reward for the notional company. These findings are summarised in the table below. We indicate in purple the cases where the KPMG analysis shows changes versus Ofwat's DD proposals on RoRE allocation for the notional company.

Table: Change on RoRE allocation for the notional companies

Performance commitment	Ofwat RoRE allocation DD proposal	RoRE allocation for notional company
Water supply interruptions	0.60%	0.60%
Compliance risk index	0.60%	0.60%
Water quality contacts	0.60%	0.60%
Leakage	0.60%	0.60%
Per capita consumption	0.60%	0.60%
Business demand	0.40%	0.40%
Mains repairs	0.50%	0.50%
Unplanned outage	0.50%	0.50%
Internal sewer flooding	0.60%	0.60%
External sewer flooding	0.60%	0.50%
Total pollution incidents	0.60%	0.40%
Serious pollution incidents	0.50%	0.50%
Discharge compliance	0.50%	0.50%
Bathing water quality	0.40%	0.40%
Storm overflows	0.60%	0.60%
Sewer collapses	0.50%	0.50%

We have taken the KPMG's RoRE allocations calibrated for the notional company as our starting point. We then calibrated these further to reflect our specific circumstances with regards to:

- the priorities of our customers; and
- the additional stretch we are proposing in some of our PCLs beyond the P50 position.

We set our customer priority level at the average between our latest business-as-usual research on customers priorities (see Appendix B), Ofwat's research ahead of business plan submission and research conducted by third parties also ahead of business plan submission.

We have set RoRE allocations ranging from 0.3% to 0.1% RoRE as follows:

- For 'high priority' and 'intermediate priority' PCs, a RoRE allocation ranging from 0.3% to 0.2% RoRE, depending on the level of stretching in our PCLs;
- For 'low priority' PCs, a RoRE allocation between 0.15% and 0.10% RoRE, depending on the level of stret in our PCLs.

We have explained the impacts to our proposed incentive rates to Southern Water's specific risk and return package further in SRN-DDR-012 Risk Appendix.

The table below shows our proposed RoRE allocation and ODI rates after calibration. The last column provides the rationale for our re-calibration. We indicate in purple the cases where we have made changes to Ofwat's DD proposals.

Table: Our proposed ODI rates after adjusting for customer priorities and PCLs P-position

Performance commitment	Average priority for our customers*	'P' position implied in our proposed PCLs	RoRE allocation for notional company	Our change to RoRE allocation	Our view of RoRE allocation	Our ODI incentive rate (£m/unit)	Rationale for proposed RoRE and ODI rate
Water supply interruptions	1	Near P50	0.60%	-0.30%	0.30%	0.247	0.3% RoRE owing to high priority and PCL stretch at or above P50
Compliance risk index	4	Above P75	0.60%	-0.30%	0.30%	0.433	0.3% RoRE owing to high priority and PCL stretch at or above P50
Water quality contacts	4	Near P50	0.60%	-0.30%	0.30%	8.921	0.3% RoRE owing to high priority and PCL stretch at or above P50
Leakage	7	Above P75	0.60%	-0.30%	0.30%	0.455	0.3% RoRE owing to PCL stretch above P75 and medium priority
Per capita consumption	15	Near P50	0.60%	-0.50%	0.10%	0.084	0.1% RoRE owing to low priority. It is uncontrollable and highly dependant on customer behaviour
Business demand	15	Near P50	0.40%	-0.30%	0.10%	0.063	0.1% RoRE owing to low priority. It is uncontrollable and highly dependant on customer behaviour
Mains repairs	6	Near P50	0.50%	-0.25%	0.25%	0.053	0.25% RoRE owing to medium priority and PCL stretch at P50
Unplanned outage	4	Above P75	0.50%	-0.25%	0.25%	1.365	0.25% RoRE owing to high priority, PCL stretch above P75 and lower starting position
Internal sewer flooding	3	Above P75	0.60%	-0.30%	0.30%	6.388	0.3% RoRE owing to high priority and PCL stretch above P75
External sewer flooding	7	Near P50	0.50%	-0.25%	0.25%	1.977	0.25% RoRE owing to medium priority and PCL stretch at P50
Total pollution incidents	7	P50 to P75	0.40%	-0.20%	0.20%	0.485	0.20% RoRE owing to medium priority and PCL stretch P50 to P75
Serious pollution incidents	7	Above P75	0.50%	-0.25%	020%	0.699	0.20% RoRE owing to medium priority and PCL stretch above P75
Discharge compliance	13	Above P75	0.50%	-0.35%	0.10%	1.033	0.1% RoRE owing to low priority and PCL stretch above P75
Bathing water quality	13	n/a	0.40%	-0.25%	0.15%	2.079	0.15% RoRE owing to low priority and PCL stretch
Storm overflows	3	n/a	0.60%	-0.30%	0.30%	0.386	0.3% RoRE owing to high priority
Sewer collapses	9	Above P75	0.50%	-0.35%	0.10%	0.675	0.1% RoRE owing to low priority and PCL stretch above P75

Notes: (*) average customer priority on a scale from 1 (highest) to 18 (lowest) taking into account three sources of research: our latest business-as-usual customer research from August 2024; Ofwat's research ahead of business plan submission and research conducted by third parties ahead of business plan submission. Please refer to SRN18 Performance Commitment Methodologies (Appendix 1) for more details on our approach to customer research.
n/a – not available as a result of lack of comparable historic data.

5.19. C-Mex, D-Mex and BR-Mex incentive rates

In the Draft Determination, Ofwat has finalised its view for setting incentive rates for the measures of experience ODIs. Ofwat has decided to set the incentive rates as a percentage of regulated equity, as follows:

- C-Mex: +/- 0.5% of RoRE;
- D-Mex: +/- 0.25% of RoRE; and
- BR-MeX: +/-0.2% of RoRE.

Ofwat proposed this approach in its initial consultation on the 12th July 2023. At the time we responded stating the following:

> "*We agree with the principle of basing maximum payments on a proportion of RoRE but suggest that when setting the % value of RoRE you should consider the proportional size of the retail business compared to the wholesale. If the Regulatory Capital Value grows significantly but the retail business stays the same size, the proportion of ODI payment impacting the revenues will rise significantly*"

Ofwat has not considered the size of the retail revenue or the developer services revenue relative to the wholesale business in the ODI rates it proposes at DD for the measures of experience. We are concerned of the perverse incentives this could cause given that the regulated equity at risk is a sizable proportion of the revenue of the relevant price controls.

The proposed ODI rates for measure of experience are excessive compared to the revenue of the relevant price controls:

- C-MeX (ODI rate of +/- 0.5% RoRE): our forecast retail revenue for AMP8 is £406m. A 0.5% of AMP8 regulated equity is £92m; equivalent to 23% of our retail revenue control in AMP8.
- D-MeX (ODI rate of +/- 0.25% RoRE): our forecast developer services revenue for AMP8 is £232m. A 0.25% of AMP8 regulated equity is £46m, or 20% of our developer services revenue in AMP8.
- BR-Mex (ODI rate of +/- 0.2% RoRE): our forecast non-household revenue for AMP8 is £1,300m. A 0.2% of AMP8 regulated equity is £37m, equivalent to 3% of non-household revenue. Although a smaller proportion of revenue than in the other measures of experience, this is an area where we have very limited scope to affect the metric because we do not have a direct relationship with the non-household businesses – our direct relationship is only with retailers. This is also a new metric and it is unclear how robust the measurement of it will be. Assigning an overly high ODI rate risks unintended consequences.

The proposed ODI rates for measure of experience are also excessive when compared to the collars Ofwat proposes for performance commitments. According to Ofwat's 'PR24 ODI risk payment calculator' the maximum collar conversion from percentage of RoRE to £m is for our wastewater ODIs at £67.38m over AMP8. This corresponds to 1.8% of our total wastewater revenue in AMP8, much lower than the corresponding figure for any measure of experience incentive.

We are proposing that Ofwat set the maximum incentive for measures of experience in line with the revenue to the corresponding price control to ensure there are no overly punitive incentives, which does not align with customers priorities. Indeed, according to our latest business-as-usual customer research, customers rank measures of experience 17 out of 19 (see Appendix B). We are, therefore, proposing the following ODI rates for the measures of experience:

- C-Mex: lower of 0.5% RORE or 5% of retail control revenue;
- D-Mex: lower of 0.25% RORE or 5% of developer services revenue; and
- BR-Mex: 0.1% RORE.

5.20. Customer views on incentives

Our customers support our lower ODI incentive rate. Since business plan submission we conducted further customer research to understand our customers' view on the ODI framework so that it is fairer to both customers and water companies. Our customers showed some support to lower ODI rates, particularly when in conjunction with other mechanisms (e.g., a return adjustment mechanism where penalties are made available for reinvestment rather than being returned to customers).

Our customers have expressed a degree of criticism about the scope of the current system which would leave companies with less cash flow to invest in improving performance. Several cited the NHS as a similar example with some trusts struggling to perform to stretching targets, a situation made worse by the constant threat and application of penalties.

For details on the customer research approach and methodology, please see our Appendix C.

5.21. Caps and collars

At Draft Determination Ofwat proposes not to set widespread caps and collars across all performance commitments and kept the view of limiting caps and collars at +/- 0.5% RoRE to all new performance commitments (bathing water, operational gas emissions (water and wastewater), biodiversity, business demand and storm overflows) and all asset health performance commitments (mains repairs, unplanned outage and sewer collapses. Ofwat applied a wider collar at -1% RoRE for water supply interruptions.

We disagree with Ofwat's proposals for caps and collars both in terms of scope and levels. Scope-wise, we disagree with Ofwat's decision to limit caps and collars to a subset of PCs. The purpose of caps and collars is to protect companies and costumers from high payments and, as such, should be applied to all PCs, not just a subset. The level of caps and collars proposed at +/- 0.5% of RoRE (and -1% RoRE for supply interruptions) are arbitrary and not grounded in sound risk analysis. Also, they are so wide that only protect against risk exposure in very extreme cases of under(out) performance.

We are concerned that underperformance payments are much more likely than outperformance payments, i.e., the financial risk of our ODI package is skewed to the downside, even if recalibrated as per our response to Draft Determination. Our risk analysis clearly shows that this is the case after we take into account the caps collars that Ofwat proposes at Draft Determination (please see SRN-DDR-011 KPMG Risk Analysis and SRN-DDR-012 Risk Appendix for details).

We are, therefore, proposing a recalibration of the caps and collars and covering all our PCs, as summarised in the table below.

Table: Our proposed caps and collars

Performance commitment	Ofwat caps /collars DD proposals	Our proposed caps and collars
Water supply interruptions	-1% RoRE	+/-0.25% RoRE
Compliance risk index		+/-0.25% RoRE
Water quality contacts		+/-0.25% RoRE
Leakage		+/-0.25% RoRE
Per capita consumption		+/-0.25% RoRE
Business demand	+/- 0.5% RoRE	+/-0.25% RoRE
Mains repairs	+/- 0.5% RoRE	+/-0.25% RoRE
Unplanned outage	+/- 0.5% RoRE	+/-0.25% RoRE
Internal sewer flooding		+/-0.25% RoRE
External sewer flooding		+/-0.25% RoRE
Total pollution incidents		+/-0.25% RoRE
Serious pollution incidents		+/-0.25% RoRE
Discharge compliance		+/-0.25% RoRE
Bathing water quality	+/- 0.5% RoRE	+/-0.25% RoRE
Storm overflows	+/- 0.5% RoRE	+/-0.25% RoRE
Sewer collapses	+/- 0.5% RoRE	+/-0.25% RoRE
Biodiversity	+/- 0.5% RoRE	+/-0.25% RoRE
Operational GHG (wastewater)	+/- 0.5% RoRE	+/-0.25% RoRE
Operational GHG (water)	+/- 0.5% RoRE	+/-0.25% RoRE

5.22. End of period adjustments to RCV

Ofwat proposes to apply all ODI payments through in-period revenue adjustments. We disagree with this approach and urge Ofwat to apply ODI reward/penalties (all or the portion of ODI penalty / rewards beyond +/-1% of RORE) through end-of-AMP adjustment to RCV and/or next AMP revenues, similar to the approach used for Totex over/under spending.

Our customers have told us they prefer more stable bills which we would be able to accomplish with end-of-period adjustments. For more details on our customer research, please see Appendix B.

Revenue stability and predictability would also provide better financeability.

5.23. Appendix A – Letter to Ofwat on C-MeX

from Southern Water

Date: 14th December 2023
Contact: [redacted]

Dear Ofwat,

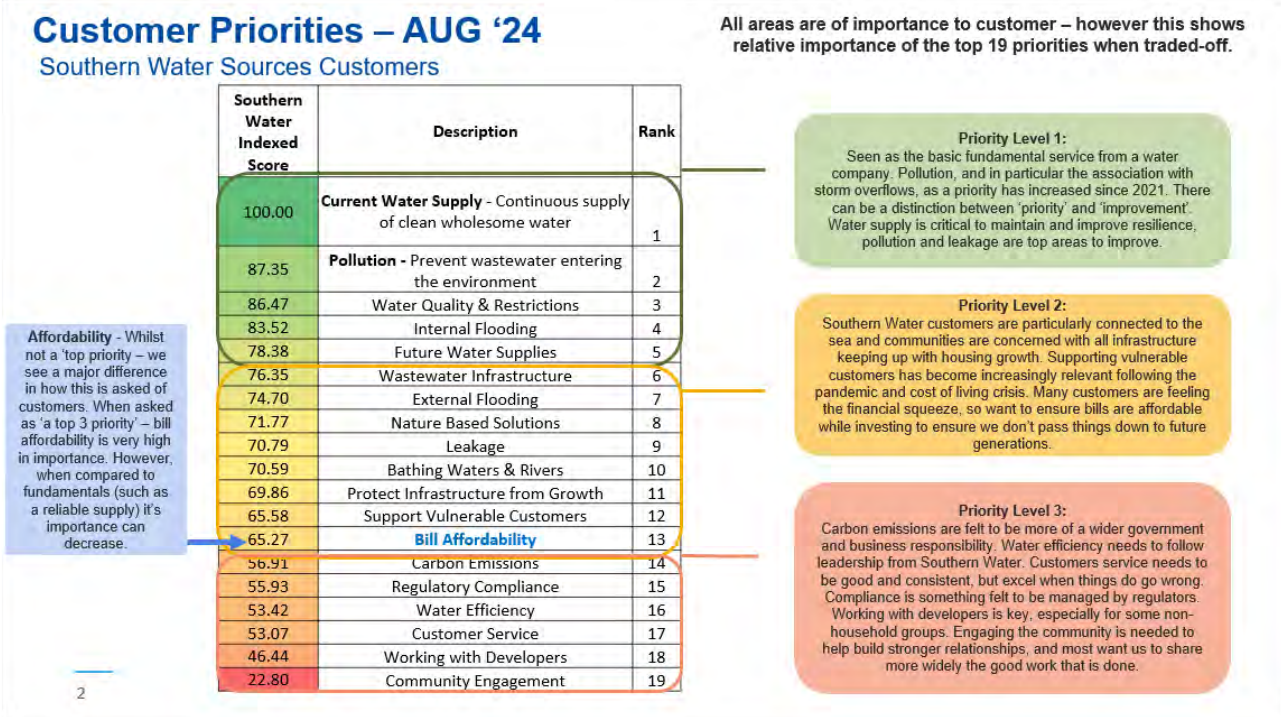
We have welcomed the opportunity to attend the ongoing workshops on the development of the new C-MeX measure, but we do not believe that these should substitute for a formal written consultation on the details of a measure that has a substantial financial impact. Whilst the workshops allow for helpful discussions on the detail of your proposal, we are concerned there will not be a further formal consultation before the mechanism is finalised and believe that this could lead to a flawed approach.

In the consultation on the 12th July in section 2.3 you state your preference for making greater use of cross sector benchmarks, but this had very limited detail in how this mechanism would work going forward. We responded to this consultation stating the only objection we have is the use of cross-sector benchmarks to determine financial penalties as this runs counter to our customers' views that we should focus on the basics well rather than necessarily aspiring to Amazon-type service.

The workshop held on the 15th November gave greater clarity to the mechanism you are proposing. The further detail was helpful but we believe there are several issues with the proposed approach:

- The UKCSI is an optional benchmarking organisation, the inclusion of most organisations is voluntary.
- Water companies operate as regulated monopolies, therefore there is no choice for a household customer, the majority of organisations in the UKCSI are not monopolies and therefore not comparative when assessing customer service as there is a choice the consumer makes before becoming a customer.
- There has been no evidence of consideration of benchmarking against similar organisations or utilities as opposed to all organisations.
- The sample size of customers within the UKCSI is not robust, it will not give a robust score to water companies across the UK, the sample size is a tenth of the sample size for C-Mex.
- There is no guarantee the UKCSI will be able to give an equal spread of sample sizes between each water company. The current UKCSI has ~80 respondents per wave for Southern water (two waves a year) this is less than 5% of the total UKCSI responses, lower than the proportion of customers in Southern's area compared to the rest of the UK.

