Draft Determination Representation Outcomes for Customers

YKY-PR24-DDR-06-Outcomes-for-customers

YorkshireWater

Contents

1 Overview 7

1.1 Overview of our draft determination representation on outcomes for customers 7

2 Severe water supply interruptions 11

2.1 Overview 11

2.2 Ofwat action reference 11

2.3 Key messages 11

2.4 Yorkshire Water's response to Ofwat 11

2.5 Concluding points 12

3 Water supply interruptions 14

3.1 Overview 14

3.2 Ofwat action reference 14

3.3 Key messages 14

3.4 Change requested 14

3.5 Yorkshire Water's response to Ofwat 15

3.6 Concluding points 17

4 Customer contacts about water quality 18

4.1 Overview 18

4.2 Ofwat action reference 18

4.3 Key messages 18

4.4 Change requested 18

4.5 Yorkshire Water's response to Ofwat 19

4.6 Concluding points 20

5 Per Capita Consumption (PCC) 21

5.1 Overview 21

5.2 Ofwat action reference 21

5.3 Key messages 22

5.4 Change requested 22

5.5 Yorkshire Water's response to Ofwat 23
5.6 Concluding points 27

6 Leakage 28

6.1 Overview 28
6.2 Ofwat action reference 28
6.3 Key messages 29
6.4 Change requested 29
6.5 Yorkshire Water's response to Ofwat 30
6.6 Concluding points 33

7 Mains repairs 34

7.1 Overview 34
7.2 Ofwat action reference 34
7.3 Key messages 34
7.4 Change requested 34
7.5 Yorkshire Water's response to Ofwat 35
7.6 Concluding points 36

8 Business Demand 37

8.1 Overview 37
8.2 Ofwat action reference 38
8.3 Key messages 38
8.4 Change requested 39
8.5 Yorkshire Water's response to Ofwat 40
8.6 Concluding points 45

9 Unplanned outage 47

9.1 Overview 47
9.2 Ofwat action reference 47
9.3 Key messages 47
9.4 Change requested 47
9.5 Yorkshire Water's response to Ofwat 47
9.6 Concluding points 48

10 C-MeX 49

10.1 Overview 49

10.2 Ofwat action reference 49

10.3 Key messages 49

10.4 Change requested 49

10.5 Yorkshire Water's response to Ofwat 49

10.6 Concluding points 51

11 D-MeX 52

11.1 Overview 52

11.2 Ofwat action reference 53

11.3 Key messages 53

11.4 Change requested 53

11.5 Yorkshire Water's response to Ofwat 55

11.6 Concluding points 57

12 BR-Mex 58

12.1 Overview 58

12.2 Ofwat action reference 58

12.3 Key messages 58

12.4 Change requested 59

12.5 Yorkshire Water's response to Ofwat 60

11.6 Concluding points 61

13 Total pollution incidents 63

13.1 Overview 63

13.2 Ofwat action reference 63

13.3 Key messages 63

13.4 Change requested 63

13.5 Yorkshire Water's response to Ofwat 64

13.6 Concluding points 65

14 Internal sewer flooding 66

14.1 Overview 66

14.2 Ofwat action reference 66

14.3 Key messages 66
14.4 Change requested 66
14.5 Yorkshire Water's response to Ofwat 67
14.6 Concluding points 76

15 Bathing water quality 78
15.1 Overview 78
15.2 Ofwat action reference 78
15.3 Key messages 79
15.4 Change requested 79
15.5 Yorkshire Water's response to Ofwat 80
15.6 Concluding points 84

16 Storm overflows 85
16.1 Overview 85
16.2 Ofwat action reference 85
16.3 Key messages 86
16.4 Change requested 86
16.5 Yorkshire Water's response to Ofwat 87
16.6 Concluding points 99

17 Operational GHG emissions: water and wastewater 101
17.1 Overview 101
17.2 Ofwat action reference 101
17.3 Key messages 101
17.4 Change requested 102
17.5 Yorkshire Water's response to Ofwat - wastewater 104
17.6 Yorkshire Water's response to Ofwat - water 111
17.7 The impact of using fixed emission factors – wastewater and water 114
17.8 Concluding points 114

18 Compliance Risk Index 116
18.1 Overview 116
18.2 Ofwat action reference 116
18.3 Key messages 116

18.4 Change requested 116
18.5 Yorkshire Water's response to Ofwat 116
18.6 Concluding points 119

19 ODIs 120

19.1 Overview 120
19.2 Ofwat action reference 120
19.3 Key messages 120
19.4 Change requested 120
19.5 Representation 121

1 Overview

1.1 Overview of our draft determination representation on outcomes for customers

This document sets out our response to issues relating to outcomes in the draft determination.

We recognise Ofwat is striving to increase the performance of the sector. We share that vision. Yorkshire Water is on a journey to deliver significant improvements in service for customers and the environment, both now and in the future. We have improved our performance over the last period, and, through our business plan, we plan to continue this journey and deliver a step change in service and performance. For example, in AMP7, we will have delivered significant performance improvements, notably in internal sewer flooding (ISF) where we have delivered an improvement of more than 40% between 2019-20 and 2023-24 and propose a further 20% reduction in our AMP8 business plan.

Through our original plan we prioritised our investment spend to give greater weight to accelerating improvement in outcome areas that matter most to our customers. Our chief priority has been to ensure the continued delivery of safe water through reducing supply interruptions and improving drinking water quality. Our business plan delivers a 34% improvement in customer contacts related to drinking water quality (from 0.97 to 0.64 per 1000 population). This builds on our strong performance in AMP7, where we have delivered a reduction of 15% in this measure in the first four years of the AMP.

We also placed a strong focus on environmental priorities such as reducing discharges from storm overflows and will deliver a 20% reduction in discharges during AMP7. Our business plan proposes significant investment in reducing discharges from storm overflows in AMP8 and will deliver a c.30% reduction. The targets we set ourselves across the broad range of performance measures are ambitious, but deliverable.

Our performance during the last price control period has placed us in a strong position as we plan for the next five year., During AMP7, we have made investments that have led to significant improvements in performance across key metrics, but we remain in ODI penalty against several PR19 targets despite having overspent on totex allowances. We accept there are areas where there is more work to be done, and we put a compelling plan together to demonstrate how we will deliver further improvements for our customers. However, we have serious concerns about Ofwat's proposed package of performance commitment levels and associated outcome delivery incentive targets in its draft determination. Taken together with the proposed reduction in cost allowances, the package puts at risk our continued drive towards delivering improvements for the environment and our customers. In our representation, we argue that:

- There is a significant disconnect between cost allowances provided for and the required performance levels in Ofwat's calculations; and
- Required performance levels and cost efficiency targets are divorced from what is operationally feasible.

There is a significant disconnect between cost allowances provided for and the required performance levels in Ofwat's calculations.

The proposed reductions in cost allowances would mean that Yorkshire Water would be unable to fully deliver key infrastructure maintenance and improvement programmes targeted at improving services in those areas that matter most to customers. This will have a consequential impact on our ability to deliver the improvements in PCL performance as set out in our plan. For example, Ofwat proposes reductions to our water infrastructure cost adjustment claim (CAC), to renew 0.66% of the water network per year. This CAC aims to stabilise the health of our water infrastructure asset base, and if support is only partial, the level of improvement we can achieve will be restricted.

Partial support of the CAC also impacts on our proposed leakage PCL. In the DD, Ofwat presented a shortfall in funding such that only 797km of mains renewal could be delivered; if Yorkshire Water were not appropriately funded to deliver the planned 1092km mains renewal, we would seek additional leakage enhancement allowance to make up for the shortfall in leakage reduction which would have been delivered by mains renewal. If both the mains

renewal case and leakage enhancement case were unsuccessful, then the proposed PCL for leakage – which delivers a c12% reduction over AMP8 – would not be feasible.

Ofwat's modelling assumes an unproven inverse relationship between cost allowances and service delivery, assuming that all efficient companies should be able to deliver both cost reductions and service improvements simultaneously. We believe this argument is flawed and that an efficient company cannot improve service without incurring additional costs or delivering further productivity improvements. Our chapter on base expenditure allowance YKY-PR24-DDR-02 and Oxera cost outcomes disconnect report YKY-PR24-DDR-16 shows how these assumptions have led to overly stretching PCLs and underperformance in costs and service in AMP7. It sets out how this will persist into AMP8 unless Ofwat changes its approach to reflect the interaction between costs and service at final determination. The Oxera report recommends a set of potential approaches that Ofwat could use to assess 'what base buys' and in doing so, tests the fairness of the stretch of each individual PC. Oxera has carried out an assessment for three potential approaches for Water Supply Interruptions, Leakage, Internal Sewer Flooding and Pollution. All approaches show that Ofwat's targets are more stretching than is likely to be implicitly funded through base allowances.

Ofwat's models for base and enhancement expenditure fail to capture the complexities of operating in our region. In particular, Ofwat's enhancement models are not sophisticated enough to capture the particular complexities of Yorkshire Water's proposals and the associated link with performance levels. Our enhancement proposals are built bottom-up using most up-to-date information, including external benchmarks.

Ofwat has also disallowed expenditure in core water infra, and non-infra projects. This perpetuates the cost and service disconnect from previous AMPs.

Required performance levels and cost efficiency targets are divorced from what is an operationally feasible performance.

We recognise the difficult task for Ofwat in trying to strike an appropriate balance between its various statutory duties and the interests of a range of stakeholders. We also recognise the decisions Ofwat has taken in the draft determinations that demonstrate its intent to strike this balance but are concerned that Ofwat is setting unachievable performance commitment levels for PR24.

If we consider Ofwat's package of PCLs, taken together with a material reduction in cost allowances, and associated inability to invest fully in our proposed performance improvements, this will result in a potential net penalty above £300m over the PR24 period.

These overly stringent performance targets, combined with the material reduction in cost allowances, and the unrealistic AMP8 starting point for PCLs, results in Ofwat placing unacceptable levels of penalty and reputational risk on Yorkshire Water, and the sector as a whole. We therefore urge Ofwat to revisit its methodology for setting performance commitment levels and associated targets; both the starting position for PR24, and the levels of stretch in the PC incentive regime. We provide further analysis to support this position in our representation.

Ofwat has also failed to recognise the lead time in companies' investment programmes and the corresponding improvement in service delivery. This also risks companies entering a spiral of poor performance, whereby funding levels and associated penalties leave companies in a position where they do not have sufficient cost allowances to undertake the required investment to improve their performance.

Under Ofwat's proposals, we would face significant penalty risk exposure from a small number of performance commitments from the outset, even in areas where our performance has been at the upper quartile during the last price control period. For example, in respect of water supply interruptions, no company is currently sustainably performing at the required level. This likely points to a more structural issue with the performance expectation rather than an underperforming sector.

The assumption that all companies should enter the next period having achieved their required performance commitments in the previous period does not stand up to scrutiny, for example it does not allow for performance outcomes that companies have been unable to deliver for reasons outside of management control. For example, Yorkshire Water has not met AMP7 targets for per capita consumption (PCC) as these targets were set erroneously and performance has been impacted by covid. Yorkshire Water has undertaken a company-specific assessment that demonstrates that the water demand impact during Covid-19 and persisting thereafter is not fully accounted for by Ofwat's national level adjustment to PCC. The proposed PCL would require us to undertake activities throughout AMP8 resulting in the average reduction in water use per person served by Yorkshire Water, of 11.2 litres per day, in real terms, by the end of the AMP. This would be the largest reduction in PCC on record within an AMP and is not an achievable target. It would require a level of improvement that has never been delivered by a company before and which, despite being at the frontier level of performance, is likely to see Yorkshire Water incur a penalty of around £35-40m by the end of AMP8.

We have undertaken a thorough review of our original plan and taken on board Ofwat's feedback. Our representation provides an overview of each of the key performance commitment levels and details:

- Where we have accepted Ofwat's findings.
- Where we have updated our modelling with additional evidence to address Ofwat's concerns with our proposals, including additions of more recent data where relevant.
- Where we have identified fundamental concerns with Ofwat's methodology, or where we believe Ofwat has misrepresented Yorkshire Water's ability to deliver the required improvements.

We have responded to specific challenges made by Ofwat, but equally taken a balanced view in consideration of customer preferences and deliverability.

The table below summarises which performance commitments we are making representation against, under primary headings.

Table 1-1: Performance Commitments for representation

	AMP8 Start Point	AMP8 End Point	PCL Target/Profile	Baseline	Methodology	Caps/Collars	ODI rates
ISF	Y	Y	Y	Y	Y	Y	
Operational Greenhouse Gases (Waste)	Y	Y	Y	Y	Y		
Business demand	Y	Y	Y	Y	Y		
Per Capita Consumption	Y	Y	Y	Y		Y	
Pollution	Y		Y	Y		Y	
Storm Overflow	Y	Y	Y	Y			
Bathing Water Quality	Y	Y	Y	Y			
Operational greenhouse gas (Clean)	Y	Y	Y	Y			
Mains repairs	Y	Y	Y		Y		
Water Supply Interruptions	Y	Y	Y		Y		
Customer contacts about water quality	Y		Y			Y	
Leakage	Y		Y			Y	
CRI	Y		Y			Y	
Unplanned outage	Y	Y	Y				
Severe Water Supply Interruptions					Y		
C-MeX					Y		Y
ESF						Y	
Discharge Permit Complicance						Y	
Serious Pollution						Y	
Biodiversity							
River Water Quality							
Sewer Collapses							
D-MeX							Y
BR-MeX							Y

The headings in Table 1-1 correspond to:

AMP8 start point

We have identified where we believe that the AMP8 start point proposed by Ofwat should be reconsidered based on the evidence presented.

AMP8 end point

We have identified where we believe that the AMP8 end point proposed by Ofwat should be reconsidered based on the evidence presented.

PCL target/profile

The relationship between the rate of change over the five-year period and the allowed expenditure has formed part of our analysis for the specific performance commitment responses. We have considered the deliverability of the profile proposed by Ofwat against such things as geographical constraints, national resource availability of different skill sets and alignment to other areas of business activity to maximise efficiency.

Baseline

We have considered actual observed performance levels over the last five years to evaluate the feasibility of achieving the proposed glide paths relative to the start point, that is, the difference between the AMP7 entry point and the AMP8 Year 1 target. The interface between AMP7 and AMP8 is critical, and the draft determination includes proposals that require an infeasible step change in Year 1 of the AMP8 period, a requirement that fails to grasp the complexity and reality of Yorkshire Water's operations. We have also considered historic events that have been outside of company control, such as Covid-19, and the appropriateness of the historic period used in Ofwat's analysis, as these need to represent the actual recent service levels achieved by the sector.

Methodology

We have reviewed Ofwat's stated methodology for each performance commitment and highlighted where alternative approaches could be taken, due to data validity and other considerations. We suggest alternative approaches that provide a fairer representation of the data analysis.

Caps and Collars

To balance the overall package of risk, and to protect against extreme events, we propose caps and collars against all PCs which do not already have one at 0.5% of price control RoRE.

ODI Rates

We have several concerns with the ODI rates being proposed by Ofwat at PR24 and the method that has been used to calculate them. Combining these rates with overly stretching and asymmetrical PCLs is particularly troubling. We do not propose specific changes to ODI rates in this response, but recommend they are reviewed ahead of FD particularly if PCL targets and starting points are not addressed.

References:

Our October 2023 Business Plan submission
Our business plan

Our October 2023 Business Plan submission: Detailed performance commitment appendix
YKY20 Details of performance commitments appendix

2 Severe water supply interruptions

2.1 Overview

We are broadly supportive of this new measure of performance. However, based on our AMP7 experience of the 'significant water supply events' PC, there are a number of points that we would like Ofwat to consider. These include consistency between companies on reporting; overlaps between this and the 'water supply interruptions' PC; and further details on the intricacy of the reporting methodology. We would be more than happy to contribute to a discussion around this as part of a working group.

Since draft determination, Ofwat has stated that it no longer requires details in the data tables specific to this new PC. However, this text provides thoughts and further information, with the aim of contributing to how the new PC is defined. Our experience of a similar AMP7 PC is described in further details below.

2.2 Ofwat action reference

The following actions are addressed within this representation:

- DDQ_132 - We ask that companies provide us with their performance data around severe supply interruptions as part of their consultation response to our draft determinations, so that we will be able to make our final determinations. (Delivering outcomes for customers and the environment, page 107)

  Ofwat has confirmed that this request is no longer needed, and it has therefore not been included as part of this document.

- DDQ_133 - We are interested in views from stakeholders and the sector on the proposed severe water supply interruptions performance commitment, including the proposed duration of interruptions to be covered, the measurement, ODI rate, as well as risk protection measures. (Delivering outcomes for customers and the environment, page 106)

2.3 Key messages

Alignment with 'Customer Minutes Lost' (CML)
Measuring time lost to customers during prolonged interruptions to supply is a rational way to gauge customer impact. However, as events exceeding 12 hours already carry significant CML penalty (through the three-hour PC), this proposal risks companies being penalised twice for the same interruption. We would like further details on how the potential for a duplicate penalty can be avoided.

A consistently applicable methodology is key for this new measure to work
Due to differing levels of installation of network loggers and instruments to give network visibility across the sector, the methodology developed for this PC needs to consider how a consistent assessment will be made across companies with differing levels of instrumentation. As an example, a company with a high level of network instrumentation could be made aware of an interruption, whereas a company with limited network instrumentation would only be made aware of an interruption once it is reported by a customer – this could mean that a company reliant on reports a service interruption from a customer can experience longer periods of supply interruption without an impact on this proposed PC or the 'Customer Minutes Lost' PC.

2.4 Yorkshire Water's response to Ofwat

The methodology is unclear, as little detail has been provided. We would be happy to share our experience of the 'significant events' PC as part of a working group, to help understand the finer points of this measure.

The level of penalty is crucial in this measure. The 12-hour measure used by Yorkshire Water carried a penalty of £265k per event in AMP7, which potentially results in the prioritisation of response to prolonged events, regardless of actual customer impact. Resources and attention

could be taken away from overall Water Supply Interruptions (CML) in favour of events without significant customer impact (for example, empty properties).

Whilst broadly supportive of this measure, there are many points that need to be considered in the development of a PC. We would be happy to provide further contribution through a working group or inputs to any future consultation on this PC. In response to DDQ_133 we have provided some initial thoughts specifically around the methodology and measurement.

- **The start time mechanism for interruptions is poorly defined**
  In order to ensure that having proportionally higher levels of network instrumentation does not disadvantage companies, consideration needs to be given to start time or 'time zero'. For example, does the clock start when a company is made aware, or when the customer first identifies an impact to their service? If the underlying purpose of this PC is to measure the ability of a company to respond, the start time should be defined as when a company becomes aware. Consideration should be given to circumstances such as a customer becoming aware of an interruption and not contacting a company for a long period of time, if the company had no evidence of a potential problem, would the customer contact be the start time?
- **The risk of duplicated penalties**
  In AMP7, imbalance between penalty rates for significant events means that for single properties going without supply for more than 12 hours, high levels of penalty can be incurred. This could have had a detrimental impact on overall service, as theoretically, we are proportionally favourably incentivised to restore supply to a single property without water for a day than, for example, a larger number of properties that may be without supply for anything from three hours to up to 11 hours, 59 minutes. Therefore, the level of reward/penalty and how it overlaps with the CML PC (>3 hours) is important.
- **Third party damage should not be included**
  Service failures resulting from third party damage to our assets should not be included in the penalty criteria. These incidents are not a reflection of the health or resilience of our assets, although they do impact our ability to respond.
- **A delay to restoring supply is sometimes best**
  Customers have explicitly asked us not to restore supply late at night, suggesting we return in the morning to avoid noisy disruption. This has led to events contributing to the penalties, even though we were acting in accordance with customer wishes.
- **Potential exclusions: empty and commercial properties**
  We need to know whether vacant properties are to be included within the measure. If this is a measure of customer service failure, then we feel there should be exclusions related to this. We also need to know whether commercial properties are to be included within the measure. If there is an interruption to a commercial property on a weekend, for example, when there are no people present, should we put plans in place to restore supplies to empty properties, simply to avoid the risk of incurring a penalty?
- **Clarity on prioritising incidents is required**
  Further details are required on how we strike the balance between incidents. For example, which is worse: a 12-hour interruption during the night, or a 2.5-hour interruption at breakfast time? How might companies expect to be penalised? How can the CML and proposed severe supply interruptions PCs work together to ensure companies can best support customers?
- **Incentives based only on duration**
  Based on the number of properties being included within the calculation, it appears that 10,000 properties being interrupted for 12 hours, five minutes carries a lower weighting than one property being interrupted for 13 hours. Our experience of the current PC suggests this would drive the wrong behaviours from a supply restoration perspective. We believe a measure that allows companies to assess its performance relative to a normalisation factor such as 'No. of interruptions >12 hours per 1000 properties' would allow a better understanding of performance. It would also allow better measurement of comparative performance, rather than a variation on an average duration, as initially suggested.

2.5 Concluding points

We broadly support this measure but would need further details on the reporting methodology. We feel certain that companies would be unfairly disadvantaged for having greater network visibility and being made aware of incidents earlier, and we are interested in how the reporting

methodology can help overcome these challenges, ensuring that all companies are operating on a ‘level playing field’.

3 Water supply interruptions

3.1 Overview

We are supportive of customers' and regulators' expectations of the need to continue to improve in relation to water supply interruptions, and we strive to do so.

Ofwat has set the water supply interruption PC level flat at 5:00 minutes, for each year over AMP8. This target has been set based on forecasts by a number of companies of the level they expected to achieve in 2024-25.

While we agree with Ofwat that the industry should deliver further improvement in water supply interruptions in AMP8, we believe the performance commitment levels in the Draft Determination have been set at an unachievable level.

We believe that Ofwat should use actual company performance data rather than forecasts to set the performance commitment level, and that – in doing so – Ofwat takes adequate account of the differences between water only companies and water and sewerage companies in how interruptions are measured.

We also believe that Ofwat should take into account the lag between making investments and those investments having an impact on performance; a flat performance commitment level across the AMP assumes there is no link between the timing of investment and changes in performance, which cannot be correct.

We therefore propose an alternate target of 5:20 minutes by the end of AMP8, as well as an alternate glidepath.

3.2 Ofwat action reference

No related actions.

3.3 Key messages

- We believe Ofwat should take into account actual performance in AMP7 when setting AMP8 performance commitment levels, ensuring there is a suitable degree of stretch.
- A 5:00 minute water supply interruption target has not been achieved very often during AMP7 across the industry, with a higher 'success' rate for water only companies implying there are structural differences between water only companies and water and sewerage companies that Ofwat ought to take into account.
- We also believe Ofwat should adopt a glidepath to allow for the lag between investments being made and their impact on performance, particularly in relation to delivery of more stretching targets in AMP8.
- With the arrival of a new, related, performance commitment, 'severe water supply interruptions', we are concerned that this may incentivise companies to prioritise actions to support the new measure to the detriment of the existing customer minutes lost (CML) measure, further increasing the (already high) risk of failure to meet Ofwat's DD targets, as well as the potential to be penalised twice for the same incident.

3.4 Change requested

We request that Ofwat reconsiders the water supply interruption targets for AMP8, as well as the profiling of the target over different years in the AMP.

We propose a glidepath, rather than a flat profile, to allow some of the benefits from investment early in AMP8 to be delivered increasing companies' ability to achieve the stretching targets that to date in AMP7, only two companies have achieved.

We also ask that Ofwat confirms it has considered the potential interaction between the water supply interruption performance commitment and the new, related, performance commitment 'severe water supply interruptions', in particular that it has not created perverse incentives across these performance commitments in their design, or that companies will be penalised twice for the same incidents.

Table 3-1: Summary of changes to the supply interruptions performance commitment levels

Unit of measurement:	Minutes				
	2025-26	**2026-27**	**2027-28**	**2028-29**	**2029-30**
October 2023 Business Plan submission	00:05:56	00:05:47	00:05:38	00:05:29	00:05:20
January 2024 Business Plan resubmission	00:05:56	00:05:47	00:05:38	00:05:29	00:05:20
Ofwat's Draft Determination	00:05:00	00:05:00	00:05:00	00:05:00	00:05:00
YKY Draft Determination Representation	00:05:56	00:05:47	00:05:38	00:05:29	00:05:20

3.5 Yorkshire Water's response to Ofwat

Ofwat's proposed AMP8 water supply interruption performance commitment levels – at 5:00 minutes in every year across the AMP – have been set based on forecasts by a number of companies of the level they expected to achieve in 2024-25. No account of actual performance in AMP7 appears to have been taken into account by Ofwat,

We make representations on five key points relating to the water supply interruption PC:

- Ofwat should consider actual performance in AMP7 in setting the performance commitment levels, rather than relying on historic forecasts.
- Ofwat should consider differences between water only and water and sewerage companies in their ability to meet the targets, which we believe is related to span of control and logger coverage.
- Ofwat's target should be set at a more realistic level for AMP8, albeit with an appropriate degree of stretch, reflecting challenges across the industry in meeting AMP7 targets.
- Ofwat should adopt a glidepath across the AMP, recognising there is a link between investment and performance improvements.
- Ofwat should ensure there are no perverse incentives that arise from the adoption of the new 'severe water supply interruptions' performance commitment.

Actual performance in AMP7 should be taken into account

The level of performance on water supply interruptions achieved by the UK water companies in AMP7 has repeatedly fallen short of the targets set and the underperformance has been consistent across the industry; UK water companies have rarely achieved the targets that were set, with companies being penalised for this underperformance.

The industry average performance for AMP7 is shown in the table below, alongside the Ofwat proposed targets set in AMP8, against YW average performance in AMP7 and proposed targets in AMP8

Table 3-2 Comparing YW and Industry CML Average performance

Year	Industry CML Average Performance from Totex and Ofwat proposed Ofwat performance in AMP8	YW CML Average Performance from Totex and proposed performance in AMP8
2020-21	13 mins 38 sec	7 mins 15 sec
2021-22	13 mins 41 sec	10 mins 38 sec
2022-23	27 mins 11 sec	9 mins 27 sec
2023-24	15 mins 00 sec	10 mins 35 sec
2024-25	8 mins 00 sec	8 mins 00 sec
2025-26	5 mins 00 sec	5 min 56 sec
2026-27	5 mins 00 sec	5 min 47 sec
2027-28	5 mins 00 sec	5 min 38 sec
2028-29	5 mins 00 sec	5 min 29 sec
2029-30	5 mins 00 sec	5 mins 20 sec

Company average performance, in the round, has been three times higher than the proposed target in AMP8, with an expectation that year five performance will be similar to the rest of AMP7. Given this, we believe that a flat target of five minutes in AMP8 is beyond what could be classed as stretching for most water and sewerage companies (WaSCs).

Ofwat has proposed to maintain the level of challenge from PR19 2024-25 PCL[1]. The expectation in AMP7 was that base maintenance would help deliver improvements in order to meet the targets. However, it is clear from the consistent, industry-wide failure to meet the targets that this expectation was erroneous. As a consequence, it would be inappropriate for Ofwat to assume that customers have, in some sense, 'already paid' for improvements in AMP7 base allowances, and nor should it expect base allowances in AMP8 to support catch-up and additional stretch. Ofwat has proposed to maintain the level of challenge from the PR19 2024-25 PCL.

Differences between water only and water and sewerage companies

From a WaSC perspective, the 5:00 minute target Ofwat has proposed in its DD has only been achieved four times out of a possible 44 opportunities (9%) in AMP7 (11 WaSCs and four years of reporting), including the same company (Wessex) achieving this on three of the occasions. By comparison, water only companies (WoCs) have achieved this 14 times out of 24 opportunities (58%).

We believe that this measure is more favourable to companies with smaller spans of control. In addition, companies that have greater network visibility (pressure and flow logger coverage) are penalised because they are made aware of an incident earlier in the incident cycle than companies that do not have good logger coverage, resulting in an increase in reported minutes lost. Therefore, under this measure, performance reporting is not necessarily on a like-for-like comparison.

We propose that the approach to the target setting should be adapted for logger coverage. Those with excellent logger coverage are currently penalised due to earlier awareness of

[1] https://www.Ofwat.gov.uk/wp-content/uploads/2024/07/Webinar-slides-Performance-commitment-levels-PCLs.pdf

incidents resulting in an increase in reported minutes lost, and this should be taken into account in target setting.

Proposed target and glidepath for AMP8

For the reasons set out above, base allowances across the industry are not supporting improvements in the industry performance at the rate expected based on the 2024-25 5.00 minute forecast. Therefore a flat target of 5:00 is not appropriate.

We propose an alternate, higher AMP8 target of 5:20, which we believe more appropriately reflects actual performance in AMP7 and ensures a sufficient degree of stretch in terms of improvement.

We propose a glidepath to 5:20 minutes by the end of AMP8, to allow the benefits of the proposed investment to come to fruition before the more stretching targets are to be achieved.

