Southern Water

Response to the CMA's PR24 Provisional Determination

11th November 2025

WATER for LIFE

from Southern Water

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Table of Contents

Introduction

1. On 9 October 2025, the Competition and Markets Authority (**CMA**) published its provisional determinations (**PD**) in relation to the 2025-30 price controls for Southern Water and other Disputing Companies. This followed a reference by Ofwat of its PR24 Final Determinations in respect of the Disputing Companies for redetermination by the CMA.

2. The CMA invited responses to its PD by 11 November 2025. This document comprises Southern Water's response to the PD (**Response**).

3. We recognise the importance of completing the CMA's process in order for AMP8 year 2 bills to be updated to reflect the CMA's conclusions. But more importantly, given the impact on our customers, we would ask the CMA to complete its analysis with sufficient diligence to ensure the correct result.

4. In this Response, we have limited our comments to the most material areas, and detailed our concerns in the most succinct manner possible. We want to help the CMA in the time remaining to address any areas of uncertainty and would welcome the opportunity to engage further with the CMA on any issue.

5. In the following chapters, we address:

    - Financeability and investability;
    - Base costs;
    - Enhancements;
    - Price control deliverables;
    - Performance commitments and outcome delivery incentives;
    - Weighted average cost of capital; and
    - Final calculations.

6. See supporting document PDR-0-001 for the list of supporting document references and the sensitivity of these documents attached to this response.

1. Executive summary

Introduction

1.1. We welcome the focus the CMA has placed on its redetermination of the Ofwat FD. We make a number of points in this Response – reflecting the number of issues considered in the process and the importance of the issue to our customers, our employees, our environment and our shareholders.

1.2. There are three themes to our points:

- Ensuring financeability;
- Supporting continuing Turnaround; and
- Correcting for errors.

Ensuring financeability

1.3. The CMA is bound by Ofwat's financeability duty. We ask the CMA to appropriately test the financeability of its FD for PR24, using externally recognised testing and analysis. We discuss this further in *Chapter 2: Financeability*.

Supporting continuing Turnaround

1.4. Southern Water has been in Turnaround since its refinancing in 2021 and its change of management and culture. This Turnaround is working. We have an improving trajectory in 9 of our 13 performance commitments in results up to and including the first half of this year; and we are expecting further improvements going forward.

1.5. Turnaround is succeeding because of investor support, which will include £655m of new equity coming into the company from shareholders and up to a further £545m expected on the immediate horizon. This support will continue to inject equity into the business and to retain that cash in the business to maintain the pace of investment in our capabilities. Completing our Turnaround is essential - it is in our customers' interests to ensure that they are serviced by the best provider that we can be.

1.6. For example, we have invested £150 million to upgrade our four largest water supply works and enhanced our leak detection and repair processes. Our control room is now more responsive, enabling us to identify and prevent failures before they occur, while over £40 million has been spent on upgrading pumping stations to reduce pollution risks. We have cleaned more than 700km of sewers, digitised our network and employ AI to prevent pollutions and flooding. On the customer-facing side of our operation, we launched a new website to improve online experiences, introduced tools such as video assistants to simplify processes, and strengthened support for vulnerable customers.

1.7. The CMA has a role in supporting this continuing Turnaround in our customers' interests. Ensuring PR24 is financeable and investable will ensure that investor

support can continue to allow us to invest in our capabilities into the future. Moreover, we ask the CMA to re-consider the severity of some of the potential risks, penalties and clawbacks in the regulatory model, which add little to the incentive power of the different mechanisms, but could strip the business of cash for investing in continuing Turnaround. Such changes would be costless for our customers, ensure investment went into areas of customer priority – and would still hold the company to account for its commitments. We detail these points in relation to PCs/ODIs, risk items and PCDs in Chapters 2, 5 and 6.

Correcting for errors

1.8. We recognise that in a large body of work, errors in calculation, interpretation or in setting unintended consequences will arise at the provisional stage. We want to be helpful to the CMA and point out these areas, which the CMA may wish to act upon. These points are present across the chapters of this document.

1.9. Chief among these areas is the error in the LASSO modelling for botex, found by experts working for disputing companies. We have specific requests of the CMA to reconsider its assessment, as detailed in *Chapter 3, Base Costs.*

1.10. In this executive summary, we address the following areas of concern:

- Financeability;
- Base costs;
- Enhancements;
- Price control deliverables;
- PCs and ODIs;
- WACC; and
- Final calculations.

Financeability

1.11. In chapter 2, we address:

- **Overarching investability and financeability issues**
- **Issue 1:** The PD is evidently not financeable based on a robust assessment with correct rating agency thresholds
- **Issue 2a:** Stress testing of the PD was inadequate – robust analysis reveals a lack of financial resilience;
- **Issue 2b:** Plausible downsides are more severe than the CMA assumes;
- **Issue 3:** The CMA has misunderstood our position on RCV run-off rates. The PD has not taken into account the financeability implications of contingent allowances;
- **Issue 4:** The PD is not a 'fair bet';

- **Issue 5:** The cost of debt assumption for the financeability assessment is miscalibrated;
- **Issue 6:** The notional gearing assumption is not justified and weakens the financeability assessment; and
- **Issue 7:** The financeability model contains several errors.

Overarching investability and financeability issues

1.12. Market evidence from investors demonstrates that the sector is not currently investable on a forward-looking, sustainable basis.

1.13. Under the PD, risk exposure remains too severe and returns insufficient to remediate the investability position of the sector.

1.14. If the risk and return calibration for the sector is not addressed, there are potentially wide ranging financial consequences, which could impact delivery for customers.

Issue 1: The PD is evidently not financeable based on a robust assessment with correct rating agency thresholds

1.15. The financeability assessment undertaken in the PD has critical shortcomings, including reliance on incorrect thresholds. Once the assessment is corrected, analysis demonstrates that the PD is not financeable. The notional company cannot achieve a BBB+ rating from S&P.

1.16. The CMA should acknowledge the financeability constraint and seek to address it by increasing cashflow for the notional company.

Issue 2a: Stress testing of the PD was inadequate – robust analysis reveals a lack of financial resilience

1.17. In plausible downside scenarios, the notional company would achieve only metrics consistent with the lowest investment grade rating from Moody's and S&P and a sub-investment grade Issuer Default Rating (IDR) from Fitch.

1.18. The CMA should conduct robust stress testing of its FD, using appropriately calibrated downside scenarios informed by risk analysis.

Issue 2b: Plausible downsides are more severe than the CMA assumes

1.19. The PD includes downside testing for a notional company with scenarios that are too weak to enable the CMA to properly conclude that the PD is financeable or investable.

1.20. We have tested plausible downsides that exceed the PD's 1.4% RoRE average:

- We calculate a conservative plausible downside of -3.73% using a revised analytical approach, which adopts Ofwat's methodology and AMP6 data in most cases;

- Ofwat's FD analysis has a downside of -3.08% RoRE when risk categories were tested together using Monte Carlo simulations;
- Totex exposure for a notional firm with our capital intensity is -2.82% assuming AMP7 average overspend of 17%[1]; and
- Outcomes exposure for a median notional firm is potentially as significant as -4.19% RoRE should the collars be met across all ODIs.

1.21. The notional company could not maintain two investment grade ratings should these plausible downsides crystallise. The CMA should mitigate this either through the framework mechanisms with a revised Aggregate Sharing Mechanism (**ASM**) to better align plausible downsides with other comparable sectors, or with a WACC uplift reflective of the additional risk.

Issue 3: The CMA has misunderstood our position on RCV run-off rates. The PD has not taken account of the financeability implications of contingent allowances

1.22. The PD made no adjustment to the run-off rates in Ofwat's FD, exacerbating the financeability challenge. Those rates were mischaracterised by Ofwat as being in line with our representations, when in fact they were below the levels we proposed. The rates we proposed were themselves below the 'natural' rates.

1.23. The PD did not consider the impact of the Delivery Mechanism or other contingent allowances, understating the funding requirement of the notional company.

1.24. The CMA should revert to the run-off rates proposed in our SoC and response to Ofwat's PR24 draft determination. It should assess financeability and equity issuance cost allowances on the basis of all totex, including all contingent allowances.

Issue 4: The PD is not a 'fair bet'

1.25. The CMA concludes the PD is a balanced package on the basis that the negative expected position on outcomes is offset by a small positive skew on financing risk.

1.26. The CMA's view that there is positive skew on financing is undermined by four errors in its analysis, namely: (1) it is appropriate to consider calibration risk on financing but not on outcomes or totex; (2) the long-term CPIH assumption of 2.4% used in the PD results in financing upside consistent with Ofwat's FD analysis which uses 2.0%[2]; (3) the use by the CMA of the statistically unsupported midpoint of Ofwat's FD inflation analysis with no consideration for the median measure of central tendency, being the most robust measure for the skewed inflation risk dataset; and (4) its conclusion that new debt risk is broadly balanced, which results from a misinterpretation of KPMG's analysis submitted with our SoC.[3]

[1] AMP7 average overspend of 17% represents a conservative view of the downside. AMP7 downside P10 performance was 33% overspend. Source: Ofwat, October 2025, Water Company Performance Report 24-25.
[2] CMA PD, Vol 4, para 8.121.
[3] PDR-2-003 - KPMG, November 2025, Analysis of and commentary on risk and financeability in PR24 PDs, section 2.2.

1.27. Once these errors are corrected, financing risk in the PD exhibits downside skew. As such, it does not offset outcomes downside skew and consequently the PD is not a 'fair bet'.

Issue 5: The cost of debt assumption for the financeability assessment is miscalibrated

1.28. The CMA's assumption on index-linked debt (assumed to be linked to CPIH rather than CPI) is inconsistent with financing options available to companies and has the effect of moderately understating the notional company's interest costs. The CMA should use an assumption for the cash cost of index-linked debt that is consistent with market evidence.

Issue 6: The notional gearing assumption is not justified and weakens the financeability assessment

1.29. The CMA's notional gearing assumption is inconsistent with market evidence and regulatory precedent, including its own. It has the effect of weakening the financeability assessment.

1.30. The CMA should undertake its financeability assessment on the basis of 60% notional gearing (as well as on the basis of 55%), even if it retains the 55% notional gearing assumption elsewhere.

Issue 7: The financeability model contains several errors

1.31. The PR24 model used in the PD financeability assessment contained several miscalculations and formula errors. In some cases the effect is to moderately understate credit metrics, and in other cases to moderately overstate them. The CMA should correct those errors in its FD modelling.

Base costs

1.32. In chapter 3, we address:

- **Issue 1:** The base cost modelling at PD using LASSO is flawed;
- **Issue 2:** Amending the application of LASSO is also flawed, which undermines confidence in its results;
- **Issue 3:** Addressing the lack of confidence provided by the corrected LASSO modelling result and the CMA's efficiency assumption;
- **Issue 4:** Allowances derived from LASSO should be cross checked against models which pass statistical tests, such as the models underpinning our SoC; and
- **Issue 5:** After finalising the base cost models, there are other considerations that the CMA needs to consider.

Issue 1: The base cost modelling at PD using LASSO is flawed

1.33. There is a major issue in how the CMA applied the LASSO technique at PD, which leads to a large reduction in base allowances for the disputing companies. This issue must be corrected.

1.34. All disputing companies and Ofwat advised the CMA to be cautious if it applied the LASSO technique. Some of the risks we highlighted have manifested within the CMA's draft proposals.

1.35. The data-driven LASSO approach goes against recommendations from the Cunliffe Review to balance econometric outputs with expert judgement. We urge the CMA to adopt the appropriate regulatory judgement when considering the LASSO results. In the Base Costs hearings, we and all disputing companies, advised the CMA to be cautious if it applied the LASSO technique. Some of the risks we highlighted have become manifest.

Issue 2: Amending the application of LASSO is also flawed, which undermines confidence in its results

1.36. Even once the LASSO is applied correctly, there are significant concerns in the chosen model and resulting allowances.

1.37. The LASSO makes selections that do not have economic meaning such as a regional wage variable with the incorrect sign, water economies of scale variable with fluctuating signs, and a variable based on unreliable data (APH). Its focus on statistical fit risks overfitting the data and inhibiting the models' ability to predict future costs. As a result, the models mechanistically impose a more stringent catch-up challenge.

1.38. LASSO is a tool for identifying relevant cost drivers, but it cannot be the only tool used. Should the CMA decide to retain LASSO in any form, it is important that the CMA recognises its flaws and provides targeted mitigations to ensure that the results are robust.

Issue 3: Addressing the lack of confidence provided by the corrected LASSO modelling result and the CMA's efficiency assumption

1.39. There are specific necessary regulatory judgements that the CMA needs to adopt prior to finalising base cost allowances. These are necessary to mitigate concerns raised by all parties with this approach.

1.40. Firstly, the CMA needs to separately consider data quality issues concerning the APH variable, as LASSO is not designed to consider this.

1.41. After applying LASSO, the CMA needs to assess whether the data-driven model arising is intuitive with economic principles and addresses the issues Ofwat identified. For energy and economies of scale at WTWs, the CMA should instead look to adopt Ofwat's original out-of-model solutions rather than using LASSO as a catch-all solution.

1.42. Crucially the CMA needs to review if the stretching catch-up challenge arising from its model is appropriate or not. The CMA has not merely upheld Ofwat's UQ approach as it has neglected the necessary checks Ofwat require of companies selected for the UQ. Moreover, given the substantial changes adopted by the CMA in using LASSO, it needs to be more cautious in setting any resulting efficiency challenge.

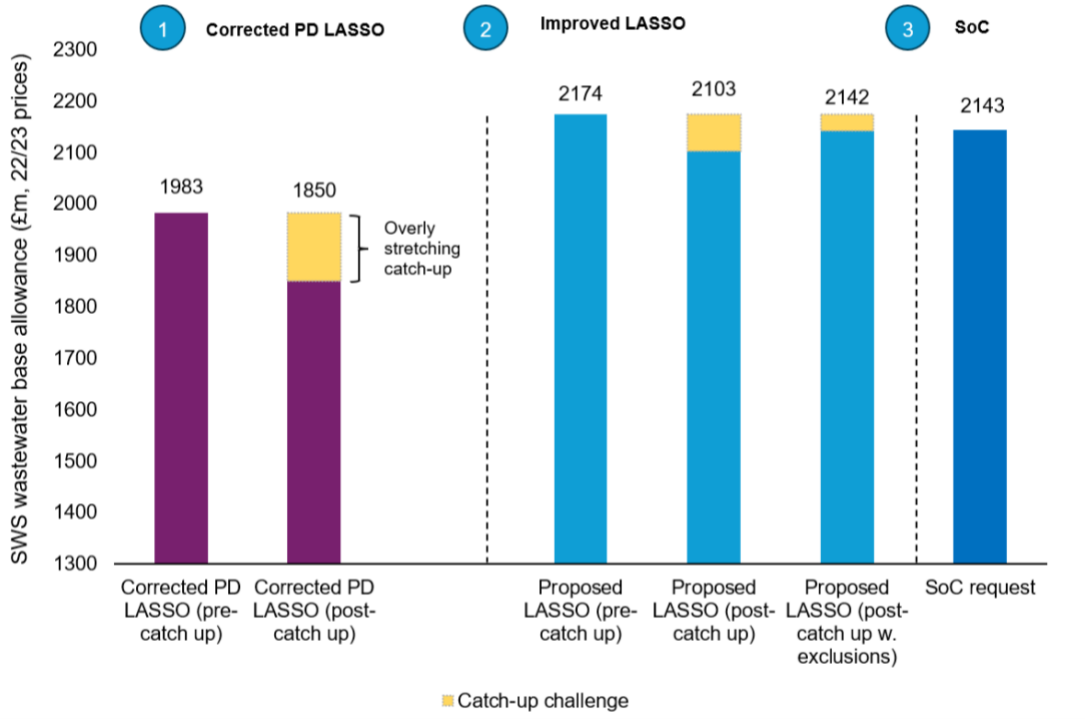
Issue 4: Allowances derived from LASSO should be cross checked against models which pass statistical tests, such as the models underpinning our SoC

1.43. We stand by our SoC remedies and the resulting base cost allowances that are required to deliver our AMP8 programme. These allowances are derived from robust econometric models that have been subject to regulatory scrutiny.

1.44. The CMA has applied LASSO to develop base allowances. While this is useful, it cannot be used in isolation. We have proposed several targeted changes to the LASSO specification which mitigate identified issues and ensure the results are not contrary to Ofwat principles or lead to unintended consequences.

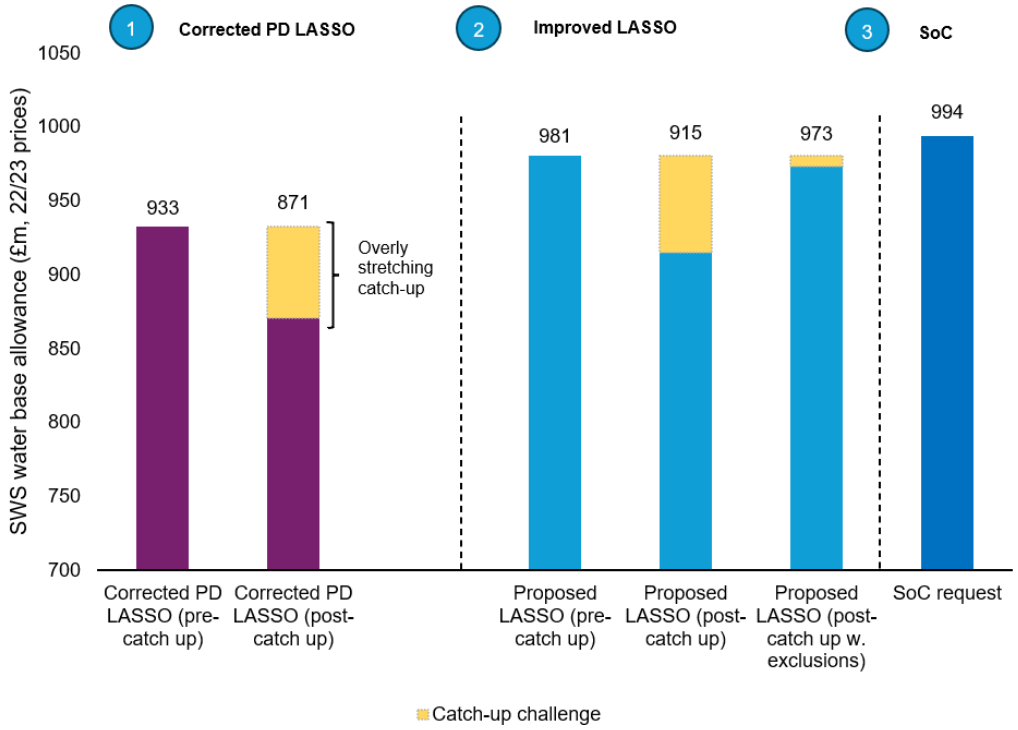
1.45. The cross-checks we have undertaken demonstrate that the improvements made to the LASSO framework enhance robustness and result in similar allowances to those produced by the more conservative PR24-style approach used in our SoC. Whether or not the CMA proceeds with LASSO, these checks provide confidence that the allowances requested in our SoC reflect our efficient expenditure requirements when accounting for cost drivers previously omitted in the FD base models.

Figure 1: Wastewater allowance – Cross-check of improved LASSO framework and SoC



Source: Southern Water calculations.

Figure 2: Water allowance – Cross-check of improved LASSO framework and SoC[4]



Source: Southern Water calculations.

1.46. We urge the CMA validate any LASSO-derived allowances through cross-checks against models proven fit-for-purpose through rigorous statistical testing.

Issue 5: After finalising the base cost models, there are other considerations that the CMA needs to consider

1.47. There are several base cost issues that the CMA has not sought to address through the LASSO model. These still need to be considered fully as part of this redetermination.

1.48. The CMA's use of LASSO means that it cannot assess our coastal population CAC through this framework, as it only is impactful at the SWT level of aggregation. The evidence provided by the CMA does not negate the need for an adjustment. The CMA needs to consider how to assess this CAC outside the model framework.

1.49. The CMA has decided that our AAD claim does not fit within the CAC framework. However, it has not addressed the inconsistent treatment between our AAD claim and Thames' accepted claim for Beckton.

1.50. If the CMA persists with an in-model solution to energy (which we disagree with), it is not clear that it considers an ex-post true-up necessary. This mechanism would still be required in case prices diverge from forecast.

[4] In addition to the correction made in Economic Insight's report, the corrected PD water allowance includes a correction for errors about the 'Economies of scale at WTW' driver and 'Weighted Average Complexity' (WAC) driver following correspondence with CMA.

1.51. Finally, the CMA has reduced the frontier shift target from 1% to 0.7%. While we strongly agree with the CMA's rationale for setting a new frontier shift target, recent data implies that this should be further reduced

Enhancements

1.52. In chapter 4, we discuss:

- **Issue 1:** Phosphorus removal;
- **Issue 2:** Leakage reduction through mains renewal;
- **Issue 3:** Water treatment works resilience; and
- **Issue 4:** Water supply Interconnectors.

Issue 1: Phosphorus removal

1.53. From its models for phosphorus removal (**P-removal**), the CMA has used a specification with counter-intuitive results, pursuant to which cost allowances for companies with higher regional wages reduce once the regional wage variable is included in the model. The effect on our cost allowance is pronounced, reducing it by 18% purely by switching from a model without a regional wage variable to one with a regional wage variable. This is despite the Southern Water region having relatively high regional wages.

1.54. To avoid such counter-intuitive results, we recommend the CMA uses its "Model A" which has stronger engineering rationale and provides more intuitive outcomes.

1.55. We have explored the CMA's approach to: i) identifying outliers; ii) removing them from the model's data prior to estimating model coefficients; and iii) making cost allowances for the outlier schemes.

1.56. When identifying outliers, the CMA has incorrectly assumed, without testing, that schemes Ofwat identified as outliers using statistical tests of its model would remain as outliers in its own altered modelling approach. We recommend the CMA uses a statistical test, such as negative log-likelihood to identify outliers in the CMA's model.

1.57. When removing outliers, the CMA has used a mixed approach, sometimes retaining schemes identified as outliers within its model estimation sample and at other times removing them. We recommend the CMA uses a consistent approach and removes all outliers prior to estimating its model coefficients.

1.58. The CMA has also used a mixed approach to set cost allowances for outlier schemes. We recommend the CMA uses a consistent approach by applying the model efficiency challenge to outlier scheme requested costs, capping them at the requested cost for companies found to be more efficient than the model benchmark.

Issue 2: Leakage reduction through mains renewal

1.59. In its PD, the CMA has not addressed our leakage enhancement case. Our SoC explained that we plan to improve long-term leakage performance through mains and associated communication pipe replacement through enhancement investment. Leakage reduction is one pillar of the preferred option within our Water Resources Management Plan (**WRMP**) to meet a long-term balance between water supply and demand.

1.60. The PD instead focused on: i) what level of mains renewal base buys; ii) making adjustments to the unit cost to accommodate the difference in regional construction wages between company areas; and iii) making base uplifts for additional asset health activity above what base buys. It did not redetermine the enhancement allowance for leakage reduction, retaining Ofwat's FD position which is based on a unit rate of £300/m. This is inconsistent with its adjusted unit rate for base mains renewal in Southern Water's region.

1.61. We provide with this Response evidence to challenge the CMA's assessment of the level of mains renewal activity that base buys. This evidence shows that what base buys is the historical average activity level of the efficiency benchmark over 2019–24.

1.62. We outline the implications on costs of the additional scope of activities to deliver sustainable leakage reduction while renewing water mains. We provide new evidence of the range of unit costs of leakage enhancement mains renewal from supply chain tenders we have received - supporting our higher unit cost. We are concerned because under-provision for true mains renewal costs (required under the PCD) would crowd-out essential botex investment in capital maintenance needed elsewhere in our operation.

1.63. We ask the CMA to apply an uplift to both its base adjustment and the leakage enhancement cost allowance for Southern Water to ensure we can meet our WRMP commitments and deliver long-term leakage reduction in line with government targets.

Issue 3: Water treatment works resilience

1.64. We welcome the decision to move three water treatment works resilience schemes to the large scheme gated process. However, we request that the CMA allows 12% development enhancement funding to progress the scheme design for these schemes through the gated process, in line with Ofwat's standard approach in the FD.

Issue 4: Water supply Interconnectors

1.65. We welcome the CMA's conclusion that Ofwat's modelling of water supply interconnector costs lacked robustness. However, the PD retained Ofwat's post-modelling adjustment for atypical crossing length.

1.66. We have explained why Ofwat's post-modelling adjustment was insufficient for our Hampshire Grid Andover Link Main (ALM) scheme which has complex and costly

crossings, including tunnelling under protected chalk streams. Neither Ofwat's FD nor the PD allowances take proper account of the complexity of these crossings.

1.67. We ask the CMA to recalculate the crossing length uplift based on the marginal cost that can be derived from its own model. In addition, we ask the CMA to make an additional allowance for the complexity of the crossings in our ALM scheme.

Price Control Deliverables (PCDs)

1.68. In chapter 5, we discuss:

- **Issue 1:** Within-AMP PCD adjustments - misalignment between Ofwat and regulators of quality;
- **Issue 2:** Within-AMP PCD adjustments - storm overflows PCD;
- **Issue 3:** Non-delivery PCDs - efficiently incurred costs; and
- **Issue 4:** Time incentive PCDs.

Issue 1: Within-AMP PCD adjustments - misalignment between Ofwat and regulators of quality

1.69. The CMA has provisionally supported Ofwat's narrowly defined change control process (as set out in its recent PCD consultation). While we welcome Ofwat's proposal to introduce a change control process, it does not address the need for automatic adjustments to reflect changes to outputs and delivery dates agreed with regulators of quality (e.g. EA and DWI).

1.70. The CMA should ensure that Ofwat implements a change control process which includes a full and automatic adjustment mechanism to align PCD outputs and delivery dates with changes agreed with regulators of quality.

Issue 2: Within-AMP PCD adjustments - storm overflows PCD

1.71. The CMA's provisional support of Ofwat's narrowly defined change control process also overlooks Ofwat's exclusion of our storm overflows PCD from that change control process.

1.72. The CMA should ensure that Ofwat implements a change control process which includes our storm overflows PCD.

Issue 3: Non-delivery PCDs - efficiently incurred costs

1.73. The CMA has not amended the non-delivery PCD mechanism in the FD and instead has deferred to Ofwat on its proposed guidance on the mechanism in the recent PCD Consultation.

1.74. The CMA should ensure that Ofwat implements our proposal to allow recovery of all efficiently incurred costs in respect of cancelled PCD outputs.

Issue 4: Time Incentive PCDs

1.75. The CMA has misunderstood our proposal for Time Incentive PCDs (TI PCD), suggesting that we supported within-AMP TI PCDs when regulators of quality set delivery dates.

1.76. The CMA should correct for this misunderstanding and take full account of our position that within-AMP TI PCDs should be removed.

Performance Commitments (PCs) and Outcome Delivery Incentives (ODIs)

1.77. In chapter 6, we discuss:

- **Issue 1:** Downside skew still remains;
- **Issue 2:** Updating the 2024/25 data;
- **Issue 3:** Assessment of CMA's pollution incidents ODI rate;
- **Issue 4:** Storm Overflows PCL calibration error;
- **Issue 5:** MeXes – Effect of latest information; and
- **Issue 6:** Lack of collar, miscalibrated deadband and ODI rate on redefined Discharge Permit Compliance (DPC).

Issue 1: Downside skew still remains

1.78. The CMA concludes that the PD is broadly balanced through alignment with Ofwat's view that the upside skew in financing is offset by the downward skew in outcomes.

1.79. We address the purported upside skew in financing in *Chapter 2 Financeability*. However, the PD has not substantively addressed the issue of downside skew within the PR24 outcomes package. On a median expected basis, a notional company operating in our area would achieve -0.4% RoRE across the outcomes package.

1.80. To mitigate this downside skew in respect of expected downside outcomes, we request that the CMA should first address risk at source by adopting the solutions presented in this chapter. It should then address and quantify the residual expected skew once these changes are reflected. We suggest that any residual skew should be addressed through either: 1) Tightening of Outcome ASM thresholds 2) removal of the OAM deadband; or 3) an equity risk premium.

Issue 2: Updating the for 2024/25 data

1.81. The PD did not include 2024/25 data when setting PCLs and ODIs. It is important that the CMA incorporates the most up-to-date and accurate information to ensure that the PR24 outcomes framework is grounded in current operational realities and performance levels.

1.82. Specifically, the CMA should use 2024/25 data in the performance range calculations when setting ODI rates that have been carried over from PR19. The CMA should

recalibrate PCLs that are set deriving the 2024/25 baseline from recent sector performance with the latest available data.

Issue 3: Assessment of CMA's pollution incidents ODI rate

1.83. We support the CMA's use of a proxy PCL based on the midpoint of the P10/P90 range from PR14 targets. This approach addresses key limitations of the current methodology by more accurately reflecting the true performance range. It also corrects for the significant underestimation observed under the existing approach, which relies on bespoke targets that artificially narrow the range and do not align with the new common PCL for pollution incidents.

Issue 4: Storm Overflows PCL calibration error

1.84. The CMA should align the approach used for WSI to set a common PCL by re-baselining using the most recent data. It is not reasonable to expect the notional company to deliver a 42% improvement and achieve the median target of 20 in year one. The current PCL is unduly stretching and introduces a negative RoRE skew for the industry. Given the CMA's justification for revising the WSI PCL at PD, the evident disconnect between actual performance and proposed targets for Storm Overflows warrants a similar adjustment.

1.85. If the CMA does not engage with this, then we ask for them to amend the calibration error we outlined in the Storm Overflow PCL model in our SoC.[5] Due to a spreadsheet error, we have been assigned a target which is more stretching than the rest of the sector at the frontier position. This is not a reflection of relative performance or ambition but rather is a modelling error that must be corrected.

Issue 5: MeXes – Effect of latest information

1.86. The CMA has accepted Ofwat's position in relation to the Y adjustment factor in the C-Mex PCL calculation and the justification behind the strength of the MeXes (C-Mex and D-Mex) ODI rates.

1.87. However, the CMA has not considered the latest information for C-Mex. This includes the latest UKCSI data and the Y adjustment factor using the wedge between the latest UKCSI utilities average and UKCSI all-sector average. The CMA has not taken into account the impact of media coverage on its C-MeX performance, which means that in its current form, C-MeX offers Southern Water limited opportunity to improve its standing (avoiding a penalty for the current year is technically impossible, even with half a year to go).

1.88. To support the principle of a "fair bet" the current Y adjustment should be recalibrated to reflect the latest variance between the UKCSI water sector average (Q1 2025/26) and the most recent UKCSI all-sector average which is 7.8.

[5] Southern Water Statement of Case, page 397, para 149.

Issue 6: Lack of collar, miscalibrated deadband and ODI rate on redefined Discharge Permit Compliance (DPC)

1.89. Given new information from Ofwat's consultation on PR24 environmental PCs[6], the CMA should reconsider our argument to introduce a collar for discharge permit compliance (**DPC**). The CMA's rationale for rejecting our initial proposal to apply a collar to the DPC PC was in part justified by the opportunity that "*Ofwat's change control process provides a mechanism through which future relevant changes by the EA could be taken into account in the performance commitment's calibration*". However, despite material changes to the PC definition, Ofwat has not amended the calibration in its consultation position.

1.90. We ask the CMA to reconsider our argument on introducing a 0.5% RoRE collar on the DPC metric given the new information. This will help provide risk protection given the uncertainty around the new definition and the fact there is no quantifiable track record for its performance. The CMA should amend the deadband so that the starting level of risk is consistent with the old definition and adjust the ODI to reflect this new information.

Weighted Average Cost of Capital (WACC)

1.91. In chapter 7, we discuss:

- **Issue 1:** Inflation;
- **Issue 2:** SRN-specific cost of debt parameters;
- **Issue 3:** Other cost of debt parameters;
- **Issue 4:** Beta;
- **Issue 5:** Other cost of equity parameters; and
- **Issue 6:** Aiming up and cross-checks.

1.92. On a like-for-like basis with the PD (i.e. with a June 2025 cut-off), our point estimate of the WACC is 4.96%, 67bps higher than the PD of 4.29%. Per the CMA guidance[7], updating for a September 2025 cut-off results in a WACC of 5.10%.

1.93. We would also note that a higher WACC could be justifiable. On the cost of equity, we have adopted the low-end of our cross-check range even though some of our cross-check suggest aiming-up to the top-end of the CAPM range is warranted. Indeed, the rationale to aim up to the top-end of the CAPM range has never been stronger given the fundamental investability challenge that the sector faces at PR24**.** On the cost of debt, our point estimate still leaves us exposed to number of risks such as CPI-CPIH basis risk.

[6] Ofwat, October 2025, Consultation on changes to three PR24 environmental performance commitments.
[7] CMA, May 2025, Water PR24 Redetermination References – Approach and prioritisation, para 83.

Issue 1: Inflation

1.94. The PD uses a CPI-CPIH wedge of 0.4% based on the OBR's long-run "illustrative" projections. We note that this may be revised downwards in the November 2025 OBR report given the widely expected downward revision to its productivity assumptions, which is materially higher than other forecasters. Further, the OBR, by its own admission, has an observed track record of over-estimating productivity.

1.95. In any event, we consider that the most robust basis for estimating the wedge is the OBR's Year 5 "forecast", which is prepared to higher evidential standards and is therefore superior to the "illustrative" long-run projections which the PD relies on. The Year 5 forecast indicates a wedge of no higher than 0.1%, above the historical outturn wedge.

Issue 2: Southern Water-specific cost of debt parameters

1.96. **Sector average share of new debt:** The PD's estimate uses inconsistent notional gearing assumptions; consistent assumptions result in a higher share of new debt. Further, the CMA's analysis on share of new debt should use RCV growth including all delivery and gated mechanisms (companies are required by legislation / regulation to deliver these outputs) as well as the CMA outcome on RCV growth for the disputing companies.

1.97. **Southern Water-specific share of new debt:** The PD's estimate does not reflect our company-specific RCV growth rate, which is higher than for any other company and is mandatory. This materially increases our weighted-average cost of debt. It has also been re-emphasised in recent rating agencies reports. There is strong regulatory precedent for providing a company-specific adjustment in such cases, for example, Ofgem's RIIO-1 FD and RIIO-2 FD for SHET.

1.98. **Cost of holding cash:** The PD's estimate of the cost of holding cash reflects an averaging period in which spreads were abnormally low. A 1m average is the best estimator of the future and is consistent with the PD's approach to other parameters.

1.99. **Southern Water-specific cash requirement:** The PD's estimate of the cash assumption is based on historical cash balances. This understates the forward-looking cash requirement for the sector average company due to the step-change in the capital programme. In our case, it is heavily understated as our mandated capital programme is proportionally larger than for others. We require a company-specific forward-looking cash requirement to reflect our position.

Issue 3: Other cost of debt parameters

1.100. **Cost of embedded debt:** The PD's estimate does not fund the sector median company's 'all-in' cost in a flat rates case and does not provide the sector median company headroom to recover its 'all-in' cost in a plausible downside case.

1.101. **Cost of new debt:** The PD's estimate of the benchmark adjustment does not control for tenor and puts insufficient weight on primary market evidence. Consequently, the PD underfunds the notional company's cost of new debt.

1.102. **Basis risk:** The PD does not include a basis risk allowance which contravenes Ofwat's previous commitment to implement the CPIH transition on a value neutral basis. Investors are now exposed to a wider range of returns due to basis risk which is uncompensated. This is inconsistent with the position adopted by Ofgem.

Issue 4: Beta

1.103. The low end of the PD's beta range is below the CMA PR19 FD estimate. This is counterintuitive as the sector is facing significantly higher forward-looking risk than five years ago as evidenced by, *inter alia*, downgrades of the sector by all 3 major rating agencies. The beta should be at least 0.3 at the low end, which is slightly above the CMA PR19 FD estimate to reflect higher forward-looking risk and/or to capture PNN which is more representative of the notional company. The top end of the PD's beta range at 0.34 is highly conservative as it attaches significant weight to SVT and UU which are not representative of the notional company.

1.104. Adopting the midpoint of this 0.30 to 0.34 range still attaches significant weight to SVT and UU – which are less representative of the notional company – as well as significant weight to 10Y betas which includes multiple years of significantly lower sector risk.

Issue 5: Other cost of equity parameters

1.105. **Total market return:** The PD places disproportionate weight on the ex-ante TMR to estimate the long-run TMR. It should instead place sole weight on the ex-post TMR for the reason it identifies: the ex-ante TMR requires judgemental adjustments. The PD's use of long-run ERP approach helps to address compressed debt-to-equity in the current context, but should be amended to adjust for a technical error.

1.106. **Risk-free rate:** The PD's estimate does not adjust for real-world factors such as the difference between borrowing and saving rates. Failing to adjust for these factors is not only inconsistent with academic research; it is also downward biased.

1.107. **Retail margin adjustment:** We strongly support the PD's decision to remove the retail margin adjustment. This rightly recognises that the financing of the retail and wholesale businesses are integrated, and there is no evidence to suggest that the risk of the retail business is higher than the whole business.

Issue 6: Aiming up and cross-checks

1.108. We strongly support the use of the PD's debt-to-equity premia cross-check but it has been miscalibrated. Once properly calibrated, half of the PD's CAPM range fails the debt-to-equity premia cross-check. This clearly shows that the low end of the PD's CAPM range in particular is downward biased.

1.109. The CMA should use the properly calibrated debt-to-equity premia cross-check and supplement this with inference analysis. The former can only identify a cost of equity that is too low, whereas the latter can identify the required level of premium between the cost of equity and the cost of debt.

1.110. The PD has not taken account of debt financeability to ensure the notional company has continued access to capital markets, and infrastructure fund IRRs to ensure the water return is competitive against comparable sectors. The full range of cross-check evidence indicates that the PD's cost of equity is implausibly low and, in turn, is very different to the investable level.

Final calculations

1.111. In chapter 8, we discuss:

- **Issue 1:** Southern's proposed final solutions are financeable;
- **Issue 2:** Modelling the effect of the Delivery Mechanism;
- **Issue 3:** Bad debt allowance; and
- **Issue 4:** Bills

Issue 1: Southern's proposed final solutions are financeable

1.112. We confirm that it is possible for the CMA to take the solutions suggested in this response and make the notional company financeable. This would allow the CMA to fulfil the financeability duty required of its FD.

Issue 2: Modelling the effect of the Delivery Mechanism

1.113. Southern Water is the only Disputing Company to have been given a Delivery Mechanism (DM) to manage its extensive enhancement programme. Given the significant value of projects in the DM, an assessment of the financeability of PR24 without including the DM would provide a distorted view and significantly underestimate the funding requirement for this investment. Therefore, we ask the CMA to consider the value of the projects in the DM when assessing the overall financeability of the price control.

Issue 3: Bad debt allowance

1.114. Ofwat's regulatory model includes an accounting for bad debt, as a function of bills. While we acknowledge that the CMA is not considering retail issues, we ask the CMA to automatically update the bad debt allowance for the calculation of bills in the FD. Under-provision for higher bad debt would take away the some of the opportunity to invest in maintaining our assets through base costs.

Issue 4: Bills

1.115. We acknowledge that the increase in average household bills is significant in AMP8 and we want to do what we can to both be a good steward for our customers and to

help those in most need. The majority of the increase in bills reflects the significant increase in investment required to meet statutory targets for the environment and drinking water quality. This is important work – but we understand the financial impact this has on our customers.

1.116. We want to work to help our customers during this time of increasing bills. We have taken action to increase the number of households helped by our Social Tariff. By 2026/27, our Social Tariff should be able to support 22,000 more customers in need than was enabled by our original PR24 Business Plan. This is an increase in our coverage to enable Social Tariff support for c.10% of our customers, support c.200,000 households per year. We will be in the upper quartile of companies for the proportion of households helped by such tariffs.

1.117. Finally, Ofwat allows bills to be smoothed flexibly through the AMP, to ensure that customers' bills do not oscillate across the 5 year period. We ask the CMA to retain this Ofwat system, allowing the company the flexibility to distribute revenue collection in the interests of customers.

2. Financeability

Introduction

2.1. In this chapter, we identify the following issues with the CMA's PD, which we address in turn below.

CMA Document Reference	Issue Identified
Volume 4, paragraphs 8.271–8.315	**Overarching investability and financeability issues**
Volume 4, paragraphs 8.215–8.261 and 8.269–8.270	**Issue 1:** The PD is evidently not financeable based on a robust assessment with correct rating agency thresholds
Volume 4, paragraphs 8.262–8.268	**Issue 2a:** Stress testing of the PD was inadequate – robust analysis reveals a lack of financial resilience
Volume 4, paragraph 8.263	**Issue 2b:** Plausible downsides are more severe than the CMA assumes
Volume 4, paragraphs 8.205–8.214	**Issue 3:** The CMA has misunderstood our position on RCV run-off rates. The PD has not taken into account the financeability implications of contingent allowances
Volume 4, paragraph 8.121	**Issue 4:** The PD is not a 'fair bet'
Volume 4, paragraphs 8.241–8.245	**Issue 5:** The cost of debt assumption for the financeability assessment is miscalibrated
Volume 4, paragraphs 8.241–8.245	**Issue 6:** The notional gearing assumption is not justified and weakens the financeability assessment
–	**Issue 7:** The financeability model contains several errors

Overall position on financeability

2.2. The CMA has increased the allowed cost of equity from Ofwat's FD and reduced the downside skew of certain incentives. These steps have improved financeability and investability, but they are not sufficient to render the PD financeable or sustainably investable. Risk under the PD remains skewed to the downside once financing risk is properly assessed. Plausible downside exposure is beyond what the notional company can bear.

2.3. It is critical for the CMA to identify and acknowledge financeability and investability constraints based on a robust, unbiased analysis (after correcting for several modelling issues in the PD). It should then address them in one or more of the following three ways.

2.4. First, the CMA could increase the allowed cost of equity, aiming-up allowance, revert our RCV run-off rates and/or adjust PAYG rates to achieve credit metrics consistent with Baa1/BBB+ ratings in the base case and no lower than Baa3/BBB- in downside scenarios.

2.5. As an alternative, the CMA could increase allowed revenues to reduce the financeability gap, while also acknowledging that S&P's FFO/debt threshold, in particular, is not achievable for the notional company even with plausible revenue adjustments.

2.6. In this second option, the CMA would then need also to seek to address the factors that caused the rating agencies to significantly tighten guidance during PR24: in particular, their perception that sector risk has significantly increased. The CMA could achieve this by mechanisms proposed in our SoC, in particular by lowering ASM thresholds.

2.7. Finally, the CMA could increase the uplift over the iBoxx A/BBB benchmark in recognition of the fact that the target credit rating is not achievable for the notional company.

Overarching investability and financeability issues

In the PD, the CMA recognises the significant increase in equity and debt investment required to fund the capital programme in AMP8. It concludes its PD is investable on the basis of the allowed return being sufficient, risk and return being broadly balanced, and the notional company being financeable.[8]

Our response

Market evidence from investors demonstrates that the sector is not investable on a forward-looking, sustainable basis

2.8. Investors, including our largest shareholder – funds managed by Macquarie Asset Management, have provided evidence directly to the CMA that the sector is viewed by many as effectively 'uninvestable' on a sustainable basis – absent significant, unsustainable, discounts on new equity raises. In other words, the sector is effectively subject to capital rationing, which is unprecedented for assets under RAB based regimes.

2.9. The Global Infrastructure Investor Association (GIIA) represents over $2tn of infrastructure assets under management by its members. In its response to the CMA, the GIIA noted that the sector *"…is increasingly unable to attract the capital it needs to meet its long-term goals, let alone to finance the step-change in investment required for AMP8*."[9]

2.10. Credit rating agencies have expressed similar concerns about the sector's ability to attract equity capital. In its February 2025x sector note, in which it downgraded its assessment of the regulatory framework, S&P noted the "*amount of raised capital will fall short of Ofwat's expectation*"[10]. S&P attributed that to, amongst other things, an unfavourable cost of equity allowance compared to other regulated sectors.

2.11. The PD characterised recent equity raises from South East Water, Anglian Water and us as "relating to debt restructuring or improving the financial resilience of the

[8] CMA provisional determination, Vol 4, para 8.313 et seq.
[9] Global Infrastructure Investor Association (GIIA), April 2025, Third party response to the CMA's Water PR24 Price Redeterminations. https://assets.publishing.service.gov.uk/media/681319b19d4e05673112171b/GIIA.pdf
[10] S&P Global Ratings, U.K. Water Regulatory Framework Support, Low Financial Flexibility In Coming Regulatory Period Drive Rating Actions.

company"[11] (i.e. not new investment). However, it still interpreted them as further evidence of willingness to commit new equity. In respect of Pennon's rights issue, the PD considered the existence of a discount did not provide any information about investors' perceptions of allowed returns for the sector.

2.12. There appears to be a significant misunderstanding and misinterpretation of these equity raises. A significant quantum of equity coming to the sector is effectively 'rescue' equity to ensure companies remain going concerns and avoid a scenario like that at Thames Water, against the counterfactual of losing the entire equity investment. These issues should not be mistaken for a positive investment appraisal on a forward-looking basis. The equity provided has either come from existing investors protecting their capital in existing investments, or from new investors securing ownership at a discount. From the perspective of existing shareholders, that discount represents a smaller loss compared with the counterfactual of a company not being able to meet its obligations and financial distress.

2.13. In our case, the recent equity raise could only be undertaken as part of a capital reorganisation. That process saw c.£450m of holding company debt written-off and amendments to the terms of the remaining debt, including the extension of maturities to at least 2030.[12] When considering the debt restructuring, the equity raise took place at a discount of around 20% to RCV (i.e. pricing the company at a c.0.8x multiple[13]). That discount and the nature of the capital reorganisation is consistent with a 'rescue' equity raise aimed to avoid losses on equity already invested, not an endorsement that the sector is investable on a sustainable basis.

2.14. That equity raise followed £1.65bn of new equity injected into the group since September 2021, during a period when our shareholders also received no dividends. That is not a sustainable position.

2.15. In our case and that of South East Water, the equity raises were undertaken to avoid severely adverse credit ratings action. Had we been downgraded by S&P to below investment-grade, that would have constituted an Event of Default under the financing documents and led to an effective total financial loss and loss of control by our equity investors. Neither equity raise provides support for the position that investors are willing to commit new capital to the sector in general, only that investors understandably act defensively to preserve existing investments which would otherwise be at very significant risk.

2.16. In relation to Anglian Water's equity raise, it is important to note that the proceeds are intended to be used to strengthen the wider group's capital structure through repayment of debt issued by holding companies, not injected into the operating

[11] CMA provisional determination, Vol 4, para 8.313.
[12] London Stock Exchange RNS, SW (FINANCE) I PLC, July 2025, Capital Reorganisation. Capital Reorganisation - 08:41:41 01 Jul 2025 - BU33 News article | London Stock Exchange
[13] Comprising MidCo group Net Debt / RCV of 79% at 31 March 2025 as set out in the Greensands Financing Plc 2025 Annual Report. application-pdf

company.[14] It cannot be considered as support of the sector's investability. It was an action required to support financial resilience of holding companies in view of issues faced by the operating company in respect of risk and return.

2.17. In relation to Pennon, it is true that in practice rights issues take place at a discount to the theoretical ex-rights price. However, the discount in that case is simply a market device to incentivise participation amongst existing investors, ensuring their rights have clear economic value. In the case of a regulated utility performing in line with its determination a 1x RCV multiple should be a price floor, provided the cost of capital is set correctly and the price control is a 'fair bet'. If the multiple were less than 1x, the rights issue would effectively represent an unwarranted transfer of value from existing shareholders to new shareholders investing as part of the rights issue. New shareholders would expect to recover 1x RCV by holding the asset over a long time-horizon. In their joint reply to Ofwat the disputing companies noted that Pennon was trading at a slight discount to RCV before the equity raise, despite targeting 200bps of RoRE outperformance, illustrating investor concerns around investability.

