

November 2025

Ofwat's response to the CMA's Provisional Determinations

Base and Enhancement Costs

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1. Introduction

- 1.1 Expenditure allowances are a central pillar of the price control. They are critical in ensuring that companies have enough funding so they can provide essential services and improve customer and environmental outcomes. But, at the same time, they need to be set at a reasonable level so that customer do not over pay.
- 1.2 We recognise the CMA's careful consideration of the appealing companies' requests for increases in their cost allowances has broadly mirrored our approach, with builds from the CMA, and that it has reached a similar view on required costs.
- 1.3 We appreciate the work the CMA has done to develop the understanding of costs. On base costs we welcome the use of LASSO in developing the CMA's models and consider that it is a pragmatic approach for selecting models in the context of a time compressed redetermination. We consider that the CMA should continue to use its LASSO models for its final determination, though it should correct the coding mistake that has been identified. Some stakeholders may argue that since the CMA's models allow less funding than Ofwat's that cannot be correct in the context of the appealing companies. We would argue that lower cost allowances, in part or whole, are not incongruent with a full redetermination: an appeal should not be a guarantee of a minimum funding with an expectation of it only increasing. Such an approach would only encourage frivolous appeals. The CMA has developed its own models, models which it considers provide more precise predictions of companies. While any regulator may want to err on the side of caution and apply some regulatory judgment in providing more generous cost allowances to guard against companies having too little funding to compete essential works, that would not be consistent with having more precise models. We also note that while the CMA's models suggest less funding for some companies, they still suggest funding in line with current spending, and more than PR19 allowances.
- 1.4 For enhancement expenditure, we also welcome the CMA's developments more widely. On the development of new, and more precise benchmarking models for phosphorus removal and supply interconnectors, we are surprised the CMA has not applied a more stringent efficiency challenge reflecting the more precise models which would be consistent with its own, and our, approach. We would recommend that the CMA applies this for final determinations. On the deep dives the CMA has undertaken, we welcome that these broadly align with our final determinations. For some, the CMA as adopted a different risk appetite than we did for our final determinations; for those, we recommend that the CMA

ensure that customers are protected from non-delivery through the use of PCDs or other relevant mechanisms. There are other deep dives where we continue to have concerns and we have flagged these accordingly.

- 1.5 We acknowledge the CMA's intent to ground **frontier shift** in recent sector evidence and to test alternative methods. We also support its provisional decision to apply frontier shift efficiency to enhancement expenditure allowances. However, we have concerns with the methodological approach taken by the CMA and the resulting 0.7% per year adjustment. Not only is this materially lower than the 1% adjustment applied in our final determinations, it is also lower than the adjustment applied by a number of water companies. This risks customers paying for inefficiency, and risks reducing incentives to innovate, adopt new technologies, and improve productivity. Our response highlights a number of methodological concerns relating to the approach taken by the CMA, and the precedent this could set going forward. We ask the CMA to consider these concerns as part of its final redetermination.
- 1.6 The remainder of this document sets out our response to the Competition and Markets Authority's (CMA) provisional determinations on total expenditure allowances in more detail. To aid clarity and facilitate comparison, we have structured our response to mirror the format of the CMA's provisional determinations. The only exception is our treatment of frontier shift, which we address separately from base costs due to its cross-cutting implications across both base and enhancement expenditure. Our response is structured as follows:
 - Base expenditure allowances, including:
 - Base cost modelling
 - Asset health
 - Sector wide cost adjustments
 - Company specific cost adjustment claims
 - Enhancement expenditure allowances
 - Enhancement cost modelling
 - Individual assessment allowances
 - Frontier shift.
- 1.7 Our response on price control deliverables is covered in our document 'Response to Provisional Determinations – Outcomes'.

2. Base expenditure allowances

- 2.1 At final determinations, PR24 base expenditure allowances totaled £60.1 billion: 19% higher than base allowances at PR19; and 7% more than what companies spent in the past 5 years. In addition, Anglian Water and Southern Water both received allowances exceeding the amounts originally requested in business plans.
- 2.2 The CMA's provisional base allowances, if applied across the sector, would be broadly aligned with our final determinations, albeit around £4 billion (3.8%) lower, which is broadly in line with the sector's current spending. This follows the CMA's fresh review of evidence presented by the disputing companies. There is no evidence that all companies are currently underspending and therefore we consider that the proposed allowances are sufficient for an efficient company to maintain long-term asset health while delivering against performance commitment levels.
- 2.3 We welcome the CMA's provisional adoption of the same overarching approach to assessing base expenditure as set out in our final determinations. This includes the use of econometric benchmarking models, sector-wide cost adjustments, a compelling evidential bar for company-specific cost adjustment claims, and the application of an upper quartile catch-up efficiency challenge.
- 2.4 We also support the CMA's provisional view that the asset health roadmap and cost change consultation process are the most appropriate mechanisms to address broader asset health issues in the sector. And broadly endorse the CMA's approach to determining what base expenditure buys in relation to sector-wide cost adjustments, and its methodology for establishing efficient unit costs.
- 2.5 However, we have identified some issues with the CMA's provisional determinations that require further consideration ahead of its final determinations:
- **Modelling approach:** We have identified an issue in the CMA's code that, when amended, changes the selection of models and predicted costs. We recommend that the CMA apply the amendment to be consistent with its own proposed approach, theory and wider general practice.
 - **Under-delivery adjustments:** We continue to consider it is essential to hold companies accountable for the promises and commitments they made to

customers at PR19. We therefore urge the CMA to reconsider reinstating under-delivery adjustments when setting sector-wide base cost adjustments. This protects customers from paying twice for outputs that were funded but not delivered. This approach is supported by robust evidence and aligns with our statutory duty to protect the interest of customers.

- 2.6 We summarise our response to the CMA's provisional determinations on base expenditure allowances below and provide further supporting evidence in the following subsections. We cover frontier shift efficiency separately, given that it applies to base and enhancement expenditure.

Table 1: Summary of Ofwat response to CMA provisional determinations – base expenditure allowances

Issue (Company)	CMA provisional finding	Ofwat's response
Approach and Prioritisation		
Business rates	The CMA has deprioritised companies' claims for an adjustment to business rates allowances as the impact of cost increases not reflected in allowances would be immaterial after accounting for cost sharing. ¹	We support the CMA's provisional decision to deprioritise business rates. Business rates liabilities for 2026 and 2030 remain uncertain, and companies can recover 90% of any additional costs from customers meaning any residual cost recovery risk is mostly mitigated. ²
National insurance, licence fee and Environment Agency levy	The CMA has deprioritised companies' claims for additional base allowances related to national insurance, the Ofwat licence fee, and the EA levy, as it has confidence the value of the claims will fall below the de minimis threshold. ³	We support the CMA's provisional decision to deprioritise disputing companies requests for additional base allowances related to national insurance contributions, the Ofwat licence fee and the Environment Agency levy. We agree that the potential cost increases are unlikely to meet the CMA's de minimis threshold, particularly after accounting for cost sharing, and assessment would not be a simple exercise.
Asset health	The CMA has deprioritised the broader issues raised regarding the evaluation and economic regulation of asset health. Its provisional view is that these should	We support the CMA provisional decision to deprioritise the broader policy decisions around asset health, and assess

[OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.33, para 3.30

² See [OF-RTPD-029] PR24 redeterminations – expenditure allowances – common issues p.83

³ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.33, para 3.31–32

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	be dealt with through the ongoing policy work with the sector, including through the process established by Ofwat, to enhance asset health understanding. ⁴	company capital maintenance cost adjustment claims on an individual basis. The asset health roadmap is the most appropriate route to deal with broader asset health related issues, and development of an asset health framework. ⁵ Our ongoing work will lead to a sector wide view of asset health across a broad range of assets, which companies will be able to request additional funding for through the cost change process during the period. ⁶
Residential retail	The CMA has provisionally decided to deprioritise residential retail allowances as it would not be consistent with its overriding objective to dispose of redeterminations fairly, efficiently and at a proportionate cost. ⁷	We support the CMA's provisional decision to deprioritise residential retail allowances. It would be disproportionate to collect additional data from all companies and conduct subsequent analysis. Particularly when our residential retail allowances were somewhat favourable to companies, with 10 out of 17 companies receiving an allowance more than requested. ⁸
Base cost modelling		
Use of Least Absolute Shrinkage and Selection Operator (LASSO)	The CMA has provisionally decided to use LASSO to select the cost drivers for its base cost econometric models, drawing on the list of cost drivers used by Ofwat in	<ul style="list-style-type: none"> Use of LASSO: may be pragmatic given time constraints faced by the CMA. But likely to be unsuitable for sector-wide application. Results in complex models that

⁴ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.233, para 4.234-4.36

⁵ [OF-RTPD-023] Ofwat, Response to CMA's Approach and Prioritisation document, pp.5

⁶ [OF-RTPD-044] Ofwat, Cost change process guidance note, pp.22

⁷ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.35, para 3.37

⁸ [OF-RTPD-029] Ofwat, PR24 redeterminations – expenditure allowances – common issues, pp.45-49

	<p>its base cost models at Final Determinations as well as those proposed by the Disputing Companies as a starting point.⁹</p>	<p>reduce transparency, risk overfitting, and include coefficients that lack economic intuition.</p> <ul style="list-style-type: none">• Model Fit vs Predictive Performance: the CMA's LASSO implementation prioritises in-sample fit over out-of-sample robustness, leading to over-specified models that may embed company-specific inefficiencies.• Cross-Validation Design: ten-fold cross-validation is poorly suited to the dataset structure. Limited within-company variation means models may learn fixed company effects, reducing generalisability.• Lambda.1se Calculation Error: the CMA's R code miscalculates lambda.1se, leading to less parsimonious models. Correcting this results in materially different model specifications and outputs.• Interpretation Challenges: multiple density variables introduce collinearity and counter-intuitive relationships. Interaction terms between input prices and scale lack clear economic rationale.• Input Price Variables: the inclusion of an energy price index may capture unrelated cost variation and act as a time trend. CEPA advised against its use due to risk of spurious correlation.
Sector wide cost adjustments		

⁹ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, p. 50, para 4.46

<p>What base buys</p>	<p>The CMA maintains that it is important to calculate what base buys to ensure that customers do not pay twice.¹⁰</p> <p>The CMA has provisionally decided to determine what base buys using the historical modelling period, i.e. data back to 2011-12. The CMA also provisionally decided to use an alternative statistic to determine what base buys for mains renewals, meter replacement, and network reinforcement, using a within-company mean and a between-company median approach.¹¹</p>	<p>We acknowledge that there is no perfect approach to calculating what base buys, and we welcome the CMA's review of the approaches used in our final determination.¹²</p> <p>We support the CMA's provisional decision to use the full historical period to determine what base buys. This has a strong and clear rationale, and is consistent with the setting of long-term base expenditure allowances.¹³</p> <p>It is most appropriate to use a between company median where there is a wider range of variation in cost and/or activity between companies. In this case, taking the median avoids skewing the view of what base buys. We encourage the CMA to satisfy itself that there is sufficient variation between companies to warrant using the median rather than the mean.</p>
<p>Holding companies to account for under-delivery</p>	<p>The CMA has provisionally decided to remove under-delivery adjustments when setting sector-wide base cost adjustments, with the view that without explicit activity targets at PR19, it is difficult to evidence under-delivery or gaming.¹⁴</p>	<p>We do not support the CMA's provisional decision to remove under-delivery adjustments. We consider it appropriate to apply under-delivery adjustments to protect customers from paying twice for outputs already funded but not delivered. This is in line with our statutory duty to protect the interest of customers.¹⁵</p>

⁰ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.123, para 4.317

[OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp. 123-139, para 4.327-4.363

² [OF-RTPD-029] Ofwat, PR24 redeterminations – expenditure allowances – common issues, pp.55, para 2.187

³ [OF-RTPD-029] Ofwat, PR24 redeterminations – expenditure allowances – common issues, pp.55-57, para 2.186-2.200

⁴ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.149-158, para 4.440

⁵ [OF-RTPD-029] Ofwat, PR24 redeterminations – expenditure allowances – common issues, pp.70-71, para 2.272-2.276

Unit costs	The CMA has provisionally decided to maintain the median unit cost, and supports the benchmarking of unit costs. ¹⁶ The CMA has applied a symmetrical regional wage adjustment to the unit costs of mains renewals and meter replacements. ¹⁷	<p>We support the CMA's decision to maintain the median unit cost approach to determining an efficient unit cost. We do not support the CMA's decision to apply a regional wage adjustment to the efficient unit cost. We maintain that, without compelling evidence from the disputing companies, applying the sector median unit cost is appropriate, and captures a mix of work across a programme.^{18 19 20}</p> <p>More specifically, it is inappropriate to single out regional wages as other factors are also likely to drive differences in unit costs, and these have not been considered by the CMA.</p> <p>We also consider it is more likely that companies are working with contractors that operate across England and Wales to deliver large programmes of work (eg mains renewals). This means that pricing is more likely to be influenced by supply side constraints rather than regional input price pressures.</p> <p>We discuss our concerns in more detail in the sector wide adjustments section below.</p>
Company Specific cost adjustment claims (CACs)		

⁶ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, pp.144, para 4.388-4.389

⁷ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, pp.148, para 4.405

⁸ [OF-RTPD-029] Ofwat, PR24 redeterminations – expenditure allowances – common issues, pp.61, para 2.226

⁹[OF-RTPD-029] Ofwat, PR24 redeterminations – expenditure allowances – common issues, pp.61, para 2.226-2.227

²⁰ [OF-RTPD-029] Ofwat, PR24 redeterminations – expenditure allowances – common issues, pp.71-72, para 2.279-2.280

Southern Water capital maintenance gated allowance	The CMA has provisionally decided to deprioritise the assessment of this claim. While the claim is framed as a specific company request, its view is that this is a general asset health claim and the most appropriate route to deal with these issues is through the enhancing asset health workstream. ²¹	We support the CMA's provisional decision to deprioritise the assessment of this claim. We have concerns with the maturity of Southern Water's asset management approach and deterioration modelling, ²² and agree that the enhancing asset health workstream is the most appropriate route to provide additional capital maintenance allowances if supported by the evidence provided through the process. ²³
Wessex Water capital maintenance CAC	The CMA has provisionally decided to deprioritise the assessment of this claim, given that setting aside the base cost models would be inconsistent with the CAC criteria and the approach taken for other disputing companies. The CMA further considers changes made to the base models mitigate some issues raised by Wessex Water. ²⁴	We support the CMA's provisional decision to deprioritise the assessment of this claim and agree this would lead to an inconsistent approach. ²⁵ Benchmarking is a fundamental tool that helps regulators to overcome asymmetry of information and challenge company costs to protect customer interests. Wessex Water also did not submit any cost adjustment claims to address company specific issues not captured in the models. ²⁶
Anglian Water gravity sewers and storage points CAC	The CMA has provisionally decided not to allow this claim on the basis that it did not meet the CAC criteria, in particular the need for investment. The CMA	We support the CMA's provisional decision to not allow this claim and agree that the enhancing asset health workstream is the most appropriate route to consider providing additional allowances related to this claim. In

² [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.102, para 4.239-4.241

²² See [OF-RTPD-025] Ofwat, PR24 redeterminations – expenditure allowances – cost adjustment claims, p70.

²³ See [OF-RTPD-023] Ofwat, Response to CMA's approach and prioritisation document, pp.2

²⁴ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.102-103, para 4.242-4.244

²⁵ See [OF-RTPD-023] Ofwat, Response to CMA's approach and prioritisation document, pp.2

²⁶ [OF-RTPD-035] Ofwat, PR24 redeterminations – response to Wessex Water's statement of case, pp.21

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	reiterated that companies should manage peaks and troughs in capital maintenance over time, and that this claim will be assessed as part of the enhancing asset health workstream. ²⁷	addition to not meeting the need for investment criterion, the company has not presented compelling evidence to demonstrate the need for adjustment, cost efficiency, and that customers are protected if the company under-delivers. ²⁸
Northumbrian Water capital maintenance CAC	The CMA has provisionally decided not to allow this claim on the basis that this claim did not meet the CAC criteria, in particular demonstrating the need for investment. The CMA stated that alternative plausible assumptions would shift the time to economically repair these assets from 10 years to 18-30 years, demonstrating that delaying this investment may not be detrimental to customers and the environment. ²⁹	We support the CMA's provisional decision not to allow this claim and agree that the enhancing asset health workstream is the most appropriate route to assess this claim. We agree that the claim does not meet the need for investment criteria and that delaying this investment may not be detrimental to customers and the environment. Additionally, the claim does not provide compelling evidence to demonstrate the need for adjustment or that the proposed cost adjustment is efficient. ³⁰
South East Water economies of scale at water treatment works	The CMA has provisionally decided not to allow this claim on the basis that the requirement underpinning this claim is met by the inclusion of the average size of water treatment works variable in the	We support the CMA's provisional decision not to allow a further cost adjustment in relation to this claim given that cost impacts related to economies of scale are captured in the CMA's base cost model for water resources plus. We also support the CMA applying its provisional decision to the other Disputing Companies which received related

²⁷ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.104-114, para 4.253-4.259, 4.284-4.287

²⁸ See [OF-RTPD-025] Ofwat, PR24 redeterminations – expenditure allowances – cost adjustment claims, pp.18-21

²⁹ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.107-115, para 4.260-4.280, 4.288-4.290

³⁰ [OF-RTPD-025] Ofwat, PR24 redeterminations – expenditure allowances – cost adjustment claims, pp.22-41

	water resources plus model. ³¹ This provisional decision also applies to the other Disputing Companies which received related funding.	funding in our PR24 final determinations (Southern Water and Wessex Water).
Southern Water regional wages	The CMA has provisionally decided not to allow this claim on the basis that the requirement underpinning this claim is met by the inclusion of regional wages in the base cost model.	We support the CMA's provisional decision not to allow a further cost adjustment in relation to this claim given the inclusion of regional wages in the base cost models. We note however our concerns regarding the use of regional wages in the models. ³² If the CMA decides in its final determination not to include regional wages in the base cost models, we suggest the CMA assesses the need for a cost adjustment claim for regional wages using the assessment criteria we applied at final determinations. ³³ At final determinations, we concluded that the company did not provide compelling evidence to demonstrate the need for a cost adjustment.
Anglian Water boundary box replacement	The CMA has provisionally decided to reject this claim on the basis that it did not pass the cost efficiency assessment gate. The CMA raised concerns with the efficiency of the cost estimates provided, the lack of benchmarking across the	We support the CMA's provisional decision not to allow this claim. We do not consider the company provided compelling evidence to demonstrate cost efficiency. Moreover, the company did not provide compelling evidence to demonstrate the need for adjustment. ³⁵

³¹ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.169, para 4.499

³² See base cost modelling section above.