In Oxera's report on the cost outcomes disconnect (YKY-PR24-DDR-16), it suggests several approaches that can be used to assess the levels of service that base buys. In all examples it finds that the Ofwat PCL for Interruptions to supply at DD is more stretching than can be considered funded through base. This should be considered when assessing the stretch proposed by Yorkshire Water for the PC levels in its response to the draft determination.

Table 3.3 Implicitly funded PCL for 2029-30 (from Oxera report on cost outcomes disconnect)

	Ofwat DD	Approach 1	Approach 2	Approach3
Water supply interruptions (hh:mm:ss)	00:05:00	00:15:30	00:11:57	00:14:01

Effect on incentives of adoption of 'severe water supply interruptions' PC

We believe the proposed addition of the 'severe water supply interruptions' PC may result in focus being diverted from this measure, which could again affect the ability to meet these targets. In AMP7, imbalance between penalty rates for significant events means that for single properties going without supply for more than 12 hours, high levels of penalty can be incurred. This could have had a detrimental impact on overall service, as theoretically, we are proportionally favourably incentivised to restore supply to a single property without water for a day than, for example, a larger number of properties that may be without supply for anything from three hours to up to 11 hours, 59 minutes. We have provided further information on this in the section on severe water supply interruptions above. There is also a risk of double penalty between measures, and we would like to understand how this is being considered.

3.6 Concluding points

Ofwat should take into account the challenges faced across the industry in meeting AMP7 targets and set its AMP8 targets based on this to avoid this performance commitment being punitive only. We also believe Ofwat should take into account the differences between water only and water and sewerage companies in their ability to meet the target, as well as adopting a glidepath in the AMP8 targets to allow the benefits of investment to be realised.

4 Customer contacts about water quality

4.1 Overview

Ofwat has modified its approach to the setting of performance commitments in this area, creating a common approach for the industry. Ofwat has also acknowledged that companies' level of performance differs, which has resulted in differential performance commitment level (PCL) targets. We accept the AMP8 year 5 target value set by Ofwat in the draft determination (DD), but we believe our interim targets for improvement should be based on a starting position of our actual level of performance as it is now known.

Ofwat has selected our end of AMP7 performance commitment target and used this to set the starting position of AMP8 (changed from per 10,000 population to per 1,000). This value was based upon historic estimates of improvements in performance made as part of the AMP7 Competition and Markets Authority (CMA) process. The estimates have subsequently been superseded by true performance measurements. In acknowledging that companies have different performance positions, we request reversion to our company proposed percentage improvement across the AMP at 34% (from 0.93 to 0.64 per 1000 population) and propose an alternative glidepath to that set by Ofwat. The end of AMP8 target aligns with Ofwat's proposed target (0.64 per 1,000 population).

As set out in our ODI chapter, in order to balance the overall package of risk and to protect against extreme events, we propose a cap and collar on this PC at 0.5% of relevant price control RoRE.

4.2 Ofwat action reference

No related actions.

4.3 Key messages

We agree with the principle that this performance commitment should be a common measure that all companies report on over the AMP8 period, rather than it just being a bespoke PC for a small number of companies.

Although we had anticipated Ofwat would choose to apply common PCLs for all companies, we acknowledge that it is a good principle that targets for improvement should be based on the specific challenges that each company faces. Having stretching, yet achievable, targets in AMP7 has allowed us to focus on efficient ways of improving performance. For example, we have been conducting DMA flushing and introduced trunk mains conditioning in specific areas, and intend to continue this into AMP8, improving performance and maximising value to customers.

We are also supportive of a glidepath towards improved performance. Inevitably, improvements (and the benefits to customers) will follow delivery of interventions to improve quality of water supplied to customers.

However, we believe Ofwat should revisit the level of improvement it is demanding from Year 5 of AMP7 to Year 1 of AMP8. The outcome of the proposed Ofwat PCL is a significant step change between actual performance in Year 5 of AMP7 and proposed performance Year 1 of AMP8. We believe the existing step change is therefore not achievable, especially given that this is a calendar year measure, with the reference period commencing in January 2025. We believe that Ofwat should base the Year 1 target and the AMP8 glidepath on true customer contacts about water quality, rather than an historic forecast based on past assumptions.

4.4 Change requested

We request an alteration to the glide path to the agreed level of performance in Year 5. We propose Ofwat use the data submitted in worksheet 'F_Inputs' (PR24-DD-PCM_Customer-

contacts-about-water-quality.xls) to set the targets rather than using a glidepath based on the PR19 targets.

We also request that Ofwat varies (increases) the performance commitment target in Years 1, 2, 3, and 4 of AMP8 to reflect known performance in Years 1, 2, 3, and 4 of AMP7.

Table 4-1: Summary of changes to the Water Customer Contacts about water quality PCL

Unit of measurement:	Contacts per 1000 population under DWI definition				
	2025-26	2026-27	2027-28	2028-29	2029-30
October 2023 Business Plan submission	0.90	0.84	0.77	0.71	0.64
January 2024 Business Plan resubmission	0.90	0.84	0.77	0.71	0.64
Ofwat's Draft Determination	0.78	0.74	0.71	0.67	0.64
YKY Draft Determination Representation	0.90	0.84	0.77	0.71	0.64

4.5 Yorkshire Water's response to Ofwat

Yorkshire Water supports the approach that a performance measure for Drinking Water Contacts is now standardised for all companies in AMP8. However, we now understand that Ofwat has taken the view that it is not appropriate to set a common industry target, and instead that targets should be based on individual company performance.

In our business plan submission, the proposed performance level was based on our understanding of a potential industry common target and our best understanding of likely performance in AMP8. Clearly, performance in much of the Year 4 monitoring period was unknown in developing our submission of October 2023.

Yorkshire Water has been subject to historic legacy challenges on this measure, for example, our upland water sources and the manganese issues these bring, alongside our greater than average proportion of cast iron mains. But we have improved more rapidly than the industry average over recent years. This is evidenced by the comparison of Yorkshire Water and industry average 'Total Acceptability', as reported by the Drinking Water Inspectorate.

Figure 4-1 DWI Customer total acceptability

We have overachieved our expectations on the reduction of drinking water contacts throughout AMP7. We are now able to confirm that our performance met the equivalent PC target of 0.89 / 1000 in Year 4 of AMP7, meeting our performance commitment. Based on data available to date, similar performance is expected in Year 5.

We therefore suggest that a modified profile should be implemented for AMP8 which represents progressive improvement, based on actual levels of performance for all metrics within this measure (rather than a subset that appears to have been used to set the AMP8 target), with the same AMP8 Year 5 end point target. Our modified profile has been reduced from that originally included in our October PR24 submission.

In addition, the Year 1 target is undeliverable, as the starting point for Year 1 performance is January 2025, yet the main part of our proposed improvement programme cannot begin until April 2025 due to the calendar and financial year differences between the PC measure and the investment programme.

A further representation has also been included in the 'Expenditure Allowances – clean water and GHG enhancement' document, to challenge the 60% adjustment from £9.37m to £3.75m on our trunk mains conditioning programme. This is a fundamental part of our overall strategy to efficiently reduce the number of water quality contacts we receive from customers, by removing sedimentation within the trunk mains in a controlled manner, that can cause discolouration contacts if not managed appropriately.

4.6 Concluding points

We support this as a standard performance commitment across all companies but believe the measure should be based on industry comparative performance rather than historic estimates of company performance.

The step change required between AMP7 and AMP8 requires a large improvement in performance, without the necessary time to be able to put plans in place to deliver this. This is exacerbated by the fact that one of the main initiatives, trunk main conditioning, to improve performance has been subject to a 60% cost adjustment based on a deep dive by Ofwat. Trunk main conditioning, in high-risk areas, provides an efficient way to improve performance and is critical to meeting the proposed targets.

5 Per Capita Consumption (PCC)

5.1 Overview

Yorkshire Water has submitted a PCC appendix (YKY-PR24-DDR-44) supporting this representation, with extensive evidence. This representation should be considered alongside the appendix, which collectively address PCLs, funding, and historic misalignment of our 2019 Water Resources Management Plan (WRMP19) and PR19 glidepaths. Yorkshire Water welcomes the opportunity through the draft determination representation to resolve the ongoing misunderstanding and align PCC targets between Ofwat, Defra and Yorkshire Water in the long term.

Yorkshire Water has consistently been at the forefront of PCC performance over the previous two AMPs. Despite its good performance, the PCC targets applied to it in Ofwat's draft determination are unrealistically over-stretching. This is a continuation of the position Ofwat took at, and after, PR19, which has persisted because of a previous erroneous glidepath calculation by Ofwat. We have attempted unsuccessfully to engage in discussion with Ofwat on this and still require further engagement to rectify this error. Yorkshire Water forecasts that it will be in significant penalty (around £35-40m) by the end of AMP8 in spite of its frontier performance. This outcome would clearly be out of line with the aims and principles of incentive-based regulation. We believe Ofwat should abandon its extra proposed stretch and address the historic error in setting the PR19 glidepath and rectify glidepaths for PR24, to align with our 2024 Water Resources Management Plan (WRMP24). We believe Ofwat should further consider the impact of setting targets which are not aligned to WRMP24. Our WRMP24 proposes a twin-track approach of reducing demand and increasing supply to meet future supply-demand deficit. The Ofwat target would largely remove the need for the AMP8 WRMP24 supply schemes and is highly likely to be undeliverable. By relying solely on demand reduction activities to meet the AMP8 WRMP24 supply-demand deficit we would increase the security of supply risk to our customers.

We therefore believe Ofwat should reconsider (and approve) the target level set in our business plan. That target is ambitious and strives for a level of stretch that:

- is consistent with the goals of our long-term WRMP plan; and
- is obtainable if Yorkshire Water undertakes all of the significant activities it proposes over AMP8.

However, this level of activity will only be possible if Yorkshire Water is sufficiently funded to undertake those activities. As a frontier company, reaching the next level in PCC performance will be more costly as it will need to change the behaviour of those customers who have shown themselves to be least inclined to change. As a result, we request that Ofwat increase the enhancement funding allowed to Yorkshire Water in its draft determination (DD) to allow it the chance to achieve its stretching frontier targets, for more details please see Cost efficiency enhancement costs – water (YKY-PR24-DDR-03).

Yorkshire Water has undertaken a company specific assessment of water demand during Covid-19 and the persisting impact thereafter. The independent analysis completed by Artesia Consulting shows that Ofwat's national level adjustment to PCC is less than the impact felt in Yorkshire during AMP7 and persisting into AMP8. This impact is resolved by accepting the WRMP24 glidepath, as the plan utilises actual PCC figures from AMP7 to deduce the entry point into AMP8, at which point interventions drive the ongoing improvement, meaning that no Covid-19 adjustments or modelling are required if Ofwat accepts the WRMP24 glidepath proposed.

5.2 Ofwat action reference

The corresponding action reference is DDQ_131.

As set out in our PR24 methodology, we intend to align PCC PCLs to WRMP targets where companies have provided adequate evidence that they have addressed our feedback on draft

plans. Where this is not the case, we have intervened to set more challenging performance levels.

Ofwat put in place two checks to determine PCC targets for AMP8:

- The first check was; is the target proposed in line with the WRMP24 target - YW has full alignment.
- The second check was; did the PR24 target surpass the PR19 target - Yorkshire Water fails this check.

Yorkshire Water's PR19 final determination and 2019 Water Resources Management Plan submission were misunderstood by Ofwat. And as such in WRMP24 and PR24, Yorkshire Water wish to adjust the performance commitment level (PCL) glidepath for PCC performance, to avoid persisting misalignment of our plan and the regulatory expectation of performance. The source of the misunderstanding was a percentage PCC reduction being applied to pre and post-leakage convergence reporting numbers for PCC. This resulted in an incorrect translation to a litres per person per day (l/p/d) target.

As set out in our ODI chapter, in order to balance the overall package of risk and to protect against extreme events, we propose a cap and collar on this PC at 0.5% of relevant price control RoRE.

5.3 Key messages

1. Based on AMP7 outturn forecasts, Ofwat expects Yorkshire Water to undertake activities throughout AMP8 which result in the average reduction in water use per person served by Yorkshire Water, of 11.2 litres per day in real terms by the end of the AMP. This would be the largest reduction in PCC on record within an AMP and is an unrealistic expectation from Ofwat, not least because of the low level of historic funding in base allowances to support PCC improvement. Yorkshire Water estimate that with the DD PCL glidepath in place, we could incur up to £39.42m of penalty despite delivering the reductions funded within the AMP8 plan, articulated in table CW8.

2. Ofwat's final determination for PR19 set an exceedingly stretching PCC target of ~116.8 l/p/d for the end of AMP7, which was significantly more stretching than the level that Yorkshire Water submitted in its PR19 business plan and WRMP19. Despite Yorkshire Water consistently explaining that our PCC performance commitment level proposed by Ofwat for the end of AMP7 should be in the ~120.1-120.5 l/p/d range, Ofwat's final determination for PR19 set a target of ~116.8 l/p/d. At PR24 draft determination Ofwat has rejected our WRMP24 PCC glidepath deferring back to the erroneous Ofwat PR19 glidepath, which itself doesn't align to the WRMP19 glidepath.

5.4 Change requested

Yorkshire Water requests Ofwat to accept the WRMP24 PCC PCL glidepath, resulting in a 6.01% reduction from the 2019-20 baseline (128.2 l/p/d, 3-year rolling). This plan takes the exit point of 125.2 l/p/d "in year" and aligns a delivery plan to reduce demand accordingly.

Table 5-1: Summary of changes to the PCC performance commitment levels

Unit of measurement:	l/p/d				
	2025-26	**2026-27**	**2027-28**	**2028-29**	**2029-30**
October 2023 Business Plan submission in-year	124.1	122.9	121.7	120.5	119.3
October 2023 Business Plan submission in-year 3-year rolling average	125.1	124.1	122.9	121.7	120.5
January 2024 Business Plan resubmission in-year	124.1	122.9	121.7	120.5	119.3

January 2024 Business Plan resubmission 3-year rolling average	125.1	124.1	122.9	121.7	120.5
Ofwat's Draft Determination in-year	115.7	115.3	114.9	114.5	114.0
Ofwat's Draft Determination 3-year rolling average	117.2	115.7	115.3	114.9	114.5
Ofwat's Draft Determination % reduction from 2019-20 3-year rolling average	8.58%	9.75%	10.06%	10.37%	10.69%
YKY Draft Determination Representation in-year	**124.1**	**122.9**	**121.7**	**120.5**	**119.3**
YKY Draft Determination Representation 3-year rolling average	124.9	124.0	122.9	121.7	120.5
YKY Draft Determination Representation % reduction from 2019-20 3-year rolling average	2.6%	3.2%	4.1%	5.1%	6.0%

5.5 Yorkshire Water's response to Ofwat

PCL adjustment in line with WRMP24 glidepath

5.5.1 PR19 determination inaccuracy

Ofwat's final determination for PR19 set an exceedingly stretching PCC target of ~116.8 l/p/d for the end of AMP7, which was significantly higher than the level that YWS submitted in its PR19 business plan. Despite our explanation that Yorkshire Water's PCC performance commitment level proposed by Ofwat for the end of AMP7 should be in the ~120.1-120.5 l/p/d range, Ofwat's final determination for PR19 set a target of ~116.8 l/p/d – which we think is based on an erroneous calculation by Ofwat of our baseline. Yorkshire Water remains upper quartile for AMP7 (and industry leading in AMP6) despite PCC historically being a particularly challenging area for the industry to address.

As Ofwat is aware, we have serious concerns with the percentage reduction applied to a 2019-20 baseline of 128.2 l/p/d. Ofwat used an incorrect 8.9% reduction (which was only applicable to a baseline of 132 l/p/d), instead of an 6% reduction from the post convergence reporting baseline of 128.2 l/p/d. Ofwat applied the 8.9% reduction to the 128.2 l/p/d baseline, from which Ofwat set the PR19 PCC PC levels. Yorkshire Water has documented communication with EA and Ofwat regarding this inaccurate PCL assessment at PR19 and consistently through table APP1 sustained a AMP7 outturn of between 120.1 – 120.5 l/p/d. The percentage reduction applied seems to have not been checked by Ofwat against the APP1 tables, resulting in this error.

Ofwat's approach at PR19 to setting our PCC levels has had serious consequences on our ability to meet those targets throughout AMP7. This is in spite of Yorkshire Water's continuing activities in this area and our consistent position in the upper quartile of the industry. This is a PC where there should be little divergence between companies throughout the industry. The levels set in PR19 are also inconsistent with EA/Defra approved targets set out in our WRMP19 and WRMP24 – and it exposes Yorkshire Water to unduly high penalties in spite of successfully reducing PCC in previous AMPs.

5.5.2 PR24 ambition and programme of delivery

Yorkshire Water's business plan proposes a varied programme of activities to achieve both a step change in water use and our proposed PCC targets for AMP8. We believe these activities are deliverable and represent good value for money.

We have set our PCC targets with this outturn value in mind and in our business plan we have proposed a stretching target of 120.5 l/p/d for the end of AMP8 (119.3 l/p/d in in-year terms).

This target is both ambitious (remaining at the sector frontier) and stretching (delivering 5.9 l/p/d reduction from AMP7 exit to end of AMP8). The performance improvement also has significant risk in its delivery, given that ~2.9 l/p/d of the reduction comes from funded initiatives (smart metering & demand reduction enhancement), whilst the further 3 l/p/d come from modelled water efficiency, and is therefore predominantly not in Yorkshire Water's control. The 50% of the programme not in our control arises from approved analytics within the WRMP accounting for benefits predominantly from new developments and metering optant water efficiency improvement.

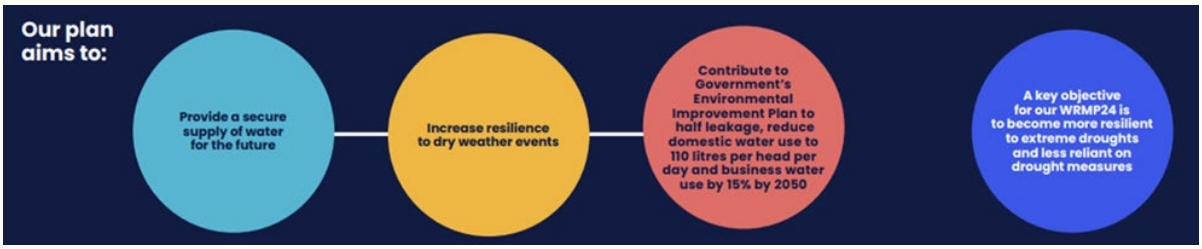
Despite Yorkshire Water demonstrating its good performance and presenting a stretching target in its business plan, Ofwat has proposed an unachievable target of 114.5 l/p/d for the end of AMP8. This represents an ~8.3% reduction by the end of AMP8 against our 2025 outturn forecast.

Customer support

The ambition of the WRMP24 glidepath is also evidenced to be well supported by customers, as evidenced through an extensive and robust piece of customer research we have just conducted. This research includes a qualitative survey amongst 626 household customers, engaging with them in great detail on our WRMP and PCC targets.

After having read the WRMP plan in detail, the vast majority of our customers are supportive of the plan overall (89%):

The vast majority, at 93%, are also supportive of the plan's key aims (pictured below for reference):



In terms of our demand and supply plans specifically, these were also very well supported: 91% were supportive of our plans to reduce demand and 87% supportive of our plans to increase supply. 87% are also supportive of the balance between the contribution of supply and demand measures proposed. 89% are also supportive of the general direction and timeline of the plan to address the deficit up to 2073.

92% of customers were also supportive of our drought resilience target and 85% supportive of the timeline for delivery by 2040.

In terms of PCC, the majority of customers believe our PCC targets are achievable (62%) and just under two thirds (64%) also believe them to be ambitious.

Table 5-2: Customer results for PCC targets

	PCC targets achievable	PCC targets are ambitious
Agree completely	25%	27%
Agree slightly	37%	37%
Neither agree nor disagree	26%	23%
Disagree slightly	9%	8%
Disagree completely	4%	4%
% agree (Net agree)	**62%**	**64%**

5.5.3 Ofwat's target is not deliverable

Based on AMP7 outturn forecasts, Ofwat expects Yorkshire Water to undertake activities throughout AMP8 which result in an average reduction per person served by Yorkshire Water of 11.2 litres per day, compared to current levels, by the end of the AMP.

This reduction to 114.0 l/p/d "in year" by the end of AMP8 would be unprecedented. No company has ever achieved a reduction of 11.2 l/p/d over an AMP. From 2017/18 to 2023-24 (using in-year terms), the industry has averaged an improvement of 1.4 l/p/d. This figure shows in context how stretching our business plan is. Yorkshire Water intended to achieve a total improvement of 5.9 l/p/d over AMP8 (in other words, from 125.2 l/p/d "in year" in year five of AMP7, to 119.3 l/pd "in year" in year five of AMP8), which still far exceeds the average industry improvement levels of recent years.

As noted by Ofwat in its data tables, our proposed PCC target for 2029-30 would leave Yorkshire Water as the second-highest performer in the industry at the end of AMP8. According to the position set out in companies' business plans (see the "Company Proposed 2029-30 Annual Average PCC" column in Table 5-3 below, which has been taken from Ofwat spreadsheet PR24-DD-PCM-Per-capita-consumption-1.xlsx), we would only be behind Southern Water, who are designated as water stressed.

Even assuming Ofwat continues with all the interventions identified in its draft determinations for other companies (see the "Selected Level of Stretch" column in Table 5.3 below), our proposed performance commitment level in our business plan would still represent the second highest performance in the industry behind Southern Water – and yet Ofwat has intervened to make the PC almost twice as stretching. The result is Ofwat is expecting Yorkshire Water to be a significant outlier at the frontier of PCC performance, being 2.5 l/p/d lower than any other company, and deliver this performance with a "median" cost efficiency.

Table 5-3: Ofwat DD PCC outcome model

Selection of 2029-30 position

Company	Company Proposed 2029/30 Annual Average PCC (l/p/d)	rWRMP value	Validated Enhancement Minimum Stretch (l/p/d)	Linear Delivery of PR19 PCL Check	Selected Level of Stretch	Alignment with company proposals
Units	l/p/d	l/p/d	l/p/d	l/p/d	l/p/d	Y/N
ANH	123.5	123.5	126.3	125.50	123.50	Y
WSH	133	143.0	131.2	134.20	131.20	N
HDD	131.2	131.2	131.1	125.60	125.60	N
NES	-	-	-	-	-	-
SVE	121.2	121.2	124.2	127.80	121.20	Y
SBB	-	-		-		
SRN	118.5	120.9	119.3	116.50	116.50	N
TMS	133.8	133.8	135.0	134.50	133.80	Y
UUW	129.1	129.4	128.9	132.60	128.90	N
WSX	133.5	131.2	126.9	136.30	126.90	N
YKY	119.3	119.3	121.2	114.00	114.00	N
AFW	128	128.0	124.1	130.00	124.10	N
PRT	141	141.0	135.2	137.60	135.20	N
SEW	131.5	125.8	130.9	133.90	125.80	N
SSC	-	-	-	-	-	-
SES	127	127.0	133.3	136.80	127.00	Y
SWB	128.9	132.9	129.5	134.60	128.90	Y
BRL	140.5	145.3	141.7	137.20	137.20	N
NNE	134	134.0	141.8	140.70	134.00	Y
ESK	133.3	133.3	136.7	140.70	133.30	Y
SST	129.8	N/A	140.3	126.90	126.90	N
CAM	121.5	122.1	127.5	124.20	121.50	Y

Ofwat asks Yorkshire Water to achieve this reduction after applying an 79% efficiency to its water efficiency enhancement claim of £32.4m. This leaves YWS with only £6.9m over AMP8. When separating non-household (NHH) demand from PCC, the result is Yorkshire Water's enhancement claim for PCC of £10.2m reduced to £3.69m by Ofwat's DD, to achieve the single largest ever PCC reduction in the industry in the context of already being a high performer (please refer to enhancement representation, on separating assessment of PCC and NHH demand cost efficiency).

5.5.4 Consequence to Yorkshire Water and WRMP24 supply/demand balance

Ofwat's PR19 error and PR24 modelling to reject the WRMP24 glidepath has, however, created a discrepancy between the PCC PC and Yorkshire Water's WRMP24 targets. This discrepancy is important to appreciate because it risks creating a supply-demand imbalance. As the WRMP assumes an appropriate baseline has been applied, anticipated demand is set at 119.3 l/p/d instead of Ofwat's untenable AMP8 DD target of 114.5 l/p/d. If the latter is assumed, total modelled demand decreases resulting in an apparent water surplus on the supply-side. However, actual usage will be much higher – Yorkshire Water cannot achieve the targets that have been set.

This introduces significant risk to the WRMP's supply-demand balance – an overly ambitious PCC target could push Yorkshire Water onto an adaptive pathway, leading to unintended/detrimental effects in other areas of the plan over the course of the AMP. Overly stretching within-AMP PCC targets disincentivise longer-term (WRMP-related) investments which are expected to deliver solid returns over time. This is particularly relevant given our proposed target for AMP8, if funded and achieved, would surpass the statutory interim target of 122 l/p/d by March 2038 according to in-year dry year PCC forecasts for year 4 (2028-29), demonstrating effectiveness of Yorkshire Water's WRMP.

Given growth is a key agenda for the government, increasing new housing and innovative industries such as hydrogen generation, we would likely have to constrain industry from locating to the region without investment into supply side options. This is investment that is not needed if the Ofwat Yorkshire Water AMP8 PCC targets were incorporated into the WRMP (which shows less consumption, and therefore more available supply than will reflect reality), but which is needed in reality.

For WRMP24, the collective industry target of 110 l/p/d by 2050 is still in place and Yorkshire Water's WRMP24 water efficiency options (consistent with Ofwat PR24 submissions) ensure that its glidepath achieves this target.

5.5.5 Risk Reward Balance, Yorkshire Water is being over-penalised

We are surprised that as a company that is at the frontier of PCC performance in the industry, we continue to be penalised. Ofwat's artificially inflated PC, as set at PR19, considers Yorkshire Water to be underachieving.

In the context of an incentives-based regime, Yorkshire Water considers this to be unfair. In spite of not having claimed costs above the £400k in base during PR19, we have made clear and significant strides in PCC over AMP7. This can particularly be seen in relation to metered customers. The average metered customer in Yorkshire already has a PCC below the WRMP target for 2050 of 110 l/p/d, being 105.4 l/p/d as of annual performance report (APR) 2023-24. As we continue to encourage our customers to take up metering, we consider that PCC will continue to improve and customers with metering will stay below the 110 l/p/d threshold.

If Ofwat's PCC rate is maintained at final determination for PR24, our projected penalty over the course of AMP8 is in the region of £35-40 million. Given the level of investment provided and error in setting PCLs at PR19, we do not consider that it could ever efficiently reach the target set for it at the end of AMP8. Yorkshire Water considers this to be further evidence of a misconceived ODI architecture, and an example adding to the potentially significant risk / reward imbalance inherent in Ofwat's outcomes framework presented in the DD.

5.5.6 Modelling of Covid-19

The Yorkshire Water WRMP24 plan utilises actual and estimated-actual in year performance for years 2022-23 to 2024-25. These numbers have already included the actual impact of COVID-19 within the Yorkshire region. Given the baseline for the AMP8 plan from which enhancement

expenditure and initiatives are aligned to AMP7 actual performance, no COVID-19 impact modelling adjustments would be required to the Yorkshire Water glidepath submitted within this representation.

However, Yorkshire Water has undertaken an independent assessment of a Yorkshire Water specific impact from Covid-19 which does not align with Ofwat's modelling and indicates an increased ongoing impact of Covid-19 into AMP8 compared to that proposed by Ofwat using a national level Covid-19 impact model.

5.6 Concluding points

Ofwat's reliance on an erroneous baseline, and its decision not to re-baseline, has resulted in an important error in Ofwat's modelling. This has contributed to an overly stretching target imposed on Yorkshire Water, which is on top of an already stretching target. This ambition is untenable. We provided evidence in our PR19 data tables and WRMP submissions as to why our proposed AMP7 target within the ~120.1-120.5 l/p/d range was appropriate. In Yorkshire Water's view, there is no basis on which Ofwat can justify the discrepancy – this appears simply to have been a mistake - and it is unclear to us, therefore, why Ofwat has not adjusted the PCC target as part of the optimised WRMP24 process, and as proposed in our WRMP24 and implied in the Demand Reduction PR24 enhancement case within Cost efficiency enhancement costs – water (YKY-PR24-DDR-03). As far as we are aware, this situation is unique to Yorkshire Water and we risk being unfairly treated in comparison with others in the industry.

As explained, Ofwat has set overly stretching targets that significantly overshoot the targets included in our business plan. Those targets were set with reference to our WRMP. Yorkshire Water is concerned that Ofwat is not acting fairly in failing to reflect WRMP targets that both the EA and Defra, as technical regulators, have reviewed and signed off.

Yorkshire Water asks Ofwat to assess this representation and address the historic erroneous PR19 glidepath, by accepting the WRMP24 glidepath, which is the first AMP period with enhancement funding provided to Yorkshire Water to undertake a large-scale programme of water efficiency activity, allowing for appropriate regulation of performance in AMP8 and beyond.