2.18. Alongside challenges in raising new equity, existing equity investors in the sector have encountered difficulties in exiting their investments through secondary sales, for example investors in Yorkshire Water (DWS and Corsair) have tried unsuccessfully to sell-down their stakes, from 2017 onwards and are still trying to do so in 2025.[15]

Under the PD, risk exposure remains too severe and returns insufficient to remediate the investability position of the sector

2.19. During the course of PR24, all three rating agencies tightened financial metric thresholds for companies in the sector, driven by their perception of heightened risk exposure and a less supportive regulatory framework. Moody's[16] and S&P explicitly downgraded their assessment of the regulatory framework, which in the case of S&P resulted in a very significant tightening of thresholds, thereby reducing the debt capacity of the sector from like-for-like cashflows.

2.20. Moody's noted that its downgrade reflected "a continuing trend of negative public perception resulting in more regulatory powers, an increased focus on enforcement action, demanding targets, greater penalties for operational underperformance and growing regulatory complexity that, in turn, result in higher cash flow volatility and leaner returns. All of these factors are leading to an environment that is less supportive of the water utilities' operations and, therefore, credit negative."

2.21. Moody's now assesses stability and predictability of the regulatory framework for water two notches below that for UK energy networks and one to two notches lower than energy network regulators in most European countries. S&P also assesses the

[14] London Stock Exchange RNS, Anglian Water Services Financing Plc, May 2025, ANGLIAN WATER ANNOUNCES £500M SHAREHOLDER EQUITY INJECTION. https://www.londonstockexchange.com/news-article/71GA/anglian-water-announces-ps500m-shareholder-equity-injection/17053342

[15] Reuters, 30 April 2025, Deutsche Bank fund arm puts Yorkshire Water stake up for sale, say sources. Deutsche Bank fund arm puts Yorkshire Water stake up for sale, say sources | Reuters

[16] Moody's ratings, November 2024, Reduced predictability of regulatory environment pressures credit quality.

regulatory framework as less supportive than that of Ofgem and energy regulators in Western European countries, including France, Italy, Ireland and Sweden, as well as Czechia.

2.22. As a supplement to its analyst-assigned ratings, Moody's publishes Market Implied Ratings (MIRs), which consider markets-based risk signals from bond pricing, credit default swaps and equity markets (for publicly listed companies). Table 1 compares Moody's published ratings for WaSCs to MIRs derived from bond prices, due to limited data availability from credit default swaps and equity markets for the sector. It shows that for most companies MIRs are below the analyst-assigned ratings, indicating the sector may be perceived as riskier even than the latter ratings would imply.

Table 1: Moody's Market Implied Ratings compared to analyst-assigned ratings

Issuer	Senior Unsecured or Equivalent Rating	Bond Implied Rating	CDS Implied Rating
Severn Trent Utilities Finance Plc	Baa1	Baa1	
Northumbrian Water Finance Plc	Baa1	Baa3	
United Utilities Water Limited	Baa1	Baa3	A1
Wessex Water Services Finance Plc	Baa1	Baa3	
Yorkshire Water Finance plc	Baa3	Ba1	
South East Water (Finance) Limited	Ba1	Ba3	
Anglian Water Services Ltd.	Baa1		Baa2
Southern Water Services Limited	Ba1		B1

Source: Moody's Ratings as of 3 November 2025

2.23. As the GIIA set out in its response to the CMA[9], there is a direct link between the risk borne by investors and the ability of companies in the water sector to attract new capital. The GIIA notes that "*In the current climate, debt is more expensive and equity is more cautious. Junior debt markets have ground to a halt, and senior debt costs have risen significantly, an indication of just how far the perceived risk profile has shifted*."

2.24. The financeability assessment set out in *Issue 1: The PD is evidently not financeable based on a robust assessment with correct rating agency thresholds* considers the link between risk exposure and the ability to raise new capital (at or near to the rates implied by the cost of new debt allowance, considering achievable credit ratings compared to that of the iBoxx A/BBB indices). That assessment shows, when considering the correct credit rating agency ratio thresholds and plausible downside risk, the notional company is neither financeable nor financially resilient.

2.25. A 2025 survey by Marsh McLennan, in partnership with Utility Week, of senior leaders in the utilities sector[17] identified that for the water industry concerns about returns, risk and competition for capital are far more acute than for energy networks on every dimension relating to investment. In that survey, 'available returns become too low to justify new investment' was identified at 82% likelihood to occur in water versus 43% for energy networks. Equally striking is the statement that 'perceived

[17] Utility Week Intelligence / Marsh McLennan, April 2025, UK utilities risk report 2025.

high risks around the sector cause investors to withdraw' was identified at 79% likelihood to occur in water versus 33% for energy networks.

2.26. This clearly indicates the concern with the underlying package and balance of risk and return, when capital rationing between adjacent sectors is possible. Table 2 summarises the assessment of those risks.

Table 2: Summary of investor views of key risks across sectors

		Energy networks	Water companies
"Available returns become too low to justify new investment"	Likelihood	43.3%	82.1%
	Severity of impact	86.7%	92.9%
	Likelihood x severity	37.5%	76.3% (c.2.0x)
"Perceived high risks around the sector cause investors to withdraw"	Likelihood	33.3%	78.6%
	Severity of impact	80.0%	78.6%
	Likelihood x severity	26.6%	61.8% (c.2.3x)
"International competition for investment draws interest away from the UK"	Likelihood	50.0%	60.7%
	Severity of impact	83.3%	85.7%
	Likelihood x severity	41.7%	52.0% (c.1.2x)

Source: UK utilities risk report 2025. 'Likelihood x severity' calculated.

2.27. As set out in *Issue 4: The PD is not a 'fair* bet', when taking account of all the evidence presented, in particular errors in relation to assumed financing outperformance, the PD is unbalanced, with negative expected performance. For a notional company operating in our region, the P50 has been quantified as -0.89%. In other words the PD does not represent a 'fair bet' and an equity investor would not earn the allowed return on an expected basis.

2.28. Although the downside skew of certain incentives has reduced in the PD compared to Ofwat's FD, a notional company operating in our region remains exposed to P10 risk of -3.73%. As set out in respect of *Issue 2b: Plausible downsides are more severe than the CMA assumes* below, risk faced by the median WaSC under the PD is materially higher than other regulated sectors in the UK. The median WaSC faces maximum downside risk in RoRE terms of 3.17% on totex and 4.19% on outcomes, compared to 1.08% and 0.68% on the same basis for the median electricity transmission network under the RIIO3 DD.

2.29. The cost of equity has also improved in the PD, however it remains insufficient when compared to benchmarks, as set out in section 0. The assumption of a 40bps CPIH-CPI wedge in the PD results in a reduction in the cost of debt in real terms compared to the FD, despite the cost of debt having increased in nominal terms under the PD. It also gives rise to an effective double counting of inflation in respect of financing risk, which contributes to the PD not being a 'fair bet'.

If the risk and return calibration for the sector is not addressed, there are potentially wide-ranging financial consequences, which could impact delivery for customers

2.30. If the sector is deemed 'uninvestable' by most equity investors on a sustainable basis, it will not be able to raise the new equity capital required – on time and to the right quantum – to deliver AMP8 capital programmes on sustainable basis. This will jeopardise our ability to deliver outcomes for customers in AMP8 and beyond.

2.31. Financeability of debt capital also depends on investability – if debt investors perceive the sector is unable to raise the quantum of new equity required, they will be unwilling to commit the capital required at sustainable cost, as can be seen in the example of Thames Water.[18] Companies may face higher cost of carry if their prefunding requirements increase as a result of reduced access to revolving credit facilities provided by banks.

2.32. Financial resilience in the sector deteriorated during AMP7 following a PR19 settlement that exposed companies to very significant operational risk, as demonstrated by median outturn sector underperformance of -3.7% in RoRE terms, as set out in *Issue 1: The PD is evidently not financeable based on a robust assessment with correct rating agency thresholds*. The NAO, in a report on effectiveness of the regulatory regime, noted that "*The regulatory framework has contributed to worsening investor perception of the sector*."[19]

2.33. Considered in the context of very negative investor sentiment towards the water sector, the risk and return calibration in the PD does not remove the risk of another company in the sector encountering financial distress. Changes are necessary in the FD to make the company investable, so that we can attract capital to deliver for customers and mitigate the risk of adverse financial consequences.

Our solutions

Although the CMA cannot fully resolve the issues faced by the sector, as identified by the Cunliffe review, it has the ability to support the investability of the sector today

2.34. Many of the issues that challenge the investability of the sector today were identified in the Cunliffe review and intended to be addressed through its recommendations. Although some of those recommendations can only be taken forward by Government in the medium-term, the CMA has the ability to take actions in its FD that would support the investability of the sector today. It is critical that the sector is able to attract the new capital required in AMP8, which has already commenced.

2.35. We have set out a number of measures in *Issue 4: The PD is not a 'fair bet'* and *Issue 2b: Plausible downsides are more severe than the CMA assumes* which would

[18] London Stock Exchange RNS, Thames Water Utilities Finance plc, October 2024, Liquidity Extension Update. https://www.londonstockexchange.com/news-article/AW14/liquidity-extension-update/16731710

[19] National Audit Office, April 2025, Regulating for investment and outcomes in the water sector. Regulating for investment and outcomes in the water sector

ensure the FD is a 'fair bet' and downside risk exposure is moderated to a degree commensurate with a regulated network, considering comparators.

Given the significant challenges faced by the sector in being able to attract the quantum of new equity required, the CMA must consider its calibration of return in the round in that context

2.36. Although the allowed return in the PD recognises the risk faced by the sector and the higher interest rate environment, it remains insufficient to ensure investability on a sustainable basis. Recent evidence from other sectors demonstrates the allowed return in the PD is not competitive in view of the significant risk exposure faced by equity investors in water in AMP8.

2.37. We strongly encourage the CMA to give greater consideration to the allowed return in the round, as set out in section 0, and the need to support investability, as well as the technical parameters.

2.38. We have addressed the issue of RCV run-off rates in *Issue 3: The CMA has misunderstood our position on RCV run-off rates*. The PD has not taken into account the financeability implications of contingent allowances, where reversion to our proposed run-off rates, despite being below the 'natural' rates, would further support investability through increasing cashflow in AMP8 and improve intergenerational fairness of the AMP8 investment programme.

Issue 1: The PD is evidently not financeable based on a robust assessment with correct rating agency thresholds

The CMA agreed with Ofwat and the disputing companies that financeability should be assessed with reference to a Baa1/BBB+ credit rating target and the ability of the notional company to maintain an investment grade rating in downside scenarios.

Our response

2.39. In assessing whether a notionally financed company could achieve the BBB+ target from S&P and Fitch, the PD relies on thresholds that would be applicable only to senior secured debt issued by companies with Whole Business Securitisation (WBS) structures. For example, in assessing financeability based on S&P's rating approach, the PD uses a target of 10% FFO/debt but notes that even 8-9% "is likely to be consistent with a rating of Baa1/BBB+".[20] The CMA arrived at this view based on the senior secured BBB+ thresholds of Affinity Water (8%), Yorkshire Water (8%) and Anglian Water (8%)[21]. The PD was wrong to draw this conclusion because S&P's senior secured ratings are positioned one notch above the Standalone Credit Profile (SACP), whereas the senior unsecured ratings of corporate water companies are

[20] CMA PD, Vol 4, para 8.253.
[21] CMA PD, Vol 4, para 8.252. In addition to the substantive points addressed in this section, we note two other errors in CMAs analysis. First, CMA did not include Welsh Water's Class B in its comparison, although this is equivalent to the Class A of other WBS issuers. Second, CMA stated that the BBB+ senior secured range for Affinity Water is 8-9%; the correct range is 8-11%.

aligned with the SACP. Consequently FFO/debt of 8-10% would support only a BBB senior unsecured rating for the notional company, below the target.

2.40. The PD also assesses financeability based on Fitch's rating approach on the assumption that 1.4-1.5x cash PMICR would be consistent with a BBB+ rating.[22] Again, this would be true only for the senior secured debt of a WBS issuer, whereas a non-WBS water company with a cash PMICR in this range would have a senior unsecured rating of BBB and an Issuer Default Rating (IDR) of BBB-, and would therefore be in dividend lockup under Condition P of its licence.[23]

2.41. In effect, the PD defines the notional company as a company with a WBS structure, which is inconsistent with the longstanding practice of Ofwat and other UK regulators. For example, in "Financing Networks", Ofwat and Ofgem said:

"*Highly geared structures have not constrained the analysis carried out as part of the price control reviews. Companies' actual capital structures and their associated covenants did not directly influence Ofwat's and Ofgem's price determinations nor do the regulators consider that they need do so in the future.*"[24]

2.42. Ofwat has consistently defined covenanted structures as a deviation from the notional assumption, for example in arguing against companies' claims that covenanted structures are beneficial to their customers.[25] Applied to the whole sector, the CMA's approach would mean either: (a) applying different thresholds to a "notional" WBS and notional corporate water company, which would undermine comparability across the sector; or (b) testing the financeability of notional corporate water companies against thresholds that are not applicable to them.

2.43. The covenanted financing structures impose significant costs and constraints on companies that were not considered in the PD. For example, the PD makes no allowance for the costs of meeting hedging requirements, and the CMA has not assessed the ability of the "notional" WBS to comply with covenants that would be a necessary element of this structure.

2.44. Covenanted financing structures also effectively transfer some risk from debt investors to equity investors by granting additional rights and potential additional control (through stricter financial covenants and corresponding consequences) to the former at the expense of the latter. The PD does not make any adjustment to the cost of equity to reflect that. This means that the use of the covenanted structures effectively assumes a lower cost of debt without recognising the impact on the cost of equity, especially given that the cost of equity is estimated based on companies without a WBS.

[22] CMA PD, Vol 4, para 8.250.
[23] The IDR represents Fitch's opinion of an entity's overall creditworthiness, reflecting the likelihood of default without considering the severity of loss. Fitch, Rating Definitions. Rating Definitions
[24] Ofwat and Ofgem, February 2006, Financing networks: a discussion paper. Microsoft Word - Financing Networks - final version 8 february 2006.doc
[25] See for example, Ofwat, December 2021, Financial resilience in the water sector: a discussion paper, page 16. Financial-resilience-in-the-water-sector_a-discussion-paper_Updated_9_Dec_2021.pdf

2.45. The 8% minimum FFO/debt used in the PD is lower than the 9% threshold used by Ofwat to test the financeability of its FD. This reduction is implausible given that Ofwat's thresholds did not incorporate S&P's subsequent downgrade of the regulatory framework and consequent tightening of rating thresholds.

2.46. In its February 2025 sector note[10], S&P sets out 11% FFO/debt as the upper threshold for a BBB SACP (and therefore the lower threshold for BBB+) for companies assessed under its medial volatility table, namely Affinity Water, Welsh Water and Yorkshire Water. Its upper threshold for SES Water (also with a BBB SACP) is slightly stricter at 12%. Its threshold for South Staffordshire Water (BBB+ SACP) is set at 11%, consistent with the companies with a BBB SACP (excluding SES Water).

2.47. Table 3 sets out the thresholds used by Ofwat and CMA in the determinations, and the correct thresholds for Baa1/BBB+ "issuer ratings" as defined under limb (a) of Ofwat's definition in our licence.[26]

Table 3: Target thresholds assumed to be consistent with Baa1/BBB+ rating target

	Ofwat FD threshold	CMA PD threshold	Correct threshold for unsecured structure
Moody's AICR	1.6x	1.7x	1.6x
S&P FFO/debt	9%	10% target, but 8-9% "still consistent" with BBB+	11%
Fitch cash PMICR	n.a.	1.4x	1.7x

Source: Rating agency reports.

2.48. When financeability is assessed against the correct thresholds, it is clear that the notional company is unable to achieve a BBB+ S&P rating, with a shortfall of 0.8% on FFO/debt, as set out in Table 4. Headroom to a BBB+ Fitch IDR would be very modest at 0.06x under the cash PMICR, which would be eroded by just 0.3% of RoRE underperformance. This is clearly unsustainable.

Table 4: Base case metrics for the notional company under our PD and headroom to thresholds consistent with a Baa1/BBB+ rating

Metric	Measure
Moody's	
AICR	1.77x
Headroom (AICR)	0.17x
Headroom (RoRE)	0.8%
Fitch	
Cash PMICR	1.76x
Headroom (Cash PMICR)	0.06x
Headroom (RoRE)	0.3%
S&P	
FFO/debt	10.2%
Headroom (FFO/debt)	-0.8%
Headroom (RoRE)	-0.8%

Source: Analysis undertaken using the PR24 financial model under the PD
Note: Ratios exclude the impact of DM totex and other contingent allowances, and exclude the impact of reprofiling adjustments.

[26] Southern Water Instrument of Appointment, page 30. Southern Water Licence

Our solutions

2.49. The CMA should assess financeability against the correct thresholds, as set out in Table 3. We discuss solutions to address the underlying financeability constraint, which would be revealed by that corrected assessment, in the following sections.

Issue 2a: Stress testing of the PD was inadequate – robust analysis reveals a lack of financial resilience

In its financeability assessment, the CMA stress tested financial ratios under a stylised downside scenario with underperformance equivalent to 1% RoRE in each year of the price control and under a second scenario where underperformance increased to 2% RoRE in two of those years only (equating to approximately 1.4%, on average, over the period). It did not explain how those scenarios were calibrated to ensure they represented reasonable downside scenarios appropriate for stress testing.

Our response

2.50. The PD does not include a robust analysis of the risks faced by the notional company. Companies are required by Ofwat to assess long-term viability and demonstrate they are financially resilient through stress testing, aligned with principles set by the Financial Reporting Council more broadly. That assessment is summarised in each company's Long Term Viability Statement (LTVS), which considers a range of severe, plausible and reasonable downside scenarios.

2.51. In its guidance to companies[27], Ofwat sets out that stress tests should cover "…*severe, plausible and reasonable scenarios for key variables, covering the principal risks facing the business in the short and longer term*". For the purpose of the financeability assessment, downside scenarios assessed by companies to support their long-term viability statements represent plausible, robust stress tests linked directly to the principal risks to which we are exposed.

2.52. Table 5 summarises the operational performance impact (excluding downside related to non-operational factors, including lower inflation or higher new debt costs) of the most severe LTVS scenario tested by the disputing companies and several others in the sector, expressed in RoRE terms. The average of -2.62% underperformance across those scenarios implies significantly greater RoRE risk than used in the CMA's stress testing.

2.53. During the period in advance of our 2024/25 annual report, the greatest risk to the long-term viability of the business was considered to be the inability to successfully raise the new equity required to stabilise our credit ratings and support our financial resilience. Consequently, the financial analysis that underpinned our long-term viability statement was undertaken on that basis, rather than on the basis of bottom-up risk analysis, such as that summarised in *Issue 2b: Plausible downsides are*

[27] Ofwat, March 2018, Information notice 18/04. Information notice

more severe than the CMA assumes, which would have indicated a significantly greater degree of downside risk exposure.

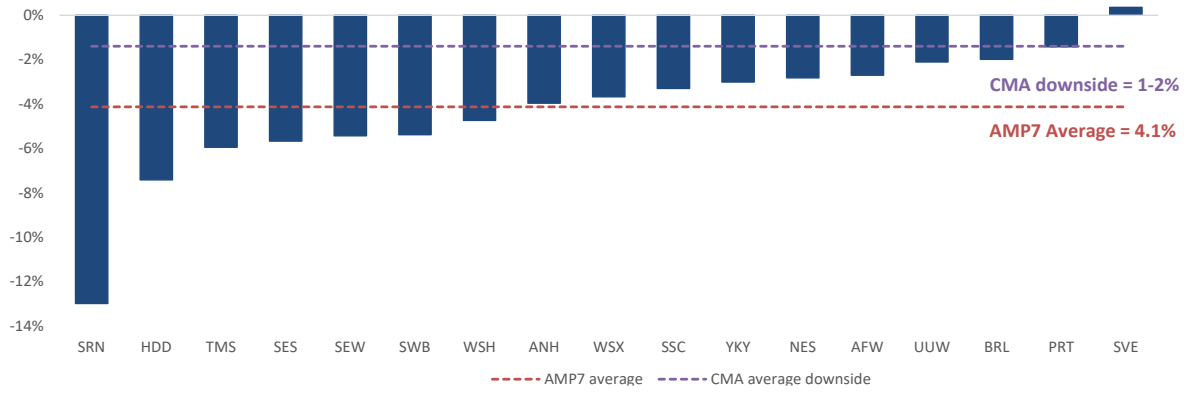
Table 5: Most severe LTVS stress scenario (operational performance) assessed in 2024/25 annual reports, expressed in RoRE terms

Company	Scenario considered	Wholesale operational performance assumption	RoRE impact
Anglian Water	Combined scenario C	10% totex overspend, ODI penalty of 1.5% of RoRE in each year plus a financial penalty of 1% of revenue in a single year	2.99%
Northumbrian Water	Combined impact of adverse company performance	One off penalty of 10% of regulated revenue, ODI of 3% of RoRE in a single year, 10% increase in current planned spend	2.79%
Severn Trent	Combined scenario 1	An increase of totex of £300 million in each year, an ODI penalty of £150 million in one year, and a one-off impact of £300 million in one year.	2.61%
South East Water	Severe ODI underperformance Combination	Totex performance at the P50 level and and ODI underperformance at the P10 level for the remainder of AMP 8	4.80%
Southern Water	Combined operational scenario	5% overspend to 2030 combined with a significant, one-off ODI penalty in one year	0.90%
United Utilities	Scenario 2	10% totex overspend	1.28%
Wessex Water	Operational expenditure	£8m per year opex overspend and 8% of revenue ODI per year	2.99%
Average			**2.62%**

Source: 2024/2025 annual reports for the companies shown.

2.54. Companies' operational RoRE performance in AMP7 shows that outturn performance can be significantly more negative than the LTVS stress tests. Median and average underperformance were -3.7% and -4.1% respectively, with 14 of 17 licensees underperforming by more than -2%, as set out in Figure 3. While severe underperformance at individual companies or in a single year can be dismissed as exceptional, the entire industry experienced sustained underperformance over the whole period. That is indicative of clear regulatory miscalibration at PR19.

Figure 3: RoRE impact of operational performance (on notional equity) AMP7



Source: Company Annual Performance Report data (2024/25).

2.55. Table 6 sets out the RoRE headroom to key ratings thresholds based on the financial ratios calculated in the PD, before considering the impact of company-specific embedded debt costs. This shows that the operational RoRE downside consistent with the LTVS scenarios, with underperformance of around -3.2% on average, would result in metrics consistent with speculative grade ratings from two of three agencies and a breach of company licence conditions.

Table 6: RoRE headroom to key rating thresholds under the PD (AMP8 average) and implied ratings based on downside scenarios

Metric	Measure
Moody's AICR	
Baa1	0.8%
Baa2	1.8%
Baa3	2.9%
Implied rating under average LTVS downside	*Sub-investment grade*
Implied rating under average AMP7 performance	*Sub-investment grade*
Fitch cash PMICR	
BBB+	0.3%
BBB	1.3%
BBB-	1.8%
Implied rating under average LTVS downside	*Sub-investment grade*
Implied rating under average AMP7 performance	*Sub-investment grade*
S&P FFO/debt	
BBB+	-0.8%
BBB	2.0%
BBB-	4.2%
Implied rating under average LTVS downside	*BBB-*
Implied rating under average AMP7 performance	*BBB-*

Source: Analysis undertaken using the PR24 financial model under the PD.
Note: Headroom excludes the impact of Delivery Mechanism totex and other contingent allowances.

2.56. In a consultation on strengthening ring-fencing conditions[28], Ofwat set out its view that "*a rating of BBB-/Baa3 is not sufficient for an essential public service*" and its expectation that, under the PR19 price determinations, it did "*not expect any company to operate at, or be at risk of falling to the lowest investment grade*". Companies persistently rated below Baa2/BBB with stable outlook are unable to make dividend payments, an essential criterion of equity financeability. Given those positions, it is wrong for the CMA to stress test against the lowest investment-grade rating.

2.57. As set out in *Issue 2b: Plausible downsides are more severe than the CMA assumes*, our highly conservative risk analysis under the PD (using a revised methodology) results in a P10 outcome for a notional company operating in our area of -3.73% RoRE. That is far beyond the ability of the notional company to bear, while maintaining Baa2/BBB ratings – in fact it would see the company rated below investment-grade with Moody's and Fitch, and weakly positioned at the lowest investment-grade with S&P.

[28] Ofwat, July 2022, Consultation under sections 13 and 12 A of the Water Industry Act 1991 on proposed modifications to strengthen the ring-fencing licence conditions of the largest undertakers. Consultation-on-proposed-modifications-to-strengthen-the-ring-fencing-conditions-of-new-appointee-licences.pdf

Our solutions

2.58. The CMA should conduct robust stress testing for the Final Determination, using the correct rating agency thresholds for a strong Baa2/BBB rating, as set out in Table 3, and appropriately calibrated downside scenarios informed by risk analysis, addressed further in Issue 2b. We consider solutions to address the underlying financeability constraint, which would be revealed by that appropriate stress testing, in Issue 2b 'Our solutions'.

Issue 2b: Plausible downsides are more severe than the CMA assumes

The financeability stress testing deployed in the PD uses stylised downside scenarios equating to a period average of approximately -1.4% RoRE. The PD does not make clear why the stylised scenarios are materially smaller in magnitude than the downsides calculated by disputing companies and Ofwat in their risk analyses or suggested by other measures of plausible outcomes.

Our response

2.59. The PD does not appropriately link the risk analyses submitted by Ofwat, Southern Water, and the other DCs to its financeability assessment and misinterprets their conclusion on the scale of downside risk.

2.60. We agree with the CMA's statement that protection against credit rating downgrades should not apply in all downside scenarios.[30] The risk ranges submitted in our SoC[31] represented plausible downside scenarios and we remain of the view these appropriately capture design and calibration risk present in Ofwat's FD. However, in response to the challenge raised in the PD about the adopted assumptions we provide an updated view of P10 risk of -3.73%.[32] This implies the notional company would be unable to maintain two investment credit ratings and would breach its licence at P10 based on the PD, per the ratings headroom demonstrated in Table 6, above.

2.61. Financial resilience is described by Ofwat as "*the extent to which an organisation's financial arrangements enable it to avoid, cope with and recover from disruption, whether that disruption is driven internally or externally to the company. In a sector providing an essential service and investing for the long-term, such as water, it is vital that companies have access to the financial resources necessary to deliver their*

[29] CMA PD, Vol 4, para 8.153.
[30] CMA PD, Vol 4, para 8.263.
[31] Southern Water Statement of Case, page 72, table 7.
[32] See Table 14 for the conservative risk ranges under a methodology which aligns to the PD approach, most notably by omitting calibration risk on Totex and Outcomes.

obligations and commitments to customers at all times, both now and in the future"[33]. If the notional firm has at minimum a 10% chance of being sub investment grade under the PD, as implied by the P10 scenario, the companies will not be able to secure the necessary financial resources to deliver for customers.

2.62. We cross checked this P10 result against other measures of plausible downside. Totex is the largest contributor of potential downside risk given the step-change in the size of the AMP8 programme. Outcomes also contribute very materially to a downside scenario given the large number of incentives included in PR24. We provide commentary on the key attributors of risk across these components and summarise the implications for plausible downsides in the following subsections.

Totex and delivery risk

2.63. We submitted a large body of evidence in our SoC on why our range of outcomes on Totex in PR24 is extraordinarily wide and wider than PR19. The PD does not fully consider this evidence and its implications for plausible downsides in financeability testing. In summary:

- Southern Water has the largest enhancement programme relative to RCV in the sector;
- Our programme includes many first-of-a-kind and complex schemes such as water re-use[34];
- AMP8 provides exposure to cost shocks which are not necessarily mitigated by the regulatory framework; and
- Ofwat's Totex RoRE downside at PR19 for Southern Water was -100bps. It materially worsened to -208bps at PR24.[35]

2.64. The additional costs faced by the sector in AMP7 were on average 17% above the allowances. All WaSCs' costs exceeded their allowances. South Staffs Water was the only company to spend less than their allowance (by 2%).[36] Systemic overspend on costs implies that the additional costs could not be reasonably assumed to be driven by inefficiency, but by wrong setting of the allowances at PR19.

2.65. The PD does not provide evidence to support the assumption that AMP7 performance is a result of exceptional shocks that will not occur in AMP8[37] or that they would be sufficiently addressed by the RPE and inflation protections. The following paragraphs document the risks carried forward from AMP7 to AMP8, which are highly relevant.

[33] Ofwat, September 2024, Proposed ring-fencing licence modification for New Appointments and Variations, page 5, para 2. Proposed-ring-fencing-licence-modifications-for-New-Appointments-and-Variations.pdf
[34] Southern Water Statement of Case, Page 555, para 17.
[35] Ofwat, 2024, PR24-FD-RR04-RoRE.xlsx, tab <Chart – <PR24 FD RoRE>.
[36] Ofwat, 2025, Water Company Performance Report 24-25. Link
[37] CMA PD, Vol 4, 8.32.

2.66. There is clear evidence that recurring shocks could be expected. While RPEs will provide some protection, c.45% of total cost allowances for the water resources and network plus controls are not covered by RPEs.[38]

- The UK public sector balance sheet is in a more stressed position than in 2020 with potential consequences for currency devaluation, interest rate changes, and direct and indirect taxation which impact costs and supply chain prices;
- Global supply chains and commodity prices are influenced by on-going geopolitical instability, most notably the on-going Russia-Ukraine war and US tariffs which first took effect 5 April 2025, the fifth day of AMP8. Supply chain shocks like the 2020-2023 semiconductor shortage, which caused both delays and price increases, could impact the water sector in AMP8. In this example, the water sector is reliant on semiconductors for smart meters and electrical infrastructure upgrades. While RPEs provide some protection against specific cost increases, they do not mitigate cost overruns or PCD penalties due to delay; and
- Climate change is worsening which may require additional unexpected expenditure and increase costs. The PD presents Met Office analysis put forward by Ofwat which shows the south of England, our region, will jointly see the most significant increases in annual rainfall, sea level changes and temperatures compared with the rest of the UK.[39] No other region is predicted to see the most significant increases in more than one risk factor.

2.67. Cost shocks are inherently asymmetric because there is greater scope for downside than upside. There are limited ways a company can reduce project costs while still delivering the full scope, but there are many ways costs exceed expectation. This is demonstrated by the skew in sector totex performance in AMP7, where the P10 overspend relative to median was 18%, significantly larger in magnitude than the P90 overspend relative to median of 7%.[40]

2.68. The capital intensity of the AMP8 enhancement programme and limited regulatory mitigations create significantly higher potential for downside RoRE outcomes for Southern Water – and the water sector – compared with other regulated utility sectors. This is illustrated in Table 7 which analyses the impact of overspend on RoRE given regulatory protections in place (cost sharing, ASM, RAMs) for Southern Water and in comparable sectors. The results clearly show materially higher exposure for Southern Water compared to the median energy networks under AMP6 and AMP7 overspend scenarios, and 15-20bps higher exposure than for the median WaSC.

[38] Ofwat, PR24 final determinations Aligning risk and return, page 16.
[39] CMA PD, Vol 2, para 5.223.
[40] Cumulative AMP7 totex performance against allowance were 33%, 15%, and 8% at P10, P50 and P90 respectively. Source: Ofwat, October 2025, Water Company Performance Report 24-25, tab <Wholesale RoRE>. Link

2.69. The water sector is operating with the same supply chains and similar delivery risks as these other infrastructure sectors but faces a wider range of outcomes. This reduces investability of the water sector as investors face more downside exposure.

Table 7: RoRE totex risk comparison across regulated infrastructure sectors (exc. PCDs)

		Totex overspend scenarios		
	Capital intensity	+8.5% (AMP6 totex)	+17% (AMP7 ave.)	+22% (AMP7 P25)
Southern Water under PD framework	103%	-1.82%	-2.82%	-3.37%
Median WaSC under PD / FD	91%	-1.67%	-2.67%	-3.17%
Gas Distribution median under RIIO-3 framework	53%	-1.15%	-2.31%	-3.00%
National Gas Transmission under RIIO-3 framework	54%	-0.89%	-1.77%	-2.30%
Electricity Transmission median under RIIO-3 framework	139%	-0.88%	-1.08%	-1.08%

Source: Ofgem, July 2025, RIIO-3 Draft Determination BPFMs: Link; Southern Water analysis.
Note: capital intensity defined as totex / average RCV, excludes PCDs, uses weighted average sharing rate.

2.70. Putting all these pieces together – the scale and complexity of our programme, AMP7 overspend which is not fully protected by AMP8 RPEs, expected continuation of cost shocks, and the inherent asymmetry of these shocks where large overspends are more likely than underspend – creates potential for a level of downside exposure not considered by the PDs. Our conservative quantification of PD risk for a notional company like SWS in Table 14 included a Totex downside of -2.06% including PCDs, however true downside could be much worse.

Outcomes

2.71. Our design-only risk analysis of PD Outcomes finds a P10 of -1.60% RoRE, shown in Table 13. This excludes calibration risk which, if included, could materially worsen the plausible downside as the PD includes several ODIs which are novel or redesigned for AMP8 which likely carry high calibration risk. Notable examples include Total Pollution Incidents, for which Ofwat's consultation proposes to materially change the definition[41], and Storm Overflows.

2.72. The water sector has 23 financially linked Performance Commitments (PCs). This is significantly more than other regulated infrastructure sectors and drives more downside RoRE potential. Further, the scale of each incentive is larger, and the PD is incomplete in its application of collars.

2.73. Illustrative risk exposure is demonstrated in Table 8. We do not dispute the need for incentives to deliver for our customers. However, the potential exposure for a notional company is undisputably high compared with other utility sectors that potential investors in the water sector would consider. Investors in the water sector face more risk as a result of the Outcomes package which is likely to impact investability.

[41] Ofwat, 2025, Consultation on changes to three PR24 environmental performance commitments, Link

Table 8: Maximum RoRE Outcomes risk comparison across regulated infrastructure sectors

	No. financial ODIs with downside	Maximum RoRE downside on a single ODI	Maximum RoRE downside[42]
Southern Water / Median WaSC PD	23	Uncapped	-4.19%
National Gas Transmission RIIO-3	8	-0.21%	-0.75%
Electricity Transmission median RIIO-3	2*	-0.38%*	-0.68%*
Gas Distribution median RIIO-3	4	-0.17%	-0.68%

Source: Ofgem, July 2025, RIIO-3 Draft Determination – Finance Annex, Tables 34-45 and BPFMs: Link; Southern Water analysis.
* Excludes delivery mechanisms (*ASTI/CSNP-F). Maximum exposure is -1.00% and -1.68% across a single ODI and total respectively.

Plausible downside

2.74. Our highly conservative risk analysis under a revised methodology for PDs results in a P10 outcome for a notional company operating in our area is -3.73% RoRE.[43] See Table 9. A downside scenario exceeding the RoRE downside tested in the PD is highly plausible. The following support the credibility of a downside of this magnitude:

- Median company operational underperformance in AMP7 was -3.7%, erasing nearly all base equity return of 4.19%[44];
- Downside scenarios tested by the sector in their Long Term Viability Statements ("LTVS") are typically exceed -2.5% RoRE. See Table 5;
- The P10 submitted by Ofwat at FD was -6.94% RoRE on an additive basis. When simulated together through Monte Carlo, Ofwat's range is -3.08%.[45] The simulated P10 included in our SoC – which incorporates calibration risk – was -6.41%. We recognise the plausible downside is likely marginally improved by the PD, however it will still significantly exceed the -1 to -2% used in the PD financeability testing; and
- Our PD P10 outcome does not capture the increased delivery risk in AMP8 and applies AMP8 sharing rates to AMP6 totex data. It therefore is a highly conservative range. Totex P10 worsens if AMP7 performance is used, which, after adjusting for RPEs[46], is -3.25% RoRE including PCDs.

[42] The maximum RoRE downside applies collars per the PD and assumes -0.5% RoRE underperformance for the six ODIs without collars, in line with Ofwat's standard -0.5% collar level. The Outcomes ASM is applied.
[43] The updated RoRE analysis is calculated using the following assumptions:
- Totex: ±8.5% overspend assumption from AMP6 data adopted by Ofwat in their FD analysis. Allowances are achievable at P50. Relevant sharing rates applied to Base and Enhancement to capture increased protection.
- Retail: 30bps per Ofwat analysis using AMP6 cost risk.
- ODIs: KPMG design only scenario, where PCLs are achievable at P50, augmented with Ofwat's ranges for Outcomes not modelled by KPMG: BR-MeX, SOF, BWQ, BIO, OGQ, OGQQ.
- Financing: KPMG analysis updated for 2.4% CPIH long-term assumption and new debt risk.
- Revenue and DPC unchanged from FD (-6bps combined at P10).

[44] Water sector 2024-25 Annual Performance Reports.
[45] Additive P10 per Ofwat, October 2025, WCPR 24-25, tab <Wholesale RoRE>. Simulated RoRE range calculated by simulating Metalog distributions representing each of Totex, Retail, Outcomes, Financing, and Revenue & Other with correlations of zero.
[46] Median AMP7 Totex overspend was 15.0%. We estimated the AMP8 RPEs to reduce this overspend to 12.0% by eliminating over-spend on the proportion of Totex protected by RPEs per Ofwat, PR24 final determination expenditure allowances, tables 8, 33, and 34.

Financeability

2.75. Table 9 sets out metrics under the financeability assessment when considering downside (P10) risk under the PD. The notional company would be rated lowest investment-grade with Moody's and S&P and speculative grade with Fitch, far below the appropriate threshold of Baa2/BBB set out in Issue 2a.

Table 9: Metrics for the notional company under the PD and considering P10 risk

	PD	P10
Moody's		
AICR	1.77x	1.22x
Headroom to Baa1 (AICR)	0.17x	-0.38x
Headroom to Baa2 (AICR)	0.37x	-0.18x
Fitch		
Cash PMICR	1.76x	1.21x
Headroom to BBB+ (Cash PMICR)	0.06x	-0.49x
Headroom to BBB (Cash PMICR)	0.26x	-0.29x
Headroom to BBB (Cash PMICR)	0.36x	-0.39x
S&P		
FFO/debt	10.2%	7.1%
Headroom to BBB+ (FFO/debt)	-0.8%	-3.9%
Headroom to BBB (FFO/debt)	2.2%	-0.9%

Source: Southern Water analysis.
Note: ratios exclude the impact of Delivery Mechanism totex and other conditional allowances and exclude the impact of reprofiling adjustments. Run-off rates as set out in the PD.

Our solutions

2.76. The CMA in its FD should reflect a plausible but severe downside in its financeability testing and make changes to the framework such that the notional company is financeable in this case. Our view is that the CMA should target reform of the Totex Aggregate Sharing Mechanism ("ASM") and Outcomes ASM. Our proposals align with our SoC, and the CMA should consider them in light of new evidence and the errors identified in the PD's financeability testing which led to it concluding ASM revisions are not required.

2.77. **Reform of the Totex ASM should align with the proposal in our SoC[47]:** (1) Split by water and wastewater price controls, (2) lower the 50% sharing threshold from ±200bps to ±150bps, and (3) introduce an additional 90% sharing threshold at ±200bps. We raise these proposals again given the new information on AMP7 sector performance which highlights the scale of a plausible downside.

2.78. **Split the Totex ASM by price control**. The PD raises the concern that incentives could be skewed should the mechanism be split by price control where a company significantly overspends on one price control and underspends on the other.[48] We disagree as:

- The majority of enhancement schemes in AMP8 relate to regulatory requirements and therefore companies will endeavour to deliver schemes

[47] Southern Water Statement of Case, pages 104-5, para 281.
[48] CMA PD, Vol 4, para 8.148.

across water and wastewater and cannot materially scale down delivery under one to prioritise another;

- The sector is spending materially more on water than wastewater relative to RCV: 95% compared to 88% respectively for WaSCs. Further, our water capital intensity is 141%, the second largest behind only HDD. This disproportionate investment in water relative to wastewater increases exposure to risk within the water price control. A combined price control Totex ASM means the level of protection offered to water overspend is lower than wastewater and materially so for us. Table 12 demonstrates our higher Totex exposure partly driven by the relative reduction in regulatory protection typically provided to peer companies; and
- Companies do not operate in the manner that would result in perverse incentives from a split mechanism.

2.79. **Lower the Totex ASM 50% sharing threshold to ±150bps**. Southern Water would be exposed to materially higher RoRE risk under the AMP6 8.5% overspend scenario compared with other regulated infrastructure sectors. AMP6 outturn performance provides a minimum bound for the severity of a plausible downside scenario in AMP8 given the step-change in programme size and complexity. The cross-sector risk inequality would reduce if CMA were to implement a ±150bps 50% sharing threshold and would therefore support investability.

2.80. **Introduce a Totex ASM 90% sharing threshold at ±200bps**. An additional threshold would provide Totex protection in plausible downside scenarios and bolster financeability in such cases. Whereas the PD opines that an ASM threshold of ±200bps is unlikely to be triggered,[49] Table 12 demonstrates that this threshold would be exceeded in AMP8 should overspend be equal to AMP7 levels, which is a highly plausible downside given the scale of the programme. Protection against this level of expenditure is required.

2.81. The water sector is operating with the same supply chains and similar delivery risks as other capital intensive infrastructure sectors but faces a wider range of outcomes. Other capital intensive sectors offer similar protection to that which would be offered by a 90% sharing threshold of ±200bps, notably Electricity Transmission where the stepped-TIM provides zero cost sharing above 15% overspend. Centrica in their investment in Sizewell-C have a 200bps difference in IRR between the "moderate" outturn on cost and schedule scenario and the "severe" outturn protected by the UK Government. [50] The disparity in totex protection reduces the investability of the water sector as investors face more downside exposure.

2.82. **Revise thresholds for Outcomes ASM**. The 50% and 90% sharing thresholds should be revised to ±150bps and ±200bps for 50% and 90% sharing such that the additive

[49] CMA PD, Vol 4, para 8.153.
[50] Centrica, July 2025, Investment in Sizewell C, Link

thresholds across Totex and Outcomes ASMs are ±300bps and ±400bps to align with risk protections from other regulated infrastructure sectors offered by Ofgem.

2.83. We agree with the PD statement that setting the ASM thresholds is a regulatory judgment, and the determination should not protect against risk in all scenarios. However, there has been a history of regulatory miscalibration over AMP7 for both ODIs and totex, and much of the AMP8 approach uses the same methodology. The ASM thresholds we propose create protections against this, particularly in an environment with such material step-change in capital delivery and very large equity requirements of the sector. We are firm in our view that the determination should support the notional company in maintaining two investment grade credit ratings in a plausible downside scenario.

2.84. We have provided evidence that (1) a plausible downside exceeds 300bps RoRE in aggregate and 200bps RoRE on Totex, and (2) there is insufficient regulatory protection in this scenario, and (3) performance at this plausible downside would likely incur a loss of at least one investment grade credit rating for the notional company.

2.85. We ask the CMA to align the allocation of risk more closely with regulatory precedent set in other comparable regulated sectors. The most effective way of doing this at PR24 redetermination is through a recalibration of the ASMs. The remedies requested throughout this document on specific areas of the PD will also aid in mediating the potential downside.

Issue 3: The CMA has misunderstood our position on RCV run-off rates. The PD has not taken into account the financeability implications of contingent allowances

In the PD, the CMA maintained the run-off rates in Ofwat's FD, stating that "Ofwat reduced Southern's overall run-off rate from 4.49% to 4.36%, in line with Southern's representations."[51]
The CMA assessed financeability on the basis of the PD totex allowances excluding the Delivery Mechanism and other contingent allowances.

Our response

2.86. In reaching its decision, it appears[52] that the CMA has relied on the following statement in Ofwat's FD: "We reduced Southern Water's overall RCV run-off rate to 4.36% from 4.49% as proposed in its representation in making its decision."[53] However, Ofwat's statement is factually incorrect in that we did not agree with Ofwat's intervention to reduce run-off rates from those we proposed, nor did we make representations for any reduction.

[51] CMA PD, Vol 4, para 8.206.
[52] CMA PD, Vol 4, footnote 969.
[53] Ofwat FD, Risk and return appendix, page 55.

2.87. In our response to Ofwat's DD, we set out our concerns in respect of Ofwat's intervention: "*We are concerned about the following factors that would make the DD non-financeable: .....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 intergenerational fairness challenge, as based on our customer research, current customers are prepared to invest now rather than passing on the cost to future generations*." [54]

2.88. For its FD, we requested Ofwat to revert to our proposed, higher, run-off rates, although we noted that those rates may be insufficient to fully depreciate assets within their useful economic lives, taking into account inflation. In other words, even those run-off rates are below the 'natural' rates and therefore future customers will be paying for benefits received by today's customers, although to a lesser degree than Ofwat's FD.

2.89. It is important to note that Ofwat's PR24 Final Methodology required companies to propose RCV run-off rates no higher than those applied at PR19, capped at upper rates.[55]

2.90. In our SoC, we assessed financeability on the basis of the run-off rates proposed in our response to the DD. We also asked that CMA to "*assess the financeability of its final settlement and adjust the cashflow levers (e.g. PAYG rates and RCV run-off) to ensure that the notional company can finance its operation.*"[56] Table 10 sets out the financial ratios on the basis of our proposed run-off rates. It shows FFO/Debt would improve by 0.2% but remain below the threshold consistent with an S&P BBB+ rating.

2.91. Adopting our proposed run-off rates would partly address the financeability constraint, although other solutions would be required. It would also partly improve intergenerational equity by bringing rates closer to the 'natural' rates thereby reducing the degree to which future customers pay for today's customers' benefits.

Table 10: Financial ratios under the PD and after applying the SoC run-off rates

Metric	PD run-off rates	Our proposed run-off rates
Moody's		
AICR	1.77x	1.77x
Headroom to Baa1 (AICR)	0.17x	0.17x
Fitch		
Cash PMICR	1.76x	1.76x
Headroom to BBB+ (Cash PMICR)	0.06x	0.06x
S&P		
FFO/debt	10.2%	10.4%
Headroom to BBB+ (FFO/debt)	-0.8%	-0.6%

Source: Analysis undertaken using the PR24 Financial Model.
Note: Ratios exclude the impact of Delivery Mechanism totex and other contingent allowances.

[54] Southern Water, September 2024, PR24 Draft Determination Response, page 203.
[55] Ofwat PR24 Final Methodology, Appendix 10 Aligning risk and return, page 55.
[56] Southern Water Statement of Case, page 575, para 11.

2.92. In our financeability assessment set out previously (as in our SoC), we included all totex included within the Delivery Mechanism (DM) and other contingent allowances in order to provide a realistic, central view of financeability. The effect is that the notional company requires a larger quantum of new equity to maintain notional gearing close to the 55% assumption adopted in the PD, and therefore would also incur higher equity issuance costs, which should be funded.

2.93. Table 11 sets out the financial ratios on the basis of our proposed run-off rates and the totex request in our SoS, considering all contingent allowances i.e. assuming they are spent. Financial ratios remain broadly unchanged when considering all contingent allowances, however the new equity requirement for the notional company increases by c.£500m to £1.78bn, a very substantial amount in view of the investability challenge.