5.24. Appendix B – Our business as usual research on customer priorities



Customer Priorities – AUG '24

Southern Water Sources Customers

All areas are of importance to customer – however this shows relative importance of the top 19 priorities when traded-off.

Southern Water Indexed Score	Description	Rank
100.00	**Current Water Supply** - Continuous supply of clean wholesome water	1
87.35	**Pollution -** Prevent wastewater entering the environment	2
86.47	Water Quality & Restrictions	3
83.52	Internal Flooding	4
78.38	Future Water Supplies	5
76.35	Wastewater Infrastructure	6
74.70	External Flooding	7
71.77	Nature Based Solutions	8
70.79	Leakage	9
70.59	Bathing Waters & Rivers	10
69.86	Protect Infrastructure from Growth	11
65.58	Support Vulnerable Customers	12
65.27	**Bill Affordability**	13
56.91	Carbon Emissions	14
55.93	Regulatory Compliance	15
53.42	Water Efficiency	16
53.07	Customer Service	17
46.44	Working with Developers	18
22.80	Community Engagement	19

Affordability - Whilst not a 'top priority – we see a major difference in how this is asked of customers. When asked as 'a top 3 priority' – bill affordability is very high in importance. However, when compared to fundamentals (such as a reliable supply) it's importance can decrease.

Priority Level 1:
Seen as the basic fundamental service from a water company. Pollution, and in particular the association with storm overflows, as a priority has increased since 2021. There can be a distinction between 'priority' and 'improvement'. Water supply is critical to maintain and improve resilience, pollution and leakage are top areas to improve.

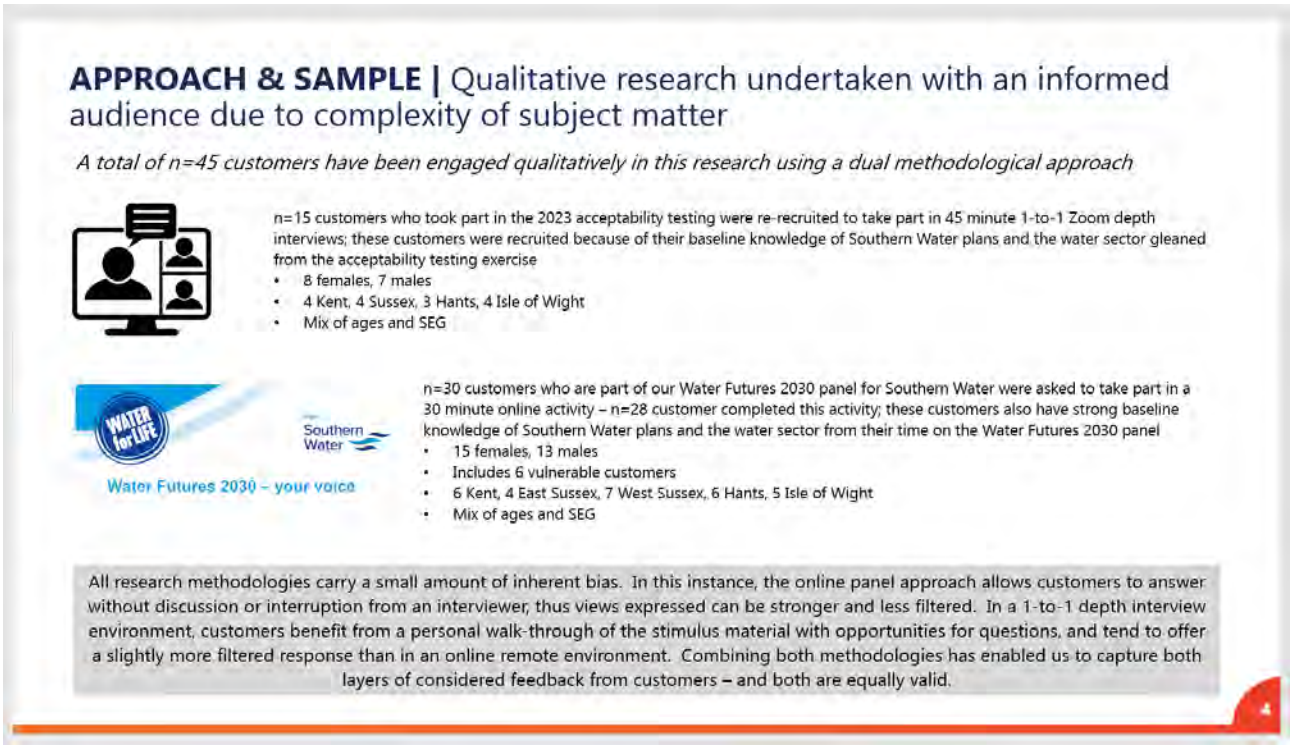
Priority Level 2:
Southern Water customers are particularly connected to the sea and communities are concerned with all infrastructure keeping up with housing growth. Supporting vulnerable customers has become increasingly relevant following the pandemic and cost of living crisis. Many customers are feeling the financial squeeze, so want to ensure bills are affordable while investing to ensure we don't pass things down to future generations.

Priority Level 3:
Carbon emissions are felt to be more of a wider government and business responsibility. Water efficiency needs to follow leadership from Southern Water. Customers service needs to be good and consistent, but excel when things do go wrong. Compliance is something felt to be managed by regulators. Working with developers is key, especially for some non-household groups. Engaging the community is needed to help build stronger relationships, and most want us to share more widely the good work that is done.

2

We will be happy to provide details of our latest business-as-usual research on customer priorities upon request.

5.25. Appendix C – Costumer research on ODI incentives



We will be happy to provide details of our research on customers views of ODIs upon request.

6. Deliverability

6.1. Introduction

The size and complexity of the programme to deliver our environmental requirements and other commitments creates deliverability risk. We have made plans for, and put in place extensive arrangements, to the extent we can, to manage as many delivery risks within our control as possible, and we recognise Ofwat's efforts to help in this area. However, delivery risk beyond our control remains – and the Draft Determination (DD) has created more delivery risk. We request Ofwat to take further action to better manage and mitigate the remaining deliverability risk.

In October 2023, we submitted an ambitious Business Plan to set out how we plan to deliver our water and wastewater services across our region, while achieving performance improvements and enhancements to our network and treatment sites.

We submitted a plan that was deliverable, but that was subject to uncertainties and deliverability risks that were both within and out of our control[1]. This plan included approaches such as phasing of some of our WINEP projects to reduce delivery risk and to smooth the investment profile across a longer period. We submitted an unassured plan update in February 2024 that showed a scenario without this phasing. DEFRA and the Environment Agency (EA) have rejected most of our proposals.

We want to engage further with Ofwat around our deliverability challenges. In May we proposed the Delayed Approval Mechanism, broadly accepted by Ofwat in the DD, which would allow us to manage some of our risk as our plan matured through AMP8.

Ensuring the deliverability of the right plan is very important for us. In our October 2023 business plan, we committed to taking action to ensure that we have the capability to deliver the PR24 programme. We report against this preparation in this chapter and in the Delivery Action Plan appendix.

In this Chapter, we outline:

- **Ofwat's actions:** We set out the factors that impact deliverability in the DD;
- **Managing controllable delivery risk:** We outline how we have continued to prepare the capability of our organisation to deliver our AMP8 programme; and
- **Uncontrollable delivery risk that remains:** We describe the remaining delivery risk outside of our control and measures we urge Ofwat to take to aid mitigation.

[1] Our submission included our SRN09 Deliverability Chapter and SRN56 Deliverability Technical Annex which highlighted these risks and the actions we proposed to undertake to mitigate them.

6.2. Ofwat's actions

Broadly, DD has maintained the scope that we are required to deliver but has cut our Water enhancement budget by 22.9%, our Wastewater enhancement budget by 14.8% and our base expenditure budget by 11.2%. These allowances are less than we modelled for and anticipate is required to achieve our revised plan described in this response, and therefore they put the deliverability of it at risk.

The DD introduced a number of new mechanisms for regulating enhancement cases, each with different features[2]:

- **Enhanced Engagement and Cost Sharing Mechanism (EECS):** Enhanced monitoring from Ofwat and less punitive cost sharing rates for schemes with greater cost uncertainty;
- **Large Scheme Gated Process (LSGP):** A 2 gateway process within-AMP, similar to RAPID, to allow for greater scrutiny of schemes with higher scope, deliverability, complexity uncertainty or novel solutions;
- **Delivery Mechanism (DM):** For Southern, this mechanism allows for a funding request to be made within-AMP for approval of the scheme, rather than during the 2024 PR24 process.

We recognise that Ofwat intends some of these mechanisms to reduce deliverability risk.

Further, we note that Ofwat proposes to index some costs to the construction wage index.

6.3. Managing controllable delivery risk

Since we published the business plan, we have been improving the capabilities of our organisation to manage the AMP8 programme and increase our delivery capacity – as promised in the plan. We have also been working with regulators to manage delivery risk within our control.

For the purposes of this Deliverability Chapter, references to our plan mean delivery of our core plan, plus standard mechanisms and our view of Alternative Market Based Delivery. We are excluding the delivery mechanisms.

We have progressed our work on our revised draft Water Resources Management Plan (WRMP), our Storm Overflows Plan and our WINEP. Our updated data tables reflect increased maturity in our project development and delivery approach. We have continued to work with our stakeholders, such as groups in the voluntary sector, our existing and incoming suppliers, our operators, and our customers to capture, challenge and help mitigate our delivery risks. Section 1 of this Chapter details the work we have undertaken and the actions that we plan to complete up to AMP8.

Whilst we have identified mitigations to many of our risks, there is still remaining deliverability risk that we cannot control or remove. Section 2 of this Chapter details these residual risks and the impact they have on the deliverability of our plan.

Since we submitted our initial plan in October 2023 and our updated plan in February 2024, we have continued to refine our understanding of deliverability.

[2] We discuss these mechanisms in more detail in our Enhancements document SRN-DDR-006.

In this section, we discuss:

- Lessons learnt from AMP7 - Botex; and
- Lessons learnt from AMP7 - Enhancements;
- Additional lessons learnt in AMP7;
- Deliverability risk assessment;
- AMP8 Readiness, and;
- Draft delivery action plan

6.3.1 Lessons learnt from AMP7 - Botex

In AMP7 our Botex expenditure is far in excess of our PR19 allowances, this has been driven by the need to adapt to emerging risks, along with changes in regulatory and performance requirements.

We have summarised our AMP7 base expenditure in the table below, showing how we have invested well above our PR19 Final Determination in AMP7.

Table: Summary of AMP7 Botex vs PR19 Final Determination in outturn prices (£m)

Price control	PR19 Final Determination	AMP7 Actual spend	Variance (AMP7 Actual - PR19 FD)
Water resources	51	66	15
Water Network+	599	1,279	680
Wastewater Network+	1,460	2,259	799
Bioresources	217	240	23
Total	**2,326**	**3,843**	**1,517**

Source: Southern Water calculation table 4C; Ofwat PR19 FD.

Having spent and delivered more than expected in our original Botex expectations as per the PR19 allowance, this has put significant pressure on our enhancement programme. Resources in our business and in our supply chain are finite and we have recognised general capacity of our suppliers become constrained during delivery of our AMP7 plan.

We have used lessons learnt from our AMP7 delivery to inform our thinking for AMP8. We have challenged ourselves to increase our efficiency throughout AMP7 and have invested in applying our learning to our inflight delivery and our AMP8 planning.

Water Botex

At the start of AMP7, in order to comply with notice under regulation 28(4) of the Water Supply (Water Quality) Regulations 2016 and DWI Final Enforcement orders at [redacted], we committed to an extensive review of our water supply asset health and water quality risk, through our Hazard Review (HazRev) programme.

We worked in partnership with the DWI to define our industry leading methodology for this programme to carry out deep dive inspections on all operational water supply sites and as a result have identified over 500 improvements to improve our water supply asset health and water quality risk and maintain high levels of regional water quality compliance. This step change in our risk management has necessitated expenditure far in excess of our modelled allowance.

Over and above our HazRev programme we have mitigated a number of water quality reactive challenges at our other surface works, such as Sandown WSW and Weirwood WSW, plus we have addressed several Network storage water quality challenges throughout the AMP7, which has driven the necessity for a reactive based Botex plan.

Having to respond to these emerging challenges in AMP has resulted in the reprioritisation of funding from enhancements where value and deliverability confidence was low.

To ensure delivery of both our performance commitments and new regulatory requirements we have strengthened our asset planning processes. Our zonal planning approach brings together our prioritised asset risk management and enhancement schemes to realise synergies and manage programme conflicts and risks to both deliverability and ongoing supply resilience and service performance.

We have undertaken a spatially referenced, bottom-up review of both Botex and enhancement to produce an integrated approach to stabilise our asset base, and in line with this approach, we are moving to a system-based risk and resilience model, by applying and delivering multi-AMP strategies. This methodology will provide confidence to ensure we stay focused on our plans to improve customer and stakeholder experience.

Wastewater Botex

For wastewater, additional Botex expenditure has been required to address flow compliance issues, drive performance improvements to reduce pollution, reduce flooding and improve discharge permit compliance. As part of our Section 19 Undertaking we have significantly enhanced our monitoring and operational processes to address flow permit non-compliance. Over £50m of the additional funding has enabled the improvements we have seen over the last few years.

6.3.2 Lessons learnt from AMP7 - Enhancements

We have delivered a large amount of our enhancement programme in AMP7 although in some areas this has been challenge for several factors. These include needing to prioritise our efforts as discussed in the Botex section above, but also changing requirements and regulation throughout the AMP. These are discussed in greater detail in the respective Water and Wastewater sections below.

COVID19 caused major disruption, resulting in a slower start to the AMP than we would have ordinarily had. During this period, we were unable to start projects quickly, and the early phases of the projects took longer to complete. This impacted all our early AMP projects and created a lasting effect later in the AMP as summarised below.

Table: AMP7 enhancement expenditure compared to PR19FD in out-turn prices

	PR19 Final Determination	AMP7 Total	AMP8 Transition	AMP7 Actual (net of AMP8 transition funding)	Variance (AMP7 Actual - PR19 FD)
Water resources	46	89	16	74	27
Water network plus	298	213	101	111	-183
Wastewater network plus	646	798	62	737	91
Bioresources	6	11	8	3	-3
Total Enhancement	**996**	**1,111**	**187**	**923**	**-68**

Source: Southern Water calculation; Ofwat PR19 FD.

Key changes in our water enhancement plan during AMP7

Our Water programme has underspent against our PR19 Final Determination. This underspend is founded in our WRMP19 and the requirement for major reductions to several of our existing abstractions. The plan included numerous schemes, the likes of which hadn't been delivered previously in the UK, such as desalination and water recycling. We were also reliant on the development of new sources by neighbouring companies to enable bulk imports. Early in the AMP, environmental and other challenges to the deliverability of several schemes soon materialised as a result of stakeholder challenges that weren't addressed at the time of producing the WRMP along with an increasing environmental ambition.

With a plan involving new, innovative solutions the level of solution confidence was low with little visibility of the likely conditions that would be imposed to achieving the range of consents necessary to build and operate them. The water industry and its regulators have subsequently been working together to establish how we deliver these schemes to provide safe and sustainable water sources whilst protecting the environment.

Water resources planning has greatly evolved in preparation of companies' WRMP24s. Our plan forms part of a regional best value solution for the South East, making best use of existing resources across the region and collaboratively developing new ones. The plan is an adaptive plan that considers the range of potential environmental ambition, population changes and climate change impacts. The schemes in our plan are now far more mature than the proposals five years ago and hence we can have much greater confidence in their deliverability.

The barriers to progressing many of our supply schemes, new targets such as 1 in 500 year drought resilience and a new planning process has meant that our WRMP19 plan could not be delivered as originally planned whilst ensuring it still represented best value for customers in the long term. However, during the AMP we have greatly progressed our scheme development such that we are set to confidently deliver them in AMP8.

Key changes in our wastewater enhancement plan during AMP7

We remain on track for delivering our PR19 WINEP obligations but with later delivery for 10 large, complex schemes which overlap with other planned AMP8 deliverables. Completion of these schemes will complete in early AMP8, a funding allowance of £87m for these schemes was included within the Draft Determination. We also successfully completed 18 P schemes with 2021 delivery dates which were funded at PR14.