³³ [OF-RTPD-025] Ofwat, PR24 redeterminations – expenditure allowances – cost adjustment claims pp.3, 53-61

³⁵ [OF-RTPD-025] Ofwat, PR24 redeterminations – expenditure allowances – cost adjustment claims, pp.13-17

	range of suppliers Anglian Water currently uses, and the absence of assurance. ³⁴	
Southern Water boundary box uncertainty mechanism request	The CMA has provisionally decided not to allow this request. The CMA considers that the company did not provide compelling evidence that it is more efficient that the risk allocation should sit with the customer. ³⁶ It also provisionally decided that the company failed to provide compelling evidence that the uncertainty mechanism fulfils the cost-benefit criterion. ³⁷	We support the CMA's provision decision not to allow this uncertainty mechanism. We do not consider the company provided compelling evidence to support its proposal. We consider that the company failed to demonstrate a robust understanding of its boundary box assets, and the benefits of the proposed investment. Moreover, the proposal indicates an extremely high level of uncertainty without clear reasoning as to why its customers should bear the costs now. ³⁸
Anglian leakage	The CMA has provisionally decided not to allow this claim on the basis that it failed the need for adjustment assessment, specifically the unique circumstances criterion. In reaching its provisional decision, the CMA considered the evidence submitted by Ofwat showing that Anglian is not an	We support the CMA's provisional decision not to allow this claim and agree with the CMA's assessment that the claim does not pass the unique circumstances criterion. In addition, we consider that the claim does not provide compelling evidence to demonstrate the need for an adjustment to allowances or that the proposed cost adjustment is efficient.

³⁴ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.178-181, para 4.536-4.552

³⁶ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.225, para 4.750

³⁷ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.227, para 4.755-4.756

³⁸ [OF-RTPD-027] Ofwat, PR24 redeterminations – Response to Southern Water's statement of case, pp.35-36, para 4.36-4.44

	outlier on leakage spend normalised by number of properties or length of mains.	
Southern Water advanced anaerobic digestion (AAD)	The CMA has provisionally decided not to allow this claim on the basis that it failed the need for adjustment assessment gate. The CMA reiterated that there has been substantial investment in AAD funded through base and enhancement over time. The CMA further stated that if a regulator awarded CACs to companies whenever they reached the high point in their investment cycles, companies would over-recover their costs overall, leading to customers overpaying. ³⁹	We support the CMA's provisional decision not to allow this claim and agree that it fails the need for adjustment assessment gate. The combination of the implicit allowance from the base cost models, cost sharing and future opex savings is sufficient to allow Southern Water to deliver AAD upgrades. ⁴⁰
Southern coastal population	The CMA has provisionally decided not to allow this claim on the basis that it failed the need for adjustment assessment, specifically the unique circumstances criterion.	We support the CMA's provisional decision not to allow this claim and agree with the CMA's assessment that the claim does not pass the unique circumstances criterion. We support the CMA's use of different coastal measures in its assessment. We agree that proportion of coastal load has a better engineering rationale than proportion of coastal population. We also maintain our position that Southern Water did not provide compelling evidence of the need for adjustment to

³⁹ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.193-197, para 4.608-4.621

⁴⁰ [OF-RTPD-025] Ofwat, PR24 redeterminations – expenditure allowances – cost adjustment claims, pp.47-49, para 6.25-6.28

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		allowances and that the proposed adjustment is cost efficient.
Wessex Water bioresources		
Wessex Water disinfection improvements	The CMA has provisionally decided not to allow this claim. The claim fails the need for investment criterion. Mostly on the grounds that the proposed investment is inside of management control, and because of immateriality. ⁴² The CMA also concluded that the evidence provided	We support the CMA's provisional decision not to allow the cost adjustment. But as stated in the Wessex Water hearing, we also support the CMA assessing this as an enhancement business case using the enhancement deep dive assessment criteria we applied at PR24 final determinations. ^{45 46}

⁴ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, p.211, para 4.678-4.680

⁴² [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.216, para 4.701

⁴⁵ [OF-RTPD-011] CMA, Wessex Water hearing transcript, pp.23-24

⁴⁶ [OF-OA-022] Ofwat, PR24 final determinations: Expenditure allowances, pp.95, section 3.1

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	fails the cost efficiency criterion. ⁴³ The CMA also noted that both Ofwat and Wessex Water said this could be seen as enhancement investment. ⁴⁴	
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⁴³ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.218, para 4.710

⁴⁴ [OF-RTPD-013] CMA, PR24 Provisional Determination Volume 1, pp.219, para 4.715

Base cost modelling

- 2.7 We welcome the CMA's use of econometric benchmarking models to inform base expenditure allowances in its provisional determinations. Such benchmarking is a valuable tool for addressing information asymmetries between regulators and companies, enabling cost comparisons on a like-for-like basis. This supports effective challenge of company business plan submissions and helps ensure customers receive value for money for water and wastewater services provided by monopoly suppliers.
- 2.8 Our PR24 base cost econometric models formed the starting point of our base cost assessment, and were developed collaboratively with the sector through extensive consultation. First through the Cost Assessment Group following PR19, and then through our April 2023 modelling consultation, where we consulted on our proposed set of base cost models. Through this extensive engagement, companies had the ability to shape and influence the cost models we would use for setting a key cost input to the price control. The models developed improved upon those we used in PR19 and by the CMA at PR19 redeterminations. The model development process was supported by CEPA and our academic advisor, Andrew Smith, providing expert econometrics support and advice. Our internal engineering team also helped to ensure our models captured the key cost drivers from an engineering perspective, and that the model estimation results were intuitive and consistent with engineering rationale.
- 2.9 We also support the CMA's pragmatic and proportionate decision to focus on explanatory variables drawn from Ofwat's final determination base cost models and those proposed by Disputing Companies, rather than developing models from first principles using the full suite of data available. This approach is understandable given the time constraints under which the CMA is operating.
- 2.10 In the hearings we were clear that a better set of benchmarking models that accurately reflect the cost base of the sector would be a good outcome from the CMA. We welcome that the CMA has developed three models to forecast modelled base expenditure that broadly confirm that our final determinations were not unduly stretching.
- 2.11 We acknowledge the CMA's use of the Least Absolute Shrinkage and Selection Operator (LASSO) to select its base cost econometric models, and welcome the intention to simplify the selected models.
- 2.12 We are open to using LASSO to support the development of econometric cost models in future price reviews and will consider it and other regularisation tools

alongside other econometric methods and alternative means of determining costs.

- 2.13 We recognise that the use of LASSO represents a change in approach for the sector, although note that the CMA signalled its intention to use regularisation, and LASSO specifically, in its May 2025 Approach and Prioritisation document.⁴⁷
- 2.14 We note that the approach adopted by the CMA has removed the risk associated with companies individually or collectively arguing for models which provide them with larger allowances at the expense of other companies or customers. We note that the LASSO approach also alleviates the risk that coefficients capture multiple effects and reduces the influence of outlier companies, but at the expense of developing models which may be more difficult for engineers to engage with and to use as a basis of making engineering based assessments.
- 2.15 The LASSO approach prioritises in-sample fit. Figures in Appendix D show RMSE continues to decline as lambda decreases, with the minimum at λ_{min} (effectively zero).⁴⁸ While CMA selected λ_{1se} to mitigate overfitting, RMSE at λ_{1se} is almost identical to λ_{min} , suggesting limited penalty for complexity.

Implementation of LASSO – coding amendment

- 2.16 We have identified an issue in the CMA's R code⁴⁹ that results in the calculation of the λ_{1se} (or lambda one standard error) parameter which influences model selection. As implemented, we do not consider that it replicates what the CMA indicated it intended to implement and is not consistent with general application. We suggest that the CMA implements the approach as it originally indicated, which would be consistent with theory and general application.
- 2.17 The CMA's provisional determinations describes λ_{1se} as "the largest value of lambda that results in a prediction error within one standard error of the minimum (the error produced by the lambda.min)".⁵⁰ In other words, λ_{1se} should be the largest value of lambda for which the mean squared error (MSE) is within one standard error of the minimum MSE.
- 2.18 However, the CMA's R code calculates λ_{1se} as:

⁴⁷ [OF-RTPD-097] CMA, Approach and Prioritisation document, pp.12

⁴⁸ [OF-RTPD-017] CMA, Provisional Determination Volume 5 Appendix, pp.22-23, Figure D.1, Figure D.2 and Figure D.3

⁴⁹ Specifically, the water_estimation.R and wastewater_estimation.R scripts.

⁵⁰ [OF-RTPD-017] CMA, Provisional Determination Volume 5 Appendix, p. 20, para D.6

○ $\lambda_{1se} = \lambda_{min} + SE(\lambda_{min})$

2.19 This formulation does not align with the standard definition used in cross-validation procedures. The standard approach is:

$$\lambda_{1se} = \max\{\lambda \mid MSE(\lambda) \leq MSE(\lambda_{min}) + SE(\lambda_{min})\}$$

2.20 Using the correct definition results in a higher penalty term and a more parsimonious model. For example, applying the λ_{1se} formula as originally intended reduces the number of variables in the wastewater network plus model from eleven to eight variables, which affects allowances.

Asset health

2.21 We support the CMA's provisional decision to deprioritise the development of a broader framework on how to evaluate and regulate asset health in the water sector, and its provisional view that this should be dealt with through our ongoing policy work with the sector (referred to as the 'Asset Health Roadmap').⁵¹ This supports our ambition to drive greater understanding of asset health across the sector during the PR24 period, which in turn should help to deliver better outcomes for customers and the environment.

2.22 We agree with the CMA that the development of an asset health framework will be fundamental to understanding asset health requirements, and this will be an important basis for setting future allowances.⁵² We also agree that developing this framework will take time to overcome innate complexities and challenges, and requires wider industry engagement, therefore, it would not be appropriate to address through the redetermination process.⁵³

2.23 Through the Asset Health Roadmap, we are taking steps to work towards developing a framework through ongoing and regular collaboration with water companies and other regulators. We have made good progress, and companies will be able to submit investment proposals for the identified priority asset(s) by 1 May 2026 to access funding through the cost change process which we have recently consulted on.⁵⁴ We therefore support the CMA's provisional decision not to allow the capital maintenance related cost adjustment claims submitted by Anglian Water, Northumbrian Water, Southern Water and Wessex Water.⁵⁵

⁵¹ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, pp.98, para 4.228

⁵² [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, pp.98, para 4.194

⁵³ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, pp.98-100, para 4.229-4.233

⁵⁴ [OF-RTPD-044] Ofwat, Cost change process draft guidance

⁵⁵ We respond to the CMA's provisional determination on each of these claims in Table 1.

2.24 As part of the roadmap, we have been developing a longer-term plan for overcoming challenges related to asset health ahead of the next price review. This includes working with ICS Consulting to explore the feasibility of implementing Ofgem's Network Asset Risk Metric (NARM) in the water sector, with a pilot study expected to begin in 2026. We have also been working towards developing a common asset inventory that will be used to facilitate greater consistency in the understanding of water and wastewater assets, and is a necessary first step to enable other asset health related models such as NARM.

[REDACTED]

Responding to the CMA's data quality concerns

2.26 The CMA raised concerns relating to the mains and sewers asset condition data collected during PR24.⁵⁷ For clarity, in addition to mains bursts and sewer collapses data, we collected data on the primary factors that are considered to influence the health of underground assets, which we used to inform our final determination conclusions.⁵⁸ For water mains, this included burst rates, age, material, diameter and soil type. As set out in our response to disputing companies' statements of case, this approach to understanding condition for underground assets was developed with, and supported by the sector.⁵⁹ It is also commonly used by water companies to understand asset deterioration.

2.27 In addition, the CMA indicates it has concerns over the quality of data provided by companies, referencing a two month window for data submission.⁶⁰ This is not correct. Companies had five months to prepare their data submission, with

⁵⁶ [OF-RPTD-019] Independent Water Commission, Final Report, 21 July 2025, pp.379–380, Recommendation 67

⁵⁷ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, pp.99, para 4.230

⁵⁸ [OF-CA-037] Ofwat, CW20 Distribution mains conditions analysis

⁵⁹ [OF-RTPD-029] Ofwat, PR24 redeterminations – expenditure allowances – common issues, pp.70–72, para 2.272–2.280

⁶⁰ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, pp.99, para 4.230

guidance issued in May 2023 and business plan submissions in October 2023. We then reissued the request to companies where we had concerns with the quality of the data, providing another opportunity to improve the data. Following the submission of the statements of case to the CMA, we undertook further checks on the data quality, and found no areas of material concern.^{61 62} Moving forward, we are aiming to drive continuous improvement in the collection of asset condition data, and have developed methodologies that should help to promote consistency in how companies assess condition.

Sector wide cost adjustments

2.28 We welcome the CMA's approach to applying sector wide base cost adjustments. These adjustments were supported by the sector, and lead to increases in allowances that will facilitate improvements in asset health, performance and efficiency across water and wastewater networks during the 2025-30 period.

2.29 The CMA focused its assessment on the mains renewals, meter replacement and network reinforcement sector wide adjustments, addressing the key issues raised by the disputing companies:

- What base buys – All disputing companies
- Efficient unit cost for water mains and meter replacement – Southern Water and South East Water
- Under-delivery adjustments – Anglian Water, Southern Water, Northumbrian Water
- Network reinforcement cost efficiency challenge – South East Water
- Network reinforcement additional claim – Northumbrian Water

2.30 We are broadly supportive of the CMA's provisional decisions on what base buys, network reinforcement cost efficiency challenge, and Northumbrian Water's additional network reinforcement claim. On that basis, we have not provided additional feedback to that included in table 1 above.

2.31 We do not support the CMA's provisional decision to remove under delivery adjustments, or to apply a regional wage adjustment to the efficient unit cost of mains and meter replacement. Price controls need to be set in the manner that the decision maker considers is best calculated to (among other things) protect the interests of consumers, including to get value for money and to protect them from paying twice for investment. We therefore ask the CMA to reconsider the

⁶ [OF-RTPD-029] Ofwat, PR24 redeterminations – expenditure allowances – common issues, pp.62-64

⁶² [OF-RTPD-029] Ofwat, PR24 redeterminations – expenditure allowances – common issues, pp.64, para 2.239-2.241

evidence to support a change in position. We discuss both issues in more detail below.

Efficient unit cost for water mains and meter replacement

2.32 We support the CMA's provisional decision to maintain the median unit cost, and the use of benchmarking to determine an efficient cost.⁶³ However, we do not support the CMA's provisional decision to apply a regional wage adjustment to the unit cost of mains renewals and meter replacements. We set out our primary concerns in the table below.

Rationale for applying an adjustment

Table 3: Our concerns with the application on a regional wage unit cost adjustment

Issue	Our comments
Selective application of regional wage adjustments	<ul style="list-style-type: none">• If the CMA considers that a regional wage adjustment is needed, this should be applied consistently to all cost areas. This will ensure a fair and systematic approach to redetermining cost allowances.
Sole identification of regional wages as a driver of unit cost differentials	<ul style="list-style-type: none">• Companies have typically not referred to regional wage pressures as a material driver of mains renewal unit costs between companies. Companies have tended to highlight differences in mains renewal complexity, which may be impacted by factors such as urbanity. This is why we applied an adjustment to Thames Water's unit cost for mains renewals undertaken in central London.⁶⁴• If the CMA decides to apply a unit cost regional labour adjustment, it should also explore accounting for other, perhaps more material, factors identified by companies that are included in the base cost models. For example, density and rurality. But this would subsequently need to be taken into account in the price control deliverable to ensure that companies are not incentivised to undertake less complex work than assumed when determining the cost adjustment and earn windfall gains.

⁶³ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, pp.144, para 4.388-4.389

⁶⁴ [OF-OA-022] Ofwat, PR24 final determinations: Expenditure allowances, pp.35

	<ul style="list-style-type: none"> In addition, we consider companies are more likely to be affected by supply-side constraints at a national level, which impact all companies by the same degree. For this reason, we consider a labour real price effect adjustment is more appropriate to address unexpected price pressures than regional wage differentials.
Disputing companies did not provide compelling evidence to support their claims	<ul style="list-style-type: none"> We maintain that, in absence of compelling evidence of company specific circumstances, it is appropriate to apply a single unit rate as this captures a mix of work across an entire programme.⁶⁵ We maintain that South East Water did not provide compelling evidence of why its unit costs were higher than those of other companies.^{66 67} The company's unit costs remain materially higher than the unit costs provisionally allowed by the CMA, and we therefore question the extent to which regional wages is the driving factor of its cost differential. Southern Water related its higher mains renewal unit cost to nature of the renewals being undertaken (leakage driven), and in its draft determination representations, the company accepted that our unit cost may be appropriate for an asset health or mains bursts driven programme.⁶⁸ We therefore do not consider regional wage differentials is relevant to the argument Southern Water made.
We consider there are more theoretically robust ways to apply a regional wage adjustment	<ul style="list-style-type: none"> The CMA applies a regional wage adjustment to the industry median unit cost, which already reflects the wage levels of the median company. An alternative approach would be to first normalise the company specific unit costs reported to remove the impact of regional wages. Redetermine the median unit cost, and then apply a regional wage adjustment to reflect different company circumstances. We consider this approach would better reflect the true impact of wage levels for each company.