Table 11: Financial ratios considering the SoC run-off rates and conditional allowances

Metric	PD run-off rates, no conditional allowances	Our proposed run-off rates, no conditional allowances	Our proposed run-off rates, all conditional allowances
Moody's			
AICR	1.77x	1.77x	1.77x
Headroom to Baa1 (AICR)	0.17x	0.17x	0.17x
Fitch			
Cash PMICR	1.76x	1.76x	1.76x
Headroom to BBB+ (Cash PMICR)	0.06x	0.06x	0.06x
S&P			
FFO/debt	10.2%	10.4%	10.3%
Headroom to BBB+ (FFO/debt)	-0.8%	-0.6%	-0.7%

Source: Analysis undertaken using the PR24 Financial Model.
Note: Totex assumed as per our SoC, including all contingent allowances – does not consider post-SoC changes to contingent allowances.

Our solutions

2.94. In its final determination, the CMA should revert to the run-off rates we proposed in our SoC and response to the draft determination. That would reduce the financeability gap and improve intergenerational fairness.

2.95. The CMA should assess financeability on the basis of totex included that within the DM and all other contingent allowances e.g. Large Scheme Gated. It should note that in Ofwat's blind-year adjustment draft determination[57], it has already proposed to increase our AMP8 expenditure allowances by £392.4m (c.73% of DM totex in Ofwat's FD) to reflect the removal of certain schemes from the DM, with further schemes to be considered in later years.

2.96. These schemes are statutory, so the CMA should include all allowances, including the allowances the equity issuance costs and retail bad debt. The CMA should require Ofwat to include these factors in its annual reconciliation of the DM and other contingent allowances.

[57] Ofwat, October 2025, Draft determination adjusting for actual company performance in 2024-25: Blind year adjustment Southern Water. Draft-determination-adjusting-for-actual-company-performance-in-2024-25-Blind-year-adjustment-Southern-Water.pdf

Issue 4: The PD is not a 'fair bet'

The PD concludes that the package is broadly balanced and therefore a 'fair bet' under the assumption that downside skew on outcomes risk ("**Outcomes**") is offset by a small upside skew on finance risk ("**Financing**").[58]

The conclusion is predicated on Ofwat's risk analysis at FD. CMA does not conduct independent analysis which reflects changes made at PD nor that addresses the methodological issues identified in our SoC with Ofwat's approach.

Our response

2.97. The CMA concludes the PD package is balanced as to risk because the cost framework is assumed to be broadly balanced, the "ODI [Outcomes] regime implies a slight downside skew…of no more than -0.2%", and Financing exhibits "a small positive skew" of less than 0.3% RoRE calculated by Ofwat at FD.[59] The PD assumes the negative skew on Outcomes and positive skew on Financing offset to yield a balanced package overall.

2.98. We consider this assumption to be flawed and that the CMA has not taken full account of the evidence submitted in its conclusion that the package represents balanced risk and return. The assumed Financing outperformance is as a result of critical logic errors. Once these errors are correct for, the package represented by the PD is shown to be imbalanced. We address the issues of Financing, Outcomes, and impact on the balance of risk in the following subsections.

Financing

2.99. The PD expects Financing outperformance based on several flawed assumptions which are internally inconsistent and do not reflect the shape of the distribution:

- Inconsistent inclusion of calibration risk: recognition of positive Financing inflation risk but omission of calibration risk on Totex and Outcomes by assuming allowances and PCLs are achievable in expectation without testing;
- Ofwat's Financing risk analysis is dependent on the long-term CPIH assumption of 2.0% per the FD, does not reflect the 2.4% adopted in the PD, and would change under this scenario;
- Use of the midpoint of Ofwat's inflation analysis with no consideration for the median: a more statistically robust measure that yields a negative risk position; and
- A misinterpretation of the evidence submitted by KPMG on new debt risk to conclude it is broadly balanced.

2.100. **Calibration**: Inflation risk is entirely calibration; there is no design risk arising from asymmetric regulatory mechanisms. CMA omits calibration risk on Totex and Outcomes

[58] CMA PD, Vol 4, para 8.121.
[59] CMA PD, Vol 4, para 8.121.

by assuming the allowances and PCLs are achievable. It is not clear why the CMA has deviated from this assumption for Financing and assumed positive calibration risk.

2.101. **Inflation**: Ofwat's Financing outperformance relied upon by the PD used a 2.0% long-term inflation assumption and does not reflect the PD's 2.4% assumption. It therefore cannot be used to conclude Financing risk at PD is positive.

2.102. Updating Ofwat's FD inflation analysis for the 2.4% long-term CPIH assumption and CMA's data cut-off of June 2025 results in downside skew of -14bps and -50bps using the midpoint and P50 respectively.[60]

2.103. Updating KPMG inflation analysis and including a long-term view of CPIH of 2.1% from the OBR's most recent official forecast[61] demonstrates a P50 expected position of -37bps.[62]

2.104. The PD's use of a 2.4% CPIH assumption for WACC but omission for Financing risk analysis effectively double counts inflation. Inflation risk would be broadly balanced if the CMA adopts 2.1% long-term CPIH.

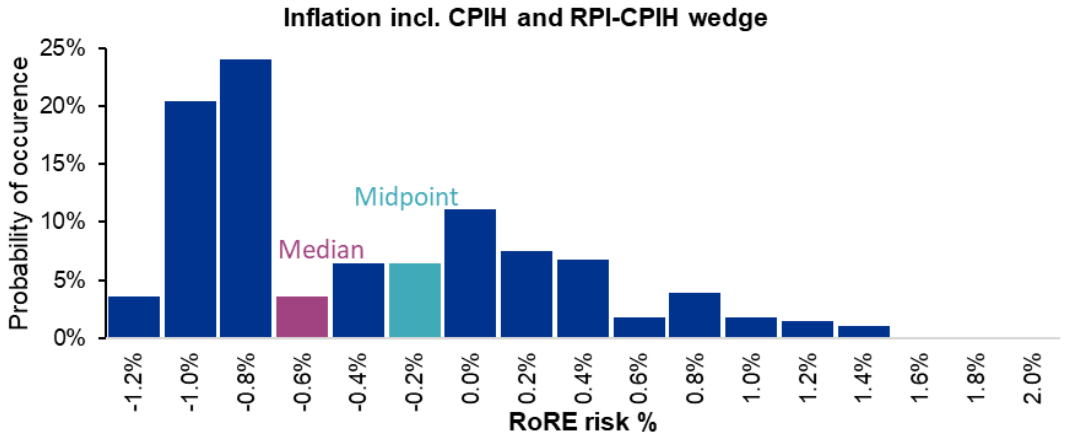
2.105. **Measure of central tendency**: Ofwat's FD inflation analysis concluded inflation risk was positive using the midpoint between P10 and P90, however the median was negative.[63] The midpoint is not a statistically supported measure of central tendency. It does not capture the impact of skew in a dataset.

2.106. Both the midpoint and median of inflation RoRE risk in Ofwat's analysis are negative when updated to June 2025. However, inflation risk is skewed and therefore the midpoint (-14bps) misstates the central view. The median (-50bps) is a statistically supported measure of central tendency and most appropriately represents the expected position.

2.107. The skew in the inflation dataset is demonstrated in Figure 4, which presents RoRE risk per Ofwat's inflation analysis updated for the 2.4% CPIH adopted in the PD and a June 2025 cut-off. The midpoint clearly misstates the actual central view measured by the median because of the distribution asymmetry: Negative RoRE outcomes are concentrated between -0.6% and -1.0% but the distribution exhibits a long tail of positive RoRE outcomes.

[60] PDR-2-003 KPMG, November 2025, Analysis of and commentary on risk and financeability in PR24 Provisional Determinations, table 2.
[61] OBR (March 2025), Economic and Fiscal Outlook. See PDR-2-003 - KPMG, November 2025, Analysis of and commentary on risk and financeability in PR24 PDs, section 2.2.
[62] PDR-2-003 - KPMG, November 2025, Analysis of and commentary on risk and financeability in PR24 PDs, section 2.2
[63] CMA, July 2025, Risk and Return Hearing Day 2 (Notes of a hearing with Ofwat, WSX, SRN, SEW, NES and ANH held at CMA, Cabot Square, London on 2 July 2025), page 9, para 19.

Figure 4: Skew present in RoRE impact of inflation per Ofwat's inflation risk analysis updated for 2.4% CPIH and June-2025 cut-off



Source: Southern Water analysis.

2.108. The CMA should consider the P50 median position for Financing and all risks when evaluating whether its FD is balanced.

2.109. **New debt**: The PD incorrectly interprets KPMG's analysis of new debt to have excluded the 30bps uplift and therefore erroneously concluded that KPMG's analysis would present balanced new debt risk if the uplift were reflected.[64]

2.110. KPMG's analysis incorporated the 30bps new issuance premium on iBoxx A/BBB 10+ as prescribed in the FD[65] and demonstrated downward skew. Updating the KPMG analysis for CMA's data cut-off results in a P50 of -10bps.[66] There is clear evidence that new debt risk results in a negative expected position.

2.111. Bringing these elements together, Table 12 demonstrates Financing risk updated for the PD's assumption of 2.4% long-term CPIH and June 2025 cut-off under both Ofwat's and KPMG's methodologies.

Table 12: Financing risk updated for PD long-term inflation and PD June 2025 data cut-off

	P10	P50	P90
Ofwat inflation	-0.86%	-0.50%	0.57%
KPMG			
Real interest rate, new debt	-0.19%	-0.10%	0.12%
CPIH impact on fixed debt, embedded and new	-1.27%	-0.25%	0.71%
RPI-CPIH wedge impact on RPI-linked debt, embedded	-0.41%	-0.08%	0.23%
CPI-CPIH wedge impact on CPI-linked debt, embedded and new	-0.09%	-0.04%	0.02%
KPMG Financing risk	**-1.83%**	**-0.44%**	**0.91%**

Source: PDR-2-003 - KPMG, November 2025, Analysis of and commentary on risk and financeability in PR24 PD, table 3

2.112. We present ranges as per the PD data cut-off of June 2025 to challenge the PD's balance of risk. However, critically for the CMA's FD, Ofwat and KPMG financing risk continue to

64 CMA PD, Vol 4, para 8.92.
65 PDR-2-003 - KPMG, November 2025, Analysis of and commentary on risk and financeability in PR24 PDs, section 2.2.
66 This analysis controls for tenor when comparing issuances to iBoxx A/BBB 10+. See ***Issue 3: Other cost of debt parameters / Cost of new debt / Controlling for tenor***.

exhibit downward skew when updated for a September 2025 cut-off. Ofwat's inflation analysis exhibits midpoint and median measures of -0.05% and -0.48% respectively. KPMG's inflation analysis remains the same at P50 and exhibits 4bps more downside at P10. KPMG's new debt risk is broadly unchanged. In combination, KPMG's analysis updated for September 2025 exhibits a P50 of -0.43% and a P10 of -1.87%.

Outcomes

2.113. We agree with the CMA that Outcomes were downward skewed in the FD, which is consistent with the risk analysis submitted to the CMA in our SoC[67], by Ofwat, and by KPMG.[68] We also agree that downward skew remains after adjusting for PD changes, which we determine through updated risk analysis.

2.114. Risk can be comprised of design and calibration risk. The PD dismisses calibration risk on Outcomes under the assumption that the package of PCLs set by Ofwat at PR24 and PD are achievable.[69] The PD assumes downward skew is no more than -0.2% driven only by design risk[70]. We do not agree with this assertion.

2.115. We have updated our risk analysis on Outcomes for a notional company operating in our area ("Notional-like SWS") to: (1) utilise the data which underpinned Ofwat's analysis; (2) incorporate Ofwat's FD RoRE ranges for ODIs not previously included in our risk analysis[71]; (3) assume that PCLs are achievable at P50 to capture design risk only; and (4) reflect the PD's change to Water Supply Interruptions PCL and Total Pollution Incidents incentive rate. The results are presented in Table 13.

Table 13: Outcomes design risk, updated for PD

	P10	P50	P90
Median notional WaSC[72]	-1.47%	-0.33%	0.71%
Notional company like Southern Water	-1.60%	-0.40%	0.73%

Source: PDR-2-003 - KPMG, November 2025, Analysis of and commentary on risk and financeability in PR24 PDs, table 6 and Southern Water analysis.

2.116. The updated analysis demonstrates an expected downward skew on Outcomes of -0.40% which is greater in magnitude than the PD assumption of c.-0.2% based on Ofwat's analysis. Our analysis incorporates asymmetry of the underlying dataset through use of the Metalog distribution and median measure of central tendency. In contrast, Ofwat's analysis uses normal distributions for most ODIs and a midpoint measure of central tendency which do not capture asymmetry. This methodological weakness was recognised by Grant Thornton in a report commissioned by Ofwat which recommended *"[Ofwat] continue refining the Monte Carlo simulation…to*

67 Southern Water Statement of Case, page 72, table 7.
68 KPMG, January 2025, PR24 FDs – risk analysis for a notional company, SOC-1-0001.
69 CMA PD, Vol 4, para 8.61.
70 CMA PD, Vol 4, para 8.121.
71 BR-MeX, Storm Overflows, Bathing Water Quality, Biodiversity, Operational Greenhouse Gases Water, Operational Greenhouse Gases Wastewater.
72 PDR-2-003 - KPMG, November 2025, Analysis of and commentary on risk and financeability in PR24 Provisional Determinations, table 6.

ensure distributional assumptions are valid and reflective of actual performance".[73] Nonetheless, both analyses clearly indicate negative downside skew in the Outcomes package before considering calibration.

2.117. Worse design risk for a company operating in our region is predominantly driven by higher incentive rates on C-MeX and D-MeX and greater scope for Total Pollution Incidents underperformance because of the ecological characteristics of our region.

2.118. The PD concludes there is no calibration risk on ODIs based on (1) calibration risk being addressed at source through targeted changes to Water Supply Interruptions ("WSI") PCL and Total Pollution Incidents incentive rate[74], and (2) AMP7 underperformance on residual ODIs being driven by exceptional factors which will not reoccur in AMP8.

2.119. We welcome the changes made in the PD to WSI PCL and Total Pollution Incidents incentive rate.[75] However, we see no evidence that CMA has carried out its own analysis of the achievability of PCLs as part of the re-determination. We are concerned that CMA is treating many aspects of AMP7 risk as outlier events instead of assessing root causes and the likelihood of recurrence. In our view, the PD changes do not adequately address the downside skew in the package nor eliminate calibration risk.

2.120. In AMP7, only two companies outperformed on Outcomes which was attributable to bespoke ODIs. The sector wide underperformance highlights the criticality of CMA effectively challenging the regulatory decision as part of the redetermination. The PD attributes underperformance to exceptional factors such as extreme weather which it concludes is not relevant for AMP8 performance expectations.

2.121. This position is inconsistent with the PD's recognition of the increasing challenges posed by climate change and with Ofwat's. Ofwat stated in their 2025 Climate Adaptation Report "*… risks from droughts, storms, floods, heatwaves and other extreme weather events are escalating and increasing pressure on water supply and wastewater infrastructure, customers communities and the environment."*[76] We demonstrated the link between weather and performance in our Draft Determination Response where we identified several Wastewater ODIs for which performance is positively correlated with rainfall.[77]

2.122. The PD leaves material calibration risk primarily on two key ODIs: 1) Storm Overflows: recent outturn data points indicate a need to recalibrate the PCL and our PCL was subject to a spreadsheet error which results in materially more stretch than the rest of the sector; and 2) C-MeX: the PCL does not consider the declining trend in water sector scores relative to UKCSI due to negative media sentiment. See section Performance Commitments (PCs) and Outcomes Delivery Incentives (ODIs) for details of the miscalibration of these ODIs.

[73] Grant Thornton, August 2024, A review of Ofwat's PR24 modelled risk of the Outcomes package, page 6, Link
[74] CMA PD, Vol 4, para 8.61.
[75] CMA PD, Vol 4, table 9.4.
[76] Ofwat, February 2025, Ofwat's 4th Climate Adaptation Report, page 6. Link
[77] Southern Water, August 2024, SRN PR24 DD Response Document, page 34 SOC-0002.

2.123. In addition, we included substantial evidence in our SoC on the impact ecological characteristics of our area have on Total Pollution Incidents performance.[78] This is a key area of risk for a company operating in our region which the PD does not comment on. Ofwat's consultation on Total Pollution Incidents design proposes to give no financial reward or penalty to the median performance.[79] While this would eliminate calibration risk for the median company, it does not address our probable underperformance relative to the median as a result of our heightened exposure to ecological environments.

Balance of risk

2.124. We have clearly demonstrated the PD is downside skewed at the P50 expected position across Financing and Outcomes. Further, there remain substantial gaps in Totex funding required to deliver our AMP8 programme which are covered in detail in Base Costs and Enhancements sections. Quantifying the miscalibration yields expected performance on Totex of -151bps RoRE.

2.125. To understand the balance of risk across the package, we present updated risk analysis reflecting the PD's changes to the regulatory framework. Our analysis also reflects the PD's commentary on methodology adopted in our SoC and is therefore a highly conservative view with design-only risk on Totex and Outcomes.[80] See Table 14.

Table 14: RoRE risk ranges for notional-like SWS per PD aligned methodology

	P10	P50	P90
Totex	-2.06%	0.00%*	2.05%
Retail	-0.30%	0.00%*	0.30%
Outcomes	-1.60%	-0.40%*	0.73%
Financing	-1.83%	-0.44%	0.91%
Revenue & other	-0.08%	0.00%	0.00%
Simulated results	**-3.73%**	**-0.89%**	**1.94%**

Source: Southern water analysis.
* P50 is most impacted by the adoption of a methodology that aligns with the PD framework. This approach does not capture the risk that allowances and PCLs may not be achievable in expectation because of factors outside our control, e.g. climate.

2.126. The ranges presented do not include calibration risk on Totex or Outcomes. However, we do dispute the PD's conclusion that calibration risk has been sufficiently addressed by the targeted changes made in the PD.[81] The PD does not test whether the Totex allowances or PCLs are achievable in practice and therefore cannot conclude that they do not give rise to calibration risk. The issues with LASSO

[78] Southern Water SoC, p 69 & KPMG, March 2025, Impact of exogenous risk factors on wastewater ODI performance, SOC-1-0004.
[79] Ofwat, October 2025, Consultation on changes to three PR24 environmental performance commitment, table 1, Link
[80] Updated RoRE ranges for a notional company like Southern Water is calculated using the following assumptions:
- Totex: ±8.5% overspend assumption from AMP6 data adopted in the Ofwat FD analysis. Design only scenario such that allowances are achievable at P50. AMP8 sharing rates applied to Base and Enhancement to capture increased protection.
- Retail: ±30bps per Ofwat analysis using AMP6 cost risk.
- ODIs: Design only scenario such that PCLs are achievable at P50, augmented with Ofwat's ranges for Outcomes not modelled in our SoC : BR-MeX, SOF, BWQ, BIO, OGW, OGWW.
- Financing: KPMG analysis updated for 2.4% CPIH long-term assumption and new debt risk.
- Revenue and DPC unchanged from FD (-8bps combined at P10).

For full detail of the methodological updates for this scenario, see PDR-2-003 - KPMG, November 2025, Analysis of and commentary on risk and financeability in PR24 PDs, section 3.2
[81] CMA PD, Vol 4, para 8.61.

modelling of base costs identified in the PD response process highlights one example of how miscalibration could occur.

2.127. Nonetheless, a negative expected position across Financing and Outcomes rebuts the PD conclusion that the package is broadly balanced. A notional company would be expected to earn less than the allowed return under the PD.

Financeability

2.128. Table 15 sets out metrics under the financeability assessment when considering the expected (P50) performance under the PD. The notional company would fail to achieve the target Baa1/BBB+ rating with both Fitch and S&P, where for the latter the shortfall would increase further compared to that relied upon in the PD financeability assessment.

Table 15: Metrics for the notional company under the PD and considering P50 risk

	PD	P50
Moody's		
AICR	1.77x	1.64x
Headroom to Baa1 (AICR)	0.17x	0.04x
Headroom to Baa2 (AICR)	0.37x	0.24x
Fitch		
Cash PMICR	1.76x	1.63x
Headroom to BBB+ (Cash PMICR)	0.06x	-0.07x
Headroom to BBB (Cash PMICR)	0.26x	0.13x
S&P		
FFO/debt	10.2%	9.6%
Headroom to BBB+ (FFO/debt)	-0.8%	-1.4%
Headroom to BBB (FFO/debt)	2.2%	1.6%

Source: Southern water analysis.
Note: Ratios exclude the impact of Delivery Mechanism totex and other conditional allowances, and exclude the impact of reprofiling adjustments. Run-off rates as set out in the PD.

Our solutions

2.129. We have clearly demonstrated that Financing exhibits downside skew and therefore does not offset the downside skew in Outcomes. The CMA must address this skew to ensure its FD is balanced such that investors can expect to earn the allowed return.

2.130. Financing downside skew should be addressed by revising the long-term CPIH assumption to 2.1% and by updating the allowance for cost of new debt to mitigate the expected underperformance against iBoxx A/BBB 10+ including 30bps uplift.

2.131. Outcomes downside skew should first be addressed at source, as we recommended in our SoC.[82] See section *Performance Commitments (PCs) and Outcomes Delivery Incentives (ODIs)* for ODI specific remedies on PCLs and rates.

2.132. The CMA should assess whether the Outcomes package is balanced following changes targeting risk at source and provide the evidence it relies upon to conclude that each PCL is achievable in expectation. Any residual risk should be addressed

[82] Southern Water Statement of Case, page 383, para 88.

and could be remediated by removing the OAM deadband and/or providing an explicit risk premium to the cost of equity equal to the residual downside skew.

Issue 5: The cost of debt assumption for the financeability assessment is miscalibrated

The CMA assumed that 90% of opening index-linked debt would be RPI-linked, with a cash cost of 2.48%, and that the remainder – including all new index-linked debt raised during AMP8 – would be CPIH-linked, with a cash cost of 2.98%.

Our response

2.133. The CMA's assumption on index-linked debt[83] is inconsistent with financing options available to companies. In practice, the market for CPIH-linked debt is very limited, modest in capacity, and any new inflation-linked liabilities are likely to be linked to CPI. The CMA's assumption that all new debt raised during AMP8 would be CPIH-linked (as well as 10% of the opening balance) has the effect of understating the notional company's interest costs on that proportion of debt by 40bps (the CMA's CPIH-CPI wedge assumption) and by c. 5bps, on average, for all debt.

Our solutions

2.134. The CMA's financeability assessment should adopt assumptions on index-linked debt that are consistent with market evidence i.e. that in practice nearly all new index-linked issuance is likely to be linked to CPI, not CPIH. That would ensure the financeability assessment is undertaken on a basis that is consistent with market evidence and is not weakened as a result of inconsistent and unachievable assumptions.

Issue 6: The notional gearing assumption is not justified and weakens the financeability assessment

During the PR24 price review, Ofwat changed the notional gearing assumption to 55% without justification, which mechanically improves financeability metrics. The PD has maintained Ofwat's assumption of 55% in the PD.

Our response

2.135. The assumption in the PD is inconsistent with market evidence. It cites examples of companies deleveraging[84], but those were not undertaken in response to Ofwat's notional gearing policy, but rather in response to higher risk and tighter ratings thresholds. None of those companies targeted 55% gearing or determined their

[83] CMA PD, Vol 4, para 7.245.
[84] CMA PD, Vol 4, para 7.68.

financial policy based on the notional level. It should be noted that most companies in the sector challenged Ofwat's policy throughout the PR24 process.

2.136. The assumption of 55% notional gearing is also inconsistent with previous regulatory precedent. The CMA itself at PR19 redetermined gearing to be 60%[85] and has not justified why that assumption no longer holds true – or why revising the assumption downwards is superior.

2.137. The CMA recognises that the mechanistic degearing benefit from higher inflation during AMP7 did not lead to material degearing in the sector[86]. Instead it was offset by higher totex, a policy previously encouraged by Ofwat. Consequently, the implication of a reduction in notional gearing by 5% between AMP7 and AMP8 is that the notional company would need to raise new equity, over and over the requirement to fund the AMP8 investment programme, at a time when the sector faces an investability challenge.

2.138. The CMA's notional gearing assumption has the effect of weakening the financeability assessment. Table 16 sets out the financial ratios on the basis of 55% and 60%, making no other changes and adjusting the notional equity injection accordingly. The notional company would fall below the BBB+ IDR threshold with Fitch, further below the BBB+ threshold with S&P and retain minimal headroom against Baa1 with Moody's.

Table 16: Financial ratios under the PD at both 55% and 60% notional gearing

	55% gearing	60% gearing
Moody's		
AICR	1.77x	1.62x
Headroom to Baa1 (AICR)	0.17x	0.02x
Fitch		
Cash PMICR	1.76x	1.61x
Headroom to BBB+ (Cash PMICR)	0.06x	-0.09x
S&P		
FFO/debt	10.2%	8.8%
Headroom to BBB+ (FFO/debt)	-0.8%	-2.2%

Source: Analysis undertaken using PR24 Financial Model under the PD.
Note: Ratios exclude the impact of Delivery Mechanism totex and other conditional allowances, and exclude the impact of reprofiling adjustments. Run-off rates as set out in the PD.

Our solutions

2.139. The CMA should stress test the financeability assessment on the basis of 60% notional gearing (as well as on the basis of 55%), even if it retains the 55% notional gearing assumption for the purpose of determining the allowed return.

[85] CMA FD (PR19), Final Report, para 9.45.
[86] CMA PD, Vol 4, para 7.68.

Issue 7: The financeability model contains several errors

The financeability assessment in the PD was undertaken using a version of the Ofwat PR24 Financial Model, modified by the CMA to allow additional analysis.

Our response

2.140. The PR24 model used in the PD financeability assessment contained several miscalculations and formula errors, which have been summarised below. In some instances, the effect was to overstate credit metrics, in others to understate credit metrics, although the impact is relatively modest in the round. Those issues include the following.

2.141. In calculating RoRE penalties for stress testing, notional gearing, as opposed to the equity proportion (one minus notional gearing), is incorrectly used to derive regulated equity.[87]

2.142. RoRE penalties are applied as adjustment to revenue in each period, which does not consider the impact of those penalties on cumulative cashflow and therefore debt and interest costs are understated. That has the effect of understating the impact of RoRE penalties on financeability.[88]

2.143. In calculating RoRE penalties, a simple average of opening and closing RCV is used to derive regulated equity, rather than NPV-neutral RCV (which is the basis of allowed return).[89]

Our solutions

2.144. The CMA should correct for these flaws when undertaking financeability modelling of its FD to ensure the assessment is accurate.

[87] PR24-CMA-PD-Financial-model-Southern-Water-exc-DM_clean.xlsx', 'CMA calcs', H:L29.
[88] PR24-CMA-PD-Financial-model-Southern-Water-exc-DM_clean.xlsx', 'FinStat Appointee', N:R9.
[89] PR24-CMA-PD-Financial-model-Southern-Water-exc-DM_clean.xlsx', 'FinStat Appointee', H:L28.

3. Base Costs

Introduction

3.1. In this chapter, we identify the following issues with the CMA's PD, which we address in turn below.

CMA Document Reference	Issue Identified
Volume 1, paragraph 4.34-4.73	Issue 1: The base cost modelling at PD using LASSO is flawed
Volume 1, paragraph 4.34-4.73	**Issue 2:** Amending the application of LASSO is also flawed, which undermines confidence in its results
Volume 1, paragraph 4.34-4.73	**Issue 3:** Addressing the lack of confidence provided by the corrected LASSO modelling result and the CMA's efficiency assumption
Volume 1, paragraph 4.34-4.73	**Issue 4:** Allowances derived from LASSO should be cross checked against models which pass statistical tests, such as the models underpinning our SoC
Volume 1, paragraph 4.579-4.621, 4.622-4.652, 4.74-4.187	**Issue 5:** After finalising the base cost models, there are further factors that the CMA needs to consider

Overall position on base costs

3.2. As explained in Economic Insight's report[90], we have identified an error and several other issues in the CMA's application of LASSO to set base allowances in the PD.

3.3. In the circumstances, the CMA should re-issue its base cost proposals and we should be given adequate opportunity to respond substantively to those proposals.

3.4. This chapter of our Response therefore sets out the specific concerns we hold which undermine confidence in the allowances derived from LASSO (regardless of whether it is corrected or not). We acknowledge that LASSO is a useful tool for identifying relevant cost drivers which have been omitted from Ofwat's PR24 base models. We have set out some targeted adjustments and principles which the CMA can deploy to improve the performance of LASSO models. Should the CMA decide to proceed with LASSO despite the concerns raised, these adjustments partially mitigate the underlying lack of confidence in the allowances produced.

3.5. Given the enduring issues which fundamentally call into question the appropriateness of LASSO in selecting robust base cost models, we urge the CMA to use appropriate cross-checks against models that have demonstrated robustness through a range of statistical tests. This is essential to ensure that model selection is not only statistically sound, but also transparent and defensible in the context of regulatory decision making.

3.6. Ultimately, we demonstrate that the improved LASSO base modelling framework we propose, which improves predictive power in waste and considers data quality in water, leads to similar outcomes as the targeted adjustments to Ofwat's PR24

[90] PDR-3-001: Economic Insight, October 2025, An error in the CMA's implementation of LASSO.

modelling framework which underpinned our SoC base request. This cross-check provides a higher degree of confidence in either approach compared to the partially corrected approach presented by Economic Insight.

Issue 1: The base cost modelling at PD using LASSO is flawed

At PD, the CMA took a very different approach to Ofwat in its FD, by employing the LASSO technique for base costs modelling.

3.7. There is a major issue in how the CMA applied the LASSO technique in the PD, which leads to a large reduction in base allowances for the disputing companies. This issue must be corrected.

3.8. All Disputing Companies and Ofwat advised the CMA to be cautious if it applied the LASSO technique. Some of the risks we highlighted have manifested with the CMA's proposals.

3.9. The data-driven LASSO approach goes against recommendations from the Cunliffe Review to balance econometric outputs with expert judgement. We urge the CMA to adopt the appropriate regulatory judgement when considering the LASSO results.

Our response

3.10. On behalf of all the Disputing Companies, Economic Insight (**EI**) recently described[91] several issues with how the CMA applied the LASSO technique. These require definitive solutions before the FD.

3.11. The main issue is how the CMA specified the penalty parameter in its code, which is different to the method it described adopting. Amending this reduces allowances for the five disputing companies by £117m in water and £148m in wastewater, with a decrease of over £1.3bn across both for the entire sector. These are significant impacts which the CMA had not anticipated when it chose to adopt this novel modelling approach, as illustrated in the extensive commentary and justification of the published results in the PD.

3.12. We previously highlighted[92] several risks associated with modelling base costs through a LASSO technique. We explained these in the Base Costs hearing and all Parties advised the CMA to use caution if adopting this approach[93]. These risks include the inability of LASSO: a) to assess the data quality of candidate variables; b) to evaluate the economic rationale of variables; and c) to assess statistical performance of individual drivers.

[91] PDR-3-001: Economic Insight, October 2025, An error in the CMA's implementation of LASSO.
[92] Southern Water, June 2025, Southern Response to CMA Approach 11062025, pages 6-9.
[93] PR24 Base Costs Hearing Transcript, June 2025, pages 38-42.

3.13. At PD, these risks have been realised. The LASSO selected the APH variable in the wholesale water models despite its inadequate data quality, the regional wages and economies of scale at WTW variables despite showing counterintuitive economic effect in some models, penalising companies with high wages and small treatment works respectively. We continue to urge the CMA to employ targeted modelling principles to mitigate these risks and recommend some later in this chapter.

3.14. We also point out that the Independent Water Commission recommended that "*Econometric benchmarked outputs [should be] balanced with company-specific and expert supervisory judgement*"[94] . The data-driven LASSO modelling approach that the CMA has proposed implicitly moves away from this approach, with less regulatory judgement than Ofwat has used in determining base cost models previously.

Issue 2: Amending the application of LASSO is also flawed, which undermines confidence in its results

The disputing companies have provided a description of the error in the PD's LASSO model. However, even once the LASSO is applied correctly, there are significant concerns in the chosen model and resulting allowances.

3.15. LASSO makes selections that have no economic meaning such as regional wage and water economies of scale variables with incorrect signs in the top-down water model, and a variable based on unreliable data (APH). Its focus on statistical fit risks overfitting the data and inhibiting the models' ability to predict future costs. Therefore, the models mechanistically impose a more stringent catch-up challenge as companies appear more efficient. This is because LASSO's primary use case is to replicate historic costs.

3.16. LASSO is a tool for identifying relevant cost drivers, but it cannot be the only tool used. Should the CMA decide to retain LASSO in any form, it is important that the CMA recognises its flaws and provides targeted mitigations and cross-checks to ensure that the results are robust.

Our response

3.17. The LASSO technique, as applied in the PD, is untenable and requires serious corrections as outlined in EI's report. These amendments are completely necessary but are not sufficient by themselves, particularly given that there are further concerns which have not been resolved. The resulting corrected LASSO model[95] still has flaws and breaches Ofwat's modelling principles. These need to be addressed before finalising the models chosen.

[94] Independent Water Commission, Final Report, 21 July 2025, para 422.
[95] In addition to the correction made in Economic Insight's report, the corrected PD water allowance referred to in this report includes a correction for errors concerning the 'Economies of scale at WTW' driver which the CMA has already acknowledged and 'Weighted Average Complexity' (WAC) driver highlighted in the EI report.

3.18. The LASSO does not and cannot measure data quality and implicitly assumes that all variables are of good quality. Reviewing data quality is an additional check that needs to be taken prior to including a variable in the candidate set.

3.19. LASSO selects variables to maximise predictive power alone without regard to economic meaning. While LASSO can enhance explanatory power, there is a risk that the relationships it identifies may be spurious, or be the result of overfitting, rather than reflecting genuine economic or engineering linkages between costs and cost drivers. If specific model coefficients are the wrong sign, or the inclusion of a variable leads to counterintuitive results, the CMA should deal with this outside the model.

3.20. We acknowledge the CMA's approach to increasing model precision, but models must generalise to forecasted costs as well as replicate historic data. Overfitting, particularly with a small sample size, can lead to unintended consequences despite a model appearing to perform well on historic data. It can reduce error terms without reflecting genuine efficiency improvements. The catch-up challenge from such models may be unduly stringent, as is evident in the PD base models.

3.21. Instead, models should accurately reflect a water company's cost function, which should be stable over time. Yet, adding or removing a year of data can change the variables that LASSO selects. This indicates a rapidly changing and unstable cost function over time, which is not the reality of the water sector. Therefore, the CMA should augment LASSO methodology with economic logic and regulatory judgement.

3.22. LASSO, also for reasons of maximising statistical fit, has eliminated the bottom-up wastewater models (and bottom-up water models when corrected as per EI's report). This renders it completely unable to assess our claim regarding higher costs for operating in coastal areas. The CMA must therefore consider the statistical quality of our claim outside its current LASSO framework. We note that the CMA has questioned the engineering rationale and unit costs related to the coastal population variable and we respond to these in a later section of this chapter.

Our solution

3.23. These remaining flaws mean that the CMA should employ some targeted principles to improve the base modelling. We and other Parties have already explained these in previous representations[96] [97]. Ofwat set out a range of model robustness tests that it used to assess each econometric cost model, each with a relative degree of importance. None of the disputing parties challenged these tests. We propose adjustments that better reflect economic principles while also improving the RMSE relative to the models presented in the CMA's PD. We understand that RMSE was a key decision criterion for the CMA, and we believe our recommendations also help to

[96] Southern Water, June 2025, Southern Response to CMA Approach 11062025, pages 6-9.
[97] PR24 Base Costs Hearing Transcript, June 2025, pages 38-42.

mitigate the risks associated with overfitting and thereby enhance the overall robustness of the approach to setting base allowances.

3.24. LASSO is a tool for identifying relevant cost drivers for base modelling. It has shown that certain proposed additions to the models for example wages, can improve the statistical fit[98]. However, the CMA must not rely on it alone to make its FD base costs decisions but instead employ key, targeted principles alongside it.

Issue 3: Addressing the lack of confidence provided by the corrected LASSO modelling result and the CMA's efficiency assumption

After using LASSO to select base cost models, the CMA has used a mechanistic approach to setting the catch-up efficiency challenge. It has not accounted for the way in which LASSO replicates cost, as opposed to measuring relative efficiency.

In applying the same mechanistic approach to setting the catch-up challenge as at FD, despite using models derived from LASSO, the CMA is implicitly assuming companies should be subject to a higher challenge.

It also has not considered whether the upper quartile (UQ) companies in the efficiency ranking are appropriate benchmarks.

This has resulted in a far greater challenge than set in the FD because the CMA has not made appropriate adjustments to account for the shortfalls of using LASSO to predict costs.

3.25. LASSO produces models with little underlying economic logic which replicate costs rather than measuring relative differences in efficiency. The resulting catch-up challenge derived from LASSO cannot be considered reliable.

3.26. There are necessary regulatory judgements that the CMA needs to adopt prior to setting the degree of catch-up efficiency challenge and finalising base cost allowances. These are necessary to mitigate concerns raised by all parties with this approach.

3.27. Crucially the CMA needs to review if the stretching catch-up challenge arising from its model is appropriate or not. The CMA has not upheld Ofwat's Upper Quartile ("UQ") approach as it has neglected the necessary checks Ofwat require of companies selected for the UQ. Moreover, given the substantial changes adopted by the CMA in using LASSO, it needs to be more cautious in adopting any resulting efficiency challenge.

Our response

3.28. We have a number of concerns on how:

- The CMA has mechanically set a significantly stronger catch-up efficiency challenge than adopted by Ofwat;

[98] This is subject to a key improvement described later in this chapter.

- The inclusion of the energy term interacted with scale included in the models that fails to address issues that were the focus of Ofwat's PR24 energy adjustment;
- A lack of assessment on the data quality of the Average Pumping driver before its inclusion in the application of LASSO; and
- Including the Economies of Scale at WTW driver in the water base model despite counter-intuitive results.

3.29. We describe these concerns and why the CMA must carefully consider them below.

It is inappropriate to mechanically set a significantly stronger challenge than adopted by Ofwat

3.30. The CMA determined the catch-up challenge mechanically by applying Ofwat's approach from the FD. This approach uses the modelled UQ efficiency score to set the level of catch-up challenge applied. Ofwat's determination resulted in a lower challenge for the industry relative to the PD. In its FD, Ofwat explicitly decided a smaller challenge was appropriate given the additional financial headroom needed in AMP8, noting *"This approach leads to a smaller catch-up efficiency challenge…[which] therefore provides companies with headroom to deliver performance improvements with base expenditure allowances over the 2025-30 period"* [99].

3.31. Given Ofwat's clear reasoning, it is wrong for the CMA to set a more stringent efficiency challenge at this redetermination. This will inhibit companies from making necessary performance improvements.

3.32. LASSO is not using a structured cost function in which to assess costs. LASSO is replicating historic costs whether efficient or not as opposed to measuring relative efficiency. This is unsurprising given LASSO maximises predictive power rather than benchmarking companies against one another using a structured cost function to assess relative efficiency. For this reason, models resulting from LASSO should not be used to derive a catch-up challenge as it does not provide a reliable assessment of efficiency.

3.33. Instead, the CMA should adopt the same or similar efficiency challenge level as set out by Ofwat to avoid unintended negative consequences. A glide path is a potential option to mitigate these negative consequences. This mitigation would draw on precedent from Ofgem's RIIO-GD2 framework. Under Ofgem's approach the catchup efficiency transitions from a lower challenge in the first three years to its framework challenge level in the final two years of the price control period.[100]

There is precedent for the CMA reducing the efficiency benchmark below UQ at PR14

3.34. In the appeal of Bristol Water at PR14, the CMA reduced the efficiency challenge below UQ due to concerns that it would be "overly demanding" [101]. This was due to issues that it identified with Ofwat's models and its own development of alternative models. The CMA itself drew on regulatory precedent from both Ofgem and the CC

[99] Ofwat, December 2024, PR24 FD: Expenditure allowances, page 27.
[100] Ofgem, November 2022, RIIO ED2 FDs: Core Methodology Document, page 220, para 7.18.
[101] CMA, October 2015, Bristol Water PLC a reference under section 12(3)(a) of the Water Industry Act 1991, page 117.

(Competition Commission) regarding reduced efficiency challenges where modelling issues led to reduced confidence in the ensuing results.

3.35. This is a relevant precedent for the present CMA process. As explained above, there are several issues with the way in which the CMA has applied the LASSO technique which fundamentally undermine the degree of confidence which can be placed in it. Further, we are conscious of the short period available within the statutory appeal timescales.

3.36. The conditions under which the CMA chose an efficiency benchmark below the UQ at PR14 are similarly fulfilled now. Hence, we urge the CMA take a similar stance in the current process. With a view to a proportionate approach, we believe that restoring the efficiency challenges from Ofwat's FD would be appropriate.

The UQ companies arising from the LASSO model are not appropriate benchmarks

3.37. The CMA states that it is simply *"upholding the application of the [Ofwat] UQ catch up efficiency challenge"*[102]. In practice, it has not applied Ofwat's approach, as it has not undertaken any of the checks and balances that Ofwat conducted before setting the challenge. The PD uses a different set of base models which yield more stringent efficiency scores. Through applying the same mechanistic approach, the CMA is implicitly deciding that it is appropriate for disputing companies to face higher challenge than set by Ofwat.

3.38. Ofwat assessed whether there was evidence that the companies which influenced the efficiency benchmark had uncharacteristically low capital spend per property or if it performed poorly on outcomes over the five year catch up challenge assessment period.[103] While this was not relevant in the FD for the set of Upper Quartile companies, Ofwat did note that Welsh Water appeared to be in a clear capital maintenance trough for wastewater during the last five years.[104] Similarly, it noted HDD performed poorly on wastewater outcomes.[105] Both these companies were included in the set of Upper Quartile companies in the CMA's PD approach[106].

3.39. We conducted the same checks as Ofwat after adding actual data for 2023-24 and 2024-25 to the base cost dataset. This included an assessment on whether the UQ companies were in a capital maintenance trough or period of poor performance. It appears that the CMA has not carried out these checks. We present our analysis in the supporting documentation appendix PDR-3-002 which shows that, in wastewater, four companies are in a maintenance trough, and, in water, two companies are in a maintenance trough and two have low performance. These companies are set out in Table 17 below.

[102] CMA PD, Vol 1, para 4.68.
[103] Ofwat, July 2024, PR24 draft determinations: Expenditure allowances, page 24.
[104] Ofwat, July 2024, PR24 draft determinations: Expenditure allowances, page 27.
[105] Ofwat, July 2024, PR24 draft determinations: Expenditure allowances, page 146.
[106] CMA PD, Vol 5, para D.11.

Table 17: Companies with low performance or in a maintenance trough

Company	Water Score	Water UQ	Water Reason	Company	Waste Score	Waste UQ	Waste Reason
SSC	0.87	Y	Low performance	SVH	0.92	Y	Maintenance trough
BRL	0.91	Y	Maintenance trough	WSH	0.92	Y	Maintenance trough
HDD	0.94	Y	Maintenance trough	NWT	0.97		Maintenance trough
SEW	0.94	Y	Low performance				
AFW	1.01		Maintenance trough				

Source: Southern Water analysis.

3.40. All these companies should be excluded from the efficiency challenge calculation under Ofwat's own criteria. The CMA should instead set the UQ catch up challenge based on the remaining set of companies. By adopting this approach, and following the complete Ofwat process for setting the catch-up challenge, the CMA would end up with a similar challenge to that set originally by Ofwat at FD.

The inclusion of an energy term in the model fails to address issues that were the focus of Ofwat's adjustment

3.41. In deciding whether to include an energy term in the model, thereby replacing the out-of-model adjustment proposed by Ofwat, the CMA should have regard for the reasons for the adjustment having been included and assess whether the inclusion of an energy term in models addresses the same concerns.

3.42. Ofwat included a sector wide cost adjustment for energy costs to address the concern that base cost models did not account for the recent increase in energy costs. Ofwat's approach led to a £1.3bn adjustment across the sector, including £62m for Southern Water[107]. As demonstrated during the redetermination process, the adjustment made by Ofwat penalised us for specific circumstances (having hedged energy costs in AMP7). While these specific concerns need to be addressed in the redetermination, neither we nor any of the other disputing companies disagreed with Ofwat's overall approach of including a sector wide cost adjustment.

3.43. However, the impact of the CMA's proposed within-model approach to energy on sector allowances is minimal (and potentially even negative). This implies that taking this approach will result in a significant shortfall compared with Ofwat's £1.3bn sector-wide adjustment.

3.44. The limited impact of the CMA's interventions is because including the variable in the model has knock-on impacts on other aspects of the base models. This is due to the catch-up challenge being more stringent, largely eliminating any modelled uplift from including this driver (as the CMA has recognised[108]). We understand that Ofwat chose not to include an energy term in its model due to these effects as *"it had a detrimental impact on the performance of the models"*[109].

[107] Ofwat, December 2024, PR24 FDs: Expenditure allowances, page 54, Table 6.
[108] CMA PD, Vol 1, para 4.65.
[109] PR24 Base Costs Hearing Transcript, June 2025, page 31, lines 2-3.

3.45. The CMA's proposed approach to include energy costs in the model does not address the original concerns dealt with through the out of model energy adjustment, i.e. that the original modelling did not provide sufficient allowance and a significant upward adjustment was required, nor does the CMA's proposed approach address the specific request we made during the redetermination process.

If the CMA persists with a within-model energy solution, an alternative "energy intensity" driver would be more appropriate in the wastewater model

3.46. An energy price driver based on the DESNZ index interacted with total pumping capacity was selected by LASSO in the CMA's PD wastewater model[110]. This driver effectively proxies the total energy expenditure of a company given it is a function of the price of energy and the total volume, or scale, of pumping capacity which is effectively a proxy for relative differences in energy consumption across networks.

3.47. The LASSO approach already includes load as a scale driver, which captures the relationship between scale and total costs (including energy costs). The inclusion of both an energy scale and a total scale driver in the model introduces further concerns of overfitting in addition to the underlying issues with LASSO's application. We are concerned by the potential redundancy introduced by two drivers of scale as it may result in the model fitting spurious relationships.

3.48. We have evaluated an alternative *"energy intensity"* driver in wastewater models which partially remedies this risk, defined as the *"energy price index interacted with pumping capacity per sewer length"*. This approach captures the relative energy intensity of network operations and therefore the extent to which they are exposed to energy price fluctuations, as networks with more pumping capacity per length will require more energy.

3.49. We consider that this energy intensity term is a more appropriate measure of a company's exposure to energy costs. This approach mitigates the risk arising from the use of the energy scale driver which captures underlying differences in energy consumption patterns that are partially driven by relative differences in energy efficiency between companies.

3.50. The engineering logic indicating that the energy intensity driver is superior to the energy scale driver in wastewater operations is corroborated by the application of LASSO. When replacing the energy scale interaction term with the energy intensity interaction term in the LASSO candidate pool, LASSO includes the energy intensity driver, achieving a significantly improved RMSE of 33.19 (compared to 34.85 in the corrected PD LASSO approach). The energy intensity driver provides more predictive power and therefore should be included in the wastewater base model under the CMA's PD model selection criterion.

[110] CMA PD. Vol 1, Table 4.1.

LASSO itself cannot assess whether APH data quality is sufficient. The CMA needs to undertake a separate assessment

3.51. Data quality is a crucial aspect of the base cost assessment. As we explained in our SoC, Ofwat specifically introduced a new principle for cost assessment at PR24, that *"data used in our base cost assessment approach is good quality".*[111]

3.52. We explained that there were long-standing data quality issues with the APH variable that had been recognised by Ofwat and the CMA at PR19 which prevented it being included in the base cost models. We set out that any recent marginal improvements in data quality were not sufficient to overturn these data quality issues.

3.53. Our concerns regarding data quality were set out in depth both in our written submissions and at the base cost hearing.[112] We also explained that Ofwat had overridden over 30% of the company-submitted data for APH, which brings further concerns with relying on this data. These overrides are ad-hoc and non-transparent with no systematic methodology behind them. We also set out in the hearing explicitly our view that *"The LASSO is not able to identify whether variables in the model are high quality data or not"*[113].