Programmes for U_IMP5 and 6 and Shellfish SW_ND drivers have fundamentally changed from the PR19 FD as identified through the WINEP Reconciliation work. Essentially the plan we originally set out in PR19 changed based on factors outside of our control, because we were unable to confirm the list of schemes under these drivers with the EA at the time due to ongoing legal investigation. For U_IMP5 there was a c. 30% change to the sites with a scheme, and for U_IMP6 and SW_ND drivers there was a c. 60% change. This reconciliation resulted in an overall reduction in funding, linked to a reduction in scope, equivalent to c. £47.5m.

For AMP8, we have defined the schemes and scope required to meet the WINEP obligations as part of the PR24 process. This means we can move straight into delivery for AMP8, without the need for the additional confirmation of obligations and scope that was needed following PR19.

There are 10 AMP7 WINEP schemes that have been deferred for delivery after 2025. Nine of these are flow to full treatment schemes (U_IMP5) with one storm storage capacity increase scheme (U_IMP6). These are schemes where the scale and complexity has significantly increased costs above the original AMP7 allowances and have overlap with new PR24 drivers such as growth or additional WINEP requirements. The later delivery of these schemes has been recognised through the reconciliation exercise with £87m allowed

for the later delivery in AMP8. Overall expenditure on these schemes is currently forecast to be over £250m with work underway to integrate the enhancements with the new AMP8 requirements.

WINEP guidance for PR24 was released late in the cycle and included new drivers that hadn't been recognised through the Drainage and Wastewater Management Planning (DWMP) process. We will be looking to build on the good engagement we had with regulators and stakeholders as part of the second cycle starting later this year. This would enable a longer term, more integrated approach for WINEP where we can avoid revisiting sites for enhancement from one AMP to the next.

A key lesson to draw out is for Storm Overflows where we have invested over £40m more than was in our PR19 Final Determination. We used this additional investment to undertake our Pathfinder programme where we took a different approach in selected catchments such as the Isle of Wight. Instead of focusing on end of pipe solutions we undertook extended investigations upstream and applied smaller fixes including sewer rehabilitation and property rain gardens to prevent infiltration and slow the flow. The impact of this is that we have learned a lot more about how some of our catchments work, and how we can take a catchment based approach to deal with the spills that happen at our CSOs.

We have applied this learning to our AMP8 programme and have included solutions such as extensive sewer lining, property raingardens and highways sustainable drainage in the catchments where we think this will have a large benefit, and we have allowed for extensive further investigations for our storm overflow projects over future AMPs.

We have invested less enhancement capex for our bathing water enhancement programme in AMP7. We completed the investigations for the bathing water enhancement programme which demonstrated that performance was predominantly impacted by a higher volume of smaller issues, such as illegal connections. Rather than large capital schemes, performance has been enhanced through dedicated operational teams addressing illegal connections, refurbishment schemes (part of the Botex overspend) and working in partnership with third parties. It is this approach that helped informed a revised strategy for overflows through the Pathfinder programme referred to above.

Whilst we have experienced many factors that have impacted delivery of our AMP7 programme, we have learnt many lessons and made considerable improvements which will greatly improve deliverability of our AMP8 programme. These improvements are outlined in our delivery action plan which demonstrates our improved ability and greater confidence to delivery our AMP8 programme.

6.3.3 Additional lessons learnt in AMP7

There are a number of areas where we learned more general lessons that have informed our AMP8 thinking, that are not specific to either Water or Wastewater.

We have made improvements in AMP7 with our method of working with our supply chain. We have brought our suppliers closer during the AMP, involving them in more of our decision making and getting them involved earlier in our projects to challenge our thinking, drive value and to make the handover from optioneering and design into delivery more efficient. Our AMP7 Capital Delivery team have been involved in the evolution of our PR24 plan, and they are a core part of our Execution Planning and Delivery Planning activities. Principally, we have worked with our Capital Delivery team to understand delivery durations and to identify some of the risks we regularly encounter that will impact AMP8.

We have seen increasing durations at several of the permitting and consenting bodies we require permissions from to complete our works. We recognise that many of these are resource constrained so we

have been proactively engaging with them as we deliver AMP7. We have made several proposals to reduce bottlenecks and resourcing limitations through support with recruitment and funding to support the creation of new roles, however we continue to see response times increase. We anticipate that this will be exacerbated in AMP8 by the scale of our PR24 plan and the amount of additional infrastructure development being undertaken across our region. We have brought our enabling team in to our PR24 process to highlight the specific bodies where we know there is particular concern and we have started discussions with them about our next investment period.

We recognise the impact that a slower start has made to our AMP7 delivery. Consequently, we have commenced an accelerated programme of transition investment ahead of AMP8 to progress some of our most critical programmes. We have not waited for the PR24 Final Determination to initiate these schemes. Instead, we have committed to bring forward circa £200m (22/23 prices) to progress the following programmes:

Water:

- **£90m** for our **Supply Resilience Enhancement Programme** to progress our Final Enforcement Orders;
- **£9m** for our **Sandown Water Recycling Plant** to complete our project development work;
- **£5m** for **WINEP** to commence early investigations;
- **£5m** for **Smart Metering** to complete procurement and get our delivery vehicle in place; and
- **£15m** for our **Hampshire Water Transfer and Water Recycling Pant** to complete land purchase activities.

Wastewater:

- **£10m** for **WINEP Nutrients, Shellfish and Treatment** to make progress against our 2027 delivery dates;
- **£10m** for **Flow Monitoring** to make early progress at our most critical sites. This will also enable us to be capturing data for development of our later AMP projects;
- **£5m** for **Deferred AMP7** schemes to ensure these are delivered early in AMP8;
- **£45m** for **Storm Overflows** to progress our projects with 2027 delivery dates; and
- **£8m** for **Industrial Emissions Directive** projects to progress our projects with 2027 delivery dates.

6.3.4 Deliverability risk assessment

We have assessed our AMP7 lessons learnt and have undertaken a bottom-up deliverability assessment with our programme sponsors and capital delivery teams to ensure we have captured all the known risks across our plan. We have used this process to identify risks across 7 categories set out in summary in the table below:

Table: Deliverability risks identified risks through AMP7 learning and PR24 plan bottom-up assessment

Risk Category	Risk description	Risk Action
Time to Deliver	We have a lot of work to deliver in the AMP, and the 2027 deadline poses a particular risk.	We are not waiting for the FD and bringing forward circa £200m of work to get started early. This is captured in our AMP8 Execution plan.
Capacity	We have recognised general capacity of our suppliers become constrained during delivery of our AMP7 plan, and we have observed particular challenges in getting sufficient quantity of particular skillsets (e.g. groundwater modellers, ecologists and MEICA Engineers). We need to build our internal teams to sufficient levels and we need to procure a supply chain that can ramp up to meet our needs. We are in competition with our Water Company peers and other infrastructure organisation for these resources.	We are establishing a new Target Operating Model for our Capital Delivery Function aligned to our refreshed Strategic Workforce Plan. This is captured in our AMP8 Readiness Transformation Plan. We have additionally procured our largest capacity Capital Delivery Supply Chain that we have ever had, and we are completing the remaining procurement activity for our Corporate Business Services and Operational Services. We discuss this in detail in section 5 of our Delivery Action Plan.
Design Maturity	Some of our programmes need to be developed further before all risks can be quantified and mitigated. This is particularly the case in areas where we plan to deliver green solutions first and grey once the capacity of those solutions has been ascertained in practice.	We are mobilising our incoming Professional Services framework suppliers and are utilising transition investment to continue to mature our programmes.
Enabling	We have seen delays to our programmes based on capacity constraints with enabling, planning and consenting organisations. We will rely on permits and consents from over 40 different bodies to deliver our plan. Our larger schemes can require more than 20 on an individual projects (such as SROs). These permitting and consenting bodies are very resource and budget constrained and they are impacting AMP7, so will be a much greater challenge in AMP8.	We are developing our internal Enabling function to increase both capacity and specific capabilities, aligned to our Strategic Workforce plan component of our AMP8 Readiness Transformation. We are additionally working with our incoming Professional Services and Capital Delivery suppliers to leverage relationships and best practice ways of working to mitigate the enabling challenges.
Materials and equipment	Across AMP7 we have experienced risks associated with securing materials and equipment in the associated timeframes, this has also introduced additional cost challenges that impact our ability to deliver our plans. With the step-change level of investment across the entire sector, we anticipate this type of deliverability risk to be more significant in AMP8. We are competing with all companies for the same materials and equipment. Southern Water require 12% of all meters need to be installed in AMP8, and given demand, there are long lead times for Thermal Hydrolysis Plant.	Section 5 of our Delivery Action Plan discusses in detail the framework procurement that we have completed and are still progressing. Our Operational Services frameworks are the vehicle we use to procure our materials and equipment and we are updating these ahead of AMP8. Any that are not yet complete have roll-over agreements in place to ensure we can obtain what we need ahead of the AMP8 procurement completing.
External factors	We have observed increasingly frequent and complex cyber threats during AMP7, with these leading to major incidents across our networks. We continue to face these threats as we approach AMP8. We have seen exceptionally dry summers with record temperatures recorded at our sites and exceptionally wet winters that have resulted in very high ground water tables, flooding and unusually high peak flows in our sewer networks. Dry summers impact our ability to deliver water resilience projects due to increased demand. Wet winters impact our ability to deliver sewer lining and storm overflows projects because of high flows in our network. We can schedule our works accordingly, but we have a high volume of projects to deliver in short timeframes, so the risk is still significant	We are completing a thorough Execution Planning exercise as we prepare for AMP8. This is being completed in conjunction with the scale up of our Capital Delivery PMO and new Target Operating Model. We are engaging with our incoming suppliers to challenge how we best deliver, plan and mitigate external challenges. This activity is ongoing and will culminate in a Delivery Plan for AMP8 that will be completed in March 2025.
Uncertainty	Changing regulatory requirements late in the AMP have led us to defer some of our projects in to AMP8. This has been done so that we can deliver them more efficiently and can prevent revising sites in quick succession, causing disruption to our service and to our neighbouring customers. We have seen regulations change throughout the period from October to Draft Determination, for example the requirement to adopt an enhanced NIS specification. We anticipate further changes to the scope of delivery requirements as a consequence of ongoing environmental policy developments. Subsequent changes reduce the deliverability certainty of our plan. Uncertainty mechanisms also require us to request funding at different stages and gates throughout AMP8, increasing the administrative burden for progressing these projects	We continue to engage with our regulators through regular ongoing dialogue. We welcome Ofwat's proposals for Delivery Mechanisms and will work with our other regulators and stakeholders to ensure we keep up to date with evolving requirements. Our AMP8 leadership team will work with our internal teams and our suppliers to make the necessary adjustments to our plans as we progress through AMP8.

These risks have been considered throughout our AMP8 preparations and we continue to evolve our mitigations to reduce the risks as much as possible. We have an AMP8 Readiness Transformation Plan and a Delivery Action Plan to address our risks, referenced in the table above and discussed in section 6.3.5 and 6.3.6 of this document respectively.

6.3.5 AMP8 readiness

From April 2023 we published our Turnaround Plan this covers our key priorities for improving our performance between 2023 and 2025. Through this plan we are delivery 57 specific actions that are already leading to significant improvements in our performance this can be evidenced through our performance improvements in compliance risk index and total pollution incidents in 2023/24 where we had a 52% and 35% improvement respectively

For AMP8 we recognise the challenge and the risks we face in our delivery programme and therefore we have established an AMP8 Readiness Transformation Plan to deliver our plan, as well as our usual pre-AMP preparation activities. We have engaged external transformation advisors to support us in developing an AMP8 Transformation Plan that builds on the success and delivery of our AMP7 Turnaround Plan. Our AMP8 Readiness Transformation Plan includes 11 workstreams (represented in summary in the table below), where we are looking to drive further business improvements:

Table: Summary of AMP8 Readiness Transformation Plan workstreams

Workstream	Scope
Wastewater	Initiatives to reduce Botex run rates, improve operational efficiency and drive wastewater performance/compliance.
Water	Initiatives to reduce Botex run rates, improve operational efficiency and drive water performance/compliance.
Environment (Clean Rivers and Seas)	Initiatives to prepare our commercial arrangements, partner with Local Authorities, establish an operating model and develop our capabilities
Customer	Initiatives to reduce customer debt, improve C-Mex and improve retail
Capital Delivery	Delivery of an Execution Plan (AMP8 Delivery Plan), implementation of a new Target Operating Model, development of commercial strategy
People (Workforce Planning)	Development of a workforce planning capability to meet our AMP8 requirements, implementation of a Talent Acquisition Strategy and Continuous Employee Capability Improvement
People (Health, Safety and Security	Continuous improvement in H&S, establishment of security management standards
Digital	Development of our cyber security strategy, digital strategy and operating model, our data and AI enablement, and our IT readiness.
Procurement	Strategy and completion of procurement for our delivery frameworks, energy, and corporate services
Planning and Performance	Updates to our asset data strategy, regulatory and financial reporting, Integrated planning, and change management
Central	Implementation of an enterprise PMO, culture improvement and updated Target Operating Model

Further detail regarding progress against these workstreams can be found in our draft Delivery Action Plan, (SRN-DDR-051).

6.3.6 Draft Delivery Action Plan

Ofwat required that we produce a draft Delivery Action Plan as part of our Draft Determination Response to provide increased detail and clarity around how we are increasing our delivery capacity to meet the AMP8 challenge. Our draft Delivery Action Plan is included in Appendix 1. It underpins the culture change that we are making to drive improved environmental compliance and to meet our challenging 2027 deadlines.

Our Action Plan focuses on the following 6 projects that ensure we have robust foundations for AMP8 and increased capacity to deliver our plan:

1. Establishment of our **AMP8 Readiness Transformation Plan;**
   This consists of the 11 workstreams referenced in section 1.3.2 earlier in this document. These build on our Turnaround plan and significantly move us forward in our AMP8 preparation.

2. Establishment of a **Transformation Management Office** to implement our AMP8 Readiness Plan;
   Improvements to our Investment Committee processes, scaling up and optimising our Capital Delivery Project Management Office and embedding a new enterprise change management office.

3. Establishing and embedding **Best Practice Data Governance** across our organisation;
   Improvements to our enterprise data governance, asset data strategy, asset data capture, data within our target operating model, and our asset management tools and systems.

4. **Developing our internal teams** to ensure we have enough of the right skills and experience to deliver our projects and manage our suppliers;
   Assessing our skills requirements and talent acquisition/management processes to ensure we have what we need for our AMP8 plan. Identifying and implementing the training and development we need to have in place for our teams.

5. Procurement of additional capacity, skills and expertise through a larger **AMP8 supply chain**;
   We have procured the largest supply chain we have ever had and are currently mobilising these suppliers to get them ready to deliver. We have organisations of varying specialisms and scales to help us meet the broad complexities of our plan. We are also significantly progressed in the procurement of our remaining operational and business services frameworks.

6. Development of our **Alternative Market Based Delivery plans**, refining our strategy, commercial approach and engaging with the market to test our proposals.
   We have reviewed and developed all of our proposed Market Based Delivery projects, we have developed our contract terms and procurement process.

All of the actions we have set out in our action plan have identified timescales and milestones, with associated success measures that we are tracking.

Our Delivery Action Plan then discusses how we are developing our Delivery Plan. There are two primary actions that we are undertaking. These are execution planning and development of an improved Target Operating Model.

Execution Planning

Our Capital Delivery Project Management Office undertakes the execution planning which will translate our PR24 Plan into a prioritised schedule of projects, with accountable sponsors and alignment to delivery routes. We have completed our execution planning methodology/approach and are now developing the detail in conjunction with our Target Operating Model, aligning our projects and strategic programmes.

We are engaging with our stakeholders to determine what factors are most important to them so we can view our planning through different lenses. We continue to engage with our customers through forums and roadshows and we have run workshops with groups from the voluntary sector, such as rivers trusts and wildlife trusts.

We are engaging with incoming suppliers to gain their input in to how we might break down our PR24 Plan for delivery, challenging them to bring new ideas and approaches to achieve quicker mobilisation, reduced risk and greater efficiency. We are sharing visibility of our execution plans as they evolve and we have a feedback loop to ensure their input is captured in our onward planning.

Our planning has led to the establishment of 8 strategic delivery programmes to best group our projects across base and enhancement and subsequently package them into appropriate delivery routes. We discuss these in more detail in our Delivery Action Plan document.