6 Leakage

6.1 Overview

Yorkshire Water is aligned with Ofwat on the importance of effective asset maintenance and repair to minimise the instances and effects of leakage. We recognise the links between water leakage and long-term water resources supply-demand balance and the need for water abstraction. Therefore, we are supportive of the need to continue to reduce the volume of water lost through leakages in AMP8.

However, we have concerns relating to the profiling of the targets in each year across AMP8, and particularly in Year 1 and Year 2. Specifically, we believe there should be a closer link between investment profile and the in-year targets across the AMP.

We are also concerned that Ofwat has not taken into account sufficiently the link between funding for mains renewal and our ability to meet stretching performance commitment targets related to leakage.

Elsewhere we make representations to ensure the base allowance is sufficient to achieve what is required in terms of mains renewal.

In the alternate, we have prepared a case for additional enhancement funding, should the mains renewal programme be unable to deliver the mains length renewal planned.

Our acceptance of Ofwat's proposed Year 5 AMP8 performance commitment target in respect of leakage is conditional on there being sufficient funding for mains renewal. If both the mains renewal case and leakage enhancement case were unsuccessful, then the PCL for leakage would not be acceptable to us, as the available funding could not support delivery of the outcomes Ofwat would be demanding of us.

If Yorkshire Water was not to be appropriately funded to deliver the 1,092km mains renewal planned (DD presented a shortfall in funding from Ofwat such that only 797km could be delivered), we would seek additional leakage enhancement allowance to make up for the shortfall in megalitres per day (Ml/d) which would have been delivered by mains renewal. If both the mains renewal case and leakage enhancement case were unsuccessful, then the PCL for leakage would not be acceptable. This is due to lack of funding to deliver the associated Ml/d reduction required to achieve the 12.1% leakage reduction target in AMP8, and 27.2% from baseline.

As set out in our ODI chapter, in order to balance the overall package of risk and to protect against extreme events, we propose a cap and collar on this PC at 0.5% of relevant price control RoRE.

6.2 Ofwat action reference

DDQ_001- We welcome compelling evidence to quantify the relationship between repairs to burst mains and leakage levels.

The basis of this response is an UKWIR published research paper determining the relationship between mains renewal, repair and levels of leakage.

The industry commissioned UKWIR to undertake a study and write a report titled: 'The Impact of Burst-Driven Mains Renewals on Network Leakage Performance". This document was published in 2018, and clearly articulates the relationship between mains renewal activity, the impact on Natural Rate of Rise (NRR), background leakage and leakage productivity.

The methodology published in this industry-supported document, delivered by RPS, was utilised by Yorkshire Water through the RPS tool SoLoW. A link to the report is made available below.

6.3 Key messages

Year 1 & 2 target within leakage glidepath

Yorkshire Water has agreed an end of AMP8 leakage target of 12.1% reduction in AMP, and 27.2% reduction from the 2019-20 baseline. The Ofwat draft determination profiling of the yearly leakage reductions differs to Yorkshire Water's submission, in years 1 and 2. We believe the Year 1 and Year 2 target should be amended, given Year 4 AMP7 performance has actualised, and the required performance to achieve 15% leakage reduction in AMP7 has now been calculated. The target in DD has been derived by Ofwat, using modelled in-year performance for AMP7. This modelled performance drives in-year leakage at a lower level than that which WRMP19 requires or is required to achieve the 15% leakage reduction target.

Leakage enhancement

Yorkshire Water plans to deliver 10.52 Ml/d of leakage reduction through the delivery of a mains renewal programme, consisting of 1,092km of mains renewal. Should the delivery of this length of pipe be limited by a lower totex allowance than requested, (in a similar manner to draft determination) we have optimised our leakage delivery plan through the RPS SoLoW modelling engine. This determines the required additional funding to deliver the PCL put forward by Ofwat, subject to point 2 above (relating to an adjustment to year 1 and 2 targets). This additional funding request has been set out in Cost efficiency enhancement costs – water (YKY-PR24-DDR-03). If both the mains renewal representation and conditional leakage enhancement representation case are not accepted, we will not be in a position to accept the DD PCL for leakage and will represent an alternative glidepath and total reduction in leakage for AMP8.

6.4 Change requested

1. We request Ofwat amends the leakage PCL in Year 1 of AMP8 to 257.3 Ml/d, equivalent to an 18.4% reduction to the baseline, and an amendment to the Year 2 target of 251.7 Ml/d, which is equivalent to 20.2% leakage reduction from baseline.

2. We request that Ofwat ensures the PCL targets and glidepath link to its decisions on funding for mains renewal. In particular, we would expect Ofwat to change the PCL glidepath if:

a) The final determination results in insufficient funding in the mains renewal programme, and

b) Ofwat rejects the conditional leakage enhancement case to provide funding for additional interventions,

This is necessary to address the gap in investment that would arise from the underfunding of the mains renewal programme because of Ofwat's decisions in such a scenario. Table 6.1 below shows the requested amendment to glidepath years 1 and 2 under representation point 1 above, and a change to the full glidepath under representation point 2 above.

Table 6-1: Summary of changes to the PCC performance commitment levels relating to leakage Outcome reference 2

Unit of measurement:	**Ml/d**				
	2025-26	**2026-27**	**2027-28**	**2028-29**	**2029-30**
October 2023 Business Plan submission 3 year average Ml/d	261.8	253.2	243.7	236.1	229.6
October 2023 Business Plan submission % reduction	17.0%	19.7%	22.7%	25.1%	27.2%
January 2024 Business Plan resubmission 3 year average Ml/d	261.8	253.2	243.7	236.1	229.6
January 2024 Business Plan resubmission % reduction	17.0%	19.7%	22.7%	25.1%	27.2%

Ofwat's Draft Determination 3 year average Ml/d	258.7	250.1	243.7	236.1	229.6
Ofwat's Draft Determination % reduction	18.0%	20.7%	22.7%	25.1%	27.2%
YKY Draft Determination Representation 3 year average Ml/d (representation point 1)	257.3	251.7	243.7	236.1	229.6
YKY Draft Determination Representation % reduction (representation point 1)	18.4%	20.2%	22.7%	25.1%	27.2%
YKY Draft Determination Representation if both Mains Renewal and Leakage enhancement representations are not accepted 3 year average Ml/d (representation point 2)	257.4	252.3	244.8	238.0	232.0
YKY Draft Determination Representation, if both Mains Renewal and Leakage enhancement representations are not accepted % reduction (representation point 2)	18.4%	20.0%	22.4%	24.5%	26.4%

6.5 Yorkshire Water's response to Ofwat

6.5.1 Ofwat action (DDQ_001)

In its DD, Ofwat said it would '...welcome compelling evidence to quantify the relationship between repairs to burst mains and leakage levels' using conclusions from referenced UKWIR report.

The conclusions from the UKWIR report are as follows:

> *"The impact of burst driven mains renewals on network leakage performance" establish a reduction in Bursts, and therefore natural rate (NRR) of rise within DMA's which have undertaken mains renewal. A reduction in NRR is the result of water savings associated with the awareness, find and fix response time within DMAs. Within the sample of the study, DMAs with significant mains renewal activity resulted in leakage reductions ranging from 8-15% sustained over a 5-year period. The upper end of benefits were realised when ~20% of the mains were renewed based upon high levels of burst frequency.*
>
> *Minimum Achieved Leakage (MAL) showed clear improvements in all years post-renewal. Benefits in burst rates also provided a reduction in customer contacts and reports of interruptions to supply.*

The output from this report, which was authored by RPS, has been included within the SoLoW modelling software, which ingests, leakage, bursts, pressure, repairs and MAL information to determine the benefits of mains renewal

6.5.2 Target for years 1 and 2 within leakage glidepath

Subject to the points on mains renewal allowance sufficiency below, Yorkshire Water is able to accept the proposed Year 5 leakage performance commitment target of 229.6Ml/d, or the equivalent of a 27.2% reduction against the AMP8 baseline.

However, we request that Ofwat adjusts the profile of in year targets in Year 1 and Year 2 so that they more closely align the PCL outturns with the yearly investment profile, on the basis of the tight alignment between investment and outcomes. Otherwise, Yorkshire Water risks underperformance and penalty for reasons that are unrelated to its planned investment in AMP8.

Yorkshire Water also requests that Ofwat updates the AMP7 years 4 and 5 calculated numbers to the actual Year 4 outturn, and Yorkshire Water's business plan Year 5, in line with these targets, which achieve the required 15% reduction. This would result in the actual leakage level in "in year terms" Year 4 of AMP7 being 260.03 Ml/d, and in Year 5 AMP7 the business plan forecast being 260.00 Ml/d for in-year leakage performance. This would make Year 1 performance in AMP8 more challenging than the Ofwat draft determination for Yorkshire Water, whilst our Year 2 glidepath would be lowered slightly compared to the draft determination. In

making this amendment, the glidepath ensures that in-year leakage attainment is aligned to our investment plan. The end of AMP targets will match or improve upon the delivery plan within the WRMP.

The estimated AMP7 Year 5 'in-year' leakage level modelled by Ofwat is below the required level to achieve a 15% leakage reduction as per the AMP7 performance commitment. This is shown in the table below. It is therefore not an appropriate target to enforce within the AMP8 leakage trajectory. The modelled in-year value is 6.2 Ml/d lower than the performance required from Yorkshire Water, if we are to achieve the AMP7 15% required outturn.

We suggest the Year 5 'in-year' value, providing the entry point into AMP8 and the glidepath for years 1 and 2, should be in line with our business plan target of 260 Ml/d, in 'in-year' reporting terms.

Utilising the business plan glidepath is more ambitious than the required in-year target to achieve 15% reduction in AMP7 and should be the start point for performance monitoring in AMP8 and the associated leakage enhancement funding.

Table 6-2: Leakage data by year

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Actual in year performance	313.1	324.1	298.7	289.8	283.1	282.8	260.0	Required value 261.3
Actual 3 Year rolling average performance			315.3	304.2	290.5	285.2	275.3	Required value 268.0
Actual 3 year % reduction				3.52%	7.87%	9.55%	12.69%	Required value 15.00%
PR19 required leakage reduction 3 year average %				3.40%	7.40%	9.40%	11.70%	15.00%
Ofwat DD modelled in year performance							269.1	255.1
YW business plan "in year", year 5, Ml/d								260.0
YW business plan "3 year" year 5, Ml/d								267.6
YW business plan 3 year % reduction								15.13%

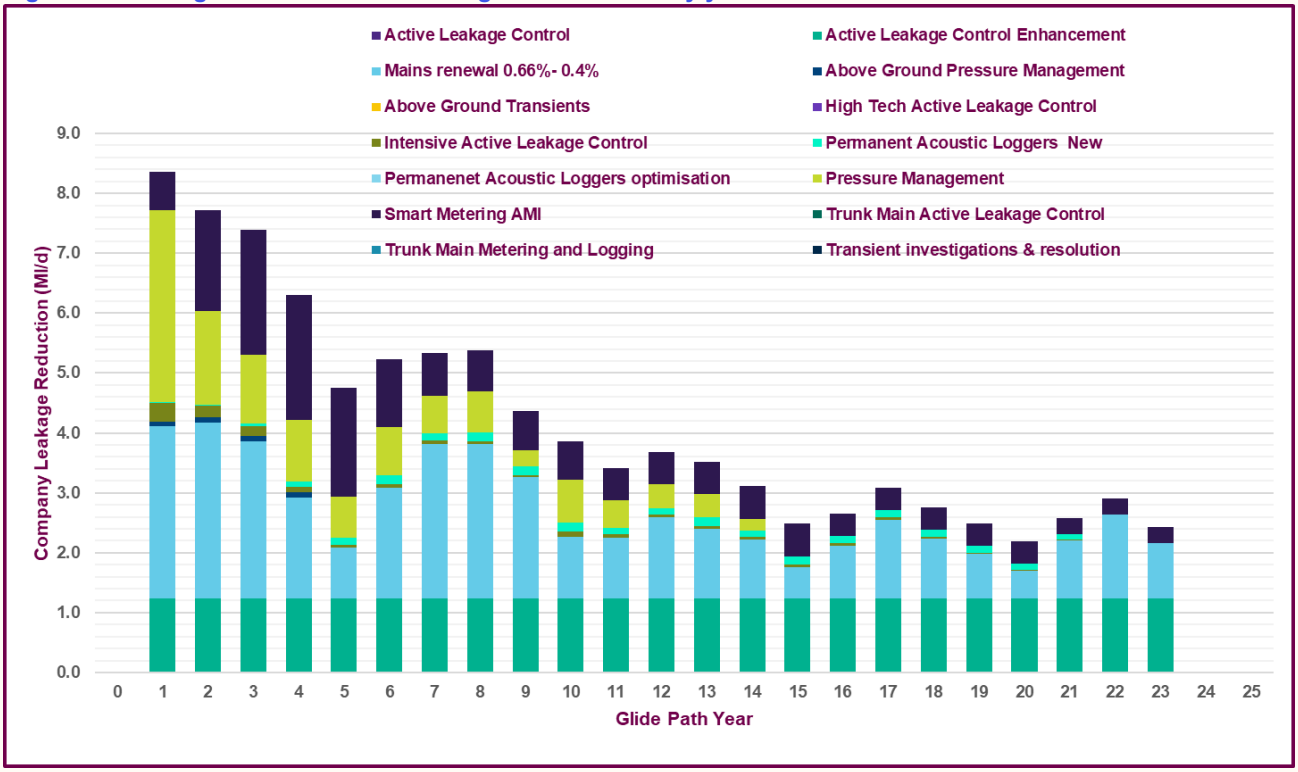
6.5.3 Mains renewal programme

This representation would only be applicable if Yorkshire Water were unable to deliver the proposed mains renewal programme to the planned network length of 1,092km due to the DD representation on mains renewal not being successful, and if the conditional leakage enhancement case were not accepted by Ofwat.

We have created an optimised plan to achieve the required 50% leakage reduction by 2050. The plan includes reducing leakage by 10.52 Ml/d through mains renewal. The basis of this

mains renewal benefit is the UKWIR publication[2]. The figure below was submitted as part of the Yorkshire Water leakage enhancement case, showing the blend of interventions to be delivered each year along the leakage glidepath.

Figure 6-1 Leakage interventions including mains renewal by year



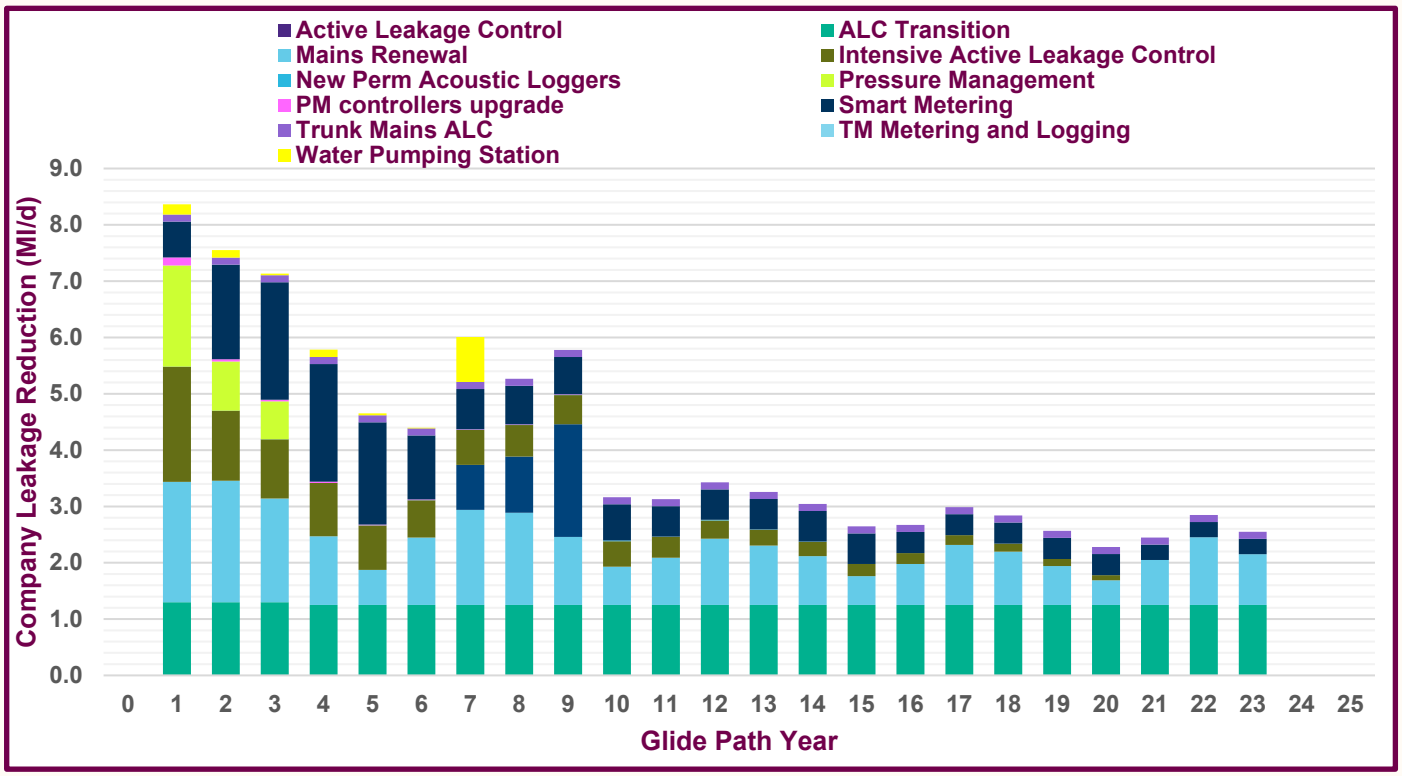
We are representing on both the mains renewal base and cost adjustment claim (CAC) cases and covering two aspects: the methodology to derive an efficient unit cost per km, and the balance of funding implicit in base, or funded through a cost adjustment claim.

If the final determination for mains renewal does not enable the delivery of the required 1,092km within the leakage plan, Yorkshire Water will revert to the representation leakage enhancement case. This requests additional funding for leakage initiatives to enable delivery of the leakage plan, with a reduced benefit from mains renewal and subsequent higher than planned mains burst rate. This additional funding is articulated within the leakage enhancement representation.

The optimised plan without mains renewal is detailed below. It uses the SoLoW modelling that we also used in the WRMP24 and PR24 submission to maintain consistency. The model selects an alternative set of cost optimal solutions to bridge the 2.9 Ml/d deficit in leakage that results from a reduction in the benefits which can be realised from a reduced mains renewal programme of 797km as opposed to the planned 1,092km.

[2] Butler, M., Cathery, T., Mander, P., The Impact of Burst Driven Mains Renewals on Network Leakage Performance, UKWIR, 18/WM/08/67 (2018)

Figure 6-2 Leakage interventions excluding mains renewal by year



If neither of these optimised plans is accepted, we request Ofwat reviews this leakage outcome representation, adjusting the PCL glidepath in line with the reduction in benefit delivered from mains renewal. This adjustment should be proportionate to the reduction in mains renewal length, and unfunded enhancement leakage interventions.

6.6 Concluding points

Yorkshire Water has provided industry SME-approved evidence of the relationship between mains renewal, bursts and leakage, through referencing the UKWIR paper *Butler, M., Cathery, T., Mander, P., The Impact of Burst Driven Mains Renewals on Network Leakage Performance, UKWIR, 18/WM/08/67 (2018).* This paper forms the basis of the benefit derivation for the mains renewal proposed in our 25-year leakage plan.

Yorkshire Water agrees to the outcome for leakage for years 3, 4 and 5. We are representing on the modelling completed by Ofwat to deduce the Year 1 and 2 targets. The required in-year performance, and business plan in-year glidepath, only require higher in-year leakage performance. We are requesting Year 4 AMP7 outturn and 260 Ml/d for Year 5, in line with our business plan, rather than the modelled 255.1 Ml/d that was used for the draft determination. This slight adjustment would bring the Year 1 and 2 targets in line with Yorkshire Water's investment programme, mitigating risk of under delivery.

Our alternate representation is only triggered if both of the following representations are unsuccessful: our mains renewal CAC representation, and our conditional enhancement case representation. The purpose of this alternate representation is to adjust the leakage PCL in line with the reduction in benefit associated with a reduced mains renewal programme. Yorkshire Water has attributed 10.52 Ml/d to the mains renewal programme, with a reduction in benefit to 26.4%, if the representation is unsuccessful.

7 Mains repairs

7.1 Overview

When normalised to mains repairs per 1,000km, per year, Yorkshire Water consistently performs in the lower quartile of the industry. We submitted a customer supported cost adjustment claim (CAC) alongside base allowance, to renew 0.66% of the network per year, with the aim of stabilising the health of our infrastructure asset base.

Due to the partial success of the cost adjustment claim, Ofwat has set a 9% improvement in mains repairs to be achieved by the end of AMP8. As this is the principal measure for asset health in water infrastructure, we will fully support the need to improve. However, only having partial support for our CAC restricts the level of improvement we are able to achieve. Further evidence is provided in our response to the cost adjustment claim, to demonstrate why a larger proportion of investment must be delivered beyond the implicit base maintenance allowance, and why this is essential to delivering an improvement in this area.

7.2 Ofwat action reference

No related actions.

7.3 Key messages

The main points in relation to this PC are:

- We support the need for a glidepath to improving performance. However, historic performance needs to be considered when setting the target, as opposed to basing it on AMP7 PC levels and targets.
- As part of the Water Infra CAC that relates directly to this PC, the unit rate (£ per metre) for mains renewal needs to be increased to reflect the unit rate at which we have been able to deliver renewal schemes in AMP7.
- In order to renew the lengths required to show a performance improvement, we agree that the vast majority of activity needs to focus on condition grade 4 and 5 assets. However, to deliver renewals at an efficient unit rate, sometimes it may be beneficial to renew assets at a lower condition grade whilst conducting mains renewal activity in that area if the pipe is likely to move from condition grade 3 to 4 or 5 in the next AMP.

7.4 Change requested

We propose a more stretching PCL than our PR24 submission but cannot accept the Ofwat target as the totex allowance required to achieve the length of main we need to renew is insufficient.

Table 7-1: Summary of changes to the mains repairs performance commitment levels

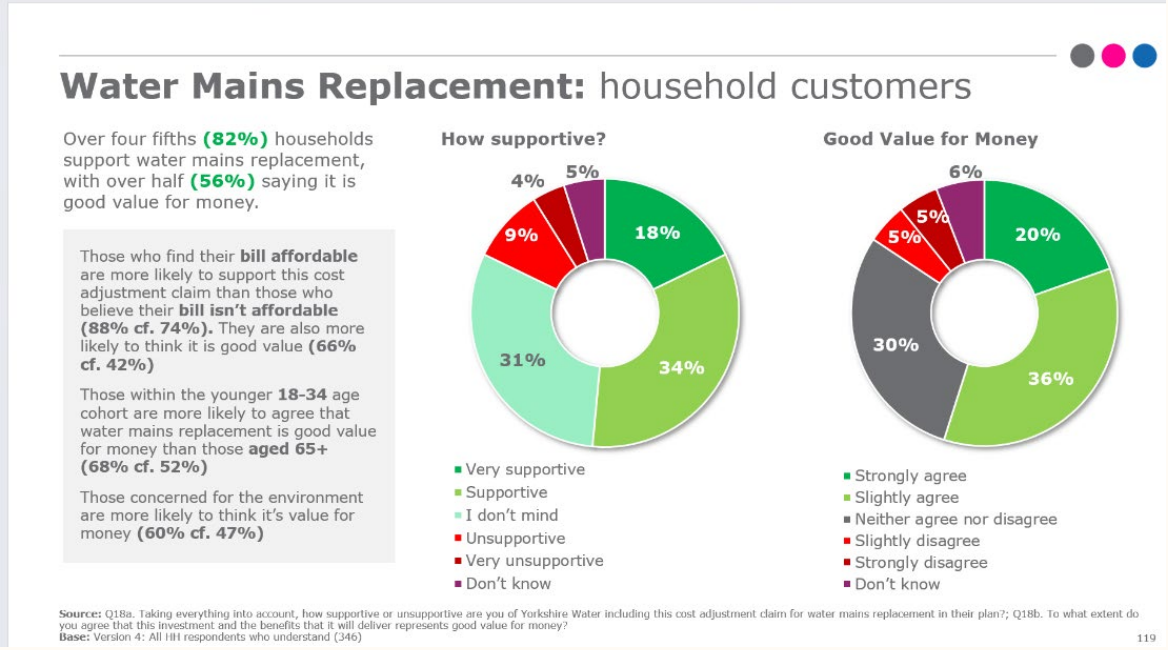
Unit of measurement:	Mains repairs per 1000km per year				
	2025-26	**2026-27**	**2027-28**	**2028-29**	**2029-30**
October 2023 Business Plan submission	204.1	202.9	201.7	200.5	199.3
January 2024 Business Plan resubmission	204.1	202.9	201.7	200.5	199.3
Ofwat's Draft Determination	172.6	169.4	166.2	163.0	160.0
YKY Draft Determination Representation	194.4	193.2	192.0	190.8	189.6

7.5 Yorkshire Water's response to Ofwat

As a preliminary point, the final sentence of page 2 in the Ofwat guidance (https://www.Ofwat.gov.uk/wp-content/uploads/2023/05/Repairs-to-burst-mains.pdf) states: 'This performance commitment does not include proactive repairs.' For clarity, Yorkshire Water has always included proactive repairs in this measure. We have never included proactive renewal (which we define to be replacing a full section of poorly performing pipe with a new section (replacement rather than repair)), but we have always included reactive repairs (which are generally customer reported) and proactive repairs (leakage detected prior to customer impact). We believe we report in line with what is expected but seek clarification on this.

We support the need for a glidepath that demonstrates year-on-year improved performance. We believe improved performance can be achieved through our ambitious mains renewal programme, submitted via the 'Water Infra' cost adjustment claim. An increase in mains renewal has been tested with customers in Yorkshire, and, overall, they support the need to invest to improve the health of our infrastructure assets. When our cost adjustment claim investment was shared with customers, there was 82% support for an increase (via the CAC) in funding for mains replacement from household customers, rising to 84% support from non-households and to 86% support from future bill payers. The majority of all customer cohorts also believe it represents good value for money (56%-76%). Support is granted on the basis that proactive work is better than reactive work and overall the CAC supports the future resilience of our supply.

Figure 7-1 Customer support for main replacement



As we own, manage and operate over 32,000km of water mains, making such a step change in performance cannot be achieved quickly. Our cost adjustment claim, and the assumed implicit base allowance for mains renewal, identified the need to renew 3.3% of the total asset base in AMP8. In the cost adjustment claim we submitted for PR24, we stated that this would be the first phase of a 10-year programme of work, renewing 3.3% of the asset base in AMP8 and AMP9 - to deliver a sustainable step change in performance.

Due to the prevalence of materials in our historic asset base susceptible to ground movement, this PC is very sensitive to extreme weather conditions with very cold winters or prolonged hot summers often result in poorer performance. We therefore propose to make the PC levels stretching, but more achievable than the 9% improvement proposed by Ofwat over AMP8. As we have only achieved the AMP7 mains repair performance commitment target once in the current 5-year period, the targets set as part of our draft determination would be difficult to achieve consistently.

Further information to justify this is provided in both our response to the CAC and in our response to the PCD for mains renewal.

7.6 Concluding points

We agree with Ofwat that a glidepath to improved performance is required within this measure. However, we request Ofwat modify the targets to be modified to reflect actual performance, rather than basing them on improvement from the AMP7 targets. On this basis, a more stretching PCL than our PR24 submission is proposed. However, we cannot accept the Ofwat DD target as the totex allowance is below that required to achieve the length of main we need to renew to meet Ofwat's target.

As this is the principal measure of Water Infrastructure Asset Health, our customers benefit from (and support) an improvement in the performance of this measure. Our proposed unit rates, lengths of renewal via the CAC, and delivery profile reflect improved service provision to our customers.

Further information is set out in cost efficiency introduction and base costs (YKY-PR24-DDR-02) and price control deliverables (YKY-PR24-DDR-06).

8 Business Demand

8.1 Overview

Business Demand is a new performance commitment for AMP8 and there are four representations on outcomes which Yorkshire Water are putting forward for this new performance commitment as follows:

1. Baseline year methodology

Based on the Ofwat methodology, our baseline year figure is 277.3 Ml/d. This was established using data starting in 2017. The ensuing eight years have seen significant change in business demand, with Covid-19 making it difficult to understand whether changes in non-household (NHH) demand are temporary or permanent. Current business demand is running at 287.1 Ml/d (in year) and is estimated to outturn in Year 5 of AMP7 at a similar figure. We do not believe it is appropriate to baseline, or to fund demand reductions from a historic point up to eight years prior to current performance levels.

Ofwat should use NHH consumption from AMP7 for the baseline and starting point of funding. For Yorkshire Water, this would produce an increase in the baseline from 277.3 Ml/d to 283 Ml/d. We calculated this with actual NHH consumption figures in years 3/4, and an estimate of outturn in Year 5 that is based on current performance. This would help customers and regulators better understand the progress of the performance commitment, by setting the baseline to the nearest time period.