3.54. Ad-hoc imputation methods – such as those used by Ofwat to override over 30% of the APH data – can negatively affect model performance when applied within a LASSO framework.[114] Specifically, such approaches may introduce bias, reduce precision and weaken predictive accuracy.

3.55. By including the APH variable in the set of candidate variables, the CMA has implicitly concluded that the data quality is good, despite no assessment being conducted of the representations we have made. We are concerned that the CMA has not analysed the quality of the APH data. This formed the basis of our claim, and it has not been assessed. We therefore request the CMA to conduct this assessment before deciding whether it is appropriate or not to include APH in the set of candidate variables for LASSO.

3.56. As a further check on the APH data quality and the impact of Ofwat overrides, the CMA should re-run the same specifications using both the original company-submitted APH data and Ofwat's overridden data. This would allow for a transparent comparison of the resulting coefficient's signs and magnitudes, as well as the impact on company allowances. Any material differences between the two scenarios would reinforce concerns about the reliability and quality of the APH data.

[111] Southern Water SoC, page 124, para 57.
[112] Southern Water SoC, page 124, para 59.
[113] PR24 Base Costs Hearing Transcript, June 2025, page 38, lines 14-15.
[114] Gunn, H. J., Hayati Rezvan, P., Fernández, M. I., & Comulada, W. S. (2023). How to apply variable selection machine learning algorithms with multiply imputed data: A missing discussion. *Psychological methods, 28*(2), 452.

Including Economies of Scale at WTW variable in the water model has counter-intuitive results

3.57. At PR24, Ofwat accepted claims from South East, Southern and Wessex related to additional costs from operating small WTWs. Ofwat agreed that the companies were unable to benefit from the same economies of scale as other companies.

3.58. In accepting these CACs, Ofwat gave additional allowances to Southern (£19.4m), Wessex (£4.5m) and South East (£14.3m). South East considered that this allowance was not sufficient and requested the CMA to increase this to £24m based on changes to the modelling approach used by Ofwat. South East argued that the value would increase if Ofwat's modelling change were applied also to the Wholesale Water models.

3.59. The CMA has chosen to assess this claim through the wider LASSO framework and included the average size of WTWs variable in the set of candidate variables for the water resources plus model. This variable is selected by LASSO and therefore the CMA has chosen to not allow for any of the original CACs related to this issue.

3.60. In the CMA's original PD models, this variable has a positive coefficient, implying that companies operating larger WTWs incur higher costs, which is not the sign that would be expected. This implies that this specific model runs counter to sound economic and engineering rationale.

3.61. Moreover, it appears that the CMA has misinterpreted the coefficient for this variable when deciding to include the variable in the LASSO and reject the related CACs. The CMA note that the variable *"attracts a negative coefficient, meaning that companies operating larger WTWs incur lower costs, even after controlling for other variables. As a result of these changes modelled water base cost allowances explicitly reflect forecast economies of scale at WTW. Consequently, our provisional decision is not to allow this South East CAC. We provisionally decide that the requirement underpinning this claim is met by the inclusion of the average size of WTWs variable in the WRP model."*[115]

3.62. Consequently, on 20th October, the CMA added a footnote to its website explaining it had identified an error stating *"Table D.3 in Appendix D incorrectly reports the coefficient for the variable 'Average volume per WTW (log)' as -0.08277. The correct value for this coefficient is +0.08277."* It is clear therefore that this variable was not performing as expected and the conclusions reached by the CMA in the PD do not stand.

3.63. In the Corrected LASSO model, this variable now has a negative coefficient of -0.029 but it is statistically insignificant. This instability in the coefficient's sign, coupled with its lack of statistical significance, suggests a potential issue with the driver or the model. When the sign of a coefficient of a driver fluctuates across different model specifications, it indicates an instability in its underlying relationship with costs, thereby undermining confidence in the driver as a reliable predictor of costs.

3.64. We investigated the impact of this variable being included by removing the average size of WTWs variable from the set of candidate variables and comparing the final

[115] CMA PD, Vol 1, paras 4.498-4.499.

model outcome. First, we find that the model performance improves when this driver is excluded, evidenced by the lower RMSE of the resulting model compared to the corrected LASSO model.[116] Second, we also find that counterintuitively, including this variable led to a lower allowance for all the three companies that a CAC had originally been provided for in Ofwat's FD – a further indication of the unsuitability of this driver. Southern's allowance was reduced by £3 million, South East by £12m and Wessex by £9m.

3.65. Given the negative effect of including this variable in the model, and the instability in the signs of the coefficient, it is clear that it does not address the original concerns dealt with through the original CAC adjustments made by Ofwat, nor the request made by South East for a further allowance. The result is that companies with small works beyond their control have both lost the previous compensation from their CACs and are penalised for those small works by the results of the LASSO model.

3.66. The CMA needs to remove the Economies of Scale at WTW variable from the candidate set of variables for the LASSO modelling. It then needs to reinstate the allowances provided by Ofwat for this issue to Southern, South East and Wessex. The CMA should then assess the claim made by South East separately to determine if this adjustment needs to be increased or not.

Our solution

3.67. In order to have confidence with the model results arising from the LASSO modelling, the CMA needs to adopt the following targeted changes:

- Ensure that the UQ challenge is set based on appropriate benchmark companies and is consistent with Ofwat's rationale;
- Remove APH from the set of candidate variables in the water model following a separate assessment of the data quality;
- Assess Economies of Scale at WTWs outside the model as targeted CACs; and
- Either reinstate the original Ofwat Energy adjustment or use an Energy intensity variable in the wastewater model.[117]

[116] This is also the case if we use the original PD models, where the RMSE of the model excluding WTW is 32.5 which is lower than the RMSE of the CMA model i.e. 33.1. The RMSE of the model excluding the economies of scale driver is 31.56 which is lower than the RMSE of 31.57 of the EI corrected model.

[117] The coefficient on the wage driver has a counterintuitive negative sign in the EI corrected model water model, therefore penalising companies in high wage areas. Excluding this driver from the models causes a material reduction in the magnitude of the coefficients of other drivers and distorts the model. Implementing our solutions causes the coefficient to become positive, indicating a potential instability in this driver. The CMA should consider adjusting for wage outside of the water models as a targeted CAC.

Issue 4: Allowances derived from LASSO should be cross checked against models which pass statistical tests, such as the models underpinning our SoC

The CMA has proposed the LASSO methodology for developing base allowances. While this is useful, it cannot be used in isolation. We have proposed several targeted changes to LASSO which provide more confidence in its reliability.

Our response

3.68. We stand behind the remedies and underlying evidence presented in our SoC. The base allowances requested in our SoC were largely based on targeted improvements to Ofwat's FD base modelling suite. This included the use of targeted within-model adjustments to estimate the value of several proposed remedies[118]. Ofwat's models were underpinned by economic and engineering logic having been extensively consulted, notwithstanding the issues we raised in our SoC. The adjusted PR24 models pass statistical robustness tests showing they are fit-for-purpose.

3.69. Should the CMA proceed to use LASSO for the purposes of determining base allowances, it should adopt the strengthened LASSO framework we have presented in response to Issue 3 above. This approach partially mitigates concerns surrounding the extent to which confidence can be placed in LASSO.

3.70. We still consider that cross-checks are required to validate the allowances yielded from any LASSO-based approach. The issues raised fundamentally undermine the degree of confidence we can place in the application of LASSO in isolation. However, we can see the value it has in identifying relevant cost drivers where appropriate cross-checks provide confidence to the CMA that the models are reliable.

3.71. Given the volatility and sensitivity of LASSO to various inputs, the CMA can only hold confidence in its outputs when tested against an alternative approach, such as PR24-style models with targeted adjustments to incorporate cost drivers that LASSO has revealed, including regional wages. This testing is essential to ensure robustness and avoid over-reliance on a single and unstable modelling framework.

3.72. Our SoC remedies were underpinned by targeted adjustments to Ofwat's PR24 modelling framework while utilising drivers of cost LASSO has also selected. We consider the SoC approach serves as a useful cross-check in which to compare LASSO against. In doing this, the CMA could validate the findings of a LASSO-based approach which maximises predictive power against a more rigorous PR24-style approach.

Proposed wastewater LASSO framework cross-checks

3.73. In Table 18, we present a wastewater LASSO framework with adjustments described in our response to Issue 3 versus what was proposed in our SoC.

[118] Southern Water: Statement of Case, Southern Water (2025) - Base cost Errors 1, 2, 4 and 5.

Table 18: Proposed top-down wastewater LASSO and SWS allowance versus SoC[119]

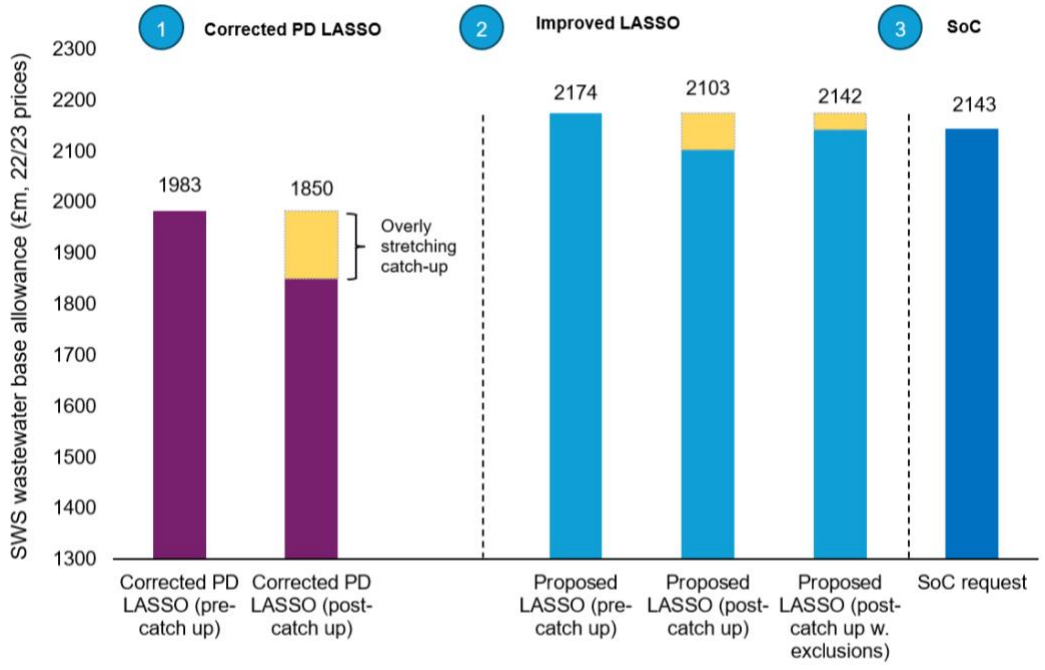
Cost drivers selected			
Load (log)	Density (log)	Pumping capacity per length (log)	Construction wages interacted with load
Load treated with ammonia consent ≤ 3mg/l (%)	LAD from MSOA - weighted average density (log)	MSOA - weighted average density (log)	Weighted average treatment size (log)
Load treated in size bands 1 to 3 (%)	Urban rainfall per sewer length (log)	Energy index interacted with pumping capacity per length	

RMSE	UQ catch-up challenge with exclusions (SVH & WSH)	LASSO allowance (post-catch up inc. UQ exclusions)	SoC requested allowance (post catch-up)
33.19	0.985	2,142	2,143

Note: LASSO excludes Sewer length (log).
Source: Southern Water calculation.

3.74. Table 18 shows that the targeted improvements we have made to the CMA's wastewater LASSO framework (which yields higher predictive power as measured by RMSE – the CMA's chosen model selection criterion in the PD), estimates a similar wastewater SWS allowance as requested in our SoC. The allowances estimated by each approach are within £1m of one another. This cross-check indicates that the improved LASSO model we have proposed is aligned with a more conservative yet robust modelling approach while achieving a higher degree of predictive power than the model presented in the PD.

Figure 5: Improved wastewater LASSO and SoC allowance request cross-check



Source: Southern Water calculations

[119] The full model specifications and efficiency scores are set out in supporting documentation PDR-3-003 – Proposed LASSO model specifications and efficiency scores.

3.75. Figure 5 above demonstrates the impact of moving from the corrected PD LASSO approach to the proposed LASSO approach. It also illustrates the impact on our allowance of moving from a catch-up challenge where no exclusions are made from the UQ in the improved LASSO scenario (resulting in a challenge of 0.967), to an approach where companies in a capital maintenance expenditure trough are appropriately excluded (resulting in a challenge of 0.985).

3.76. If the CMA were to adopt the improved LASSO framework we have proposed, a more conservative FD-style approach or a triangulated approach incorporating both, Figure 5 demonstrates it could have greater confidence in the resulting allowances than relying solely on the PD LASSO approach.

Proposed Wholesale water LASSO framework cross-checks

3.77. Table 19 shows that when adopting the improved LASSO approach set out above in our response to Issue 3 which considers data quality, and relaxes the unduly stringent catch-up efficiency challenge, water allowances are more closely aligned to those proposed within our SoC than estimated by the corrected PD LASSO approach.

Table 19: Proposed water LASSO framework and SWS allowance versus SoC[120]

Cost drivers selected			
Connected properties (log)	Water treated at complexity levels 3 to 6 (%)	Weighted average treatment complexity (log)	LAD from MSOA – Weighted average density (log)
LAD from MSOA – Squared weighted average density (log)	MSOA – Squared weighted average density	Wages interacted with the length of mains	Energy index interacted with the length of mains
Length of mains (log)	Booster pumping station per length of mains (log)		
RMSE	**UQ catch-up challenge with exclusions (SSC, BRL, HDD, SEW)**	**LASSO allowance (post-catch up inc. UQ exclusions)**	**SoC requested allowance (post catch-up)**
32.7	**0.992**	**973**	**994**

Note: LASSO excludes Properties per length (log), Properties per length – Squared (log), MSOA – Weighted average density (log).
Source: Southern Water calculation.

3.78. The LASSO model estimates a greater allowance for Southern Water compared to Ofwat's FD (after accounting for the energy adjustment and economies of scale at WTW CAC). This means that LASSO objectively indicates that our water base allowance should be higher before any subjective decision on the degree of catch-up efficiency challenge is applied.

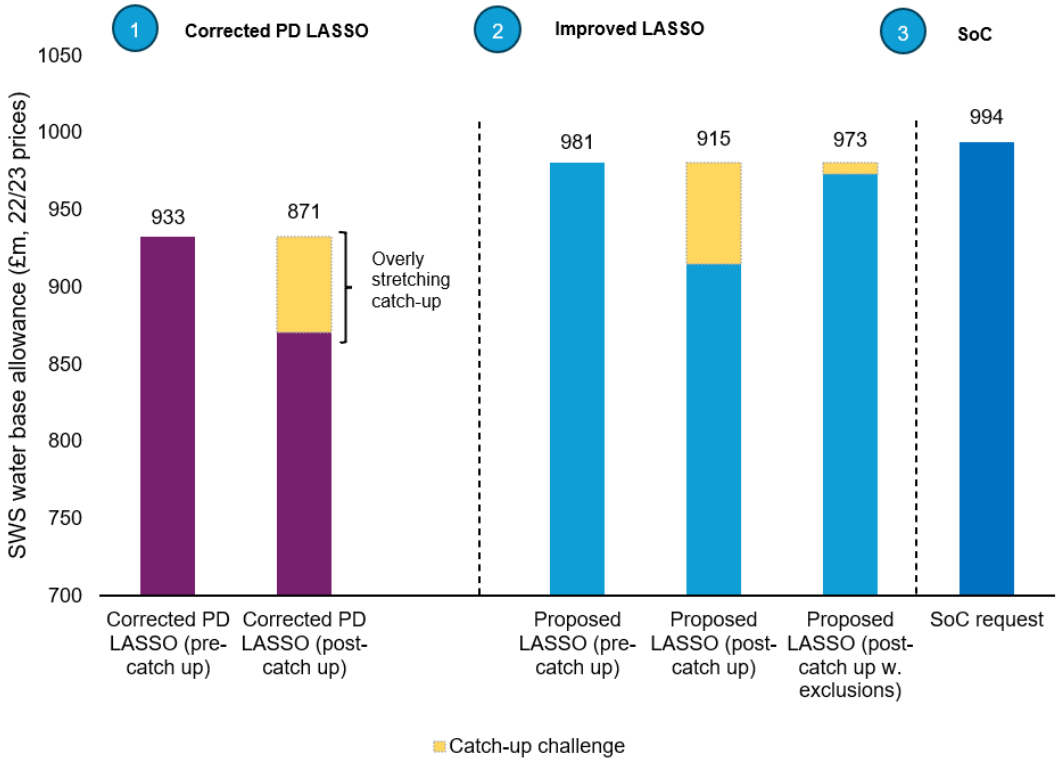
3.79. A further cross-check we have undertaken is the resulting catch-up efficiency challenge yielded from LASSO given it replicates costs as opposed to measure relative differences in efficiency through a structured cost function. This is why LASSO consistently yields a greater catch-up efficiency challenge than Ofwat's models when applying the same mechanistic approach. A degree of consistency in the modelled

[120] The full model specifications and efficiency scores are set out in PDR-3-003 – Proposed LASSO model specifications and efficiency scores.

efficiency between LASSO and adjusted PR24 models supports robustness, as it indicates that different modelling approaches yield similar efficiency outcomes, reinforcing confidence in the reliability and stability of estimated allowances.

3.80. Our cross-checks show that when removing poor performers or companies in a capital maintenance trough from the catch-up efficiency challenge estimated from the improved LASSO framework we propose, the UQ challenge moves from 0.93 to 0.99. This level of catch-up challenge is aligned with the PR24 models and gives us greater confidence in this improved LASSO approach. The resulting base water allowance is also more aligned with those presented within our SoC which made targeted adjustments to Ofwat's FD models.

Figure 6: Improved water LASSO and SoC allowance request cross-check[121]



Source: Southern Water calculation.

3.81. Figure 6 above demonstrates the impact of moving from the corrected PD LASSO approach to the proposed improved LASSO approach. It also illustrates the impact on our allowance of moving from a catch-up challenge where no exclusions are made from the UQ in the improved LASSO scenario (resulting in a challenge of 0.93), to an approach where companies in a capital maintenance expenditure trough are appropriately excluded (resulting in a challenge of 0.99 and closely aligned to the FD).

3.82. These cross-checks provide greater confidence in the allowances from the improved LASSO approach, or the allowances requested in our SoC, than in the corrected PD.

[121] In addition to the correction made in Economic Insight's report, the corrected PD water allowance includes a correction for errors concerning the 'Economies of scale at WTW' driver already acknowledged by the CMA, and 'Weighted Average Complexity' (WAC) driver highlighted in the EI report.

Our solution

3.83. Enduring issues have been identified which fundamentally undermine the confidence which can be placed in the application of LASSO in isolation when estimating base allowances.

3.84. We encourage the CMA to undertake cross-checks when assessing the validity of allowances yielded from LASSO. Only then can the CMA and Disputing Companies have confidence in the resulting allowances.

3.85. The cross-checks we have presented demonstrate that a higher degree of confidence can be placed in the improved LASSO approach we propose or with the targeted modelling adjustments we presented in our SoC.

3.86. We urge the CMA to consider using either of the above approaches, or triangulating between them, as opposed to solely relying on the corrected PD LASSO approach.

Issue 5: After finalising the base cost models, there are further factors that the CMA needs to consider

There are several base cost issues that the CMA has not sought to address through the LASSO model. These are still crucial to Southern Water and need to be considered fully as part of this redetermination.

Our response

3.87. The CMA's use of LASSO means that it cannot assess our coastal population CAC through this framework, as it is impactful only at the Sewage Treatment Work (SWT) level of aggregation. The evidence provided by the CMA does not negate the need for an adjustment. The CMA needs to consider how to assess this CAC outside the model framework.

3.88. The CMA has decided that our advanced anaerobic digestion (**AAD**) claim does not fit within the CAC framework. However, it has not addressed the inconsistent treatment between our AAD claim and Thames' accepted claim for Beckton.

3.89. If the CMA persists with an in-model solution to energy (which we disagree with) it is not clear that it considers an ex-post true-up necessary. This mechanism would still be required in case prices diverge from the forecast.

3.90. Finally, the CMA has reduced the frontier shift target from 1% to 0.7%. While we strongly agree with the CMA's decision rationale for setting a new frontier shift target. Recent data implies that this should be further reduced.

The CMA needs to fully assess our coastal population CAC

3.91. The CMA has not assessed our coastal population CAC within its unified modelling framework[122]. We have been consistent in our submissions that an adjustment is required to address this issue.[123]

3.92. It is important that once the CMA develops its revised modelling proposals, it conducts a thorough econometric assessment of our CAC to properly address the increased costs we face. We provided econometric results using a coastal population variable in our SoC[124].

3.93. Due to the choice made by the CMA on not triangulating across levels of aggregation and discounting the SWT model,[125] it is not possible to assess this claim within the proposed LASSO framework. Instead, the CMA needs to consider how this CAC can be addressed as a separate and distinct issues.

3.94. The engineering rationale and supporting evidence included in our SoC to support our coastal population CAC remains relevant. If anything, the analysis provided by the CMA strengthens the need for this to be accounted for.

Engineering rationale for cost differential between coastal and inland sites

3.95. The CMA stated that "there remains a lack of consensus amongst WaSCs over the engineering rationale that would underpin a cost differential between coastal and inland sites"[126] and cited this as a reason to not include a coastal variable in the base model.

3.96. The CMA's position is incorrect. In fact, based on the discussions in the disputing company hearings, it was clear that all companies identified similar engineering factors:

- Anglian Water said explicitly that they "support the engineering rationale"[127] and "there is engineering rationale for higher costs"[128] while describing similar engineering factors they had with issues like UV consents and saline corrosion as per our engineering rationale;
- Northumbrian Water explained that saline treatments and the coastal catchment areas led to coastal sites being more expensive[129]; and
- Wessex Water noted that UV treatments and space constraints at its coastal sites (e.g. those at Weymouth and Swanage) lead to higher costs[130].

3.97. What companies did note at their hearings was that these coastal engineering factors were less material to them and that there were other relevant factors that impacted site-specific costs given their circumstances (e.g. age of site, economies of

[122] CMA PD, Vol 1, para 4.642.
[123] See e.g. Southern Water SoC, page 177, para 273 and page 164, para 224; Southern PR24 Hearing Transcript, July 2025, page 26, lines 19-22; page 29, lines 7-8; and page 30, lines 4-18.
[124] Southern Water SoC, page 169, para 247.
[125] CMA, PD, Vol 1 para 4.48 - 4.49.
[126] CMA PD, Vol 1, para 4.642.
[127] Anglian Water PR24 Hearing Transcript, July 2025, page 41, line 22.
[128] Anglian Water PR24 Hearing Transcript, July 2025, page 42, line 26.
[129] Northumbrian Water PR24 Hearing Transcript, July 2025, page 17, lines 7-11.
[130] Wessex Water PR24 Hearing Transcript, July 2025, lines 11-18.

scale). However, none of these additional points suggest that they disagree with the engineering rationale presented in our SoC.

3.98. Moreover, Ofwat in its FD concluded that "*from an engineering perspective, that there may be reasons why operating in coastal areas drive higher company costs*."[131]

3.99. On this basis, we do not consider that there was a lack of consensus over the engineering rationale; rather, we draw the opposite conclusion. Whether these engineering factors lead to a cost impact is an empirical issue that can be identified best through econometric modelling.

The CMA's unit cost analysis

3.100. In the PD, the CMA presented a new unit cost comparison which purportedly shows that the unit costs of Southern Water's WWTW's are only around 10% higher than the industry average[132]. The CMA's approach groups together all sites for each company, irrespective of their location or their size, and consequently fails to have regard to the very large economies of scale that exist for WWTWs, as set out in our SoC[133].

3.101. It is not clear on what basis the CMA considers that any conclusions could be drawn from this information, where the effect of economies of scale has been aggregated away. We would expect an analysis to be made of the coastal premium (difference between inland and coastal sites) for works of a similar size (distinguished by band size). Further explanation of this approach was set out in our response to RFI09.[134]

3.102. Moreover, while the CMA purports to have sourced its table from our response to RFI09, we do not recognise the information provided. There appears to be errors in most of the figures presented in the table and a corrected version is shown below:

Table 20: Corrected version of CMA's table 4.18

Company	Number of Sites	Average unit cost – unweighted	Average unit cost – weighted
Dwr Cymru	25	213	183
Severn Trent	69	222	173
Anglian	52	238	213
United Utilities	65	272	210
Yorkshire Water	36	274	242
Northumbrian	24	284	265
Southern	45	300	245
Wessex	26	347	276
Thames Water	53	357	197
South West Water	17	368	327
Average across WWTWs		**279**	**212**

Source: Southern Water analysis based on response to RFI09.

[131] Ofwat, December 2024, SRN CAC Feeder Model Code: PR24CA19, SOC-2-0020.
[132] CMA PD, Vol 1, para 4.638 and Table 4.18.
[133] Southern Water SoC, page 167, para 239-242.
[134] Southern Water, 18 July 2025, Response to Southern RFI09 of 11 July 2025 (reference RFI_Southern_009).

3.103. The CMA has concluded that *"in itself, this unit cost comparison does not invalidate Southern's claim"*[135] before explaining the limitations of unit cost analysis which does not control for other factors. While these limitations are well known, and we have explained previously that the unit cost analysis presented by Southern cannot capture all the relevant factors[136], the implication that our claim may be invalidated does not appear to be substantiated through the limited unit cost comparison presented.

3.104. It is not clear why a conclusion that costs would be *"only around 10% higher"* should invalidate our claim. We note that Ofwat has previously already accepted the engineering rationale for this claim but wanted evidence that there were cost differences arising from operating at the coast, and that it was on this basis that we developed the unit cost analysis. We demonstrated that these cost differences do indeed arise.

3.105. Moreover, the more relevant unit cost comparison is between the costs of coastal sites and inland sites, taking into account the size of the sites. The information provided in our response to RFI09 and addressed at the Southern Water hearing is much more informative. It shows that coastal sites are nearly always more expensive than the equivalently sized inland site for each company. The only exception was for Wessex in Band 6; for all of the sixteen other direct comparisons, the coastal sites are more expensive. While the CMA refers to this analysis[137], it has not included it as part of its assessment of whether operating in a coastal area result in higher costs. We request that it does so for the purpose of its FD.

Scatterplot of efficiency score and coastal location

3.106. The CMA has plotted WASC's efficiency scores (based on the CMA top-down wastewater model) against their shares of load treated at coastal sites, and their shares of coastal sites to indicate there is no clear relationship and therefore no need for a coastal variable in the model. The CMA has used this to conclude that the wastewater base cost model does not systematically underestimate the costs of companies with high share of WWTWs at coastal sites

3.107. However, the CMA has chosen to conduct this assessment at the top-down WWNP[138] aggregation level (being the wastewater model it has decided to use). Given that the coastal location only affects wastewater treatment, and not wastewater collection, it is not surprising that the relationship is more limited in the top-down model that includes wastewater collection.

3.108. In our SoC, we showed the effect of omitting the coastal impact through the efficiency scores from the SWT model.[139] Then in our response to RFI09, we produced a series of scatterplots comparing different measures of coastal shares against the efficiency scores from Ofwat's FD SWT model which all showed a

[135] CMA PD, Vol 1, para 4.639.
[136] Southern PR24 Hearing Transcript, July 2025, page 26, lines 22-24 and Southern Water SoC, page 168, paras 242-243.
[137] CMA PD, Vol 1, para 4.628(g).
[138] Wastewater Network Plus.
[139] Southern Water SoC, page 164, Figure 17.

significant correlation – indicating this coastal effect was not being captured effectively in the SWT model. Our proposed remedy was based on including the coastal variable in that SWT model.

3.109. Those significant correlations cannot be adequately seen when looking at top-down models. Therefore, it is important that the CMA also looks at the same SWT level of cost aggregation when interpreting results related to the coastal variable.

3.110. Our Coastal population variable is most suited to the econometric modelling given there is data available over the entire period. This variable has been reviewed during the PR24 process.[140] The CMA asked us to investigate a coastal load variable in RFI09. We stress that a coastal load variable is less suited to econometric testing as its calculation requires significant assumptions because of a lack of APR data regarding large wastewater treatment works prior to 2016[141].

3.111. Ahead of finalising its proposed models, it is crucial that the CMA robustly reviews on an econometric basis whether SWT models are systematically excluding a coastal factor and how to address this. Without conducting this analysis, it is wrong for the CMA to discount our CAC.

The CMA has not addressed the inconsistent treatment of our AAD claim relative to Thames' Beckton claim

3.112. The CMA has not responded to the comparison presented in our SoC between our rejected AAD claim and Thames Water's accepted claim at Beckton.

3.113. Ofwat accepted Thames' submission as part of the large scheme gated process. Given that our claim has many similar features to that of the Thames claim, the CMA should consider whether our scheme could also be accepted under that same process. Our claim was only included as a CAC as Ofwat directed us to adopt this process.

3.114. Both our claim and Thames' are above the £100m threshold for the large gated scheme process on a gross cost basis (even if both fail to meet the threshold on a net basis after subtracting the implicit allowance).

3.115. The CMA should review the comparison presented between the two schemes to decide if our claim should also be accepted as a candidate for the large scheme gated process.

There remains a need to include an ex-post energy price true-up mechanism

3.116. It is unclear whether the CMA considers there to be a need for an ex-post energy true-up mechanism if it maintains a within-model approach to energy prices. On the one hand, when discussing the modelling the CMA states "*As input prices are explicitly included in these models, the cost predictions generated for AMP8 automatically take*

[140] If the CMA wishes to check another variable, we suggest that percentage of coastal sites is more robust to extrapolate from given that the data is stable. It is more challenging to construct a coastal load variable given missing data.
[141] In addition, there are significant gaps in the data for more recent years, particularly for Anglian and Northumbrian.

account of expected changes in labour and energy costs. This implies that there is no needed for additional, post-modelling adjustments for RPEs."[142]

3.117. However, when addressing our specific claim, the CMA states: *"Additionally, given the presence of a true-up, even in the event the forecast is underestimated, Southern has financial protection*."[143]

3.118. In response to a query, the CMA noted they are still considering the appropriate mechanism and would welcome representations on how any true-up mechanism should be applied.[144]

3.119. Irrespective of the merits (or otherwise) of including an energy variable in the models as set out above, doing so cannot address the risk of significant divergence in actual prices from the modelled forecasts. This was a real issue companies experienced during AMP7. The CMA should retain the energy RPE as part of its package.

3.120. Ofwat was clear that an ex-post energy price adjustment was required in order to reduce totex risk in AMP7.[145] If the CMA does not intend to include an ex-post energy RPE then this risk needs to be explicitly accounted for elsewhere.

3.121. Given the concerns raised in our SoC[146] concerning the use of assumption-based forecasts in an RPE, the CMA should apply a true-up on an annual basis during AMP8 (as opposed to an end-of-period true up proposed by Ofwat originally). This will provide more protection from the significant cashflow risk we anticipate given the more recent energy price forecasts we have seen.

We strongly agree with the CMA's decision rationale for setting a new frontier shift target. Recent data implies that this should be further reduced

3.122. We welcome the CMA's decision to set a frontier shift target of 0.7% pa, noting this is well below the target Ofwat set at its FDs (1.0% pa). However, we note that recent data supports an even lower target.

3.123. We strongly agree with the CMA's rationale for setting the above target. Specifically, we agree that the CMA is right to focus on the issue of whether the productivity of the water industry should be expected to be similar to that of the UK economy (noting the UK has experienced productivity growth close to zero since the global financial crisis). We also consider the evidence the CMA has relied on in addressing this issue is appropriate. This evidence includes showing: (i) that the historical productivity growth of water companies is highly similar to that of the UK; and (ii) the majority of industries in the UK have experienced a slow-down in productivity growth, post-crisis.

3.124. We have reproduced the CMA's estimates of productivity changes for water companies and compared them against UK productivity growth, as illustrated in

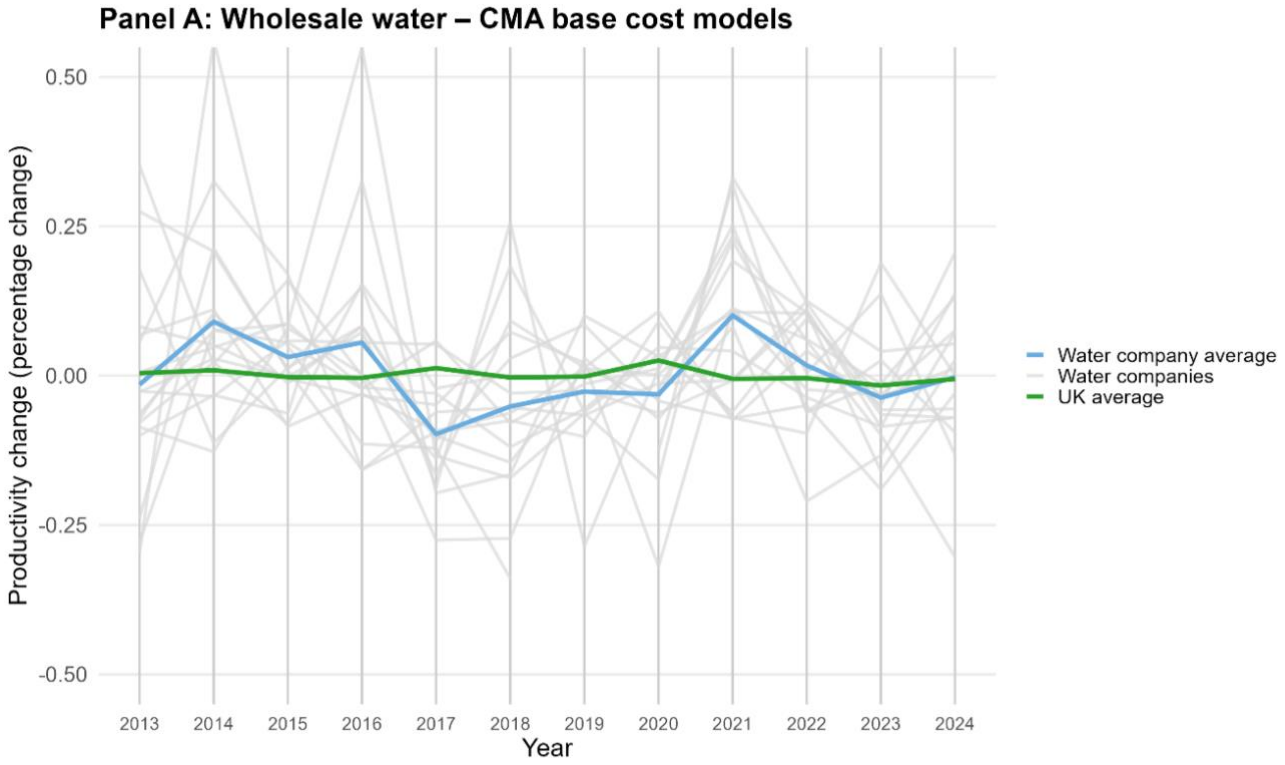
[142] CMA PD, Vol 1, para 4.60.
[143] CMA PD, Vol 1, para 4.777.
[144] CMA response to Southern Water query, which was circulated by email on 17th October 2025, (response to issue 1, energy).
[145] Ofwat FD, December 2024: Expenditure allowances, page 50.
[146] Southern Water SoC, page 196, para 340-345.

Figure 7 below. Consistent with the CMA's analysis, we present the productivity changes for water companies separately for wholesale water (Panel A) and wastewater (Panel B). The UK productivity growth estimates are sourced from the ONS multifactor productivity (MFP) dataset, because this covers the full period over which the CMA estimates water company productivity growth (2013-2024).

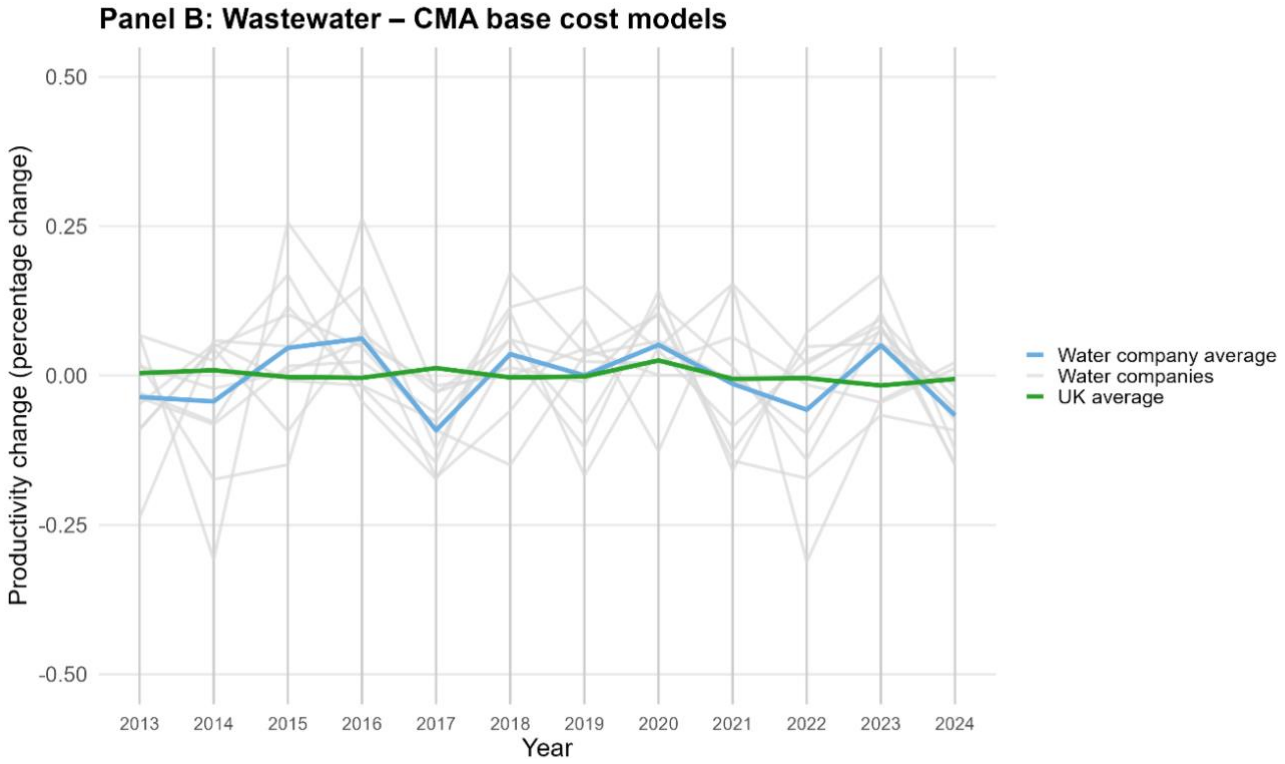
3.125. In line with the CMA's conclusions in the PDs, we observe that the average productivity growth of the water sector (as estimated by the CMA) is similar to the UK overall – slightly exceeding it in some years and slightly falling below it in others.

3.126. In view of the above, we support the conclusions the CMA reaches from its evidence. These are that: (i) "*the causal factors of the slowdown [are] mainly economy-wide [and] have affected most sectors to some degree, including the water sector*"; and (ii) there are no good reasons to suppose the productivity growth of water companies will "materially diverge" from that of the UK.[147]

Figure 7: Water company productivity changes compared to the UK average



[147] CMA PD, Vol 1, para 4.159.



Source: Economic Insight analysis of CMA models and ONS MFP data.
Note: The 'water company average' in a given year is the mean productivity growth across all water companies in that year.

3.127. While we welcome the CMA's overall approach and provisional position, we do not agree with two elements of it.

3.128. First, in adopting the view that the water industry will likely achieve productivity growth similar to that of the UK, in setting the frontier shift target the CMA then examines the question: "*what are the forecasts for productivity growth in the economy as a whole?*" The CMA subsequently reviews Bank of England and OBR productivity forecasts, taking both into account to arrive at its proposed target of 0.7% pa. We consider that, if the CMA intends to set a target for frontier shift that accurately reflects overall UK productivity growth across AMP8, it should place at least some weight on the recent productivity performance data for the UK, and not rely solely on forecasts.

3.129. This is because UK productivity growth forecasts have been shown to be persistently optimistic (the CMA itself notes this).[148] Indeed, the CMA's proposed target of 0.7% pa is high, relative to the UK's recent productivity performance. By way of example, the ONS MFP dataset shows total UK productivity growth averaged only 0.3% pa during 2024.

3.130. Further, when remarking on the implications of its decision for other regulators, the CMA notes that recent data on actual productivity performance (as well as forecasts) should be taken into account when setting targets for frontier shift: *"frontier shift decisions*

[148] CMA PD, Vol 1, para 4.162.

should reflect recent evidence and if productivity growth data or forecasts were to change then other regulators may reach different conclusions"[149] [emphasis added].

3.131. To the extent that the CMA continues to take forecasts into account at its FD, the OBR is due to release updated forecasts for the UK economy in November. We would therefore expect these to be taken under consideration by the CMA, in addition to considering the latest outturn data (as noted above).

3.132. Second, relating to the matter of whether there is a potential overlap between outcomes incentives and frontier shift, the CMA states: *"water companies are expected to deliver improvements in outcomes from their base expenditure in AMP8. It is likely that other industries also improve the quality of their products. Our provisional view is that this is not a convincing reason to expect productivity growth in the water sector to diverge substantially from the wider economy*." We concur with the CMA's comment that the fact that water companies make quality improvements is not a reason to expect the overall productivity growth of the water industry to vary from that of the UK.

3.133. The relevant issue, however, is not the total amount of productivity growth that can be achieved by the water industry. Rather, the issue is what is being measured in the UK productivity data being used to set the target. The UK TFP data measures productivity gains made by the UK as a whole, through either cost reductions and/or quality improvements. Thus, if the CMA's assessment is that the UK will achieve productivity growth of 0.7% pa over the next AMP (and, on its reasoning therefore, so too can water companies), the conclusion that follows is that part of this must be attributable to quality improvements and therefore the frontier shift target (applied to water company costs) must be lower than 0.7% pa, in order to avoid double-counting. Put simply, we agree with the CMA's reasoning, but not with the final inference it draws in the setting of the frontier shift target (for company costs).

3.134. In summary, we welcome the CMA's recognition that Ofwat's proposed frontier shift target was implausible (implying the water industry could outperform UK productivity growth many times over).

3.135. However, as a consequence of the two issues discussed above, we find that the CMA's reasoning implies that the frontier shift target should be lower than 0.7% per annum. We consider that the latest UK-wide productivity data and forecasts support the 0.5% frontier shift presented in our SoC.

3.136. The CMA should review the latest actual productivity performance and the most recent forecasts before finalising its decision on what is the appropriate frontier shift target.

[149] CMA PD, Vol 1, para 4.174.

4. Enhancements

Introduction

4.1. In this chapter, we identify the following issues with the CMA's PD, which we address in turn below.

CMA Document Reference	Issue Identified
Chapter 5, paragraphs 5.18 to 5.106 and Appendix E, Part A	**Issue 1:** Phosphorus Removal
Chapter 4, paragraphs 4.291 to 4.441	**Issue 2:** Leakage enhancement through mains renewal
Chapter 5 paragraphs 5.380 to 5.389	**Issue 3:** Water Treatment Works Resilience
Chapter 5, paragraph 5.107to 5.153	**Issue 4:** Water supply interconnectors

Overall position on enhancements

4.2. The modelling changes outlined in the PD are welcome but further improvements should be made to provide a more robust outcome through a consistent approach to outliers, intuitive model specifications, and applying a less mechanistic approach.

4.3. The PD does not properly assess our leakage enhancement case. This is an important element of our WRMP, to be achieved through mains renewal and should be considered in full in the FD.

4.4. We request the CMA makes a 12% development allowance for the water treatment works schemes it has moved into the large scheme gated process based on our latest cost estimate.

4.5. In relation to water supply interconnectors, we are concerned that there has been no further engagement with the bottom-up evidence and modelling issues have not been addressed.

Issue 1: Phosphorus Removal

The CMA has undertaken an alternative modelling approach to set allowances for phosphorus removal schemes which mitigates some of the issues with Ofwat's scheme level models.

It has used a Gaussian Mixture Regression (GMR) approach which allocated schemes to 3 different groups. Each group has a different relationship between costs and cost drivers. Statistical approaches were used to select the number of groups and which group each scheme is most likely to belong to. Within each group, the relationship between totex and cost drivers is modelled using a linear regression framework.

The CMA used the following as cost drivers in all three groups:

- The population equivalent served by the scheme;
- The enhanced consent level (mg/l);
- The change in consent level associated with the scheme (mg/l);
- A dummy indicator to distinguish between historical and forecast schemes;
- Population density (at the company level and with different values for historical and forecast periods); and
- Regional wages (at the company level and with different values for historical and forecast periods).

The CMA made some pre-modelling adjustments by removing as outliers certain schemes which correspond to the top 1.5% most expensive schemes.

It made allowances for outlier schemes using mixed approaches.

The overall approach taken by the CMA to making allowances for phosphorus removal reduces the cost allowance for Southern Water by £31 million compared to Ofwat's FD. Southern Water is the only company that moves from having an efficient position under Ofwat's modelling approach to an inefficient position under the CMA's assessment, as shown by the CMA's Table 5.4.

Our response

4.6. We agree with the CMA that differences exist between phosphorus removal schemes. This requires either a comprehensive exercise to account for these differences through key cost drivers or separate benchmarking for distinct scheme types.

4.7. However, while the CMA's recognition of these differences is a welcome development, the methodology used in the PD to address them needs to be refined. In summary:

- **The model specification:** The current specification leads to counterintuitive results and should be improved;
- **Excluding outlier schemes:** The approach should exclude engineering and statistical outlier schemes, which are identified through a statistical test; and
- **Setting cost allowances for outlier schemes:** The allowances for outlier schemes should not be set based on the model. By definition those outlier schemes are not directly comparable with the schemes that are within the model.

Model specification

4.8. We have identified two key concerns with the model specification in the PD which leads to counterintuitive results:

- **Counterintuitive coefficients:** First, some of the estimated coefficients have an unexpected sign which contradict economic and engineering expectations;

- **Use of density:** Second, a company-level density variable does not appropriately capture the impact of land availability and cost in the location where the scheme is installed.

Counterintuitive coefficients

4.9. There is a material issue with the coefficients of the CMA's preferred model (model D). The regressions for all three groups have a negative coefficient for construction wages, which is statistically significant at least at the 5% level for groups 2 and 3. This is counter to economic and engineering rationale as costs should increase with higher construction wages.