Target Operating Model

A key enabler to our Execution Planning is the implementation of a new Target Operating Model to enable the Capex scale-up in our Plan. This initiative is being driven by our Asset Management Director and supported by external advisors to bring best practice from across our industry and adjacent sectors. The primary objectives of the new model are:

1. **Revision of our Asset Lifecycle Process:** Driving greater efficiency and improved decision making throughout our whole lifecycle;

2. **Reinforcement of our Investment Programme Management Team:** Recruitment of individuals to increase team capacity and drive commercial focus;

3. **Creation of strategic programme sponsorship:** Redefining the role, with clear accountabilities and responsibilities. The role is to remain above the delivery team and hold them to account;

4. **Redefinition of the Delivery Project Manager role:** Ensuring focus is on management of suppliers and efficient resolution of delivery issues;

5. **Improvement of our commercial processes:** Improved engagement and management of our suppliers; and

6. **Establishment of ways of work appropriate to the scale of the plan:** Challenging our existing ways of working and implementing improvements that allow us to deliver more efficiently.

Our Target Operating Vision is complete, and we are developing our plan to the end of September 24. We will agree this plan with our Executive and Board before commencing the implementation phase up to AMP8. The model is intended to be completely implemented by the time AMP8 commences.

6.4. Uncontrollable delivery risk that remains

While we have been able to put plans in place to mitigate delivery risk that is within our control, Ofwat should recognise that some delivery risk will remain that we cannot control. We will proactively monitor this risk that we cannot mitigate and we look to Ofwat to aid in the management of these risks within its regulatory framework.

These risks can be grouped into:

- **Construction labour risk across the UK and in our region:** There is a significant increase in construction activity, not just with the Southern Water AMP8 business plan, but also from similar water company growth in activity, against a background of increased investment in infrastructure. The increase in demand for a limited construction labour force is likely to lead to increased wage inflation; and

- **Regulatory risk:** Given the size and complexity of the business plan, we are concerned that some of the decisions in the business plan about funding and clawbacks will increase delivery risk.

6.4.1 Construction labour risk across the UK

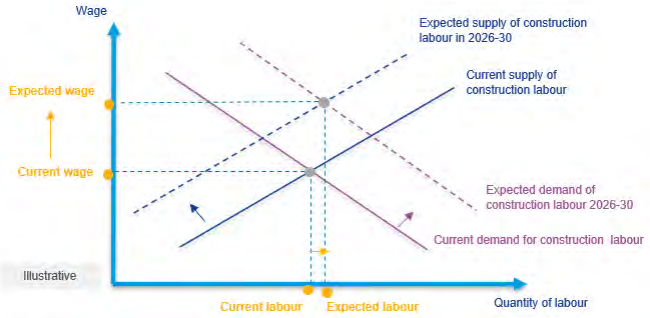
There are nationwide challenges to delivering the UK's anticipated increases in infrastructure investment which will inevitably create deliverability risks and cost pressures for PR24. The water sector in England and Wales is predicting to spend £98bn in the five years to 2030 (PR24), £36bn more than the £62bn it is investing in the five years ending in 2025 (2022-23 prices) – an increase of 60%. This unprecedented step up in water investment comes at a time when the UK economy overall is ramping up infrastructure investment. Based on figures from National Infrastructure Commission, the UK infrastructure investment is expected to be £25bn per year higher in 2025 to 2030 compared to the 2010s – a 45% increase.

The UK construction labour market will be under pressure to deliver this massive step up in investment at a time of tight labour market. There are currently 2.3 vacancies per each 100 construction employees UK-wide, notably above the long-term average of 1.7. About one-quarter of the UK's construction workers are approaching retirement in the next 5-10 years.

The compound effect of increasing UK-wide demand for construction workers and scarcity of labour nationwide is both an important cost and deliverability risk for our PR24 plan

Scarcity of labour elevates cost, and with labour typically accounting for 25% to 45% of our project costs, any UK-wide wage increase has a serious impact on overall budgets and project viability. This in turn leads to projects being delayed or re-scoped. The figure below illustrates the challenge faced by the UK construction labour market.

Figure: Illustration of changes expected in the UK construction labour market in 2026 to 2030



	Expected change	Key drivers of change
Demand for construction labour	Increasing ↗	- Significant step up in investment across infrastructure sectors - Backlog of job vacancies in key professions - Increased demand for specialised labour (e.g., smart technologies)
Supply of construction labour	Decreasing ↘	- Ageing workforce in construction and other key professions - Tighten immigration policies from the EU post Brexit

We have used macroeconomic modelling techniques to estimate the expected change in real wages and employment levels in the UK construction sector in 2026-30 for three labour market scenarios. Our scenarios take account of both demand for labour (noticeably the step up in infrastructure investment) and supply of labour (namely ageing workforce, immigration flows, new recruits and friction of movement of workers from other sectors into construction).[3] The results are summarised in the table below. We consider the central scenario to be the most plausible outcome, recognising that there are upsides and downsides, as reflected in the most impactful and least impactful scenarios.

Macroeconomic modelling results suggest that the UK economy would add only 49,000 new employments in construction (central scenario), sufficient to cover only roughly a third of estimated jobs needed to deliver the step up in UK infrastructure investment predicted for the 2026-30 period

To deliver the predicted step up in infrastructure investment, the UK would need to create 148,000 new construction jobs by 2030 (central scenario). The country would also need to replace 113,000 net outflow of construction workers, meaning that recruitment needs in construction would reach 260,000 in the 5 years to 2030.

This shortage of workers will push the average UK construction wage up by a cumulative 11.7% in the five years to 2030 after discounting general inflation.

These results are national averages, meaning that some regions and professions within construction are likely to be hit harder by wage pressures and labour shortages (more on this in the next section).

[3] As a modelling tool, we have used the Global Structural Macroeconomic model (NiGEM) developed by the National Institute of Economic and Social Research. This model reflects the performance of the UK economy in line with the Office for Budget Responsibility (OBR) baseline projection.

Table: UK construction labour market outcomes, 2026 to 2030

UK construction sector	Cumulative effect 2026 to 2030		
	Least impactful scenario	Central scenario	Most impactful scenario
Recruitment needs	89,866	260,351	400,620
Replacement of net outflows	8,956	112,631	216,306
New jobs needed	80,910	147,720	184,314
Additional employment – new people employed	28,910	48,750	60,780
Additional employment as % of new jobs needed	36%	33%	33%
Real wages - % change	11.1%	11.7%	12.0%

This expected UK-wide construction wage inflation and shortage of labour is likely to create a significant level of risk to delivery of our PR24 programme and raise the risk of cost overruns:

- An increase in our wage costs in line with the 11.7% **UK-wide real wage growth in construction would mean adding £319m additional costs to our PR24 business plan** – a 3.9% increase.
- **Shortage of labour resources across the UK construction sector means that we risk being unable to deliver our full investment programme,** owing to competing for a very tight pool of construction labour resources across the economy. We also risk engaging in bidding up to secure resources thereby amplifying the real wage inflation risk further.

6.4.2 Construction labour market constraints in our region

While it is clear that labour market conditions will continue to have a growing impact on all water companies in the UK, they are likely to have a disproportionate impact on the region that we operate in, as well as our neighbouring regions, given current trends being observed in the market. In particular, the size and growth in infrastructure investment, the need to grow workforce capacity, and key labour market indicators such as uptake in training, the workforce age profile, and the reliance on migrant workers.

Unprecedented levels of infrastructure investment in the UK will be most concentrated in the South East, meaning we face stiff competition for skills and resources both within and across sectors

The AMP8 period will see nearly a third of all UK water sector investment concentrated in the South East, which is more than any other region. Beyond the water sector, infrastructure investment more broadly will also be most concentrated in the South East and its neighbouring regions (£1.8k per capita in 2023/23-24/25), which us in a unique position as we compete with more companies for skills and resources both within the water sector, and from other sectors that share our supply chain (e.g., Energy and Transportation).

There are already a number of major (multi-billion GBP) infrastructure projects that are either in-flight or planned across the AMP8 period in the South East and neighbouring regions. The Lower Thames Crossing, major roadwork upgrades (e.g., the A303 tunnel), Hinkley Point C, National Grid's Sea Link, and Sizewell C, all require skills and resources that overlap with the water sector.

The construction sector, which will be a major contributor to the delivery of infrastructure investment, is currently most concentrated in London and South East, which makes up a third of total UK construction output. This is set to experience the most growth (+10% / ~£6bn) through to 2027, which is more than any other region.

Growth in infrastructure investment will require companies in the South East to ramp up their recruitment efforts to build the level of capacity required to deliver

Given the current workforce size and typical workforce inflows/outflows, the London & South East will need to ramp up recruitment more than any other region (in absolute terms). This need translates to an additional 40,600 workers by 2027, with ~18,000 in the South East and ~22,000 in London.

Given the majority (76%) of construction workers in the South East work within the same region as their permanent home or a neighbouring region, and that nearly three-quarters of all construction workers work in the same region in which they were living when they started their career (at the UK level), it's likely that workers providing construction-related services to us (e.g., project managers, trades, engineers) will need to be recruited either within the South East or our neighbouring regions (London, South West, East). This exacerbates the challenge given these regions also need to increase their recruitment efforts, in particular the South West who need to recruit the second highest number of additional construction workers in the UK (~38,000).

Against the backdrop of growing output and demand for workers, labour market challenges are intensifying and are likely to impact the South East disproportionately relative to other regions

The construction industry faces the toughest labour market conditions in the UK. Construction employers rank among the top sectors in terms of vacancies as a proportion of employment and highest when it comes to of hard-to-fill vacancies (~67% of all vacancies are hard to fill). This trend is expected to continue, with nearly two thirds of construction employers expecting problems filling vacancies in the next 6 months, which is higher than the average across all sectors (56%).

Specifically in the South East, the proportion of construction vacancies that are viewed as 'hard-to-fill' is trending upwards (70% of vacancies in 2022), with neighbouring region the South West experiencing the highest rate (81% of vacancies in 2022) in the UK. The South West also experienced the highest vacancy rate as a proportion of employment in the UK (6%), which was the joint worst with the South East's other neighbouring region, London. Further, other than the Information & Communications sector, Construction ranks top in the South East for vacancies experiencing a skills shortage, with companies indicating nearly half of their vacancies are associated with a skills shortage.

Continued labour market challenges will likely have a disproportionate impact on the South East relative to other regions given downward trends being experienced in apprenticeship starts, the region's ageing workforce, and a relatively high reliance on migrant workers

Construction apprenticeship starts, which are a key source of labour market supply, are trending downwards in the South East (20% contraction between 2018-21), which is an indication of a more challenging environment for recruitment of newly skilled labour. This does not work in the region's favour given it needs to significantly ramp up recruitment efforts.

The workforce is also ageing. Both the 50-65 age segment (who are close to retirement) and the 65+ age segment (who are of retirement age) of the UK construction workforce have grown as a proportion of total workers since 2019, both by ~1 percentage point. This growth is more than any other age segment in relative terms. In the South East, the proportion of workers aged 60+ compared to total workforce size has grown since 2019 (+0.7pp) to 12%, which means it now has the second largest 60+ age segment in relative terms compared to all other regions (neighbouring region the South West is 13%).

Finally, the South East is particularly reliant on immigration compared to other regions, with 18% of workers originally from overseas which is above the UK average. Immigration cyclicality, the government's immigration agenda, and new post-Brexit immigration rules will likely all have a negative impact on the availability of labour in the region and will exacerbate shortages already being experienced in the sector.

The combination of forecast growth in output and the high level of migrant worker dependency in neighbouring regions (~60% in London and 22% in the East in 2022) will likely intensify competition for these types of workers.

Treatment of construction labour risk in PR24

We are very supportive of the DD's proposal to index enhancement labour costs to the Construction wage index. However, we note that labour in capital maintenance, paid through botex allowances will equally be impacted by construction labour risk. Therefore, we urge Ofwat to extend this indexing to cover botex, as well as enhancement spending.

6.4.3 Regulatory risk

We recognise that there is significant regulatory risk. We are concerned that both Ofwat's regulatory framework and other governmental and regulatory decisions could affect AMP8 delivery negatively. In this section, we discuss:

- PCDs;
- Mechanism uncertainty; and
- Legislation/regulatory changes.

PCDs

We have never sought to work against our customers' interests. Therefore, we do not challenge the basic concept that underspent funds that are no longer needed, should be returned to customers because this is fair. However, we have significant concerns about the regulatory risk that the very complex and novel design of Price Control Deliverables (PCDs) being introduced at a late stage in the PR24 process imply.

At PR24, Ofwat has created three forms of claw backing funds:

- **Non-delivery PCDs:** Involving the clawback of monies for benefits expected from material investment but which are not delivered by the end of PR24;

- **Time incentive PCDs:** The same as non-delivery PCDs with the additional feature that provide for out-performance or under-performance payments for timely delivery against target; and

- **Delayed Delivery Cashflow Mechanism (DDCM):** This is a cash flow mechanism that claws back underspend enhancement allowances when companies are behind in their delivery with allowances being released later if/when the companies catch up on their delivery. Ofwat proposes the mechanism triggers in year 2 (when enhancement spend is less than 50% of enhancement allowance for year 1 and 2) and year 3 (when the cumulative enhancement spend is less than 65% of total enhancement allowance).

We have concerns that PCDs add additional downside risk through the compounded effect of the following eight factors, shown in the table below. In SRN-DDR-052, we set out proposals for mitigating the delivery risk generated by PCDs.

Table: Delivery risks from PCDs

Risk factor 1: RoRE risk: We are concerned that overall, PCDs represent a significant regulatory risk, which is not recognised in the DD. Based on a calculation of recent all-company fulfilment of enhancement cases from PR19's FD, we can analyse the effect PCDs had they been already in place. When this effect is applied to PCDs proposed for PR24, the effect of these PCDs would be to strip revenue from companies, where funds are ultimately needed to finish projects. This has the effect of increasing the downside risk by 4.21% of RoRE on non-delivery and an additional downside risk of 1% of RoRE on timing incentives for the notional company. For more details, please see SRN-DDR-011 KPMG Industry Risk Analysis (club project). Strangely Ofwat does not recognise any regulatory risk from PCDs. In essence, Ofwat assumes that fulfilling the enhancement project on time is easy and once applied, PCDs will not be employed. Based on recent history, we cannot agree with this implication.	**Risk factor 2:** Project risk and managing complex programmes: The construction industry has learnt about project risk and how risk is increasingly understood and realised along the design and fulfilment stages of projects. Ofwat's approach to cost efficiency does not give any leeway to higher allowances to deal with risk of projects at their early stage, as set at the start of the AMP. The exception is the WINEP investigations where Ofwat allows some upfront allowances for investigating the best solutions to deliver the WINEP outcomes. When this is combined with the PR24 enhancement plans, which represent the most complex programme of work in recent history, we anticipate that for many companies – as is seen across infrastructure and construction – plans will be proven to be imperfect and the timing and costings of projects will not be able to be fulfilled as currently envisaged. For more details on this point, see SRN-DDR-003 –Risk and Investability. More than ever, companies will need the flexibility to manage their programmes effectively, being responsive to opportunities and risk, rather than to be incentivised into a straight jacket by the aspects of the Time Incentive PCD design and DDCM.
Risk factor 3: Cash flow: Both the PCDs and the DDCM require funds to be returned to customers, but the funds can be reclaimed in an end of period true-up on completion of the enhancement. This leaves a potentially significant cash flow gap between the refund and the spending needed to fulfil the project. If many projects are delayed, then this situation could apply to a high proportion of our enhancement programme. Given the limits of financeability, this cash flow risk may limit our ability to deliver delayed projects, which would not be in the customers' interest.	**Risk factor 4: Bureaucratic costs:** We are concerned that Ofwat has not calculated the bureaucratic cost of creating the monitoring regime to support PCDs and that this cost for Ofwat and companies – both of which are ultimately paid by customers – will be significant (and could outstrip the benefit that the mechanisms are supposed to deliver). Further, there is unnecessary bureaucratic cost in returning funds to customers and then asking for it again, just because of a project delay. This cost is unnecessary and not in customers' interests.
Risk factor 5: Penalty duplication: We recognise that Ofwat has conducted an assessment of the overlap between ODIs and PCDs and found this overlap to be limited. This would appear to be evidently true because ODIs are an incentive on companies to improve performance (i.e., a financial reward/penalty to encourage a change in behaviour), rather than a compensation for damages (in which case returning the full cost to customers would be fair). In the same way, PCDs both have an incentive component and their main effect – to return the total cost to the customer. We maintain that PCDs should represent a fair return to customers. However, for enhancements where there is an incentive already from an ODI or a regulatory penalty (from the EA or DWI, for example), there should not be a duplicating incentive from a PCD, such as the punitive impacts of a non-delivery PCD. This does not mean that the ODI has to return the same funds as the PCD to cause the duplication. However, the incentive part of a PCD should not apply where there is already an incentive to deliver.	**Risk factor 6: DDCM is a duplication and should be discontinued:** This mechanism is synonymous with PCDs as it returns cash to customers that is unspent. It is therefore confusingly overlapping with non-delivery PCDs. We are not clear whether unspent funds are meant to be returned via the PCD or via DDCM, as enhancements subject to the PCD would suffer the duplications. This means that the DDCM is entirely a bureaucratic exercise which would act to raise company and Ofwat costs, for little benefit. In addition, we are concerned that the DDCM finally ends the long standing regulatory tradition of incentives, whereby companies can retain underspending against capital projects to incentivise on-time and on-budget delivery. In principle, the DDCM would strip away the financial incentive which is in the form of a project underspend. This mechanism would mean that companies are incentivised not to underspend, with a related loss of value to the customer and to the company. Ending this positive and long standing incentive would damage customer interests in the long term, as ceteris paribus, companies would achieve less projects on time and on budget.
Risk factor 7: Punitive non-delivery: We are very concerned with the punitive element to the Non-delivery PCD, where funds are returned to customers for projects not delivered on time but the mechanism fails to recognise the work completed to date or the complexity of the programme as a whole. This mechanism introduces unwelcome distortions and perverse incentives. If partial benefits are not delivered on the closing day of the AMP, then the PCD is applied-regardless of the actual deadline for the project, which may be into the following AMP. We are concerned that the incentive on the company will be to complete projects that had started and not start new projects, even if the complexity of the programme could imply that the efficient course of action is to start more projects with a slightly delayed delivery.	**Risk factor 8: Designing PCDs for projects in the Delivery Mechanism and Large Scheme Gated Process:** By their nature, gated processes are meant to allow for changes to projects ahead of staged delivery. Therefore, while we can agree that PCDs could ultimately be applied to enhancement projects inside both the Large Scheme Gated Process and the Delivery Mechanism, we cannot say what funding and timing would be finally approved for each project and so cannot define a PCD. More specifically, Ofwat's suggestion that PCDs be applied for projects in the Delivery Mechanism and then subsequently removed if the project is not delivered applies a new financeability risk on the company-that it may face a negative allowance for a project, it never received funds for in the first place. This could cause specific concern in the debt markets, where a previously well understood revenue figure from a price control was taken as a given. We urge Ofwat to change this position and only agree to PCDs alongside agreeing to the projects in the relevant gate.