⁶⁵ [OF-RTPD-029] Ofwat, PR24 redeterminations – expenditure allowances – common issues, pp.61, para 2.226

⁶⁶ [OF-RTPD-029] Ofwat, PR24 redeterminations – expenditure allowances – common issues, pp.71-72, para 2.279-2.280

⁶⁷ [OF-RTPD-029] Ofwat, PR24 redeterminations – expenditure allowances – common issues, pp.61, para 2.226-2.227

⁶⁸ [OF-CA-160] Southern Water, SRN-DDR-029- Water resources – Demand (Leakage) Enhancement Cost Evidence Case, pp.10

Under-delivery adjustments

- 2.33 We consider it is essential to hold companies accountable for the promises and commitments they made to customers at PR19.
- 2.34 We welcome the CMA's provisional decision to apply under-delivery adjustments where the funding was clearly linked to named schemes,⁶⁹ and to support the application of non-delivery price control deliverables going forward.⁷⁰
- 2.35 We ask the CMA to reconsider reinstating under-delivery adjustments when setting sector-wide base cost adjustments. This protects customers from paying twice for outputs that were funded but not delivered and is consistent with our statutory duty to protect the interest of customers. For example, Northumbrian Water committed to replacing 299,915 meters with base expenditure allowances at PR19, but only replaced 103,987 meters.
- 2.36 We consider these adjustments as the proper implementation of prospective regulation, not as retrospective adjustments.⁷¹ We applied under-delivery adjustments where there was robust evidence of a company failing to deliver against the commitments set out in its PR19 business plan, or letting its assets deteriorate over time. These adjustments were applied only to areas where companies had requested an increase in funding to deliver a step change in investment at PR24, and were put in place to avoid companies receiving additional allowances for investment they had already promised to customers.⁷² Our approach is consistent with established regulatory practice, and with our statutory duty to protect the interests of customers, as well as securing value for money for customers.
- 2.37 We note the CMA's view that in the absence of explicit targets at PR19, coupled with overspend during the period, limits its ability to draw definitive conclusions on under-delivery.⁷³ We disagree. The under-delivery adjustments applied were based on companies' own PR19 business plan submissions, which clearly set out their intended outputs for customers and the environment over the next 5-years. These plans formed a key part of our regulatory settlement and provide a reasonable benchmark for assessing delivery.
- 2.38 Our adjustments were targeted at activities where companies had signalled a need for increased delivery during the 2025–30 period, such as mains renewals, meter renewals, network reinforcement, and growth at sewage treatment works.

⁶⁹ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 2, pp.133, para.5.497

⁷⁰ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 3, pp.29–33

⁷¹ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, pp.156–157, para 4.437

⁷² [OF-OA-022] Ofwat, PR24 Final Determinations Expenditure Allowances, pp.61–62

⁷³ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, pp.156–157, para 4.437

It is inconsistent for companies to now seek additional funding for these areas, having consciously under-delivered in the previous period. The under-delivery adjustments are therefore essential to make sure customers do not pay twice for outputs that should have been delivered already.

- 2.39 We also note that the Disputing Companies provided limited evidence to the CMA of how capital maintenance expenditure was reprioritised during the period.⁷⁴ We agree with the CMA that water companies should not defer necessary capital maintenance due to unforeseen cost pressures or inefficiencies. It is therefore not appropriate to assess expenditure in isolation when determining whether companies have undertaken appropriate levels of maintenance activities, and delivered the best outcomes for customers.
- 2.40 While the totex and outcomes framework adopted at PR19 affords companies flexibility in how they deliver for customers and society. This must be balanced with robust mechanisms to hold companies to account for the commitments they have made. The under-delivery adjustments help to achieve this.
- 2.41 We therefore ask the CMA to reconsider the sufficiency of the evidence provided by companies to justify under-delivery of outputs, and whether it is satisfied that this provides confidence that customers will not be paying twice during the PR24 period.

⁷⁴ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, pp.155, para 4.435

3. Enhancement expenditure allowances

- 3.1 We welcome the CMA's provisional determination and adoption of the same overarching approach to assessing enhancement expenditure as set out in our final determinations. This includes use of economic benchmarking, and individual assessments which are broadly aligned to our deep dive approach and incorporate both economic and engineering assessment provided by the CMA's engineering advisers, Water Research Centre Group (WRC).
- 3.2 We welcome the CMA's support for Ofwat's view that econometric benchmarking is a key tool in attempting to mitigate the informational asymmetry that exists between the regulator and the water companies.⁷⁵
- 3.3 We support the majority of findings from the individual assessments, finding these to be well reasoned, and in most cases resulting in similar conclusions to Ofwat's own extensive and detailed enquiries into company cost requests. In our view, this reinforces the credibility of our final determinations and demonstrates the robustness of our assessment of enhancement costs.
- 3.4 In most areas, we provide further evidence to support the CMA's provisional determination. There are a small number of areas where we have concerns with the CMA's provisional determinations that merit further consideration ahead of its final determinations. Our main points are:
- **Enhancement modelling approach:** While we support the use of econometric modelling to help set enhancement expenditure allowances, we have concerns that the CMA's approach prioritises statistical fit over transparency, alignment with engineering and economic rationale, and overall robustness. As currently applied, we consider there is a high risk of the CMA setting allowances above efficient levels, leading to customers overpaying and potential windfall gains for companies. If the CMA maintains these modelling approaches at final determination, we recommend that it should apply a more stretching cost-efficiency challenge to reflect the improved model fit and mitigate the risk that inefficiency is embedded in the allowances.
 - **Large gated scheme process:** We partially support the CMA's inclusion of five schemes to the large gated scheme process.⁷⁶ While we support the inclusion of Northumbrian Water's Howdon Growth and Suffolk Strategic Network, we ask the CMA to reconsider the inclusion of Southern's Five Site Strategy, and South East Water's River Medway. Since the CMA hearings, Southern Water has provided information that suggests that these schemes are in a more advanced stage of delivery, and the works have been contracted. We welcome the progress made by Southern Water, but consider there to be a risk that

⁷⁵[OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.18, para 5.38

⁷⁶ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.10, Table 5.2

inclusion in the large scheme gated process may slow down delivery. We ask the CMA to consider setting allowances for these schemes and including them as enhancement engagement schemes.

- 3.5 We summarise our response to the CMA's provisional determinations on enhancement expenditure allowances below and provide further supporting evidence in the following subsections.

Table 4: Summary of Ofwat response to CMA provisional determinations – enhancement costs, benchmarking modelling allowances

Issue (Company)	CMA provisional finding	Ofwat's response
P-removal	The CMA states that Ofwat mis specified the P-removal model. It creates a new model utilising Gaussian Mixture Regression (GMR) and additional cost drivers. This has led to a significant change in allowances: Anglian Water - £155m; Southern -£30m, Northumbrian Water +£1.1m, Wessex Water +£240m. ⁷⁷	We broadly support the CMA's provisional allowances but have concerns regarding the CMA's cost modelling approach. Particularly that the Gaussian Mixture Regression (GMR) approach may be prioritising fit over transparency, alignment to engineering and economic rationale, and robustness. We also have concerns over some of the additional cost drivers used. See the 'P-removal' section below for further detail.
Water supply interconnectors	The CMA has provisionally decided not to use Ofwat's model and has developed an alternative model. The CMA has concerns about the combination of an estimation method that requires a log-bias adjustment (in enhancement models), the method Ofwat chooses to implement it, the approach used to mitigate the influence of statistical outliers, and the use of a small sample. ⁷⁸	<ul style="list-style-type: none"> • We support the CMA's use of benchmarking models for water supply interconnectors, which adopt the same functional form and cost drivers as our final determination models. • We do not support the inclusion of a forecast indicator which reduces reliance on outturn costs and risks embedding inefficiency. • If the CMA retains its proposed modelling approach, we recommend that it should apply

⁷⁷[OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.12-40, para 4.536-4.552

⁷⁸ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.41-55

		a more stretching cost-efficiency challenge to reflect improved model fit and mitigate risk of inefficiency or alternatively remove some or all post-modelling adjustments applied at final determination.
Bioresources IED model	The CMA, having assessed Ofwat's modelling, provisionally finds that the statistical performance is poor, and it has conceptual concerns over the ad hoc approach to the efficient challenge for the 'Other IED' costs. It considers Ofwat has not provided sufficient justification for its modelling to dismiss Southern Water's concerns, but the CMA did not find an alternative modelling approach that improves statistical performance and therefore opted for a deep dive approach. ⁷⁹	<ul style="list-style-type: none"> • We retain the view that overall, the IED model was appropriate, given that the selected cost drivers have clear engineering and economic rationale, cover the main cost drivers, and display coefficients of the correct sign.⁸⁰ We consider that the addition of 25:25 cost sharing effectively addressed any residual risk associated with the model's predictive power. • Given the challenge CMA had in identifying an alternative modelling approach that improves statistical performance across all three IED categories, we consider the CMA's decision to assess Southern Water's claim through individual assessments to be reasonable.⁸¹ • Furthermore, we consider that the results of the deep dive, which produced a similar level of cost challenge for Southern Water, provide

⁷⁹[OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.55-57, para 5.154-5.163

⁸⁰[OF-OU-070] Ofwat, PR24 redeterminations expenditure allowances – common issues, pp.162, para 5.100

⁸¹ [OF-RTPD-014] CMA, Provisional determinations Volume 2, pp.57,101,108, para 5.163,5.344,5.376

		additional evidence supporting the appropriateness of the IED model in general.
Errors in septic tanks and water quality enhancement models	The CMA's provisional view is to correct both errors identified by Northumbrian Water as it considers them to be unambiguous and straightforward to correct. The CMA did not consider it appropriate to rely on the concerns raised by Ofwat around materiality or the origin of the error as it was satisfied that unambiguous errors had been identified and that they should be corrected. ⁸²	<p>We support the CMA's provisional decision to correct the errors identified by Northumbrian Water.</p> <p>While we maintain our position on unambiguous errors, given the asymmetric nature of responses from companies, in that a company is only likely to flag errors that lead to higher allowances, we recognise the CMA's position that given these are known errors, and given that the CMA is re-determining wider allowances, it is relatively straightforward for CMA to correct the errors identified.</p>

⁸²[OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.57-60, para 5.164-5.178

Table 5: Summary of Ofwat response to CMA provisional determinations – enhancement costs, company specific allowances

Issue (Company)	CMA provisional finding	Ofwat's response
Anglian Water		
Leakage – 2024-25 outturn adjustment	The CMA's provisional decision is to provide Anglian Water an allowance of £35.3 million. ⁸³ This is based on updating the leakage enhancement model with the 2024-25 outturn annual leakage level of 187.0 Ml/d and retaining the 168.2 Ml/d target for 2029-30. ⁸⁴	We support the CMA's provisional decision. We are additionally proposing that Anglian Water's leakage performance commitment level (PCL) profile is adjusted from that proposed by the CMA in its provisional determinations. However, this does not impact the outturn 2024-25 level or target 2029-30 level that drive the enhancement cost allowance. ⁸⁵ See the 'Leakage – PR24 final determination' section below for further detail regarding an oversight in the leakage enhancement model which we do not consider results in a need to revise the proposed standard unit rate or allowance.
Construction index	The CMA's provisional decision is to retain the use of COPI as the construction index as Anglian Water's submission does not propose an alternative to COPI and the CMA has not identified a better alternative. ⁸⁶	We support the CMA's provisional decision to retain the use of COPI as the construction index. We maintain the view that, negative productivity growth in the construction sector over the 1996-2019 period suggests that it is implausible that there are

⁸³ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.65-66, para 5.191-5.198

⁸⁴ [OF-RTPD-040] Ofwat, Ofwat response to Ofwat RFI12 [confidential], pp.3-4, Q3(a).

⁸⁵ Ofwat, Response to Provisional Determinations – Outcomes, pp.29

⁸⁶ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.66-68 para 5.196-5.205

Ofwat's Response to Provisional Determinations
Base and Enhancement

Issue (Company)	CMA provisional finding	Ofwat's response
		material productivity gains embedded in the COPI index. ⁸⁷
Northumbrian Water		
Climate change and power resilience	The CMA concluded that the evidence overall was mixed and not sufficient for them to conclude that Northumbrian Water's overall level of climate change risk is greater than that for other water companies. The CMA has provisionally decided that a proportionate response to the risk should focus on funding for 23 sites as opposed to the 6 funded by Ofwat. The CMA adopted the average unit cost that Ofwat applied in the PR24 FD of £0.761 million per site but applied a 10% cost efficiency challenge. ⁸⁸	We support CMA's provisional decision on the allowance associated with climate change and power resilience, given the information supplied by Northumbrian Water via RFI07. We acknowledge that the CMA has taken a slightly different risk position to Ofwat to arrive at a proportionate response, but consider this to be reasonable. We agree with CMA that Northumbrian Water's risk analysis does not justify investment at all of the sites. We request that the CMA updates the PCD to ensure Northumbrian Water are held to account for delivering the 23 upgrades. See the 'Power resilience' section below for further details are provided below.
Phosphorus removal – removal of some funding for catchment nutrient balancing schemes	The CMA has provisionally decided that given the Environment Agency informed Northumbrian Water on 13 December 2024 that it no longer supported catchment nutrient balancing (CNB), the most appropriate way to	We support the CMA's provisional decision to allow Northumbrian Water with funding for additional phosphorus schemes to replace the CNB schemes

⁸⁷ [OF-RTPD-029] Ofwat, PR24 redeterminations – expenditure allowances – common issues, pp.204-205, para 6.80-6.84

⁸⁸ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.68-83, para 5.206-5.252

Issue (Company)	CMA provisional finding	Ofwat's response
	provide funding for the additional 28 end of pipe solutions is via the revised P-removal model. The CMA has provisionally decided that Northumbrian Water's allowance for phosphorus removal will be reduced by £14 million that Ofwat allowed for CNB to reflect that it is no longer required. ⁸⁹	that are no longer supported by the Environment Agency. We support the use of the phosphorus removal model to determine the efficient allowance for these schemes. We support CMA's provisional decision to remove the £14 million allowance for CNB given that this is no longer required.
Phosphorus removal – Additional schemes added to WINEP	No representation	We request that the CMA considers the inclusion of two additional Phosphorus removal schemes which the Environment Agency added to the latest WINEP after final determination. See the 'Phosphorus removal – Additional Phosphorus improvement schemes' section below for further detail.
Bio-resources IED – additional funding to reflect updated scope of bioresources IED requirements post PR19	The CMA provisionally decided not to allow Northumbrian Water's request for £24.5 million for additional IED funding for Howdon WWTW to reflect the updated scope of the bioresources IED requirements post PR19, on the basis that it had the option to request funding in response to Ofwat's draft determination, but instead it requested an extension of the 75:25 cost sharing. Northumbrian Water missed its	We support the CMA's provisional decision not to allow Northumbrian Water's request for additional funding. Companies should not benefit financially from not achieving compliance deadlines. We agree with the CMA that Northumbrian Water had the option to request funding in response to the draft determination but instead requested 75:25 cost sharing, which it received, and so the re-determination process should not be seen as a route

⁸⁹[OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.83-85, para 5.253-5.267

Issue (Company)	CMA provisional finding	Ofwat's response
	March 2025 deadline for IED compliance and works therefore continued into AMP8. The CMA's view is that this should not result in an additional funding allocation. The CMA has also provisionally decided that the 75:25 cost sharing rate will be retained ⁹⁰	to changing the request, when there has been no material change in circumstances.
Suffolk Strategic Network deferral	The CMA has provisionally decided that the Suffolk strategic network scheme should be added to the large scheme gated process and the funding determined through that process. Also, that the PCD should be removed to reflect the scheme being added to the large scheme gated process, and that Northumbrian Water's re-modelled PR24 enhancement allowance for the Suffolk strategic network scheme, should be removed from revised enhancement allowances. ⁹¹	We support the CMA's provisional decision to add the Suffolk strategic network scheme to the large scheme gated process and as a result the removal of Northumbrian Water's re-modelled AMP8 PR24 enhancement allowance for this scheme from its revised enhancement allowances. The Suffolk strategic network scheme would require a development allowance as part of the large scheme gated process. See the 'Large scheme gated processes' section below for further detail.
Bacton pipeline	The CMA has provisionally decided that the Bacton pipeline scheme should be progressed by incorporating it into the Bacton Strategic Resource Option (SRO) and progressing it through the RAPID gated process. The CMA has provisionally decided not to make any changes	We support the CMA's provisional decision that the Bacton pipeline scheme should be progressed by incorporating it into the Bacton SRO and progressing it through the RAPID gated process. We (via RAPID) will need to work with Northumbrian Water and Anglian Water (solution owner for Bacton

⁹⁰ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.86-91, para 5.268-5.286

⁹¹ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.91-94, para 5.307

Issue (Company)	CMA provisional finding	Ofwat's response
	to PR24 final determination allowances for this scheme. ⁹²	SRO) to agree any necessary changes in partnership arrangements.
Growth at Howdon WWTW Large Gated Scheme	The CMA has provisionally decided to add the Howdon WWTW scheme to the large scheme gated process. It has not assessed the cost. ⁹³	<p>We support the CMA's provisional decision to include the Howdon WWTW in the large scheme gated process.</p> <p>We confirmed that we would add the scheme to the large gated scheme process on the basis that a PR19 non-delivery adjustment was applied, and we maintain this position.⁹⁴</p> <p>We consider the CMA's response to under-delivery adjustment⁹⁵ to also apply to the proposed paying twice adjustment for the Howdon WWTW Large Gated Scheme allowance, but request that CMA confirms this. We provide a broad response to CMA's position on under-delivery adjustments within the base expenditure allowances chapter.</p>
Reductions to PR24 FD enhancement allowances for wastewater treatment growth	The CMA has provisionally decided that Ofwat should not have applied a £14 million under-delivery adjustment for wastewater treatment growth on the basis that Northumbrian Water overspent its modelled base allowance by 12% during PR19 and there was no evidence of	We do not support the CMA's provisional decision to reject the under-delivery adjustment. We do not consider the characterisation of under-delivery adjustments as retrospective regulation. We note the CMA's view that in the absence of explicit targets at PR19, coupled with overspend during the period,