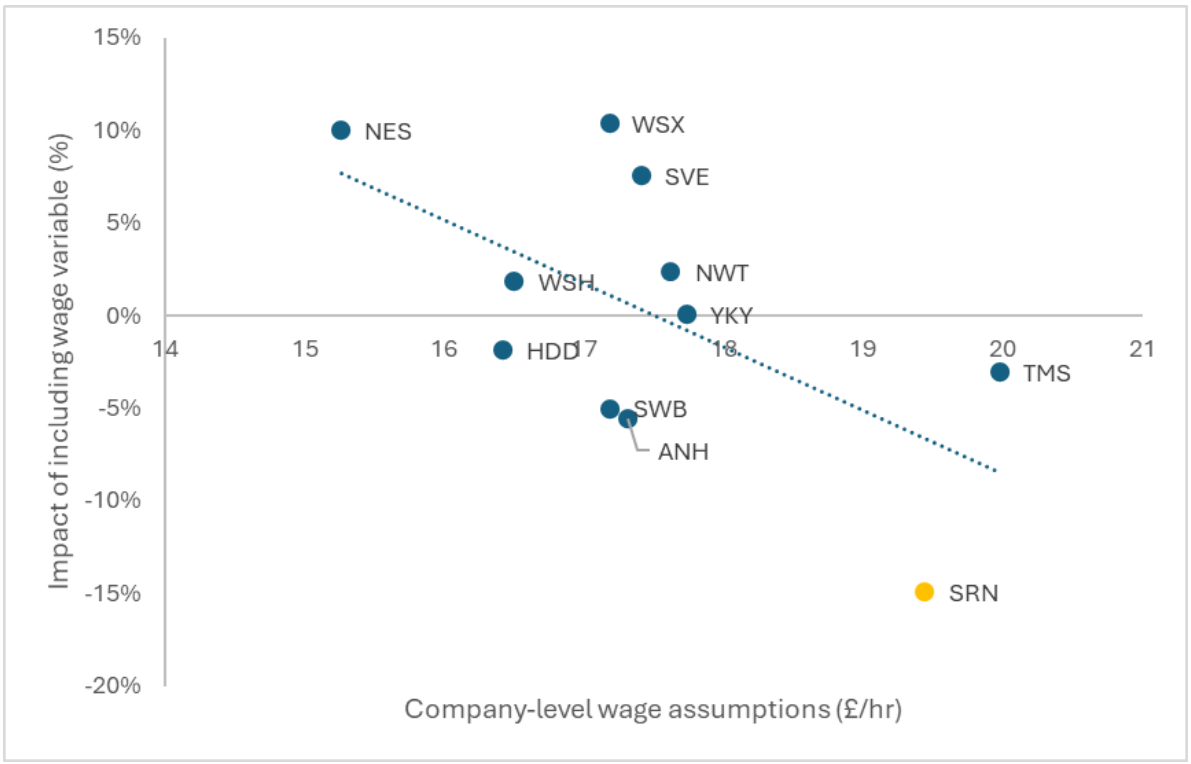
4.10. The CMA conducted a statistical test to explain the counterintuitive sign for construction wages and concluded that *"this is likely to be the result of multicollinearity* [between wages and density]*, rather than model misspecification".*[150] However, despite the uncertainty around its conclusions the CMA still uses the results from the model which includes both regional wages and company-level density - model D.

4.11. We have concerns that including wages and density in the same model has a material and counterintuitive impact on the allowances. To illustrate the counterintuitive results, we have estimated the impact on allowances when wages is added to the model by comparing the results from the CMA's model B (which includes density) and model D (which includes both wages and density). We would expect to see that companies with higher construction wages see an increase in allowance once this is controlled for by the model. This is because wages are outside the companies' control and not controlling for them could cause the model to treat those higher costs as inefficiency.

4.12. Figure 8 shows that the impact on allowances of controlling for wages in the model is counterintuitive as companies with higher wages like Thames Water and Southern Water see a reduction in allowances. The effect is particularly pronounced for Southern Water.

[150] CMA PD, Vol 5, para E.19.

Figure 8: Percentage change in P-removal allowance by company when average construction wage is included in addition to density.



Source: Southern Water analysis of CMA's models B and D.

4.13. To address this issue, the CMA should use one of its alternative model specifications which does not suffer from these counter-intuitive effects.

Use of density

4.14. We disagree with the inclusion of a company-level density variable within the CMA's preferred model (model D). A company-level density variable does not appropriately capture the impact of land availability and cost in the location where the scheme is installed. In particular: (i) the impact of density on scheme costs is more localised. For example, many treatment works are located away from areas of population with adequate land available for installing new treatment facilities, whether or not the company serves an area with relatively high population density; and (ii) land for extending treatment capabilities can be costly to access for a number of reasons that are not explained through a company level measure of density. For example, a company with a relatively low density could face costly restrictions on development which are defined by the specific location of the treatment works, such as it being within designated areas such as SSSIs.

4.15. Therefore, while local density can impact scheme costs, given the degree of variability of density across companies' service areas we do not consider that it is appropriate to use a company-level density variable.

Alternative model specification

4.16. In light of the above points, we consider that, in the FD, the CMA should rely on the results of its alternative models[151] that exclude density.

4.17. Using the CMA's alternative models has a material impact on allowances for Southern Water, ranging from +£39 million to +£68 million depending on the model used (models A, B or C). Table 21 summarises the impact of the different model specifications tested by the CMA on allowances for the disputing companies and the industry as a whole.

Table 21: Disputing company P-removal allowances under different model specifications (£m, 2022/23 prices)

Company	Model D - CMA PD Allowance	Model A Excludes both. density and wage variables	Model A- % change from CMA PD allowance	Model B Includes density and Excludes wage variable	Model B- % change from CMA PD allowance	Model C Includes wages and excludes density variable	Model C- % change from CMA PD allowance
ANH	797	935	+17%	844	+6%	924	+16%
NES[152]	159	140	-12%	137	-14%	133	-16%
SRN	**347**	**386**	+11%	**407**	+18%	**415**	+20%
WSX	870	845	-3%	788	-9%	821	-6%
Industry Total	**5,540**	**5,563**	**+0%**	**5,531**	**0%**	**5,550**	**0%**

Source: Southern Water analysis of the CMA's P removal model. See PDR-4-001: Enhancement modelling annex

4.18. We consider that the most appropriate approach is to use the results from the model without either construction wages or density variables (model A). We explain below why we do not consider that using model C that includes a regional wage variable is appropriate once the approach to identifying and removing outliers has been improved.

4.19. Although each of the CMA's models A-D show similar statistical performance and there is little difference in overall cost allowances at the sector level, the choice of model makes a marked difference to the allocation of allowances between companies. This is particularly marked amongst the disputing companies, as shown in Table 21 above. The volatility of allowances by company means the CMA should apply caution and not rely solely on one model's results where there are doubts over its engineering and economic rationale.

Excluding outlier schemes

4.20. As set out below, the CMA has identified the wrong outliers in its analysis which undermines the reliability and robustness of the results.

[151] CMA PD, Vol 5, para E.8.
[152] This includes Northumbrian Water's new schemes added since Ofwat's FD.

Included inappropriate engineering outliers

4.21. As well as a group of "unmodelled" schemes[153], Ofwat defined 32 schemes as engineering outliers from its models. They are all schemes meeting very tight permit levels (below that defined by the EA as the technically achievable limit of 0.25mg/l)[154] and/or using biological phosphorus removal rather than chemical removal processes. The CMA has included some of these 32 engineering outlier schemes in the model input data.[155] Given that the model does not control for treatment process and there is not a large enough number of such schemes to allow the model to determine a separate group, the inclusion of these schemes by the CMA will bias the analysis. Such engineering outliers should be removed from the estimation sample in the same way as the CMA has removed other unmodelled schemes.

4.22. We show in Table 22 below, the estimated allowances across disputing companies and the sector when the 32 engineering outliers are removed from the CMA's preferred model.

Table 22: Disputing Company P-removal allowances when engineering outliers are excluded from the CMA's preferred modelling approach (£m, 2022/23 prices)

Company	PR24 requested allowance, £m	Model D - CMA PD Allowance	Model D excl. engineering outliers, £m	Change from Model D (CMA PD allowance), £m	% change
ANH	708	797	783	-14	-1.7%
NES [156]	140	159	161	2	1.0%
SRN	354	347	338	-8	-2.4%
WSX	916	870	863	-7	-0.8%
Industry Total	**5,687**	**5,540**	**5,496**	**-44**	**-0.8%**

Source: Southern Water analysis of remodelling excluding engineering outliers from model input data (See PDR-4-001 Enhancement modelling annex).

Excluding the most expensive schemes

4.23. Ofwat excluded statistical outliers based on a Cook's distance approach.[157] Of these, the CMA excludes Ofwat's statistical outliers that received a deep dive adjustment from its model. The outliers excluded by the CMA's approach coincide with the top 1.5% most expensive schemes (in absolute £, terms). We disagree that the most expensive schemes are by definition outliers needing to be excluded from the modelling.

4.24. First, expensive schemes may be comparable with other schemes e.g. unit costs might be similar. By excluding them prior to estimating the model, the CMA might have excluded important information to estimate the relationship between cost and cost drivers.

4.25. Second, the fact that 21 of the schemes excluded by the CMA were identified through Cook's distance as statistical outliers in Ofwat's model is not a valid

[153] As listed in Ofwat's FD P removal model, worksheet "Efficiency (unmodelled)" https://www.ofwat.gov.uk/wp-content/uploads/2025/02/PR24-FD-CA60-Wastewater-p-removal-enhancement-expenditure-model-v2.xlsx
[154] Gov.uk Information about nutrient significant plants Information about nutrient significant plants - GOV.UK
[155] CMA, PD Vol 5, para E.6.
[156] NES including new schemes.
[157] Ofwat, FD - Enhancement cost modelling appendix, p.53.

justification to remove them from the CMA's model. This is because the CMA's model is materially different from Ofwat's and Cook's distance is not an appropriate method to identify outliers with a Gaussian Mixture Regression, which we expand on in the Enhancement cost modelling annex[158]. Any statistical outliers need to be identified in relation to the new CMA specification through an alternative method.

4.26. We show in Table 23 below the allowances for the disputing companies and the sector when the top 1.5% most expensive schemes are included in the CMA's preferred model.

Table 23: Disputing Company P-removal allowances when top 1.5% most expensive schemes are included in the CMA's preferred modelling approach (£m, 2022/23 prices)

Company	PR24 requested allowance, £m	Model D - CMA PD Allowance	Model D inc. top 1.5% most expensive schemes, £m	Change from Model D (CMA PD allowance), £m	% change
ANH	708	797	809	12	2%
NES [159]	140	159	158	-1	-1%
SRN	354	347	357	10	3%
WSX	916	870	807	-63	-7%
Industry Total	**5,687**	**5,540**	**5,370**	**-170**	**-3%**

Source: Southern Water analysis of remodelling including top 1.5% most expensive schemes in model input data (See PDR-4-001 Enhancement modelling annex).

Failed to exclude statistical outliers

4.27. We are concerned that the CMA has not conducted any statistical test to identify and exclude statistical outliers when its model is so different to Ofwat's.

4.28. We have carried out analysis to identify statistical outliers using a known statistical approach, negative log-likelihood, which we explain in the Enhancement cost modelling annex[160]. We removed the statistical outliers we identified as the top 1% (14 schemes) that are the worst fit to the model, then reran the regression using the CMA's preferred model specification (model D) with the remaining data set. Table 24 below shows the results for the disputing companies.[161] Out of the 14 schemes we identified as statistical outliers via the negative log-likelihood approach, only 3 schemes were also in the CMA's top 1.5% most expensive schemes.

4.29. There is a continuum of goodness of fit with no clear break point, leaving it a choice as to how many schemes to remove on the basis of poor statistical fit. We are illustrating the effect by removing the top 1% of schemes with a poor fit to the model below.

[158] Southern Water, PDR-4-001 Enhancement modelling annex.
[159] NES including new schemes.
[160] Southern Water, PDR-4-001 Enhancement modelling annex.
[161] These are the outliers identified when applying the negative log likelihood approach to identifying outliers to Model D, holding the remainder of CMA's Model D specification constant.

Table 24: Disputing company P-removal allowances when statistical outliers are excluded from the estimation sample (£m, 2022/23 prices)

Company	PR24 requested allowance, £m	Model D - CMA PD Allowance, £m	Model D excl. statistical outliers, £m	Change from Model D (CMA PD allowance)	% change
ANH	708	797	798	+1	+0.1%
NES[162]	140	159	161	+2	+1.3%
SRN	354	347	349	+3	+0.8%
WSX	916	870	801	-69	-7.9%
Industry Total	**5,687**	**5,540**	**5,295**	**-245**	**-4.4%**

Source: Southern Water analysis based on the CMA's PD model D after removing the 14 schemes that fit the model least well. See PDR-4-001 Enhancement modelling annex.

Setting cost allowances for outlier schemes

4.30. The CMA has incorrectly set allowances for some outliers based on model outputs. There is no basis for this approach as its effect is to apply a variable efficiency challenge to each scheme defined entirely by a model for which it is an outlier.

4.31. Using the model to predict allowances for outlier schemes (whether engineering or statistical outlier schemes) is in direct contradiction with the definition of outliers, which is schemes that cannot be modelled as they do not follow the same cost function.

4.32. However, the CMA is continuing to use used Ofwat's flawed method of allowing 75% of the difference between a modelled scheme allowance and the requested costs (where these are higher). [163] The adjustment now starts from a different modelled allowance basis to Ofwat's and so a different but still arbitrary allowance is derived. The effect for the three engineering outlier schemes for Southern Water is that the CMA adjusted the allowance down by 10% as shown in Table 25 below. This is inconsistent with the CMA's assessment of our efficiency where the CMA found that our 'modelled' schemes are only 4% inefficient.

Table 25: Impact of applying CMA's model company level efficiency challenge to Southern Water's engineering outlier schemes

Site Name	P removal WINEP identifier	Requested P removal costs, £m	CMA's PD allowance, £m	FD allowance, £m
Sutton Valence	08SO102653	6.2	5.8	6.0
Westbere	08SO102671	13.3	11.7	12.8
West Hoathly	08SO103840	6.8	6.2	6.5
Total		**26.3**	**23.7 (10% challenge)**	**25.3 (4% challenge)**

Source: Southern Water analysis of its outlier scheme allowances in the CMA's PD and impact of applying model efficiency challenge.

4.33. For some unmodelled schemes, such as those meeting an enhancement permit level of >=2 mg/l phosphorus, Ofwat applied a more logical approach to setting allowances. Ofwat's FD states, "*At FDs, we apply the company level modelled efficiency of phosphorus removal schemes to unmodelled schemes. This approach effectively*

[162] NES including the new schemes identified since Ofwat's FD.
[163] Ofwat, PR24 FD, Expenditure allowances, Enhancement cost modelling appendix, page 88, section 4.5.1.

assumes that company specific inefficiency is equivalent across modelled and unmodelled schemes. For efficient companies, we cap allowances at the request."[164]

4.34. We consider this approach of applying the modelled efficiency challenge to requested costs to be a more appropriate method for setting cost allowances for schemes that are outliers and therefore by definition sit outside the explanatory ability of the model. We consider that the CMA should follow this same approach in the FD.

4.35. We note that the CMA included modelled allowances of outlier schemes in its calculation of modelled efficiency challenge. By definition, these schemes are explained well by the model. Subsequently, we exclude all outlier schemes when calculating company modelled efficiency for AMP8 schemes.

4.36. We set out in Table 26 below a summary of the CMA's approach in the PD and our proposed approach to outliers and making appropriate allowances for them.

Table 26: CMA's and our adjustments to outliers making allowances for outliers

	Number of schemes (historical + forecast)	CMA's modelling approach	CMA's approach to making allowances	Our proposed modelling approach	Our proposed approach to making allowances
Engineering outlier (<0.25mg/l and/or biological treatment)	32	Include in model	Model + 75% of (requested – modelled).	Exclude from model	Apply model efficiency challenge to requested costs
Transfer schemes	13	Exclude from model	Ofwat's separate model	Ofwat's separate model	Ofwat's separate model
Greater than 2mg/l and "unmodelled"	92	Exclude from model	Apply model efficiency challenge to requested costs	Exclude from model	Apply model efficiency challenge to requested costs
Statistical outlier (top 1% least well-fitting based on negative-log-likelihood scores)	14	N/A	N/A	Exclude from model	Apply model efficiency challenge to requested costs
Top 1.5% most expensive schemes	21	Exclude from model		Include in the model	N/A
Remaining schemes within scope of model	1,346			1,353	

Source: Southern Water analysis.

4.37. We have carried out the approach we outline above to identify and remove outliers from the dataset used to define model coefficients.

4.38. Having done this, we have estimated revised model coefficients for the two CMA models that exclude density variables: model A and model C. In doing so, we found a counter-intuitive negative coefficient for regional wages in model C, only for the schemes in group 2. We do not consider that there is any engineering or economic rationale why the cost of a group 2 scheme would be less for Southern Water compared to other companies, whereas the cost of a group 3 scheme would be

[164] Ofwat, PR24 FD, Expenditure allowances, Enhancement cost modelling appendix, page 88, section 4.5.1.

greater. This is particularly the case when there appears to be no clear distinction in existing treatment process or the solution to be installed in AMP8 between schemes the model allocates to groups 2 and 3. On this basis, we request the CMA relies on model A which retains intuitive coefficients.

Our solution

4.39. To address the key issues that we have identified, we request that the CMA makes the following adjustments to its methodology.

Improving model robustness

4.40. Due to the counter-intuitive results from the combination of density and wage variables in one model, and the lack of clear engineering or economic rationale for the company level density variable we request that the CMA discounts the use of the company level density variable. Due to a counter-intuitive negative coefficient for regional wages in one of the three groups of schemes within model C we request the CMA uses its model A (no wage and no density) to set allowances for schemes within the regression.

Identifying outliers

4.41. All engineering outliers should be excluded from the estimation sample used to develop the regression, because they are not comparable to the rest of the dataset due to their distinct engineering characteristics.

4.42. The top 1.5% most expensive schemes should be included in the initial estimation sample because the models control for scale.

4.43. Once a model is selected, the CMA should run a statistical test, such as negative log-likelihood, to identify and remove influential observations that are true statistical outliers and re-estimate the model.

Setting an appropriate allowance for outlier schemes

4.44. We request that the CMA applies the company level model efficiency challenge to requested costs for all outlier or unmodelled schemes, capped at the requested costs where appropriate.

Result of proposed solution

4.45. In Table 27 below we show the results of taking all the recommended steps we describe above, namely:

- Removing all engineering outliers from estimation sample (transfers; >2mg/l; >5mg/l enhanced permit level; zero cost; no tightening of permit; <0.25mg/l permit level; biological treatment process);
- Using model A's specification to carry out an initial modelling exercise;

- Identifying the top 1% of outliers through negative log likelihood analysis and removing them from the estimation sample;
- Remodelling using model A's specification to re-estimate final model coefficients, excluding all model outliers;
- Calculating AMP8 scheme allowances from the model;
- Comparing requested and modelled totals at the company level to calculate a company modelled efficiency score and applying the efficiency challenge to each engineering and statistical outlier scheme (capped at requested costs).

Table 27: Result of our recommended solution to setting appropriate allowances for outliers and applying model A specification

	PR24 requested allowance	Ofwat FD allowance	Model D - CMA PD Allowance	Proposed solution – Model A	Change from CMA PD allowance
ANH	708	952	797	931	17%
NES[165]	140	n/a	159	139	-12%
SRN	354	377	347	397	15%
WSX	916	630	870	800	-8%
Industry Total	**5,687**	**4,899**	**5,540**	**5,270**	**-5%**

Source: Southern Water analysis of Phosphorus removal modelling.

4.46. The efficiency score for a company's AMP8 Phosphorus removal schemes implies whether a company is relatively efficient (score <1) or inefficient (score >1). Table 28 shows the impact of all our requested changes on efficiency scores for each company's AMP8 modelled schemes.[166]

Table 28: Impact of our recommended solution on company efficiency scores

Company	Ofwat FD – Efficiency score	Model D – CMA PD Efficiency Score	Model A with requested changes - Efficiency Score
ANH	0.71	0.89	0.76
HDD	0.46	0.95	0.46
NES	0.72	0.85	0.84
NWT	1.43	1.07	1.15
SRN	0.96	1.05	0.88
SVE	1.56	1.09	1.09
SWB	1.12	1.10	0.80
TMS	1.71	0.96	1.44
WSH	0.91	0.97	0.79
WSX	1.54	1.02	1.13
YKY	1.00	0.94	0.97

Source: Southern Water calculation.

[165] NES including new NES schemes.
[166] For reasons set out above, we have excluded all outlier schemes when calculating efficiency scores for modelled AMP8 schemes.

Issue 2: Leakage enhancement through mains renewal

The CMA has considered mains renewal allowances only from a base cost perspective.

The CMA has provisionally determined the quantity of asset health mains renewals it deems are provided for within the modelled base cost allowance (0.3% p.a.), and the regionally appropriate unit cost per metre of mains renewal (£311.27 per metre for Southern Water)

The CMA removed the requirement for Southern Water to carry out additional 0.1% p.a. mains renewal without any additional allowance which was a condition in Ofwat's FD.

The CMA made a cost allowance for 0.13% p.a. as an adjustment to the base cost allowance, assuming all mains renewed will address asset health requirements. This increased the base uplift for mains renewal from £6.1m in Ofwat's FD to £28.2m in the CMA's PD.

Our response

4.47. We have three concerns with the CMA's approach:

- The CMA has not properly considered our case which is that the majority of our mains renewal in AMP8 is to support leakage reduction enhancement objectives and not only asset health and this requires additional scope of work. It has made no adjustment to the leakage enhancement allowance in Ofwat's FD nor increased base cost allowances (through an increase in unit costs) to support leakage reduction;
- The CMA has assumed a high level of mains renewal implied within the base cost allowance - what base buys; and

4.48. The CMA has failed to take account of our SoC in its PD. Volume 2, paragraph 4.404 of the PD states: "*To the extent that its [SRN's] leakage reduction activities constitute enhancements, these fell to be considered through Ofwat's PR24 enhancement claims process*." Our SoC[167] explained that 300km out of the total of 366km of mains we plan to renew in AMP8 is to support **leakage enhancement**, which has a different scope of work to a burst-driven/asset health mains renewal programme. We explained we are asking the CMA to redetermine our enhancement allowance because we disagree with Ofwat's FD approach as regards the enhancement allowance for leakage reduction.

4.49. In paragraphs 305-306 of Chapter 3 of the SoC we explained that there is a material scope difference between an asset health mains renewal programme and one targeting leakage reduction. These scope differences result in a higher unit cost per metre of main for a scheme targeting leakage reduction than an asset health focused programme.

[167] Southern SoC, page 264 , para 237.

4.50. We do not agree with the CMA's approach in the PD to estimating the level of mains renewal activity it identifies as what base buys, which in effect assumes that activity that has maintained stable burst rates since 2015 can be discontinued in preference to spending the same base allowance on mains renewal. In the short term and without overspending the base allowance, this is likely to see a deterioration in burst performance as activity such as pressure reducing value maintenance is discontinued in preference to mains renewal.

4.51. Our business plan and SoC was on the premise that there is a higher unit cost associated with mains renewal to meet leakage reduction requirements. In paragraph 309 of Chapter 3 in the SoC we asked the CMA to "*allow an efficient and appropriate unit cost for our region and the scope of activities in all 300km mains renewal programme which focuses on leakage reduction*". We asked the CMA to i) uplift the base cost allowance for the difference in the unit cost to carry out the additional scope aimed at reducing leakage (i.e. enhancement), and ii) allow the higher unit cost in full for each remaining km through the leakage reduction enhancement assessment.

4.52. In addition, we are providing evidence[168] of recent supply chain tenders for our mains renewal programme which demonstrate that the CMA's provisionally determined unit cost as part of the base allowance for mains renewal of £311.27/m is extremely stretching and not achievable for our leakage enhancement programme.

Mains renewal as enhancement and not base

4.53. We restate our SoC asking the CMA to uplift the cost allowance, in both base and enhancement, for the additional scope involved in a mains renewal programme which is focused on leakage enhancement and is a key pillar in delivering against the commitments in our WRMP.

4.54. We explained our long-term strategy to reduce leakage in our October 2023 business plan, as follows:

"The UK Government's Environmental Improvement Plan under the Environment Act 2022 includes national targets for water demand reduction, including an overall 20% reduction in 'water into public supply' (Distribution Input) by 2050. This national water target agenda consists of three separate demand targets:

- *The reduction of Per Capita Consumption (PCC) to 122 l/p/d by 2038 and 110 l/p/d by 2050;*
- *The reduction of overall business consumption by 9% by 31 March 2038 and by 15% by 2050; and*
- *The reduction of leakage by 37% by 2038 and 50% by 2050*".[169]

4.55. We also stated: "*WRMP24 [our 20204 Water Resources Management Plan] is our strategic long-term plan to meet the supply-demand deficit in our region. This*

[168] Southern Water, PDR-4-003 Mains renewal quotes.
[169] Southern Water, October 2023, SRN27 Water Resources Demand Enhancement Business Case, page 10.

includes addressing the stresses of climate change, population growth, reducing unsustainable abstractions and a continual need to be resilient. Developing new water resources and reducing demand are both required to achieve a secure supply of water into the future."

4.56. However, the CMA has failed to take account of our SoC in its PD. As the CMA points out in the PD, [170] Ofwat considered it a choice as to whether we undertake the additional activity of communication pipe replacement as we replace the mains. It is indeed a choice, but one resulting from comprehensive options assessment to derive the optimal long-term approach to maintain a balance between water demand and supply and meet the government's Environmental Improvement Plan.

What base buys – Mains renewal as enhancement and not base

4.57. In our SoC[171] and accompanying KPMG cost efficiency note[172] we provided rationale and calculations for different approaches to estimating the level of activity within the base cost allowance, i.e. "what base buys". The key reasons are:

- There is no perfect approach to estimating an implicit allowance, i.e., what base buys. Ofwat used various time periods over which to make such assessments including taking the average of two approaches for its network reinforcement adjustments; and
- Ofwat's totex and outcomes approach from 2015 onwards acted to incentivise outcomes such as a stable burst rate and not a stable mains replacement rate. Stable burst rates have been achieved by switching some investment from mains renewal to approaches such as pressure management, and this investment needs to continue to maintain the benefits it has achieved. Assuming the costs spent on other activities to maintain stable bursts can now be focused on mains renewal risks a funding gap.

4.58. We have jointly commissioned with the other Disputing Companies further work from Economic Insight on this issue.

4.59. The note produced by Economic Insight[173] explains that what base buys' over AMP8 is, conceptually, the historical average activity level of the efficiency benchmark over 2019–24. Our SoC included as one of the options for calculating what base buys a similar assumption.[174]

4.60. Economic Insight calculates that if all else remained equal, a revised level of activity calculated as what base buys would lead to an additional £39.2 million increase in allowance on top of the CMA's PD base uplift.

[170] CMA provisional determination, Vol 1, para 4.403.
[171] Southern Water SoC, pages 268-270, paras 262-269.
[172] KPMG, March 2025, Analysis of components of Ofwat's PR24 FD cost assessment, SOC-2-0065.
[173] Southern Water, PDR-4-002 Economic insight mains renewal note (what base buys).
[174] Southern Water SoC, chapter 3, p.269, paras 265-169.

4.61. The note from Economic Insight points out that the base uplifts for meter renewal and network reinforcement would also be impacted by the CMA aligning its calculation of what base buys with Economic Insight's recommendations.

4.62. However, for the remainder of this section, we set out the impact of the CMA's PD and our proposals for how the issues identified should be addressed in the FD on the basis the CMA retains its approach in the PD and assumes a level of 0.3% p.a. is what base buys for mains renewal. Should the CMA make adjustments to this level in line with the note's recommendations, further changes are needed to those set out below.

Unit cost of mains renewal for leakage enhancement

4.63. We have commissioned our supply chain to deliver the mains renewal programme in year 1 of AMP8 and as a result we now have full tender prices from contractors bidding for specific mains renewal work. The suppliers were appointed following a competitive selection process. We have tender prices for more than 54km of mains replacement spread across our region in both rural and urban settings. We consider this to be a representative sample of our AMP8 mains renewal programme.

4.64. As is expected, the unit cost from these tenders varies according to location. The median unit cost of the quotes we have received is ✂ (2022-23 prices). We are providing samples of the quotes we have received as commercially confidential evidence to support our SoC that the unit cost is higher than for an asset health renewal programme.[175] It should be noted that supply agreements for many of these schemes have now been concluded and so there are no further opportunities to deliver efficiencies.

4.65. Ofwat made an enhancement cost allowance for leakage reduction which it assessed in two ways: mains renewal; and "other" leakage enhancement. It set out the assessment and allowances in an enhancement cost model.[176] Ofwat made a mains renewal leakage enhancement allowance for Southern Water of £16.3m to replace 54.48km of main (i.e. the full programme we propose of 366km minus the 312km it assumed is in base). It made the allowance based on its assumed unit cost of £300/m.

4.66. Our estimate of the unit cost for delivering a leakage-focused mains renewal programme in the SoC was ✂ [177] That was based on a top-down estimate of costs from our supply chain produced for our response to Ofwat's DD. Despite our median unit cost quoted so far being higher than this, we retain our SoC value for the calculations in this submission, as it is within the interquartile range and we are committed to optimise the programme over the full AMP.

[175] We are providing three tender submissions which represent the lower quartile, median and upper quartile unit cost within the range of submissions we have received. See PDR-4-003: Tender quotations for sample mains renewal schemes.
[176] Ofwat, February 2025, https://www.ofwat.gov.uk/wp-content/uploads/2025/02/PR24-FD-CA34-Water-Leakage-enhancement-expenditure-model-v3-1.xlsm
[177] Southern Water SoC, page 277, para 299.

4.67. The interactions between different elements of the mains renewal programme - being base, base uplift and enhancement - are complex and we set them out in Table 29 below.[178]

Table 29: Comparison of mains renewal requests and allowances in base & enhancement

Feature	Ofwat's FD	Our SoC	CMA's PD	Our request for CMA's FD
Base Mains Renewal Programme				
Km of mains for stable burst reduction/asset health	216km +72.1 km "catch up"	44km	216 km	216km made up of 44km base + 172km (216-44km) with additional scope for leakage reduction
Km of mains for improvements to asset health	20.5km	22km	72.1+22 = 94 km	94km
Total km of renewals in base	309	66	310	310 (assuming 0.3% p.a. is what base buys)
Unit cost of mains reduction for asset health reduction £/m	£300	✂	£311.27	66km at £311.27/m plus 244 km at ✂
Uplift on base cost allowance, £m	£6.15m	£7.92m	£28.2m	✂[179]
Enhancement Mains Renewal Programme				
Km of mains for leakage enhancement	54.5 km	300km	54.5km	56km
Unit cost of mains reduction for leakage enhancement	£300/m	✂	£300/m (Ofwat's FD)	✂
Enhancement allowance	£16.3m	£124.8m	£16.3m	✂
Total mains renewal programme				
Total km mains renewal	364	366	364	366
Total allowance in addition to implicit allowance within base models	£22.45m	£204m	£44.3m	✂

Source: Southern Water analysis and summary of positions in Ofwat's FD and CMA's PD.

Our solution

4.68. 66km of our 366km mains renewal programme is to address asset health maintenance and improvements. We accept this is within the scope of our base cost allowance. For the remaining 300km we need to carry out the additional scope to support our leakage reduction ambitions

4.69. The CMA's assessment in the PD (in line with Ofwat's FD) is that 310km of our mains renewal is required in base (= 0.43% p.a.). This 310km is made up of 216km within the scope of base cost allowances (i.e. 0.3% p.a.) and a further 94km to improve asset health beyond what base costs allow for (i.e. a further 0.13% p.a.)

4.70. We ask the CMA to apply our SoC unit cost of ✂ to this 94km to ensure we can meet our leakage requirements. This would increase our base uplift allowance to ✂

4.71. In addition, we ask the CMA to make an uplift to all but 66km of the 216km "what base buys" programme. This uplift is calculated as the difference between our unit

[178] We note in the FD, Ofwat used two different figures of company total mains length to calculate its base and enhancement allowances. This led to two different calculations of 0.3% p.a. renewed through base in Ofwat's FD: 309.8km (in base model) and 311.6km (in the enhancement model).

[179] Calculated as full base km split between asset health scope and leakage reduction scope minus what base buys = {66*311.27+244*✂} – {216*311.27}

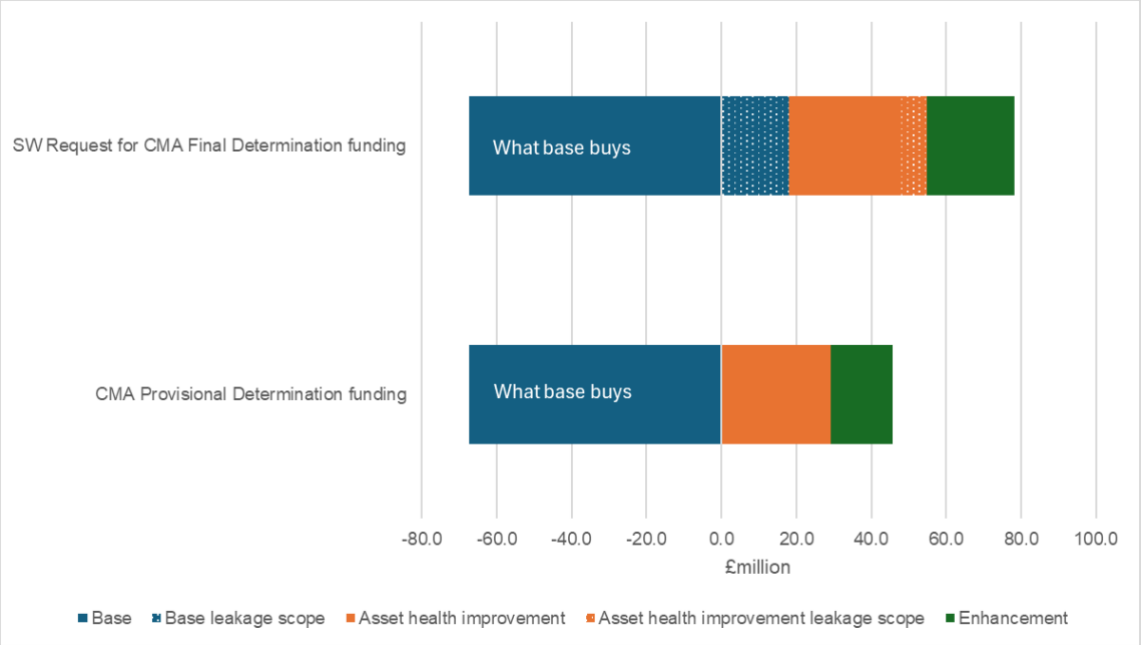
cost (✂) and the CMA's unit cost for a base mains renewal programme in the Southern Water region (£311.27/m) applied to 216-66km, i.e. ✂.

4.72. Lastly, we request that the CMA use our unit cost of ✂ to recalculate our mains renewal leakage enhancement allowance for the remaining 56km that are not within scope of the base allowance and adjustments, i.e. ✂.

4.73. On the basis of the CMA's PD position that the level of mains renewal activity within the base cost allowance is 0.3% p.a., we calculate the overall cost allowance from our recommended approach is ✂.

4.74. We illustrate the different elements of our request in Figure 9 below.

Figure 9: Representation of CMA's PD and our request for FD on allowances for leakage enhancement through mains renewal



Source: Southern Water calculation.

Issue 3: Water Treatment Works Resilience

In its PD, the CMA has designated all five water treatment works in our resilience enhancement programme as within the scope of the large scheme gated mechanism (Ofwat having excluded three from this mechanism).

The CMA removed all enhancement funding allowed (£80.6 million) for the three schemes which Ofwat allowed in its FD.

The CMA did not provide any upfront development enhancement allowance.

Our response

4.75. We agree with the CMA's provisional decision to move the three additional water treatment works schemes into the large scheme gated mechanism.

4.76. However, we do not agree with the CMA's provisional decision not to allow any initial development funding for these schemes. It appears the CMA has overlooked Ofwat's standard approach to applying the large scheme gated mechanism.

4.77. By failing to make a development enhancement allowance the CMA is in effect requiring us to either stop or self-fund considerable development expenditure prior to funding being released through the gated process. This is on a programme of work that is progressing at pace to meet strict deadlines within DWI final enforcement notices.

4.78. In order for all five schemes to be treated in the same way, we ask that the CMA provides a 12% development enhancement allowance for the three additional schemes that are to be included in the mechanism. Development funding is needed prior to the first gated submission, so that design work can be completed to support the gated submission.

4.79. In its FD, Ofwat made an enhancement allowance of 6-12% of the requested costs for all schemes it placed in the large scheme gated mechanism. It explained its approach in its FDs where it states, "*For the FD we retain 6% development allowance as the minimum allowance for most schemes in the large scheme gated process. This is consistent with the development cost proposals for most schemes included by companies and aligns with the approach for strategic resource options (SRO) applied at the 2019 price review and for the FD. We also increase the development allowance to 12% for water recycling schemes. This aligns with allowances provided for water recycling SRO schemes for the FD. There are four recycling schemes where we provide 12% development allowance. Additionally, we allow 12% development allowance for the Southern Water resilience schemes and Northumbrian Water Bran Sands scheme*." [180] (Our emphasis added.)

4.80. The detail of how it did this for two of our water treatment works is set out in its FD model relating to water resilience.[181] We reproduce Ofwat's FD assessment from the model in Table 30 below.

4.81. This shows that for both WTW1 and WTW2, a gated 12% allowance was made, the 12% being calculated as a percentage of the requested cost. It also shows the £80.6 million which Ofwat allowed as enhancement funding for WTW3, 4 and 5.

[180] Ofwat, PR24 FD, Expenditure Allowances, page 325.
[181] Ofwat, PR24 FD, https://www.ofwat.gov.uk/wp-content/uploads/2024/12/PR24-FD-CA31-Water-Resilience-enhancement-expenditure-model_redacted.xlsm . See tab called "SRN WTW", rows 51-81.

Table 30: Summary of allowances for our WTW resilience schemes in Ofwat's FD

WTW1	Request (£m)	Challenge (%)	Challenge (£m)	Allowed (£m)	Latest estimate	12% Development allowance
Need	101.455	Gated 12% allowed		12.175		
Best option						
Cost efficiency						
Total						
WTW2	**Request (£m)**	**Challenge (%)**	**Challenge (£m)**	**Allowed (£m)**	**Latest estimate**	**12% Development allowance**
Need	105.714	Gated 12% allowed		12.686		
Best option						
Cost efficiency						
Total						
WTW3	**Request (£m)**	**Challenge (%)**	**Challenge (£m)**	**Allowed (£m)**	**Latest estimate**	**12% Development allowance**
Need	27.740	40.63%	11.270	14.823	58.173	6.980
Best option		0.00%	0.000			
Cost efficiency		5.94%	1.647			
Total		**46.56%**	**12.917**			
WTW4	**Request (£m)**	**Challenge (%)**	**Challenge (£m)**	**Allowed (£m)**	**Latest estimate**	**12% Development allowance**
Need	47.210	38.64%	18.240	26.073	166.164	19.939
Best option		0.00%	0.000			
Cost efficiency		6.14%	2.897			
Total		**44.77%**	**21.137**			
WTW5	**Request (£m)**	**Challenge (%)**	**Challenge (£m)**	**Allowed (£m)**	**Latest estimate**	**12% Development allowance**
Need	74.336	40.68%	30.238	39.688	56.165	6.739
Best option		0.00%	0.000			
Cost efficiency		5.93%	4.410			
Total		**46.61%**	**34.648**			

Source: Ofwat's FD water resilience enhancement model https://www.ofwat.gov.uk/wp-content/uploads/2024/12/PR24-FD-CA31-Water-Resilience-enhancement-expenditure-model_redacted.xlsm

4.82. Our latest cost estimates are a material increase on those in our response to Ofwat's draft determination and in our SoC, illustrating the scope and cost uncertainty of the schemes and the need for them to be in a gated mechanism.

Our solution

4.83. We agree with including these three additional schemes in the large scheme gated mechanism because there is a high degree of uncertainty in the costs. The costs will be reconciled as part of the cost change process which forms part of the large scheme gated mechanism.

4.84. Alongside this, we request that the CMA makes a 12% gated allowance for WTWs 3, 4 and 5, based on the latest best estimates of costs for these schemes, set out in the table above. Our request would result in an increase in water resilience

enhancement allowance provided in the PD of £33.658 million (calculated as 12% of £58.173+166.164+56.165 million).

4.85. This approach would provide a proportionate level of development funding to progress the design of the schemes prior to accessing further funding through the gated process and would be consistent with Ofwat's approach to providing development allowances for schemes in the large scheme gated mechanism. It is important that an appropriate development allowance is provided so as not to delay the project's delivery.

Issue 4: Water supply interconnectors

In our SoC, we explained weaknesses in the water supply interconnector model that Ofwat had used. We asked the CMA to review our bottom-up evidence of efficient costs, particularly for our Andover Link Main project which received a substantial cost challenge in Ofwat's FD and which includes in its scope atypical and costly crossings.

In its PD, the CMA has made modelling improvements which we welcome. These led to a £13 million increase in our cost allowance for water supply interconnectors.

The CMA retained Ofwat's post modelling adjustment for atypical length of crossings.

Our response

4.86. We welcome the CMA's improvements to the modelling of forecast water supply interconnector scheme costs. However, the CMA has not commented on or taken into account in its modelling the bottom-up evidence of atypical complexity of crossings that we provided in our SoC. Instead it has retained Ofwat's post modelling adjustment for length of crossings. This means the allowance in the PD is insufficient for us to deliver the Hampshire Grid Andover Link Main (ALM) project.

4.87. By using Ofwat's post-modelling adjustment for crossings, the CMA considers only the length of crossing as driving its costs, rather than the scope and complexity of crossings which we explained in our SoC as being a particular issue for our ALM project which is required to tunnel under SSSI chalk streams.

4.88. In the following sections we provide more details around our key concerns and our proposed solutions.

The complexity of our Hampshire Grid ALM scheme

4.89. Our SoC included justification for why the requested costs for the ALM scheme are efficient. In particular, "*there are two river crossings …These require trenchless (pipe-jack) crossings which are longer than might be expected otherwise, so as not to undertake any construction activity at ground level within the SSSI.*"[182] We explained and provided accompanying evidence that "*The Hampshire Grid ALM scope includes*

[182] Southern Water SoC, page 241, para 109.

for 95% (24,255m) open cut installation and 5% (1,145m) trenchless. The 5% proportion of the total main that is to be installed as trenchless accounts for 42% (£17 million) of the total £40 million pipeline direct works cost for this scheme." [183]

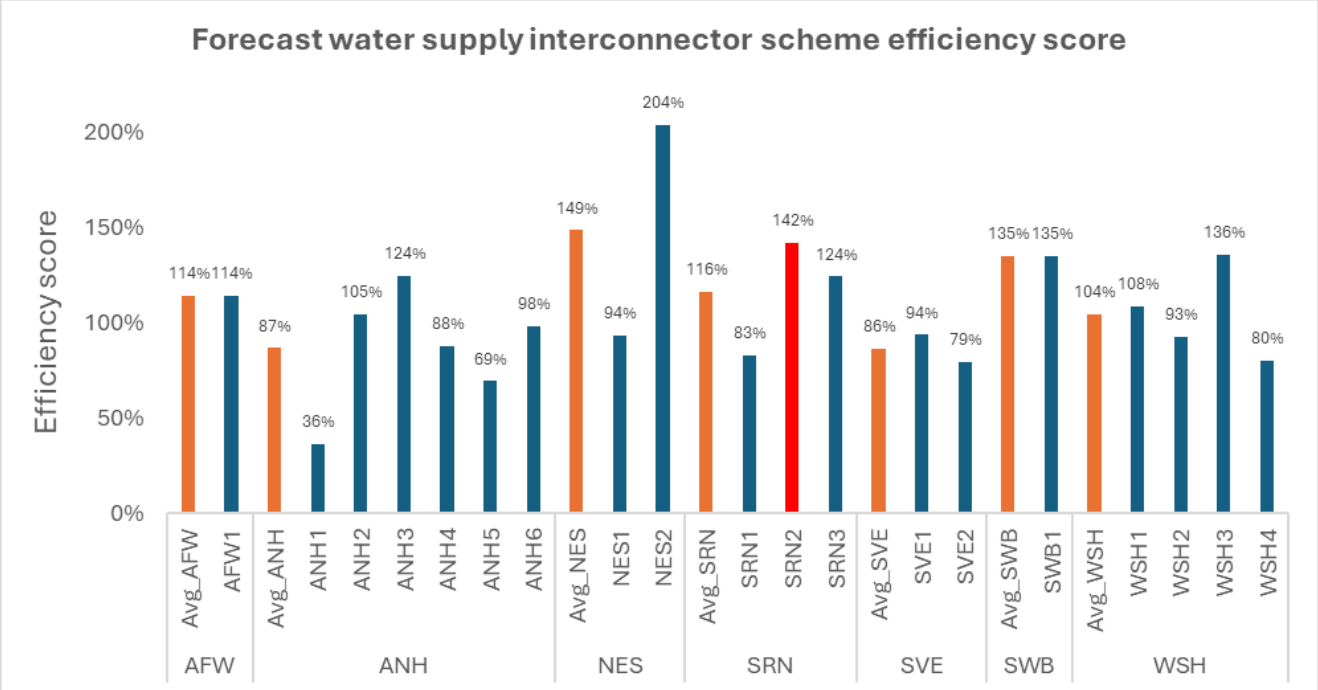
CMA approach to modelling forecast Water Supply Interconnector scheme allowances

4.90. The CMA has improved in the PD on the modelling approach used by Ofwat, resolving issues relating to log bias adjustments that arose in Ofwat's FD.

4.91. However, the CMA's PPML model does not account for all relevant cost drivers, especially those related to higher costs due to length and complexity of crossings. Without controlling for these factors, the results from the model will be biased. The number of schemes is small and removing outlier schemes through engineering outlier assessment is not appropriate. Instead, we consider that the CMA should apply a post-modelling adjustment to adjust for all relevant outlier factors not explained by the model – both crossing length and crossing complexity.

4.92. We illustrate the extent of the model bias in Figure 10 below. The figure shows by company the estimated efficiency of each scheme. We provide each company's average efficiency alongside the scheme-specific efficiencies. Our ALM scheme is highlighted in red. The efficiency score represents how much the model considers should be cut from the forecast costs to deliver an efficient scheme (i.e. an efficiency of 142% represents a 42% cut).

Figure 10: Range in forecast water supply interconnector scheme efficiency score



Source: 'PR24-FD-CA92-Water-—supply-interconnectors-enhancement-expenditure-model-FINAL_CMA_results' model, tab 'Model Calculations', X27:X45.

[183] Southern Water SoC, page 241, para 108.

4.93. We would expect the efficiency of the schemes for any one company to be similar. However this is not the case. For example, our Southampton Link Main scheme (SRN1 in the figure above) is found to be 83% efficient while our ALM scheme (SRN2) is 142% efficient. There are similar anomalies for other companies.

4.94. The CMA's use of Ofwat's crossing uplift post-modelling adjustment is not sufficient to correct for this bias as it does not account for complexity of crossings.

4.95. Our bottom-up evidence, submitted at SoC and referred to above, serves as an additional source to demonstrate bias in the modelling approach for the ALM scheme and should be used by the CMA when setting the allowance for that scheme.

CMA approach to modelling Water Supply Interconnector scheme crossing uplift

4.96. The CMA has retained in the PD Ofwat's approach to setting crossing post-modelling adjustments. This involves uplifting the allowances for the additional costs expected to be incurred for schemes that have atypical crossing length based on the costs allowed by the model and a 'crossing' cost benchmark estimated from Anglian Water's schemes. This benchmark was derived from a marginal unit cost calculation based on Ofwat's separate modelling of historical and forecast schemes for its FD.

4.97. Ofwat's approach to crossings uplift post-modelling adjustment does not sufficiently adjust for the costs of crossing as:

- It does not account for all key cost drivers of crossing costs (such as complexity, explained in paragraph 4.89 and in our SoC[184]); and
- It is inconsistent with the CMA's updated approach to estimate the allowances using a PPML model which includes both historical and forecast schemes.

4.98. To address these issues at the FD, the CMA should amend the post-modelling adjustment for crossing length by re-estimating the marginal cost of crossing length using the CMA's updated model, rather than Ofwat's two separate models.

4.99. As explained above, the cost breakdown of the ALM scheme clearly shows that the post-modelling adjustment applied in the PD is not sufficient to fund our efficient costs for the ALM scheme.