Mechanism uncertainty

As mentioned in this response, the AMP8 programme will be the largest and most complex in the history of Southern Water. By definition, this brings a higher amount of uncertainty at the start of the AMP, than in previous price control reviews.

While we are confident in our cost estimates for enhancements, the DD recognises the unusual nature of PR24 and has created enhancement mechanisms to treat enhancement costs in different ways to recognise degrees and types of uncertainty.

In general, we welcome the introduction of the different mechanisms. However, we recognise the uncertainty left in the mechanisms:

- **Finalisation of the Delivery Mechanism:** We are concerned that the final design of the Delivery Mechanism has not yet been confirmed. In Chapter 4: Enhancements, we set out our views as to how the mechanism should work. In particular, we describe how the mechanism should enable updated scheme plans and costings should be considered at the different gates, to enable the appropriate Ofwat decision with up to date information at the time. If the Delivery Mechanism gate decision is made on current information, which may become out of date, then the mechanism will be distortive and drive uncertainty; and

- **Gate uncertainty – correct allocation of projects:** While in general we welcome the gated mechanisms, the fact of delaying the approval of schemes brings its own uncertainty, compared with the treatment of enhancements in prior AMPs. However, we believe that the right mechanism for the right circumstance should generate more benefit than disbenefit. For this reason, in Chapter 4: Enhancements, we allocate our enhancement projects to different mechanisms, according to the correct features of the project. We urge Ofwat to consider and agree to the enlarging of the mechanisms to minimise uncertainty and maximise the benefits from such schemes.

Legislation/regulatory changes

Finally, we note that we are subject to many legislative and regulatory requirements from the Government and our different regulators. We also note that such requirements tend to change more frequently than the 5 year planning and regulatory cycle organised by Ofwat. This means that the delivery of our plan may be affected by changes to our requirements during AMP8. The constraints on delivery may be because requirements change or are newly applied and we may not have capabilities to deliver a new scheme or more generally because a new requirement distort the programme and affect other projects. We urge Ofwat to allow for flexibility is our management of changing requirements during AMP8.

6.5. Conclusion

The AMP8 programme will be difficult and complex to deliver. We have learnt the lessons from AMP7 and have embedded this learning into our preparation for AMP8. We are taking the measures needed to be capable of delivering AMP8 and our Board has assured its deliverability, subject to the points included in this response. We have appended a draft Delivery Action Plan to this response and we intend to adhere to Ofwat's Delivery Monitoring Regime during the AMP.

However, we note that some deliverability risks are outside of our control and we look to Ofwat to aid in the management of these risks within its regulatory framework.

7. Financeability

7.1. Introduction

Our October 2023 Business Plan was an ambitious plan. It was approximately double the size of our PR19 Business Plan because of the significant investment necessary to deliver the outcomes, required to fulfil our regulatory requirements and customer expectations. Our Business Plan also considered the significant increase in external investment required.

Although it was a stretching plan, our Board assessed it as financeable, but with limited financial resilience, based on our scenario testing. This assessment was reliant on:

- Our requested allowances for botex and enhancements being approved;
- Achievable PCs/ODIs being agreed;
- Our proposals to mitigate the RoRE risk being accepted;
- An outturn WACC above Ofwat's Final Methodology rate (we submitted a Plan based on a WACC level aligned with Ofwat methodology, plus an alternative WACC to recognise risk in the Plan);
- Resolution of the uncertainties still present at the time of writing the plan; and
- Our approach to the use of Market Based Delivery routes and was maintained.

Subsequently, we have increased our programme further to meet the environmental outcomes driven by the WINEP as well as other regulatory requirements including latest cost evidence. However, we proposed a Delivery Mechanism[1] which Ofwat's has adopted in its DD.

In this chapter, we outline the problems with Ofwat's Draft Determination that make it non-financeable and, in our view, does not meet Ofwat's financeability duty. We then set out the measures in this chapter that make our response financeable. Finally, we discuss potential changes to our tariffs.

We have assessed the financeability considering the use of the Delivery Mechanism and our planned use of market based/alternative delivery, among other aspects of this response, resulting in a plan of £7,246m for assessment. This includes the cases we have set out for botex, retail and enhancement allowances. We have assumed a WACC consistent with the findings from KPMG's Water UK club project of 4.49% and have aligned RCV run-off rates with our October Business plan (5.06% - average per price control per year). We also set out the case for the risk to the plan to be re-balanced. We have included the results of our financeability stress-testing.

Overall, on this basis set out above, our plan is financeable on both a notional and actual basis, with the financeability assured by our Board. This financeability assessment includes further equity in AMP8 of £650m. The Board is confident in its ability to raise this equity on the basis of this response, principally, but not limited to: the re-calibration of risk, the adjustments to a sustainable level of botex, updated allowances for enhancements and an uplift in the WACC to reflect market conditions and returns in other sectors.

[1] Our proposal to Ofwat, ahead of publication of the DD, was for a 'Delayed Approval Mechanism' which Ofwat have included as part of its consultation but renamed 'Delivery Mechanism'.

In this chapter, we include the following sections:

- Ofwat's actions;
- Ofwat's DD is not financeable;
- Ofwat's interpretation of its financeability duty;
- Financing Resilience Plan and dividend policy;
- WACC;
- The revised plan is financeable; and
- Tariffs.

7.2. Ofwat's actions

We are concerned about the financial parameters set in the Draft Determination (DD). The main areas of concern are:

- **A cut to allowances:** Significantly reduced botex and enhancement funding allowances. This leaves a significant gap, compared to our revised business plan, that we outline in this document;

- **Insufficient WACC:** our extensive evidence in our October 2023 Business Plan submission had a mid-point estimate of 4.58%. The level set at Draft Determination is insufficient, especially in light of updated market evidence;

- **A slowed the rate of remuneration of the RCV, through lower RCV run off rates:** The DD then implies a greater injection of further equity into the business; and

- **The introduction additional risk mechanisms:** Generally, we welcome the mechanisms in concept, but they are not yet correctly calibrated and if implemented, they would still leave a significant downward skew to the regulatory risk placed on both the notional and actual companies so need revision as discussed in [Chapter 1 Risk and Investability].

7.3. Ofwat's DD is not financeable

We are concerned about the following factors that would make the DD non-financeable:

- **Cost allowances:** We strongly disagree with Ofwat's assessment of allowances, as discussed in other sections of our response. We stand behind the cost efficiency evidence that we include in this response and the original business plan. Given that all our investment is essential to fulfil regulatory and statutory requirements, we have no choice but to deliver the scope of activity. Since we are unable to reduce the scope of the plan, and the evidenced costs are likely to be higher than the revenue allowances set out in the DD, we would be left with a significant gap to finance from other sources;

- **Risk:** As we outlined in this response, given the decisions taken in the DD, the expected equity return at 50% (P50) for even the notional company would be (4.18%), showing a significant downward skew within a range of possibilities that shows at best (P90) a (1.27%) loss. This is lower than the WACC and hence we would not be able to finance additional debt or equity to fund the gaps created by the DD, on this basis alone – even before we consider the funding gap on botex and enhancement. When we add to this the fact that our analysis shows that the actual company at P50 would expect to make a (9.52%) loss, this demonstrates that the plan is uninvestable for debt or equity investors; and

- **Remuneration of the RCV:** The RCV run off rates have been decreased further from both PR19 (5.15% - average per price control per year) and our October Business Plan (5.06% - average per price control per year). Not only does this decrease cash available to finance the business thereby reducing financial headroom, the slower rate of depreciation - when factoring in inflation - brings an inter-generational fairness challenge, as based on our customer research, current customers are prepared to invest now rather than passing on the cost to future generations.

We understand Ofwat has concerns about levels of financial resilience in the sector, but we do not believe the DD process is the right time to consult on further proposals in this area. We believe a consultation, separate to the price review process, would be more appropriate, in order that companies are able to carefully consider and respond to Ofwat's proposals, which has been incredibly challenging with the limited time available.

In respect of new proposals in this area, our position remains as we set out in our response to Ofwat's July 2022 consultation on strengthening ringfencing requirement in the licence[2], principally that Ofwat has not clearly articulated or evidenced the problem it is trying to address, and in the first instance, it should address any concerns it may have through an appropriate calibration of risk and return for the notional company.

In the DD, Ofwat set outs its position that gearing levels above 70% *"are above the level that is reasonable for a water company to maintain long term financial resilience"*. Further to the research and analysis conducted by Economic Insight as contained in "SRN DDR 055 Economic Insight Gearing and Capital Structure Report", the proposed options for a gearing incentive mechanism lack empirical support and risk harming customers by inhibiting companies' ability to optimise their capital structures. As such, we do not agree with the argument that financial resilience is impaired above a particular level of gearing, nor we do see that Ofwat's proposed 70% threshold as well-evidenced.

Notwithstanding our overall position, if Ofwat were minded to introduce a mechanism to restrict gearing, we believe it would be more appropriate for the threshold to be aligned with relevant external thresholds, for example financial covenants or gearing consistent with a Baa2/BBB rating, in line with the licence lock-up threshold that will be in effect in AMP8.

7.4. Ofwat's interpretation of its financeability duty

In this section, we outline our concerns about Ofwat's interpretation of its financeability duty, which it used in its DD.

Similar to all utility economic regulators, Ofwat has a duty to secure that water companies can (in particular through securing reasonable returns on capital) finance the proper carrying out of their statutory functions[3]. Over successive price controls, Ofwat's interpretation of this duty has changed from originally ensuring the financeability of the actual company, to ensuring the financeability of the notional company when it is efficient (as informed through the outputs of Ofwat's modelling suite).

We are concerned that the DD attempts to change this interpretation further. The DD sets out an expectation that further equity of £627m will need to be injected into the business to finance PR24, at the

[2] Southern Water Response to Ofwat Consultation on proposed modifications to strengthen the ring-fencing licence conditions of the largest undertakers. September 2022. Ofwat, Consultation on proposed modifications to strengthen the ring-fencing licence conditions of the largest undertakers, July 28, 2022.
[3] Section 2A of Water Industry Act 1991(WIA91) as amended.

notional gearing level of 55%. This would be in addition to the £1.6bn of additional equity that was injected into the Southern Water group during AMP7 (of which £905m was injected into SWS). At the same time, Ofwat is slowing the recovery of the RCV to the extent that revenues will not cover the level of cost assessed as necessary in the DD. This means that the level of funding from each of the decisions in the DD, no longer covers the ordinary costs implied by the price control, with equity covering a portion of these costs.

Ofwat has maintained that operational penalties and the level of funding required to catch up with operational standards are burdens that should fall on equity. However, requiring equity to fund the ordinary costs of the price control is a novel (and in our view, incorrect) interpretation of the financeability duty. We note that with this interpretation, the financeability duty can be fulfilled by any level of equity injected into the business, resulting in their regulatory duty becoming meaningless.

When the assumption of equity injection is combined with the non-financeability of the DD in general, we note that we would be unlikely to attract new equity from new sources into the business. This means that existing shareholders would be required to inject equity at below-market rates to preserve their existing investment, rather than allowing the business to become insolvent. We maintain that Ofwat's financeability duty was given to the regulator to prevent this circumstance from happening and we urge Ofwat to take action to prevent the non-financeability of the Final Determination.

7.5. Financial Resilience Action Plan and dividend policy

In this section, we provide a summary of our Financial Resilience Action Plan and an update on our dividend policy, which are attached to this response in the Financial Resilience Action Plan and response to the QAA respectively.

In our Financial Resilience Action Plan, we outline the steps that we shall take as a business to ensure financial resilience. The principal factors that we include are as follows:

- **Limit on financial gearing:** Our DD response assumes that the updated dividend policy, applicable for AMP8, will be formulated to only consider paying dividends where gearing is below 70% of regulatory capital value;

- **Prudent dividend policy:** Our DD response assumes that the updated dividend policy, applicable for AMP8, will be formulated, recognising the significant level of enhancement investment in our business plan, for dividends – if paid –to be lower than 2% of regulated equity over AMP8;

- **Equity support:** We confirm our intention to raise £650m of equity. The ability to successfully raise this equity assumes that the misalignment in risk and return, the shortfall in the return and totex allowances discussed in our DD response are suitably addressed by Ofwat in its Final Determination;

- **Internal and external scrutiny:** Our financial resilience is closely monitored, both internally by our management and Board, externally by stakeholders including our auditors through our Long-Term Viability Assessment and Going Concern work, credit rating agencies, debt investors and Ofwat;

- **Mitigating actions:** To the extent that financial resilience becomes constrained, there are a variety of actions that would be considered for use, including:

    - Operational levers, for example:
        - Managing working capital;

- Reducing discretionary spend;
- Reviewing the spend profile of our capital programme; and
- Operational changes.

- Financial levers, for example:
  - Considering new sources of debt funding;
  - Proactive pre-hedging of new debt issuance;
  - Closing out derivative financial instruments in asset positions to generate cash;
  - Engaging with ratings agencies and banks to discuss short-term impacts and renegotiate/obtain waivers for covenants;
  - Restriction of dividends; and
  - Seek additional equity from shareholders (if supported by the appropriate risk-adjusted return for shareholders).

7.6. WACC

In our Cost of Debt and Cost of Equity technical annexes, we provide analysis of why the cost of debt and cost of equity allowances used by Ofwat in the calculation of their WACC allowance in the DD are incorrect and in contrast why the industry WACC analysed by KPMG is correct and should be used by Ofwat in the Final Determination, subject to updated market figures.

7.6.1. Summary of KPMG's Cost of debt work and findings

Water UK commissioned KPMG to:

- Develop a report in relation to Ofwat's PR24 DD positions on the cost of embedded debt;
- Analyse the performance of water company bond issuances up to June 2024;
- Compare the findings to the DD and assess implications for the estimation of CoD allowance at PR24;
- Analyse the implications of the accelerated full transition to CPIH on the notional company's financing costs and risks;
- Engage with the leading banks to gather pricing evidence on swap charges and any incremental costs associated with CPIH issuance; and
- Consider the implications of pricing and risk evidence for the estimation of the allowance for basis risk management costs at PR24.
- Develop approaches to estimate the cost of carry that take into account the scale of pre-financing requirements expected at AMP8.

The analysis shows a number of differences to Ofwat's Draft Determination position with findings presented below.

This estimate represents a roll-forward of the estimate in the March 2024 CoD report which is based on updating the March 2024 KPMG Tool with market data until June 2024. For clarity, this update does not reflect 2024 debt data. Ofwat has indicated that at Final Determination it will set the allowance using its Draft

Determination balance sheet model updated for 2024 APR data. It should also reflect the recommendations set out in the August 2024 Cost of Embedded Debt report.