⁹² [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.94-96, para 5.318

⁹³ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.96-98, 5.316-5.327

⁹⁴ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.98, 5.324

⁹⁵ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.101, 5.342

Issue (Company)	CMA provisional finding	Ofwat's response
	specific allowances for expenditure for this activity in PR19, allowing companies flexibility in how they delivered. ⁹⁶	limits its ability to draw definitive conclusions on under-delivery. ⁹⁷ We provide a more detailed response within the Base expenditure allowances chapter.
Southern Water		
Bioresources IED – additional funding to meet regulatory requirements	CMA undertook a deep dive of Southern Water's Industrial Emissions Directive (IED) cost request. It concluded that an efficient cost was £135.2 million, £3.3 million less than Ofwat's PR24 FD ⁹⁸	We support the CMA's provisional decision to allow Southern Water £135.2 million for its IED. ⁹⁹ We welcome the CMA and its independent engineering advisers' assessment which includes a detailed review of the information provided in response ¹⁰⁰ to the CMA's request. See the Bioresources IED – additional funding to meet regulatory requirements' section below for further detail.
Five site strategy for water resilience	The CMA has provisionally decided to add the resilience schemes at [REDACTED] and Weir Wood to the large scheme gated process, as it aligns the approach to schemes at [REDACTED]	We ask the CMA to reconsider the inclusion of [REDACTED] and Weir Wood in the large scheme gated process. Since the CMA hearings, Southern Water has provided new information that suggests these schemes are in a more advanced stage of delivery, and works have been contracted. Given this, there is

⁹⁶ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.98-102, 5.328-5.343

⁹⁷ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, pp.156-157, para 4.437

⁹⁸ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.102-109, 5.344-5.376

⁹⁹ [OF-RTPD-014] CMA, Provisional determinations Volume 2, paragraph 5.376, Competition & Markets Authority

¹⁰⁰ [OF-RTPD-037] Ofwat, 20250523 RFI5 Q2 (redacted)

Ofwat's Response to Provisional Determinations
Base and Enhancement

Issue (Company)	CMA provisional finding	Ofwat's response
	<div style="background-color: black; height: 40px; width: 100%;"></div>	<p>a risk that inclusion in the gated process will potentially slow delivery due to the nature of a gated process with a the standardised timetable. Therefore, it could be concluded that these schemes are no longer suitable for inclusion in the large scheme gated process. We ask the CMA to consider this new information and, if it agrees, set allowances for delivery of these schemes in its final determinations. If the CMA considers that costs (but not scope) of these schemes are still uncertain, it could include them as enhancement engagement schemes. This would subject schemes to an enhanced cost sharing rate of 25:25 (rather than the standard 40:40 cost sharing rate), with some additional oversight from Ofwat.</p> <p>See the 'Five site strategy for water resilience' section below for further detail.</p>
WINEP requirements to install event duration and flow monitors at emergency overflow sites	<p>The CMA has provisionally decided to apply a 30% efficiency challenge following an engineering led deep dive, given concerns around the extrapolation of costs from five generic sites, duplication of some costs in the cost buildup and application of a non-infra multiplier.¹⁰²</p>	<p>We support the CMA provisional decision to apply a 30% efficiency challenge. This aligns closely with our own assessment.</p> <p>See the 'WINEP requirements to install event duration and flow monitors' section below for further details.</p>

⁰ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.109-111, 5.377-5.386

⁰² [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.111-118, 5.383-5.429

Ofwat's Response to Provisional Determinations
Base and Enhancement

Issue (Company)	CMA provisional finding	Ofwat's response
Water supply – request for funding for WTW at Smock Alley site	The CMA has provisionally decided to calculate an allowance for the Smock Alley scheme subject to adjustments for base overlap and PR19 non-delivery. ¹⁰³	<p>We support the CMA provisional decision to provide an allowance for the Smock Alley scheme and agree that there should be an adjustment for base overlap and PR19 non-delivery.</p> <p>However, we do not support the CMA's stated approach to calculating an allowance, as it does not start with an efficient baseline allowance through benchmarked unit costs, before applying adjustments for base overlap and PR19 non-delivery. Therefore, the approach is not consistent with how other schemes have been funded.</p>
Southern's delivery mechanism	The CMA has provisionally decided not to accept Southern Water's request to amend the delivery mechanism. This was on the basis that Ofwat had been clear that the purpose of the mechanism is to provide additional oversight and monitoring by Ofwat and to allow withholding of allowances until the company can demonstrate it is ready to deliver the scheme, and not to provide Southern Water with protection from in-period cost increases. ¹⁰⁴	We support the CMA's provisional decision not to accept Southern Water's request to amend the delivery mechanism. The purpose of the delivery mechanism is to address concerns that Southern Water could not deliver its enhancement programme, rather than cost uncertainty. Southern Water should not benefit from not being able to demonstrate that it could deliver its entire programme at final determinations. Funding will be released when Southern Water demonstrates it can deliver.

⁰³ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.123, 5.452

⁰⁴[OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.125-128, 5.456-5.468

Ofwat's Response to Provisional Determinations
Base and Enhancement

Issue (Company)	CMA provisional finding	Ofwat's response
		Southern Water is responsible for ensuring compliance with all legal obligations. The delivery mechanism does not alter this responsibility, nor does it impact our ability (or that of other regulators) to take enforcement action where necessary. ¹⁰⁵
Treatment of notified items in PR24 FD	The CMA has provisionally decided that Ofwat's publication of its consultation on the PR24 cost change process and proposed licence modification addresses Southern Water's concerns and as such there is no need to intervene. ¹⁰⁶	We support the CMA's provisional decision not to intervene on treatment of notified items. In our consultation on the PR24 cost change process we proposed to apply a 2% materiality threshold for costs in the cost change process (which includes costs associated with Havant Thicket). We will publish our final decisions in November 2025, and we agree with the CMA that this should address Southern Water's concerns.
South East Water		
Resilience Interconnectors	For the Surrey Hills to Fleet and Ashford resilience interconnector schemes, the CMA has provisionally decided to retain Ofwat's PR19 under delivery adjustment, finding that South East Water were funded at PR19 to deliver these schemes, but have neither delivered them nor	The CMA's provisional decision acknowledges the company's lack of evidence on; PR19 funded delivery of schemes or equivalent benefits; quantification of risk; alternative options or cost efficiency considerations; and the case for enhancement

⁰⁵ [OF-OA-022] Ofwat, PR24 final determinations: Expenditure allowances, pp. 339.

⁰⁶ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.128-129, 5.469-5.478

Ofwat's Response to Provisional Determinations
Base and Enhancement

Issue (Company)	CMA provisional finding	Ofwat's response
	<p>provided sufficient evidence to demonstrate that it has delivered equivalent benefits.</p> <p>For the Groombridge and Row Dow to Kemsing schemes, the CMA has provisionally decided to retain Ofwat's base overlap adjustment to prevent customers paying twice, finding South East Water had not addressed concerns that activities were for the like for like replacement of assets funded through base allowances.</p> <p>For the Bloodshots to Darnley and Oakhanger schemes, the CMA has retained Ofwat's decision to reject additional funding on the basis that they had been funded through the base models by the increase in scale parameters.</p> <p>For the Oakhanger to Alton scheme the CMA has retained Ofwat's decision to reject this scheme, finding the company has not quantified the risk or provided the optioneering or cost efficiency evidence required to carry out a deep dive.</p> <p>For the Poverty Bottom to Underhills scheme, the CMA provisionally decided to accept Ofwat's revised position (based on new</p>	<p>taking into account base overlap, to justify the full cost request as enhancement.</p> <p>We are supportive that the CMA's provisional decision protects customers from paying twice.</p> <p>In the case of Poverty Bottom to Underhills, South East Water clarified in the evidence submitted that the scheme was needed due to abstraction reductions associated with chalk stream protection, and thus Ofwat are supportive of the need for investment for this scheme and the CMAs provisional decision in this regard. In other areas where additional funding has been provisionally added, we would expect a consequent PCD. However, in this instance, as the investment is small, we do not consider a PCD is needed for the CMA final redeterminations, but tracking delivery via delivery plans should be expected.</p>

Issue (Company)	CMA provisional finding	Ofwat's response
	evidence since PR24 final determination) to fully fund the scheme at £0.1m ¹⁰⁷	
Bewl WTW Upgrade	<p>The CMA provisional decision was to not allow any additional enhancement funding for Bewl WTW upgrade. The CMA found that significant gaps remain in the evidence that would justify the need for an allowance.</p> <p>The CMA outlines the need for South East Water to provide a network wide assessment of the need for the additional capacity at Bewl and how the need interacts with other investment. The CMA highlights that funding from the contingent allowance is an opportunity for the company to address identified concerns about the need for the investment.¹⁰⁸</p>	<p>We support the CMA's provisional decision to not provide enhancement allowances to increase capacity at Bewl WTW. South East Water has not presented sufficient and convincing evidence to justify the need for enhancement, or why the additional headroom is required.</p> <p>We also support the CMA's steer for the company to make use of the £50 million contingent resilience allowance, and for Ofwat to engage early to support the company in advance of this process starting. The scale of funding aligns with the scope and scale of the original Bewl submission of £26.7 million.</p> <p>Ofwat will engage with South East Water in a timely manner ahead of November 2026 to set evidence expectations for accessing the contingent allowance.</p>
Service reservoir capacity – increasing capacity at six sites	The CMA has provisionally decided to increase South East Water's allowance. It considers that a 10% challenge remains appropriate. This results in an additional allowance of £5.6 million over the funding of £25.0 million allowed by Ofwat in the final determinations. ¹⁰⁹	We support the CMA's provisional decision to partially increase South East Water's allowance but to retain a 10% efficiency challenge due to the qualitative nature of material presented as evidence for efficiency.

⁰⁷ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.130-142

⁰⁸ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.142-146

⁰⁹ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.146-148

Issue (Company)	CMA provisional finding	Ofwat's response
	This reflects our revised position as presented to the CMA during the process.	
[Southern site 3] WTW upgrade (River Medway scheme)	<p>The CMA provisionally decided to add the resilience scheme at [REDACTED] to the large gated scheme process and remove associated allowances (see also above entry for Southern Water's "Five site strategy for water resilience").</p> <p>South East Water takes 25% of output from [REDACTED] and therefore will be required to contribute and receive 25% of costs under the large gated scheme process.¹¹⁰</p>	<p>We ask the CMA to reconsider the inclusion of [REDACTED] and Weir Wood in the large scheme gated process. While we were supportive of inclusion, since the CMA hearings, Southern Water has provided information that suggests these schemes are in a more advanced stage of delivery, and the works have been contracted. There is a risk that inclusion in the gated process will potentially slow delivery, due to having to pass gates and access funding in line with a standardised timetable.</p> <p>We ask the CMA to consider this new information and, if it agrees, set allowances for delivery of these schemes in its final determinations. If the CMA considers that costs (but not scope) of these schemes are still uncertain, it could include them as enhanced engagement schemes. This would subject schemes to an enhanced cost sharing rate of 25:25 (rather than the standard 40:40 cost sharing rate), with some additional oversight from Ofwat, and avoid any potential delivery delays.</p>

¹¹⁰ [OF-RTPD-014] CMA, PR24 Provisional Determination Volume 2, pp.148-150

Ofwat's Response to Provisional Determinations
Base and Enhancement

Issue (Company)	CMA provisional finding	Ofwat's response
		See the 'Five site strategy for water resilience' section below for further detail.
Smart network (resilience)	The CMA's provisional decision is to reject South East Water's request for £36.8 million for its smart network programme. The CMA, after reviewing the evidence submitted, ¹¹¹ does not consider the request goes beyond what South East Water could have been expected to deliver (and other companies have been delivering) from base allowances. ¹¹²	We support the CMA's provisional decision that the company has not provided sufficient and convincing evidence to demonstrate that the planned investment, in its entirety, goes beyond that which it could have been expected to deliver in this or previous price control periods funded through base allowances. This finding protects customers from paying twice.
WINEP investigations	<p>The CMA's provisional view is that it has not been provided with sufficient and convincing evidence that South East Water's costs for WINEP investigations are efficient. The CMA identified, among other things, that South East Water failed to justify why its projected costs, around four times higher than the industry median, are efficient.</p> <p>The CMA's provisional decision is to reject South East Water's request for a further £11.7</p>	<p>We support the CMA's provisional decision that South East Water has not provided sufficient and convincing evidence to demonstrate that its costs for Water WINEP investigations are efficient.¹¹⁴</p> <p>Furthermore, we agree that neither South East Water nor its consultant, AtkinsRéalis, have offered the necessary detailed cost breakdowns or robust assurance to substantiate these costs.¹¹⁵</p> <p>We also agree with the Environment Agency's findings that the scale and progress of South East Water's WINEP investigations, and the relative</p>

[OF-RTPD-020] Ofwat, PR24 redeterminations – response to South East Water's statement of case, pp.38-44, para 4.39-4.65

² [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp. 150-152, paragraphs 5.581-5.595.

⁴ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.154, section 5.602

⁵ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.154, section 5.602

Ofwat's Response to Provisional Determinations
Base and Enhancement

Issue (Company)	CMA provisional finding	Ofwat's response
	million and to retain the PR24 allowance of £47.2 million. ¹¹³	complexity of developing groundwater models, is comparable to other companies. ¹¹⁶
Net zero – new funding for two schemes	The CMA's provisional decision is that South East Water has not demonstrated that its net zero schemes are eligible for funding through Ofwat's net zero challenge funding, and that it would expect these schemes to be funded through base allowances. ¹¹⁷	We support the CMA's provisional decision to use the net zero challenge criteria (as we set out in the PR24 methodology). We also support the CMA's provisional decision that South East Water has not demonstrated that these schemes are eligible for funding through Ofwat's net zero challenge.
Leakage – 2024-25 outturn	The CMA has provisionally decided to support South East Water's proposal that enhancement allowances should be provided for leakage reduction from 94.5 Ml/d to 81 Ml/d at the standard unit rate of £1.406 million per Ml/d. The 94.5 Ml/d start point aligns with the PR19 clawback mechanism and is lower than the 2024-25 outturn. ¹¹⁸ This results in an allowance of £19.0 million	We support the CMA approach as we previously agreed with the company's proposal. ¹¹⁹ See also 'Leakage – PR24 final determination' section below for further detail regarding an oversight in the leakage enhancement model which we do not consider results in a need to revise the proposed standard unit rate or allowance.
Leakage reduction below 81 Ml/d	The CMA has provisionally decided that the Ofwat's unit cost rate for 'other leakage activities' was not a robust or reliable basis for setting this element of South East Water's	We do not support the CMA's provisional decision. We do not consider the implied higher unit cost of £4.26 million per Ml/d to be efficient. We consider that the CMA should apply a greater efficiency

³ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.154, section 5.603

⁶ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.154, section 5.602

⁷ [OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, pp.83

⁸ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp. 155-157, para 5.619-5.629.

⁹ [OF-RTPD-056] Ofwat, 20250626 Ofwat response to RF112

	allowance. The CMA instead proposed an allowance for 'other leakage activities' of £34.5 million which represents the company's cost estimate with a 20% cost efficiency challenge applied. ¹²⁰	challenge to the costs presented by South East Water. Additionally, if the CMA in its final decision allows higher allowances for leakage reduction (than in the PR24 final determination) below 81 Ml/d, we consider that the CMA should apply a PCD to protect customers from non-delivery. See 'Leakage reduction below 81 Ml/d' section below for further detail.
Leakage – smart network	The CMA has provisionally decided to partially increase South East Water's allowance by £7.962 million for installation of 120 electromagnetic flow meters on the company's strategic trunk mains. The allowance is based on South East Water's cost estimate, allowing for four years of opex and applying a 20% cost efficiency reduction. ¹²¹	We support the CMA's provisional decision to make allowances for the installation of electromagnetic flow meters, based on the advice from its engineering advisors. We consider that the CMA should require that the company provides a clear scope and timescale for the 120 meters it plans to install and the benefits this will bring. We support the 20% cost efficiency challenge made by the CMA on the basis that South East Water has not provided sufficient and convincing evidence that the estimated costs are efficient. We also consider that customers should be protected from non-delivery of these meters through creation of a PCD.

²⁰ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp. 157-161, para 5.630-5.647.

² [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp. 161-163, para 5.648-5.664.

Ofwat's Response to Provisional Determinations
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		See the 'Leakage – smart network' section below for further detail.
Demand (water efficiency initiatives)	The CMA's provisional decision is to provide an allowance of £32.1 million to South East Water. This is based principally on the advice of the CMA's engineering advisors, WRc. ¹²²	<p>We support the CMA's provisional decision to make an allowance for water efficiency initiatives.</p> <p>We consider any allowance should be sufficient and adequate to support delivery of the full programme over the 2025–30 period. This should support delivery of the 12 Ml/d of benefits specified in the company's business plan, aligned with its company's statutory water resources management plan (WRMP).</p> <p>We do not consider South East Water's request for £40.2 million to deliver its programme in full represents efficient costs. We therefore consider that the CMA should apply an efficiency challenge on the costs presented by South East Water.</p> <p>We additionally request that as part of its final decision the CMA updates price control deliverable, PCDW9 to account for any amendments made to our final determination allowance.¹²³</p> <p>See the 'Demand (water efficiency initiatives)' section below for further detail.</p>
Lead – additional funding for survey and other works	The CMA's provisional decision is to reject South East Water's request for additional funding for its AMP8 lead survey programme,	We support the CMA's decision to not provide additional enhancement funding for South East Water's lead survey programme.

²² [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp. 164–165, para 5.665–5.673.

²³ [OF-OA-027], Ofwat, PR24 final determinations: Price control deliverables appendix, December 2024 (republished May 2025), pp.164–166 & [OF-CA-278], Ofwat, PR24 final determinations: Delivery plan guidance, March 2025, p.32

	<p>over and above the £6.9 million allowed by Ofwat in PR24 FD (funding requested at £24.3 million).</p> <p>The CMA further identified a need for South East Water, Ofwat and the DWI to engage promptly to develop an agreed alternative lead reduction strategy for South East Water to adopt in AMP8, citing their reasons for doing so.¹²⁴ The CMA in its final decision will consider how best to reflect any agreed alternative approach.¹²⁵</p>	<p>We have now engaged with the DWI to discuss this further to form a joint regulator perspective.</p> <p>Following this discussion, Ofwat and DWI met with South East Water and agreed a revised approach which focuses on lead replacement alongside lead survey.</p> <p>We understand that South East Water will confer internally and produce an amended lead strategy, which it will submit to regulators for review and input.</p> <p>We have used the evidence gathered by the CMA, which has set out the arguments of the different stakeholders, to further support our understanding of the issue.</p>
<p>PFAS – new funding to comply with update DWI guidance</p>	<p>South East Water requested £9.1 million funding for PFAS raw water deterioration schemes to deliver new treatment facilities at a WTW (£4.8 million) and five catchment studies to better understand risks, costs and solutions (£4.2 million) required by updated DWI guidance published in August 2024.</p> <p>The CMA has provisionally decided to deprioritise the funding relating to PFAS</p>	<p>We support the CMA's provisional decision to deprioritise funding relating to PFAS interventions. We also support the CMA's provisional decision to accept South East Water's request for £4.2 million of funding for catchment studies that relate to PFAS investigations.¹³⁶</p> <p>For the £4.8 million WTW scheme, the company could access funding through the cost change</p>

²⁴ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp. 168-171, paragraphs 5.670-5.685

²⁴ Refer to section "PFAS – new funding to comply with update DWI guidance" for more information.