Our solution

4.100. In order to address the issues outlined above, we request that in its FD, the CMA:

- Uses its model to calculate an initial allowance for all schemes;
- Changes its approach to the crossings post-modelling adjustment to be consistent with its new approach to estimating forecast water supply interconnector scheme allowances; and
- Makes a further adjustment to the overall supply interconnector allowance for Southern Water, capped at the requested allowance, to account for the atypical

[184] Southern Water, SoC, Chapter 3, para 105.

complexity of crossings in our ALM scheme: In our SoC we provided robust bottom-up evidence for the efficient costs of complex crossings for this scheme,[185] which we ask the CMA to consider when making its allowances.

4.101. In addition, we consider that the post-modelling adjustment for crossing length should be amended by re-estimating the marginal cost of crossing length using the CMA's updated model using the full historical and forecast sample (rather than Ofwat's two separate models). Our Enhancement modelling annex[186] provides details of taking this step.

4.102. Table 31 below shows the updated allowances after implementing the changes mentioned above and capping the allowance at our requested costs. Our request is for an additional £6.49 million of enhancement allowance to the PD.

Table 31: Water Supply Interconnector allowances from our proposed amendments

Company	CMA modelled allowance, £m	Amended crossings uplift, £m	Total allowance, £m	Requested, £m	Further requested uplift, £m
AFW	53.45	8.67	62.13	61.19	
ANH	600.70	0.00	600.70	601.83	
NES	6.79	0.00	6.79	118.98	
SWB	10.22	0.00	10.22	13.78	
SRN	190.39	5.01	195.40	201.89	6.49
SVE	310.72	0.00	310.72	271.45	
WSH	44.66	1.42	46.08	49.73	

Source: Our analysis of PR24-FD-CA92-Water-–-supply-interconnectors-enhancement-expenditure-model-FINAL_CMA_results' model.

[185] Southern Water, SoC Chapter 3, paragraphs 106-109 and "Southern Water, ALM & SLM Indicative Spend Profiles" (SOC-3-0026).
[186] Southern Water, PDR-4-001 Enhancement modelling annex.

5. Price Control Deliverables (PCDs)

Introduction

5.1. In this chapter, we identify the following issues with the CMA's PD, which we address in turn below.

CMA Document Reference	Issue Identified
Chapter 6, paragraphs 6.91 – 6.100	**Issue 1:** Within-AMP PCD adjustments - misalignment between Ofwat and regulators of quality
Chapter 6, paragraphs 6.91 – 6.100	**Issue 2:** Within-AMP PCD adjustments - storm overflows PCD
Chapter 6, paragraphs 6.59 - 6.74	**Issue 3:** Non-delivery PCDs - efficiently incurred costs
Chapter 6, paragraphs 6.75 – 6.90	**Issue 4:** Time incentive PCDs

Overall position on PCDs

5.2. We welcome Ofwat's recent proposed guidance on PCDs, which is supported by the CMA in the PD. However, the CMA needs to ensure that Ofwat goes further in a number of areas described below. We also correct a misunderstanding of our position that appears from the PD.

Issue 1: Within-AMP PCD adjustments - misalignment between Ofwat and regulators of quality

The CMA has provisionally supported Ofwat's proposed narrowly defined change control process (as set out in its September 2025 consultation on PCDs ("**PCD Consultation**")) and has rejected our proposed within-AMP PCD adjustment mechanism.

Our response

5.3. In the PD, the CMA has provisionally concluded that it would not be appropriate to introduce a within-AMP adjustment mechanism as requested in our SoC and welcomes Ofwat's proposal in the PCD Consultation to develop a "narrowly defined PCD change control process".[187]

5.4. In its wider dismissal of our alternative PCD framework, the CMA also refers to recent Cunliffe Report recommendations, namely that "the current PCD framework should be reformed" and "a review to inform a more robust and flexible framework, broadly set at programme level spending, be conducted before PR29".[188] The CMA states that "*against this backdrop*" it does "*not consider Southern's overall alternative framework*

[187] CMA PD, Vol 3, paras 6.99-6.100.
[188] CMA PD, Vol 3, para 6.19.

further" and instead considers "*specific changes proposed within that framework as part of our assessment of whether to amend any PCD arrangements*."[189]

5.5. We are concerned that the CMA has, to a significant extent, based its provisional decision to reject our alternative PCD framework on a "long grass" approach, considering that immediate issues arising from Ofwat's FD may be addressed by potential future solutions. We do not consider this to be a legitimate basis for failing properly to engage with the concerns we have highlighted with Ofwat's PCD framework or with our proposed alternative PCD framework, particularly with respect to within-AMP adjustments.

5.6. As set out in our response to the PCD Consultation, we welcome Ofwat's proposal to introduce a change control process. However, Ofwat's proposed process is too limited in scope and does not sufficiently address the concerns we raised with respect to the lack of flexibility in Ofwat's PCD framework to allow companies to manage their investment programme efficiently.[190]

5.7. As detailed in our response to the PCD Consultation, Ofwat's proposed change control process is unsatisfactory with respect to changes to delivery and completion dates agreed with regulators of quality.[191] Ofwat proposes that the agreement of the relevant regulators of quality to a change to a completion date is only a starting point for it to consider a change to a PCD completion date. Ofwat's proposed change mechanism imposes a significant evidential burden with respect to any change to output delivery (or completion date).[192]

5.8. As set out in our SoC[193], we consider that any change to outputs and delivery and completion dates agreed with a quality regulator should be reflected automatically in any corresponding PCD outputs and delivery dates. Such changes should not be subject to a further detailed change process with Ofwat entailing an additional evidential burden on companies. The risk of a misalignment between Ofwat's requirements and those of relevant regulators of quality is not consistent with the recommendations of the National Audit Office that to improve future planning and price reviews, the "*EA, Ofwat and DWI should align deadlines and limit inconsistencies in planning timelines and assumptions*."[194]

5.9. While we acknowledge Ofwat's clarifications in respect of the non-delivery PCD mechanism reduce risk of punitive clawbacks, any misalignment between PCD and regulatory outputs and deliver/competition dates risks negatively impacting the ability of companies to manage and deliver their investment programmes.

5.10. In the PD, the CMA states that Ofwat's FD approach provides for some relevant adjustments to PCDs where relevant within-AMP changes are agreed with a quality

[189] CMA PD, Vol 3, para 6.20.
[190] Southern Water, October 2025, Response to the PCD Consultation, pages 2-3, PDR-5-001.
[191] Southern Water, October 2025, Response to the PCD Consultation, page 3, PDR-5-001.
[192] Ofwat, September 2025, Consultation on changes to PR24 price control deliverables (PCD Consultation), page 14.
[193] Southern Water SoC, page 362.
[194] Southern Water, Response to Ofwat's PR24 SoC, page 8 and National Audit Office, April 2025, 'Regulating for investment and outcomes in the water sector', para 25(e).

regulator which result in a reduction or delay in PCD delivery requirements via the PCD clawback arrangements.[195] The CMA does not appear to provide a clear reference back to Ofwat's FD in respect of this example.[196]

5.11. In any event, any mitigations provided under the clawback mechanism fail to address the risk of regulatory uncertainty caused by potential misalignment between the requirements under PCDs and other regulators of quality' requirements. The CMA itself recognises the fact that "broader issues about alignment of requirements and relevant changes to those requirements across regulators, will be considered as part of broader changes to the regulatory landscape"[197] following the Cunliffe Report. But as noted at paragraph 5.5 above, these potential future solutions arising from longer-term changes to the regulatory landscape do not address immediate concerns, including those arising out of regulatory misalignment, which the CMA should engage with as part of the present redetermination.

5.12. Indeed, the Government has announced that it will consolidate the functions of Ofwat and the regulators of quality into one body.[198] We expect that new regulator will be in place before the next price review and deal with the true-up of PR24. Under Ofwat's proposed change control process, we could be in a position where one limb of the new regulator agrees a date change to an output, while another limb of the same regulator penalises us failing to meet the original date. It is simply bad regulation for this misalignment to remain, and it would be wrong for the CMA to endorse it.

Our solution

5.13. The CMA should ensure that Ofwat implements a full and automatic adjustment mechanism to align PCD outputs and delivery dates with outputs and delivery dates agreed with the relevant quality regulator.

Issue 2: Within-AMP PCD adjustments - storm overflows PCD

The CMA has provisionally supported Ofwat's proposed narrowly defined change control process (as set out the PCD Consultation), which excludes our storm overflows PCD.

Our response

5.14. As set out in our response to the PCD Consultation[199] and our SoC,[200] there are a number of factors which could impact delivery of all PCDs, including exogenous factors, supply chain risk and constraints on materials and equipment. Ofwat's

[195] CMA PD, Vol 3, para 6.99.
[196] The CMA references 'Ofwat (2025) PR24 FDs: Expenditure allowances, p306', however this does not appear to refer to the clawback arrangement mentioned by the CMA.
[197] CMA PD, Vol 3, para 6.100.
[198] House of Commons Hansard Report, 21 July 2025, Independent Water Commission Debate, Statement by Steve Reed MP (Secretary of State for Environment, Food and Rural Affairs), Column 568.
[199] Southern Water, October 2025, Response to the PCD Consultation, pages 3-4, PDR-5-001.
[200] Southern Water SoC, pages 334-335.

proposal to limit the scope of the change control process to certain PCDs means that excluded PCDs remain vulnerable to such deliverability risks.

5.15. Ofwat's narrowly defined change control process will not apply to scheme level PCDs, purportedly on the basis that its approach in the FD already accounts for changes in scale and complexity in respect of such PCDs.[201]

5.16. Contrary to Ofwat's views in this regard, the scheme level storm overflows PCD as specified in the FD is inflexible and we do not accept that Ofwat has provided for sufficient flexibility in respect of the delivery of this PCD.[202]

5.17. The storm overflows PCD design does not allow for substitution at a scheme level, rather only within a scheme for a different design. Further, it only allows for additional funding to be released for additional storm overflow delivery once all listed schemes are delivered. That inflexibility plays out in the following ways:

- There is no ability to remove schemes from the AMP8 delivery list even if the EA moves delivery dates to AMP9 or AMP10;
- Even if a quality regulator agrees to delay a scheme, not delivering that scheme prevents further funding being released for new schemes a quality regulator may prioritise. This leaves a large portion of new schemes required by the EA unfunded for AMP8; and
- There is no ability to recover efficiently incurred costs above the 6% level associated with the conduct of an investigation which result in the deprioritisation of a scheme (see Issue 3 below).

5.18. This inflexibility is of particular concern given continued uncertainty and potential changes surrounding storm overflows. For example:

- The EA is continuing to develop guidance on ecological harm for coastal and transitional waters, which could change necessary priorities and spill targets for some overflows; and
- Storm overflows investigations we are required to undertake in AMP8 may conclude that certain higher priority overflows are not causing harm as expected, while certain lower priority overflows are causing more harm than expected. Due to the inflexibility of the design of the storm overflow PCD under Ofwat's FD, we would still have to improve the revealed "no harm" overflows to avoid the risk of non-delivery PCD clawbacks and/or time incentive PCD penalties.

5.19. It is therefore essential that Ofwat's proposed change control process extends to include our storm overflows PCD.

[201] Ofwat, September 2025, PCD Consultation, page 13, PDR-5-001.
[202] Southern Water SoC, pages 336-338.

Our solution

5.20. The CMA should ensure that Ofwat implements a change control process which includes our storm overflows PCD.

Issue 3: Non-delivery PCDs - efficiently incurred costs

In the PD, the CMA acknowledges concerns with Ofwat's wide discretion in relation to the application of non-delivery PCD clawbacks for outputs not delivered by the end of AMP8, recognising the potential for adverse customer impacts and disincentives to timely investment. It has provisionally determined not to amend Ofwat's PCD framework and approach and has instead deferred to Ofwat on the basis of proposed future guidance set out in the PCD Consultation.

Our response

5.21. The CMA recognises Ofwat's lack of consistency in the FD and further submissions made by Ofwat in the PR24 redetermination process with respect to its application of non-delivery PCD clawbacks for outcomes not delivered by the end of AMP8. It provisionally concludes that under the FD PCD framework, Ofwat would have the discretion to wholly disallow the recovery of costs that had otherwise been efficiently incurred and that this form of regulatory discretion could have "*material adverse consequences for customers, including through potentially deterring companies from investing in projects where there is a material risk of not being able to deliver by the end of the period, and generating undesirable incentives for delay*". The CMA also recognises that "*uncertainty over how clawback arrangements will be applied has the potential to exacerbate, rather than ameliorate, risks of delay*."[203]

5.22. We fully agree with these statements and consider that it is paramount that Ofwat implements clear and proportionate use of non-delivery PCD clawbacks.

5.23. Despite recognising these significant concerns, the CMA has provisionally determined not to implement any changes to the mechanism and instead proposes to retain the FD approach to non-delivery PCDs, subject to Ofwat's final guidance on non-delivery clawbacks following the PCD consultation.[204] The CMA does emphasise the need for clear guidance, including that such guidance must: (i) be clear as to how Ofwat would apply its material discretion in respect of clawbacks; and (ii) recognise adverse impacts that can arise (including for customers) from such discretion in relation to such clawbacks.[205]

5.24. We are supportive of the CMA's position on the need for clear guidance from Ofwat with respect to the application of the non-delivery PCD mechanism. In our response

[203] CMA PD, Vol 3, para 6.69.
[204] CMA PD, Vol 3, para 6.74.
[205] CMA PD, Vol 3, paras 6.72-6.73.

to the PCD Consultation, we broadly welcomed Ofwat's proposals with respect to non-delivery PCD flexibility. [206]

5.25. Importantly however, neither the PCD Consultation nor the PD have engaged with our concerns with respect to Ofwat's position in its FD that companies will be allowed to retain only 6% of allowances to cover scheme development costs where an output is not delivered due to it no longer being required in the short term and long-term, and only then only then where the cost-savings to customers from the non-delivered investment is material at 1% of the relevant wholesale totex.[207] Despite stating in its FD that it would provide further guidance on this exception,[208] Ofwat provided only limited comments on the retainment of 6% of allowances for cancelled outputs in its PR24 Reconciliation Rulebook draft guidance,[209] and did not address this area further in its recent PCD Consultation.

5.26. As set out in our SoC, we consider that where companies have incurred costs efficiently in respect of an output subject to a non-delivery PCD which is subsequently cancelled, any non-delivery clawback should exclude any expenditure which the company can demonstrate has been efficiently incurred.[210] Such an approach would align with that adopted by Ofgem in its RIIO-2 PCD framework.[211] Moreover, if costs have been efficiently incurred in a particular case and can be demonstrated as such, it is difficult to see on what basis it is legitimate to require companies to refund that part of the allowance to customers. By deferring to Ofwat's PCD Consultation, the CMA has not engaged with our submissions in this regard.

Our solution

5.27. The CMA should implement our proposal to prevent Ofwat clawing back efficiently incurred costs in respect of an output subject to a non-delivery PCD which is subsequently cancelled.

Issue 4: Time Incentive PCDs

The CMA has misunderstood our proposal with respect to Time Incentive PCDs ("**TI PCDs**"), suggesting that we supported within-AMP TI PCDs where regulators of quality set delivery dates.

Our response

5.28. In its assessment of TI PCDs, the CMA states that "*Southern requested that time incentives only apply to outputs for which a quality regulator (e.g. the EA or DWI) had*

[206] Ofwat, September 2025, Consultation on changes to PR24 price control deliverables (PCD Consultation), page 11 and Southern Water, October 2025, Response to the PCD Consultation, page 2, PDR-5-001.
[207] Southern Water SoC, page 340, para 58, first bullet.
[208] Ofwat, December 2024, PR24 FDs: Expenditure Allowances, page 313, SOC-1-0006.
[209] Ofwat, May 2025, PR24 Reconciliation Rulebook: Draft Guidance Document, page 67.
[210] Southern Water SoC, page 361, para 147, sixth bullet.
[211] Ibid.

set a relevant delivery date …".[212] The inference from this statement and the context in which it appears is that Southern Water is otherwise content with Ofwat's FD with respect to TI PCDs.

5.29. We conclude from the above that the CMA has misunderstood our position with respect to TI PCDs as set out in the alternative PCD framework we proposed in our SoC.[213] To be clear: our alternative PCD framework sought the removal of all TI PCDs applied to within-AMP milestones, and instead proposed the application of late delivery time incentive penalties where we fail to provide PCD outputs by a corresponding delivery date set by a relevant regulators of quality.

Our solution

5.30. We request that in its FD the CMA takes full account of our position with respect to TI PCDs as clarified above, namely that all within-AMP TI PCDs should be removed.

[212] CMA PD, Vol 3, para 6.81.
[213] Southern Water SoC, page 361.

6. Performance Commitments (PCs) and Outcomes Delivery Incentives (ODIs)

Introduction

6.1. In this chapter, we identify the following issues with the CMA's PD, which we address in turn below.

CMA Document Reference	Issue Identified
Chapters 7-10 – para 8.121	**Issue 1:** Downside skew still remains
N/A	**Issue 2:** Updating for 2024/25 data
Chapter 6 – para 6.397- 6.407.	**Issue 3:** Assessment of CMA's pollutions incidents ODI rate
Chapter 6 – para 6.379 – 6.382	**Issue 4:** Storm Overflows PCL calibration error
Chapter 6 – para 6.339 – 6.348	**Issue 5:** MeXes – Effect of the latest information
N/A	**Issue 6:** Lack of collar, miscalibrated deadband and ODI rate on redefined Discharge Permit Compliance (DPC)

Overall position on PCs and ODIs

6.2. **The CMA fails to address the downside skew in outcomes,** which limits Southern Water's ability to recover despite improving performance and ongoing turnaround efforts.

6.3. **Use of most recent data points:** It is essential that the CMA uses 24/25 performance data and incorporates the most accurate and up-to-date information to ensure that the framework reflects the performance that 'base has bought', current performance and operational realities.

6.4. **We welcome the CMA's approach to recalibrating the total pollution ODI rate,** which more accurately reflects actual performance by correcting distortions from bespoke targets**.**

6.5. **The current Storm Overflows PCL is miscalibrated** and unduly stretching. It introduces negative RoRE skew that warrants re-baselining using recent data, consistent with the CMA's approach to Water Supply Interruptions (WSI).

6.6. **MeXes – effect of latest information:** The CMA should update the C-Mex PCL using latest data and revisit the MeXes ODI rate calibration to ensure risk is a proportionate level of RoRE.

6.7. **The CMA should update risk protections for discharge permit compliance (DPC)** to reflect confirmed changes to the definition by the EA and ensure that risk exposure is proportionate and appropriately protected.

6.8. **Other errors / additional points to note:** The CMA should recalibrate the enhanced outperformance thresholds for WSI following the adoption of a glidepath in the PD.

Issue 1: Downside skew still remains

The CMA concludes the PD package is broadly balanced through alignment with Ofwat's view that the upside skew in financing is offset by the downward skew in outcomes.[214]

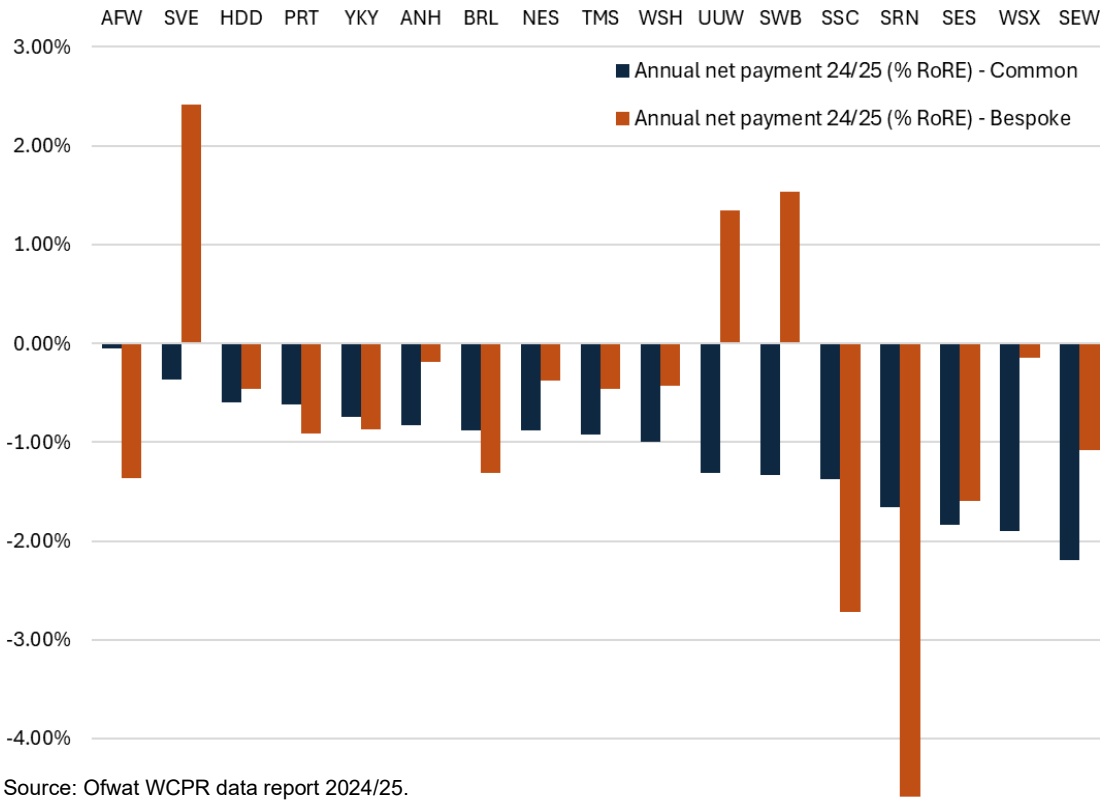
Our response

6.9. We welcome the CMA's recognition of Cunliffe's recommendations regarding the outcomes framework.[215] However, we consider that the PD has not substantively addressed the issue of excessive downside skew within the PR24 outcomes package.

6.10. On a median expected basis, a notional company operating in our area would achieve -0.4% RoRE across the outcomes package.[216] The PD relies upon financing upside to offset this outcomes skew. [217] However, we demonstrate expected financing upside is a false assertion in *Issue 7: The PD is not a 'fair bet'*.

6.11. The Independent Water Commission's recommendations make the future of the outcomes package uncertain. However, during this interim period prior to any reforms, the notional company is expected to underperform the PR24 price control settlement and is exposed to disproportionate downside risk. It is imperative that the CMA addresses this now to provide a balanced incentive package that supports financeability.

Figure 11: Annual ODI net payments (common vs bespoke) 2024/25



Source: Ofwat WCPR data report 2024/25.

[214] CMA PD, Vol 4, para 8.121.
[215] CMA PD, summary, para 41.
[216] Note this excludes any impacts from the new DPC metric as there is no data on the industry's performance under its new definition.
[217] CMA PD, Vol 4, para 8.22.

6.12. As outlined in Figure 11 above, all companies have a negative RoRE on common ODIs in 24/25. This is the relevant reference point as bespoke ODIs have largely been removed at PR24. The clear miscalibration across common ODIs is a cause for concern.

6.13. We acknowledge that the PD's introduction of a glidepath for the WSI PCL represents a positive step towards mitigating this skew. However, further adjustments are necessary to restore symmetry across the broader package.

Our solution

6.14. In *Chapter 2 Financeability,* we present the aggregate expected downward skew across the PD package that the CMA must address.

6.15. In respect of expected downside outcomes, the CMA should first address risk at source with the solutions we present in this chapter and quantify the residual expected skew once these changes are reflected. Any residual skew should be addressed through either (1) removal of the OAM deadband, or (2) an equity risk premium (factoring in residual skew on other components of the package).

6.16. Our proposed changes will temper the severity of a plausible downside. However, further actions may still needed to support financeability. This is discussed further in in *Chapter 2 Financeability*.

Issue 2: Updating for 2024/25 data

The CMA's PD has only used data to 2023/24 when setting PCLs and ODIs.

Our response

6.17. Ofwat states in the FD that "*we agree with companies that we should be using the most recent data available to us*".[218] Given the publication of company APRs for 2024/25, it is appropriate and consistent for the CMA to adopt a similar approach in its assessment by using the 2024/25 data. The CMA's PD has only used data up until 2023/24.

6.18. It is important that the CMA incorporates the most up-to-date and accurate information to ensure that the PR24 outcomes framework is grounded in current operational realities and performance levels. The 2024-25 (year 5) targets were the most stretching, given that they are the end of AMP target. Company performance against those targets is important information to factor in when considering the full impact across the AMP.

6.19. Excluding the latest 2024/25 data, risks setting performance targets that are misaligned with what is achievable for the notionally efficient company, given this is the performance that 'base has bought' over a full AMP period. This weakens the incentive power of ODIs, as outdated baselines may unfairly penalise companies, introducing asymmetry in the calibration of targets and rates. To mitigate this and

[218] Ofwat, December 2024, PR24 FDs: Delivering outcomes for customers and the environment, page 29, SOC-6-0029.

ensure consistency with Ofwat's approach, it is appropriate to incorporate the most up-to-date data available. In the context of rebuilding public trust, it is also important that the targets are reasonable and achievable. Many of the targets set at AMP7 were clearly miscalibrated and not deliverable within the botex funding envelope and that has contributed to the industry's negative public perception.

Our solution

6.20. The CMA should incorporate 2024/25 performance data where available to update its calculation of PCLs and ODI rates. While we acknowledge the methodological complexity involved in recalibrating certain targets and incentive rates (particularly those that require updates to company forecasts and those new ODIs that are derived from Ofwat's proxy PCL approach) we propose a pragmatic solution and can provide completed spreadsheets to aid the CMA's analysis.

6.21. For ODI rates, we consider that all ODI rates that can be updated, should be updated for 2024/25 performance range data as in Table 32. Should the CMA consider it necessary to apply a materiality threshold, we note that there are material changes in ODI rates for Leakage (-19%), Total Pollution Incidents (-15%) and Water Supply Interruptions (-11%).

6.22. For PCLs, we consider updating those target levels where the 24-25 baseline is mechanically informed by recent performance 2020-25.[219] This includes Water Supply Interruptions, Total Pollution Incidents, and Internal Sewer Flooding PCs.

6.23. We set out below at Table 32 the updated performance ranges having incorporated 2024/25 data and the subsequent impact this has on ODI rates.

6.24. We have excluded biodiversity and GHG emissions from the below analysis as they make use of bespoke approaches rather than performance range calculations[220]. Water Quality Contacts, Unplanned Outage and Sewer Collapses are also calculated based on an uplift to the PR19 unit rate and are not included in the below analysis as they are not mechanically driven by 2024/25 data updates.

[219] Ofwat, December 2024, PR24 FDs: Delivering outcomes for customers and the environment, page 21, SOC-6-0029.
[220] Ofwat, December 2024, PR24 FDs: Delivering outcomes for customers and the environment, page 28, SOC-6-0029. Ofwat take Defra's estimated national average price per biodiversity unit and for GHG emissions applied the central series BEIS carbon values for 2027 and multiplies this by the 70% benefit sharing factor.

Table 32: Updated ODI rates using 2024/25 data

PC	Performance range (FD/ CMA PD)	Performance range (with 24/25 data)	ODI rate FD / CMA PD	Updated ODI rate with 24/25 data	Change	% Change
Water ODIs						
WSI	342%	413%	0.536	0.477	-0.059	-11%
Leakage	7.36%	9.03%	0.688	0.561	-0.128	-19%
PCC	11.02%	10.93%	0.463	0.467	0.004	1%
CRI	7.628	7.700	0.708	0.708	0.000	0%
Repairs to burst mains	27.8%	27.2%	0.111	0.114	0.003	2%
Wastewater ODIs						
Internal Sewer Flooding	90%	89%	12.345	12.440	0.095	1%
DPC	5.05	5.05	1.079	1.079	0.000	0%
Total Pollution incidents	145%*	170%*	0.452*	0.385	0.067	-15%
Retail ODIs						
C-Mex	8.27	8.71	1.889	1.795	-0.094	-5%
D-Mex	8.76	8.77	0.892	0.891	0.001	-0.1%
Other ODIs (new to PR24 or were not common in PR19)						
Serious Pollution incidents	1.36	1.46	1.708	1.631	-0.077	-4%
Storm Overflows	40.1%	35.9%	0.833	0.802	-0.031	-4%
Bathing Water Quality	6.29%	8.97%	3.178	2.226	-0.952	-30%
External sewer flooding	28.4%	28.5%	3.388	3.373	-0.015	-0.5%

Source: Southern Water calculations using Ofwat's performance range models and ODI model.
*Total pollutions incident performance range analysis is based on CMA's PD approach.

6.25. The CMA should recalibrate PCLs that are set deriving the 2024/25 baseline from recent sector performance with the latest available data, as set out in Table 33.

6.26. We propose focusing on these three metrics, as the methodologies for the remaining ones are either based on PR19 PCLs or rely on Company/Ofwat forecasts. These approaches are not mechanical and would require significant time to update. In contrast, updating the selected metrics in Table 33 is a mechanical process that aligns the retrospective baseline with the most recent 2024/25 data.

Table 33: Updated PCL levels for common PCs using 2024/25 data to re-baseline

Common PC	Original vs updated target level	2024/25 Base	2025/26	2026/27	2027/28	2028/29	2029/30
Water Supply Interruptions	CMA PD PCL	**00:09:38**	00:08:43	00:07:47	00:06:51	00:05:56	00:05:00
	CMA PD PCL updated with 24/25 data (same 00:05:00 endpoint)	**00:09:16**	00:08:25	00:07:34	00:06:43	00:05:51	00:05:00
Pollution incidents	Ofwat FD PCL	**26.61**	25.02	23.42	21.82	20.23	18.63
	Ofwat FD PCL updated with 24/25 data (same 30% reduction)	**29.19**	27.44	25.69	23.94	22.18	20.43
Internal Sewer Flooding	Ofwat FD PCL	**1.62**	1.54	1.46	1.39	1.31	1.23
	Ofwat FD PCL updated with 24/25 data (same 1.23 endpoint)	**1.62**	1.55	1.47	1.39	1.31	1.23

Source: Southern Water analysis based on Ofwat's methodology for setting PCLs in which the 2024/25 baseline is derived from recent sector performance.

Issue 3: Assessment of the CMA's Pollutions Incidents ODI rate

For Pollutions Incidents, the CMA makes use of a proxy PCL based on the midpoint of the P10/P90 range from PR14 targets. This approach addresses key limitations of the current methodology by more accurately reflecting the true performance range. It also corrects for the significant underestimation observed under the existing approach, which relies on bespoke targets that artificially narrow the range and do not align with the new common PCL for pollution incidents.

Our response

6.27. We welcome the CMA's recognition of the limitations in Ofwat's approach to setting the performance range for total pollution incidents, and its alignment with our view that a more robust methodology is needed to inform the ODI rate.

6.28. This approach addresses key limitations of the current methodology by more accurately reflecting the true performance range. It also corrects for the significant underestimation observed under the existing approach, which relies on bespoke targets that artificially narrow the range and do not align with the new common PCL for pollution incidents.

6.29. The CMA rightly highlights: "*Our provisional view is that the above approach to determine a proxy PCL for historic performance in PR14 is appropriate given the circumstances that arise in relation to total pollution incidents. These circumstances include that company specific targets had been used in the PR14 period, but also that Ofwat's PR24 FD approach – in our provisional view* ***–resulted in a significant underestimate of the relevant performance range***"[221] (emphasis added).

6.30. We agree that setting performance ranges for those ODIs that were previously company-specific requires a different approach and one in which is more reflective of PR24 methodology.

6.31. The proxy PCL approach adopted in the PD uses the available data on previously bespoke PCLs and forms a stretching common PCL aligned with Ofwat's ex-ante target setting methodology to generate a performance range.

6.32. The CMA's provisional approach ensures that this is accounted for, as taking the midpoint of the P10/P90 from the PCL is reflective of mimicking the common approach used at PR24.

6.33. This approach is also reasonable as Ofwat set company specific stretching targets for the industry in PR14, and this needs to be considered for how Ofwat would have set a common PR14 PCL.

[221] CMA PD, Vol 3. para 6.405.

6.34. In addition, we seek assurance that any future changes Ofwat makes to the total pollution incidents ODI rate following the consultation[222] will be aligned with the CMA's updated position.

6.35. In Table 32 above, we have updated the ODI rate using the PD approach with the inclusion of 24/25 data, which results in it being lowered from 0.452 to 0.385 which should be used in the FD.

Issue 4: Storm Overflow PCL calibration error

The CMA has provisionally rejected our argument to change the Storm Overflow PCL.

Our response

6.36. We fully support the objective of reducing storm overflows, which aligns closely with customer priorities. We are consistently an above average performer delivering the 4th best performance across the industry in 24/25 and our AMP8 programme includes a substantial investment commitment to address this challenge with most benefits delivered by the end of the AMP. However, it is critical that the PCL set for this outcome is fair, evidence-based, and reflective of sector-wide performance, particularly given the public scrutiny of the issue.

6.37. At the time of business plan submissions, companies only had access to data up to 2022/23, effectively 4 years of data. Subsequently published outturn data for 2023/24 and 2024/25 (i.e 50% more data) indicates a material increase in storm overflows, rising from a median of 20 in 2022/23 to 34 in 2024/25. This increase is primarily attributable to different weather conditions impacting system performance. Ofwat has stated that it expects companies to forecast performance for 2025 to 2030 based on a typical weather year.[223] However, there is nothing in the final methodology documents that states this.

6.38. As it stands, the 2024/25 starting point requires a 42% improvement over 1 year for the median company to hit a target of 20. Not only is this unlikely, but it is unreasonable and creates a strong negative RoRE skew for the industry that will likely reinforce the narrative of a failing industry.

6.39. In the PD, the CMA recognises that "*allowances for base costs essentially fund companies for providing a level of performance reflective of the industry average in previous years*"[224]. For WSI, the CMA PD sets the baseline equal to the median of the average of past 4 years of data with a linear improvement to a target position. In relation to this approach, the CMA states "*We consider this evidence on the level of performance companies overall were able to achieve in the PR19 period to be relevant to assessing what is reasonable to expect companies to be able to achieve during the PR24 period,*

[222] Ofwat, October 2025, Consultation on changes to three PR24 environmental performance commitments.
[223] CMA PD, Vol 3, para 6.146
[224] CMA PD, Vol 3, para 6.227.

especially at the beginning of the period"[225]. Given the latest data on storm overflows and the disconnect between median outturn performance and target levels, it is appropriate to apply the same approach, recognising the long run median represents performance under a more typical set of weather patterns over multiple years.

6.40. Applying the same logic to storm overflows and applying a linear trajectory to the industry median target of 17 in 29/30 shows an industry median target performance as per Table 34 below. This provides a stretching but achievable target that eliminates the negative skew of the ODIs while delivering a 51% improvement over 5 years from the 24/25 sector median. We request the CMA adopt this approach.

Table 34: Storm Overflows PCL using median of 2020-25 average performance

	baseline	2025-26	2026-27	2027-28	2028-29	2029-30
Approach based on median 2020-25 average performance, linear trajectory to industry median target in 29/30	31.86	28.89	25.92	22.94	19.97	17.00

Source: Southern Water calculation.

6.41. In the event the CMA does not take this approach into consideration, the CMA should at least amend the calibration error we outline in the Storm Overflow PCL model in our SoC (adopting the approach we describe above would also resolve the calibration error),[226] which the PD rejects.[227]

6.42. Due to a double counting spreadsheet error in Ofwat's model as set out in paragraph 6.48 below, we have been assigned a target which is unreasonably more stretching than the sector at the frontier position. In aggregate on average, it is 13% more stretching than the median target despite us receiving no corresponding increase in base allowances as compared with any other company to deliver a greater level of performance.

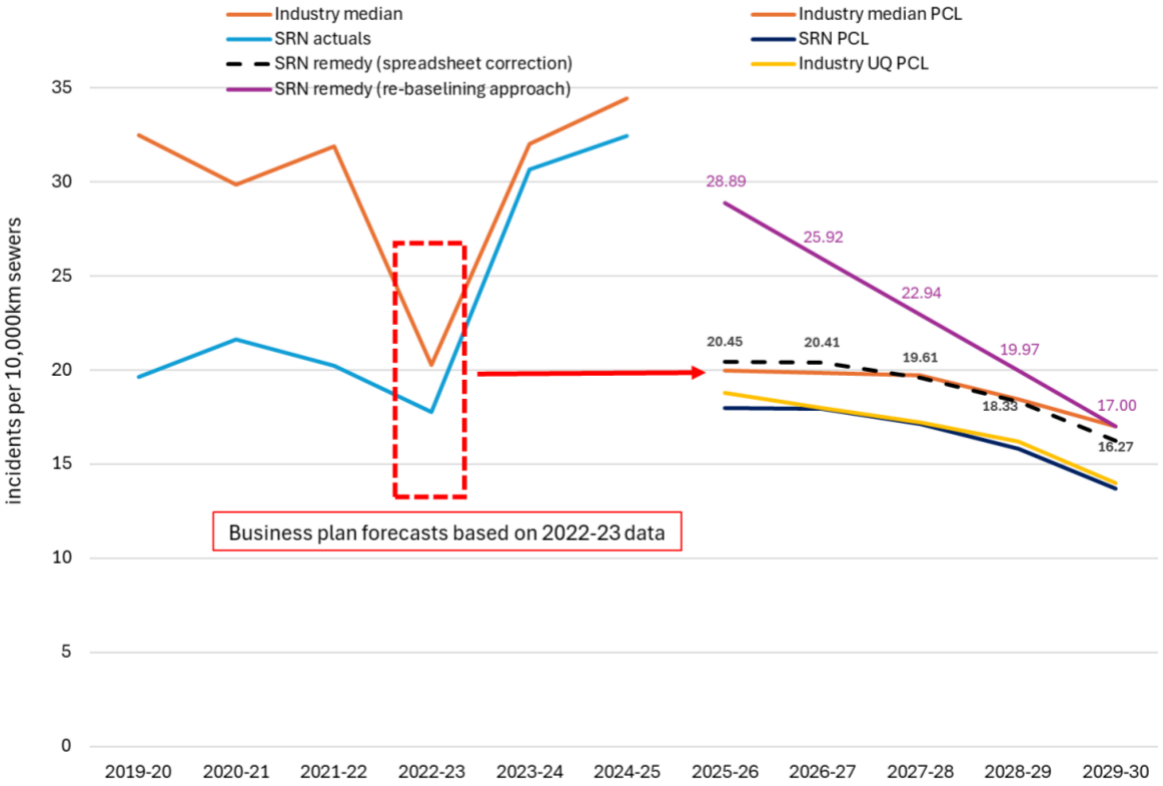
6.43. This is not a reflection of relative performance or ambition, but rather is a modelling inconsistency that must be corrected. The CMA very briefly references our concern, stating that our request was "*for its preferred company-specific forecast to be applied*".[228] However, this is not the case: we simply ask the CMA to amend Ofwat's error and align the forecast on EDM uptime with the rest of the sector.

6.44. As set out in our SoC[229] Ofwat's PR24 methodology requires companies to assume 100% uptime. We along with two other companies (Yorkshire Water and Thames Water) reported 97% uptime, aligning to the EDM uptime threshold. This difference in interpretation of the guidance flows through a spreadsheet in a mechanistic way automatically reducing our PCL by the difference of 3 each year (100%-97%*100) this results in us being assigned a frontier target in the industry.

[225] CMA PD, Vol 3, para 6.223.
[226] Southern SoC, page 397, para 149.
[227] CMA PD, Vol 3, para 6.149.
[228] CMA PD, Vol 3, para 6.147.
[229] Southern SoC, page 397, para 149.

6.45. The CMA consider it clear that the 100% uptime assumption was not intended to represent Ofwat's view of what companies were likely to achieve.[230] Our forecast performance was ambitious and a significant reduction from our 2023 performance (33.1 adjusted spills per overflow) and our most recent 2024 performance (32.4 adjusted spills per overflow). The proposed performance improvement in our business plan would have already been a 47% reduction over the AMP (as demonstrated at Figure 12, which shows our relative historic and forecast performance). When we forecasted the uptime %, we set out what we are aiming to achieve each year, and we had already accounted for the adjustment.

Figure 12: Industry PCLs for Storm overflows – Remedy for PCL error



Source: Historic data and Ofwat's PCL storm overflow model.

6.46. Ofwat's reduction in our PCL double counts the uptime adjustment, which results in our frontier target. We are an above average performing company in storm overflow spills and we want the ability to improve our performance to be upper quartile. Setting an unachievable and overly stretching target does not assist in delivering this improvement that will benefit customers and the environment. The CMA should correct this error mechanically and assume 100% for our forecast.

6.47. Finally, Ofwat have submitted evidence (PD 6.144) that Southern has the highest percentage of high spill attributed to 'operational and maintenance issues' and by inference has the greatest potential to improve. This mischaracterises the issue as the vast majority of those overflows are due to infiltration (ie high ground water

[230] CMA PD, Vol 3, para 6.148.

pressures forcing water into the sewers and triggering overflows). This is a long standing sewer design challenge requiring replacement or relining of sewers, not a quick fix operational change. The classification of infiltration within the EDM dataset is inconsistent between companies with some placing infiltration into 'hydraulic capacity' and others into 'exceptional weather'. We have attributed it to 'other operational (incl. asset maintenance)' but it is an asset design rather than an asset maintenance issue and is not easily resolvable. Hence Ofwat's inference that we have greater opportunity to improve compared to others is not correct given the long time and high cost needed to make improvements to infiltration.

Our solution

6.48. Under the current approach, PCLs were set based on business plan forecasts using 22/23 data. Given the movement in median performance as evidenced above, the CMA should re-baseline this PCL and align with the approach taken for WSI.

6.49. If this is not considered, then as a minimum the CMA should correct the spreadsheet error outlined, which as illustrated in Figure 12 above, would realign our target with the industry median.

Issue 5: Measure of Experience – Effect of the latest information

The CMA has accepted Ofwat's position in relation to the Y adjustment factor in the C-Mex PCL calculation and the justification behind the strength of the MeXes ODI rates.

Our response

C-MeX PCL

6.50. The CMA has not appropriately considered the latest information for C-Mex. This includes the latest UKCSI data published in July[231], 2024/25 C-MeX performance and the 2025/26 quarter 1 C-MeX scores released in August to show the effect of the AMP8 metric.

6.51. The CMA has not considered the step change in negative media coverage on the industry's performance from 2022-23 onwards, which means that in its current form, C-MeX offers Southern Water limited opportunity to improve its standing. For 2025/26 Q1 our YTD performance was 50.6, the collar is 61.3.

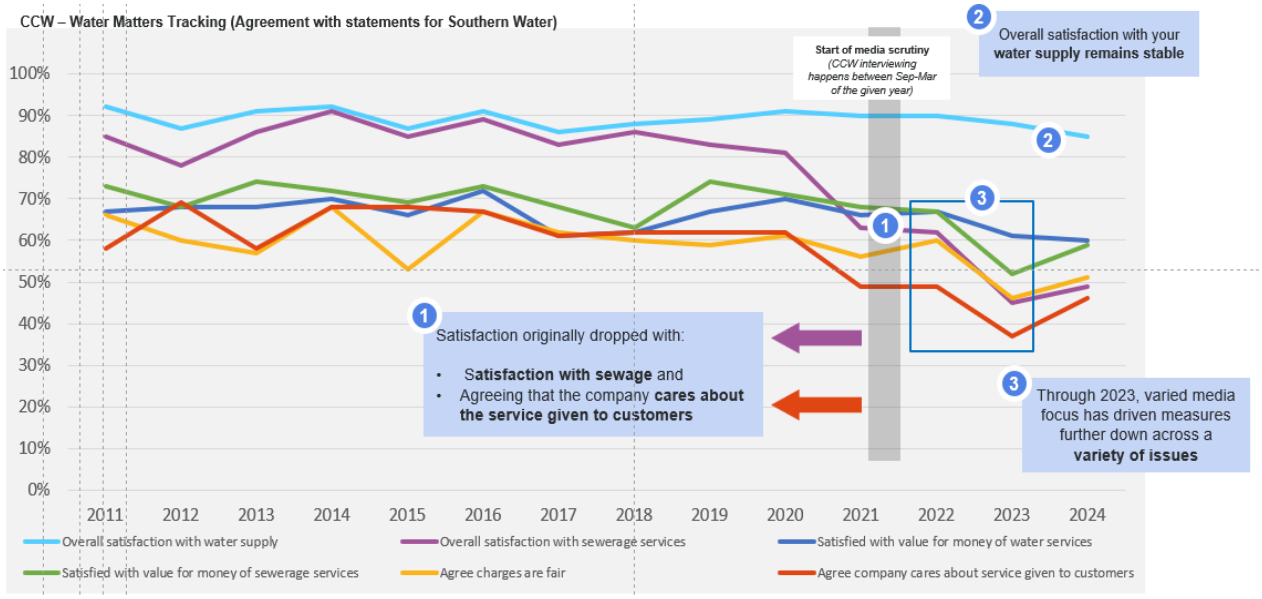
6.52. The CMA provisionally agrees with our analysis that if the new C-Mex regime was applied in the last two years of the AMP, there would be a downward skew.[232] The CMA notes that "*Ofwat considered it unjustified to assume that the PR19 performance trend will persist*".[233] Although in a recent Regulatory Director Forum, Ofwat recognised the worsening sector performance and justified this due to greater

[231] Institute of Customer Service, July 2025, UKCSI Report. UK Customer Satisfaction Index (UKCSI) ⋆ Institute of Customer Service
[232] CMA PD, Vol 3, para 6.345.
[233] CMA PD, Vol 3, para 6.336.

contact weighting and the removal of the online correction factor.[234] They opened the door to a wider adjustment of the Y factor but stated this would be premature.

6.53. We recognise that our performance is not good enough, and we want to improve and finish our turnaround plan. It will take time to change the media sentiment and the public's view of Southern Water. With C-MeX in its current form, we are at risk of receiving maximum penalty for the AMP irrespective of improving performance. This will not help support and improve our service. Due to this, our retail price control budget is significantly constrained and prevents us from optimising the allowance and improving our customer service.