Table 1: Summary of cost of debt, comparing the DD with KPMG analysis

Cost of debt (CPIH deflated)	Ofwat DD (Mar 24)	Ofwat DD (Jun 24)	KPMG analysis (Jun 24)
Cost of embedded debt	2.46%	2.47%	2.88%
Cost of new debt	3.36%	3.63%	3.96%
Share of new debt	26.00%	26.00%	26.00%
Issuance and liquidity costs	0.08%	0.08%	0.10%
Carry costs	0.07%	0.07%	0.13%
Basis risk management costs	--	--	0.06%
Allowed return on debt	**2.84%**	**2.92%**	**3.45%**

Sources: Ofwat's DD; KPMG.

7.6.2. Summary of KPMG's Cost of equity work and findings

KPMG was engaged by a group of water companies to develop a risk-reflective estimate of the regulatory CoE for PR24.

The report derives the CoE estimate for PR24 based on following steps:

1. It develops an estimated range for each CoE parameter using methodologies that are well supported by financial literature, regulatory precedent, and current market evidence. It considers the implications of the evidence and estimates for each parameter provided in the DD. Where the Report identifies that the DD approach has been unbalanced or inconsistent with relevant and robust evidence, it includes commentary to shed light on the reasons behind these findings;

2. It considers the appropriate assumptions for notional gearing and the retail margin adjustment;

3. It considers the implications of the evidence from cross-checks that can increase the accuracy of the CoE assessment;

4. It sets out the framework for the selection of the point estimate of CoE and comments on the appropriate risk-reflective point estimate for the allowed return on equity for PR24; and

5. It analyses the technical findings and commentary from Ofwat and its advisors in relation to the muti-factor model (MFM) and inference analysis cross-check evidence submitted over the course of the PR24 price review process.

Table 2: Summary of cost of equity, comparing the DD with KPMG analysis

Parameter (CPIH)	Ofwat DD (Jun 24)	KPMG (Jun 24)
Notional gearing	55%	55%
TMR	6.58%	6.84%
RFR	1.55%	1.96%
Unlevered beta	0.27	0.3155
Debt beta	0.10	0.10
Observed gearing	52.91%	48.73%
Asset beta	0.33	0.36
Notional equity beta	0.60	0.69
CoE before aiming up, appointee	4.57%	5.31%
Aiming up	0.28%	0.45%
CoE, appointee	4.85%	5.76%
RMA	0.13%	0.00%
CoE, wholesale	**4.71%**	**5.76%**

Sources: Ofwat's DD; KPMG.

7.6.3. Weighted Average Cost of Capital adopted in our DD response

The table below shows how we have incorporated KPMG's industry calculated cost of debt and cost of equity inputs in our calculations for our WACC assumptions, at the mid-point in the range.

Table 3: KPMG's overall WACC calculation, adopted in our DD response

WACC (CPIH-deflated)	KPMG (June 2024)
CoE, wholesale	5.76%
Allowed return on debt	3.45%
Notional gearing (weighting)	55%
Wholesale WACC	4.49%

Source: KPMG.

Although the calculated output arrives at a WACC of 4.49%, the typical regulatory methodology is very technical and mechanistic which we don't think necessarily stands up to real-life scrutiny. For example, we have recently issued two public bonds in December 2023 and March 2024 with fixed rate coupons of 7.375% and 7.00% respectively. With the Bank of England's long-term inflation target of 2%, this implies a real cost of debt of approximately 5.375%-5.00%. This compares to the calculated cost of equity of 5.76%. The cross-check challenge is whether new investors would choose to take equity risk for an allowed return (5.76%) that is broadly the same as debt investors could receive, bearing in mind that debt investors also receive security and benefit from a structural buffer in the capital structure from equity providers.

As a result, we think there is an argument for further aiming up within range given relatively simple qualitative cross-checks such as review of actual market sentiment for the sector, size of risk within plans and the sheer quantum of capital needed across both our and the wider utility sector. We would welcome meaningful engagement from Ofwat with us and the investment community in general to support arriving at an investable risk adjusted return.

7.7. The revised programme and Draft Determination response is financeable

In this section, we set out the basis of the financing of the revised programme and Draft Determination response contained in this response and why we believe that this programme, and Draft Determination response, under these financing conditions is financeable. In this section, we outline:

- Basis of the revised programme and Draft Determination response;
- Financial conditions applied;
- Notional company financeability; and
- Actual company financeability.

7.7.1. Basis of financeability assessment for the programme for in our DD response

Our Draft Determination response, outlined in this document, sets out the requirements on the operation over the next 5 years, with the efficient costs needed to fund the investment and to operate the business. This response document provides evidence about the efficiency of these cost estimates, and this creates a significant contrast with the Draft Determination in the level of allowances permitted.

This means that the basis of the DD response, needs to include the following, along with the other points raised in this response:

- **Botex allowances:** We have set out a basis for botex allowances at £3,265m. This is higher than Ofwat's decision at £3,036m and removes a £536m gap in funding;

- **Enhancement allowances:** We have set out a basis for enhancement investment allowances at £5,240m. This is higher than Ofwat's decision at £3,269m and removes a £1,971m gap in funding;

- **Risk mitigation:** We have set out a series of risk mitigations which have the effect of shifting the downward skew of the price control, for the notional company;

- **Delivery and uncertainty mechanisms:** We have placed several projects into Ofwat's new delivery and uncertainty mechanisms. Importantly, we have suggested a basis of re-assessment during the AMP, of revised the scope and costing for projects in the Delivery Mechanism. Through both being realistic about deliverability and through approving up to date scope and costing, Ofwat could prevent a stealth gap in funding from emerging during the AMP. In line with Ofwat's presentation of bills under the delivery mechanism, we assume that until these schemes and their related revenue have been approved and released that we do not include their financial impact in assessing our financeability; and

- **Market-based delivery schemes:** In our Business Plan submission we proposed that a number of schemes would be well suited to an alternative, market-based form of delivery, to support overall deliverability, financeability and provide value for money for our customers. Ofwat in their DD response removed certain of these schemes from our proposal and returned them into our main plan. We are

committed to demonstrating that this route of delivery continues to be the best way of delivering these schemes and so as with the delivery mechanisms above, have based our financeability assessment on these schemes being delivered as we originally proposed and have therefore excluded from our financeability assessment, until the totex and resulting revenue allowances have been approved. However, our data tables do include these full scheme costs.

Only with each of these measures being applied is the revised plan financeable. We discuss specific financial conditions applied to our revised plan in the next section.

7.7.2. Financial conditions applied

In addition to the basis of the revised plan, financeability of this programme requires the following financial conditions:

- **WACC:** Adopting the findings from KPMG's WACC assessment at the mid-point of 4.49% or higher;
- **PAYG rates:** Adopt a natural profile, based on the underlying totex proportions; and
- **RCV run off:** We revert to the run-off rates adopted in our October Business Plan submission (5.06% - average per price control per year) but note that even at these levels we have concerns that on an inflation adjusted basis it is likely that assets will only become fully depreciated beyond their economic lives, meaning that future customers pay for their use while not benefiting from their use.

7.7.3. Notional company financeability

We assessed notional company financeability with reference to an efficient company with a notional capital structure with 55% opening gearing, as prescribed in the PR24 Ofwat Final Methodology (FM) and assuming neutral performance on totex, retail, performance commitments, and cost of debt.

For the purpose of our assessment, financeability is defined as the ability to generate sufficient cashflow in each year of AMP8 such that credit metrics meet the thresholds commensurate with a Baa1/BBB+ credit rating. This level is consistent with the guidance in the PR24 FM as it is at least two notches above the minimum investment grade rating.

We used Ofwat's financial model to undertake the financeability assessment, with a limited number of adjustments made to address technical limitations and with added functionality to run downside scenarios. We present credit metrics set out in Ofwat's financial model and include two versions of the FFO-to-debt ratio to ensure that one of them is fully consistent with the approach adopted by S&P and subtracts indexation on index-linked debt from FFO.

Under these assumptions, the business plan is financeable on a notional basis at the target level of credit rating of Baa1/BBB+. Forecast credit metrics are within the rating agencies' guidance for a water company not benefitting from structural or contractual debt enhancements. As set out in Table 1, relative to the downgrade bound of guidance, the notional company would have headroom of c.0.2x on the AICR, c. 10 percentage points on gearing and limited to no headroom on the FFO-to-debt (alternative).

Table 4: Key credit metrics for the notional company and guidance

	AICR	Gearing	FFO-to-Debt	Alternative FFO-to-Debt
Applicable rating agency	Moody's	Moody's	S&P	S&P
AMP8 forecast	1.6x (avg)	62.1% (end of period)	9.9% (avg)	9.1% (avg)
Ratios commensurate with 'BBB+/Baa1' rating	1.5 – 1.7x	65 – 72%	9-11%	9 – 11%

Sources: Southern Water calculation.

Notional company financial stress testing

It is important that the notional structure is financially resilient against severe but plausible downside shocks. To deepen the notional financeability analysis, we also assessed how an efficient company with the notional capital structure could deal with a range of downside scenarios to test our own financial resilience during 2025-30 and beyond.

The scenarios texted are shown in the table below, with the target ratings thresholds being shown in subsequent table.

Table 5: Downside scenarios modelled for the notional company

Scenario	Description
Totex	Totex underperformance (10% of totex) over 5 years
ODIs	ODI underperformance payment (3% of RORE) applied in year 2
Low inflation	Inflation 2% below the base case assumption for each year of AMP8
Deflation	Deflation of -1% for two years, followed by return to target over the remainder of AMP8
High inflation	A 10% spike in inflation with 2% increase in RPI-CPIH wedge
Bad debt	20% increase in bad debt applied in years 2 and 3
Cost of new debt	Cost of new debt 2% higher than the base case assumption throughout AMP8
Financial penalty	Penalty equivalent to 6% of appointee revenue applied in year 2
Operational failure	Large operational failure in year 2 of AMP8, requiring £100m of remediation capex costs
Combined operational failure & financial penalty	Combination of large operation failure, leading to financial penalty

Source: Southern Water.

Table 6: Summary of quantitative ratio thresholds applied by Moody's and S&P to rated entities

Rating	AICR	Gearing	FFO-to-debt
Baa1 / BBB+	1.5 – 1.7x	65 – 72%	9 – 11%
Baa2 / BBB	1.3 – 1.5x	72 – 80%	6 – 9%

Sources: Moody's and S&P.

The resulting credit metrics from the full range of downside scenario stress tests are shown in table 7.

Table 7: Forecast AMP8 credit metrics across the modelled downside scenarios and indicative rating, absent equity injections

Scenario	AICR	Implied rating	FFO-to-debt	Alternative FFO-to-debt	Implied rating	Closing gearing (FY30)
Base case	1.60x	Baa1	9.9%	9.1%	BBB+	62.1%
1 – Totex	1.47x	Baa2	8.8%	8.0%	BBB	66.2%*
2 – ODIs	1.50x	Baa1	9.3%	8.5%	BBB	62.8%
3 - Low inflation	1.56x	Baa1	9.4%	9.2%	BBB+	64.2%
4 - Deflation	1.54x	Baa1	9.3%	9.0%	BBB+	64.6%
5 - High inflation	1.73x	Baa1	10.8%	9.1%	BBB+	58.5%
6 - Bad debt	1.61x	Baa1	9.9%	9.1%	BBB+	61.9%
7 - Cost of new debt	1.44x	Baa2	9.2%	8.4%	BBB	62.8%
8 - Financial penalty	1.53x	Baa1	9.5%	8.7%	BBB	62.6%
9 - Operational failure	1.60x	Baa1	9.7%	8.9%	BBB	62.8%
10 - Combined operational failure & financial penalty	1.51x	Baa1	9.3%	8.5%	BBB	63.5%

Source: Southern Water calculation.

* Assumes the aggregate sharing mechanism applies in year of overspend

Given the size of the totex already inherent in our plan, the totex underperformance scenario provides the most severe downside scenario. Credit metrics would be significantly below guidance for Baa1/BBB+ and imply a rating of Baa2/BBB. Closing AMP8 gearing would rise to 66.9% and adjusted FFO/net debt decreases to 8.0%.

Furthermore, under the ODI, cost of new debt, financial penalty, operational failure and the combination scenarios, the average FFO-to-debt ratio falls below a level commensurate with a BBB+ rating with S&P, demonstrating the need for Ofwat to support robust cashflows in their Final Determination. Under all scenarios, even high inflation, closing AMP8 gearing is higher than the 55% notional level, absent new equity.

7.7.4. Actual company financeability

We assessed actual company financeability with reference to the actual capital structure with opening gearing of around 73.6% and assuming neutral performance on totex, retail, performance commitments, and cost of debt.

For the purpose of our assessment, financeability is defined as the ability to generate sufficient cashflow in each year of AMP8 such that credit metrics meet the thresholds commensurate with a Baa1/BBB+ credit rating. This level is consistent with the guidance in the PR24 FM as it is at least two notches above the minimum investment grade rating.

We used the company actual geared model to undertake the financeability assessment. This reflects the construction of key financial ratios applicable to Southern Water where debt covenant interest ratios are operating cash flow based rather than FFO based. No changes have been made to opening gearing, other

than the PR24 reconciliation adjustments included in PR24, and no changes have been made to the PR24 inputs.

Under these assumptions, the business plan is financeable on an actual basis at the target level of credit rating of Baa1/BBB+. Forecast credit metrics are within the rating agencies' guidance for Southern Water, a water company which benefits from structural enhancements.

Table 8: Key credit metrics for the actual company* and guidance

YE 31 March, £m	PFI	Trigger	Default	Guidance	2025	2026	2027	2028	2029	2030
RCV including midnight adjustment					7,434					
SWS metrics										
Class A Debt / RCV (FY25 includes the midnight adjustment)	75.0%	75.0%	95.0%		73.6%	74.2%	68.0%	69.7%	70.2%	69.9%
Cash Headroom to PFI (£m)						71	676	554	538	588
Cash Headroom to PFI (£m) including MA						71				
Cash Headroom to Default (£m)						1,749	2,600	2,663	2,791	2,906
Cash Headroom to Default (£m) including MA						1,749				
Class A Adjusted ICR (x)		1.30x				2.45x	2.02x	1.87x	1.68x	1.52x
Cash Headroom (£m)						197	155	143	118	78
Class A ICR (x)			1.60x			4.61	3.93x	3.73x	3.28x	2.97x
Cash Headroom (£m)						509	505	532	526	496
Class A PMICR (x)			1.00x			4.61x	3.96x	3.75x	3.30x	2.99x
Cash Headroom (£m)							639	686	718	718
Class A average adjusted ICR (x)		1.40x				2.11x	1.86x	1.69x	1.60x	1.52x
Cash Headroom (£m)						197	155	143	118	78
Moody's - Adjusted gearing				75.0%		74.7%	68.2%	69.7%	70.2%	69.9%
S&P - OpCo FFO / Debt				6.0%		10.3%	7.1%	7.1%	6.8%	6.8%
Fitch - Adjusted Gearing				77.0%		76.7%	69.9%	71.3%	71.7%	71.4%

Source: Southern Water calculation.

* Includes £650m equity injection in y/e 2027

We make the following observations:

- **The Plan is financeable:** Current credit ratings are Baa3/BBB/BBB. Forecast financial ratios for the PR24 period are supportive of a recovery in the credit ratings to target levels. We recognise that any recovery in the ratings will also need to be supported by an overall risk that is of an acceptable level, along with continued improvements in our operational performance. See note below re credit rating agency's perception of risk inherent in Ofwat's DD;

- **Covenant ratios:** All debt covenant ratios have positive financial headroom to Trigger and Default thresholds;

- **Financial ratios:** These are commensurate with an investment grade credit rating sufficient to maintain access to the capital markets to efficiently finance the business; and

- **Key credit rating ratios:** These meet targets commensurate with Baa1/BBB+ but financial headroom may be sensitive to risk.

It is important to note that while key financial ratios are the focus of the assessment, they only represent 35% to 40% of a credit rating assessment. The remainder of the assessment comprises the regulatory framework and operational risk.