2. Glidepath and PCLs

This increase in NHH consumption and increased baseline impacts our glidepath in AMP8 and our ability to achieve the 4.6% reduction stated for AMP8 in the January data table submission, due to the 5.7 Ml/d variance in baseline values.

Yorkshire Water has created an optimised programme of interventions which cover a wide range of solutions and strategies in AMP8.These activities deliver a 2.84 Ml/d reduction, plus an additional 4.04 Ml/d benefit from our smart metering program to help us target interventions more effectively. The total benefit reduction for NHH across AMP8 is 6.88 Ml/d. These benefits have been profiled across AMP8 and have been discounted from the forecast in-year NHH demand performance in Year 5 of AMP7 to create the revised PCL glidepath in AMP8.

Yorkshire Water requests Ofwat accepts our revised PCL glidepath in AMP8 based on the rebased baseline and the reductions in-year from our AMP8 program of activity for NHH demand reduction.

3. Accounting for known business demand growth in glidepath

Within WRMP24, there is one named scheme of significant enough volumetric demand, and where we have a high confidence that demand will materialise. As this additional demand was included in our NHH demand glidepaths, it makes total progress in reducing business demand appear less than that planned. This is because the 3.5 Ml/d from the named scheme erodes the 6.88 Ml/d of reduction activity within our AMP8 programme.

Yorkshire Water wishes to clarify this growth pressure on the Business Demand target, to ensure any analysis of required funding for Ml/d reductions aligns with the reduction in the Business Demand glidepath. This WRMP24 named scheme for Business Demand growth is from Cawingredients Limited, which is a soft drinks company.

Cawingredients Limited requires an additional 20 l/s / 1.73 Ml/d from March 2025, and an additional 25 l/s (total of 3.5 Ml/d) when the new development is completed. We have the NHH initiatives in our plan to achieve the demand reduction of 1.3%, but the increased consumption from Cawingredients Limited starting in March 2025 is in addition to the demand reduction we forecast, which risks it appearing that Yorkshire Water is only delivering 0.6% reduction due to the growth pressure from Cawingredients.

4. Classification of material growth as 3% for end of period adjustment mechanism

Within the document, 'PR24 draft determinations: Delivering outcomes for customers and the environment', Ofwat details the mechanism whereby an end of AMP adjustment may be triggered.

The clause is detailed below:

> In setting the PCL, we have **taken into account: (1) historical growth in business demand; and (2) the impact of enhancement activities**. On the first element, where a company has provided a forecast materially different to the historical trend, we have intervened to use the historical trend as a basis for setting the PCLs. To cater for unexpected changes in growth during the 2025-30 period, we propose an **end-of-period PCL adjustment mechanism** which will be triggered if:
>
> - there is a **material difference** between the outturn and the PCL, which for the purposes of this performance commitment means that the net difference between the outturn and the PCL across the 2025-30 period **is at or larger than ±3%**; and
> - the material difference between the PCL and outturn is caused by:
>
> - factors that are unrelated to proactive measures taken by business customers to improve water efficiency, such as operational inactivity; or
> - increased consumption at new or existing premises due to growth in commercial productivity, subject to the company demonstrating to our

Yorkshire Water does not agree the materiality assessment is appropriate. Setting a 3% tolerance means, for Yorkshire Water, that we are expected to tolerate 8.49 Ml/d growth in business demand (YW AMP7 outturn 3-year rolling ~283, 3% of which is 8.49 Ml/d) before the adjustment mechanism is triggered.

Given this growth is outside of Yorkshire Water's control, and the total Business Demand reduction targeted within the enhancement and smart metering plan is 6.88 Ml/d, Yorkshire Water could deliver and outperform all investments planned and still receive a penalty from Ofwat due to Business Demand growth under the 3% tolerance threshold.

8.2 Ofwat action reference

No related actions.

8.3 Key messages

The key points of representation are outlined below:

1. We request Ofwat to allow us to amend our baseline from 2019-20 to 2024-25 which utilises more recent and post COVID-19 NHH consumption outturn data.

2. We request Ofwat to accept our amended glidepath for Business Demand in AMP8 in line with the initiatives planned from the 'in year' starting position at 2024-25 outturn.

3. We request Ofwat to acknowledge that the Cawingredients Limited growth is currently excluded from the business demand reduction PCL proposed in our AMP8 programme. This growth should then be included in the PCL glidepath to not adversely prejudice Yorkshire Water for growth outside of management control, and to not impact the 9% reduction target by 2038.

4. We request that Ofwat remove the 3% of Business Demand materiality threshold given the level of risk and potential penalty it places upon Yorkshire Water. Yorkshire Water could outperform the enhancement funded and smart metering business demand reduction targets and still fail the PCL due to factors outside of Yorkshire Water's control.

8.4 Change requested

8.4.1 Yorkshire Water PCL glidepath and baseline year for commitment

Yorkshire Water requests Ofwat to adjust the PCL glidepath using the latest 3 years of NHH demand as the start point for investment.

Given a recent increase in NHH demand (explained in section 8.5) since the current 2019 baseline was established, the entry point into AMP8 is higher than the 2019 baseline. As such Yorkshire Water will require our interventions in AMP8 to return business demand to the 2019 level before driving reduction further below the historic baseline level.

This profile is shown in Table 8.1 in the "representation" rows showing the reduction per year but starting from an adverse position to the 2019 baseline.

An alternative which Yorkshire Water recommends is for Ofwat to use 2024-25 as the baseline year for the sector, to align current performance with the start of the Business Demand performance commitment and funding for the associated initiatives.

The impact of this baseline year change is shown in Table 8.1 in the row titled "% reduction using a 2024/25 baseline"

Table 8-1: Summary of changes to the business demand performance commitment levels

Unit of measurement:	**Ml/d**				
	2025-26	**2026-27**	**2027-28**	**2028-29**	**2029-30**
October 2023 Business Plan submission in-year	274.4	273	271.7	270.4	269.1
October 2023 Business Plan submission 3-year rolling average	274.8	274.1	273	271.7	270.4
January 2024 Business Plan resubmission in-year	270.0	268.2	266.4	264.4	262.7
January 2024 Business Plan resubmission 3-year rolling average	269.9	269.2	268.2	266.3	264.5
Ofwat's Draft Determination in-year	268.2	266.8	265.4	264.0	262.7
Ofwat's Draft Determination 3-year rolling average	269.3	268.2	266.8	265.4	264.0
Ofwat's Draft Determination % reduction	2.7%	2.9%	3.3%	4.0%	4.6%
YKY Draft Determination Representation in-year * excluding Cawingredients Ltd growth of 3.45 Ml/d	283.9	282.6	280.9	279.3	277.8
YKY Draft Determination Representation 3 year rolling average * excluding Cawingredients Ltd growth of 3.45 Ml/d	285.2	283.7	282.5	280.9	279.3
YKY Draft Determination Representation % reduction using the 2019-20 baseline * excluding Cawingredients Ltd growth of 3.45 Ml/d	-2.8%	-2.3%	-1.9%	-1.3%	-0.7%
YW Draft Determination Representation % reduction using a 2024-25 baseline * excluding Cawingredients Ltd growth of 3.45 Ml/d	-0.8%	-0.2%	0.2%	0.8%	1.3%

The table above shows the percentage reduction from both the 2019-20 (Ofwat methodology) and 2024-25 (our proposed rebased baseline) baselines across AMP8, using the Ml/d reductions from our NHH initiatives plus smart metering and natural efficiency benefits. In both cases there is a negative increase on the baseline during AMP8, but utilising the 2024-25 methodology for the baseline year is our preference as we see a reduction from the baseline within the AMP8 period starting in Y3. Both versions in Ml/d terms are reducing year on year at the same volumetric saving per year. Section 8.5 provides more detailed explanation of the changes between submitted business plan and draft determination response.

8.4.2 Ofwat recognition of WRMP named growth schemes and accommodation within PCLs

This representation should be reviewed in conjunction with the representation on the adjustment mechanism below.

In WRMP24 Yorkshire Water recognise the sizeable new demand from a new business customer to the region, namely Cawingredients Limited. By the end of AMP8 the daily demand is estimated to total 3.5 Ml/d, with planning permission already granted for the company.

Given the 6.88 Ml/d reduction planned in AMP8, Cawingredients Limited's known additional demand (3.5 Ml/d) will significantly impact Yorkshire Waters PCL glidepath if not accommodated by Ofwat. Yorkshire Water proposes that this WRMP24 named scheme be included within the PCL glidepath proposed above to avoid unnecessary penalty where otherwise all activities have been completed and demand reduction achieved.

The year-by-year business demand estimated at Cawingredients Limited is profiled below and sought to be incorporated and adjusted into the PCL levels shown in the table above titled "YKY Draft Determination Representation in-year" and visually represented in 9.5, representation rationale, section 3.

This growth in demand should also be removed from assessments of progress against the 9% business demand reduction target by 2038.

8.4.3 Classification of material growth as 3% for end of period adjustment mechanism

Yorkshire Water requests Ofwat to reduce the 3% materiality threshold to trigger a PCL adjustment for NHH growth. The mechanism is not appropriate at such a material Ml/d equivalent. The 3% threshold is equivalent to 8.49 Ml/d given Yorkshire Water's business demand and is greater than the sum-total of the demand reduction planned in AMP8.

8.5 Yorkshire Water's response to Ofwat

8.5.1 Business demand re-baselining

We request Ofwat to allow us to re-baseline our NHH performance commitment by uplifting our baseline to reflect current performance in AMP7. This will replace the AMP6 methodology currently used to calculate the NHH baseline, which sets targets and funds interventions based on levels of demand from up to eight years ago. We strongly believe it would give us the best and most fair way to achieve the NHH demand reduction in our plan if the baseline was rebased enabling reduction from the start point of AMP8.

Table 8.2 shows the baseline for Yorkshire Water as per the current methodology, using the AMP6 baseline approach set out in Ofwat's draft determination, compared to using the Yorkshire Water proposed baseline using the AMP7 outturn as the baseline. We believe setting the baseline to 2024-25 will provide a truer measure of progress and will be easier for customers to understand. It aligns the funding to the period the improvements to service started, which is also when, we believe, the associated benefits should be measured from.

An alternative would be to keep the same baseline (2019-20) but to change the glidepath more significantly, with Yorkshire Water being in a negative percentage reduction for multiple years until interventions bridged the difference between 2019-20 baseline at 277.3 Ml/d and the AMP7 outturn of 283.0 Ml/d. However, keeping the baseline at 2019-20 levels could be problematic given it could cause inconsistencies when assessing progress to a targeted 9% business demand reduction by 2038, given the lower start point than an amended baseline for PCL glidepaths.

Table 8-2: NHH Demand Reduction

	AMP6			AMP7		
	Y3 – 2017-18	**Y4 – 2018-19**	**Y5 – 2019-20**	**Y3 – 2022-23**	**Y4 – 2023-24**	**Y5 – 2024-25**
NHH Demand Reduction In-Year (Ml/d)	275.8	284.1	272.1	277.3	287.13	284.5
NHH Demand Reduction 3-Year Rolling Average (Ml/d)			277.3			283.0

This variance of 5.7 Ml/d between the proposed baseline and baseline aligned to AMP7 performance results in an impact on our AMP8 business demand reduction glidepath. This is because we have included a program of initiatives for AMP8 with a 6.88 Ml/d reduction in demand, but this doesn't cover the additional variance between baselines.

The reason for the difference between the submitted 'blind years' 2023-24 and 2024-25 is due to the cyclical testing of meter accuracy. Within the externally assured and compliant process, NHH and household (HH) consumption is adjusted within the water balance to accommodate meter under-registration over time. Yorkshire Water utilises WRc Ltd to undertake cyclical testing of a sample of our metering asset base. This helps us to deduce an under-registration coefficient, which we can then apply to measured volumes.

The latest update to the tested sample showed an increase in under-registration in our Yorkshire Water metering asset base. The under-registration amendment resulted in an increase in reported NHH demand. The increase from in-year 2022-23 (277.3 Ml/d) to in-year 2023-24 (287.1 Ml/d) was a difference of 9.8 Ml/d which was made up of the following values:

- c. 5 Ml/d was due to increase in meter under registration (MUR)
- c. 2 Ml/d was Maximum Likelihood Estimation (MLE)
- c. 2.8 Ml/d was change in consumption from industry recovering post COVID-19.

Following the discussions with our assurance providers around meter under registration (MUR) at APR23, we have continued to work with the WRc on testing household, non-household, and DMA meters; subsequently updating our MUR error curves annually as a means of improving data quality and ensuring an accurate representation of Yorkshire Water-specific MUR in the Water Balance. Over the last two years we have sent 1000 x 15mm household Itron meters across a distribution of ages, from various locations, to WRc for testing. We also sent a dozen larger meters. This programme continues in 2024-25.

For APR24, WRc calculated YW's MUR % across HH and NHH. We provided them with our consumption and meter stock data. We have done significant internal validation of these results which we shared with the technical assurance providers during the APR24 process.

The instruction to review our MUR came from an independent review of our Water Balance process following APR22, when we had a 4.6% unaccounted for water (UFW); which was red on the compliance checklist and required action to resolve.

The changes to MUR at Yorkshire Water as evidenced in our APR submissions are outlined in Table 8.3 and show the impact that MUR has on NHH properties in our annual water balance submission.

Table 8-3: Changes to Meter under registration

Meter under-registration (MUR)	2021-22	2022-23	2023-24
> Measured Households	2.85%	3.78%	6.65%
> Unmeasured Households	2.48%	5.67%	6.48%
> Non-households	6.07%	5.85%	8.39%

Therefore, based on the information above, we request Ofwat to align with our revised baseline, using current AMP7 performance to formulate the baseline rather than using data from 8 years ago in AMP6.

Alternatively, Ofwat could accept the amendment put forward in the Yorkshire Water PCL representation, changing the percentage reduction year on year to align with Yorkshire Water's resubmitted OUT4 table and articulated in section 8.4 above.

This plan funds Yorkshire Water to reduce NHH business demand, but from the current level of performance as opposed a baseline 5 years prior, resulting in a negative performance against the baseline for a sustained period of time, albeit reducing NHH business demand each year in Ml/d terms.

8.5.3 Amending the business demand baseline to 2024-25 and alignment with WRMP24

The Environment Agency is aware of the increase in NHH demand; a figure of 287.13 Ml/d was reported for 2023-24 in the WRMP19 Annual Review and we continue to engage with the Environment Agency during our regular liaison meetings. We also intend on starting a review of demand forecasting, including NHH, as part of our WRMP24 monitoring plan, and in preparation for WRMP29, to better understand how we approach demand pressures. We will continue to engage with the Environment Agency and Ofwat to ensure alignment in targets between regulators.

8.5.2 Glidepath and PCL refinement

Yorkshire Water has articulated the need to amend the baseline year methodology as evidenced in point 8.5.1 above. The glidepath of intervention and benefits has been built by creating a yearly intervention programme and subtracting the benefits of that intervention programme from the previous years "in year" outturn. As such the glidepath must be aligned to the funded interventions to protect customers' investment and expected service improvement and prevent Yorkshire Water from unwarranted ODI penalty.

This adjustment in the glidepath will still deliver 2.82 Ml/d through bespoke NHH customer interventions and 4.04 Ml/d from smart metering collaboration with retailers and NHH customers. The glidepath should be amended in percentage reduction terms per year to align with the representation start point, being 283 Ml/d, and the intervention programme which Yorkshire Water has proposed in CW8.

The intervention program of initiatives for NHH customers which are in table CW8 are shown in Table 8.4. These initiatives, plus the benefits from smart metering, have been incorporated in the proposed glidepath, which results in a 1.3% reduction in NHH demand from the re-baselined value of 283 Ml/d.

Table 8-4: Intervention programme of initiatives for NHH customers

Component	Benefit (Ml/d)
Total Reduction	2.84
C12a3 Rainwater Harvesting commercial customers	0.54
C34a Non-Household Media Campaign	0.77
C35c Water Retailer Incentives	0.02
C6a Commercial water user audits and retrofits	0.09
C6a(ii) Commercial water user audits and retrofits (smaller sectors)	1.40
Natural Efficiency Benefit	0.02

Yorkshire Water has created an optimised programme of interventions which cover a wide range of solutions and strategies. This blend of activities has been developed through trials in AMP7 and knowledge from cross sector working groups. The blended programme has been chosen to distribute risk associated with committing to only a single intervention strategy. This performance

commitment is new and further improving the benefit case for each intervention when scaled from trial is key to delivering the outcomes required in AMP8.

When the interventions, including smart metering benefits, are deducted from the previous years "in-year" NHH consumption using the rebased baseline of 283 Ml/d the "in-year" and "3-year rolling average" forecasts are shown in Table 8-5.

Table 8-5: NHH Demand reduction with previous interventions deducted

	Y3 – 2022-23	Y4 – 2023-24	Y5 – 2024-25	Y1 – 2025-26	Y2 – 2026-27	Y3 – 2027-28	Y4 – 2028-29	Y5 – 2029-30
NHH Demand Reduction In-Year (Ml/d)	277.3	287.13	284.5	283.9	282.6	280.9	279.3	277.8
NHH Demand Reduction 3-Year Rolling Average (Ml/d)			283.0	285.2	283.7	282.5	280.9	279.4
NHH Demand Reduction % Reduction from Baseline				-0.8%	-0.2%	0.2%	0.7%	1.3%

Due to the increase in "in-year" NHH consumption in AMP7 Year 4 and forecast for Year 5, this results in an increased 3-year rolling average in Year 1 and Year 2 of AMP8 to account for the increased consumption in AMP7, but this smooths out across AMP8 and results in an 1.3% reduction from the rebased baseline at the end of AMP8.

Therefore, based on the profile above, we request Ofwat to accept our revised glidepath for our NHH demand PCL in AMP8 (subject to adjustment for Cawingredients, as discussed in section 8.5.4 below), to ensure the plan is right for customers and mitigates our ODI exposure whilst continuing to incrementally reduce NHH demand.

8.5.4 Cawingredients Limited Growth

Yorkshire Water requests Ofwat to confirm that the increased consumption required by Cawingredients Limited is excluded from our business demand reduction forecast submitted in tables at DD representation. The consumption is evidenced in our WRMP24 submission, where we show that it commences in March 2025 and increases over the course of AMP8.

The table below shows the impact on the in-year business demand glidepath in AMP8 using the revised baseline outlined in point 1 above.

Table 8-6: Impact on the in-year demand glidepath with revised baseline

	Units	2025-26	2026-27	2027-28	2028-29	2029-30
In-Year Business Demand Glidepath including Cawingredients growth *YW preferred PCL glidepath	Ml/d	287.4	286.1	284.4	282.8	281.3
% reduction glidepath using a 2024-25 baseline including Cawingredients growth	%	-1.5%	-1.1%	-0.5%	0.1%	0.6%
In-Year Business Demand Glidepath excluding Cawingredients growth	Ml/d	283.9	282.6	280.9	279.3	277.8

The growth from Cawingredients Limited, shown above, needs to be factored in when setting our business demand reduction targets. The 9% reduction should be set from our 2024-25 baseline of 283 Ml/d with the future growth requirements of Cawingredients Limited and other NHH customers removed via an adjustment to avoid the 9% target changing as demand potentially increases.

When we include the increased consumption from Cawingredients Limited in the business demand reduction glidepath it has a 3.45 Ml/d impact. We believe this needs to be removed from the consumption reduction we have in plan in AMP8 through the business demand reduction initiatives in Table 8-7.

Table 8-7: Business demand reduction initiatives

Component	Benefit (Ml/d)
Total Reduction	2.84
C12a3 Rainwater Harvesting commercial customers	0.54
C34a Non-Household Media Campaign	0.77
C35c Water Retailer Incentives	0.02
C6a Commercial water user audits and retrofits	0.09
C6a(ii) Commercial water user audits and retrofits (smaller sectors)	1.15
Natural Efficiency Benefit	0.27

In addition to the 2.84 Ml/d benefit from the business demand reduction initiatives planned for AMP8, there is 4.04 Ml/d benefit from smart metering when we replace end-of-life meters with advanced metering infrastructure (AMI). This provides more granular consumption data, enabling us to provide customers with water efficiency initiatives based on their volume of usage.

This supports our case to exclude the impact of Cawingredients Limited, outlined above, from our business demand glidepath in AMP8. Without Ofwat confirming this point, we would be at risk of increased penalty exposure due to the growth from this known future demand source offsetting the demand reduction outlined in our AMP8 plan. Achieving our forecast reduction in AMP8 would be challenging, and we have neither the additional funding available, nor a feasible or deliverable plan to bridge this gap.

8.5.5 3% materiality threshold for adjustment of PCL

Yorkshire Water has committed to deliver 6.88 Ml/d of business demand reduction through AMP8. Ofwat's materiality threshold trigger of 3% risks Yorkshire Water delivering all of its investments and outperforming the 6.88 Ml/d of reductions but still receive a penalty, as the 3% threshold translates to 8.49 Ml/d in business demand, meaning Yorkshire Water could receive penalties associated with 1.61 Ml/d change in business demand that Ofwat has not asked it to deliver or funded it to deliver. . Whilst some sectors like the hydrogen economy are likely to surpass the threshold, Yorkshire Water is already aware of Cawingredients Limited which is requesting 3.45 Ml/d of new business demand and receive regular developer services enquiries for volumes ~1 Ml/d. We therefore have a concern that a likely scenario which could be realised is the materiality threshold is not achieved, and Yorkshire Water fails every year of the PCL, despite delivering all the water efficiency demand reductions planned, but having all of the reductions eroded by multiple small to medium sized business demand "growth" customers.

As outlined in previous sections, within the document 'PR24 draft determinations: Delivering outcomes for customers and the environment', Ofwat details the mechanism whereby an end of AMP adjustment may be triggered.

The clause is detailed below:

In setting the PCL, we have **taken into account: (1) historical growth in business demand; and (2) the impact of enhancement activities**. On the first element, where a company has provided a forecast materially different to the historical trend, we have intervened to use the historical trend as a basis for setting the PCLs. To cater for unexpected changes in growth during the 2025-30 period, we propose an **end-of-period PCL adjustment mechanism** which will be triggered if:

- there is a **material difference** between the outturn and the PCL, which for the purposes of this performance commitment means that the net difference between the outturn and the PCL across the 2025-30 period **is at or larger than ±3%**; and
- the material difference between the PCL and outturn is caused by:
  - factors that are unrelated to proactive measures taken by business customers to improve water efficiency, such as operational inactivity; or
  - increased consumption at new or existing premises due to growth in commercial productivity, subject to the company demonstrating to our

When we contextualise the impact of this clause on Yorkshire Water and our NNH customer profile, the table below shows the makeup of our business customers, and the average consumption based on the consumption levels. From this we can see that for business customers in the 0-5 Ml/d and the 5-50 Ml/d categories that we could absorb any moderate additional growth but for the 193 business customers who consume between 50-250 Ml/d this is an area of risk as growth in this area cannot be absorbed as the volumes would be material.

Our recommendation is that we will continue to monitor the average consumption and number of customers within this category and track any movement in this area to ensure we re-optimise the plan going forward to continually improve and make sure that any growth in this area is identified to understand the impact, by both water companies and Ofwat within the PCL glidepaths and any post year ODI adjustments.

Table 8-8: Non-household customers average consumption levels

Consumption category	Count of SPID	Average consumption in Ml/d
0-5 Ml/d	218533	805.01
5-50 Ml/d	2900	31,186
50-250+ Ml/d	193	520,282

Overall, we request Ofwat to reconsider this clause to ensure that water companies, including Yorkshire Water, are not penalised for growth in the non-household sector that is beyond management control. As business demand is a new performance commitment, we believe there is a need for knowledge growth in this area to maximise the consumption savings for business customers.

8.6 Concluding points

1. We request Ofwat to allow Yorkshire Water to re-base our baseline using AMP7 performance data. Ofwat's current methodology uses data from AMP6. Business Demand is a new performance commitment for AMP8, so using more current data for the baseline is more representative of current NHH consumption performance rather than using consumption data from 8 years ago.

2. We request Ofwat to accept our amended glidepath for Business Demand in AMP8 in line with the initiatives planned from the ‘in year’ starting position at 2024-25 outturn. Amending our PCL glidepath is the right thing for our customer and reduces our ODI exposure.

3. Yorkshire Water requests Ofwat to acknowledge that the growth for Cawingredients Limited is currently excluded from our business demand PCL glidepath for AMP8, as our planned initiatives (outlined in the table above) don’t account for growth. However, we ask that Ofwat incorporate the Cawingredients demand into the PCL glidepath for final determination, after demand reduction efficiency assessments are undertaken.

4. We believe Ofwat should amend the materiality threshold to a significantly smaller metric than 3%, due to the materiality volume being greater than the total volume of funded initiatives in AMP8 and potential penalty for consumption which is outside of water company control.

9 Unplanned outage

9.1 Overview

Ofwat has rejected our request for a cost adjustment claim (CAC) for 'Asset Health – Non-Infra'. We appreciate that Ofwat has carefully considered the impact of this rejection on our asset health. However, without intervention through the CAC mechanism, Yorkshire Water's overall non-infrastructure asset health will continue to deteriorate at an unsustainable rate. We are therefore resubmitting our cost adjustment claim case, with further evidence.

Assuming this challenge is successful, we will improve our performance to meet the UPO PC values that we submitted in our PR24 submission. Should we be unsuccessful we will accept the Ofwat DD PCL.

9.2 Ofwat action reference

No related actions.

9.3 Key messages

1. We are challenging the rejection of our CAC for Non-Infra asset health.
2. We are committed to improving asset health and UPO performance by 26% following acceptance of the CAC
3. We believe the percentage of our claim accepted at final determination should be reflected in the percentage of achievable improvement in the UPO PC value.

9.4 Change requested

The figures we are presenting are based on our original PR24 submission and Non-Infra CAC given we are providing further evidence at the DD representation stage.

Table 9-1: Summary of changes to the unplanned outage performance commitment levels

Unit of measurement:	Unplanned outage as percentage of overall weekly peak capacity				
	2025-26	**2026-27**	**2027-28**	**2028-29**	**2029-30**
October 2023 Business Plan submission	2.32%	2.14%	1.96%	1.78%	1.60%
January 2024 Business Plan resubmission	2.32%	2.14%	1.96%	1.78%	1.60%
Ofwat's Draft Determination	2.85%	2.67%	2.49%	2.31%	2.14%
YKY Draft Determination Representation	2.32%	2.14%	1.96%	1.78%	1.60%

9.5 Yorkshire Water's response to Ofwat

Our representation is based on changing the Ofwat DD PCL as a result of the introduction of further evidence on our Non-Infra CAC which will support improved asset health and Unplanned Outage performance improvement as per our original PR24 submission. For more details please see, Cost efficiency intro and base costs (YKY-PR24-DDR-02).

Should the CAC be accepted in part, then we would accept a percentage increment movement, depending upon the percentage of the cost adjustment claim which is accepted, and we believe it is appropriate for Ofwat to approach the setting of the target and glidepath in this way. This means:

- If the CAC for Asset Health – Non-Infra is 100% accepted at the final determination, then we will move to the position of the UPO PC values in the YW PR24 submission.
- If the CAC for Non-Infra is accepted by 20% at final determination, then we will move the position of the UPO PC values down 20%, towards the PR24 submission.

9.6 Concluding points

Ofwat has set a more relaxed target for unplanned outage than the one we committed to in our PR24 business plan as our £186.75m CAC was rejected in full.

We still intend to achieve our original, more ambitious target, by improving the underlying health of certain filters, clarifiers and clean water tanks as it was supported by our customers. We have provided additional evidence in our CAC for water non-infra assets to secure the investment to deliver this outcome.

Should the cost adjustment claim for non-infra be rejected, we will support the subsequent necessary changes to the performance commitment for unplanned outage (UPO).

10 C-MeX

10.1 Overview

Ofwat's proposed changes to C-MeX methodology fail to achieve its aims to incentivise improvements in customer service. We believe a change in Ofwat's approach is required to ensure that C-MeX remains a relevant and valid measure. We propose retaining the existing methodology with some smaller amendments whilst Ofwat works with the industry to develop a more appropriate and robust benchmark and proportionate outcome delivery incentive (ODI) mechanism.

10.2 Ofwat action reference

Ofwat action (DDQ_009) - "Do you agree that the importance given to the Customer Service measure (CMeX) is correct in relation the other performance commitments?" is responded to as part of this section.

10.3 Key messages

1. The use of the UK customer satisfaction index (UKCSI) as the C-MeX benchmark mechanism creates asymmetry and is therefore incompatible with Ofwat's balanced risk/reward requirements. It creates a high degree of unpredictability and volatility, as well as there being a lack of comparability in the data sets.
2. The use of regulatory capital value (RCV) for deriving ODI payments creates inequality across the industry and the size of the proposed payments are not proportionate with customers' valuation of customer service.
3. A change in approach is required to ensure that C-MeX delivers on the aim of incentivising customer service improvement.