	<p>interventions, but to accept South East Water's request for £4.2 million of funding for the catchment studies that relate to PFAS investigations.¹²⁴</p>	<p>process once it has the relevant site-specific DWI notice.</p> <p>In our final determinations we said that companies will be able to obtain additional revenue for PFAS interventions if additional expenditure requirements for all such schemes taken together exceed the threshold of 0.5% of water wholesale totex or £10 million.¹²⁶ As part of our July 2025 consultation on the PR24 cost change process, we said that we would like to hear from companies with PFAS schemes that we deferred in our final determinations, to find out if they did not expect to meet the triviality threshold for PFAS. South East Water did not raise any concerns about the triviality threshold in its consultation response.</p> <p>For the £4.2 million catchment studies scheme, this would have been allowed in full if submitted in business plans at PR24 (100% allowance for PFAS related enhancement if pertaining to investigations).</p> <p>We consider that the CMA should apply a PCD for the £4.2 million allowance – the nature of which would need to be agreed with the company.¹²⁷</p>
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²⁶ [OF-OA-022] Ofwat, PR24 Final Determinations Expenditure Allowances, pp.210

PR24 £50 million contingent allowance	<p>The CMA agrees with the scale and scope of the £50 million resilience contingent allowance and its provisional decision is to make no change to the arrangements for South East Water accessing the contingent allowance for resilience schemes from November 2026.</p> <p>The CMA considers that the requirements for accessing contingent allowance funding, as set out by Ofwat, are reasonable and protect the interests of customers. The CMA also notes that South East Water has not explained in any detail what amendments it would like made and, importantly, how these would improve the implementation of the mechanism in terms of delivering better outcomes for South East Water customers.</p>	<p>We support the CMA's provisional decision that the scale and scope of the contingent funding is sufficient to manage residual resilience risks.</p>
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Enhancement benchmarked modelled allowances

- 3.6 We welcome the CMA's use of econometric benchmarking models to help set enhancement expenditure allowances in its provisional determinations. Benchmarking is a valuable tool for addressing information asymmetry, as it enables like-for-like cost comparisons between companies and supports effective scrutiny of business plan costs, helping to ensure customers receive value for money.
- 3.7 But we have some concerns with the CMA's modelling approaches for phosphorus removal and supply interconnectors enhancement, that we recommend CMA consider further ahead of its final determination.
- 3.8 More broadly, we ask the CMA to provide clarity on its rationale for adopting different approaches to developing econometric benchmarking models for phosphorus removal, supply interconnectors, and base costs. We have concerns that the CMA may have prioritised model fit (ie minimising residuals) over other important criteria such as transparency (including ease of interpretation), alignment with engineering and economic rationale, and robustness (for example, the stability of model results to changes in underlying data and assumptions). These considerations are particularly important in a regulatory context, where overfitting models can risk customers overpaying or companies receiving windfall gains. Wide stakeholder engagement is also critical to ensure that companies receive sufficient allowances to deliver required investment, while protecting the interests of customers and the environment.
- 3.9 The provisional decision to use a different cost modelling approach will have implications for the operation of PCD's for P-removal and supply interconnectors. Our PCD's in these two areas are based on the modelling approach we adopted at final determinations. This requires re-running the cost model at the end of AMP8 with actual delivery data to recalculate allowances and assessing whether a claw-back is needed. We published our PCD reconciliation models as part of our draft reconciliation rulebook.¹²⁸ These models should be updated to reflect the CMA's econometric models and scheme level allowances. We are happy to assist the CMA in updating these models.
- 3.10 The sections below cover P-removal and supply interconnectors modelling. We do not cover bioresources IED modelling below as we consider it is sufficiently covered in the summary table above.

²⁸ [OF-RTPD-057] Ofwat, Price Review 2024 reconciliations

P-Removal

- 3.11 We broadly support the CMA's provisional allowances for phosphorus removal enhancement schemes, which are closely aligned with our sector level allowances at final determinations.
- 3.12 However, we have concerns regarding the CMA's cost modelling approach, which diverges from our PR24 methodology. We ask the CMA to reconsider applying our PR24 final determination phosphorus removal enhancement pooled OLS models for its final determinations, which was developed in consultation with the sector and received positive feedback, and combine this with outlier deep dives if it considers some schemes have been over or under compensated.
- 3.13 Alternatively, the CMA may want to consider using posterior probabilities as weights, instead of assigning each scheme to one group and using that groups' regression to set allowances. Posterior-weighted allowances are a way of combining cost predictions from all groups, weighted by how likely each scheme is to belong to each group, instead of assigning each scheme fully to one group. This approach:
- reduces risk of small differences in cost switching from low- to high-cost groups;
 - avoids sharp discontinuities in allowances; and
 - better reflects statistical uncertainty about which group allocation each scheme belongs to.
- 3.14 However, the posterior probabilities weighting approach will still embed inefficiency if they are driven by observed costs, which our analysis suggests is the case, but just in a smoother way.
- 3.15 In this response, we outline our key concerns and offer suggestions for the CMA to consider with the aim of ensuring transparency, robustness and fairness in its final determinations, and minimising the risk of unintended incentives at future price reviews.

CMA's modelling approach

Lack of engineering and economic rationale and risk of perverse incentives

- 3.16 We consider the CMA's Gaussian Mixture Regression (GMR) approach does not fully account for the economic, operational, and engineering factors that underpin phosphorus removal costs. Although the CMA identifies relevant factors, it is not always clear how these are mapped to the resulting groupings

and allowances. Grouping factors under the broad category of “the existence of different technologies and unobserved cost drivers for phosphorus removal” and relying on econometric techniques to address heterogeneity may reduce transparency,¹²⁹ particularly regarding technological choices that are within company control.

- 3.17 Our PR24 methodology, developed in close collaboration with engineering teams, and consulted on with companies, aimed at identifying and incorporating all material exogenous cost drivers, namely, population equivalent, existing permit, and enhanced permit. We maintain that if companies consider there to be any additional exogenous cost drivers they should be required to provide sufficient and convincing evidence to support their inclusion, given asymmetry of information, rather than relying solely on econometric methods.
- 3.18 We consider that it is not appropriate to capture endogenous cost drivers in the cost models so that customers do not pay for suboptimal investment decisions that were inside of company control, and consider there to be a risk that applying econometric methods without clear engineering rationale could lead to funding of higher/inefficient costs that are within company control.
- 3.19 Our approach ensures that key cost drivers are identified and justified with clear engineering and economic rationale before model development. This enables transparent grouping of schemes with higher expected costs, such as those involving biological treatment or enhanced permits below 0.25mg/l.
- 3.20 We understand that the CMA applies economic and engineering rationale retrospectively to groupings already defined by statistical methods, and we consider that this creates a risk of confirmation bias.
- 3.21 We replicated and re-estimated the CMA's model using the PR24 data (Model A and Model D variants) and conducted post-estimation diagnostics. The results indicate that the group selection is primarily driven by observed costs, not by exogenous cost drivers. Posterior probabilities of group membership are strongly correlated with regression residuals: high-cost schemes (positive residuals) exhibit very high probabilities of assigning to the “high-cost” group.
- 3.22 At the firm level, companies with higher observed costs systematically have a greater share of schemes in the high-cost group. This implies that firm-specific inefficiency or estimation error is being conflated with technology mix. This conflates firm-specific inefficiency or estimation error with technology mix, creating an endogeneity issue akin to sample selection: outcomes (actual costs)

²⁹ [OF-RTPD-014] CMA, Provisional Determination Volume 2, pp.25, para 5.65

help to determine group membership, so inefficiency becomes built into the allowance mechanism. In effect:

- High-cost schemes get assigned to the high-cost group → higher allowed costs
- Low-cost schemes get assigned to the low-cost group → lower allowed costs

3.23 The approach also creates discontinuities: small differences in observed cost can move a scheme across a group boundary and sharply change its allowance. Under the CMA's method, each scheme is assigned to a single "most-probable" group even when that probability is only marginally higher than alternatives. Two otherwise similar schemes could therefore receive materially different allowances (eg one with a 51% probability of the high-cost cluster versus another at 49%). Because the high-cost cluster carries higher allowances, this cliff-edge also creates an incentive for companies to forecast higher costs to shift schemes into a more favourable category at future reviews. Our PR24 approach mitigates these risks by requiring that cost drivers included in the model have clear, pre-specified economic and engineering rationale and are exogenous to firms' technology choices.

Sensitivity to data and assumptions

3.24 We consider that it would be helpful for the CMA to provide further clarity regarding the sensitivity of model results and groupings to changes in underlying data, assumptions, and cost drivers. The use of the Bayesian Information Criterion (BIC) produces statistical groupings without reference to engineering rationale, which may affect the credibility of the modelling approach if groupings change due to updated data or assumptions. Demonstrating the robustness of model outcomes to such changes would be helpful.

Outlier treatment

3.25 We have concerns regarding the consistency of the CMA's treatment of outliers. Inefficient outliers identified using Cook's distance and Ofwat's models are excluded, while efficient outliers are included in the GMR dataset.¹³⁰

3.26 We recommend that if Ofwat's models are considered unsuitable for setting allowances, for consistency we do not think it is appropriate that they are used to identify outliers for separate assessment. We consider that the CMA should apply a consistent methodology to both efficient and inefficient outliers to avoid

³⁰ [OF-RTPD-014] CMA, Provisional Determination Volume 2, pp.26, para 5.70

the risk of customers overpaying, or develop a transparent approach for identifying statistical outliers.

Assessment of cost drivers

3.27 In the table below, we set out our assessment of the cost drivers included in the CMA's provisional determination phosphorus removal models. We have concerns with several of the selected cost drivers, which we ask the CMA to consider ahead of its final determinations.

Table 6: Assessment of the CMA's phosphorus removal cost drivers

Cost driver	Support / Not support	Ofwat reason(s)
Population equivalent (PE)	Support	<ul style="list-style-type: none"> Captures the size of the sewage treatment works undergoing upgrades.
Enhanced consent level	Support	<ul style="list-style-type: none"> The permit level provides the best indication of the required upgrades, with more stringent permits necessitating advanced treatment processes.
Change in consent level	Do not support	<ul style="list-style-type: none"> This variable is inconsistent with economic and engineering rationale as it treats all permit changes equally regardless of the stringency of the enhanced permit. For example, a change from 1.5mg/l to 1mg/l is treated the same as a change from 1mg/l to 0.5mg/l. We consider it is more appropriate to directly control for the historical consent level of each scheme as it reflects the extent of pre-existing phosphorus removal processes at each sewage treatment works prior to enhancement. Sites with a pre-existing permit should generally incur lower costs to upgrade as companies may be able to optimise or improve existing processes to meet new requirements. This variable performed well in our final determination models.
Dummy indicator for new schemes	Do not support	<ul style="list-style-type: none"> This variable may capture the possibility that companies submitted higher business plan forecasts in anticipation of increased allowances, potentially leading to windfall gains and customers overpaying. To mitigate this risk, we triangulated between historical and forecast information by applying an equal 50:50 weighting between models estimated with each dataset. The CMA

		<p>should consider this approach for its final determination, especially given that the scheme-level business plan information used to estimate the econometric models did not include real price effects or frontier shift efficiency.</p>
Population density	Do not support	<ul style="list-style-type: none"> • The CMA's chosen measure, Middle Super Output Area (MSOA) weighted average density calculated at the company level, does not reflect scheme-specific circumstances. • The economic rationale that links company-level population density to the cost of phosphorus removal upgrades is unclear. Some companies have suggested that land availability may drive higher upgrade costs. But all companies will encounter land constraints at certain sites, regardless of the overall density of their operating area. • If the CMA decides to account for land availability or related factors, it should define variables at the scheme level.
Hourly median construction wages	Do not support	<ul style="list-style-type: none"> • Regional wage differences may be relevant for base expenditure, where companies operate and maintain assets across their networks. However, phosphorus removal enhancement investments are typically delivered at sewage treatment works by contractors operating across England and Wales, making local labour pressures less influential on pricing. • Companies are more likely to be affected by supply-side constraints at a national level, which impact all companies equally. For this reason, a labour real price effect adjustment is more appropriate to address unexpected price pressures than regional wage differentials. • If regional wage pressures are to be considered in phosphorus removal enhancement modelling, they should be defined at the scheme level to avoid potential spurious relationships. • Also, the estimated coefficient for regional wages is negative, which is counterintuitive based on the hypothesis that schemes in areas with higher wages have higher costs. We also note CMA's previous decision to exclude regional wages from its econometric models due to counterintuitive results in its PR14 redetermination for Bristol Water.¹³¹

³ [OF-RTPD-036] CMA, PR14 redetermination Bristol Water provisional findings, pp.76-77, para 4.103-104

Phosphorus removal enhancement cost efficiency challenge

3.28 In its PR19 redeterminations, the CMA concluded it is more appropriate to set the efficiency challenge based on the quality of econometric modelling, rather than seek specific outcomes.¹³²

3.29 If the CMA considers its models to be more robust than those we used to set phosphorus removal enhancement allowances at PR24 final determinations,¹³³ this could support the case for a more stretching cost challenge, such as adopting an upper quartile benchmark. This would help to set allowances at an efficient level and deliver best value for customers.

Water Supply interconnectors

3.30 We support the CMA's use of benchmarking models to assess water supply interconnectors enhancement expenditure, which use the same functional form and cost drivers used in our final determination models.

3.31 But we have concerns with aspects of the CMA's modelling approach that warrant further consideration at final determination, most notably:

- **Inclusion of a forecast indicator**, which reduces the weight placed on outturn costs when setting allowances and risks customers overpaying.
- **The provisional decision not to reassess the post modelling adjustments** applied at final determinations through deep dives, despite significant changes to the modelling approach. We consider this could lead to customers overpaying. Southern Water and Northumbrian Water received an uplift of £4.362 million and £20.813 million respectively for crossings. Anglian Water received an uplift of £76.499 million for steel pipe material.

3.32 If the CMA decides to use its proposed modelling approach for its final determination, we consider there is a strong case for applying a more stretching cost efficiency challenge given the small variation between forecast costs and modelled costs. Alternatively, the CMA should consider removing some or all of the post-modelling adjustments we applied in our final determinations as these costs are likely to be captured by forecast costs. We included these adjustments to address concerns of potential underfunding due to our model not capturing company specific circumstances (where these were duly justified by companies).

³² [OF-OU-098] CMA, PR19 redeterminations final report, pp.232, para 4.493

³³[OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.35 para. 5.96

3.33 In its final redetermination, the CMA should also take account of the transitional expenditure allowances companies have already received, when setting revised allowances for the 2025–2030 period for supply interconnectors. Anglian Water and Northumbrian Water have already been funded £8.983 million and £0.994 million respectively, for their supply interconnector programme, which was received as a RCV adjustment on 31 March 2025.

CMA's modelling approach

Modelling approach and use of forecast indicator

3.34 We note the CMA's provisional decision to use a Pseudo-Poisson Maximum Likelihood (PPML) model to assess costs for supply interconnectors.¹³⁴ The CMA reports a high pseudo R-squared (around 0.95) and that the estimated relationship between cost drivers and scheme costs are similar to those in our forecast-cost model, which we triangulated with a historical-cost model to set allowances at final determinations.^{135 136} In practice, the key difference between approaches is the weight placed on historical costs when assessing efficiency: we applied a 50/50 triangulation, whereas the CMA's modelling, through inclusion of a forecast-period indicator, implicitly places greater weight on forecast costs. A high pseudo-R-squared does not, in itself, justify including a period dummy if it lacks a sound economic and engineering rationale.

3.35 This would be unproblematic if business-plan forecast costs were efficient on average. However, we are concerned that companies' business-plan forecasts are likely to be upward-biased where firms expect them to inform allowances. Without anchoring to recent outturn evidence, using forecasts risks setting allowances above efficient levels, leading to customer overpayment and potential windfall gains to companies.

3.36 This is why we looked to incorporate evidence of costs for similar schemes delivered in PR19 into our assessment of supply interconnector costs. We considered that PR19 costs are relevant and recent. Most of the PR19 supply interconnectors were not fully delivered at the time of our assessment, so the cost information we received on these schemes was up to date and captured the cost pressures from the war in Ukraine, Covid-19 and Brexit. This includes incorporating the latest cost increases for AMP7 and AMP8 interconnector schemes, received in draft determination representations, into the final determination model.