Figure 13: Water matters tracking

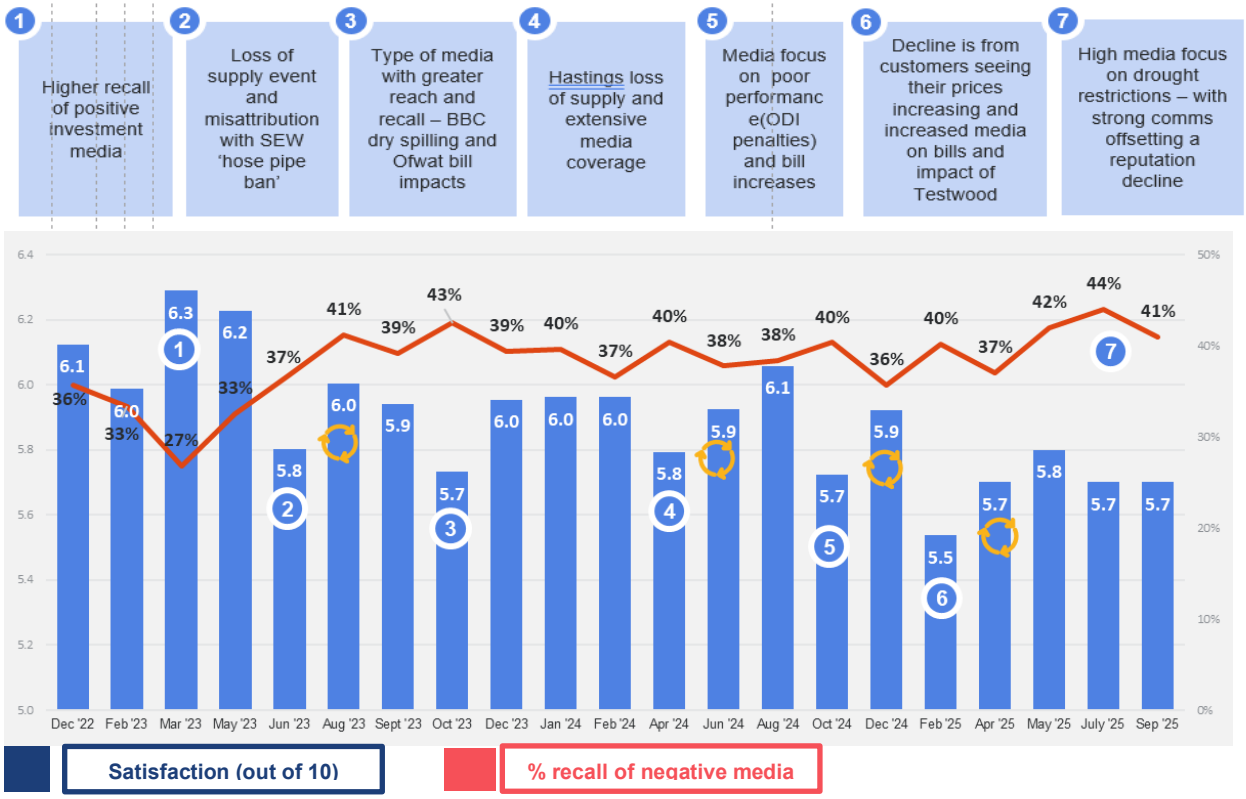


Source: CCW water matters - Water Matters 2025 - CCW)

6.54. Figure 13 above shows that customer satisfaction of our water supply remains stable, indicating core service delivery to customers is not deteriorating. However, aligned with the start of heightened media scrutiny in 2021/22 this led to a significant decline in other areas of satisfaction, showing how much media scrutiny has an effect on overall customer satisfaction.

[234] Ofwat, 14 October 2025, Regulatory Director Forum slides.

Figure 14: Reputation is strongly correlated (-0.73) with negative media coverage and overall customer satisfaction



Source: Southern Water analysis.

6.56. As outlined above in Figure 13 and Figure 14, it is clear that customer sentiment is being driven heavily by factors such s negative media sentiment and bill increases. For factors that remain in our control (such as stability of water supply), customer satisfaction has remained stable.

6.57. Our data analysis demonstrates a clear correlation between declining satisfaction scores and increasingly negative media sentiment, suggesting that the C-MeX metric may be disproportionately influenced by external factors beyond our control.

6.58. Customer sentiment is heavily impacted by the broader media landscape. Even the best performing water companies are considered 'bad' in the eyes of the media. There are further issues that will arise over AMP8 that will continue to push customer sentiment downwards:

- 1 - the new EPA metrics[235] define more discharges as pollutions (i.e. Cat4 non-impacting discharges and dry day spills). The media narrative will likely be that pollutions have increased, despite this being a reclassification issue;
- 2 - the new EPA metric sets stricter definitions for treatment works compliance and more reasons why a treatment works can be seen to fail. For like-for-like

[235] Environment Agency, October 2025, Water and sewerage companies: EPA methodology for 2026 to 2030, Section 1. Introduction to EPA methodology.

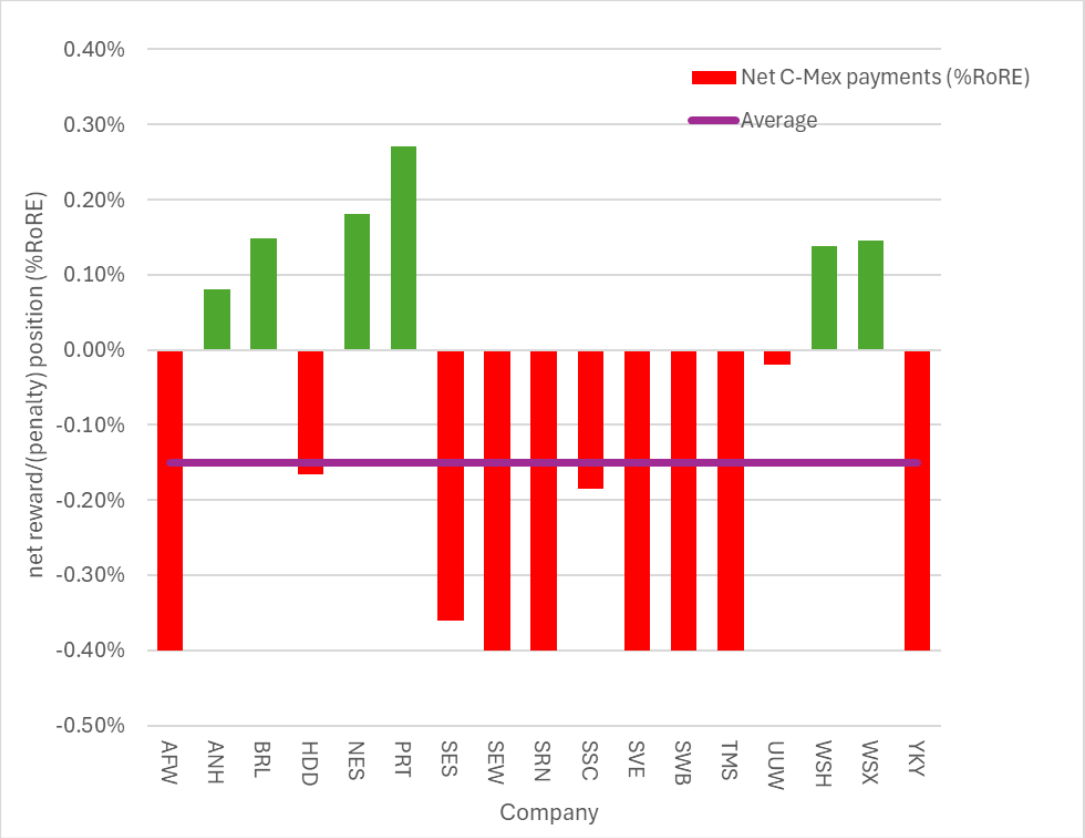
performance, this means that results by definition can only get worse, creating more negative headlines of a deteriorating industry; and

- 3 - The resolution of the Thames Water position will continue to play out negatively in the media.

6.59. Given these headwinds of customer sentiment, the CMA needs to recognise the reality of the situation in the ODI design and its impact on negative RoRE skew. It is important that the downward benchmark adjustment to the UKCSI is revisited, as the current approach does not reflect the current landscape. Given prevailing customer sentiment, this creates an asymmetric downside risk, as illustrated in Figure 15 below.

6.60. In 2025/26, C-MeX is now calculated through Ofwat's updated methodology and benchmarked against the UKCSI all sector average scores. Based on the updated Q1 C-Mex results for the industry and the latest UKCSI data, the sector would have incurred penalties totalling -£118 million under the new framework, with a net impact of -£99 million. This asymmetry is shown in Figure 15 below with 7 companies (41% of the industry) hitting the -0.4% collar.

Figure 15: C-Mex industry position under new framework (% RoRE)



Source: Southern Water calculations based on latest C-Mex data and UKCSI all sector average. Updated ODI rates for the appellants based on our remedy are used.

6.61. As shown in Figure 15 above, 13 companies would be subject to penalties, compared to only 4 receiving rewards. This highlights a flaw in the CMA's provisional approach.

6.62. These findings suggest that the framework is not correctly calibrated to fairly incentivise Southern Water. The downward benchmark adjustment to the UKCSI is too small given customer sentiment and creates an asymmetric downside. The PCL is too stretching for the industry in its current state.

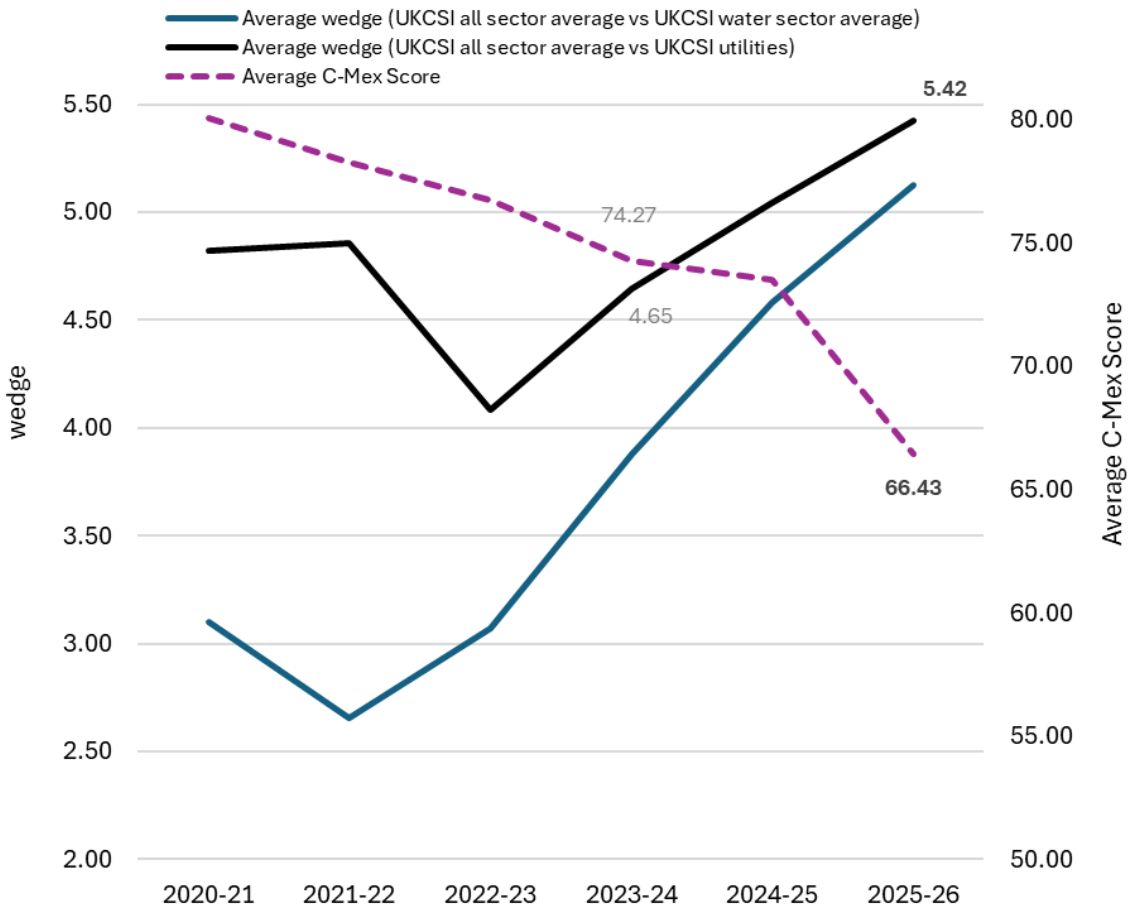
6.63. Table 35 and Figure 16 below illustrate this variance and how it has widened since Ofwat originally set the Y adjustment, reinforcing the case for a revised approach.

Table 35: Updated wedge between UKCSI and water sector average

	2020/21	2021/22	2022/23	2023/24	2024/25	Q1 2025/26
C-Mex Average	80.08	78.28	76.75	74.27	73.51	66.43
UKCSI all sector average	77.40	78.40	76.60	75.80	76.10	77.33
UKCSI – Utilities index	72.58	73.51	74.05	69.47	69.46	70.01
UKCSI – water sector average	74.30	76.19	72.69	69.50	68.70	69.50
Y adjustment (Ofwat method)	4.8	4.9	2.5	6.3	6.6	7.3
Y adjustment (vs UKCSI water sector average)	3.1	2.2	3.9	6.3	7.4	7.8

Note: C-MeX performance is calculated as per the AMP8 methodology. UKCSI is based on the July UKCIS report each year. Dotted orange line highlights structural break and disconnect in performance.
Source: Ofwat PR24 C-Mex RoRE payments model, Southern Water analysis using latest C-Mex and UKCSI data.

Figure 16– Updated wedge between UKCSI and water sector average



Source: Southern Water analysis using latest C-Mex and UKCSI data.

6.64. The Y adjustment Ofwat proposed in its FD was reflective of market dynamics averaged over the period 2020-21 and 2023-24. However, these conditions have

since shifted significantly, with the wedge between the water sector and all-sector benchmark continuing to widen. This is particularly noticeable between 2022-23 and 2023-24 when negative media scrutiny ramped up. This disconnect versus the past needs to be accounted for in the setting of the Y adjustment.

6.65. While Ofwat has acknowledged that there may be scope to revise the Y factor downwards,[236] it has deemed such action premature. We disagree and ask the CMA to consider the latest data and act accordingly.

6.66. Changing public sentiment towards the sector will take time, and at Southern Water, media scrutiny amplifies this challenge more than for most companies – underscoring the need for a supportive regulatory framework to enable meaningful progress.

6.67. The allocation of costs for our retail price control includes our billing and direct customer service costs. As the C-MeX maximum penalty is a large proportion of our allowance, the penalty will reduce the price control allowance when it is applied. To counteract and improve our C-MeX scores we will have less allowance to do this. The result is, in effect, a doom loop.

C-MeX and D-MeX ODI rate

6.68. The CMA does not accept that Ofwat's FD allocated an inappropriately high degree of risk to the experience measures when risk is assessed as a proportion of RoRE.

6.69. There is no justification that the 18% of revenue at risk is the correct figure to use. Indeed, the Cunliffe Report suggests there should be a greater focus on actual customer service delivered versus more general measures which tend to pick up broader concerns about the industry as a whole which are susceptible to media coverage[237]. Cunliffe states "*The regulator should reduce or eliminate the weight of such measures in C-Mex*".[238] The Cunliffe Report aligns with our view that the incentive strength needs to be reduced. This level of retail revenue at risk will not drive the level of performance improvement required but rather act as a perverse incentive.

6.70. We consider that the CMA has been inconsistent in its PD by choosing to not change the amount of regulated equity it puts at risk for C-MeX and D-Mex.

6.71. On the C-MeX ODI rate, the CMA notes that 22% of the relevant price control is close enough to 18%.[239] However, this 4% difference amounts to £14.2m.

6.72. The CMA's response on the D-Mex ODI rate is not consistent. The CMA points[240] to the PR19 approach where 12% of revenue was the amount at risk and this was equivalent to 0.17% RoRE. The CMA states that this is similar to the PR24 0.2% RoRE risk, however it has not considered that the regulated equity is much larger. 0.2% of RoRE in AMP8 represents 33% of revenue at risk, which is an increase of nearly three

[236] See Supporting Document PDR-5-001: Ofwat, 14 October 2025, Regulatory Director Forum slides.
[237] Independent Water Commission, July 2025, Final Report, para 655.
[238] Ibid.
[239] CMA PD, Vol 3, para 6.435.
[240] Ibid.

times the amount of revenue at risk, despite the size of developer services being similar to AMP7. This ramping up of risk exposure is disproportionate.

Our solution

6.73. We consider that the current Y adjustment factor should be recalibrated to restore balance across the sector. Specifically, we propose that the adjustment is based on the latest variance between the UKCSI water sector average (as reported in Q1 2025/26) and the most recent UKCSI all sector average, which stands at 7.8. Given the unique characteristics in the water sector (vs energy), such as heightened negative media sentiment and significant bill increases, we consider that the UKCSI water sector average would be a more appropriate benchmark.

6.74. Alternatively, given the highly negative media sentiment on the industry, it could be set each year as the industry median, aligning to the PR19 approach and the process Ofwat has proposed to set the target for total pollution incidents.[241]

6.75. We propose to set the Y adjustment for 2025/26 aligned to the latest variance to the UKCSI water sector average, with a glidepath down to 5 for the end of the AMP.

Table 36: Y adjustment remedy

	2025/26	2026/27	2027/28	2028/29	2029/30
Ofwat downward adjustment (Y factor)	5	5	5	4	4
Proposed adjustment to Y factor	7.8	7.1	6.4	5.7	5

Source: Southern Water analysis based on the difference between the UKCSI all sector average and the UKCSI water sector average.

6.76. Recalibrating the Y adjustment in line with our proposal (as set out in Table 36) would shift the net RoRE impact from -0.15% to 0.02% in 2025/26, based on Q1 data. This represents a more balanced incentive framework and one that supports meaningful performance improvement incentivisation and allows time for the sector's substantial investment programme to translate into enhanced customer satisfaction.

C-MeX and D-MeX ODI rate

6.77. The amount at risk for C-MeX should be set to be equivalent to the maximum 18% revenue at risk.

6.78. The amount at risk for D-MeX should be set at the equivalent 12% revenues as inferred by the CMA.

Issue 6: Lack of collar, miscalibrated deadband and ODI rate on redefined Discharge Permit Compliance (DPC)

The CMA provisionally reject our argument to introduce a collar for Discharge Permit Compliance ("**DPC**") partially on the grounds that Ofwat's change control process

[241] Ofwat, October 2025, Consultation on changes to three PR24 environmental performance commitments, page 4.

provides a mechanism through which future relevant changes by the EA could be taken into account.

Our response

6.79. The performance data for Ofwat's performance commitment on DPC is derived from the methodology set out in the Environmental Performance Assessment (EPA). On 15 October 2025 the Environment Agency ("**EA**") published changes[242] to their methodology for the 2026-2030 period, which sets out changes in the reporting of DPC with numeric conditions.

6.80. Ofwat released a consultation on the 29 October 2025[243] on proposed changes to three PR24 environmental performance commitments (namely total pollution incidents, serious pollution incidents and discharge permit compliance) following updates to the EPA methodology and new Water Industry Regulation incidents (WIRI) guidance. The changes aim to maintain regulatory consistency and incentive calibration, with adjustments to definitions, performance commitment levels, ODI rates, and risk protections, particularly in light of anticipated shifts in incident reporting.

6.81. The CMA has provisionally rejected our initial proposal to apply a collar to the DPC PC and refers to the fact "Ofwat's change control process provides a mechanism through which future relevant changes by the EA could be taken into account in the performance commitment's calibration."[244]

6.82. However, despite material changes to the PC definition, Ofwat has not amended the calibration in its consultation position.

6.83. The EPA methodology implements five changes to the DPC metric, these include:

- Inclusion of rolling year look-up table compliance, instead of reporting calendar year lookup table compliance;
- Inclusion of rolling year compliance with annual average limits, instead of reporting calendar year annual average compliance;
- Inclusion of permit conditions covering failure to collect the required number of operator self-monitoring samples, a new factor for permit compliance;
- Inclusion of discharges smaller than 20m3 per day from WTW, a new factor for permit compliance; and
- Use of number of permits instead of number of sites in the compliance calculation.

6.84. These changes to the DPC definition fundamentally alter how compliance is measured and represents a significant change in the PC definition. Further, there is no current or historical dataset for company performance under this new PC definition.

[242] Environmental Agency, October 2025, Water and sewerage companies: EPA methodology for 2026 to 2030.
[243] Ofwat, October 2025, Consultation on changes to three PR24 environmental performance commitments.
[244] CMA provisional determination, Vol 3, para 6.482.

6.85. Despite this, Ofwat's draft consultation position is to not make any changes[245] in the calibration of the ODI or its risk protections other than updating the PC definition to align with the EA's.

6.86. Failing to calibrate the ODI with the revised PC definition would create a material uncapped downside risk for the company and a further negative skew in the package.

6.87. The CMA PD references Ofwat's approach used to set risk protections in the outcomes package.[246] These include the following: (i) PCs that are new or bespoke and therefore are uncertain (ii) where the benefits from high outperformance are uncertain, to protect customers and avoid over-incentivising companies; and (iii) PCs that have the potential to be a significant source of skew in the outcomes package.

6.88. If the new DPC definition was released pre Ofwat FD, it clearly would have qualified for risk protection under (i) and (iii) above.

6.89. We illustrate the impact of the new definition by quantifying our performance over the last six years on both the current and new metric. This is set out in Table 37 below.

Table 37: Impact of new definition on DPC score

Year	Current method	Permit vs Discharge impact	Rolling year LUT impact	Annual Avg impact	Sampling shortfall	New method	Variance
2024	98.23%	0.18%	0.33%	0.00%	0.00%	97.72%	0.51%
2023	99.40%	0.09%	1.00%	1.00%	1.35%	95.72%	3.68%
2022	98.22%	0.19%	0.00%	0.33%	0.67%	97.05%	1.17%
2021	97.94%	0.21%	0.00%	1.99%	0.34%	95.45%	2.49%
2020	97.06%	0.31%	0.00%	0.34%	0.00%	96.43%	0.63%
2019	98.81%	0.13%	0.00%	0.67%	0.00%	98.03%	0.78%
Average	**98.28%**	**0.19%**	**0.22%**	**0.72%**	**0.39%**	**96.78%**	**1.54%**

Source: Southern Water calculation based on updated definition.

6.90. The average difference over the seven years in our performance based on the new definition is 1.54%. Noting that the results are highly variable between years for different reasons. There is a very weak correlation between the current and new definition. For example, in 2023 we delivered our best performance under the current metric but our second worst performance under the new metric.

6.91. The deadband that applied before any ODI under the current definition was 99.00%. Due to the implication and changes to the variance of performance, this needs to be updated to reflect the additional variance. Based on our analysis, we consider this is 97.50% on a like-for-like basis.

6.92. We have reviewed the P10/P90 variation for our own performance under the new and current definition against the 100% PCL target (aligning to Ofwat's method). The P10/P90 range widens materially by a factor of 1.8x. This widening of the P10/P90 should be reflected in a reduced ODI rate. While we recognise this is a limited

[245] Ofwat, October 2025, Consultation on changes to three PR24 environmental performance commitments, page 6.
[246] CMA PD, Vol 3, para 6.443.

dataset, there is no publicly available information, including from the EA. We expect similar issues and variances at other companies.

Our solution

6.93. The CMA should introduce a -0.5% RoRE collar on the DPC metric in light of the material changes to the PC definition. This will help provide risk protection given the uncertainty around the new definition. The CMA should amend the deadband, so that the starting level of risk is consistent with the current definition at 97.50%. The CMA should amend the ODI rate by reducing it by a factor of 1.8x, from 1.079 to 0.499. Finally, the CMA should highlight the implications of the proposed changes to the PC definition to prompt Ofwat to reflect on the additional risks and reconsider the deadband and collar as we propose.

Issue 7: Minor error in the calculation of the new Water Supply Interruptions Performance Commitment

6.94. In its provisional findings, the CMA has proposed an amendment to the common Performance Commitment Level (PCL) for water supply interruptions, as set out in paragraph 6.231. However, the CMA appears to have overlooked the need to also update the thresholds for enhanced performance in line with the revised PCL. Below, we have outlined the correct thresholds that should be amended to ensure alignment.

Table 38: Updated WSI PCL and thresholds for outperformance

	2025/26	2026/27	2027/28	2028/29	2029/30
PCL as per CMA Provisional findings	08:43	07:47	06:51	05:56	5
Corrected Enhancement threshold	06:22	05:26	04:30	03:35	02:39

Source: Southern Water calculation.

7. Weighted Average Cost of Capital (WACC)

Introduction

7.1. In this chapter, we identify the following issues with the CMA's PD, which we address in turn below.

CMA Document Reference	Issue Identified
Paras 7.49-7.52	**Issue 1: Inflation**
	Issue 2: SRN-specific cost of debt parameters
Paras 7.695-7.697	Share of new debt
Paras 7.727-7.728	Cost of carry
	Issue 3: Other cost of debt parameters
Paras 7.621-7.626	Cost of embedded debt
Para 7.671	Cost of new debt
Paras 7.729-7.732	Basis risk
Paras 7.429-7.434	**Issue 4: Beta**
	Issue 5: Other cost of equity parameters
Paras 7.282-7.285	Total market return
Para 7.208	Risk-free rate
Paras 7.813-7.819	Retail margin adjustment
	Issue 6: Aiming up and cross-checks
Paras 7.479-7.481	Debt-to-equity premia
Paras 7.509-7.511	Inference analysis
Paras 7.532-7.533	Infrastructure fund IRRs
Para 7.571	Debt financeability
Paras 7.449-7.457	Market-to-asset ratio

Overall position on WACC

7.2. We are ready and already delivering our ambitious capital programme at the pace our customers want and expect. But we can only fund this with an investable allowed return.

7.3. Investability is the fundamental challenge for AMP8: to fund our capital programme, we need to raise significant new equity, which is a major change from previous AMPs and is harder to raise than debt. This is at a time when infrastructure sectors worldwide have materially increasing capital requirements, which has intensified the competition for capital. At the same time, investor sentiment towards the water sector remains negative and investors are rationing capital to it.[247] This emphasises the importance of an investable allowed return.

7.4. The PD rightly recognises the higher risk faced by the sector as well as higher interest rates.[248] Whilst this is a positive step, the allowed return in the PD falls

[247] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, section 12.1, PDR-7-001.
[248] CMA PD, Vol 4, paras 7.10-7.11.

significantly below an investable level. We are encouraged that the CMA remains open to new evidence and we have provided this in our PD response.

7.5. On a like-for-like basis with the PD (i.e. with a June 2025 cut-off), our point estimate of the WACC is 4.96%, 67bps higher than the PD of 4.29%. The CMA need only make a few methodological changes to the PD to reach a level of allowed return that is both investable and financeable. We strongly support the CMA's decision to update its allowed return for a more recent cut-off in the FD[249]; we have adopted a September 2025 cut-off in our PD response. Updating our point estimate to reflect a September 2025 cut-off results in a WACC of 5.10%.

7.6. The table below compares the PD WACC to our view of the WACC.

Table 39: PD WACC vs Southern Water view of the WACC (CPIH-real)

Parameter	PD	Southern Water	Southern Water
Cut-off date	June 2025	June 2025	September 2025
Notional gearing	55%	55%	55%
RFR	2.49%	2.87%	3.14%
TMR	7.00%	7.23%	7.36%
Asset beta	0.36	0.37	0.38
Debt beta	0.10	0.10	0.10
CoE before aiming up	5.60%	5.96%	6.15%
Aiming up	0.30%	0.34%	0.34%
CoE, appointee	**5.90%**	**6.30%**	**6.49%**
RMA	0.00%	0.00%	0.00%
CoE, wholesale	**5.90%**	**6.30%**	**6.49%**
CoD_E	2.38%	2.78%	2.76%
CoD_N	3.86%	4.31%	4.45%
Share of new debt	27%	37%	37%
CoD before CoD_A	**2.78%**	**3.34%**	**3.39%**
CoD_A – issuance cost	0.05%	0.05%	0.05%
CoD_A – liquidity cost	0.01%	0.01%	0.01%
CoD_A – cost of carry	0.13%	0.40%	0.46%
CoD_A – basis risk	0.00%	0.06%	0.06%
CoD	**2.98%**	**3.87%**	**3.97%**
WACC	**4.29%**	**4.96%**	**5.10%**

Source: Southern Water analysis.
Note: Purple cells represent Southern Water-specific adjustments.

7.7. Our proposed cost of equity is at the low-end of our cross-check range. Furthermore, some of our cross-checks suggest that the required return is higher than even the top-end of the CAPM range. For example, infrastructure fund IRRs suggest that the CPIH-real required return on equity is 9.8%. Indeed, the rationale to aim up to the top end of the CAPM range has never been stronger given the fundamental investability challenge that the sector faces at PR24.

[249] CMA, May 2025, Water PR24 Redetermination References – Approach and prioritisation, para 83.

7.8. We raise additional investability evidence that has emerged since we submitted our SoC which reaffirms that our cost of equity is at the minimum investable level:

7.9. The GIIA inputted into the Cunliffe review that some comparator markets to UK water companies offer a nominal return on equity of 8-12%.[250]

7.10. Following a competitive process, Centrica has secured a 15% stake in Sizewell C. Centrica has stated that the framework agreed with Ofgem for Sizewell C includes an allowed CPIH-real cost of equity of 10.8%. This provides a market-tested benchmark for the equity return required to attract sizeable new capital into a large project under a RAB model. This could be informative for water companies, especially those with a large investment programme and arguably less regulatory risk protections than Sizewell C: Centrica reports a nominal equity IRR of more than 12% in the moderate scenario and 10% in a severe downside scenario.[251]

7.11. US electricity utilities offer an allowed nominal return on equity above 10% at 55% gearing. These utilities, like UK water, have large capital programmes and there is evidence that US regulatory regimes are lower risk than UK regulatory regimes.[252]

7.12. We strongly urge the CMA to give more consideration to the investability of the cost of equity in the FD. It should not rely solely on the PD's debt-to-equity premia cross-check as this cross-check can only identify whether the cost of equity is implausibly low. The debt-to-equity premia cross-check cannot identify the investable cost of equity that allows water companies to successfully compete for equity capital against the other opportunities available to infrastructure investors. Analysis of a broader range of cross-checks is essential to ensure water companies are able to successfully compete for equity capital. Our analysis of a broader range of cross-check evidence (in particular debt financeability, inference analysis, infrastructure fund IRRs as well as the new evidence above) clearly indicates that the PD's cost of equity is below the investable level.

7.13. We have also carried out analysis of the PD's debt-to-equity premia cross check, which reinforces our conclusion above that the PD cost of equity is below an investable level. Indeed, our analysis suggests that the PD's CAPM range is implausibly low as the midpoint on an unlevered basis is lower than the cost of new debt.[253] It follows that the low end of the PD's cost of equity range is downwards biased and anchors its cost of equity below the levels implied by our broader range of cross check evidence.

7.14. Our cost of debt is in line with KPMG's point estimate for the industry-wide cost of debt which we consider is conservative in many respects. For example, under its estimate of the cost of manging basis risk, companies must still bear CPI-CPIH basis risk. We depart from KPMG's industry-wide position on the share of new debt and

[250] Independent Water Commission, July 2025, Final Report, page 323.
[251] Centrica, July 2025, Centrica acquires a 15% equity stake in Sizewell C.
[252] NERA, July 2025, US Allowed Cost of Equity vs Ofgem DD.
[253] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, sections 5.4 and 7.3, PDR-7-001.

the cost of carry. We firmly maintain that our cost of debt should reflect the scale of our mandatory capital programme which is materially higher than others.

Issue 1: Inflation

The assumption for long-run CPIH is a key input for estimating the cost of debt in real terms. The PD has materially increased the long-run CPI-CPIH wedge from 0% in the FD to 0.4% based on the OBR's long-run projections. This change has been applied as part of a wider update to reflect the latest market data. Whilst the PD has increased the cost of debt in nominal terms relative to the FD, this change has a material impact and leads to a reduction in the cost of debt in real terms. The PD indicates that the CMA remains open to new evidence on the most robust long-run wedge.

Our response

Long-run wedge

7.15. We have reviewed the historical wedge and OBR's estimates of the wedge.

7.16. The historical wedge has been either positive and small, or negative since the adoption of the 2% CPI target in 2003. It has been negative for more than half this period and the average wedge over the period is -9bps. A wedge of 0.4% corresponds to the P92 over the historical period from 2003 which is exceptionally high and does not appear plausible.[254]

7.17. We consider that the OBR's new and untested long-run wedge, based on its long-run projections, is a less robust predictor of the future than its Year 5 forecast. The Year 5 forecast is the longest horizon for which the OBR prepares an economic forecast under its more rigorous evidential standards and is subject to less uncertainty than the long-run wedge. The long-run wedge of 0.4% is implausibly higher than the more robust Year 5 forecast of 0.09%[255], which in turn is higher than the historical wedge. In this context, we are firmly of the view that the CMA should adopt a long-run wedge which does not exceed the OBR Year 5 forecast in the FD.

7.18. Use of the OBR Year 5 forecast is consistent with regulatory precedent: for the RIIO-2 price controls, Ofgem uses the latest OBR Year 5 forecasts of CPI and RPI as part of the Annual Iteration Process.[256]

Policy context for long-run projections

7.19. According to policy[257], the OBR produces economic "forecasts" up to a horizon of five years and after this horizon it produces "projections". This is not a semantic distinction. The OBR characterises its "projections" beyond its five year forecasts as

[254] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 3.2.3, PDR-7-001.
[255] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 3.2.1, PDR-7-001.
[256] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 3.2.2, PDR-7-001.
[257] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, section 3.1, PDR-7-001.

only "illustrative": "This allows us to produce illustrative 50 year projections for public sector receipts, expenditure, borrowing and debt, which highlight the significance of demographic and other pressures on the long term fiscal position".[258] Since these long-run projections are illustrative rather than definitive forecasts, we do not consider they are sufficiently robust to underpin regulatory decisions. Further, the OBR does not ex-post scrutinise its long-run projections in the same way that it scrutinises its five year forecasts. This corroborates our view that the CMA should adopt a wedge that does not exceed the OBR Year 5 forecast in the FD.

Earnings growth and productivity growth

7.20. The OBR's long-run wedge of 0.4% largely depends on an assumption about earnings growth which in turn depends on an assumption about productivity over the long-run.

7.21. The 0.4% wedge is based on an assumption of long-run earnings growth of 3.8%. This level of earnings growth is out of line with historical norms. Earnings growth over 2008-2024 was 2.6% and even over 2021-2024, an abnormal period highly affected by the post-Covid recovery, was 3.5%. Accordingly, it does not appear that earnings growth of 3.8% is achievable in expectation under normal economic conditions.[259]

7.22. The earnings growth projections that underpin the long-run earnings growth assumption are set to fall due to lower productivity assumptions. Recent productivity performance has slowed due to a combination of structural factors, such as Brexit, which will persist. The OBR has already revised its productivity assumptions downwards once to reflect these trends, but its productivity assumptions are still viewed as optimistic relative to other forecasters. It is expected to make another downward revision in the Autumn budget to bring its forecast of 1.25% in line with those from the IMF and the Bank of England of around 1%.[260]

7.23. The OBR has by its own admission recognised that its forecasts have historically overestimated productivity growth: "successive past forecasts for trend productivity have proven to be too optimistic as productivity growth has continued to disappoint… the uncertainty around our productivity assumption remains high".[261] This overestimation is also evident in the OBR's earnings growth forecasts. The PD considers that forward rates for gilts have limited ability to predict future gilt rates. We encourage the CMA to apply the same logic to the OBR's assumptions for productivity and earnings growth, given these have consistently and systematically overshot outturn trends.[262]

[258] OBR, September 2024, CP 1142 – Office for Budget Responsibility Fiscal risks and sustainability, para 4.2.
[259] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 3.3.1-3.3.3, PDR-7-001.
[260] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 3.3.4-3.3.11, PDR-7-001.
[261] OBR, March 2025, Alternative scenarios for trend productivity - Office for Budget Responsibility.
[262] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 3.3.12-3.3.14, PDR-7-001.

Our solution

7.24. We adopt KPMG's estimate of the long-run wedge of 0.1%. KPMG considers that the wedge should be no higher than the OBR Year 5 forecast for the wedge of 0.09% and conservatively adopts a 0.1% wedge on this basis.[263] We consider the OBR Year 5 forecast is the most robust estimate of the long-run wedge, and could still overstate the long-run wedge as it is higher than the historical wedge of -9bps. KPMG's estimate of the long-run wedge is corroborated by First Economics which also supports a 0.1% long-run wedge.[264] Adding a long-run CPI-CPIH wedge of 0.1% to the CPI target of 2% results in a long-run CPIH assumption of 2.1%.

Issue 2: SRN-specific cost of debt parameters

Share of new debt: The PD has increased the sector average share of new debt from 24% in the FD to 27%, primarily by applying a more accurate estimate of real RCV growth over AMP8. It has not applied a company-specific adjustment for our share of new debt to reflect our RCV growth profile, which is particularly an issue for us as we have the largest capital programme in the sector.

Cost of carry: The PD calculates a cost of carry by multiplying a historical cash assumption with a cost of holding cash. This does not reflect our forward-looking cash requirement which is impacted by our RCV growth profile like our share of new debt.

Our response

Share of new debt

Sector average

7.25. We welcome the PD analysis of the share of new debt for the sector average company, which represents an improvement on the Ofwat analysis. There is only one material point of difference between the PD analysis and the KPMG analysis: consistency of the notional gearing assumption.[265]

7.26. In the PD analysis, embedded debt and the refinancing component of new debt reflects industry average gearing, which is one view of notional gearing. The RCV growth component of new debt reflects 55% gearing, which is another view of notional gearing. For consistency, KPMG has used industry average gearing in place of 55% gearing in the RCV growth component of new debt which increases the share of new debt from 27% to 29%.[266] For clarity, this is not about the level of notional gearing used but rather that the level should be consistent throughout the analysis. Using industry average gearing or 55% gearing consistently throughout the analysis

[263] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 3.5.1, PDR-7-001.
[264] First Economics, October 2025, CPIH Inflation, PDR-7-002.
[265] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, section 6, PDR-7-001.
[266] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, section 6, PDR-7-001.

theoretically gives the same share of new debt. Applying a long-run CPIH assumption of 2.1% reduces this very slightly but it still rounds to 29%.

7.27. Separately, the PD analysis uses Ofwat FD RCV growth excluding Ofwat's delivery and gated mechanisms. This RCV growth should include all delivery and gated mechanisms as companies are obligated by legislation and regulation to deliver these outputs.[267] The RCV growth for the disputing companies should be replaced with CMA FD RCV growth and then the industry-wide RCV growth rate recalculated for internal consistency with the rest of the CMA FD.

7.28. It is important that the share of new debt reflects the complete view of required capex: since the cost of new debt is materially higher than the cost of embedded debt, an understated share of new debt will underfund the industry's new debt.

Southern Water-specific RCV growth

7.29. We welcome the PD's recognition that different companies have different capital investment requirements, driven by differences in RCV growth rates.[268] We are concerned that the PD does not capture this in its share of new debt for Southern Water as it has not reflected our request for a company-specific adjustment. Our RCV is almost doubling in nominal terms over AMP8.

7.30. The PD states that many aspects of the price control framework compensate for differences in RCV growth rate across the sector, such as totex allowances.[269] First, we do not consider that a company-specific totex allowance mitigates the financing risk we bear from a sector-average share of new debt. Our RCV growth rate is the highest in the sector and is materially higher than the sector average growth rate, which means a sector average approach materially understates our share of new debt. Second, it is internally inconsistent for the PD to provide company-specific totex allowances and a share of new debt that reflects sector average RCV growth.

7.31. The PD comments that adopting separate RCV growth assumptions for each company represents a major change in methodology and increases the complexity of the price control framework.[270] First, we did not request an industry-wide change to how the share of new debt is set, rather we requested a company-specific adjustment to reflect the exceptionally high scale of our capital programme relative to other companies.[271] There is regulatory precedent for such cases: Ofgem at RIIO-1 and RIIO-2 used a company-specific approach to SHET's cost of debt allowance to reflect its materially different RAV growth to other networks.[272] In the same vein, Ofwat allowed Havant Thicket a share of new debt that reflects its forecast totex profile.[273] Second, we consider that our company-specific adjustment is

[267] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, section 6, PDR-7-001.
[268] CMA PD, Vol 4, para 7.692.
[269] CMA PD, Vol 4, para 7.692.
[270] CMA PD, Vol 4, para 7.693.
[271] Southern Water, SoC, page 493.
[272] Ofgem, February 2021, RIIO-2 Final Determinations – Finance Annex (REVISED), para. 2.60.
[273] Ofwat, July 2024, PR24 Draft Determinations: Aligning risk and return – Allowed return appendix, page 99.

straightforward to implement. We have simply replaced the sector average RCV growth rate used in the share of new debt calculation with our own RCV growth rate.

7.32. The PD anticipates the impact on the allowed return of using company-specific RCV growth rates would be small. In our case, the impact is material as it increases our overall cost of debt by 14bps as of September 2025[274]. The materiality of our RCV growth on debt financeability has been re-emphasised in recent rating agency reports.[275]

Cost of carry

Cost of holding cash

7.33. The PD calculates the cost of carry by multiplying a cash assumption with a cost of holding cash. It estimates a cash assumption of 9% and a cost of holding cash of 1.5%.

7.34. The PD's cost of holding cash is based on the 3Y average spread between the iBoxx A/BBB 10Y+ index and 3m SONIA, plus a benchmark adjustment of 30bps. The rationale for the use of a 3Y average is unclear and a 3Y average does not reflect the forward-looking cost: there was a step change increase in interest rates in 2022 and spreads were abnormally low for at least 1Y of the 3Y average.[276] The 1m average is the best predictor of the future as outlined in 'Issue 5'. The same logic applies to the spread: the 1m average of the spread is higher than 6m, 9m and 1Y averages as the spread has been increasing from the low point over 2023-2024.

7.35. The 1m average of the spread plus our estimate of the benchmark adjustment of 44bps gives a cost of holding cash of 2.70% as of September 2025. For reference, we explain our estimate of the benchmark adjustment in 'Issue 3'.

Cash requirement

7.36. The PD's cash assumption is based on the sector median company's proportion of cash and cash equivalents to gross debt as at 31 March 2025. This is unlikely to be a good predictor of the future cash requirement for the sector average company. This is because the step change in the capital programme will drive higher cash outflows and the FRC has recently issued guidance that implies water companies should adopt longer going concern periods than they have done historically[277]. Our auditors require the company to hold liquidity for a period of 15 to 18 months, previously this was 12 months. Rating agencies also require longer liquidity periods and for this to be maintained throughout the year. KPMG adopts the PD's cash assumption for the sector average company although it is likely understated.[278]

7.37. Given that our capital programme is the largest in the sector in terms of RCV growth, we have departed from KPMG's sector-wide estimate of the cash assumption. We forecast

[274] The difference between KPMG's cost of debt estimate using sector-wide RCV growth (3.62% CPIH-real) and SRN-specific RCV growth (3.75% CPIH-real) is c.14bps based on a September 2025 cut-off.
[275] S&P, April 2025, Southern Water Services Ltd. 'BBB-' Debt Rating Remains On CreditWatch Negative Pending Full Commitment Of Equity.
[276] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 7.1.8, PDR-7-001.
[277] FRC, February 2025, Guidance on the Going Concern Basis of Accounting and Related Reporting, para 3.17.
[278] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 7.1.5, PDR-7-001.

our company-specific forward-looking cash requirement based on the PD financial model using our DDR totex. This reflects our operational cashflow, capex, interest paid, tax paid and refinancing over AMP8 in the notional context.[279] Our approach reflects how rating agencies conduct their forward-looking liquidity assessments; for instance, S&P requires at least 1.1x liquidity sources vs uses over the next 12m just to retain an investment credit grade rating.[280] In fact, S&P regards 1.1x cover as an "adequate" liquidity score while a "strong" liquidity score is 1.5x cover (not calculated for these purposes). Our forward-looking cash requirement over AMP8 is 17% of gross debt.

7.38. We explain the logic that underpins the forecast of our forward-looking cash requirement through an illustrative example. If a company has a £300m bond maturing in 12m, then it requires 1.1 x £300m = £330m in available liquidity today to meet the S&P threshold. Let us assume that company does not hold any cash and has access to a £100m fully available RCF. In this case, the company has to raise a £230m bond today (i.e. 12m in advance of the bond maturity) for the amount not covered by the RCF to have in place sufficient liquidity meet the S&P threshold. The remaining £100m is covered by the RCF. In practice, the company would not want to draw on the RCF as RCFs are viewed as last resort facilities. The company would instead opt to raise a £100m bond at least 6m in advance of the bond maturity to avoid drawing on the RCF.

7.39. Our forecast uses a 6m prefinancing period for the RCF as this is best practice in treasury management to avoid a refinancing cliff edge: it would not be prudent for a company to wait until the day of the bond maturity and assume it has efficient market access to raise the £100m bond needed in the illustrative example above. Ofwat also adopted a 6m prefinancing period for the RCF in its FD analysis of the forward-looking cash requirement.

7.40. Our forecast uses an RCF sized to 8.0% of gross debt as adopted in the PD's RCF cost allowance. In practice, our RCF is sized to 5.7% of gross debt and there is little appetite from banks to provide larger RCFs given the sector's credit risk and financial position over AMP8. We assume this RCF is at all times fully available which may not be the case in practice depending on which scenario crystallises for the notional company. Thus, we consider our forecast is conservative. In the same vein, our forward-looking cash requirement is only targeted to meet S&P's minimum 1.1x threshold for "adequate" liquidity i.e. it provides no headroom against the minimum threshold (nor does it achieve their "strong" threshold).

Our solution

Share of new debt

7.41. KPMG estimates that the sector average share of new debt is 29%.[281] We have adjusted this to reflect our company-specific RCV growth rate which increases the

[279] We have used the same cashflows that Ofwat uses in its FD analysis of the forward-looking cash requirement.
[280] S&P, December 2014, Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers.
[281] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 6.0.6, PDR-7-001.

share of new debt to 37%. Our RCV growth rate is based on that in the PD financial model using our DDR totex. Our DDR totex reflects our complete view of the totex i.e. it includes totex in delivery and gated mechanisms, which we are required to deliver.

Cost of carry

7.42. We adopt KPMG's cost of holding cash based on the 1m average of the iBoxx-SONIA spread plus a benchmark adjustment of 44bps as of September 2025, which gives 2.70%.[282] We apply this to our company-specific forward-looking cash requirement of 17% of gross debt which results in cost of carry of 46bps.

Issue 3: Other cost of debt parameters

Cost of embedded debt: The PD places equal weight on the 'all-in' cost and the 'actual-notional' cost to estimate the cost of embedded debt. It has estimated the cost of embedded debt assuming that floating rates remain flat over AMP8. It does not provide a sector-wide sharing factor on the cost of embedded debt.

Cost of new debt: The PD estimates a benchmark adjustment of 30bps. This is based on primary market and secondary market evidence without controlling for tenor.

Basis risk: The PD does not provide an allowance for managing basis risk.

Our response

Cost of embedded debt

'Actual-notional' approach

7.43. The PD places equal weight on the 'all-in' cost and the 'actual-notional' cost. Placing weight on the 'actual-notional' cost results in an allowance that is unachievable for the sector median company. The 'actual-notional' cost understates the 'all-in' cost of the sector median company because it excludes floating rate debt and adjusts timing of index-linked debt issuance to more closely reflect that of fixed rate debt.[283]

7.44. Floating rate debt is a standard type of debt that is actively used across the sector and is useful for companies to hold as recognised by Ofgem. The PD's proxies for the notional company on beta have all used floating rate debt in the recent past. It follows that floating rate debt should not be excluded. Given prevailing interest rates, floating rate debt is more expensive than other debt types. The means that the exclusion of floating rate debt contributes to the 'actual-notional' cost being lower than the 'all-in' cost.[284]

7.45. The 'actual-notional' cost does not solely adjust for debt mix but also timing of issuance which is not in line with its stated purpose. The sector average proportion of

[282] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 7.1.10, PDR-7-001.
[283] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 4.1.3, PDR-7-001.
[284] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 4.1.4-4.1.6, PDR-7-001.

index-linked debt is broadly in line with that in the notional structure. However, it has not been raised evenly over time i.e. most outstanding index-linked debt was issued prior to 2010.[285] To understand the impact of the difference in timing of issuance between index-linked and fixed rate debt, KPMG calculated a time-weighted cost for each debt type. It finds that the time-weighted cost of index-linked debt is 73bps higher than that of fixed rate debt.[286] This means that the adjustment for timing of issuance contributes to the 'actual-notional' cost being lower than the 'all-in' cost.