10.4 Change requested

With the intention of moving to a new benchmark by Year 2 of AMP8, we suggest that Ofwat works with water companies and the Institute of Customer Service to develop an appropriate and robust benchmark for C-MeX. Together, we can establish an external benchmark which is both stretching and encourages improvement to customer service by recognising industry-specific factors and addressing concerns around target predictability.

In Year 1 of AMP8 we propose retaining the existing benchmark and ODI approach, with some smaller changes such as the increased weighting of CSS. We believe Ofwat should retain the use of retail revenue for ODI calculations, and the check and challenge process.

It should be noted that there is precedent for altering the specification of MeX measures after final determinations. It is key that an improved benchmark focusses on customers' actual service experience, avoiding being overly influenced by wider perception measures or questions which don't apply to universal utility providers (like Net Promoter Scores). Addressing concerns around benchmark relevance and reliability can help command the confidence of water companies, unlocking future investment.

10.5 Yorkshire Water's response to Ofwat

We understand Ofwat's desire to set outward-looking customer service performance standards for the sector. We agree that improving customer service requires us to look beyond the water sector and support Ofwat's aspiration for continual improvement in customer service. We are whole-heartedly committed to improving and investing in the service customers receive from us.

However, we believe Ofwat's proposed changes to C-MeX will demonstrably fail to achieve Ofwat's stated aim of incentivising companies to increase levels of customer service:

- Using the UKCSI all-sector average to set benchmark performance is incompatible with the risk/reward requirements set out in Ofwat's PR24 final methodology. As Ofwat states, the

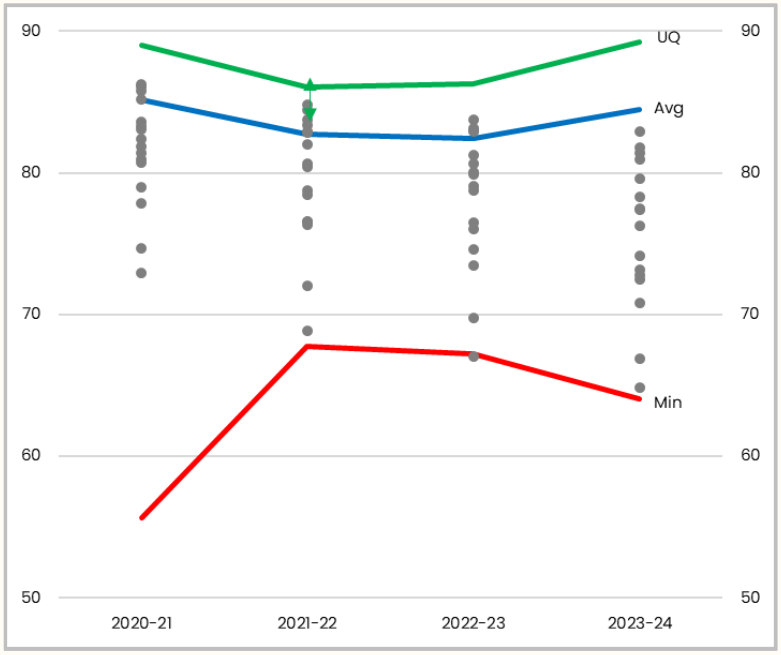
overall incentive is substantially skewed towards penalty. In 2023-24 all companies fell short of proposed benchmarks.

- Ofwat has stated that PCs should be symmetrical, and that whilst C-MeX would be symmetrical in theory, in reality it would be an asymmetrical PC. In using UKCSI, water companies are being compared to sectors where market choice predisposes customers to provide higher satisfaction scores (for example, satisfaction scores provided for the service received by John Lewis are derived from customers who have already made a decision to shop with John Lewis).

- The proposed methodology for translating UKCSI measures into C-MeX benchmarks is indefensibly unpredictable, with very large swings in the annual benchmark and penalty calculations resulting from relatively minor changes in UKCSI and C-MeX scores that sit outside of companies' control. Two examples of the effects of the UKCSI volatility on ODI outcomes:
    - Wessex Water's score dropped from 86.1 in 2020-21 to 84.8 in 2021-22 – their reward would have increased from 0.07% to 0.35% RoRE.
    - Bristol Water's score increased from 80.7 in 2022-23 to 81.0 in 2023-24 – their penalty would have increased from -0.05% to -0.08% RoRE.

- Benchmark and ODI volatility is compounded by the UKCSI's minimum sample size for any one company being just 48 responses. Given Ofwat is using the minimum company as the bottom value in the benchmark, there could feasibly be scenarios where as few as 48 respondents providing untypically negative scores for one company could impact the ODI values across the water industry by several tens of millions. For instance, the bottom company (Thames) would have received -0.21% RoRE penalty in 2020-21, compared to -0.46% in 2021-22, largely due to the bottom company in the UKCSI receiving an extremely low score of 55.7 in the July 2020 UKCSI. This atypically low minimum score would have compressed the penalty outcomes for 14 of the 17 companies in 2020-21. This is illustrated in Figure 10-1.

Figure 10-1: Impact of UKCSI benchmark volatility on ODI outcomes (AMP7)

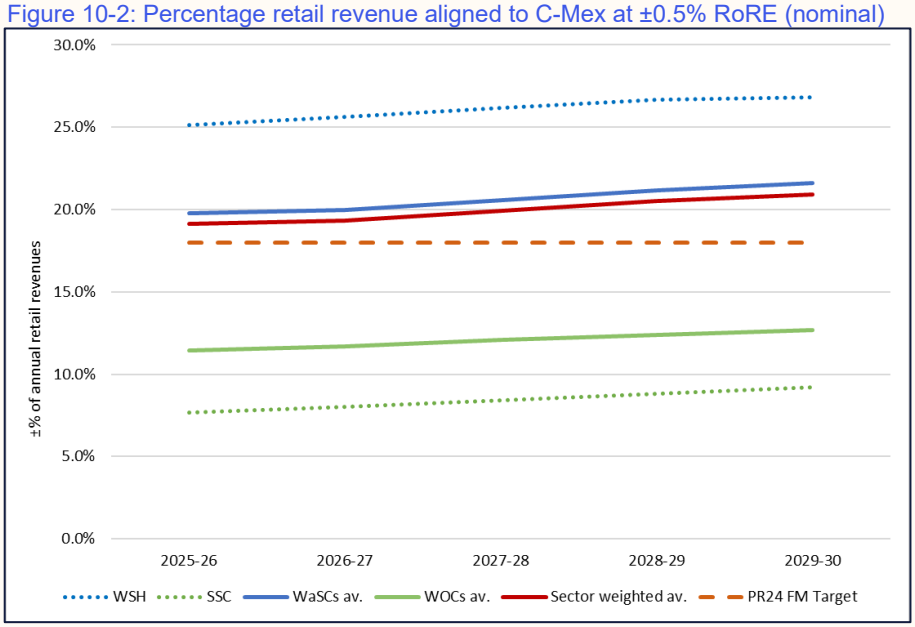


- Further to this, the two data sets are not directly comparable for two reasons:
    - The UKCSI uses data from two months of the year (for the July 2024 Index the survey data covers the period from 4 September to 9 October 2023 and 11 March to 12 April 2024). Whereas C-MeX samples respondents in all 12 months of the year.
    - Ofwat proposes using the prior year's UKCSI scores to benchmark the current year's performance, which means data periods are not directly comparable. So, for example, C-MeX data for April 2024 through to March 2025 will be compared to UKCSI scores from 4 September to 9 October 2023, and 11 March to 12 April 2024.

There have been large swings in year--on-year scores, so using data from a non-concurrent time period could have significant impacts on ODI.

- We do not believe that Ofwat should drop the check and challenge process and move to mostly digital surveying, as this will further degrade a survey approach which struggles to meaningfully engage respondents and elicit relevant responses. Digital surveying risks reducing or excluding the representation of those who are not comfortable or able to use SMS and email to complete surveys. There are also security concerns in using digital surveys as well as practicalities in ensuring GDPR compliance. Switching to company sourced sample lists for the Customer Experience Survey (CES) element also presents issues with contact data availability and consistency in sample provision across companies.

Figure 10-2: Percentage retail revenue aligned to C-Mex at ±0.5% RoRE (nominal)



- We do not believe that RCV should be used to calibrate incentive payments, as it drives undefendable inequalities in companies' incentives to improve customer service. For example, it has been estimated that good service for a customer in Wales will be worth more than three times that same service offering in London. This is also inconsistent with Ofwat's approach to ODIs, where it has aimed to set a consistent rate across the industry. Ofwat's intent is to strengthen the incentives range to a valuation close to 18% of residential retail revenue. However, when comparing 0.5% RoRE to company retail revenues, we see that WASCs will typically face a higher retail revenue risk/reward and WOCs face significantly lower risk/rewards. With a wide range from below 10% for South Staffs Water to above 25% for Welsh Water (see Figure 10-2), some companies may experience, in practice, a weakening of the incentive power of CMeX, with others facing a near doubling on the values compared to AMP7 (noting that the use of the UKCSI indices as the overall benchmark skews the incentive markedly to the downside where the likelihood of achieving a reward position is low).

- In addition, and in response to Ofwat query DDQ_009, we do not believe the size of ODI payments is not proportionate with customers' valuation of customer service. Ofwat's Customer Preferences research found 'customer service' ranked as one of customers' lowest priorities. We've also found this with our own Valuing Water priorities study where again, 'customer service' is ranked in last position out of 20 service areas tested. Therefore, larger ODI payments risk customers paying more for service improvement than they value.

10.6 Concluding points

- We believe strongly that the proposed changes to C-MeX methodology fail to achieve Ofwat's aim of incentivising improvements in customer service.
- We request Ofwat changes it approach to ensure that C-MeX remains a valid, robust measure, with the existing methodology retained (with some smaller changes) whilst this is developed.

11 D-MeX

11.1 Overview

We do not believe Ofwat's proposed changes to the D-MeX methodology are appropriate, or support improved service and experience for customers, namely:

- The plan to move to an annual survey and a reduction in the weighting attributed to service delivery
- The size of the proposed outcome delivery incentive (ODI) range and use of RoRE rather than Developer Services revenues

We believe Ofwat's proposal to move to a single annual customer qualitative survey exercise will not be as robust or relevant as the current monthly customer survey approach, leaving a significant gap between service experienced and feedback for companies. This will be less reliable in terms of the true customer experience and provides fewer learning cycles and opportunities to support continuous improvement from companies based on regular customer feedback against a common sector methodology.

Developer customers (developers, new appointees (NAV), and self-lay providers (SLP)) tell us their priorities are delivery of water company activities on time, aligned to their build schedules and ultimately end consumers being able to move into their new homes without unnecessary delays. The significant reduction in the weighting for the service level quality element of D-MeX is not aligned to developers or end consumers' priorities.

In its proposals, Ofwat states; *"We will increase incentives on D-MeX to ±0.25% appointee RoRE to promote focus on D-MeX. This is an increase from approximately ±0.17% RoRE at PR19. This is half the size of the C-MeX incentives, which we consider to be proportionate given the amount of revenue from residential retail and developer services".*

Ofwat's view of the current revenues based incentivisation scaling equates to ±0.17% RoRE on a weighted sector average. However, Ofwat will know that the spread of equivalent RoRE is very broad and company specific as it is determined by the relationship of Developer Services revenues to the company regulatory capital value (RCV). For example, the current Developer Services revenue linked penalty at maximum ±12% of revenue would be c.£2.64m for Yorkshire Water which equates to only 0.07% of our RoRE (very far from the 0.17% weighted average). To increase the ODI range to a uniform ±0.25% of RoRE regime equates to a 378% change in penalty risk - near quadrupling.

Conversely companies with much smaller RCVs yet reasonable share of the new connections market will experience a significant weakening of the current incentive's strength of D-MeX. This runs counter to Ofwat's intentions for companies to focus more and invest more into the services they deliver to both the contestable and non-contestable elements of the new connections market.

We believe the scaling of the ODI as proposed is excessive and Ofwat should either:

- Revert to an ODI scale based on Developer Services revenues (inside and outside price controls) based upon a core ±10% of revenue around median performance, with a -6% additional penalty band for performance below a fixed target (as we proposed in our response to Ofwat's July 2023 consultation), or
- Recalibrate the ODI to ±0.15% RoRE.

Based on the proposed increased incentive payments, we believe companies will look to invest heavily to achieve reward through improved customer experience, indeed many have already done so. We have modified our planned investments into services for developers with an additional £10 million in AMP8 to deliver improved digital journeys and overall customer experience.

11.2 Ofwat action reference

No related actions.

11.3 Key messages

- We believe the proposed incentive range is too high and not evidenced by the valuations and priorities customers place on this measure. Noting that customers who fund the outcomes incentives are not those experiencing the service. We believe Ofwat should retain D-MeX incentives at (or around) ±12% of Developer Services revenues or set the incentive range to no more than ±0.15% RoRE. We make an alternative proposal later in this chapter that we would like Ofwat to seriously consider.

- The use of RoRE to determine rewards and penalties will lead to inconsistent incentive payments for reasons disconnected to customer service. Although this could be viewed as a way of maintaining a common 'influence' over investors of all companies, this is a further area of departure away from setting regulatory incentives linked to the value the performance has to customers and makes no attempt to mimic the effects of a competitive market. Indeed, it risks creating perverse effects to free competition.

- The relative performance nature of the measure will continue to contain the uncertainty we have seen in AMP7, where improving experience is not consistently rewarded where this results in performance bunching towards the median – the poorest performing company will face the maximum possible penalty value despite making material improvements to the experience it provides its customers. We request Ofwat to consider introducing a 'hybrid' incentives model along the lines that Yorkshire Water proposed in its response to Ofwat's July 2023 consultation on measures of experience.

- The proposed reduction in frequency of customer surveys does not provide a robust or regular feedback loop to companies to support improved response times to resolve issues and track comparative trends. This hampers customer-led continuous improvement. The increased weight these surveys carry at the expense of quantitative measures reduces the emphasis on what developers consistently tell us is their top priority, namely "delivery on time".

- We are proposing a revision to our forecast D-MeX outturn related to our modified investment plans in digital customer journeys. We anticipate below Median performance in the early part of the AMP as we deploy and embed new systems and ways of working, however we expect to see improving developer experience throughout the AMP and to be achieving better than Median performance by Year 5 based on an investment of £10m.

11.4 Change requested

11.4.1 Proposed incentive calculations and values

We ask that Ofwat reconsiders the use of RoRE as the determinant of incentive values against relative D-MeX performance, as well as the proposed ±0.25% range which we believe is excessive for a market that Ofwat recognises as becoming ever more competitive. We suggest Ofwat continues to set incentive values against company developer revenues (outside price control) but strengthens these to be between ±10% of annual revenue (with a further -6% of revenue penalty available for performance below an 'acceptable service' threshold under our 'hybrid' approach set out below).

If Ofwat does progress with the use of RoRE as the determinant of D-MeX incentives, we suggest the symmetrical ODI range is set at ±0.15% to limit excessive incentivisation funded through household and business customer bills. This would still represent a strong measure for companies compared to AMP7 whilst the new connections market becomes ever more competitive.

11.4.2 Proposed frequency and weighting of survey

In its explanatory notes on the draft determination, Ofwat is concerned that survey fatigue may be a risk with developer, SLP and NAV customers if it retains a monthly qualitative survey approach. We acknowledge this may be a risk, but we believe moving to a single annual survey run close to or even after year end is an unsuitable response to this risk. We request Ofwat and their appointed research company to release monthly D-MeX qualitative scores by running survey exercises each month (even if these are run with fewer customers surveyed). This would help companies to receive regular external feedback and then take action to improve and address score drivers more quickly, allowing for timely interventions benefiting customers sooner.

We ask that the quantitative component of D-MeX, with its current 50% weighting, is also retained.

11.4.3 Proposed alternative D-MeX model - 'hybrid' approach

As we proposed in our September 2023 response to Ofwat's consultation on "the measures of experience performance commitments at PR24", we request Ofwat to reconsider the 'hybrid' relative performance measure. For further information please see C-MeX/D-MeX consultation response (YKY-PR24-DDR-44). We characterise this alternative approach to be a symmetrical relative incentive that still pivots around the median company performance, with a secondary absolute and fixed target for an 'acceptable' or 'fair' performance position. Performance below this fixed target would attract an additional relative penalty to be realised. In effect, this would set a lower performance 'gateway' for those companies that cannot meet a prescribed 'acceptable service' standard in any given year. This hybrid approach mitigates the problems we have seen with the current D-MeX structure where companies that make great improvements continue to face large penalties due to performance bunching below the median.

In our consultation response, we suggested a threshold D-MeX score of around 81.0 could be used as the fixed secondary target for 'acceptable service'. Based on strengthening the power of D-MeX with companies, we now propose that any performance above 81.0 but below median would attract a relative incentive of between -10% and 0% of developer services revenues. Companies that score below 81.0 would attract up to -5% further based on their relative score below 81.0 (the lowest company below a score of 81.0 would face the additional -5% and second lowest below 81.0 somewhere between -5% and 0% based on their closeness to 81.0 and the lowest company score, and so on). To keep the core of the incentive symmetrical, the reward for scores above median performance in this proposal would peak at +10% of developer services revenues.

The effect on companies that have performed above the 81.0 threshold, but below the 'all company median' performance, is that their penalty rates are within a symmetrical incentives range with those companies above the 'all company median' performance.

Those companies below the 'gateway' threshold would face a penalty of up to an additional -5% of revenue. If all companies score above the 'acceptable service' threshold, then the lowest performing company would face a -10% of revenue penalty. Symmetrical with the +10% reward for the best performing company. This hybrid arrangement provides a material incentivisation for companies not to 'fallback' on their earlier performance improvements to ensure developer customers continue to receive good service.

We ask that Ofwat gives further consideration to this hybrid approach ahead of its final determination, as we believe it creates the opportunity for symmetry and feel most stakeholders should be able to support it given it retains the relative performance feature of the current D-MeX mechanism. We would be happy to liaise with Ofwat and other stakeholders to expand on the details of our alternative proposal.

11.4.4Revision to our expected D-MeX outturn

We have modified our planned investments into services for developers with an additional £10 million in AMP8 to deliver improved digital journeys and overall customer experience. We request that Ofwat accepts our revision to our forecast D-MeX outturn position and our ambition to achieve better than 'Median' performance by Year 5.

Table 11-1: Summary of changes to the D-MeX performance commitment levels

Unit of measurement:	Table Ranking				
	2025-26	**2026-27**	**2027-28**	**2028-29**	**2029-30**
October 2023 Business Plan submission	Median	Median	Median	Median	Median
January 2024 Business Plan resubmission	Median	Median	Median	Median	Median
Ofwat's Draft Determination	Median	Median	Median	Median	Median
YKY Draft Determination Representation	Penalty	Penalty	Median	Median	Reward

11.5 Yorkshire Water's response to Ofwat

11.5.1 Use of RoRE and proposed incentive values

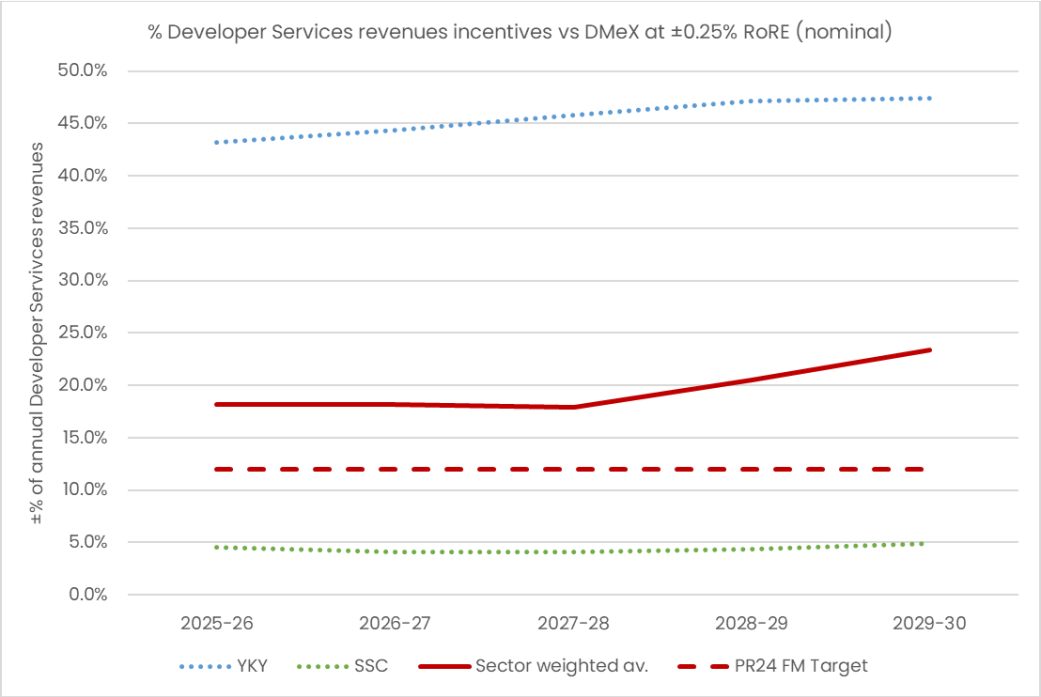
It is expected that over AMP8 and AMP9, the RCVs of water and sewerage companies (WaSCs) will grow significantly due to committed investments on environmental wastewater treatment programmes. Water only companies (WOCs) will not face such steep increases in their RCVs in general. WaSC's regulated equity will grow at a greater rate than that of WOCs. Over AMP8 this would lead to an inconsistency in the power of D-MeX incentives for reasons completely disconnected to the new connections market, companies Developer Services capabilities, and developer customer service and satisfaction.

The relative size of company RCV determined by Ofwat can also be affected by a number of regulatory interventions such as proposed adjustments to PAYG and run-off rates to reduce the impact on household customer bill profiles, which do not have any bearing on the value developer services customers place of their experience from water companies.

Given that regulated equity of the WaSCs will increase for reasons unrelated to developer services, this will make the D-MeX incentive disproportionately important for some companies over AMP8. This would increase the overall value at stake for this incentive in a way that is both imbalanced across companies, and unrelated to the value of the services to the market being incentivised.

Over the 2025-30 period, we show in Figure 11-1 that the annual sector weighted average exposure to D-MeX set at ±0.25% RoRE is equivalent to between 18% and 24% of AMP8 Developer Services revenues (both inside and outside of price controls). With Yorkshire Water and Northumbrian Water facing incentive risks of well over 40% of their Developer Services revenues - almost quadrupling of the risk the company and its customers face compared to AMP7. Conversely, South Staffs Water would see a weakening of the D-MeX incentive compared to the AMP7 period by over half.

Figure 11-1 Relationship between D-MeX incentive range of ±0.25% RoRE and the equivalent % of Developer Services annual revenues



We ask that Ofwat reconsiders the proposal to use RoRE as the method of calculating D-MeX rewards and penalties. However, if it proceeds with the proposal to set a symmetrical D-MeX incentive based on company regulated equity, we believe it should align with its earlier announcement in the Final Methodology and its July 2023 consultation to size this incentive at ±12% of company Developer Services revenues by setting a reduced maximum incentive range to ±0.15% RoRE.

11.5.2 Proposed frequency and weighting of survey

Engaging promptly with the work of our developer services, customer enquiries, applications, and connections (non-contestable and contestable) is always a high priority. A wide range of potential issues can affect the time it takes to complete the construction of new homes and commercial premises, impacting the date the first occupiers can move in. Developers do not want the process of connecting the new properties to local water and sewerage networks to be added to these issues.

The sector has improved its consistency to deliver within the common service levels. We do not want this progress to stall, but if the quantitative component has less prominence and value within the overall measure of customer experience, focus may be lost. Water UK report on the service levels and it is clear from this that many companies, including Yorkshire Water, are at risk. Achieving these service levels routinely is not straightforward, and there are risks to excellent performance that ultimately may negatively impact customers' projects. We request Ofwat to reconsider and to maintain the current 50/50 weighting approach.

We request Ofwat and its appointed customer research company to continue to release monthly D-MeX qualitative scores. To do this, the research company may need to breakdown the customer contacts over months, rather than undertaking them in one exercise at year end. This would help companies to see the impacts of their performance and take action to improve and address score drivers more quickly, allowing for timely interventions and benefiting customers. The proposed move to annual surveys does not provide a frequent feedback loop from which to define and deliver customer-driven continuous improvement. This could deliver a worse experience for customers.

11.5.3 Revision to our expected D-MeX outturn

Over the last two years we have made significant improvements in our quantitative and qualitative performance, moving from D-MeX scores of 55.1% to 83.6%. However, we have struggled to attain the consistent qualitative performance achieved by our peers. Our analysis and insights indicate this is driven by our low level of digital maturity and without investment in digital capabilities we will be unable to deliver the experience developers can rightly expect.

We also have a pending change in construction delivery partner which will create a level of instability early in AMP8 which we need to manage carefully. We fully expect a significant increase in delivery partner costs which will ultimately feed through to developers. We will be consulting with developers at the earliest opportunity. As these costs pass through to our charges, we envisage a negative impact on D-MeX, compounded by the required increases in infrastructure charges to fund additional network reinforcement and the new environmental levy fees. We will be looking to drive efficiencies to mitigate some of those cost increases through our planned investment in digital solutions and AI.

We have modified our planned investments into services for developers with an additional £10 million in AMP8 to deliver improved digital journeys and overall customer experience. We ask that Ofwat accepts our revision to our forecast D-MeX outturn position and our ambition to achieve better than 'Median' performance by Year 5.

11.6 Concluding points

We believe the proposed incentive range is too high and not evidenced by the valuations and priorities customers place on this measure, noting that customers who fund the outcomes incentives are not those experiencing the service.

The use of RoRE to determine rewards and penalties will lead to inconsistent incentive payments for reasons disconnected to customer service. This is a further area of departure away from setting regulatory incentives linked to the value the performance has to customers, and does not appear to attempt to mimic the effects of a competitive market.

The relative performance nature of the measure will continue to contain the uncertainty we have seen in AMP7, where improving experience is not consistently rewarded due to performance bunching towards the median – the poorest performing company will face the maximum possible penalty despite making material improvements to the customer experience delivered.

We believe the proposed reduction in frequency of customer surveys does not provide a robust or regular feedback loop to companies to support improved response times to resolve issues and track comparative trends which hampers customer-led continuous improvement.

We propose a revision to our forecast D-MeX outturn related to our modified investment plans in digital customer journeys. We anticipate below Median performance in the early part of the AMP as we deploy and embed new systems and ways of working, however we expect to see improving developer experience throughout the AMP and to be achieving better than Median performance by year 5 based on an investment of £10m.

12 BR-Mex

12.1 Overview

Yorkshire Water believes the methodology for the new BR-MeX PC to be fundamentally flawed and poorly developed (with particular reference to the R-MeX element); aspects of the measure have yet to be clearly defined or piloted and at this point we have no evidence to suggest the new PC will incentivise improvements in customer service. Given the vast uncertainty around the methodology and measures formulating this, we further believe that to uplift the risk and reward position (by moving to a percentage of RoRE from a percentage of wholesale revenue) to be ill considered. We recommend reviewing the proposed percentage.

12.2 Ofwat action reference

No related actions.

12.3 Key messages

- We are concerned that this is a significant new PC and outcome delivery incentive (ODI) and there has been insufficient piloting and engagement with the industry on these new measures; we would have expected a 12-month shadow year before establishing a significant new PC and ODI. There are potentially reputational risks for the industry associated with this new measure that will not be identified until it is too late in the regulatory process, which would drive perverse behaviours and suboptimal outcomes for customers.

- The use of RoRE to determine rewards and penalties may lead to inconsistent incentives for companies for reasons disconnected to customer service. This would represent a departure from setting regulatory incentives linked to the value the performance has to customers and it does not appear that Ofwat has attempted to mimic the effects of a competitive market in its design. In addition, we believe the proposed incentive range is too high and not evidenced by the valuations and priorities customers place on this measure.

- We believe the R-MeX component of the measure, as currently designed by Market Operator Services Limited (MOSL), is not fit for purpose for inclusion in an ODI measure. It is not robust, fundamentally flawed, subjective, not statistically significant due to small sample size and open to misuse and fraud. In addition, no mechanism exists to challenge inaccurate or erroneous scoring, and there is no evidence that it will provide improved customer outcomes. We have previously challenged Ofwat and MOSL on this in BR-MeX workshops, but it does not appear that any actions have been taken to address our concerns. MOSL has so far not consulted with wholesalers on R-MeX, and we believe as it is currently designed it is not fit for purpose for AMP8.

- We believe the weighting of R-MeX (which is a sub element of BR-MeX – 25-50%) is disproportionate given the small sample size of the survey. Our experience is that sometimes one or two retailers can make a stark difference to the score and having millions of pounds of ODI reliant on one or two individuals scoring twice a year is not only unfair but has potential to incentivise fraud or malpractice from individuals. This concern is further elevated by the fact that the biannual scores will be aggregated into an average score for calculating performance, an approach which we believe will not be piloted or included in the pilot and may not accurately demonstrate improvement or decline in performance.