³⁴ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp.50, para 5.138

³⁵ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp.50, para 5.139

³⁶ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp.50, para 5.140

- 3.37 Overall, we found no sufficient and convincing evidence to suggest that supply interconnectors in AMP8 would be substantially higher cost than those built in AMP7. Where companies presented sufficient and convincing evidence of scheme-specific reasons for higher costs, we applied a post-modelling adjustment. For example, we applied a cost uplift for Anglian Water's Grafham transfer to account for the use of steel as opposed to cheaper materials. We also applied a cost uplift to account for number of crossings.¹³⁷
- 3.38 On this basis, we consider there is a high risk that the CMA's forecast-period indicator is capturing inefficiency rather than genuine exogenous cost differences. Its estimated coefficient implies that delivering a supply interconnector of similar length and volume is approximately 33% more expensive in AMP8 than in AMP7.¹³⁸ We consider this implausible. The underlying activities required in AMP8 are the same as those in AMP7; and firms are protected from input price inflation via our real price effect (RPE) true-up mechanisms, which update allowances to reflect actual inflation in labour, materials, plant and equipment over AMP8. In addition, the business-plan forecast costs used to inform efficient allowances excluded forecast real price effects. Potentially higher input prices in AMP8 therefore do not justify a forecast-period dummy and would risk double-counting inflation.
- 3.39 We therefore do not support inclusion of the forecast-period indicator. We accept that combining historical and forecast scheme information in a single model may be a pragmatic response to limited scheme-level data. However, any such model should (i) exclude a period dummy that embeds forecast inefficiency; (ii) rely on exogenous, engineering-grounded scheme drivers; and (iii) anchor implied allowances to recent outturn benchmarks

Log bias adjustment

- 3.40 The CMA has expressed concern about the use of the log bias adjustment term (referred to as the "ratio estimator") to scale the predicted forecast costs in Ofwat's cost model (referred to as the "hybrid model" in the CMA's Provisional Determination). The CMA suggests that we applied the log bias adjustment based on historical schemes only.¹³⁹
- 3.41 This is not correct. We applied the log bias adjustment separately for the historical model and forecast model. For the forecast model, we calculate the log bias adjustment based on forecast schemes. For the historical model, we

³⁷ [OF-CA-023] Ofwat, PR24 final determinations; Expenditure allowances – Enhancement cost modelling appendix, December 2024, pp. 148-150

³⁸ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp. 51, para 5.140

³⁹ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp. 46, para 5.123

calculate the log bias adjustment based on historical schemes.¹⁴⁰ We think this is appropriate as otherwise we would end up scaling the average predicted costs of the historical model to match average forecast costs. This would reverse the overall challenge provided by PR19 costs, which is the main rationale for using a historical model in the first place.

Post-modelling adjustments

- 3.42 If the CMA were to decide to retain its proposed modelling approach for its final decision, we consider this could support the case for applying a more stretching cost efficiency challenge, such as adopting an upper quartile benchmark or removing the post modelling adjustments for crossings and steel material on the basis that the modelled allowances already provide companies with an appropriate level of funding. This would help to ensure that allowances are set at an efficient level and deliver best value for customers.
- 3.43 We provided post modelling adjustments where companies had greater than average length of crossings in their schemes, as well as to uplift for the additional cost of steel for the Grafham pipe, as these complexities would not have been captured by our modelling approach and could have underfunded those companies as a result.¹⁴¹ If the CMA uses its model for its final determination, resulting in the disputing companies receiving an allowance closer to the amount they requested, we consider that the CMA should not apply the post modelling adjustments for crossings and pipe material to avoid customers overpaying.
- 3.44 We assessed the mid transfer treatment costs for Anglian Water's Grafham pipe separately as they were fully outside the scope of our supply interconnectors model. We support the CMA's provisional decision to exclude these treatment costs from the company's request when assessing its re-modelled allowances. We ask the CMA that the allowance for mid transfer treatment costs remain unadjusted.

⁴⁰ [OF-CA-115] Ofwat, PR24-FD-CA92, Water supply interconnectors enhancement expenditure model, Model calculations, Cells L6-L12 and R6-R12.

⁴ [OF-CA-023] Ofwat, PR24 final determinations; Expenditure allowances – Enhancement cost modelling appendix, pp. 149

Company specific enhancements

Anglian Water

Leakage

- 3.45 In its provisional decision, the CMA has adjusted the higher unit rate for 'other leakage activities' applied to South East Water but has not made changes to the rate applied to Anglian Water. We support the CMA's provisional decision not to make any adjustments to the rate used in our PR24 final determinations for Anglian Water as this rate represents a higher unit cost than the one requested by the company.¹⁴²
- 3.46 See also section on 'Leakage – PR24 final determination' in the South East Water section below for further detail regarding an oversight in the leakage enhancement model which we do not consider results in a need to revise the proposed standard unit rate or allowance.

Northumbrian Water

Power resilience

- 3.47 We welcome the CMA's provisional view that, based on the evidence, it was not sufficient to conclude that Northumbrian Water's overall level of climate change risk is greater than that for other water companies.¹⁴³ Rather, the evidence indicates that different geographical regions are likely to be impacted by climate change differently.¹⁴⁴ This aligns with our view that Northumbrian Water is not unique in terms of climate change impact, compared to other water companies in the UK.¹⁴⁵
- 3.48 The CMA agrees with our approach that any costs that Northumbrian Water incurs should avoid being duplicative and overlapping with spend incurred by Northern Powergrid (NPg).¹⁴⁶ In particular, the CMA drew the same conclusion as Ofwat that Northumbrian Water places little to no reliance on NPg's investment for improving the service in their area. Northumbrian Water was

¹⁴² [OF-RTPD-014] CMA, Provisional Determinations – Volume 2, pp.66 para 5.198

¹⁴³ [OF-RTPD-014] CMA, Provisional Determinations – Volume 2, pp.74 para 5.221

¹⁴⁴ [OF-RTPD-014] CMA, Provisional Determinations – Volume 2, pp.74 para 5.224

¹⁴⁵ [OF-RTPD-049] Ofwat, PR24 redeterminations – Response to Northumbrian Water's statement of case, para 4.66

¹⁴⁶ [OF-RTPD-014] CMA, Provisional Determinations – Volume 2, pp.76–77, para 5.230

therefore not able to evidence customers would not be paying twice with its proposal.

- 3.49 Following the CMA hearings, Northumbrian Water submitted additional analysis to the CMA beyond that provided during business plan submission,¹⁴⁷ draft determination representations, and its CMA representation. This sets out the scale of request in a much clearer format and we therefore support this information being used as the basis of the CMA's determination.
- 3.50 We support the CMA's view that Northumbrian Water's risk analysis is not sufficient to conclude that the risk at all sites is high enough to require power resilience upgrades.¹⁴⁸ Within our Response to the Statement of Case, we identified other factors beyond power failures which had influenced the number of pollution events.¹⁴⁹ This demonstrated a lack of a step change in pollution events and power outages within Northumbrian Water's region over the past 4 years, following the roll out of the EDM monitors, which does not align with a view of significantly increasing risk, particularly at sites that have not experienced pollution historically, and indicates that the historical increase appears to be related to increased monitor coverage.
- 3.51 We acknowledge that the CMA has taken a different risk position to Ofwat. We agree with the CMA that reliance on historical incidents alone is overly simplistic, but we consider that the risk assessment should account for both historical incidents and forecast risk.¹⁵⁰
- 3.52 We are supportive of the CMA's proportionate approach, providing investment for 23 of the 84 wastewater sites.¹⁵¹ Whilst we broadly support the inclusion of Priority 1 sites, we still have reservations about those which have not previously experienced pollution events and are located at or close (within 5km) to existing depots at which temporary generators could be stored.¹⁵² We would not consider this to constitute sufficient and convincing evidence of a high risk of pollution.
- 3.53 We support the CMA provisional decision to allow Northumbrian Water flexibility on the specific sites where it installs fixed generation so that it can proactively

⁴⁷ [OF-RTPD-050] Northumbrian Water, NES Response RFI07, NWL-001 Power Resilience Site List

⁴⁸ [OF-RTPD-014] CMA, Provisional Determinations – Volume 2, p.79, para 5.238

⁴⁹ [OF-RTPD-049] Ofwat, PR24 redeterminations – Response to Northumbrian Water's statement of case, para 4.92 and 4.93

⁵⁰ [OF-RTPD-014] CMA, Provisional Determinations – Volume 2, pp.80, para 5.242

⁵¹ [OF-RTPD-014] CMA, Provisional Determinations – Volume 2, pp.80, para 5.242

⁵² [OF-RTPD-050] Northumbrian Water, NES Response RFI07, NWL-001 Power Resilience Site List

manage its power resilience risk going forward.¹⁵³ In its final determination, we request the CMA to update the PCD to reflect the number of schemes.

- 3.54 We support the CMA's provisional decision to apply a 10% cost efficiency challenge to the average unit cost of £761,000 per site.¹⁵⁴ This is reasonable given how much higher Northumbrian Water's costs are than the industry average.

Phosphorus removal – Additional Phosphorus improvement schemes

- 3.55 The Environment Agency has recently informed Ofwat that two existing WINEP actions require updating from investigations (INV) to improvements (IMP). This is a change to the WINEP used for final determination. As confirmed by the Environment Agency these schemes will have a WFD_IMP driver, which has a statutory delivery date of 31st March 2030.¹⁵⁵ The two sites impacted by this change are Swainby STW, and Alnwick STW.
- 3.56 At final determination, both sites were funded as investigations only (PR24CA71), with delivery monitored via PCDWW18.¹⁵⁶
- 3.57 As upgrades to these sites are now deemed necessary to meet the Water Framework Directive (WFD) target of 'Good' status for phosphorus (P) downstream of the STWs, and they have a statutory obligation for delivery by 31st March 2030, we request the CMA reviews the evidence and sets expenditure allowances for these two schemes in its final determination. We ask the CMA to assess these costs via the Phosphorus removal model. If the CMA decides to set allowances for these two schemes, we request that it also includes them within the Phosphorus reduction PCD.

Southern Water

Bioresources IED – additional funding to meet regulatory requirements

- 3.58 We support the CMA's provisional decision to apply a 30% cost efficiency challenge to Southern Water's bioresources Industrial Emissions Directive claim.¹⁵⁷ We welcome the CMA's and its independent engineering advisers'

⁵³ [OF-RTPD-014] CMA, Provisional Determinations – Volume 2, pp.83, para 5.252

⁵⁴ [OF-RTPD-014] CMA, Provisional Determinations – Volume 2, pp.83, para 5.255

⁵⁵ [OF-RTPD-052] Environment Agency, Ofwat Outbound Query – EA Response

⁵⁶ [OF-RTPD-051] Northumbrian Water, Ofwat Outbound Query – NES response

⁵⁷ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp.109, para 5.376

assessment which includes a detailed review of the information provided in our response to the CMA's request.^{158 159}

- 3.59 With regards to impermeable area costs, the CMA state that WRc's analysis shows that the median is not an appropriate metric to compare costs in this case, given the wide variation between companies, with three companies having significantly higher unit costs than the other seven. It considers the mean to be more appropriate as it reflects unit costs for all companies.¹⁶⁰ We retain our view that it is more appropriate to use the median than the between-company mean, as while the mean may reflect the unit costs for all companies, it can be skewed if a small number of companies significantly overestimate costs, as appears to be the case for [REDACTED].¹⁶¹ Using the median cost screens out the extremes, where companies may have overestimated or underestimated costs. This is particularly relevant when two companies include costs four times the median (when including indirect costs) with no justification, as these companies significantly skew the mean.
- 3.60 If the CMA decides to use the direct cost for comparing costs for 'New impermeable surface,' we would like to draw the CMA's attention to the limitation in the data we provided, as some of the outlier companies did not separate direct cost and oncost, which is why Ofwat used the total cost (direct and oncost).¹⁶² However, we note that we are not able to replicate the CMA's direct mean cost, so it appears as if CMA has undertaken some further calculations, in addition to the correction highlighted, that we have not seen.¹⁶³ The ratio of Southern Water's direct cost to sector average appears in line with our wider observations so we assume these to be correct.
- 3.61 Should the CMA undertake further review of impermeable area costs, we recommend that it considers what the bottom up cost per m² should be, based on the input components.
- 3.62 We request to see the evidence provided by WRc to support its assertion that costs in the south-east of England are typically 20% higher than UK average,¹⁶⁴ as this is not something that we have observed.

⁵⁸ [OF-RTPD-037] Ofwat, 20250523 RFI5 Q2 (redacted)

⁵⁹ CMA's request to Ofwat under RFI05 to perform a deep dive approach and provide our view of an efficient cost allowance for Southern Water's bioresources IED claim.

⁶⁰ [OF-RTPD-014] CMA, PR24 Provisional determinations Volume 2, p.107, para 5.364 (d)

⁶ [OF-RTPD-014] CMA, PR24 Provisional determinations Volume 2, p.107, para 5.364 (b)

⁶² [OF-RTPD-037] Ofwat, 20250523 RFI5 Q2 (redacted)

⁶³ [OF-RTPD-014] CMA, PR24 Provisional determinations Volume 2, p.107, para 5.366

⁶⁴ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.106, para 5.366

- 3.63 We agree with the WRC review in relation to Southern Water's tank covering costs, that these appear reasonable.¹⁶⁵ The WRC view aligns with our final determination where we did not apply an efficiency challenge to Southern Water's tank covering costs. We support the CMA's provisional decision not to apply any efficiency challenge to tank covering costs.
- 3.64 We support the CMA provisional decision to apply a 10% challenge to Southern Water's other IED costs and acknowledge CMA's statement that "*the costs that Ofwat and WRC agree are not required, or are included in other allowances, are a small proportion of the total 'other' bioresources IED costs*".¹⁶⁶ We consider that much of the inefficiency of Southern Waters 'other' IED costs relates to its application of a 2.16 oncost multiplier at the programme level.

WINEP requirements to install event duration and flow monitors at emergency overflow sites – request to remove Ofwat's cost efficiency challenge

- 3.65 We support the CMA's provisional decision to apply a 30% efficiency to Southern Waters revised £86.1 million request for event duration and flow monitors at emergency overflows.¹⁶⁷ As both the bottom up assessment undertaken by WRC and the top down assessment undertaken by Ofwat lead to a similar conclusion (eg 30% challenge), this gives confidence that the scale of the efficiency challenge is appropriate.
- 3.66 We agree with the findings of WRC that the application of a 2.16 oncost multiplier appears high. We had not seen the detailed cost breakdown Southern provided in response to RFI8 previously, we note that even for its smallest 'very small' sites, Southern's assumed portable generator cost (£41k)¹⁶⁸ combined with its non-infrastructure uplift of 2.16¹⁶⁹ leads to a cost of £89k. This is close to the industry average for all installations (£96k) before any monitor costs or construction costs have been considered. While we have not queried other companies on this, we are confident that if we were to benchmark these cost assumptions against other companies cost buildups, they would be deemed inefficient.
- 3.67 The CMA states that WRC raises concerns about the extrapolation of the cost items from 5 generic sites to all sites.¹⁷⁰ We agree with this, particularly given

⁶⁵ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.108, para 5.373–5.374

⁶⁶ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.10–108, para 5.372–5.373

⁶⁷ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.118, section 5.428

⁶⁸ [OF-RTPD-048] Southern Water, Southern Response to RFI8, U MON Direct Works Breakdown.xls, 0349 V Small

⁶⁹ [OF-RTPD-047] Southern, SOC-3-0020 SRN15 Cost and Option Methodology Technical Annex, Figure 22

⁷⁰ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.118, section 5.425

the above point on generators, and consider it unlikely that the minimum cost for a 'very small' site (£264k when allowing for the 2.16 non infrastructure uplift),¹⁷¹ would be more than twice the industry average in all cases.

- 3.68 We note that while WRC found that costs have been presented in 2022/23 prices when they should have been in 2020/21 prices, this is not in relation to the PR24 submissions, for which costs should be in 2022/23 prices, but rather relates to Southern incorrectly applying an uplift to 2022/23 prices, incorrectly assuming costs were in 2020/21 prices. We agree that this is an error, and costs should be reduced accordingly.

Water supply – Smock Alley WTW

- 3.69 We agree with the CMA's provisional determination that a consistent approach should be applied to both the 'Smock Alley' and the 'Rogate' water supply schemes.¹⁷² However, we consider that the CMA's approach to 'Smock Alley' does not sufficiently reflect the cost efficiency of the scheme nor fully align with the PR24 final determination approach applied to 'Rogate'. We support the CMA's provisional decision to accept the need to allow enhancement funding for 'Smock Alley'. We consider that the CMA should adopt our PR24 final determination approach for setting supply-side scheme allowances, including adjustments for non-delivery and base cost overlap. This results in a revised allowance of £9.422 million for the 'Smock Alley' scheme (see calculation below).
- 3.70 We support the CMA's provisional finding that the similarities between the 'Rogate' and 'Smock Alley' schemes warrants a consistent approach to allocating cost allowances.¹⁷³ However, we do not support the approach the CMA has taken to determine the cost allowance for Smock Alley, as it diverges from the approach used for the 'Rogate' scheme and other supply-side schemes in the PR24 final determinations.¹⁷⁴
- 3.71 The CMA's provisional determination approach assumes that the costs presented for 'Smock Alley' are efficient.¹⁷⁵ However, based on the water supply enhancement expenditure model,¹⁷⁶ 'Smock Alley' does not demonstrate efficiency when benchmarked against other comparable schemes (i.e. 'Treatment' supply-side schemes). In the absence of further evidence from the company to support cost efficiency, we consider that the CMA should start with

⁷¹ Derived from the £122k cost for very small sites in U MON Direct Works Breakdown Ofwat analysis.xls multiplied by 2.16.

⁷² [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.123, section 5.452

⁷³ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.123, section 5.449

⁷⁴ [OF-CA-138] Ofwat, PR24-FD-CA29-Water-Supply-enhancement-expenditure-model, PR19 Non-Delivery sheet

⁷⁵ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.123, section 5.449

⁷⁶ [OF-CA-138] Ofwat, PR24-FD-CA29-Water-Supply-enhancement-expenditure-model

an initial efficient baseline allowance, calculated through Ofwat's established PR24 final determination benchmarking model to determine allowances for supply-side 'Treatment' schemes.¹⁷⁷ We consider that the CMA should apply this efficiency in addition to the adjustments for base cost overlap and PR19 non-delivery, to align with the 'Rogate' scheme approach.

3.72 We support the CMA's provisional decision that the cost allowance for 'Smock Alley' should be adjusted to reflect funding already provided at PR19.¹⁷⁸ However, we do not support the methodology used by the CMA and instead agree with Southern Water's proposal that the non-delivery adjustment methodology for Smock Alley should align with the method used for 'Rogate' and other supply-side schemes. Additionally, we do not agree that Southern Water's requested allowance should be used as the starting amount upon which to apply the PR19 and base adjustment factors.¹⁷⁹ We consider that the CMA should apply¹⁸⁰ a non-delivery¹⁸¹ adjustment based on the PR24 methodology, which applies this adjustment to an allowance that is first benchmarked for efficiency. This ensures consistency and fairness in the treatment of any non-delivery adjustments across companies.