7.46. The PD's overarching rationale for not solely relying on the 'all-in' cost is that sole reliance would lead to customers funding 'actual' debt costs.[287] A company's 'all-in' cost is far from its 'actual' cost as the former exclude many types of instruments and wrapping costs. The sector median 'all-in' cost ultimately informs the allowance which further abstracts from the 'all-in' cost of any individual company and reduces the influence of outliers. We consider that the CMA can be confident that the 'all-in' cost is already a notional cost, it does not need to rely on the 'actual-notional' cost in addition. [288]

Headroom in the calibration exercise

7.47. The PD's calibration of the cost of embedded debt assumes that floating rates remain flat over AMP8. However, the sector median company should be able to recover its 'all-in' cost under a plausible range of macroeconomic scenarios. To this end, Ofgem has in the RIIO-3 DD calibrated the cost of debt allowance to provide headroom against a flat rates + 1% interest rate scenario.[289] Under the same scenario, the sector median company's 'all-in' cost increases by 7bps.[290] This scenario is conservative if the step change in rates over the recent past is a good guide to the future. We consider that it is appropriate for the CMA to provide at least this level of headroom against macroeconomic scenarios in setting its FD.

Industry-wide sharing factor

7.48. It is positive that the PD recognises that timing of issuance is not completely within a company's control[291]. The implication is that the PD accepts it is challenging for any one company to match the sector average allowance. If the CMA continues to dismiss company-level sharing, it should at the very least ensure the sector average allowance is properly calibrated. That is, it should place no weight on the 'actual-notional' cost and provide headroom against plausible macroeconomic scenarios, as above.

[285] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 4.1.8, PDR-7-001.
[286] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 4.1.9-4.1.11, PDR-7-001.
[287] CMA PD, Vol 4, para 7.613.
[288] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 4.1.12-4.1.17, PDR-7-001.
[289] Ofgem, July 2025, RIIO-3 Draft Determinations - Finance Annex, Table 13.
[290] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, section 4.2, PDR-7-001.
[291] CMA PD, Vol 4, para 7.618.

Cost of new debt

Controlling for tenor[292]

7.49. The PD does not control for tenor to estimate the benchmark adjustment. This approach assumes that the specific conditions that have shaped recent tenor at issues persist into AMP8 such that companies continue to issue at these tenors. However, the evidence suggests the specific conditions observed recently are only temporary.

7.50. For example, the PR19 FD did not account for the emergence of a material benchmark adjustment. This has meant that companies have needed to issue at shorter tenors than the tenor of the benchmark index to stay within the cost of new debt allowance in AMP7. This is temporary as disputing companies have requested an appropriate benchmark adjustment to be included in the CMA PR24 FD.

7.51. Further, there is a limit to how long companies can continue to issue shorter-dated debt as it could create large maturity concentrations. There is refinancing risk associated with such maturity concentrations.

7.52. Critically, as the benchmark index has a tenor close to 20Y, controlling for tenor supports a consistent investment horizon across the cost of equity and the cost of new debt. The CMA PR19 FD controlled for tenor to allow for a like-for-like comparison between water bonds and the benchmark index. It is not clear why the PD has departed from this. As the PD does not control for tenor, companies are incentivised to raise debt at tenors shorter than the investment horizon.

7.53. In sum, the benchmark adjustment should be estimated on a tenor-controlled basis.

Primary market[293]

7.54. Primary market evidence is the most reliable as unlike secondary market evidence, it directly reflects that actual cost at which companies raise new debt.

7.55. The PD puts limited weight on primary market evidence due to the small number of issuances after the September 2024 cut-off in the Ofwat FD. We do not agree that it is necessary to limit the sample of issuances to the post-FD period. Both the FD and the KPMG analysis used issuances from November 2022 in the view that this period best captures the forward-looking benchmark adjustment. Empirically, the benchmark adjustment for Baa1 water bonds, when controlling for tenor, has remained stable since November 2022. Conceptually, it is expected that this level of benchmark adjustment will persist as the rating agencies' downgrade of the framework could take multiple years to reverse (i.e. well beyond AMP8) and the Cunliffe review has not resolved the uncertainty in the sector. Extending the lookback period back to November 2022 should allow the CMA to put predominant weight on primary market evidence in making its FD.

[292] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, section 5.1, PDR-7-001.
[293] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, section 5.2, PDR-7-001.

7.56. The benchmark adjustment as of September 2025 implied by primary market evidence since November 2022 is 48bps controlling for tenor and is 40bps not controlling the tenor. The PD finds that the benchmark adjustment as of June 2025 implied by primary market evidence since the FD is 49bps not controlling for tenor. This indicates a required benchmark adjustment of 48bps and a minimum of 40bps.

Secondary market[294]

7.57. The PD does not add a new issue premium (NIP) to secondary market evidence to arrive at the benchmark adjustment. KPMG estimates a NIP of 10bps, which is conservative compared to the 15bps NIP that the CAA used for Heathrow at H7. Secondary market evidence needs to be adjusted for the NIP to ensure it captures the full cost of raising new debt in the same way as primary market evidence.

7.58. It is particularly important to control for tenor in secondary market evidence as it reflects remaining tenors, rather than longer tenors at issue in primary market evidence. The PD raised a concern with the approach that KPMG used to estimate the tenor-controlled water premium from secondary market evidence. KPMG has adopted an adjusted approach in its latest analysis which addresses this concern.

7.59. The benchmark adjustment as of September 2025 implied by secondary market evidence is 47bps when controlling for tenor and including a 10bps NIP.

Basis risk

7.60. The PD does not include a basis risk allowance. It considers that this is not required as (1) the CPIH transition has been signalled for some time so basis risk may already be priced in betas; and (2) it has not seen sufficient evidence that companies have entered into basis swaps to hedge basis risk.[295]

7.61. On (1), Ofwat committed early in the PR19 process that the CPIH transition would be implemented on a value neutral basis, thus investors had no reason to price it in betas.[296] The reality that equity returns are exposed to basis risk was only confirmed in the FD in December 2024. This is when Ofwat decided to fully transition the RCV to CPIH and not to provide a basis risk allowance. There has not been sufficient time for this information to be reflected in betas.

7.62. Almost no weight is assigned to the post-FD period in 10Y betas and even in shorter-dated betas, such as the 3Y betas, less than 25% of the estimation window is post-FD. This weighting assumes that betas instantaneously reflect new information which is not the case in practice.

7.63. On (2), since Ofwat first signalled the CPIH transition in PR19, KPMG has found that half of the ten WaSCs (including Southern Water) have entered into large basis

[294] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, section 5.3, PDR-7-001.
[295] CMA PD, Vol 4, paras 7.729-7.230.
[296] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 7.2.2-7.2.3, PDR-7-001.

swaps to hedge basis risk.[297] As the CPIH swap market is highly immature, most of these basis swaps are RPI-CPI rather than RPI-CPIH. This means companies cannot fully hedge RPI-CPIH basis risk and must bear the residual basis risk between CPI-CPIH. KPMG has estimated that the cost of hedging basis risk, as companies have done in practice, is 6bps[298].

7.64. Ofgem in the RIIO-3 DDR awarded a basis risk allowance based on the cost of hedging basis risk. It applied an RPI-CPI basis swap cost of 15bps to the notional index-linked debt assumption in energy. Applying Ofgem's basis swap cost to the notional index-linked assumption in water of 33% results in an allowance of 5bps.[299] We consider this is the minimum the CMA should provide in the FD.

Our solution

Cost of embedded debt

7.65. We adopt KPMG's estimate of the cost of embedded debt for September 2025. The nominal cost of embedded debt of 4.92% is based on placing sole weight on the sector median company's 'all-in' cost and providing headroom against a flat floating rate + 1% scenario. This nominal cost is deflated with a long-run CPIH assumption of 2.1% to give a real cost of 2.76%.[300]

Cost of new debt

7.66. We adopt KPMG's estimate of the cost of new debt for September 2025. For the benchmark adjustment, KPMG forms a range of 40-48bps and uses the midpoint of 44bps as its point estimate. The low end is implied by primary market evidence not controlling for tenor. The top end is implied by primary market evidence controlling for tenor and is supported by secondary market evidence controlling for tenor. The 1m average of the benchmark index is 6.21%. Applying a benchmark adjustment of 44bps to this gives a nominal cost of new debt of 6.65%. Deflating this by a long-run CPIH assumption of 2.1% leads to a real cost of 4.45%.[301]

Basis risk

7.67. We adopt KPMG's estimate of basis risk of 6bps which is based on the cost of hedging basis risk. This is conservative as it is significantly less than the cost of bearing basis risk, which KPMG estimates to be 20bps[302], and still exposes companies to CPI-CPIH basis risk. We ask the CMA to correct Ofwat reneging on its previous commitment to implement the CPIH transition on a value neutral basis.

[297] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 7.2.9, PDR-7-001.
[298] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 7.3.2, PDR-7-001.
[299] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 7.2.13, PDR-7-001.
[300] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 4.3.4, PDR-7-001.
[301] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 5.4.7, PDR-7-001.
[302] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 7.2.8, PDR-7-001.

Issue 4: Beta

The PD has included PNN in its comparator set in addition to UU and SVT. The top end of the beta range is based on 3Y betas for UU, SVT and PNN. The rationale for using 3Y betas is threefold: (1) to capture forward-looking risk implied by the most recent market data; (2) to include data from PNN only from the period in which it has operated as a pure play water company post its disposal of Viridor; and (3) to avoid attaching weight to the Covid period. The low end of the beta range is based on long-run 10Y betas for UU and SVT as these may be more stable than shorter-term betas.

Our response

7.68. We welcome the inclusion of PNN as a beta comparator, which we consider is more representative of the notional company as stated in our SoC[303]. SVT and UU are clear outliers in the sector in terms of their low risk, as recognised by rating agencies[304]. Placing sole weight on SVT and UU introduced a systematic downwards bias to the FD.

7.69. We note that the PD has only placed weight on PNN at the upper end of the range. We are concerned that this significantly constrains the impact of PNN on the beta estimate, with 17% of data underpinning the PD range derived from PNN.[305] Given that PNN is the most representative of the notional company of three available comparators, we consider that 33% weight should be attached to PNN as a minimum. This can be achieved by adjusting the lower bound to include PNN (for example based on the differential between PNN and SVT/UU at the upper bound), which would increase the lower bound from 0.28 to at least 0.30.[306]

7.70. We strongly support the recognition in the PD that risk is increasing in the sector and note that it is a key driver for the change to the allowed return on equity compared to the FD. Indeed, the PD states that its changes to the FD methodology reflect "the higher risk of the sector in our view".[307] Chief amongst these changes is the adoption of short estimation windows at the upper bound of the beta range to capture contemporaneous information and in turn better reflect forward looking risk.

7.71. However, the lower bound of the PD beta range is below the CMA's point estimate at PR19. It is not credible in our view for 50% of the PD beta point estimate to be driven by a lower bound which implies that risk has reduced relative to PR19. Such a position goes against all evidence from rating agencies, credit spreads in the sector, investors, risk analysis as well as the CMA's own view which suggests that risk in the sector is higher at PR24. We are concerned that this is because the lower bound in the PD relies on long-run betas which do not sufficiently capture higher forward-looking risk, as well as the exclusion of PNN, resulting in a systematic downwards

303 Southern Water, SoC, pages 444-445.
304 KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, section 8.1, PDR-7-001.
305 KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 8.1.8, PDR-7-001.
306 KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 8.1.9, PDR-7-001.
307 CMA PD, Vol 4, paras 7.11.

bias to the beta range.[308] The CMA should set the lower bound of its range to at least 0.30, above the point estimate adopted in its PR19 FD.

7.72. We set the upper bound of our range at 0.34 in line with the PD based on a like for-like June 2025 cut-off. This upper bound is in our view highly conservative as significant weight is placed on SVT and UU, which as outliers in the sector are not representative of the notional company. Updating the upper bound for a September 2025 cut-off increases this estimate slightly.

Our solution

7.73. The lower bound should be set at 0.30 or above. This is intuitively higher than the CMA PR19 FD to reflect higher forward-looking risk facing the sector. A sensible way to achieve a lower bound above the CMA PR19 estimate is to attach weight to PNN at the lower bound, mirroring the approach the PD adopts at the upper bound.

7.74. We have adopted an upper bound in line with the PD of 0.34 based on a like-for-like June 2025 cut-off. We consider this to be highly conservative as it attaches significant weight to SVT and UU which are not representative of the notional company. The upper bound increases slightly when updated for a September 2025 cut-off.

7.75. We consider that in a revised range of 0.30 to 0.34, a point estimate towards the upper end is most likely to be reflective of higher forward-looking risk for the sector. This is supported by the analysis we submitted in our SoC on capital intensity[309], which clearly shows that the enormous delivery challenges we face going forwards have a systematic component. Capturing higher risk can be achieved either by selecting a point estimate from the upper end of the beta range or through aiming up on the overall cost of equity. We adopt the latter approach to align our estimate of required returns with cross check evidence.

Issue 5: Other cost of equity parameters

TMR: The PD has based the low end of the Total Market Return (TMR) range on the long-run ex-ante TMR and the high end of the TMR range based on the stable Equity Risk Premium (ERP) approach.

RFR: The PD adopts the 1m average of 20Y index-linked gilt (ILG) yields as the risk-free rate proxy. It does not make adjustments to the ILG yield for differing risk-free borrowing and saving rates, or the convenience yield (CY).

RMA: The PD has removed the retail margin adjustment (RMA).

[308] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 8.3.5, PDR-7-001.
[309] Southern Water, SoC, pages 447-452.

Our response

Total market return

Long-run TMR

7.76. For the ex-post TMR, the PD adopts a 1Y arithmetic average which is a welcome development. This rightly recognises that there is no serial correlation in returns and neither the capital budgeter nor investor perspective should be prioritised.[310] While the PD appropriately uses the 1Y arithmetic average, it also refers to an investment horizon of 10-20Y. The investment horizon is at least 20Y as explained below.

7.77. For the ex-ante TMR, the PD rightly recognises that this requires a degree of judgement but the PD still places weight on this with limited justification. In fact, it places more weight on this than the ex-post TMR as the low end of the ex-ante TMR bounds the low end of the overall TMR range.[311] We consider, as stated in our SoC, that sole weight should be placed on the ex-post TMR to estimate the long-run TMR[312]. The ex-post TMR does not require judgmental adjustments unlike the ex-ante TMR.

Long-run ERP

7.78. We adopted a long-run TMR in our SoC but recognised that use of a long-run TMR may result in a compressed equity risk premium in the current interest rate environment.[313] To ensure the allowed equity risk premium was investable, we aimed up in the CAPM range to reflect a wide range of cross-check evidence.

7.79. The PD uses an alternative solution to address the compressed equity risk premium that arises through use of the long-run TMR. It introduces a stable ERP approach at the top end of the TMR range and aims up alongside this, using the debt-to-equity premia cross-check. We consider that the long-run TMR should remain the primary basis for estimating the TMR, but there is merit in placing some weight on a stable ERP approach in the current interest rate environment. This is supportive of investability.

7.80. The PD constructs an ERP index using a nominal gilt return index and a nominal equity return index. However, gilt yields, not gilt returns, are the starting point for the risk-free rate. Gilt yields are forward-looking over the tenor of the gilt (ex-ante) whereas gilt returns are realised values in a given year (ex-post).[314]

7.81. KPMG constructs an ERP index using nominal gilt yields and the PD's nominal equity return index. It deflates the equity return index using historical CPIH inflation like the PD. Deflating nominal gilt yields is less straightforward as these embed inflation expectations (rather than historical) and an inflation risk premium. KPMG has assumed that historical CPIH inflation provides a reasonable proxy to inflation

[310] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 10.2.1-10.2.3, PDR-7-001.
[311] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, section 10.3, PDR-7-001.
[312] Southern Water, SoC, page 442.
[313] Southern Water, SoC, page 443.
[314] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 10.2.7, PDR-7-001.

expectations. It is not possible to remove the inflation risk premium which means that the deflated gilt yield may be higher than a true risk-free rate and this results in a conservative ERP.[315]

Risk-free rate

Market update

7.82. We agree with the PD's position across the risk-free rate and the cost of debt that the latest spot rates provide the best estimate of future rates. For this reason, we welcome the CMA's intent to update the allowed return to reflect a more recent cut-off date in the FD. This reduces the risk that the allowed return in the FD is out of date and in turn underestimates the required return for investors.

ILGs as a starting point for the risk-free rate

7.83. The PD uses 20Y ILGs as its starting point for the risk-free rate as "20-year ILGs strike a reasonable balance between different evidence on the appropriate investment horizon". However, it later implies that the CAPM horizon is 10-20Y rather than 20Y.

7.84. The evidence implies that the investment horizon is *at least* 20Y: (1) asset lives in the sector are 24Y; (2) the reality of capex decision making is 25Y; and (3) investors do not expect to receive net dividends for the next 25Y. The CMA at PR19 "suggest[ed] that a 20-year investment horizon would closely match the reality of decision-making within the sector…"[316]. If anything, asset lives have increased since PR19 which suggests that the investment horizon should be longer than 20Y at PR24. We request the CMA to take account of all the relevant evidence and clarify that the investment horizon cannot be assumed to be below 20Y.[317]

7.85. The PD encouragingly uses a 1m average of spot rates on 20Y ILGs as its predictor for future rates. We have provided additional reasoning to support the PD's position. The 1m average is higher than the 12m average which shows that it does not reflect any temporary factors, but rather a clear upward trend in rates. The factors driving this upward trend have been well-documented and show no signs of subsiding, which is observed in forward rates. On this basis, the 1m average is the best predictor of the future.[318]

Difference between risk-free borrowing and saving rates

7.86. The PD disappointingly does not make an adjustment to reflect the difference between investors' borrowing and saving rates, as the CMA PR19 FD did. The PD states that the CMA PR19 FD made this adjustment as a way to address concern that the ILG yield was a downward biased estimate of the risk-free rate in a falling rate environment.[319] The PD does not share this same concern in the prevailing

[315] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 10.2.9-10.2.14, PDR-7-001.
[316] CMA, March 2021, PR19 water redetermination provisional findings, para 9.128.
[317] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 9.3.1-9.3.7, PDR-7-001.
[318] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 9.3.8-9.3.11, PDR-7-001.
[319] CMA PD, Vol 4, para 7.203.

rising rate environment. However, it is an empirical reality that investors borrow at a higher rate than they save, *irrespective* of market conditions.[320]

7.87. The PD analysis of investor borrowing and saving rates in current market conditions implausibly implies that these rates are similar. The main reason for this is one that the PD already acknowledges: the proxy for the borrowing rate has a duration that is around half that of the proxy for the saving rate. The KPMG analysis builds on the PD analysis in several ways e.g. it compares RPI-linked AAA corporate bonds to ILGs, and it matches for duration. The KPMG analysis clearly shows a positive adjustment for the difference between borrowing and saving rates is still required in current market conditions, as is expected.[321]

7.88. The PD considers that simplicity is not the only or even the main criteria for driving methodology choices. We encourage the CMA to make its FD in this spirit as it appears the PD omits the risk-free borrowing rate adjustment partly on the basis of simplicity. This simplicity is to the detriment of accuracy as the Brennan CAPM clearly improves on the standard CAPM and the PD recognises it is a well-accepted framework. A focus on simplicity risks setting an allowed return that underestimates investors' required return and consequently puts investability at risk.[322] In any case, our view is that the KPMG borrowing rate adjustment is simple to implement.

Convenience yield

7.89. The PD comments that there is no direct evidence of CY for long-dated ILGs. While we agree with this, we consider it is possible to robustly infer CY for such instruments based on the evidence. Our estimate of CY starts from DVT (2025) and makes robust qualitative adjustments to this to reflect the context of the allowed return. The PD notes there is agreement that the approach to CY taken in DVT (2025) is the most robust.[323]

7.90. In contrast, the PD effectively considers that it is not possible to estimate CY and therefore identify the risk-free rate. The correct approach in this case is to use the zero-beta return in place of the risk-free saving rate in the CAPM (rather than to assume CY is zero). [324] We are concerned that the PD does not engage with this evidence from our SoC[325].

Retail margin adjustment

7.91. The PD rightly removes the RMA and, in doing so, recognises two points which we raised in our SoC[326]. First, Ofwat has not demonstrated that the systematic risk of the retail business is higher than the wholesale business. This means that it cannot be assumed that the appointee WACC exceeds the wholesale WACC.[327] Second, the

[320] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 9.1.11, PDR-7-001.
[321] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 9.1.15, PDR-7-001.
[322] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 9.1.1-9.1.5, PDR-7-001.
[323] CMA PD, Vol 4, para 7.150.
[324] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 9.2.8-9.2.12, PDR-7-001.
[325] Southern Water, SoC, page 439.
[326] Southern Water, SoC, pages 455-456.
[327] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 11.1.15, PDR-7-001.

short-term and long-term financing of the retail business is in reality integrated with the wholesale business. This means that the retail business should *at least* be financed at the appointee WACC. However, we request that, in setting its FD, the CMA recognises that the retail business should be financed at the appointee cost of equity, not the appointee WACC. This is because the retail business cannot be financed with debt as otherwise appointee gearing would have to increase above the notional level.[328]

Our solution

Total market return

7.92. We adopt KPMG's estimate of the TMR range for September 2025 of 6.92-7.80%.[329] The low end is based on the long-run ex-post TMR which reflects a stable TMR approach, and the high end is based on the stable ERP approach.

Risk-free rate

7.93. We adopt KPMG's estimate of the risk-free rate for September 2025 of 3.14%.[330] This starts with the 1m average of 20Y ILG yields, like the PD, but makes adjustments to the ILG yield to reflect differing risk-free borrowing and saving rates, and CY.

Retail margin adjustment

7.94. We strongly support the PD's decision to remove the RMA.

Issue 6: Aiming up and cross-checks

The PD has aimed up by 30bps on its CAPM midpoint which was informed by two cross-checks: (1) cost of equity implied by the market-to-asset ratio (MAR); and (2) a debt-to-equity premia cross-check. It has rejected almost all cross-checks proposed by disputing companies in favour of its two cross-checks.

Our response

Overall approach to cross-checks

7.95. We welcome the PD's use of debt-to-equity premia as a cross-check for the allowed return on equity. As water debt is an alternative asset class within the same sector, it is a highly relevant competing investment opportunity to water equity for investors. Water equity must provide a high enough premium over water debt for investors to hold it over lower-risk water debt. This higher risk for equity is compounded in water by Ofwat's financial resilience measures which support debt holders but restrict equity

[328] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 11.1.8, PDR-7-001.
[329] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 10.4.2, PDR-7-001.
[330] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 9.4.3, PDR-7-001.

dividends when a company's credit rating falls below BBB/Baa2 negative outlook. It is positive that the PD aimed up by 30bps to satisfy its debt-to-equity premia cross-check.

7.96. We consider that, in setting the FD, the CMA should consider the returns available in other infrastructure sectors, as well as across different assets classes in water, to cross-check the allowed return on equity. In reality, investors are not water-specific, they operate across core infrastructure. Accordingly, investors look beyond water to core infrastructure to determine their opportunity cost of capital. We focus on infrastructure fund equity IRRs as the main cross-check to capture this but have noted several other relevant benchmarks above (such as Sizewell C equity returns and US electricity allowed equity returns) that should also be considered.

7.97. We are concerned that the PD does not use debt financeability as a meaningful cross-check on the allowed return on equity. Debt financeability is grounded in water data like debt-to-equity premia[331] and debt-to-equity premia can be seen as an alternative expression of the interest coverage metrics used by rating agencies. Further, debt financeability is a binding check on the price control package for the notional water company. The allowed return should secure notional company financeability in line with the prescribed rating agency criteria and plausible downside risk. In making its FD, the CMA should test whether the allowed return on equity is financeable in this way as it did at PR19.

7.98. The CMA RIIO-2 FD considered that a 'forensic assessment' of the pros and cons of each cross-check was neither appropriate nor necessary.[332] It considered what mattered more was not relying on a narrow set of cross-checks or placing undue weight on cross-checks that were clearly unsound. The PD applies a substantially different approach. It does not attach weight to almost all cross-checks either because they do not use water data or they have technical limitations.[333] This is despite the cross-checks adopted by the PD having their own well-known limitations. We consider that the CMA, as it did at RIIO-2, should draw on a wide set of cross-checks to test whether the allowed return on equity is investable.

7.99. Cross-checks should not be subject to more stringent evidential hurdles than the CAPM.[334] All estimation models are imperfect, and so it is invalid to reject a cross-check for being imperfect with a similar expected degree of uncertainty or confidence in the estimates as in the case of CAPM. It is unclear how the criteria discussed at the hearings have been applied.[335] Cross-checks meeting these criteria can be useful even if they do not provide perfect information.

[331] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.4.4, PDR-7-001.
[332] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.2.5 PDR-7-001.
[333] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.2.6, PDR-7-001.
[334] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.2.7, PDR-7-001.
[335] (Non-confidential) transcript of the hearing for Risk & Return (day 1) on 1 July 2025, p.90, line 3 to p. 91 line 2.

Debt-to-equity cross-checks

Debt-to-equity premia cross-check

7.100. The PD's debt-to-equity premia cross-check is useful but we consider there are certain technical shortcomings in its implementation which result in downward bias.

7.101. First, the PD compares its cost of equity which has a 20Y investment horizon to its cost of new debt which has a 15.4Y tenor. Even if the PD continues to adopt this cost of new debt, it should be restated in the cross-check to reflect at least the tenor of benchmark index of 18.5Y. This is a minimum as the tenor of the benchmark index still falls slightly short of the 20Y horizon of the cost of equity. It is crucial that the cost of new debt used in the cross-check is aligned to the investment horizon of the cost of equity for the cross-check to be effective. If not, the cross-check would primarily reflect the shape of the yield curve rather than differences in debt-to-equity risk premia.[336]

7.102. Second, to ensure a like-for-like comparison with the cost of equity, the promised yield on debt must be converted to an expected return by deducting expected default losses. KPMG estimates a conservative default loss adjustment for A/BBB rated corporate issuers of 15bps and deducts this from the cost of new debt for the purposes of the cross-check.[337] Third, the real cost of new debt should be calculated using a long-run CPIH assumption of 2.1% rather than 2.4%.[338]

7.103. These corrections mean that the PD's CAPM midpoint fails to meet the debt-to-equity premia cross-check as at least half of the PD's CAPM range is too low.[339] This suggests that the low end of the PD's CAPM range in particular is downwards biased. An alternative view is that these corrections mean that aiming up of 60bps (rather than 30bps) is required to maintain the same debt-to-equity gap as in the PD.[340] This assumes the CAPM methodology in the PD remains unchanged.

7.104. Further, the debt-to-equity gap implied by the PD's debt-to-equity premia cross check is significantly below the gap in previous price controls.[341] This appears counterintuitive given that risk in the sector has increased and companies need to raise significant levels of equity capital to fund larger investment programmes than in previous price controls.

Inference analysis (IA)

7.105. While the PD's debt-to-equity cross-check is valuable, it cannot identify the required premium between the costs of equity and debt. In this respect, IA can supplement the PD's debt-to-equity cross-check as it directly estimates the cost of equity based on debt pricing.[342] KPMG finds that the implied cost of equity from IA as of June

[336] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 12.3.5-12.3.7, PDR-7-001.
[337] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 12.3.8-12.3.12, PDR-7-001.
[338] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.14, PDR-7-001.
[339] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.15, PDR-7-001.
[340] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.16, PDR-7-001.
[341] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.17, PDR-7-001.
[342] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.18, PDR-7-001.

2025 is 6.32% based on 20Y UU bond data and 7.10% based on the notional company's cost of new debt.[343]

7.106. We welcome the PD's acknowledgement of the economic intuition underlying IA. The PD opted to not to rely on IA because of (1) limitations in statistical significance; (2) differences in expected elasticity between SVT and UU; (3) use of a benchmark index rather than company-specific cost of debt; and (4) the applicability of Merton's framework to regulated entities.

7.107. On (1), the PD considers the expected elasticity for UU and SVT are likely to be noisy given it relies on just two firms.[344] However, the regression used to estimate elasticity uses data from 187 listed non-financial companies and the 95% confidence interval for the expected elasticity is relatively narrow. Together, this indicates that expected elasticities are estimated with a degree of precision.[345] Further, the outturn elasticity for UU and SVT closely match the expected elasticity from the regression which suggests that the regression results are reasonable.[346]

7.108. On (2), the PD queries why the elasticities of SVT and UU are averaged rather than considered separately.[347] First, the elasticity is intended to capture the systematic relationship between changes in equity risk premium and debt risk premium for the notional company. The notional company has been proxied with the combination of UU and SVT.[348] Second, averaging the elasticities of SVT and UU reduces firm-specific noise thereby improving statistical reliability. This is established practice for constructing betas estimates.[349] Third, SVT and UU individually and in combination imply a materially higher cost of equity than set in the PD.[350]

7.109. On (3), the PD considers the use of the benchmark index in the cost of new debt for IA rather than firm-specific bond data to be a limitation of IA.[351] First, the purpose of inference analysis is to cross-check the notional company's cost of equity and thus the appropriate input is the notional company's cost of new debt.[352] Second, Ofwat's analysis of firm-specific bond data in IA overstates the sensitivity of IA to the cost of new debt benchmark used. The two bonds used by Ofwat have a 17Y tenor which is lower than the 20Y investment horizon of the cost of equity which means the inferred cost of equity is understated.[353] Third, firm-specific bond data at the 20Y horizon still implies a higher inferred cost of equity than set in the PD.[354]

[343] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.35, PDR-7-001.
[344] CMA PD, Vol 5, Appendix F, para F.47.
[345] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.20, PDR-7-001.
[346] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.23, PDR-7-001.
[347] CMA PD, Vol 5, Appendix F, para F.50.
[348] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.25, PDR-7-001.
[349] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.25, PDR-7-001.
[350] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.26, PDR-7-001.
[351] CMA PD, Vol 5, Appendix F, para F.55.
[352] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.28, PDR-7-001.
[353] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.29, PDR-7-001.
[354] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.30, PDR-7-001.

7.110. On (4), the PD considers that Merton's framework may not be directly applicable to regulated firms.[355] This is because regulatory protections could alter the relationship between debt and equity, and water companies' low default probability may violate Merton's assumption around meaningful default risk.

7.111. First, regulatory protections do not undermine the applicability of Merton's framework to water companies in the same way as the CAPM. To the extent that regulatory protections impact on the cost of equity, they are captured in the beta under CAPM and in elasticity under Merton's framework.[356] In the Merton framework, to the extent that regulatory protections have an impact, it is likely to *widen* the gap between the cost of equity and cost of debt. This is as regulatory protections reduce risk for debt holders rather than equity holders.[357] Second, the Merton framework applies at any level of default. For a company with a low cost of debt resulting from low default risk, this simply translates into a correspondingly lower inferred cost of equity.[358]

Infrastructure fund equity internal rates of return (IRRs)

7.112. The PD comments that infrastructure funds represent a range of investments, which have varying risk profiles and therefore varying returns.[359] In the eyes of investors, all core infrastructure sectors are sufficiently similar in terms of risk to be treated as a single category. Thus, the allowed return on water equity must be competitive relative to the equity return available in other infrastructure sectors. For this reason, Ofgem has used the cross-check since RIIO-2 and in its application of the cross-check, treats infrastructure funds as being sufficiently comparable in terms of risk to regulated utilities.[360]

7.113. The PD notes that a wide range for the infrastructure fund IRR cross-check has been quoted by Ofwat and disputing companies.[361] Ofwat's estimate for the cross-check omits the well-established adjustment to reported equity discount rates to reflect that funds are trading at a discount to net asset value.[362] As such, Ofwat is using the book value rather than the market value of the fund assets. This is downward biased and is inconsistent with Ofgem's application of the cross-check and Ofwat's application of the MAR. In consequence, Ofwat's estimate should be discarded. We rightly adjust for the discount to net asset value and find that the infrastructure fund equity IRR over March 2025 is 8.4-11.3% in CPIH terms (using a long-run CPIH of 2.1%).[363]

Debt financeability

7.114. The PD does not consider debt financeability as a cross-check for the allowed return on equity. This is a significant departure from the CMA PR19 FD where debt financeability was the only cross-check. Debt financeability is the most direct real-

[355] CMA PD, Vol 5, Appendix F, paras F.43-44.
[356] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.32, PDR-7-001.
[357] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.33, PDR-7-001.
[358] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.34, PDR-7-001.
[359] CMA PD, Vol 4, para 7.533.
[360] Ofgem, July 2020, RIIO-2 Draft Determinations – Finance Annex, para 3.93.
[361] CMA PD, Vol 4, para 7.532.
[362] Ofwat, May 2025, Response to common issues on risk and return, para 5.171.
[363] Most of the funds in the cross-check last reported their equity discount rates in March 2025.

world test of whether the regulatory settlement allows the notional company continued access to capital markets. For a notional company performing in line with allowances, the cost of equity drives operating cashflows whereas the relationship between the cost of equity and cost of debt drives interest coverage.[364]

7.115. The debt financeability assessment should comprise two tests:

- The notional company should be able to achieve the notional rating of Baa1/BBB+; and
- The notional company should be able to withstand severe but plausible downside shocks without its rating falling below the cash lock-up rating of Baa2/BBB.

7.116. KPMG has undertaken this debt financeability assessment based on the thresholds applied by the three major rating agencies to companies with unsecured structures like the notional company.[365] On the first test, over AMP8, the notional company requires an allowed return on equity of 6.0-6.9% to achieve the Baa1/BBB+ target rating at 55% gearing. On the second test, KPMG has considered an operational downside of 2% RoRE. Under this downside, the notional company requires an allowed return on equity of 6.1-6.7% to achieve the Baa2/BBB cash lock-up rating at 55% gearing over AMP8.

7.117. In conclusion, the debt financeability cross-check implies a cost of equity of 6.1-6.7%. A cost of equity of 6.1% is the minimum required to meet the target rating and maintain financial resilience in plausible downside scenarios at 55% gearing.

Market-to-asset ratio (MAR)

7.118. The PD rightly recognises that it is challenging to use MAR to accurately select a point estimate for the allowed return on equity. There are several well-documented reasons for this, for example, there are many drivers of why the MAR may deviate from 1 and the market return expectation may be influenced by the regulatory return determination. In this context, we consider that the CMA should place no weight on the MAR as it did at PR19.

7.119. The PD notes that the average MAR premium was 13% as of June 2025 which is above the long-term average of 10%. First, this can be explained by company-specific factors rather than sector-wide factors that apply to the notional company. Equity analysts expect SVT, UU and PNN to outperform, and UU and SVT have a strong track record of doing so, which will be priced in market valuations.[366] Second, the MAR premium as of September 2025 falls back to the long-term average of 10%.[367] Third, it is not clear why MAR dating back to 1993 is relevant given significant changes in the

[364] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.4.2, PDR-7-001.
[365] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, paras 12.4.5-12.4.8, PDR-7-001.
[366] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.6.3, PDR-7-001.
[367] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.6.2, PDR-7-001.

sector since then. Over more relevant windows, the average MAR premium has been higher; for example, it has been 14-16% over the 10Y and 20Y periods.[368]

Our solution

7.120. KPMG has made targeted adjustments to properly calibrate the PD's debt-to-equity premia cross-check. This shows that the midpoint of the PD's CAPM range on an unlevered basis is actually *below* the cost of new debt.[369] It follows that the PD's CAPM parameters may not adequately capture higher risks facing the sector and current macroeconomic conditions. In particular, a CAPM midpoint below the cost of new debt suggests that the low end of the PD CAPM range is implausibly low and in turn, is very different to the investable level. Both changes to the PD's CAPM range as well as aiming up are required to achieve an investable allowed return.

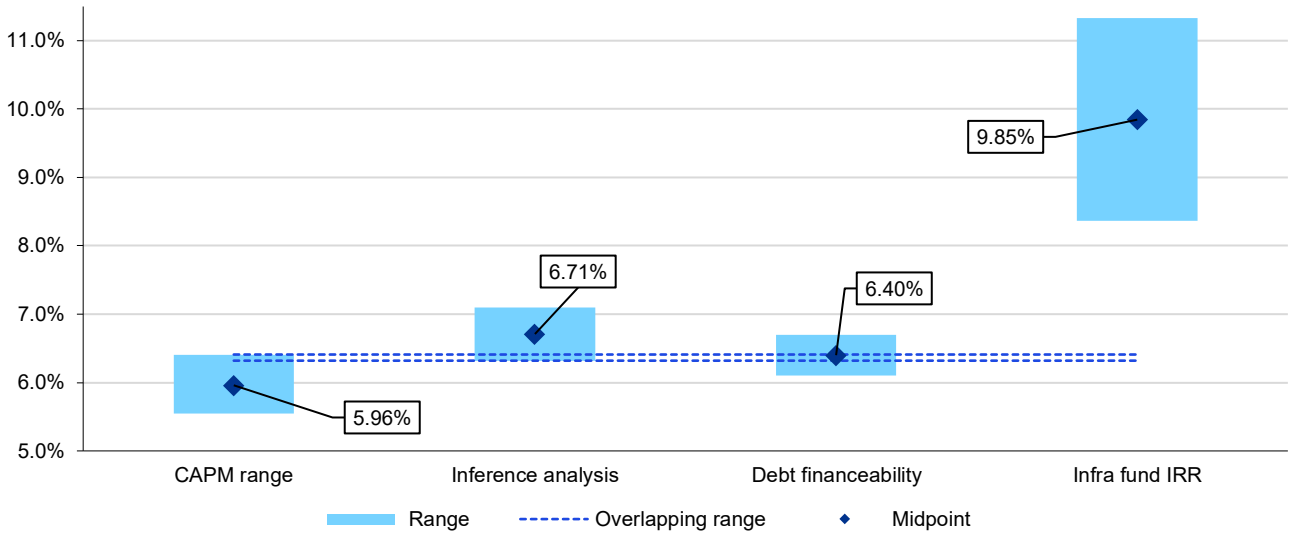
7.121. We have considered a broad range of cross-checks. The low end of our cross-check evidence mostly overlaps with the CAPM range and implies cost of equity values between 6.32-6.41% as of June 2025 as shown in the chart below.[370] Debt financeability and IA both suggest that returns in this range are the minimum required to support investability, and we comment on each in turn.

7.122. For debt financeability, this range implies limited headroom to Baa1/BBB+ thresholds with two of the three rating agencies and is below the BBB+ threshold for the third rating agency. Severe but plausible downside shocks would jeopardise financial resilience at this range of equity return based on the PD risk allocation. This suggests that a cost of equity in the range above could be below the minimum level for debt financeability absent changes to the risk allocation.

7.123. For IA, equity returns in this range could *just about* give a sufficient premium over water debt to attract new equity, but this relies on cost of new debt inputs derived from SVT and UU. These companies are the lowest risk companies in the sector and their cost of new debt is not achievable for notional company.

[368] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.6.4, PDR-7-001.
[369] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.3.15, PDR-7-001.
[370] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, para 12.8.4, PDR-7-001.

Figure 17: Southern Water CAPM range vs cross-checks as of June 2025 (CPIH-real)



Source: Southern Water analysis.

7.124. Infrastructure fund IRRs suggest that a CPIH-real return of 9.8% is required for water companies to compete successfully for equity capital against other comparable infrastructure sectors. This level of equity return is above the top end of our CAPM range and suggests even aiming up to the top end may not be sufficient. In this context, the rationale to aim up to the top end of the CAPM range has never been stronger given the fundamental investability challenge that the sector faces at PR24.

7.125. We conservatively take forward 6.30% as our point estimate of the cost of equity based on a June 2025 cut-off. This implies aiming up of 34bps from the CAPM midpoint in our response, but is 11bps below the top end of the CAPM range. Higher aiming up would be required to achieve our point estimate if for example the midpoint of the CAPM range was lower. A cost of equity of 6.30% implies a debt-to-equity gap that is low by historical standards but in our view, is the minimum required for PR24. It strikes a balance between addressing debt financeability constraints, attracting the capital we need and delivering for our customers at reasonable cost.

7.126. Updating our point estimate for a September 2025 cut-off increases it to 6.49%.[371]

[371] KPMG, November 2025, Analysis of WACC in the PR24 Provisional Determination, section 13, PDR-7-001.

8. Final calculations

Introduction

8.1. In this chapter, we identify the following issues with the CMA's PD, which we address in turn below.

Issue Identified
Issue 1: Southern's proposed final solutions are financeable
Issue 2: Modelling the effect of the Delivery Mechanism
Issue 3: Bad debt allowance
Issue 4: Bills

Overall position on final calculations

8.2. In Chapter 2, we demonstrated how the PD was not financeable. In subsequent chapters, we have provided solutions that solve for a number of other issues. When we assess the effect of these solutions, we can confirm that it is possible to make the redetermination FD financeable. We ask the CMA to take these necessary steps.

8.3. We ask the CMA to take two further technical measures to ensure that the bad debt allowance accounts for the CMA FD level of bills and for the CMA to consider the Delivery Mechanism, which is unique to Southern Water in this redetermination.

8.4. Finally, we acknowledge the impact of increasing bills on our customers, given the requirement on the operation to significantly invest during AMP8. We have taken measures to increase the number of households that can be helped by our Social Tariff. In the context of the CMA's final calculations, we ask both Ofwat and the CMA to ensure that the retain the Ofwat system that allows the company to flexibly and appropriate allocate and smooth bills within the AMP, in our customers' interests.

Issue 1: Southern's proposed final solutions are financeable

Our response

8.5. Our proposed solutions remedy the downside skew on expected (P50) performance and mitigate the severity of plausible downside underperformance, such that the notional company is not exposed to a degree of risk it cannot bear while remaining financeable. Our solutions also increase the allowed return to the minimum level required to support investability on a sustainable basis and increase RCV run-off rates closer to (but still below) the 'natural' rates.

8.6. Table 40 presents financial ratios for the notional company considering our proposed solutions on risk and return.

Table 40: Financial ratios for the notional company considering our proposed solutions and headroom to thresholds consistent with a Baa1/BBB+ rating

Metric	P50	P10
Moody's		
AICR	1.82x	1.42x
Headroom to Baa1 (AICR)	0.22x	-0.18x
Headroom to Baa2 (AICR)	0.42x	0.02x
Fitch		
Cash PMICR	1.82x	1.41x
Headroom to BBB+ (Cash PMICR)	0.12x	-0.29x
Headroom to BBB (Cash PMICR)	0.32x	-0.09x
S&P		
FFO/debt	11.3%	8.6%
Headroom to BBB+ (FFO/debt)	0.3%	-2.4%
Headroom to BBB (FFO/debt)	3.3%	0.6%

Source: Analysis undertaken using the PR24 Financial Model.
Note: Ratios exclude the impact of Delivery Mechanism totex and other contingent allowances, and exclude the impact of reprofiling adjustments.

8.7. The notional company would achieve the target credit ratings in a base case assuming no operational and financing underperformance, although the BBB+ rating would be weakly positioned with S&P. This is a materially improved position compared to that of the notional company under the PD and would support the notional company being able to raise the debt capital it requires in AMP8 at a cost in line with the allowance.

8.8. Under a downside (P10) scenario, the notional company would be expected to maintain a Baa2/BBB rating with Moody's and S&P respectively, with very modest headroom, but only BBB- with Fitch on the borderline of BB+. Although in such a position the notional company would be in cash lock-up on the basis of the Fitch rating, those outcomes are significantly better than under the PD, where the notional company would be rated speculative grade and in breach of its licence.

8.9. In both cases, the ratios presented in Table 40 do not consider the impact of our full SoC totex request, including all contingent allowances, which would substantially increase the equity requirement of the notional company. Those schemes are statutory, so the CMA should take account of all allowances for the purposes of assessing financeability, including the allowances the equity issuance costs and retail bad debt. It should also require Ofwat to include these factors in their annual reconciliations of the DM and other contingent allowances.

8.10. Considered in the round, the notional company would be financeable if our proposed solutions were implemented in full and the investability challenge would be significantly reduced, although not eliminated due to the impact of rating agencies' assessment of the regulatory framework. That improvement in the financeability and investability position is critical to allow us to raise the capital required in AMP8, essential to deliver our investment programme and outcomes for customers.

Issue 2: Modelling the effect of the Delivery Mechanism

The CMA's PD Financial Model for Southern Water "*PR24-CMA-PD-Financial-model-Southern-Water-exc-DM_clean*" excluding the Delivery Mechanism (DM).

Our response

8.11. Modelling the effect of the delivery mechanism is significant for Southern Water. Ofwat's delivery mechanism contains mostly capital projects which fulfil statutory requirements, which we will need to complete during AMP8. Ofwat's Blind Year DD stated that: "*We have considered the request and will increase Southern Water's expenditure allowance by £392.4 million to reflect the removal of these schemes from the delivery mechanism*"[372]. The value of these projects has been excluded from the CMA's base case assessment, however the magnitude of this value is significant to the extent that the spending requirement has a material negative impact on financeability assessments[373].

Our solution

8.12. We ask the CMA to model the financeability impact of the projects that have already been approved in the delivery mechanism and those that remain in the mechanism for future gateways, as well as the calculation of necessary additional equity injection. In its FD, Ofwat included two financial models – one with and another without the delivery mechanism. This would enable the CMA to model the full financeability impact of these projects.

Issue 3: Bad debt allowance

The PD did not change the bad debt allowance, following a change in the bill level.

Our response

8.13. Ofwat's regulatory model accounts for bad debt allowance as a function of average household bills. This makes economic sense because changes in bill levels are likely to lead to changes in bad debt levels from unpaid bills.

8.14. If the CMA's FD does not change the bad debt allowance, then we would need to cover the inevitable increase in bad debt from base cost allowances, which are already required to invest in maintaining our assets.

[372] Ofwat. "*Draft determination adjusting for actual company performance in 2024-25: Blind year adjustment Southern Water*". October 2025. Page 6.
[373] Ofwat has already released £392.4 million of the £537.7 million included in the FD delivery mechanism.

Our solution

8.15. We appreciate that the CMA is not re-opening retail issues as part of the redetermination. Bad debt allowances are not related to the retail cost of serve. Equally, we are not questioning the proportion of bad debt allowance awarded in Ofwat's FD. However, we ask the CMA to change the bad debt allowance that follows automatically from the final bill level calculation in the CMA's FD.

8.16. Calculating the correct bad debt allowance can be done through Ofwat's financial model.

Issue 4: Bills

The PD allowed average household bills to increase by 2.8% from the Ofwat FD.

Our response

8.17. We acknowledge that the increase in average household bills is significant in AMP8 and we want to do what we can to both be a good steward for our customers and to help those in most need. The majority of the increase in bills reflects the significant increase in investment required to meet statutory targets for the environment and drinking water quality. This is important work – but we understand the financial impact this has on our customers.

Our solutions

8.18. We want to work to help our customers during this time of increasing bills, in the following ways:

- Increasing our social tariff; and
- Flexibility to profile bills in our customers' interests.

Increasing our social tariff

8.19. Our social tariff, called 'Essentials', is one of the key sources of financial support to mitigate bill increases. Since June 2025, we now have a mechanism in place which allows the funding for this essential discount to increase annually in line with average bill increases, therefore, allowing support to be extended the same number of customers irrespective of bill size.

8.20. We consulted with the Consumer Council for Water (**CCW**) about adjusting the total contribution to the Social Tariff as a percentage of average bill, rather than a nominal amount (£21 in 2025-26, increasing only by inflation annually in AMP8). CCW welcomed this innovative approach and appreciated how we had listened to the requests in our customers who specified they want to see more financial support available to those customers most in need.

8.21. By 2026/27, our Social Tariff should be able to support 22,000 more customers in need than was enabled by our original PR24 Business Plan, because of the action we have taken. This is an increase in our coverage to enable Social Tariff support for c.10% of our customers, support c.200,000 households per year. We would be in the upper quartile of companies for the proportion of households helped by such tariffs.

Flexibility to profile bills in our customers' interests

8.22. Ofwat allows bills to be smoothed flexibly through the AMP, to ensure that customers bills do not oscillate across the 5 year period. We ask the CMA to retain this Ofwat system, allowing the company to continue to distribute revenue collection in the interests of customers.