- We have some concerns regarding the B-MeX component of the measures, specifically the use of indirect contacts (retailer-initiated service requests to wholesalers). There is a lack of transparency on results of the pilot and the intended methodology and weightings that ultimately will impact the new ODI and whether this will be a fair measure and will drive improved customer outcomes in the non-household market.

12.4 Change requested

12.4.1 R-MeX

We request that Ofwat works with MOSL to ensure the R-MeX component of BR-MeX is more robust, less subjective, and less likely to incentivise fraud or malpractice, ensuring that the measure will lead to delivery of desired customer outcomes. We would recommend an independent body such as CC Water or Customer Experience expert organisation should be consulted on the proposed measure and ensure that it will deliver improved customer outcomes. If Ofwat and or MOSL cannot deliver a robust measure, then we recommend that R-MeX is not included in the BR-MeX measure. Lastly, we request that there is transparency of any process undertaken, to ensure industry has confidence that R-MeX is a robust measure. This should include a consultation with wholesalers and retailers.

Our suggestions on what ought to be included are:

- Quantitative and qualitative components of R-MeX (currently the methodology is qualitative only)
- An improved qualitative survey methodology which takes individual components of service and aggregates them (currently MOSL do this but ignore these scores and just take an overall question in score which is used for ranking etc) to make this more objective than currently very subjective.
- For quantitative scores a methodology which drives consistency and fairness such as providing guidance on what the question means.
- A clear process to challenge erroneous qualitative scoring.

12.4.2 B-MeX

We request that Ofwat ensures the B-MeX indirect contacts component of BR-MeX is more robust, especially due to the risks which have previously been identified about a disconnect between what retailers request of wholesalers and the customer experience of the end non-household customer, and the lack of transparency of service to the customer of service elements provided by either wholesaler and retailer.

Our suggestions on what ought to be done to address this are:

- Ofwat sharing the results of the pilot.
- Ofwat sharing the methodology for indirect contacts.
- Ofwat sharing the weightings intended to be used in calculating B-MeX.
- Clarity on whether a challenge process is required and how this would work.
- Clarity on risk of double counts in some contacts being counted twice in different BR-MeX components.
- An Ofwat-led consultation detailing learnings from the above, details of any proposed changes to ensure any issues can be identified and then the methodology tweaked if required.

Table 12-1: Summary of changes to the BR-MeX performance commitment levels

Unit of measurement:	Performance Relative to Median				
	2025-26	2026-27	2027-28	2028-29	2029-30
October 2023 Business Plan submission	Median	Median	Median	Median	Median
January 2024 Business Plan resubmission	Median	Median	Median	Median	Median
Ofwat's Draft Determination	Median	Median	Median	Median	Median
YKY Draft Determination Representation	Median	Reward	Reward	Reward	Reward

12.4.3 Use of RoRE for incentive values

We believe the regulated equity of the water and sewerage companies (WaSCs) will increase disproportionately to the regulated equity of water only companies (WoCs) which may lead to this incentive becoming imbalanced across companies.

We ask that Ofwat reconsiders the proposal to use RoRE as the method of calculating BR-MeX and the proposed incentive range of ±0.20%. We suggest the symmetrical ODI range is recalibrated to ±0.10% RoRE to limit excessive incentivisation.

12.5 Yorkshire Water's response to Ofwat

12.5.1 R-MeX

The R-MeX component of BR-MeX is proposed to account for 25-50% weighting of BR-MeX, which is disproportionate to the service we provide retailers. We have engaged with many wholesalers and retailers who all voice concerns about the R-MeX measure not being robust.

The below examples highlight some of the identified issues:

- We have sometimes been given low scores by retailers who have a tiny number of interactions with us. Under the current measure, this has equal weighting to feedback from retailers who have thousands of transactions with us.
- R-MeX survey scores are also quite low in response rates – MOSL typically consolidates 9-11 responses from 30 retailers, which again brings the robustness of the measure into question.
- In the case of a retailer who had experienced recent staff turnover, we were scored by someone who had never even had the opportunity to meet or transact with us.
- We had positive comments from a retailer but received a score of 1 out of 10. We confirmed with them after the fact that they thought 1 excellent and 9 was poor, but MOSL did not make this clear in the way the retailer was asked to complete the survey, i.e. they were asked to give a score out of 10 rather than being asked if they were satisfied, very satisfied, unsatisfied, very unsatisfied etc.
- After receiving a poor score on one survey from a retailer, we worked hard with them to improve the score. Despite various improvements, the retailer gave us a worse score in the following survey. When challenged, the individual concerned accepted that their score had not taken into account the improvements we had made, and they had not spent much time considering what a fair score should be.
- We have received low scores around engagement from a retailer who persistently failed to engage, turn up to meetings or respond to emails.
- There is a discrepancy in the way retailers score. MOSL has tried to address this by adding guidance to the scoring methodology, but we believe that despite this, it is not applied consistently across the board given the range of scoring.
- In an industry working group a WOC raised the fact they had been marked down in an R-MeX survey for their wastewater provisions.

12.5.2 B-MeX (indirect contact component)

Below we evidence points where we believe the risk of indirect contacts not being fit for purpose have been highlighted:

- There are risks around customers rating end-to-end service which includes significant retailer involvement, as the retailers own the relationship with the customer, and wholesalers action service requests from retailers. This part of the measure is likely to have the unintended consequence of driving wholesalers to bypass the retailer and have much higher levels of contact with the end NHH customer. This would fundamentally undermine retailers and the wider NHH market.
- This is a new industry survey type, and approach to data capture.
- There is no clarity around what weighting this will have within this component of B-MeX.

- There has been limited communication from MOSL or Ofwat to date about the approach being taken with the indirect contact sample, and no consultation with wholesalers so far.
- The sample size is not significant.* As an example, only 15 completed for Yorkshire Water in the pilot.
- It does not address the risks and considerations highlighted in the B-MeX working group's final report (B-MeX Report Design – June 2022) or those from wholesalers, following the inclusion of indirect contacts in their benchmarking activities (YW BR-MeX Replica v3) and there is no evidence that the methodology being proposed addresses these risks.

*Indirect working example for Ofwat pilot - MOSL submitted 115 indirect contacts for YW, 55 were deemed usable, 15 resulted in a completed survey. In comparison Yorkshire Water submitted 1,512 direct contacts of which 945 were usable and 213 resulted in a completed survey.

12.5.3 Use of RoRE for incentive values

It is expected that over AMP8 and AMP9, the RCVs of water and sewerage companies (WaSCs) will grow significantly due to committed investments on environmental wastewater treatment programmes. Water only companies (WoCs) will not face such steep increases in their RCVs in general. WaSC's regulated equity will grow at a greater rate than that of WoCs. Over AMP8 this may lead to an inconsistency in the power of BR-MeX incentives for reasons disconnected to the business retail market, companies wholesale market capabilities, and business retailer and business customer service and satisfaction.

The relative size of company RCVs determined by Ofwat can also be affected by a number of regulatory interventions such as adjustments made to PAYG and run-off rates to lower customer bill profiles, which do not have any bearing on the value business retailers and business customers place on their experience from wholesale water companies.

We ask that Ofwat reconsiders the proposal to use RoRE as the method of calculating BR-MeX and the proposed incentive range of ±0.20%. We suggest the symmetrical ODI range is set at ±0.10% RoRE to limit excessive incentivisation. As Wholesalers, water companies are also subject to financial and reputational performance incentives via the Market Performance Framework and other performance monitoring and improvement mechanisms in place within the operation of the market through MOSL and the Market Codes.

11.6 Concluding points

We do not consider the BR-MeX PC as currently proposed to be suitable as an enduring PC which will drive customer benefit. We believe there are multiple flaws in the methodology for all aspects of this PC and concerns raised by the industry have not been addressed by Ofwat or MOSL.

The subjectivity associated with R-MeX means it is inappropriate for inclusion within a PC linked to multiple millions of pounds at risk across the AMP. We have clearly set out suggestions for how we believe Retailer's measure of experience could be gathered using robust and fair mechanisms, and we would welcome the time to discuss this in more depth with Ofwat, MOSL and other trading parties in the non-household market.

In relation to the B-MeX element of the measure, we have pointed out what we consider to be multiple flaws in the methodology which could lead to scores being influenced by services provided by their retailer and which are out Yorkshire Water's control. Furthermore, we believe there is significant insight which has been collated on Ofwat's behalf and which hasn't been shared with trading parties in the market. We believe, based on our understanding of the intention of this element of the measure, that it could drive perverse outcomes where water companies manage the customer relationship more closely, which undermines the Retailer's roles in the market.

The increase in relation to the risk and reward aspect is concerning to us. We believe there is a lack of proportionality between WASCs and WOCs which may drive disparity in service levels across company type. Furthermore, the percentage attached to the RoRE feels disproportionate

given the rudimentary methodology on which BR-MeX is being calculated. We believe that Ofwat should seriously consider making year 1 of AMP8 a shadow year, and not attributing reward or penalty in this performance year given the lack of progress in finalising this PC.

Yorkshire Water strives to deliver great service to all our customers. We wholeheartedly agree with the introduction of the BR-MeX PC, but feel more consultation with industry is neededto shape the measures and methodology of this new MeX. We urge Ofwat and MOSL to meaningfully engage with our representations and to engage with more water companies to ensure this PC delivers maximum benefit for customers across the non-household market. Additionally, we believe it would be beneficial for Ofwat to procure impartial third party advice in the makeup of this PC, to ensure we deliver a robust and effective performance commitment.

13 Total pollution incidents

13.1 Overview

We are supportive of the overall ambition to reduce pollution across AMP8, to the levels identified in the draft determination. However, given changing external factors that have resulted in deteriorating industry performance, we disagree with the PCL profile and are proposing a revised industry glidepath.

The aforementioned external factors include regulatory and guidance interpretation changes that have been sufficiently notable in the year since submission that the proposed profile is now unattainable in the early years of the AMP8 period. As such, we propose a PCL profile which reaches the same 2029-30 position, but that has a more gradual profile through AMP8.

As set out in our ODI chapter, in order to balance the overall package of risk and to protect against extreme events, we propose a cap and collar on this PC at 0.5% of relevant price control RoRE.

13.2 Ofwat action reference

No related actions.

13.3 Key messages

During AMP7, several external factors influenced the performance of the industry, with regards to total pollution incidents. These factors impact our ability to meet the expected performance levels for 2024-25 set at PR19 and subsequent years. They relate to regulatory and guidance interpretation changes.

This view is supported by July's 2023 EPA results, which were published after the PR24 plans were submitted. The comparison demonstrates that the industry is still some distance from the 2024-25 target set at PR19 of 19.50 total incidents (per 10,000km of sewer length), and every company (except one with significantly poorer performance) has experienced significant deterioration in performance. The latest assessment against the metric as measured showed that the industry-leading total pollution performance is 26 for 2023, a position shared by Yorkshire Water and one other company. The industry average performance (excluding the two poorest performing, as significant outliers) deteriorated by 28% from 2022 to 2023 (from 24.7 to 34.6) as shown in the graph below.

Achieving the proposed baseline performance for 2024-25 would require a 25% reduction in a single year for companies in the position of frontier performance. Given the goal across AMP8 is to achieve a 30% reduction from 2024-25, we believe this initial reduction target is not realistic or achievable. We propose a flatter improvement profile from 2023 through to the end of AMP8, with the same end point achieved.

13.4 Change requested

We support Ofwat's draft determination Year 5 target of achieving 13.65 by 2029–2030, as reducing pollution is a priority for both the company and our customers. However, the Ofwat's proposed glidepath represents an unattainable level of performance for the industry. The external factors hindering performance are further explained in the representation rationale. Yorkshire Water is a top performer on the EPA 2023 for total pollution incidents, but we would still see a significant penalty in the early years of AMP8. We therefore propose a more suitable glidepath to achieving this level of performance which reflects a stretching, but more attainable, industry position, and prevents the proposed service levels being punitive. We would propose a glidepath as per Table 13-1.

Table 13-1: Summary of changes to the total pollution incidents performance commitment levels

Unit of measurement:	Total pollution incidents per 10,000km of sewer length				
	2025-26	2026-27	2027-28	2028-29	2029-30
October 2023 Business Plan submission	16.58	14.72	12.86	10.98	9.13
January 2024 Business Plan resubmission	16.58	14.72	12.86	10.98	9.13
Ofwat's Draft Determination	18.33	17.16	15.99	14.82	13.65*
YKY Draft Determination Representation	22.77	20.37	18.46	15.80	13.52*

**Please note 13.52 differs from 13.65 only because it is the normalised figure for the nearest whole pollution incident as captured in OUT5.*

This profile achieves the 2029-30 target set by Ofwat but allows for a more realistic stretch target from current performance to the proposed 2025-26 starting point.

In Oxera's report on the cost outcomes disconnect (YKY-PR24-DDR-16), it suggests several approaches that can be used to assess the levels of service that base buys. In all examples, it finds that the Ofwat PCL for total pollution at DD is more stretching than can be considered funded through base. This should be considered when assessing the stretch proposed by Yorkshire Water for the PC levels in its response to the draft determination.

Table 13-2. Implicitly funded PCL for 2029-30 (from Oxera report on cost outcomes disconnect)

	Ofwat DD	Approach 1	Approach 2	Approach3
Total pollution incidents (incidents per 10,00km)	13.65	38.32	39.00	27.88

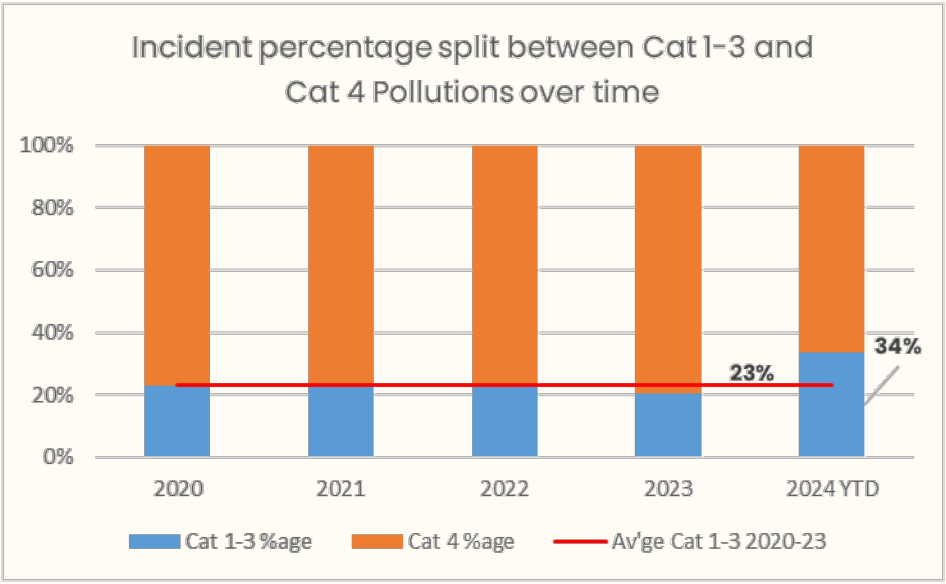
13.5 Yorkshire Water's response to Ofwat

Throughout AMP7, several external factors have influenced the industry's performance, ultimately affecting our ability to meet the expected performance levels at the start of AMP8. The key area of impact relates to regulation and guidance interpretation.

In common with other companies, we have experienced changes in the application of existing incident categorisation methodologies, specifically the classification of non-impacting pollution incidents (Category 4) to impacting pollution incidents (Category 1-3).

Historically, the classification proportions of total pollutions have been consistent. Figure 13-1 below shows that impacting incidents (Category 1-3) in 2020-2023 averaged at 23% of total events. In the calendar year 2024, a transition in classification has seen a 48% increase in the interpretation of impacting pollutions (from 23% average to 34%). This impact has not been seen in APR data yet, as it is impacting from 2024.

Figure 13-1: Changing pollution categorisations over time



Other examples include the categorisation of incidents relating to power failure. These had previously been categorised as third-party impacts (agreed with the Environment Agency (EA)) and therefore had not been reported. However, the EA revised its view of this during AMP7, resulting in an additional five pollutions per year on average. The subject of these guidance changes will be variable across companies as the EA seek to gain a consistent overall approach, but the trend is to stipulate a revised position which results in more incidents for one or more of the companies, and this underlies the increase seen across all companies recently.

13.5.1 Assumptions

Our draft determination response is based on the current EPA methodology and current Environment Agency guidance on pollution incident reporting. Our submission does not include any impact from anticipated changes in guidance, specifically on dry day spills and removal of Cat 4 incidents.

- Dry day spills – the new methodology around dry day spills has not been built into the plan; if this was to be included, our associated targets would need to be reviewed alongside the rest of the industry.
- Removal of Cat 4 incident category – there have been discussions relating to the removal of this non-impacting category, which may lead to more incidents ultimately being classed as Cat 3 and reportable despite no impact.

Should the regulatory guidance and methodology change, we would seek to amend our targets accordingly in line with the change control process set out by Ofwat in PR24 draft determinations, Delivering outcomes for customers and environment, 8.21.1. This states:

'This performance commitment is based on company performance against the Environmental Performance Assessment (EPA) methodologies set by the environmental regulators. If the EPA methodologies change during the 2025-30 period, we will consider the impact of those changes on the performance commitment and may propose corresponding changes (including PCLs, ODI rates and caps and collars) if we consider there is sufficient reason to do so. We will manage any changes in accordance with the change control process set out in section 7 of this document'.

13.6 Concluding points

As articulated above, we support Ofwat's ambition to set a challenging industry total pollution target of 13.65 for the end of AMP8. Given the external factors identified, and the impact to performance in recent years, we propose a more gradual glidepath in the earlier years of AMP8. Based on the recent industry EPA results, this represents an ambitious, but more achievable position.

14 Internal sewer flooding

14.1 Overview

Yorkshire Water has not been sufficiently funded at PR19, or in the PR24 draft determination to reach a median industry position for Internal Sewer Flooding (ISF). Ofwat has not accounted for significant exogenous regional factors, including the number of cellared properties, percentage of combined sewers and rainfall, which affect Yorkshire Water more than other companies. We seek to agree an appropriately stretching PCL for ISF that is not common across the industry, as such a target fails to adequately consider such factors, which are beyond Yorkshire Water's management control.

A summary of our position is detailed in the subsequent section. For a more detailed explanation please see the Internal Sewer Flooding (ISF) appendix (YKY-PR24-DDR-43).

As set out in our ODI chapter; in order to balance the overall package of risk and to protect against extreme events, we propose a cap and collar on this PC at 0.5% of relevant price control RORE.

14.2 Ofwat action reference

No related actions.

14.3 Key messages

The high instances of ISF in the Yorkshire region are not due to a lack of investment or operational interventions. Benchmarking demonstrates that Yorkshire Water has historically carried out the same – or even more – activities than other water companies, in addition to consistently investing more than the industry average for below-ground WWN+ assets and delivering a highly efficient level of investment. Accordingly, we have seen an above average level of improvement, however this has still not been sufficient to get us to industry average performance.

Our evidence indicates that within the Yorkshire region, ISF is massively impacted by external factors. These affect other water companies to varying extents. We have the second highest number of combined sewers. We have the highest proportion of cellared properties, and this is statistically the most material driver of ISF. If Yorkshire Water had an average number of cellars, modelling indicates our performance would be in the region of 1.46 to 1.52 per 10,000 connected properties (for 2022-23). This is significantly better than our performance of 2.67 per 10,000 connected properties for 2022-23. Our rainfall, whilst appearing average across water companies, is far higher in the areas of combined sewers and cellared properties. In general, we are underperforming against our industry peers because of these significant, exogenous regional factors, and the impact they have on ISF performance.

Yorkshire Water has not been sufficiently funded at PR19 or in the PR24 DD to reach a median industry position because of these factors. We agree companies should be able to deliver a 10% incident reduction from 2024-25 to 2029-30; indeed, we propose a 20% reduction in our business plan. However, historical allowances have not been sufficient to allow us to achieve the 2024-25 baseline position. New research undertaken with our customers shows that, while they want us to do all we can to avoid ISF, they also sympathise with our housing stock position. 77% of customers agreed that we should have company-specific targets regarding ISF.

14.4 Change requested

We are restating the position set out in our October submission with further evidence. Ofwat did not engage with our evidence for setting a company specific ISF target in our October submission, however Ofwat has commented on related parts of the draft determination. We have provided commentary to counter statements made in these, such as:

- Our cost adjustment claim for combined sewers in how they relate to ISF in section 14.5.4; and,
- The ISF methodology regarding the PR19 baseline and Climate Resilience funding in section 14.5.1.1.

Our evidence indicates that within the Yorkshire region, ISF is massively impacted by external factors which affect other water companies to varying extents. Instead of a single common target for all companies, our research shows that Ofwat should consider a bespoke target to appropriately reflect these factors.

The strong engineering rationale and econometric modelling (outlined further below) recommends the Yorkshire Water baseline for these PCLs is revised to 2.21 ISF incidents per 10,000 sewer connections at the start of AMP8, compared with a common PCL for AMP8 of 1.31.

Table 14-1: Summary of changes to the ISF performance commitment levels

Unit of measurement:	Number of internal sewer flooding incidents per 10,000 sewer connections				
	2025-26	2026-27	2027-28	2028-29	2029-30
October 2023 Business Plan submission	2.204	2.134	2.075	1.911	1.757
January 2024 Business Plan resubmission	2.204	2.134	2.075	1.911	1.757
Ofwat's Draft Determination	1.31	1.29	1.24	1.20	1.16
YKY Draft Determination Representation*	2.21	2.14	2.08	1.91	1.76

**Please note the difference between Oct BP submission and YKY DDR is a forecast change in the normalisation factor (Number of sewer connections). The proposed incident numbers remain the same.*

This PCL can be significantly affected by extreme rainfall. We also propose the introduction of a cap and collar at the standard level of 0.5% of wastewater regulated equity, or the reintroduction of an allowance for extreme weather events that recognises the limitations to which most sewer systems have been designed.

While we accept Ofwat's statement that this is a well-established performance commitment, extreme rainfall, such as that seen in 2007, could flood hundreds of thousands of properties in a single event, and is out of our control. Using an ODI performance penalty rate, internal sewer flooding to 1000 properties from an extreme event (on top of our normal performance) would result in a penalty over £60 million. An event like this would be outside our control and exceeds anything our drainage systems have been designed to handle. We therefore propose to set a collar at the standard level of 0.5% of wastewater regulated equity.

If there is a concern that no further investment would take place if a collar was reached (due to extreme rainfall), a shadow reporting with the extreme event removed could be used to demonstrate continued performance, investment and provide assurance. Alternatively, the definition for extreme rainfall could be reinstated that recognises the limitations to which most sewer systems have been designed.

14.5 Yorkshire Water's response to Ofwat

In the following section we set out our case:

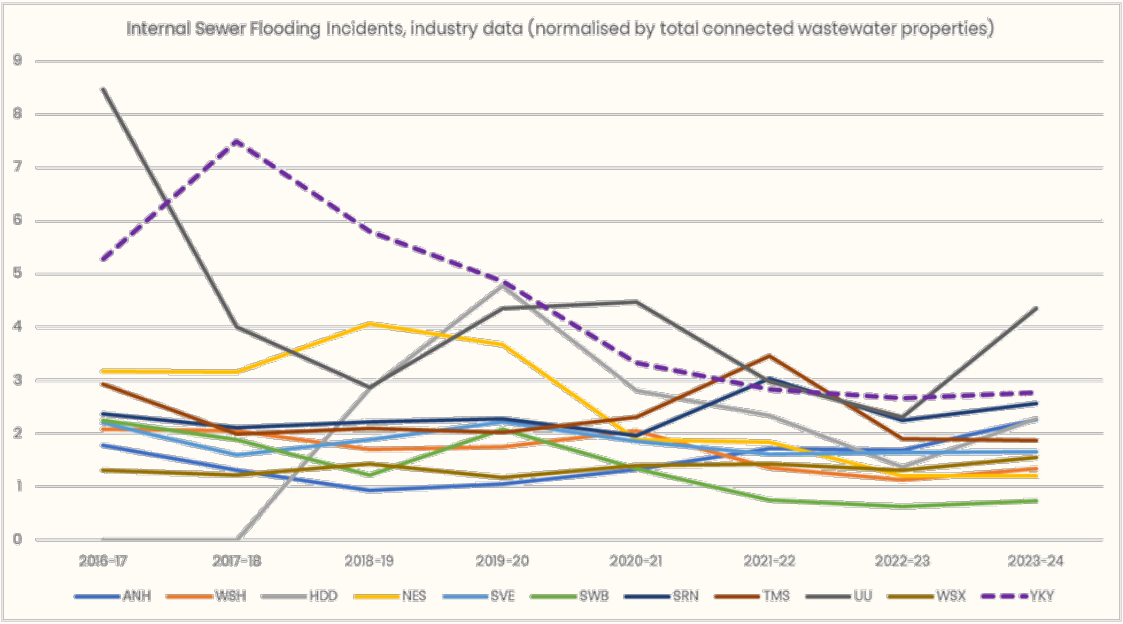
- Yorkshire Water has made significant and efficient investment into its network.
- Investment beyond the industry average and above our allowance is not sufficient to achieve industry median position because of other factors.
- This has been the case historically as well as during AMP8, meaning we are unable to achieve the 2024-25 PR19 baseline.
- Our operational interventions are best practice, and in areas more ambitious and innovative than the rest of the industry.
- Econometric modelling by Economic Insight demonstrates that the number of cellared properties is statistically the most material driver of internal flooding. Independent analysis indicates a disproportionate percentage of properties that have cellars are in our region, compared with other water companies.

- If Yorkshire Water had an average number of cellars, modelling indicates our performance would be in the region of 1.46 to 1.52 per 10,000 connected properties (for 2022-23). This is significantly better than our performance of 2.67 per 10,000 connected properties for 2022-23. In general, we are underperforming against our industry peers because of these significant, exogenous regional factors.
- Our research shows that Ofwat should consider a bespoke target relevant to these operational circumstances. Without reflecting the impact of exogenous factors on Yorkshire Water's PCL, Ofwat is setting a target that is entirely unachievable; and
- Crucially, our customers also support Yorkshire Water having a company-specific target regarding ISF.

14.5.1 Historical performance and investment

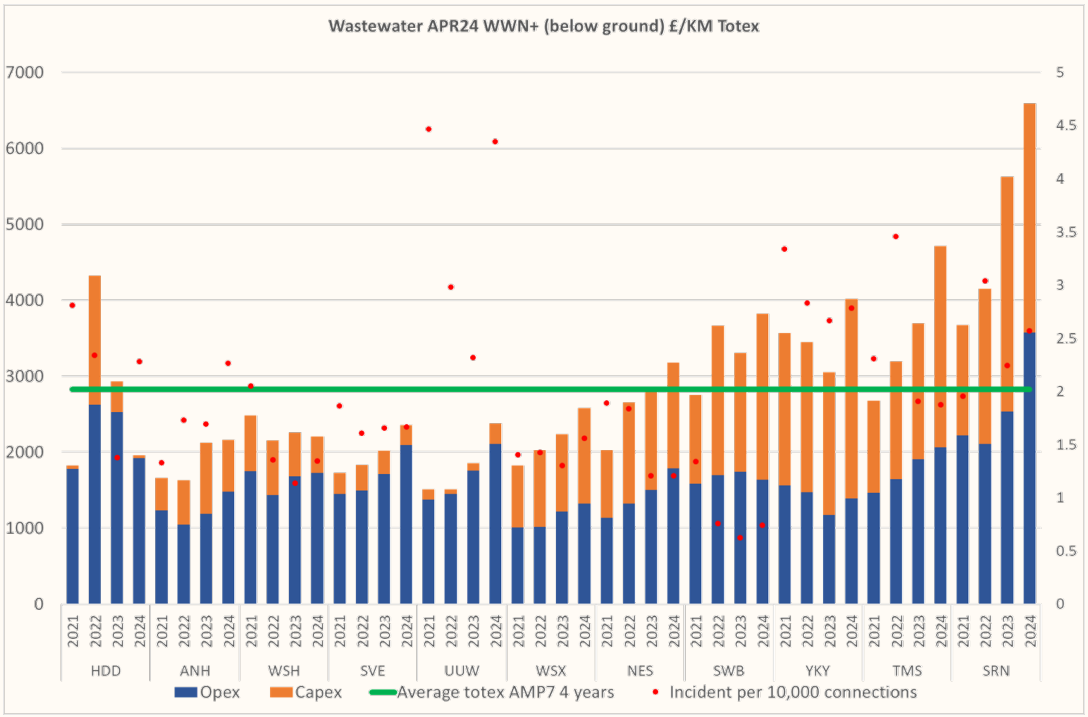
Over the last eight years, our internal sewer flooding incidents have been on a downwards trend. Since the end of AMP6, despite challenges that are outside of our control, we have significantly closed the gap in ISF performance in comparison with other water companies.