For the actual geared financeability assessment we have assumed that:

- **Regulatory risk:** The regulatory framework continues to be stable, transparent, and supportive of water sector ratings. However, we note that Moody's, in a recent sector report[1], signals that it may revise its assessment of two business risk factors in the sector upwards in view of the DD, which may

result in tightening of ratio thresholds, making it more difficult to achieve our target credit ratings without Ofwat revising its approach accordingly:

> "*If the draft framework is confirmed at FD, business risk would increase for the sector and we would consider revising our score for either or both of these factors when assessing companies' credit quality. Against this background, companies would need to strengthen their credit ratios to maintain their current credit quality.*"[4]

- **Turnaround:** A recovery in current credit ratings (Baa3 / BBB / BBB+) is supported by delivery of the Southern Water turnaround plan. Southern Water received new equity of £905 million (£1.6bn into the group) during the AMP7 period which is expected to improve operational resilience; and

- **Supportive capital markets:** This will be essential in providing the approximately £4bn of debt and £650m of equity required both to finance the PR24 Plan and to refinance maturities during the period.

We agree that it is also important to recognise risk within the programme when assessing financial resilience. Credit rating agencies will also assess risk as part of the credit rating process.

Actual company financial stress testing

The results of the stress tests are summarised in the table below:

Table 9: Forecast AMP8 credit metrics across the modelled downside scenarios and indicative rating

	Amp 8 - Actual company (all average except Debt:RCV, which is end AMP)*									
	Sc. 1	Sc. 2	Sc. 3	Sc. 4	Sc. 5	Sc. 6	Sc. 7	Sc. 8	Sc. 9	Sc. 10
Class A Debt/RCV - end	77.7%	73.5%	70.2%	69.6%	69.4%	70.4%	71.7%	71.0%	71.0%	72.1%
Class A Adjusted ICR (x)	1.62	1.64	1.90	1.89	1.95	1.86	1.66	1.83	1.90	1.82
Class A ICR (x)	3.35	3.43	3.68	3.67	3.80	3.66	3.22	3.62	3.69	3.60
Class A PIMCR (x)	3.36	3.44	3.70	3.69	3.81	3.67	3.23	3.64	3.70	3.62
Class A average adjusted ICR (x)	1.48	1.40	1.75	1.74	1.80	1.72	1.46	1.65	1.74	1.64
Moody's - Adjusted Gearing	75.7%	71.9%	70.8%	70.2%	69.8%	70.9%	71.1%	71.0%	71.4%	71.8%
S&P - FFO/Debt	6.2%	6.4%	7.9%	8.9%	6.6%	7.5%	8.1%	7.3%	7.5%	7.2%
Fitch - Adjusted Gearing	76.8%	73.6%	72.5%	72.0%	71.4%	72.5%	72.9%	72.6%	73.1%	73.5%

Source: Southern Water calculation.

*All scenarios include £650m equity injection in y/e 2027

We make the following observations:

- **Scenario 1, Totex overspend of 10%, is the most severe scenario:** A 10% overspend has a disproportionate effect on the company due to the significant increase in the size of the totex in the plan. Allowed return levels generated from the existing RCV are therefore not sufficient to cover an overspend of this size, even with the assumed £650m equity raise. This would require further management action via deployment of the operational and financial levers outlined earlier in this chapter; and

[4] Moody's: Ofwat's DD increases sector risk, 14 August 2024.

- **All remaining scenarios remain financeable:** This is due to the existing assumption of £650m of equity being raised. It should be noted however that there is limited headroom across all the scenarios when assessing cashflow-related measures (interest cover and FFO/Debt). This highlights the dependency on Ofwat providing a well-balanced response on the risk, return and totex allowances as laid out in our plan.

A separate Risk Technical Annex, a separate Cost of Capital Technical Annex, and the Notional geared financeability section of this chapter, set out our arguments for why the Southern Water cost of capital should be set to 4.49% to compensate for the high level of risk within the programme, the negative skew of risk within the Plan, and how the Plan wholesale Ofwat cost of capital, of 3.77%, will not allow an efficient company to earn a reasonable rate of return.

7.8. Tariffs

In this section, we include the average household bill implied by the DD response, in the context of historical bills. We then highlight tariff measures that Ofwat could adopt to mitigate the increase in bills that might result from Ofwat's FD, particularly for the most vulnerable of our customers. In this section, we discuss:

- Average household bills;
- Our bills have been lower than other companies for decades signalling historic underinvestment;
- Social tariff for our most vulnerable customers; and
- Innovative tariff structures.

7.8.1. Average household bills

We expect bills to increase to reflect the significant uplift in investment as described in our business plan. However in this response, we have allocated a greater number of enhancement projects into new mechanisms developed in the DD, including additional projects that would be delivered through Market Based Delivery schemes. The effect of these mechanisms would be to partly mitigate the bill increase, as shown in the table below.

Table 10: Average household bills implied by the DD response

Bills (£)	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	5yr avg.
Average Bill – real Without gated mechanisms*	420	735	690	733	772	801	746
Average Bill – real With gated mechanisms*	420	728	678	689	714	734	709

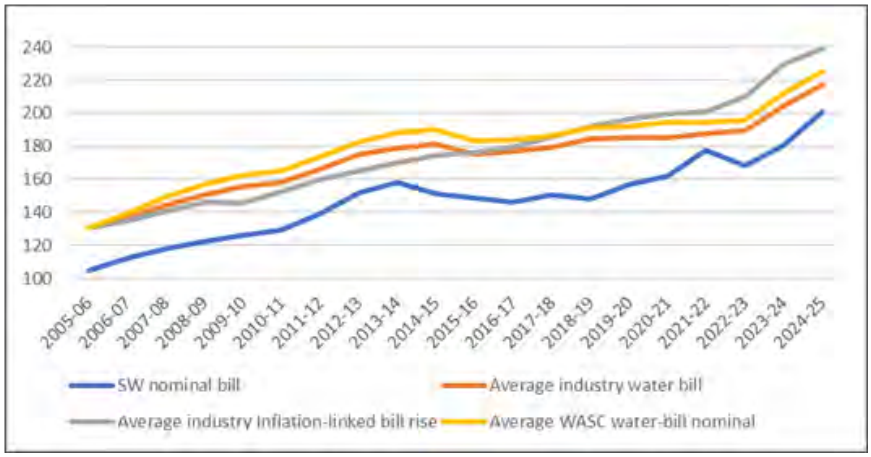
Source: Southern Water calculation.

*The indicative bills do not have profiling

7.8.2. Our bills have been lower than other companies for decades signalling historic underinvestment

Our programme for AMP8 features an increase in investment, which has a significant effect on bills. The effect of the increase in investment and bills is marked by 2 lost decades of under-investment, particularly in the water network. Ofwat's regulatory decisions have suppressed investment and bills to such an extent that water bills in the Southern region have been the lowest among water customers for at least 20 years and significantly below the average national bills, as shown in the figure below.

Figure 1: Southern's water bill compared with national bills since 2005 (nominal terms)

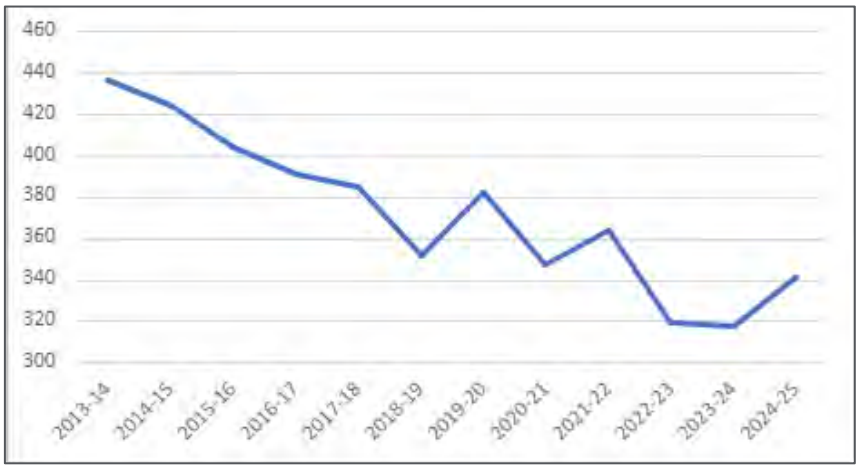


Source: Southern Water calculation.

In fact, Southern's nominal bill has remained between 10% and 60% lower for 20 years when compared to industry and water average bills. While the picture on the waste bill is less stark, Southern's combined bills have been consistently below the average industry level.

Southern's bills have also been reduced in real terms. The figure below shows how our bills have reduced by over 20% in real terms over the last decade. While we support efficient bills, we reflect that some of the bill reduction could have been used to invest in asset health over the last decade.

Figure 2: Southern's combined bill level in real terms (2013/14 prices)



Source: Southern Water calculation.

Our customers have told us that putting off investment to future generations is the wrong thing to do. What this analysis shows is that we are now the future generation that has to pay for the lost decades of investment. Had Ofwat decisions in the past allowed for greater investment, then this would have allowed for investment and bills to be spread across a longer time and the increase that we are portraying for the next 5 years may not have been required.

Clearly, Ofwat has a number of choices to make about how it will regulate Southern Water's bill. We urge Ofwat not to delay further the investment, which would merely delay the inevitable bill increase (likely to be a more significant increase) to future generations.

7.8.3. Social Tariff for our most vulnerable customers

We want to do what we can to help those of our customers least able to afford the increase. We have two proposals for the Social Tariff to increase:

- Cross-region support; and
- Focused use of penalties.

We urge Ofwat to accept these proposals and allow for the Social Tariff assistance to increase.

Cross-region support

We operate a social tariff, which offers a discount of 45% as a minimum to all eligible customers, and up to a maximum discount of 90%.

In our PR24 business plan, we explained that we have revisited the level of cross-region support for our Social Tariff and asked our customers how much they are willing to contribute to support those who are struggling to afford their bills. We believe our customers are willing to pay up to £7 more than the current level, taking the full amount up to £20 p.a. in real terms.

We followed CC Water's (CCW) guidance when conducting our research in July 2023, and we asked customers if they supported a range of increases between £3 to £7 compared to today. We met with CCW on 22 August 2024 to share our interpretation of the customer research on willingness to pay research.

At £7, we saw customer objection increase to above 50% (52%) - which matches the level of support we have agreed today, compared to the previous Social Tariff Research compiled in 2018.

We are proposing a £7 annual increase to cross-region support and would encourage Ofwat to consider this position. This £20 is needed to continue to fund customers already on Social Tariff by 2025 through all of AMP 8, along with the below focused use of ODI penalties.

We intend to continue our customer research based on our revised plan to further support the above cross-subsidy and will update Ofwat with results accordingly.

Focused use of ODI penalties

In our PR24 Business Plan, we proposed to Ofwat that it should allow us to use £15 million of the performance-related ODI financial penalties incurred for our performance between 2020 and 2025 to support an additional 24,000 customers. This meant that in total, we would have been able to continue to support 146,000 customers through our Social Tariff throughout AMP 8.

Finally, we also proposed to use £5m of AMP7 ODI penalties toward the hardship fund, on top of the £1.25m already being contributed by shareholders. This will allow us to give £1,200 to over 5,000 customers across AMP8 to pay for various household necessities, including white goods like water efficient washing machines, among other items.

We met with CCW on 22 August 2024 and it confirmed its support for innovative use of funding to support those most in need in the face of unavoidable bill increases in AMP8, as long as this represented Ofwat

policy. We have not received further engagement from Ofwat on these innovative ways of reducing the impact of bill increases on our most vulnerable customers. We urge Ofwat to consider these measures.

7.8.4. Innovative tariff structures

In 2022, we commissioned a report from NERA to explore the benefits of alternative charging structures. It recommended seasonal tariffs and rising block tariffs as the most progressive, cost-reflective and effective tariff for both affordability and water efficiency goals. We expect these to incentivise customers to become more efficient – supported by our smart metering programme and Target 100 campaign.

We plan to start trialling new tariffs in 2026–27, once we have implemented our new billing system, to understand the impact on customers' bills and water use. This will inform the detailed design of an innovative tariff to be rolled out in 2027–28 or 2028-29 to help deliver our affordability and sustainability goals. We know most customers use more water in the summer and we will ensure we do not penalise necessary additional use during summers. However, customers who use above what is deemed to be efficient during summer months, such as filling by swimming pools or watering large gardens, will be charged a premium.

The typical water bill could decrease by c.15% by 2029-30 with the roll-out of such innovative tariffs.

We want to take the measures possible to mitigate bill increases. We urge Ofwat to take note of the possible actions we include in this section. We want to engage with Ofwat ahead of the final determination to secure its support.

8. Data and Assurance

8.1 Executive Summary

This document:

- Provides an overview of our assurance processes for the PR24 Draft Determination (DD) Response, which aligns with the business as usual (BAU) approach used to produce our PR24 Business Plan in October 2023.
- Presents the Board Assurance Statements and summarises the process followed to support their creation.

Ofwat's IN2402 dated 9 May 2024 stated it was the responsibility of the Board to determine the governance and assurance approach for our DD response. Our PR24 assurance approach focused on the areas of challenge set out in Ofwat's Draft Determination (DD) and the Board's subsequent strategic decisions. To deliver the PR24 assurance programme, we continued use of our existing assurance framework to ensure outputs were subject to appropriate internal and external review.

We drew on our ongoing relationships with PwC, Jacobs and KPMG, who all provided third party assurance of the plan. The assurance programme has included an intensive programme of internal and external assurance covering the content of the DD response and data tables.

8.2 Areas of Challenge

Ofwat's Quality and Ambition Assessment (QAA) of our Business Plan was rated as "*inadequate*", incurring a financial penalty of £54million equivalent to a -30bps return on regulated equity in addition to a 60:40 cost sharing rate for base expenditure. Our response to the QAA challenge is detailed in our QAA response (ref SRN-DDR-057) appended to this chapter and is focused on our plans for deliverability and financial resilience. Both elements are reflected in our Board Assurance Statements outlined below.

8.3 Draft Determination Assurance Approach

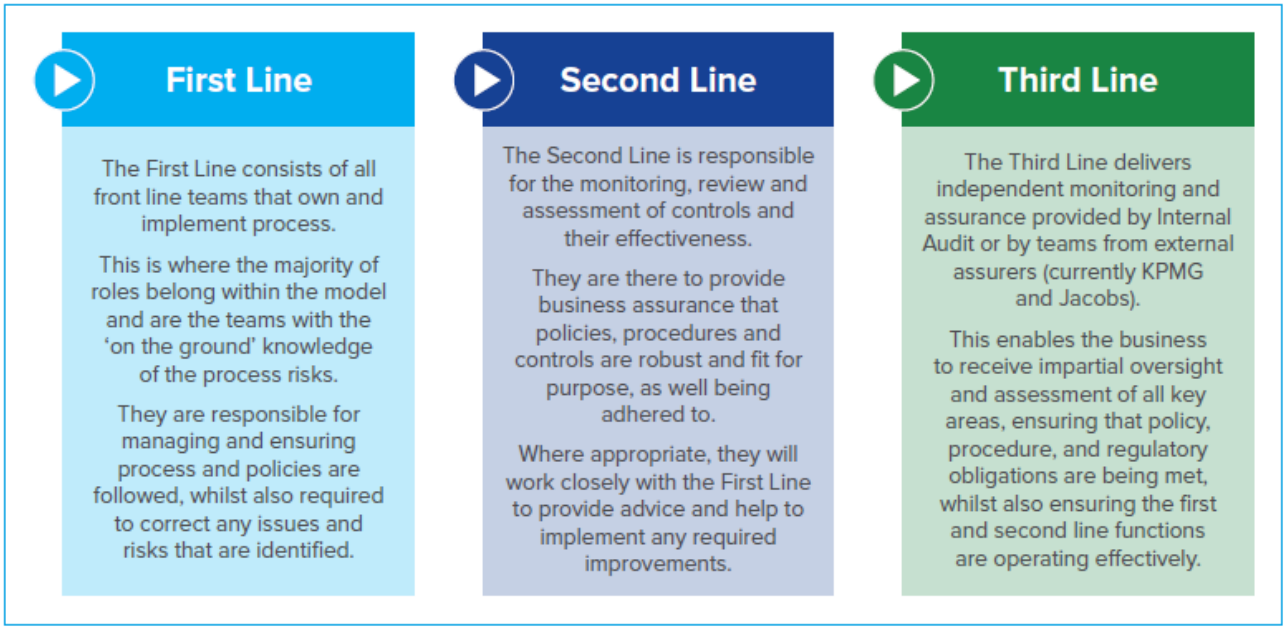
We continue to embed our programme of improvements to ensure our regulators and other stakeholders can trust and have confidence in the integrity of the information we provide as part of our DD response. These improvements have been led by our Risk Audit and Assurance team which ensures compliance reporting to our regulators is subject to sustained internal review and assurance.

In order to achieve this, our DD response has been subject to a system of checks to ensure we meet the highest quality of reported information. We take full responsibility for our performance information and seek to take a transparent approach to data assurance. This assurance provides confidence in our reported performance and the delivery of promises made in our AMP7 (2020–25) Business Plan and our 2024–25 Final Assurance Plan published in March 2024, which detailed our approach to assurance for the year.