3.73 We acknowledge the CMA's view that the 'Smock Alley' scheme has a greater overlap with Southern Water's base cost allowances than the 'Rogate' scheme.¹⁸² We support this assessment and note that our own analysis supports this conclusion.¹⁸³ We note that the analysis conducted by WRc states that Southern Water has not provided a full description of the treatment processes that previously existed at 'Smock Alley'.¹⁸⁴ Additionally, WRc's report states that Southern Water has not provided bottom-up cost breakdowns for the scheme when requested.¹⁸⁵ We therefore maintain that Southern Water has not provided sufficient and convincing evidence to establish whether the proposed assets for Smock Alley exhibit any overlap with base expenditure beyond our assessment in our final determinations.¹⁸⁶ It is in our view, the base-cost overlap adjustment should reflect the costs of asset replacement or renewal. Should the CMA proceed with the application of the proposed 16.95% base-overlap adjustment,

⁷⁷ [OF-OU-004] Ofwat, 2022, PR24 Final Methodology: Appendix 9 – Setting Expenditure Allowances, pp.4, sec 2.1

⁷⁸ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.123, section 5.449

⁷⁹ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.123, section 5.449, bullet (a), (b) & (c)

⁸⁰ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.123, section 5.449, bullet (a), (b) & (c)

⁸¹ [OF-CA-001] Ofwat, PR24 Final Methodology: Appendix 9 – Setting Expenditure Allowances, pp.86

⁸² [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.123, section 5.448

⁸³ [OF-RTPD-027] Ofwat, 2025, PR24 Redeterminations: response to Southern Water's Statement of Case, pp.50, section 4, paragraph 4.96

⁸⁴ [OF-RTPD-080] CMA, 2752716 Enhancement Task 8 05 Aug Smock Alley FV01 Redacted, section 3.

⁸⁵ [OF-RTPD-080] CMA, 2752716 Enhancement Task 8 05 Aug Smock Alley FV01 Redacted, section 2.

⁸⁶ [OF-RTPD-027] Ofwat, 2025, PR24 Redeterminations: response to Southern Water's Statement of Case, pp.50, section 4, paragraph 4.96

we provide a calculation below, using this value set out with the methodology proposed in this section.

3.74 We therefore propose an allowance of £9.422 million for the 'Smock Alley' scheme, determined by the following four-step methodology:

- Step 1: An efficient allowance is determined through the supply-cost assessment model.¹⁸⁷

WAFU Benefit (3.12Ml/d) x 'Treatment' Unit Cost (4.491 £m/Ml/d) = £14.012 million

- Step 2: An adjustment is applied for base-cost overlap, in line with the CMA determination of 16.95%.

16.95% of £14.012 million = £2.375 million

- Step 3: A PR19 non-delivery adjustment is applied in line with the PR24 methodology for 'Rogate' and other supply-side schemes.¹⁸⁸

WAFU Benefit (3.12Ml/d) x 'Low' Unit Cost (0.710 £m/Ml/d) = £2.215 million

- Step 4: An efficient final allowance for the 'Smoock Alley' scheme is determined that accounts for both base-overlap and PR19 non-delivery adjustments.

£14.012 million (Efficient scheme allowance) – £2.375 million (Base cost overlap adjustment) – £2.215 million (PR19 Non-Delivery Adjustment) = £9.422 million

South East Water

Leakage – other leakage activity

3.75 The CMA has provisionally allowed an enhancement allowance of £34.5 million for South East Water to deliver 8.1 Ml/d of leakage reduction below 81 Ml/d. This represents an implied unit cost of £4.259 million per Ml/d for 'other leakage activities'.¹⁸⁹ The CMA notes that South East Water is proposing to reduce leakage from 81 Ml/d to 70.5 Ml/d, a reduction of 10.5 Ml/d. However, the

⁸⁷ [OF-CA-138] Ofwat, PR24-FD-CA29-Water-Supply-enhancement-expenditure-model

⁸⁸ [OF-CA-138] Ofwat, PR24-FD-CA29-Water-Supply-enhancement-expenditure-model

⁸⁹ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp. 157-161, para 5.630-5.647, leakage reduction rounded to one decimal place.

reduction required from other leakage activities is 8.1 Ml/d when the benefits from mains renewal activities, which have a separate cost allowance, are accounted for.¹⁹⁰

- 3.76 We do not consider the CMA's provisional determination implied unit cost of £4.259 million per Ml/d is efficient for determining South East Water's allowance. In our previous submissions, we have highlighted that the company has not provided sufficient and convincing evidence to support its cost request.¹⁹¹ While we recognise that the CMA has applied a 20% efficiency challenge, we do not consider this to be sufficient because we consider it unreasonable that the resulting unit rate is three times greater than the standard unit rate of £1.406 million per Ml/d. Our review of all company forecasts identifies for 'other leakage activities' in the 2025-30 period a sector median unit cost of £1.241 million per Ml/d and a sector upper quartile unit cost of £3.221 million per Ml/d.¹⁹² Based on this analysis we still do not consider that the company has provided sufficient and convincing evidence that the costs it proposes for its activities are efficient. We therefore consider that the CMA should apply a greater efficiency challenge on the costs presented by South East Water.
- 3.77 Additionally, if the CMA does allow higher allowances (for leakage reduction below 81 Ml/d) compared to the PR24 final determination, we consider that the CMA should apply a PCD to protect customers from non-delivery. At PR24 final determinations we did not consider a PCD was necessary for leakage reduction, as the leakage ODI rate combined with cost sharing was a suitable incentive for companies to deliver the activities based on the allowances we had made.¹⁹³ Below we outline through a scenario why it would be necessary to apply a PCD if allowances are increased.
- 3.78 Based on the £34.5 million allowance (pre frontier shift and RPE for other leakage reduction) made by the CMA in its provisional decision, we have considered a scenario where the company does not deliver any of the proposed leakage reductions funded at the higher unit rate. For this scenario we have considered that the benefits of leakage reduction to 81 Ml/d are delivered, along with the benefits from mains renewal, aligned to the PCL proposed by the CMA in its provisional determination. In this scenario the annual leakage profile remains

⁹⁰ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, p. 157, para 5.633.

⁹ [OF-OU-070], Ofwat, PR24 redeterminations expenditure allowances – common issues, pp.104-110, para 4.33-4.59.

⁹² We have taken the median and upper quartile from forecast unit cost of other leakage reduction activity as stated in the leakage cost model, see [OF-RTPD-088] Ofwat, PR24-FD-CA34-Water-Leakage-enhancement-expenditure-model-v3-1, sheet OutlierAnalysis, cells M6:M22

⁹³ Note that mains renewals for leakage reduction were included in our mains renewal PCD reflecting the higher allowances associated with this activity.

the same until 2028-29 where non-delivery of higher unit rate leakage reductions has an initial impact, with the main impact in 2029-30.

Table 7: Non-delivery scenario for South East Water's higher rate leakage reduction compared to CMA provisional determination PCL

Scenario	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
CMA provisional determinations PCL Annual leakage levels (Ml/d)	102.0	101.4	104.8	97.9	91.1	84.2	77.4	70.5
CMA provisional determinations PCL Three-year average levels (Ml/d) ¹⁹⁴			102.7	101.4	97.9	91.1	84.2	77.4
Non-delivery scenario Annual leakage levels (Ml/d)	102.0	101.4	104.8	97.9	91.1	84.2	78.6	78.6
Non-delivery scenario Three-year average levels (Ml/d)			102.7	101.4	97.9	91.1	84.6	80.5

3.79 Based on this non-delivery scenario, South East Water would make an ODI underperformance payment of £2.3 million.¹⁹⁵ We are concerned that this is insufficient incentive against under or non-delivery of the funded leakage reduction as it is equivalent to only 6.7% of the overall allowance. Therefore, to protect customers from non-delivery we consider that a PCD should be applied to the leakage reduction funded at higher unit rates, i.e. between 81 Ml/d to 70.5 Ml/d. The company has stated to the CMA that enhancement renewals contribute 2.4 Ml/d to the stretch between 81 Ml/d to 70.5 Ml/d.¹⁹⁶ The CMA provisional decisions therefore provide an allowance of £34.5 million for the remaining leakage reduction from 78.6 Ml/d to 70.5 Ml/d.¹⁹⁷

⁹⁴ PCL figures are based on the information provided in [OF-RTPD-014] CMA, Provisional Determinations Volume 2, p. 102, table 6.13.

⁹⁵ This is based on the leakage ODI underperformance rate of £657,900 per three year average Ml/d of reduction not delivered. [OF-OA-031] Ofwat, Final determinations: Key Dataset 1: Outcomes data, December 2024 (republished 19 March 2025).

⁹⁶ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, p. 157, para 5.633.

⁹⁷ The leakage figures used in this section are annual average leakage levels.

3.80 A leakage reduction PCD would therefore be defined as MI/d of leakage reduction below 78.6MI/d. The non-delivery rate would be the unit rate that covers the £34.5 million allowance. The pre frontier shift and real price effects non-delivery rate for this PCD would therefore be £4.259 million per MI/d reduction below 78.6 MI/d. This is equivalent to £4.160 million per MI/d below 78.6 MI/d post frontier shift and real price effects.¹⁹⁸ Aligned with our approach at final determinations, and consistent with the CMA provisional decisions, we are not proposing to net off overlapping ODI underperformance payments from the non-delivery unit rate of this PCD.¹⁹⁹

⁹⁸ 97.69% calculated by considering Ofwat's final determinations of £34.091m of post FS and RPE leakage enhancement costs, as a proportion of £34.900m pre FS leakage enhancement costs, as outlined in the final determinations aggregator model [OF-OU-081] Ofwat, PR24 FD CA14 Enhancement costs aggregator model.

⁹⁹ [OF-RTPD-015] CMA, Provisional Determinations Volume 3, pp.42-43, para 6.108-6.111.

Table 8: Proposed PCD for leakage activities other than mains renewals, funded at a higher rate

Leakage PCD output 2	2025-26	2026-27	2027-28	2028-29	2029-30
Leakage savings below 78.6 MI/d	0	0	0	0	8.1

Leakage – smart network

3.81 We support the 20% cost efficiency challenge made by the CMA on the basis that South East Water has not provided sufficient and convincing evidence that the estimated costs are efficient.²⁰⁰

3.82 We consider that CMA should apply a PCD to protect customers from non-delivery of the 120 electromagnetic flow meters on strategic trunk mains. We consider this is appropriate as this activity does not overlap with PR24 performance commitments or any other form of protection if undelivered. The non-delivery rate would cover the full unit rate, post frontier shift. In pre-frontier shift terms, the non-delivery rate would be £66,350 per meter. Using the PR24 frontier shift and real price effects leakage enhancement adjustment 97.69%, results in a non-delivery rate of £64,815 per meter post frontier shift. Consistent with our approach to non-delivery PCDs at final determinations, the PCD would hold the company to delivering 120 flow meters by 31 March 2029-30, providing appropriate customer protection.

Table 9: Proposed PCD for electromagnetic flow meters on reservoirs and strategic trunk mains

Leakage PCD output 1	2025-26	2026-27	2027-28	2028-29	2029-30
Number of electromagnetic flow meters installed on strategic trunk mains	0	0	0	0	120

Leakage – PR24 final determination

3.83 During our review of the CMA provisional decisions, we have identified an oversight in the leakage enhancement expenditure model, in that numbers from historical performance forecasts have been used in place of historical outturn data for the 2022-24 period.²⁰¹ This is inconsistent with the figures used for

²⁰⁰ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, p. 163, para 5.663-5.664.

²⁰¹ [OF-CA-085] Ofwat, PR24 CA34 Water leakage enhancement expenditure model, sheet FD Unit Cost, cells K9:Q25

2016-22 and our initial intention was to calculate this number using actual outturn data to understand its appropriateness. Adjusting for this data throughout the 2016-24 period would have resulted in an increase, in the model, of the calculated 'other leakage activities' standard unit rate from £1.406 million per Ml/d to £4.836 million per Ml/d.

3.84 However, we do not consider that this rate of £4.836 million per Ml/d is appropriate or that we would have used it for our PR24 final determinations if we had been aware of the issue with the data in the model. The unit rate of £1.406 million per Ml/d was used because it was within the range of what we and the sector expected. A key comparison is with the median sector forecast cost of £1.241 million per Ml/d for 'other leakage activities' in the 2025-30 period which could have been a valid alternative rate to use in modelling at PR24 final determinations.²⁰² On this basis, and for simplicity and to retain consistency with the approach used for other companies outside of this redetermination, we do not consider it necessary or appropriate to make any changes to the standard unit rate for 'other leakage activities'. As such we consider the £1.406 million per Ml/d unit rate used for our PR24 final determinations should be retained.

Demand (water efficiency initiatives)

3.85 South East Water's water efficiency initiatives are part of the company's statutory water resources management plan (WRMP) and therefore the cost allowance should be sufficient and adequate to support delivery of the programme in full over the 2025-30 period.²⁰³ The CMA has provisionally decided to apply a 20% reduction to the estimated costs. We are unclear whether the 80% cost allowance is to support delivery of only 80% of South East Water's proposed benefits, or a cost efficiency challenge to the whole programme.²⁰⁴

3.86 We note that the CMA considers South East Water's programme will be delayed, as following the CMA's final determination, there will likely only be four rather than five years remaining in the 2020-25 period.²⁰⁵ Companies are expected to properly carry out their functions concurrently with the CMA's re-determination process, and as such there is no requirement to reduce the scope of work. We

²⁰² We have taken the median from forecast unit cost of other leakage reduction activity as stated in the leakage cost model, see [OF-RTPD-088] Ofwat, PR24-FD-CA34-Water-Leakage-enhancement-expenditure-model-v3-1, sheet OutlierAnalysis, cells M6:M22.

²⁰³ Delivery in full aligns with our PR24 final determination approach, [OF-OA-022] Ofwat, PR24 final determinations: Expenditure allowances, February 2025, pp. 203-205.

²⁰⁴ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp.164-165, paragraphs 5.665-5.672.

²⁰⁵ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, p.165, para 5.671.

consider that any allowance should be based on delivery of the full 12 MI/d of benefits specified in the company's business plan.²⁰⁶

3.87 South East Water has requested £40.2 million to deliver its full 12 MI/d of benefits from its water efficiency programme, effectively at a unit cost of £3.337m per MI/d. The CMA considers that the assessment of its engineering advisers, WRc confirms that the types of interventions proposed are different from those of other water companies.²⁰⁷ The CMA has made an allowance of £32.1 million, which is £8.0 million greater than the £24.1 million allowance we made at PR24 final determinations.²⁰⁸ We note that WRc considered that South East Water's scope of work to address customer-side leakage and water waste through direct interventions was different from 'easier wins' adopted by other companies.²⁰⁹ We consider that the further evidence submitted by South East Water following PR24 final determinations may support an increase in allowance based on the intensity of the proposed work in comparison to other companies' programmes.²¹⁰ However, our view remains that there are still reasons to challenge the efficiency of the costs presented by the company which we cover in the paragraphs below.

3.88 We consider that South East Water should be able to further optimise the delivery of its specific water efficiency programme. The WRc engineering advice acknowledges potential for cost refinements such as online education, but considers them minor considerations.²¹¹ However, we consider the opportunity is greater, particularly in relation to further efficiency through potential synergies with the smart meter rollout throughout 2025–30. Both WRc and the previous consultant reports provided by South East Water, identify smart metering as an enabler for optimising water efficiency delivery, leading to lower unit costs.²¹² South East Water's own submission also stated that £32.99 million represented the optimised costs for full delivery of its proposed programme.²¹³ Also for the 2025–30 period, South East Water has been provided an allowance to deliver 319,991 smart meters for both household and non-household customers with a minimum target to have full data connectivity for 154,883 of these by the end of the period.²¹⁴

²⁰⁶ Benefits rounded here from 11.896 MI/d in company business plan.

²⁰⁷ [OF-RTPD-079] WRc, 2752716 Enhancement Task 6 01 July Water efficiency FV01 Redacted

²⁰⁸ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, p.165, para 5.672

²⁰⁹ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp.164–165, para 5.669.

²¹⁰ [OF-RTPD-083], South East Water, Annex RFI4.1, Demand side water efficiency programme commentary.

²¹¹ [OF-RTPD-079] WRc, 2752716 Enhancement Task 6 01 July Water efficiency FV01 Redacted, p.8.

²¹² [OF-RTPD-083], South East Water, Annex RFI4.1, Demand side water efficiency programme commentary, p.13, footnote 29. and [OF-RTPD-079] WRc, 2752716 Enhancement Task 6 01 July Water efficiency FV01 Redacted, p.5.

²¹³ [OF-CA-195] South East Water, Annex G – Enhancement costs, March 2025, p.67, para 306.

²¹⁴ [OF-RTPD-082] Ofwat, PR24PCD107-Water-Supply-and-Demand-Balance-PCDs-v5, sheet SEW met, republished 13 August 2025.

3.89 We additionally have concerns regarding the high cost interventions for non-household customers which comprise £7.7 million of the overall cost request. We recognise that South East Water has now provided a bottom-up cost breakdown for this element of the programme and that WRc has supported that capital intensive schemes are likely to be higher in cost.²¹⁵ However, our principal challenge in this area is that South East Water has not provided sufficient and convincing evidence that it has exhausted cheaper non-household options. For example, South East Water has reported limited, pilot-scale, non-household water efficiency activity in the 2020-25 period. This appears to suggest that South East Water has had some success in reducing demand through low intensity interventions such as notifying customers of leaks.²¹⁶ Additionally, South East Water states that it has not undertaken non-household audits previously and its mix of activities is based on expert judgement.²¹⁷ South East Water's requested unit cost for non-household interventions is £4.598 million per Ml/d.²¹⁸ For reference, the sector median business plan forecast unit cost is £1.126 million per Ml/d and upper quartile of £3.681 million per Ml/d (across 15 non-household interventions within 12 company business plans).

3.90 The CMA challenged South East Water to provide external verification of its programme costs in RFI4.²¹⁹ However, we consider that South East Water's response to RFI4²²⁰ and WRc's engineering assessment²²¹ does not provide any evidence of external validation across any component of its specific programme, other than reference to the Artesia reports that we challenged the validity of for cost efficiency purposes in our previous submission.²²² We also do not consider these concerns have been addressed in WRc's engineering advice to the CMA.²²³ Therefore, we consider the efficiency of costs across all elements of South East Water programme should continue be challenged on this basis.