Figure 14-1 Our comparable performance over the last 8 years (ISF)



This vast improvement in operational performance is a result of Yorkshire Water consistently investing more than the industry average for below ground WWN+ assets and more than our allowance. So far in AMP7 we have invested around £180m more in our base allowance for WWN+ from a totex perspective (based on APR24 submission table 4C). Figure 14-2 below shows normalised WWN+ totex below-ground investment for the last four years alongside the normalised ISF performance. Yorkshire Water consistently invests more than the industry average into its Network; only Southern Water and Thames Water invested more.

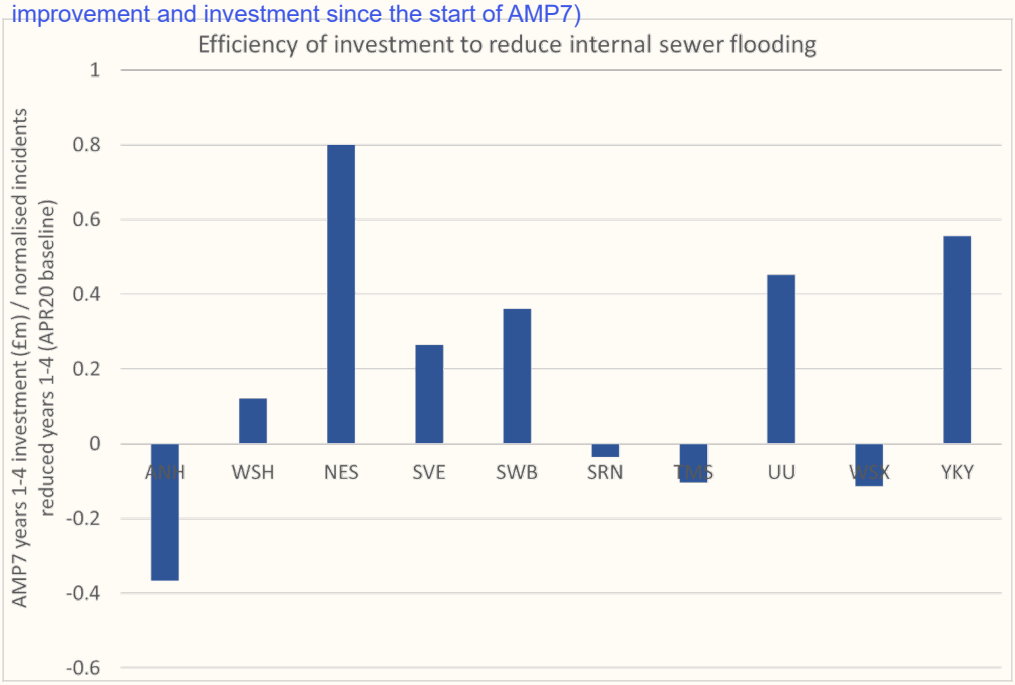
Figure 14-2 Comparative normalised investment in AMP7 and the number of internal sewer flooding incidents



Despite investing heavily and beyond our allowance in this area, we still experience high levels of internal sewer flooding compared to others. This is shown by the red dots on the above graph. South West Water invested comparable levels to us, but their internal sewer flooding incidents were low (and have historically been low). Anglian Water invested significantly less, yet their performance averagely sits within the 1.5 to 2 band (per 10,000 connected properties). Neither company experience the high level of exogenous factors in combination (that is: high combined sewers, cellars or urban rainfall) compared with Yorkshire Water. The graph potentially indicates investment per se does not influence the performance, and rather the wider exogenous factors play a crucial role.

Furthermore, when you consider the performance improvement delivered, our investment can also be seen as efficient. Figure 14-3 shows that, for the level of investment, only Northumbrian Water have delivered a greater level of improvement, with some companies' performance worsening.

Figure 14-3 Comparative efficiency in driving a reduction in ISF incidents (based on improvement and investment since the start of AMP7)



14.5.2 Investment required to achieve industry median position

14.5.2.1 Funding shortfall to achieve the 2024-25 baseline position

Yorkshire Water has been insufficiently funded at both PR19 and in the draft determination. We have been prevented from reaching a median industry position because of significant regional exogenous factors, namely the number of cellared properties, which affect us more than other companies.

Ofwat states: “We set the 2024-25 baseline position aligned to the PR19 2024-25 PCL (1.34) for all companies ... We consider this is achievable yet stretching because six of 11 companies forecast to deliver or outperform this level. Historical outturn performance demonstrates that companies can deliver performance improvements to internal sewer flooding in line with the PCL stretch. This is shown by a 28% reduction in internal sewer flooding incidents between 2017-18 and 2022-23, which is greater than the 10% incident reduction companies are challenged to deliver from 2024-25 to 2029-30”.

We agree companies should be able to deliver a 10% incident reduction from 2024-25 to 2029-30; indeed we have delivered a more than 40% improvement between 2019-20 and 2023-24 and propose a 20% reduction in our AMP8 business plan. Since the start of AMP7, we have invested significantly to drive a major improvement in performance – investing beyond most of the rest of the industry and beyond our allowance, as discussed above. We outline the breadth and depth of those operational activities below, under section 14.5.2. However, historical allowances have not been sufficient to allow us to achieve the 2024-25 baseline position, given the exogenous factors we face regionally.

The changes in base allowances for AMP8, as determined by Ofwat’s econometric modelling, provided a circa £40m increase, with the inclusion of urban rainfall as a driver. Our evidence from the econometric modelling demonstrates that urban rainfall alone is not sufficient to consider the factors we face, in particular for combined sewers and high cellar proportions in those areas. This c. £40m will only partially contribute to meeting Ofwat’s proposed PCL. In year 4, we saw over 90% of flooding occur in new locations. To go further and meet the targets set by Ofwat in the draft determination, we would need significant further investment.

To place Yorkshire Water in a more comparative position with other companies we would need to vastly reduce the number of cellars, or at least remove the risk of flooding. To do this, we would need to prevent the mechanism of flooding; either exfiltration from the combined sewer seeping through the cellar walls, or a direct connection surcharging back, typically linked to a blockage occurring in the small diameter combined sewers.

Our own surveys indicate we have c. 260,000 cellars. A high-level costing exercise shows that to tank a cellar and prevent seepage at half of these would cost circa £1bn. Halving the number of cellars would bring us roughly in line with the industry average and would also, very approximately, halve the number of ISF events occurring in cellars. This, combined with our already-planned AMP8 investment (monitors, proactive rehabilitation and others) would place Yorkshire Water performance in the region of the draft determination target. We do not however propose to develop this approach further as we do not believe this would represent good value for customers.

In Oxera's report on the cost outcomes disconnect (YKY-PR24-DDR-16), it suggests several approaches that can be used to assess the levels of service that base buys. In all examples it finds that the Ofwat PCL for Internal sewer flooding at DD is more stretching than can be considered funded through base. This should be considered when assessing the stretch proposed by Yorkshire Water for the PC levels in its response to the draft determination.

Table 14-2. Implicitly funded PCL for 2029-30 (from Oxera report on cost outcomes disconnect)

	Ofwat DD	Approach 1	Approach 2	Approach3
Total pollution incidents (incidents per 10,00km)	1.16	2.19	2.37	2.49

14.5.2.2 Climate change funding

Ofwat states: “We have also provided all companies with a climate change resilience uplift to address their priority issues relating to flooding and power resilience. We provide such funding in line with our policy approach that companies should manage all external risks, as they are better placed to do so than customers. We expect this investment to support the delivery of our proposed PCLs for internal sewer flooding levels. Companies should not expect to receive relief from the impacts of underperformance where exogenous events occur.”

We recognise that £15m has been offered to provide further climate change resilience and that this should be used to support internal sewer flooding. When reviewing the root cause of ISF incidents, less than 1% are linked to assets where we could target intervention (e.g. pumping stations), with the rest spread across our network. We propose to use a proportion of this funding to improve power and fluvial flood resilience at pumping stations, which would start to address some of this risk, and to develop real-time network interventions to increase capacity and resilience in our network assets (gravity and pumped). These interventions are about improving our resilience to climate change. Whilst we do envisage a benefit to ISF and other PC measures, we have not included the benefit in our PC forecast, as we see this funding providing limited protection against extreme events which are not included in our projected performance levels. For further information on our plans in this area, please see our Resilience appendix – clean water (YKY-PR24-DDR-38).

To summarise this section; Yorkshire Water has made a considerable investment in the network, over the industry average and beyond our allowance, and seen a notable improvement in ISF performance. However, despite both this and the cost-effective practices outlined in the following section, we are still not near the industry median position. Section 14.5.3 explains how this has been demonstrated as a result of exogenous factors. Without reflecting the impact of exogenous factors on Yorkshire Water’s PCL, Ofwat is setting a target that is entirely unachievable.

14.5.5 Our best practice operational interventions

The above-average level of investment highlighted in the previous section corresponds with the volume and vast breadth of activities we carry out to try and tackle internal sewer flooding.

In particular, our activities target areas with a high proportion of combined sewers and cellars, with higher-than-average regional rainfall and food service establishments. These activities aim to eliminate the problem at source, targeting an enhanced response, preventing repeat incidents through our broader management and governance. Table 14-2 below demonstrates the significant level of effort and expenditure that has been undertaken purely to target elimination at source. This is a subsection of our wider activities, with a more complete view provided in section 4 Internal Sewer Flooding (ISF) appendix (YKY-PR24-DDR-43).

We have visited hundreds of thousands of high-risk properties each year to inspect, flush and identify where repairs are required, even to minor defects. To date, in AMP7, we have undertaken 12,447 repairs across years 1 to 4. Our work includes the use of customer sewer alarms (close to the properties where they can be installed) in combined sewered and cellared areas. With 40,000 installed by the end of Year 4, we cleared 2,500 blockages in one year and anticipate a higher clearance rate in Year 5 (as sensors were still being installed in Year 4).

Table 14-3: An extract of activities undertaken and developed in AMP7 to reduce internal sewer flooding

Activities	Year 1	Year 2	Year 3	Year 4
Eliminate at source				
Invested in proactive schemes to prevent initial flooding incidents occurring	*£20.4m*	*£17.8m*	*£10m*	*£18.5m*
Further investment in network reactive maintenance	*£23.2m*	*£23.2m*	*£20.2m*	*N/A*
Carried out sewer investigations at properties with a higher risk of internal sewer flooding	150,000	261,116	99,275	131,042

Total sewer investigations at properties	178,000	289,707	97,980	131,042
Repairs carried out following investigations	2,415	3,599	1,947	4,486
Improved targeted approach for proactive surveys was used from Year 3, to identify defects	N/A	N/A	116% more	36% more
Improved targeted approach for proactive surveys was used from Year 3, to identify blockages	N/A	N/A	80% more	40% more
Proactive sewer cleansing and desilting	170km	160km	97km	450km
Customer sewer alarms installed (previously gully monitors)	Pilot	4,000	16,000	40,000
Blockages cleared due to customer sewer alarms	N/A	N/A	600	2,520
Behavioural change - e.g. Campaigns, letters (l), home visits, communications (comms £m)		32,064 (l) £0.3m comm	18,621 (l)letters	11,943 (l) £0.9m comm
Sweep Jetting / flushing close to properties		58,383 props	N/A	40,125 props
Defects Identified following survey	Not available	Not available	2,714	5,319
Blockages cleared due to proactive surveying (includes Sewer Maintenance Programme & Sewer Cleansing)	Not recorded	Not recorded	3,241	4,247

Our work aligns closely with what other companies undertake and, in several areas, surpasses them. We regularly hold best practice discussions with our colleagues in other water companies to understand their activities and share ours, recognising what they are targeting and why.

To demonstrate the innovative nature of our approach, we have documented a comparison between Yorkshire Water and a number of the top performing companies for internal sewer flooding or blockages, as shown in Table 14-4 below. To develop this analysis, we utilised the water company PR24 submissions to capture activities currently being undertaken to reduce the likelihood of internal sewer flooding resulting from other causes (focusing on published information). While not all activities will be noted in a water company submission, the breadth of the activities that we undertake demonstrates that we are deploying the right tactics to address internal sewer flooding, whilst tackling the exogenous factors.

Table 14-4: Comparison of our activities against leading companies in aspects linked to managing internal sewer flooding

Activities Overview	NES	NWT	SVE	SWB	WSX	YKY
Customer education	✓	✓	✓		✓	✓
Business visits and education	✓					✓
Sensors on properties						✓
Sensors on manholes	✓	✓	✓	(✓)	✓	✓
Sensors where repeat blockages			✓		✓	✓
Prioritise hotspots for ISF & blockages	✓	✓		✓	✓	✓

Repeat blockage focus	✓		✓			✓
Targeted CCTV	✓				✓	✓
Auto-coding CCTV					✓	(✓)
Proactive inspection for service, condition incl. collapses	✓	✓				✓
Proactive jetting and cleansing	✓	✓	✓	✓	✓	✓
Tree root cutting					✓	✓
Patch repairs and relining of assets	✓				✓	✓
Enhanced staff training					✓	✓
Increased resources	✓					✓

Key: ✓ indicates activities undertaken, (✓) activities recently commenced

14.5.6 Our business plan econometric modelling

We recognise the benefits to Ofwat and customers in being able to directly compare company performance, and support this where a fair comparison between companies can be made. However, we remain concerned that setting some PCLs at a common level does not allow this fair comparison. In its econometric cost models, Ofwat recognises that not all companies are the same, reflecting this in some of the variables – but not when setting common PCLs. Without accounting for these in setting PCLs, some companies are benefitting from a favourable set of factors and others are being overly stretched.

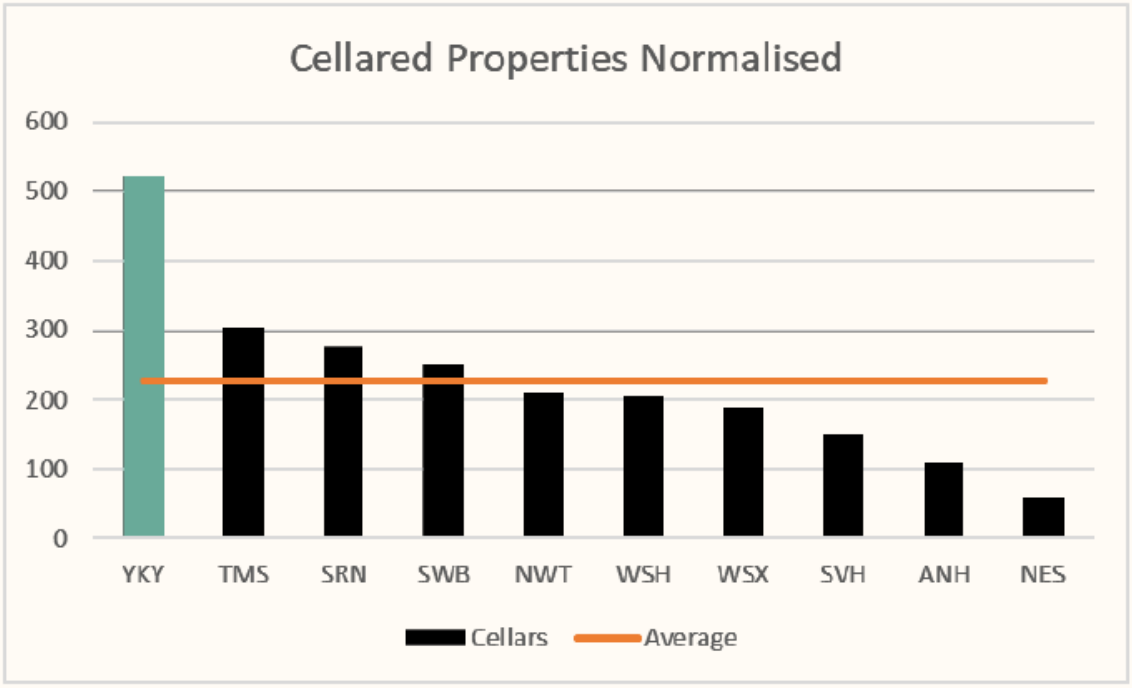
We worked with Economic Insight (EI) to test the impact of four key exogenous drivers of ISF on the Yorkshire region; combined sewers, cellared properties, food service establishments (FSEs) and urban rainfall. EI developed a set of econometric models that incorporated these factors. Since the results shared with Ofwat in our October business plan submission, the model has been updated to account for (i) the latest APR data; (ii) PR24 Business Plans; and (iii) PCLs set in Ofwat's PR24 draft determinations. The updated results are provided below. They continue to suggest that an ISF target, which reflects the unique regional challenges that our network faces, remains above Ofwat's proposed PCL.

We ultimately found that FSEs, as a variable, was highly colinear with both combined sewers and rainfall and hence was likely capturing many of the same performance variations. Our final model excluded FSEs and was based on explaining ISF performance using cellared properties, combined sewers, urban rainfall and a time trend to forecast an adjusted upper quartile performance level for the industry that accounted for these factors.

We note that the number of cellared properties is the most material driver of internal flooding. Independent analysis undertaken by Edge Analytics (used in the analysis to adjust our proposed ISF PCL) indicated a disproportionate percentage of properties that have cellars are in our region, compared other water companies.

Cellars enable internal sewer flooding to occur more easily as the escape point is below ground level. If Yorkshire Water had an average number of cellars, modelling indicates our performance would be in the region of 1.46 to 1.52 per 10,000 connected properties (for 2022-23). This is significantly better than our performance of 2.67 per 10,000 connected properties for 2022-23. In general, we are underperforming against our industry peers because of these significant, exogenous regional factors we have seen.

Figure 14-4 Distribution of cellars normalised by water company based on Edge Analytics analysis



As shown in Figure 14-5 below, the modelling demonstrates that a PCL of between 2.43 and 3.43 (Year 5 target) would be representative of the industry average given our unique regional circumstances (black and green lines below). Prior to the inclusion of APR 2023-24 data, this range was between 1.96 and 3.44. The estimated PCL positions through different methods are slightly different from our October submission and are influenced by the generic trend across the industry where each company's normalised incidents in the main increased in 2023-24, and as such influenced the overall predictions by the two methods used.

We are proposing to go beyond this modelled level of median performance, and are setting ourselves a more challenging AMP8 target, culminating in 1.76 ISF incidents per 10,000 properties per year by Year 5 (purple line).

Figure 14-5 Econometric modelling estimated adjusted PCLs for Yorkshire Water

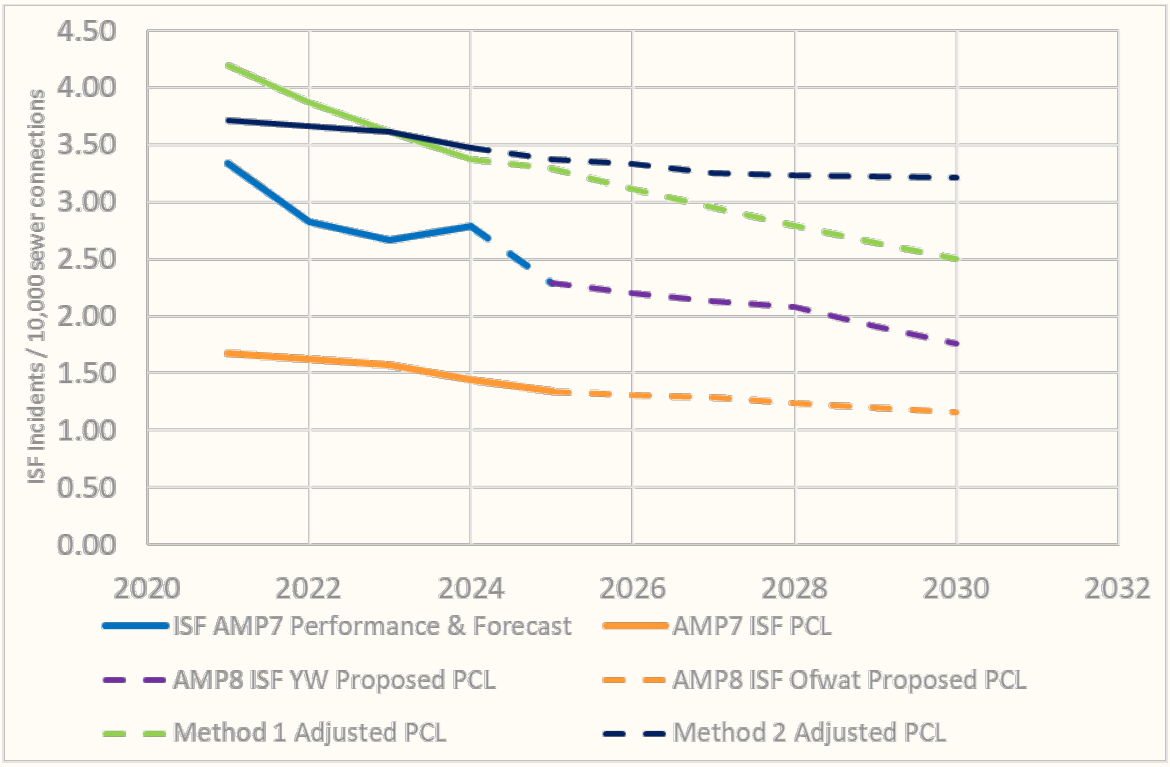


Table 14-5 below illustrates the relative extent to which we are impacted by each exogenous factor in comparison to other water companies, with each factor having a score of one (company most impacted) to 10 (least impacted). As can be seen from the table, Yorkshire Water is the company most likely to suffer the greatest from these exogenous factors, followed by United Utilities (NWT), indicating our unique circumstances.

Table 14-5: Summary of the exogenous factors and relative scale of impact for each water company

Exogenous factor	ANH	NES	NWT	TMS	SRN	SVH	SWB	WSH	WSX	YKY
Combined sewer legacy	6	4	1	10	9	7	3	5	8	2
Cellars	9	10	5	2	3	8	4	6	7	1
Food service establishments	8	3	2	5	7	6	9	4	10	1
Rainfall	10	8	3	9	6	7	2	1	4	5

In general, we are underperforming against our industry peers because of these significant, exogenous regional factors we experience. Further detail on our approach and the exogenous factors affecting ISF is provided in section 5 of the Internal Sewer Flooding (ISF) appendix (YKY-PR24-DDR-43).

Ofwat identifies practicality, affordability or customer support as valid reasons for proposing variations to common levels of performance. To make our exogenous factors align with the industry average would not be practical or affordable.

14.5.7 Reasons not to discount exogenous factors

There are potential counter arguments to the use of these factors which we commented on when submitting our YK46 cost adjustment claims. Further to our previous arguments, we summarise below the reasons that have been raised to discount the exogenous factors that we believe should be considered – and our responses to each.

Table 14-6: Overview of reasoning to not discount exogenous factors

Possible reason to discount	Response addressing reason
Annual rainfall and combined sewers: a potential argument that more rainfall will flush out blockages therefore reduce flood risk from blockages.	Rainfall is likely to have a complex relationship with deposition and solid re-entrainment, and links with other factors such as combined systems conveying rainfall and foul material, that can hence block and surcharge. As blockages do frequently occur, it's more likely there is a higher chance of a blockage not being flushed, especially if the available head to force the blockage forward is minimal and an escape route to a property is readily available (as in a cellar). Dwr Cymru may be an example of this, with low ISF but the second-highest normalised blockage rate in the industry. If rainfall was expected to flush, logically the blockages would also be low.
Combined sewers: concerns on the quality of the asset function of sewers (e.g. foul or combined) and how these are reported.	Asset function is an important record held by water companies to determine activities. Legacy sewers should typically be understood, as these would form part of hydraulic sewer models, which most companies have invested heavily in developing. Legacy data should be considered robust. Transferred sewers by function are less understood, and this should mature over time as more data is collected. However, reasonable assumptions based on the legacy sewer asset function should provide a good indication to type. Sewer lengths per se are used in econometric models already.
Combined sewers: would incentivise the construction of more combined sewers.	It would be cost prohibitive for any company to start to invest in constructing new combined sewers. Water companies are committed to reducing surface water entering the drainage system, hence creating separate networks including through sustainable drainage. This is substantiated in our commitment to deliver 20% of the storm overflow programme through blue green interventions this AMP and increasing in subsequent AMPs.

	Where there is a concern that companies would target building combined sewers, current water company positions could be capped to provide a protection, and if it was the case, disincentivise their construction.
Cellar data: quality of the cellar data and confidence it provides a representative picture.	Our work has drawn on publicly available evidence to provide a national comparison of the number of cellars through the 2001 Census and independently by Edge Analytics. We believe both data sets are sufficiently robust to indicate the proportion of cellars within each company boundary. In reference to 2001 data, properties built after this time would typically be protected from flooding where there are below ground rooms as a result of building regulations.

14.5.8 Customer support for our proposal

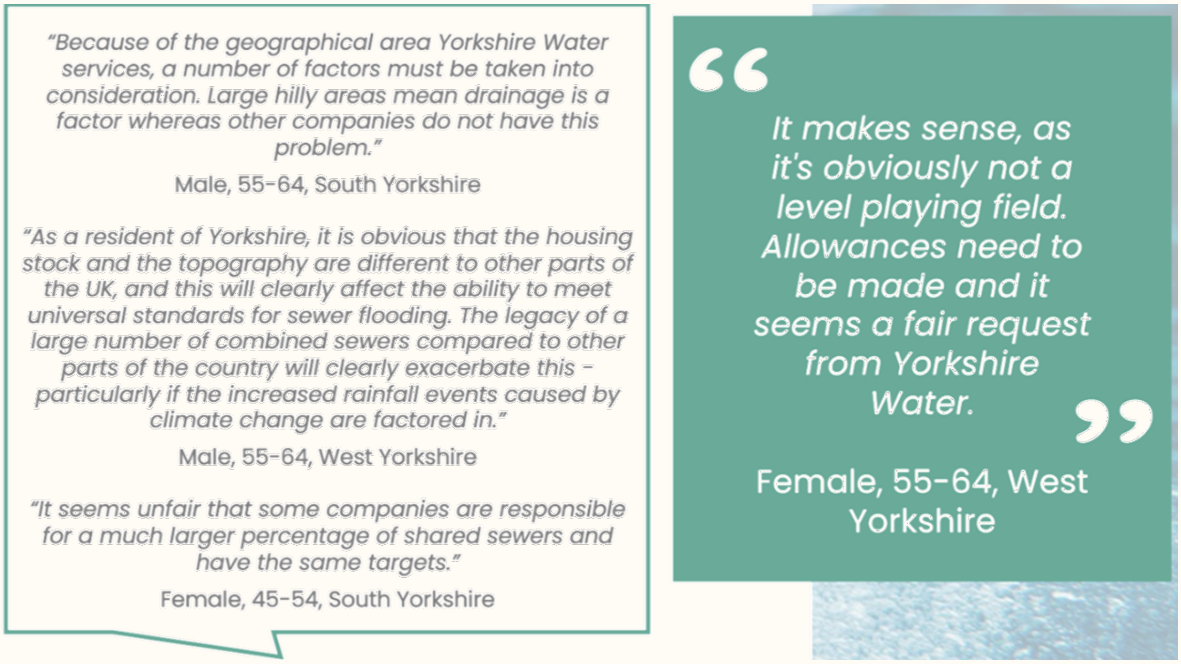
Our affordability and acceptability research, following Ofwat guidelines, included our planned target for ISF. This was acceptable to 78% of customers. In our own independent research, 79% of customers accepted our overall plan, including this target.

14.5.8.1 Customer engagement since business plan submission

Given the high likelihood of continual penalties across the whole of AMP8, despite improvements in performance, we felt it necessary to understand what our customers thought about our unique position in Yorkshire, with regards to ISF. We commissioned a survey following our business plan submission in October, examining the fairness of common targets with 975 customers, and weighted the sample to be representative of the demographics of our region.

While we understand ISF is extremely unpleasant for those experiencing it and our customers want us to do all we can to avoid it, the study concluded that our customers sympathised with our housing stock position. 77% of customers agreed that we should have company-specific targets regarding ISF. High levels of support were attributed to the unfairness of standardised targets when all companies are not facing the same challenges, and that 'Yorkshire Water shouldn't be penalised for what is out of our control or inherited'. In addition, 67% agreed that Ofwat should adjust the target to reflect region-specific factors, and 62% feel that it would be fair to do this.

Quotes from the study are laid out below:



14.6 Concluding points

While we are supportive of protecting our customers through a common performance commitment, we have identified multiple issues with the application of the common target of industry median in the PR24 draft determination. The high instances of internal sewer flooding in the Yorkshire region are not due to a lack of investment or operational interventions.

Our evidence indicates that within the Yorkshire region, ISF is massively impacted by other external factors which affect all water companies to varying extents (these include the percentage of combined sewers, the number of cellars/basements and rainfall). As such, we seek to agree an appropriate stretch PCL for ISF that is not common across the industry, as such a target fails to adequately account for factors which are beyond Yorkshire Water's management control.

Without reflecting the impact of exogenous factors on Yorkshire Water's PCL, Ofwat is setting a target that is entirely unachievable. Crucially, our customers also support Yorkshire Water having a company-specific target regarding ISF, as this ensures fairness across the board.