In addition to our own internal assurance teams and processes, our highest risk performance data is assured by independent assurers. The technical assurance framework we have in place for AMP7 allows us to appoint the most suitable partners to different technical projects. KPMG and Jacobs have completed their fifth year in this role.

At Southern Water we have adopted the 'three lines of defence' framework for our reporting governance and assurance activity (Figure 1). It clearly defines each function and is underpinned by policies, procedures, and governance. This general approach is embedded in how we conduct our operations and underpins our work on PR24 and the Draft Determination response. This helps to assure performance information by applying multiple levels of control. We apply internal controls and have improved processes in place to mitigate the risk of supplying incorrect or incomplete information on all our non-financial regulatory reporting. Ultimately, all assurance activity has oversight from the Board and Audit Committee.

Figure 1 – Three Lines of Defence model



For our DD response, we defined information milestones, tracked by the PR24 Project Management Office. A risk-based approach was followed to ensure appropriate assurance was obtained over written documents and data tables, and material issues could be addressed in a focussed and efficient manner, within the challenging response timeframe.

The approach to assurance is based on the following principles:

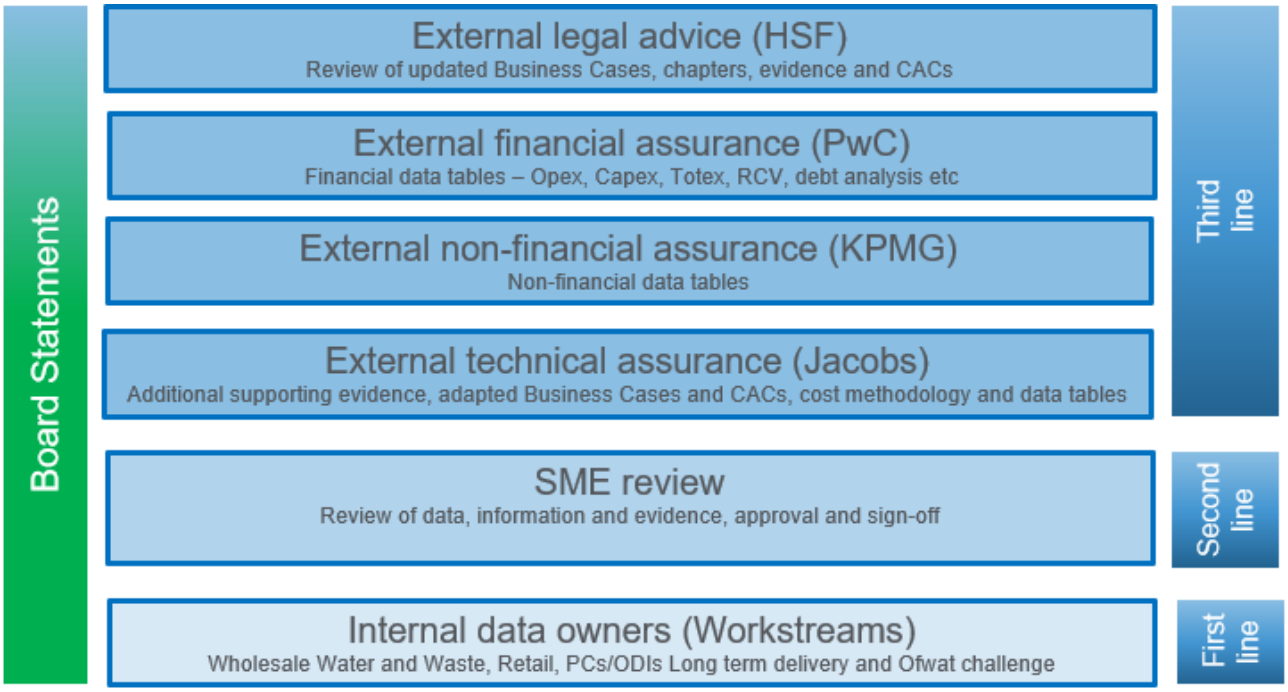
- Extensive internal and SME review
- Technical assurance by Jacobs over Business Cases and Cost Adjustment Claims, providing additional information in response to Ofwat's challenges
- Technical assurance by Jacobs over additional supporting evidence
- Assurance of updated financial and non-financial data tables by KPMG, Jacobs and PwC
- Legal review by Herbert, Smith, Freehills (HSF)

Our assurance framework defined the required outputs for the DD Response and used a risk-based approach to assess each component to ensure they were subject to appropriate review. This provided a systematic way of identifying the required coverage and depth of assurance.

Our approach provided an integrated approach to assurance with mix of internal and external assurance (see Figure 2). The balance of assurance resource in the three lines of defence, whilst supported by a wide range of external parties (as described below), was mostly focused on our first- and second-line teams. Our first line PR24 teams were heavily involved leading the content of our assurance, enabled and facilitated by our Risk Assurance and Audit team who took a key role in managing our external (third line) assurance support.

We drew on our ongoing relationships with PwC, Jacobs and KPMG, who all provided third party assurance of the plan.

Figure 2 – Assurance Framework



8.4 Board Engagement

The Board met regularly to discuss the DD response and discussed/challenged our DD response. Engagement has either been as part of the full Board, meeting as a Board Committee but with all Board members present, or with a delegated committee that allowed focus and scrutiny over specific aspects of the plan or for a specific purpose.

- Full SWS Board engagement: 17 July, 25 July, 1 August & 21 August.
- Subcommittee: 27 August

8.5 Board Assurance statements

Board Assurance Statements are a key output of the PR24 Draft Determination response assurance programme and summarise how the Board were engaged on the content of the PR24 DD response. To achieve this, we built upon our PR24 Board Assurance process and took account of feedback provided in Ofwat's Draft Determination. Although we disagree that our Business Plan was inadequate and unambitious, we welcome the opportunity to provide further board assurances, not only to reverse the effect of the QAA initial assessment, but also to more explicitly demonstrate the Board's confidence that the plan meets the demands of our customers, regulators and the environment.

In our October 2023 Business Plan our Board Statements outlined some of the key uncertainties considered when approving the plan, reflecting the challenging and dynamic environment in which the plan was produced. Since then both before and after receipt of the Draft Determination, the Board has continued to develop its approach to, inter alia, priorities and the balance of risk and reward. The Board assures that its plan is financeable, deliverable and investable, and is for the benefit of customers and the environment, whilst at the same time as meeting government and regulatory priorities.

8.5.1 Draft Determination Representation - Board Assurance Statement

We, the Board of Southern Water have carefully considered the requirements of the Draft Determination Representation process, including the additional requirements of the Quality and Ambition Assessment (QAA) review, and are pleased to provide the following Board statement:

The Board endorses the Draft Determination response – which has been prepared in a truncated timeline due to the timing of the UK general election and resultant delay to the Draft Determination - and gives its full support to the proposals set out in the response and the plan. As a Board, we have debated and considered difficult trade-offs. In formulating the Draft Determination response, we have had to decide which elements of the Draft Determination we are able to accept and which areas of Ofwat's provisional decision we feel compelled to challenge. Our response sets out a cohesive plan to meet the investment needs of the next five years.

The Board is supportive of the approach taken by the Company's management to focus our response on prioritising areas of highest importance and strongest evidence, and a utilisation of Ofwat's Delivery Mechanism to support our delivery plans. This has been a challenging process given the limited time available and considering the extent to which the price setting framework, as set out for consultation in the Draft Determination, has changed compared with Ofwat's final decisions in December 2022 on the price setting methodology[1]. Although we are supportive of the introduction of the new Delivery Mechanism, we would welcome further engagement with Ofwat on its design and calibration to ensure there are no unintended consequences and/or ambiguity on the obligations of the Company.

We have carefully considered the Draft Determination and have set out in our response, which we fully endorse, the changes we believe are necessary in the Final Determination. In this context, the Board assures that our core plan, which utilises the Delivery Mechanism, DPC and alternative market-based delivery, represents a deliverable and financeable programme. We expect to engage positively with Ofwat over the next few months to achieve a mutually acceptable improved Final Determination.

As a Board, we have invested significant time to challenge the quality of the Company's Business Plan to ensure it is deliverable, financeable and investable.

We have challenged the QAA assessment, calibration and process. We have proposed plans that mitigate deliverability and financeability challenges. As a Board, we will continue to seek to mitigate inherent uncertainties in the overall process. As a Board, we are of the view that, through the QAA process, we have been unduly penalised for being transparent about the real-world practicalities of delivering and financing a plan of this scale and ambition. We also feel that the penalties associated with the QAA process are mis-calibrated and not proportionate. The extreme nature of the penalties compounds an already excessively challenging Draft Determination (including insufficient cost allowances, inadequate returns, and risks that are skewed to the downside). This results in an overall risk and return package that falls significantly below what we could reasonably accept and which disadvantage our customers and the environment. These concerns are detailed in our QAA response and in our overall response.

Our work to support the formation of the Draft Determination response has been discharged through the Southern Water Board and specific meetings of its PR24 Board Committee, which is formed of all Board Directors. This is in addition to multiple meetings to deal with specific issues being covered in the Draft Determination response.

Investment – Botex and Enhancement

The Board supports the challenge to Ofwat's decisions to (a) reallocate investment from enhancement to base investment, (b) reject our cost adjustment claims, and (c) fail to adequately account for asset health and climate change resilience within Botex allowances. The Board is also supportive of the industry-wide

[1] Creating tomorrow, together: our final methodology for PR24, Ofwat, 13th December 2022.

work, to support the challenge to Ofwat's approach to unmodelled costs on energy indexation and business rates.

The Board also supports the challenge to Ofwat's enhancement efficiency benchmarking, where we have robust data, including third party evidence, and strong arguments in response to Ofwat assessment of investment need and solution choice. The Board supports the additional costs arising from new scope (c.£430m) plus scope and pricing maturity (c.£830m). The Board is also fully supportive of work that features market engagement evidence to support market-based delivery proposals.

The Board has had full visibility of the Company's approach to enhancement investment, reflecting the different scale of challenge across both the water and wastewater business. The Board is supportive of the use of new mechanisms to manage uncertainty and support delivery including large scheme gated processes, the new Delivery Mechanism and the Storm Overflow uncertainty mechanism.

Service

As a Board, we are concerned at the assumption in the Draft Determination that the starting point for future improvement in AMP8 performance is on an assumed AMP7 outturn set at PR19. We are aware of the current performance levels of the Company; the full AMP7 outturn will result in additional stretch to risk and performance in AMP8. As a Board, we are also aware that this is a sector-wide challenge, where the sector is spending more than the Botex allowances but failing to achieve the overly ambitious targets assumed by Ofwat at PR19. This disconnect needs to be remedied through the setting of reasonable targets. For a company in turnaround, the rate of improvement we are planning for AMP8 should, we submit, be the most important consideration, not the relative performance compared to other companies who have less progress to make.

We are supportive of the Company's proposals in its Draft Determination response around caps and collars and dead bands – with particular focus on their impact on the exposure to significantly increased ODI penalty rates and significant asymmetry to the downside. We support the Company's approach on Performance Commitments and are supportive of the challenges back to Ofwat on proposed alternatives for specific PCs across water and wastewater. We support the Company's advocacy that led to the Delivery Mechanism being introduced and support the Company's proposal to the recalibration of it at Final Determination.

Delivery

The Draft Determination response inevitably carries risk and uncertainty. It represents a near doubling of activity, which will make very substantial and new demands on our management and colleague capability, and on our supply chains. Some of our proposed solutions are novel and innovative, but we believe it is right to experiment, to learn and to adapt. We have made plans and put in place extensive arrangements to manage and de-risk as many delivery risks within our control as possible. These include a pro-active, innovative and structured approach to procurement; these also validate our cost estimates and provide value for money for customers. We recognise Ofwat's efforts to help in this area, although continuing engagement is necessary with all of our regulators as plans progress.

We support the approach to treat the Delivery Monitoring Framework (DMF), Price Control Deliverables (PCDs) and Delivery Mechanism as a package. We are supportive of the proposition that this package of initiatives and incentives provides further opportunities to engage with Ofwat around what delivery is achievable each year with a view to mitigating overall delivery risk and to only seek future funding once projects are clearly defined, costed and justified.

The Board understands the ambition and intention behind the DMF, its use of PCDs and the focus on delivery progress tracking. That said, the Board is cognisant of the additional organisational overhead this regime will inevitably result in and the additional stretch that this brings to delivery our core plan and performance improvement.

A key requirement for the QAA response to the Draft Determination relates to the Board providing assurance that the full Business Plan as set out in the Draft Determination response is deliverable. The Board endorses, has supported and challenged the content of the Delivery Action Plan that is an integral part of our approach, as reflected in our Draft Determination response. This Delivery Action Plan will ensure we have the capabilities in place to deliver our commitments, are able to meet the increase in capital delivery capacity

required for AMP8 and implement efficiency and performance plans that enable us to achieve performance targets and Botex run rates.

As with our Business Plan submission, the Board will continue to support and challenge the Company to mitigate known risks to delivery and assess the impact of external factors and uncertainties through our Enterprise Risk Management Framework.

The Board is also concerned about future changes in statutory and licence obligations, for example as a result of DEFRA and EA review of our plans or as a result of government policy changes. The EA could intervene in areas such as our WINEP delivery plans and our WRMP24 which is due to go for public consultation in September 2024. The plan recognises our responsibility to ensure that the Company can meet its statutory and licence obligations, now and in the future.

Financeability and Investability

There is an essential need for the sector to be able to attract new debt funding and equity capital, based in each case on a balanced view of reasonable risk and reasonable returns. This is especially true for AMP8 given the scale of enhancement investment, and Southern Water has the largest enhancement investment programme (relative to its current size) of any company. The financial resilience of the Company and its Turnaround Plan have been supported by equity injections into the group by funds managed by Macquarie Asset Management, amounting to over £1.6 billion over the last 3 years.

Considering the detailed assessment and review of our base and enhancement investment proposals we are satisfied that the needs for enhancement investment are not influenced by non-compliance or non-delivery of work already funded.

The Company has been subject to changes in credit ratings outlook as a result of the Draft Determination and potential downgrades in its credit ratings if the Final Determination does not differ materially from the Draft Determination. The Credit Ratings Agencies are clear that this is partly owing to the weakening strength of the regulatory contract and the negative shift in the balance of risk and return. This is a key concern of the Board and one that we are keen to mitigate through a dialogue with Ofwat as we proceed through the Price Review process.

The Board is fully supportive of the approach to risk set out in the Draft Determination response. The overall risk and return package outlined in the RoRE framework has clear negative implications for our plans for financeability and investability. The Board is focused on the realities of financing the plan and our Draft Determination response reflects this point. We strongly support the challenge on the expected levels of return as a result of the Draft Determination.

The Board is also fully engaged on the impact of our financial proposals and its impact on the affordability of bills. The bill levels outlined in the Draft Determination are significantly lower than set out in our initial Business Plan, impacting directly our required level of investment. Our Draft Determination response addresses this.

It is important that there should be a reasonable balance of risk and return in AMP8, which in turn incentivises investment and operational improvements. The Draft Determination response continues to express our concern about the risk exposure in Ofwat's methodology, as well as the proposed return. We have challenged assumptions in the Ofwat model including factors we feel make the DD non-financeable such as cost allowances and remuneration of the RCV.

The Board has also committed to updating Southern Water's Dividend Policy to reflect the points made by Ofwat in the QAA assessment, including strengthening delivery for customers, the environment, employees and other stakeholders. Our Draft Determination response assumes that the updated dividend policy, applicable for AMP8, will be formulated to only consider paying dividends where gearing is below 70% of regulatory capital value. And, given the significant level of enhancement investment in our Business Plan, dividends – if paid – are expected to be lower than 2% of regulated equity over AMP8.

This process has commenced and will continue into Autumn 2024 as we finalise the updates to the dividend policy and seek necessary shareholder resolutions. We expect to publish our updated dividend policy in advance of the start of AMP8.

On the basis set out in this Draft Determination response, our Business Plan is financeable and investable on both a notional and actual basis, with the financeability and investability assured by our Board.

This financeability assessment includes the need for further investment of equity in AMP8 of £650m. The Board has a reasonable expectation that the Company can raise this equity on the basis of our plan set out in our Draft Determination response, including, principally but without limitation, the re-calibration of risk, adjustments to a sustainable level of botex, updated allowances for enhancements and an uplift in the WACC to reflect market conditions and returns in other infrastructure sectors.

Keith Lough, Chairman

Malcom Cooper, Chair of the Audit Committee

Lawrence Gosden, Chief Executive Officer

Stuart Ledger, Chief Financial Officer