3.91 For the avoidance of doubt, we are challenging the efficiency of the costs for South East Water's proposed water efficiency activities. We are not suggesting that South East Water should be delivering different water efficiency activities

²¹⁵ [OF-RTPD-079] WRc, 2752716 Enhancement Task 6 01 July Water efficiency FV01 Redacted, p.4.

²¹⁶ [OF-RTPD-081] South East Water, SEW50 Water Efficiency and Engaging with Customers, Communities and Stakeholders, p. 38, October 2023

²¹⁷ [OF-RTPD-083], South East Water, Annex RFI4.1, Demand side water efficiency programme commentary, p.2, footnote 4.

²¹⁸ [OF-RTPD-079] WRc, 2752716 Enhancement Task 6 01 July Water efficiency FV01 Redacted, p.4.

²¹⁹ CMA, Request for information – South East – Enhancement Allowances & Retail Margin Adjustment (South East RFI04), June 2025.

²²⁰ [OF-RTPD-083], South East Water, Annex RFI4.1, Demand side water efficiency programme commentary, p.13, footnote 29.

²²¹ [OF-RTPD-079] WRc, 2752716 Enhancement Task 6 01 July Water efficiency FV01 Redacted, p.5.

²²² [OF-OU-070] Ofwat, PR24 redeterminations expenditure allowances – common issues, pp.111-120, para 4.60-4.99

²²³ [OF-RTPD-079] WRc, 2752716 Enhancement Task 6 01 July Water efficiency FV01 Redacted.

(at lower unit cost) or resolve its supply demand balance with a different mix of solutions. Therefore, we do not consider that WRc's reference in its engineering advice, that alternative options to water efficiency, such as reservoirs or desalination, would 'cost far more per Ml/d' is relevant.²²⁴ The question is the efficiency of the costs to deliver the proposed water efficiency activities, because consideration of the optimal blend of supply and demand options has previously been made as part of WRMP development.

3.92 In summary we consider that in its final decisions the CMA should fund the full 12 Ml/d demand reduction benefits, but challenge the efficiency of the £40.2 million costs proposed by the South East Water.

3.93 We also request that as part of its final decision the CMA updates the price control deliverable, PCDW9 to account for any amendments made to our PR24 final determination allowance, but that it still includes delivery of the full 12 Ml/d of benefits by 2030.²²⁵

3.94 Finally, in the 'Parties submissions' section of the CMA's provisional decision document only South East Water's submission is referenced. We therefore request that the CMA makes reference to this submission and our previous submissions in its final decision document.²²⁶

Large scheme gated processes

3.95 We partially support the CMA's provisional decision to add five schemes to the large scheme gated process. While we support the addition of Northumbrian Water's Howdon growth scheme and Suffolk Strategic Network scheme, we ask the CMA to reconsider the addition of Southern Water's resilience schemes at [REDACTED] and Weir Wood to the large scheme gated process.

3.96 Although in the CMA hearings we supported the addition of Southern Water's three resilience schemes to the large scheme gated process, recent information suggests that Southern Water have progressed in the delivery of the schemes, and could be in a position to confirm the scope and costs of these schemes. We welcome the progress made by Southern Water, but consider there to be a risk that inclusion in the gated process will potentially slow delivery, due to having to

²²⁴ [OF-RTPD-079] WRc, 2752716 Enhancement Task 6 01 July Water efficiency FV01 Redacted, p.8.

²²⁵ [OF-OA-027] Ofwat, PR24 final determinations: Price control deliverables appendix, pp.164-166 & [OF-CA-278] Ofwat, PR24 final determinations: Delivery plan guidance, March 2025, pp.32.

²²⁶ [OF-RTPD-014] CMA, Provisional Determinations Volume 2, pp. 164-165, para 5.667-5.672.

pass gates and access funding in line with a sector-wide standardised timetable.

- 3.97 If the CMA were to set allowances for delivery of these schemes in the final determination, this would negate need for the schemes to be added to the large scheme gated process, potentially reducing delivery risk.
- 3.98 If the CMA considers that the costs, but not the scope, of these schemes are still uncertain, the CMA could include them as enhanced engagement schemes. This would provide the three schemes with an enhanced cost sharing rate of 25:25 (rather than the standard 40:40 cost sharing rate), with additional oversight from Ofwat.²²⁷
- 3.99 Schemes added to the large scheme gated process would require a development allowance. We ask the CMA to set an expenditure allowance for the development of any schemes added to large scheme gated process in the CMA's final determination.
- 3.100 As discussed in the hearings, we will assess expenditure for delivery of schemes included within the large scheme gated process in line with the criteria we used to deep dive enhancement schemes in our PR24 price review. These deep dive criteria were adopted by the CMA in its provisional determinations.²²⁸ These include assessing the need for enhancement investment (including any overlap with base expenditure) and the efficiency of the proposed expenditure.
- 3.101 As part of the large scheme gated process, we will need to agree on submission dates with the relevant companies.

Northumbrian Water

Suffolk Water deferral – scheme added to the large scheme gated process

- 3.102 We support the CMA's provisional decision to add the Suffolk Strategic Network scheme to the large scheme gated process and, as a result, to remove £148 million from Northumbrian Water's revised enhancement allowance (the £148 million represents the total re-modelled supply interconnectors enhancement

²²⁷ [OF-OA-022] Ofwat, PR24 final determinations: Expenditure allowances, pp. 326.

²²⁸ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, para 5.183.

allowance of £127.2 million and the £20.8 million post-modelling adjustment relating to crossings for the scheme) and remove the PCD for this scheme.²²⁹

3.103 The Suffolk Strategic Network scheme would require a development allowance as part of the large scheme gated process. We recommend this is done in the same way as we did for Northumbrian Water's Lowestoft scheme which is already in the large scheme gated process.

3.104 We recommend an 11.78% development funding allowance in line with development proportion decision set in October 2022 in the Accelerated Infrastructure Delivery Project.²³⁰ The total scheme cost for the Suffolk Strategic Network presented in Northumbrian Water's PR24 business plan was £118.976 million.²³¹ This would result in a development allowance of £14.015 million. Northumbrian Water has already been funded £8.096 million under the Accelerated Infrastructure Delivery Project towards the development of the Suffolk Strategic Network scheme, which was received as a RCV adjustment on 31 March 2025. The development allowance for the Suffolk Strategic Network as part of the large scheme gated process would need to be net of that, resulting in a remaining development allowance for the 2025–2030 period of £5.919 million.

Southern Water

Five site strategy for water resilience –schemes added to the large scheme gated process

3.105 During the company hearings we expressed our support for the addition of the resilience schemes at [REDACTED] and Weir Wood to the large scheme gated process. This was in response to Southern Water highlighting that all three schemes are still uncertain. Since then, however, Southern Water has provided further information suggesting that these schemes may be in an advanced stage of delivery.

3.106 The main purpose of the large scheme gated process is to allow time for the company to remove the uncertainty around the scope and cost of large schemes before we can set enhancement allowances for these schemes. This is to protect customers and companies from final scheme costs being very different to the seemingly immature costs requested in business plans and to give the best chance for schemes to be delivered to achieve the desired outcome.²³² [REDACTED]

²²⁹ [OF-RTPD-014] CMA, PR24 Provisional Determinations Volume 2, pp.94 para 5.307

²³⁰ [OF-RTPD-041] Ofwat, Accelerated infrastructure delivery project: Appendix 2: price control deliverables, pp.17

²³¹ [OF-CA-083] Ofwat, PR24-FD-CA92 Water Supply interconnectors enhancement expenditure model

²³² [OF-OA-022] Ofwat, PR24 final determinations: Expenditure allowances, pp. 315.

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] We would now expect the scope and costs for schemes at this stage of delivery to have already been settled upon; and therefore much of the uncertainty in scope and cost to have been resolved by now.

3.107 In addition to this, Southern Water has recently requested additional flexibility within the large scheme gated process, including in relation to the three resilience schemes²³⁶. The company requested to be allowed to make late Gate 1 submissions, should the CMA add the three schemes to the large scheme gated process.²³⁷ The deadline for Gate 1 submission was 1 October 2025. The company is seeking to be allowed to make a late submission so that the three schemes can enter the cost change process in the first application window which opens on 1 March 2026 and closes on 1 May 2026. Alternatively, the company would have to wait to the following application window in March–May 2027. The company also requested Ofwat to bring forward the access to funding for these three schemes to April 2026.²³⁸ The earliest date a company could access funding through the large scheme gated process is April 2027. We consider these requests could better be addressed through the redetermination process.

3.108 We therefore ask the CMA to reconsider its provisional decision to add the three resilience schemes to the large scheme gated process, and instead set expenditure allowances (based on the latest cost information) for these schemes as part of the redetermination process. In assessing and setting expenditure allowances for the three resilience schemes, we ask the CMA to consider the deep dive criteria that it has used to assess other enhancement schemes within its provisional determinations. This should include assessing the extent to which Southern Water should deliver the investment through base expenditure (as opposed to enhancement expenditure) to avoid customers paying twice. If Southern Water provides additional evidence to the CMA as part of this assessment, we should be given the opportunity to respond to this evidence, before the CMA makes its final decision.

- 3.109 If the CMA still has concerns about the uncertainty of costs for the three resilience schemes, the CMA could include these schemes as enhanced engagement schemes. This would still require allowances to be determined, but provides Southern Water with more risk protection by providing the schemes with an enhanced 25:25 cost sharing rate, compared to the standard enhancement cost sharing rate of 40:40. The schemes will also be subject to greater oversight from Ofwat as companies are required to engage with us on a regular basis regarding the progress they are making towards delivering enhancement engagement schemes.
- 3.110 Should the CMA decide to keep the three resilience schemes in the large scheme gated process, Southern Water will require an expenditure allowance to continue developing these schemes. In PR24 final determinations we set development allowances of 12% of scheme costs for [REDACTED]
[REDACTED]. We propose the CMA applies a similar approach for [REDACTED] and Weir Wood. This would result in development allowances of £5.67 million, £3.33 million, and £8.92 million for [REDACTED]
[REDACTED] and Weir Wood respectively, for a total development allowance of £17.9 million across the three resilience schemes. This would mean a smaller reduction to enhancement allowance of £62.7 million (as opposed to the deduction of £80.6 million in the provisional determination).

South East Water

Southern WTW upgrade – scheme added to the large scheme gated process

- 3.111 South East Water is impacted by the CMA's provisional decision to add [REDACTED]
[REDACTED] to the large gated scheme process, as it takes 25% of the output from this site and is required to contribute 25% of the costs. The CMA acknowledges our position that we consider South East Water should be able to input into any decisions that we make on cost allowances through the inclusion of the scheme in the large scheme gated process.
- 3.112 As set out in paragraph 3.108 above, we are asking the CMA to reconsider the inclusion of [REDACTED] into the large scheme gated process. This is due to new information provided by Southern Water post CMA hearings (see paragraphs 3.106–3.107).

²³⁹ [OF-OA-022] Ofwat, PR24 final determinations: Expenditure allowances, pp. 325

3.113 If the scheme were to be added to the large scheme gated process (see also commentary in previous section for our position on this), South East Water would require a development allowance commensurate with its 25% stake on the scheme. Based on the proposed development allowances for Southern Water at this site set out in the previous section, we recommend a development allowance of £1.9 million (which would translate to a deduction in allowances of £6.8 million rather than the 8.6 million proposed by CMA in its provisional determination).

Enhancement aggregator

3.114 We have noted two issues in the CMA's enhancement aggregator model and have suggested a change for each for the CMA's consideration.

3.115 Firstly, we note that in some cases where enhancement allowances have been revised, changes have been made to the transitional and accelerated programme allowances – for instance Northumbrian Water's supply interconnectors allowance. As these allowances only cover years 2023-24 and 2024-25, they do not feed through to the opex capex split and financial models which cover years 2025-26 to 2029-30. Companies have been funded for the transitional and accelerated programme allowances through a midnight adjustment to the RCV on 31 March 2025, with any difference in 2024-25 actual expenditure reconciled through the blind year process.

3.116 In most cases, we would suggest that the CMA moves any changes to allowances in the transitional years to one or more of the 2025-30 years. However, in the case of Northumbrian Water supply interconnectors, the final determinations transitional and accelerated programme allowances exceed the CMA's provisional determination total allowance. Please see paragraph 3.102 of this document for our recommendation in that case.

3.117 Secondly, we note that in cases where the CMA has moved schemes to the large scheme gated process, these schemes are not currently being included in the allowances in the worksheets labelled 'Allow incl contingent'. These sheets include all contingent allowances including large gated schemes and delivery mechanism schemes. To allow like-for-like comparisons to easily be made with Ofwat's final determinations, we suggest that the CMA include these moved schemes in these worksheets. This can be done by including the schemes in the 'Large schemes' section of the 'Inp DM and contingent' worksheet, including the allowance in column F and the relevant enhancement area in column Q.

4. Frontier shift efficiency

- 4.1 We recognise the CMA's intent to ground frontier shift in recent sector evidence and to test alternative methods. Innovation in approach can be valuable where it improves robustness and transparency, and we support the CMA's ambition to do so across its redetermination.
- 4.2 We support the CMA's provisional decision to apply frontier shift efficiency to enhancement expenditure allowances.²⁴⁰ This prevents customers paying for inefficiency, and was also applied by Ofwat and the CMA at PR19. Our expenditure assessment was also conducted using business plan forecast data before the application of frontier shift and RPEs, and evidence of prices obtained through procurement is not sufficient to demonstrate efficiency if other companies are able to deliver the same outputs and outcomes for a lower price.
- 4.3 However, we have identified some concerns with the approach taken by the CMA to determining an appropriate frontier shift adjustment, with a resulting 0.7% per year.
- 4.4 The CMA has adopted a new approach, using residuals from cost models to infer productivity trends and then applying economy-wide forecasts. This departs from the established method of using comparator-sector total factor productivity (TFP) growth from EU KLEMS, which has been commonly used in the past, and likely in the future, by regulators and regulated companies to determine frontier shift.
- 4.5 We maintain that the established approach is appropriate as:
- setting frontier shift on the basis of the productivity performance of the regulated sector itself would fail to apply a competitive benchmark to regulated monopolies;
 - the scope for productivity growth varies across sectors, and hence it is important to focus on the productivity performance of the most comparable sectors of the economy; and
 - EU KLEMS is widely accepted as a credible dataset on TFP growth in different sectors of the economy.
- 4.6 The provisional determination produces a value that is below the frontier shift assumptions applied by several other companies in the sector, including Anglian Water and Northumbrian Water. And if the CMA's frontier shift figure were

²⁴⁰[OF-RTPD-013] CMA, PR24 Provisional Determinations Volume 1, pp.88, para 4.185

further reduced in line with anticipated downgrades in OBR productivity forecasts, it would fall below all company proposals. We consider this is important as companies have a natural bias to propose a low figure for frontier shift, which may suggest that the CMA's methodology and provisional view is too low.

- 4.7 Frontier shift can have a material impact on customers, potentially leading to customers paying more than is necessary. For illustrative purposes, we set out the material impact on PR24 expenditure allowances if frontier shift had been set at 0.7% for all companies over the 2025–30 period in our final determinations.

Table 10: Impact on 2025–30 allowances for all companies if we applied a 0.7% per year frontier shift efficiency challenge at PR24 final determinations

Frontier shift	Adjustment to total expenditure allowances (2022–23 prices)
1% per year (Ofwat PR24 final determinations)	£2.2 billion reduction
0.7% per year (CMA PR24 provisional determinations)	£1.1 billion reduction

CMA methodology

- 4.8 Given the potential precedent that a change in approach sets, it is important that the CMA's new frontier shift methodology is robust. Through our review, supported by Europe Economics,²⁴¹ we have identified several issues that we ask the CMA to consider for its final determinations:

- 4.9 Our primary concerns that we ask the CMA to reflect on are:

- **Interpretation of residuals:** OLS residuals are not a reliable proxy for productivity growth because a) they are the net impact of unobserved real price effects and efficiency improvements not efficiency alone, and b) as there are trended explanatory variables the change in the residuals will tend to average near zero regardless of actual improvements. Both of these will depress efficiency observed by the CMAs approach below actual achieved efficiency.

²⁴ [OF-RTPD-093] Europe Economics, Review of CMA's Provisional Findings on Frontier Shift

- **Quality adjustment:** The analysis does not account for service quality and environmental improvements, which represent a significant share of sector expenditure.
- **Conceptual alignment:** Using base expenditure differs from both EU KLEMS TFP estimates and the totex expenditure allowances to which frontier shift applies.
- **Frontier focus:** Frontier shift should reflect leading firms, not sector averages. Firm-level data provides an opportunity to focus on frontier trajectories.

4.10 We are also not clear if the CMA has addressed the evidence we submitted, showing that water sector productivity is downward biased due to output measures based on water volumes and historical regulatory constraints.²⁴² Nor if it has considered embodied technological change, which is not captured by TFP data, but is critical given AMP8's investment programme.²⁴³

4.11 These issues are discussed in further detail in the supporting Europe Economics paper.²⁴⁴

Recommendations

4.12 We recommend that the CMA complements its current approach with traditional productivity analysis using EU KLEMS comparator sectors, and considers adjustments for quality, cost base alignment, and frontier performance. These steps would provide a more transparent and credible basis for setting frontier shift.

4.13 If the CMA retains the use of economy-wide productivity forecasts to help set frontier shift, we consider adjustments should be made to exclude public sector drag and to capture productivity gains from embodied technical shift – improvements embedded in new capital and technology. These are discussed further in 'Europe Economics Review of the CMA's Provisional Findings on Frontier Shift'.²⁴⁵

²⁴² [OF-OA-022] Ofwat, PR24 final determinations: Expenditure allowances, pp.265

²⁴³ [OF-OA-022] Ofwat, PR24 final determinations: Expenditure allowances, pp.268

²⁴⁴ [OF-RTPD-093] Europe Economics, Review of CMA's Provisional Findings on Frontier Shift

²⁴⁵ [OF-RTPD-093] Europe Economics, Review of CMA's Provisional Findings on Frontier Shift

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