15 Bathing water quality

15.1 Overview

As part of the PR24 draft determination the following statements were made by Ofwat.

- Methodology for setting performance from enhancement: in response to the draft determinations, we invite companies to accept these interventions or provide sufficient and convincing evidence to support an alternative approach.
- New bathing waters designated in May 2024: we ask that companies provide forecasted classifications for these sites so that they can be included in the PCL setting for the 2025-30 period.

We are supportive of Ofwat's ambition to improve bathing water quality, and the proposed glide path. However, we consider that the PCL for bathing water quality is unachievable due to factors outside of management control. We request an adjustment to the PCL to allow for:

- The pending de-designation of the Skipsea bathing water, which is now closed as a bathing water, due to significant coastal erosion that occurred after we submitted our business plan in October 2023 and is now pending an application to de-designate.
- Factors outside of Yorkshire Water's management control on the River Wharfe at Cromwheel, Ilkley.
- The inclusion of the new 2024 bathing water designations performance forecast, as requested by Ofwat.

15.2 Ofwat action reference

The following actions set by Ofwat are addressed within this representation:

- DDQ_060 - We recognise that 27 additional designations of new bathing waters have been made by Defra on 13 May 2024 and two additional designations of new bathing waters were confirmed by the Welsh Government by 20 June 2024. We do not have forecast classifications for these new sites. Any site which was recently designated in 2024 has therefore not been included in the PCL setting at draft determination. However, as these sites have been designated before the start of the 2025-30 period, we will include them in PCL setting at final determination. We therefore require companies to submit forecast classifications for these new sites, updating any information previously submitted as necessary. Severn Trent Water previously had no designated bathing waters so has not been included in the PCL setting at draft determination but will be included at final determination.
- DDQ_061 - We expect companies to review the identified lists of designated bathing water sites and our proposed interventions. We request that they accept these interventions or provide sufficient and convincing evidence to support an alternative approach at an individual bathing water level.
- DDQ_127 - Yorkshire Water previously provided details and forecast classifications for two bathing water sites that match those that have been recently designated in May 2024. We plan to include newly designated sites at final determination and have not included them in the bathing water quality PCLs set for any company at draft determination. We invite Yorkshire Water to review and resubmit forecast classifications for these two newly designated sites if they wish.

DDQ_060 and DDQ_127 relate to the designation of 27 new bathing waters in England in May 2024. Two of these were located within the Yorkshire region (Wharfe at Wilderness Car Park and Nidd at the Lido, Knaresborough). We include a performance forecast for these within section 15.4 below, and further details for this forecast in section 15.5.

DDQ_061 relates to interventions Ofwat has made to expected forecast performance due to WINEP improvements. We include a representation below on Ofwat's intervention for the performance at the Wharfe at Cromwheel, Ilkley.

15.3 Key messages

Following our review of Ofwat's draft determination for the bathing water quality performance commitment, we:

- Support Ofwat's acceptance of a glide path approach throughout AMP8 for improvements in bathing water quality performance.
- Represent against Ofwat's view for improvements on the River Wharfe at Cromwheel, Ilkley due to the complexities in bathing water quality, and apply the same logic to our new designations on the River Wharfe at Wilderness Car Park and River Nidd at the Lido, Knaresborough.
- Propose a change to one of our bathing water designations which has experienced faster than anticipated coastal erosion and is now closed, pending application for de-designation.

15.4 Change requested

We propose the following changes to the bathing water quality performance commitment level within our representation:

Table 15-1: Summary of changes to the bathing water quality performance commitment levels

Unit of measurement:	Average bathing water quality score (%)				
	2025-26	2026-27	2027-28	2028-29	2029-30
October 2023 Business Plan submission	73.5	73.5	73.5	82.3	82.3
January 2024 Business Plan resubmission	73.5	73.5	73.5	82.3	82.3
Ofwat's Draft Determination	75.2	75.2	75.2	82.3	84.1
YKY Draft Determination Representation	66.4	66.4	66.4	72.9	72.9

The YKY draft determination representation performance commitment level in Table 15-1 above is based on the following forecasts in Table 15-2. Those which are a change from or addition to Ofwat's draft determination are highlighted in green, with the reasons for these representations included in section 15.5:

Table 15-2: AMP8 individual bathing water forecast performance

Bathing Water	Forecast Performance Level				
	2025-26	2026-27	2027-28	2028-29	2029-30
Bridlington North Beach	Good	Good	Good	Good	Good
Bridlington South Beach	Sufficient	Sufficient	Sufficient	Sufficient	Sufficient
Cayton Bay	Excellent	Excellent	Excellent	Excellent	Excellent
Danes Dyke, Flamborough	Excellent	Excellent	Excellent	Excellent	Excellent
Filey	Good	Good	Good	Excellent	Excellent
Flamborough South Landing	Excellent	Excellent	Excellent	Excellent	Excellent
Fraisthrope	Good	Good	Good	Good	Good
Hornsea	Excellent	Excellent	Excellent	Excellent	Excellent
Reighton	Excellent	Excellent	Excellent	Excellent	Excellent
Robin Hoods Bay	Good	Good	Good	Good	Good
Runswick Bay	Good	Good	Good	Excellent	Excellent

Sandsend	Excellent	Excellent	Excellent	Excellent	Excellent
Scarborough North Bay	Excellent	Excellent	Excellent	Excellent	Excellent
Scarborough South Bay	Poor	Poor	Poor	Sufficient	Sufficient
Skipsea	Good	Good	Good	Good	Good
Wharfe at Cromwheel, Ilkley	Poor	Poor	Poor	Poor	Poor
Whitby	Excellent	Excellent	Excellent	Excellent	Excellent
Wilsthorpe	Good	Good	Good	Excellent	Excellent
Withernsea	Excellent	Excellent	Excellent	Excellent	Excellent
Wharfe at Wilderness Car Park	Poor	Poor	Poor	Poor	Poor
Nidd at the Lido, Knaresborough	Poor	Poor	Poor	Poor	Poor

15.5 Yorkshire Water's response to Ofwat

We propose the following changes to Ofwat's proposed performance commitment level for bathing water quality:

- Skipsea bathing water in section 15.5.1;
- River Wharfe at Cromwheel, Ilkley remains at 'poor' in 2029-30, as per section 15.5.2;
- River Wharfe at Wilderness Carpark forecast classifications provided in section 15.5.3; and,
- River Nidd at the Lido, Knaresborough forecast classifications provided in section 15.5.4.

15.5.1 Skipsea

Skipsea is a rural bathing water located within the East Riding of Yorkshire, which is experiencing significant levels of coastal erosion. Following our business plan submission in October 2023, Skipsea has eroded at a greater rate than forecast and can no longer be safely accessed. As such, Skipsea is classed as 'Closed' by the Environment Agency, which can be seen on its SWIMFO profile[3].

Skipsea was last sampled in September 2023 and its last classification was issued in 2023; this classification was for 'Good' bathing water quality. Historically, Skipsea has performed at 'Good' or 'Excellent' standard as seen in the table below:

Table 15-3: Skipsea classifications 2019-23

Year	Classification
2019	Good
2020	N/A
2021	Good
2022	Excellent
2023	Good

We have been in regular discussions with the Environment Agency and East Riding of Yorkshire Council since its closure at the start of the 2024 bathing water season. The Environment Agency have confirmed it will not be sampling during the 2024 bathing water season, and East Riding of Yorkshire Council have confirmed its support for de-designation at Skipsea. We include a letter from the Environment Agency in the Bathing Water Quality appendix (YKY-PR24-DDR-47) which confirms Skipsea's closure and lack of sampling. The appendix also includes a letter from East

[3] https://environment.data.gov.uk/bwq/profiles/profile.html?_search=skip&site=uke1200-08600

Riding of Yorkshire Council which confirms its intention to apply for de-designation of the bathing water.

As we anticipate that Skipsea will be de-designated following the 2025 bathing water season (as per the following two clauses within the performance commitment definition), we propose that Skipsea's classification should be considered as 'Good' within the performance commitment level modelling:

> *"If an eligible bathing water is closed and sampling cannot be undertaken, the most recent classification will apply for the purposes of calculating the company's performance.*
>
> *If an eligible bathing water is de-designated during the period, it will continue to be included in calculating the average score and will be given a weighting based on the last classification it received."*

We do not have any enhancement expenditure proposed at Skipsea which would be impacted by the proposed de-designation.

15.5.2 River Wharfe at Cromwheel, Ilkley

Within the draft determination, Ofwat has proposed an improvement to the River Wharfe at Cromwheel, Ilkley in 2029-30. In our business plan submission, we had proposed a performance level of 'Poor', however, the draft determination expects the River Wharfe at Cromwheel, Ilkley to improve to 'Sufficient' in 2029-30 due to the WINEP actions completing by 31/03/2026. We propose an adjustment to Ofwat's draft determination to accept our original proposals of 'Poor' due to factors outside direct management control. Even with the completion of our WINEP schemes, investigations demonstrate that the removal of all human sources of bacteria is not sufficient to improve the designation due to the significant 50% contribution from agricultural sources in the area.

Bathing waters are complex and can be impacted by numerous factors including:

- Sewerage infrastructure. This can impact bathing water quality through treated final effluent discharges, storm overflows, and misconnections in networks where waste connections from a property may be connected directly to a surface water sewer or watercourse.
- Meteorological conditions. This can impact bathing water quality through numerous factors including the levels of natural ultraviolet (UV) light emitted and levels of rainfall.
- Surface runoff can increase the level of faecal indicator bacteria which can run off the land.
- Traders and agriculture can both directly impact bathing water quality as a source of bacteria, for example, as a by-product of trade waste processes or directly from livestock.
- Local wildlife and beach usage may also impact bathing water quality through direct input of bacteria into the waterbody, for example, dog waste or recreational use of the beach such as by donkeys.

Whilst we are expediating our infrastructure improvements through the Accelerated Infrastructure Delivery Project to enable us to achieve the WINEP regulatory requirement and reduce the impact that our assets will have on bathing water quality, we do not anticipate these improvements will result in a change of classification. From investigations led by the Environment Agency[4], we know there is significant agricultural input in the Wharfe catchment. Environment Agency analysis shows that during dry conditions, there are similar levels of bacteria from both human and agricultural sources (50:50 split). Human sources include water company sewage discharges as well as private septic tanks, agricultural sources include cows and sheep within the catchment. The analysis continues to show that:

> *"Following rainfall, which leads to increased run off of water from the land in the catchment, this distribution changes, with the amount of bacteria from cows and sheep*

[4] https://environmentagency.blog.gov.uk/2024/04/04/working-towards-a-cleaner-wharfe-a-closer-look-at-water-quality-testing-at-ilkleys-bathing-water/

becoming much more significant than sewage and keeping bacteria levels high in the river for over 48 hours after the rain.

The analysis shows that while sewage inputs close to Cromwheel have a short-lived impact on bathing water quality, the catchment-wide agricultural input from further upstream leads to longer term high bacterial levels in the river."[5]

We have assessed this 50:50 ratio found by the Environment Agency to understand the implications on the bathing water calculations for both a 90th and 95th percentile. We have run a calculation scenario to understand if all human inputs were fully removed from the catchment (50% input reduction in compliance samples), what the resultant classification would be. This is a hypothetical scenario to understand the impacts of agriculture alone on the catchment and it should be noted that our proposals will not achieve a full 50% removal of human impacts. Our analysis utilises the Environment Agency's compliance monitoring for the years 2021-23. The results of this exercise can be found below:

Table 15-4: Compliance Assessment Results

	E. coli			Intestinal Enterococci		
Scenario	90th Percentile	95th Percentile	Classification	90th Percentile	95th Percentile	Classification
Compliance samples (as taken by the EA)	2925	4466	Poor	1452	2371	Poor
50% input reduction in compliance samples	1463	2233	Poor	727	1189	Poor

This analysis shows that with a full 50% input reduction in the compliance samples (akin to removal of all human sources), the bathing water quality would still remain as 'Poor' classification.

Whilst Yorkshire Water will continue to work in partnership to improve bathing water quality at Cromwheel, we have limited influence over agricultural pollution sources in the area and ultimately the responsibility for managing these sources belongs to the Environment Agency. We therefore propose the River Wharfe at Cromwheel, Ilkley remains as 'Poor' within the performance forecasts and performance commitment level setting, due to factors outside of management control.

15.5.3 River Wharfe at Wilderness Car Park

Within Ofwat's draft determination, two requests for additional information regarding the 2024 designated bathing waters were made (DDQ_060 and DDQ_127). The River Wharfe at Wilderness Car Park was designated in May 2024. The Environment Agency has been taking weekly compliance samples, and we have also been monitoring as part of our WINEP bathing water investigation.

We provided a performance forecast for the River Wharfe at Wilderness Car Park in response to OFW-OBQ-YKY-115, which included forecasting the bathing water as 'poor' for AMP8. The Environment Agency's compliance samples and our investigation samples confirm this forecast position of 'poor' and as such, we continue to forecast the River Wharfe at Wilderness Car Park as 'poor' for the 2025-30 period.

Please see table below for year-to-date (up to 3 August 2024) performance analysis from the Environment Agency's compliance samples for the River Wharfe at Wilderness Car Park:

[5] https://environmentagency.blog.gov.uk/2024/04/04/working-towards-a-cleaner-wharfe-a-closer-look-at-water-quality-testing-at-ilkleys-bathing-water/

Table 15-5: Environment Agency YTD sample results for River Wharfe at Wilderness Car Park (2024)

Bathing Water	E. coli			Intestinal Enterococci		
	90th Percentile	95th Percentile	Classification	90th Percentile	95th Percentile	Classification
Wharfe at Wilderness Carpark (EA compliance)	1947	2894	Poor	827	1397	Poor

As we had engaged with our community and stakeholders in the lead up to our PR24 business plan submission, we included proposed investment within our plan under the BW_IMP4 non-statutory driver, 'Actions to improve non-designated waters where there is evidence of customer support'. As these bathing waters have been designated, their WINEP actions will become statutory under the EnvAct_IMP3 driver 'Improvements to reduce storm overflows that spill to designated bathing waters to protect public health'. These WINEP lines have a regulatory compliance date of 2030, and as such we do not anticipate any improvement to bathing water quality within AMP8.

Our performance forecast aligns to Ofwat's draft determination assessment rules for the bathing water quality performance commitment, which states:

> *"Where a site has a WINEP or NEP action which is an improvement and the action is completed prior to 2029, we have pushed the classification higher at the end of the period, 2029-2030. We allow this delay as we do not expect improvement actions to have an immediate effect after being implemented."*

15.5.4 River Nidd at the Lido, Knaresborough

Within Ofwat's draft determination, two requests for additional information regarding the 2024 designated bathing waters were made (DDQ_060 and DDQ_127). The River Nidd at the Lido, Knaresborough was designated in May 2024, the Environment Agency has been taking weekly compliance samples, and we have also been monitoring as part of our WINEP bathing water investigation.

We provided a performance forecast for the River Nidd at the Lido, Knaresborough, in response to Query OFW-OBQ-YKY-115, which included forecasting the bathing water as 'Poor' for AMP8. The Environment Agency's compliance samples, and our investigation samples, confirm this forecast position of 'Poor' and as such we continue to forecast the River Nidd at the Lido, Knaresborough as 'Poor' for the 2025-30 period.

Please see table below for year-to-date (up to 3/08/2024) performance analysis from the Environment Agency's compliance samples for the River Nidd at the Lido:

Table 15-6: Environment Agency YTD sample results for the Nidd at the Lido, Knaresborough (2024)

Bathing Water	E. coli			Intestinal Enterococci		
	90th Percentile	95th Percentile	Classification	90th Percentile	95th Percentile	Classification
Nidd at the Lido, Knaresborough (EA compliance)	1872	3057	Poor	1050	1515	Poor

As we had engaged with our community and stakeholders in the lead up to our PR24 business plan submission, we included proposed investment within our business plan submission under the BW_IMP4 non-statutory driver, 'Actions to improve non-designated waters where there is evidence of customer support'. These WINEP lines have a regulatory compliance date of 2030, and as such we do not anticipate any improvement to bathing water quality within AMP8.

As these bathing waters have been designated, their WINEP actions will become statutory under the EnvAct_IMP3 driver 'Improvements to reduce storm overflows that spill to designated bathing waters to protect public health'. This driver has a regulatory requirement for 2030, and as such we do not anticipate any change to our performance forecast or plan for AMP8.

Our performance forecast aligns to Ofwat's draft determination assessment rules for the bathing water quality performance commitment, which states:

> *"Where a site has a WINEP or NEP action which is an improvement and the action is completed prior to 2029, we have pushed the classification higher at the end of the period, 2029-2030. We allow this delay as we do not expect improvement actions to have an immediate effect after being implemented'*

15.6 Concluding points

We are supportive of Ofwat's ambition to improve bathing water quality and welcome the glidepath approach to the proposed performance commitment level. However, due to factors outside of management control, we ask Ofwat to reconsider the PCL. We have provided an updated performance commitment level alongside supporting evidence. This updated position includes continuing to report Skipsea as 'good' due to a beach closure and significant coastal erosion and reporting Ilkley as 'poor' due to the significant impact of agriculture, as highlighted within the Environment Agency's investigations. We also include the two new designations made in 2024 within the performance commitment level as requested by Ofwat and provide a performance forecast of 'poor' for both of these, as their WINEP requirements will not complete until the end of Year 5, AMP8.

16 Storm overflows

16.1 Overview

Ofwat's draft determination proposed a level of performance for storm overflows which is unachievable for Yorkshire Water, based on historic and exogenous factors. In response to Ofwat's challenge and the three tests Ofwat applied:

1. Has the company provided evidence to support a different level of performance?

We provide further explanation of our River Water Quality Action Plan and how our undertaking will deliver a 20% improvement, as previously communicated, resulting in a starting point of 33.96 monitored spills for 2024-25. We also provide evidence of Yorkshire Water's adverse operating circumstances, when compared to other companies in the sector.

2. Is this evidence compelling, such as being supported by hydraulic modelling?

We respond to the modelling challenge and have completed further analysis on the impacts of operating a clean network.

3. Does the company commit to achieving 20 average spills per overflow or fewer by the end of the 2025-30 period?

We have re-planned our enhancement investment to drive a higher spill reduction than was in our October submission, and now commit to achieving 20 monitored spills per overflow, with 98% uptime. We also articulate the activities planned to be delivered within base towards achieving this target.

Having now met Ofwat's three tests, we seek to agree an appropriately stretching, yet attainable PCL for storm overflows, given our unique circumstances.

16.2 Ofwat action reference

- DDQ_126: In response to our draft determinations, we seek further compelling evidence from these three companies if they want to deliver a performance level different to the 20 spills level we have proposed. Applies to Wessex Water, Thames Water and Yorkshire Water regarding the 2025 storm overflows performance commitment level in relation to our 20 spills target and the companies proposal to deliver a higher level.

Further evidence and justification of our proposal has been provided (see section 16.5.1-3). We revise our PCL to ensure we meet the 20 monitored spills per overflow target in 2029-30 (section 16.4) and provide evidence of our maintenance activities and how we model and maintain a clean system (section 16.5.3). We propose a 2025-26 PCL of 29.57 monitored spills and provide modelling evidence as to why that is appropriate.

- DDQ_128: In response to our draft determinations, we expect Yorkshire Water to provide more ambitious proposals for reducing storm overflow spills. We expect the company to review its ambition in comparison to other English companies. These revised proposals will need to be supported by assurance that the proposed targets are consistent with it operating a clean and well-maintained system. If the company considers it cannot deliver a level of 20 average spills per overflow it will need to provide compelling evidence to justify its lower level of ambition compared to other English companies. It will need to explain why this level of reduction cannot be delivered through operational and maintenance interventions and its enhancement programme.

To meet the target set by Ofwat, we propose to revise our plan to a PCL of 20 monitored spills per overflow with 98% uptime (22 monitored spills with unmonitored adjustment) by 2029-30. We propose a Year 1 (2025-26) PCL of 29.57 monitored spills per overflow with 97% uptime (32.57 monitored spills with unmonitored adjustment). We will deliver this level of performance through a revised enhancement programme and additional activities in base (see 16.5.4) to drive a greater spill reduction. Please see cost efficiency part 3 enhancement costs – wastewater appendix (YKY-PR24-DDR-04) - for further detail on our revised enhancement programme.

16.3 Key messages

Ofwat's interpretation of our undertaking, set out in the River Water Quality Action Plan, does not account for unmonitored periods as this was not in consideration until PR24. Once this is factored in alongside EDM uptime, numbers of monitors installed at the time, and schemes expected to complete at the end of 2024-25, it is evident how our 20% reduction in spills will achieve 29.57 monitored spills by 2025-26. We have applied the unmonitored adjustment to the baseline to allow direct comparison between the methodologies for reporting.

Our business plan econometric modelling indicated, through two different methods, that a company with our unique regional factors should have an expected 2025-26 starting point of between 26.5 and 36.5 monitored spills per year per overflow, on average. The preferred econometric model indicates that rainfall and length of combined sewers are important drivers of storm overflow performance. Significantly heavier rainfall (than our average) falls on areas that have the larger number of storm overflows and combined sewer systems (to the West and South-West of our region). These exogenous factors in particular acting together create the circumstances that affect our starting point, and explain why our baseline performance from 2021, of which the 20% reduction was based on, would be expected to be one of the highest across the industry.

Our starting PCL for AMP8 we believe is appropriate based on our historical position, validated regionally by hydraulic modelling, our econometric modelling, recent investment to reduce discharges in AMP7 and the exogenous factors. Our realistic and challenging PCL is evident when comparing company performance against the projected entry point for AMP8 for each water company. Our relative performance versus forecast demonstrates congruence that is not evident in all company forecasts across the industry.

In answering a key Ofwat challenge with regards to our sewer network modelling, we have run 9 sewer network models to understand the effect of operating a completely 'clean' network. It is clear that at a catchment and regulatory scale, the level of siltation in sewers in the models did not have any meaningful impact on the increase or decrease in discharge frequency. Nor was there any significant correlation with the level of siltation observed in models and the changes with overall net discharges (volume and duration) at a catchment level – the results being similar whether the model is 'clean' or not. Consequently, our original business plan submission and modelling starting point remains valid.

We are committed to improving how we operate and maintain our network through our base activities and propose that the activities deliver a greater than 5% improvement in discharge reduction. We have customer support to reprioritise the enhancement investment set out in our October business plan submission, utilising £370.28m investment initially allocated for non-WINEP coastal schemes to deliver inland storm overflow discharge reduction, detailed further in Cost efficiency enhancement costs - wastewater (YKY-PR24-DDR-04). This will deliver a further 27% improvement in discharge reduction which combined, allow us to meet Ofwat's ambition test by proposing a 2029-30 performance level of 20 spills per monitored overflow, with a 98% uptime.

16.4 Change requested

As per Table 16-1, we propose to change our performance level to meet the Ofwat target of 20 monitored spills by 2029-30. This will be achieved through a reprioritised enhancement programme, based on targeting a larger number of discharge reductions compared to our original plan, in addition to further base activities. We also propose a revised entry point based on modelling of our operating circumstances and our performance at the end of AMP7. For further information please see Cost efficiency enhancement costs - wastewater (YKY-PR24-DDR-04)

We provide evidence of a focus on operating and maintaining our network in line with the philosophy of 'a clean network' through our base activities.

Table 16-1: Summary of changes to the storm overflows performance commitment levels

Unit of measurement:	Average number of spills per overflow with unmonitored adjustment				
	2025-26	**2026-27**	**2027-28**	**2028-29**	**2029-30**
October 2023 Business Plan submission	34.98	32.11	30.02	28.43	26.86
January 2024 Business Plan resubmission	30.09	27.78	27.10	26.22	25.37
Ofwat's Draft Determination (monitored performance)	20.00	19.75	19.50	19.25	19.00
Ofwat's Draft Determination (monitored overflow with unmonitored adjustment	23.00	22.50	22.00	21.50	21.00
YKY Draft Determination Representation (monitored overflow with unmonitored adjustment)	32.57	30.65	29.61	27.52	22.00
YKY Draft Determination Representation to align with Ofwat (EDM uptime)	97%	97.25%	97.5%	97.75%	98%
YKY Draft Determination Representation (Monitored performance)	**29.57**	**27.90**	**27.11**	**25.27**	**20.00**

For clarity, the table shows that we will achieve 20 monitored spills by 2029-30.

16.5 Yorkshire Water's response to Ofwat

Yorkshire Water seeks to adjust our AMP8 starting point (Year 1) PCL, targeting an appropriate glide path and improvement in storm overflow performance with our £1.45bn investment in storm overflows across the AMP8 period (we note that Ofwat summarised our enhancement investment as £1.349bn in the DD, as this included additions from investigations). We have taken the active decision to revise the activity in our enhancement programme, while maintaining the same funding request, to deliver greater spill reduction in AMP8 – achieving a performance level of 20 monitored spills by 2029-30. We are seeking to adjust our AMP8 entry PCL (2024-25 performance) to 33.96 monitored average spills per year, per overflow, with a 95% uptime rate. Our modelling and evidence approach, summarised below, demonstrates why 33.96 monitored spills is an appropriate entry point.

In the following section we set out our case:

- In section 16.5.1 we explain how the undertaking set out in the River Water Quality Action Plan will get us to 29.57 monitored spills by 2025-26.
- In section 16.5.2 we summarise the compelling evidence as to why a performance level of 20 spills per overflow could not be achieved in 2025-26.
- In section 16.5.3 we set out evidence of our approach to modelling a clean network, detailed further in YKY-PR24-DDR-42, which further supports use of our original model results in 16.5.2. We also explain the work we do to maintain the network, including a pioneering blockage predictor tool.
- Section 16.5.4 provides an overview of our plan to get to 20 monitored spills by 2029-30. We have reviewed the wider enhancement programme we set out in our October business plan submission, assessing the best approach to achieving this target, given our challenging operational circumstances.
- Section 16.5.5 sets out our customer support for this approach.

16.5.1 River Water Quality Action Plan Alignment

In the undertaking set out in the River Water Quality Action Plan that we agreed in 2021, it refers to the '2021 baseline' against which a 20% reduction should be targeted. We have previously provided updates in respect of this undertaking in April 2023 and April 2024, summarised as follows:

- 2,178 monitored overflows (this being all overflows with an EDM fitted as opposed to the total number of all overflows, which is 2,243 (the difference being 3% of overflows which at that stage, did not have an EDM fitted).
- From these 2,178 overflows, there were 70,062 monitored spills (as per our EDM return for that year). As we provided for in our response, a proportion of these 2,178 overflows were not providing data in that year. This equated to an average of 33.57 spills per overflow.
- For clarity, while the total number of spills at 70,062 is correct, this number was actually derived from 2,087 overflows that were sending data during that calendar year.
- Note that 2191

There is now a requirement to adjust the monitored spills to account for unmonitored periods (introduced in PR24). This was not in consideration at the time the undertaking was signed, nor at the time of our respective updates. We wish to confirm that the average availability of the 2,087 overflows which were sending data was 93.6%. EDM uptime has been improving, and we expect to be at 97% by the end of calendar year 2025, in line with the PR24 PCL requirements.

To allow us to assess the baseline for 2021, normalised for 100% EDM uptime, we have applied a pro rata increase based on the measured data and availability, which increases the 33.57 spills per overflow to 35.9 spills per overflow. This is based on the calculation 33.57*(100%/93.60%)=35.87.

The pro rata method is a more accurate basis to undertake an assessment of the baseline spills. We recognise that the unmonitored adjustment mechanism proposed for AMP8 would give a higher starting number, as it applies a significantly higher average spills rate to unmonitored periods (100, compared to 35.87 average across Yorkshire Water).

A 20% reduction from 35.87 would deliver a performance of 28.69 average spills, but that is at 100% monitoring availability. The uptime target of 97% delivers an equivalent monitored spill performance of 27.83. The benefits from our 20% reduction have a full year effect in 2026 calendar year (as they deliver by 31/3/25). In 2026, however, the uptime target increases to 97.25%. This increases the monitored spills slightly, giving an actual performance of 27.90 which achieves the 20% improvement requirement.

It is important therefore the requirements of the undertaking are not conflated incorrectly with the requirements of the draft determination. Specifically, the starting point for Yorkshire Water for the first year of AMP8 is understood against the backdrop of the undertaking. It is for this reason we have set out the basis of our position in light of the draft determination, to ensure the numbers are comparable against the same basis.

When Yorkshire Water accepted an undertaking to improve storm overflow performance in AMP7, we proposed an investment package of £180m to support this, along with benefits from all of our base and enhancement investments in AMP7.

Our plan is that the £180m investment will deliver 5,800 discharge reductions by calendar year 2026 and financial year 2026-27.

The current programme includes interventions at 93 sites, and delivers a mixture of grey storage, surface water separation, infiltration reduction and one constructed wetland at Ampleforth.

We provide further information about the proposed PCL AMP8 start point below.

16.5.2 Evidence to support our proposed 2025-26 PCL

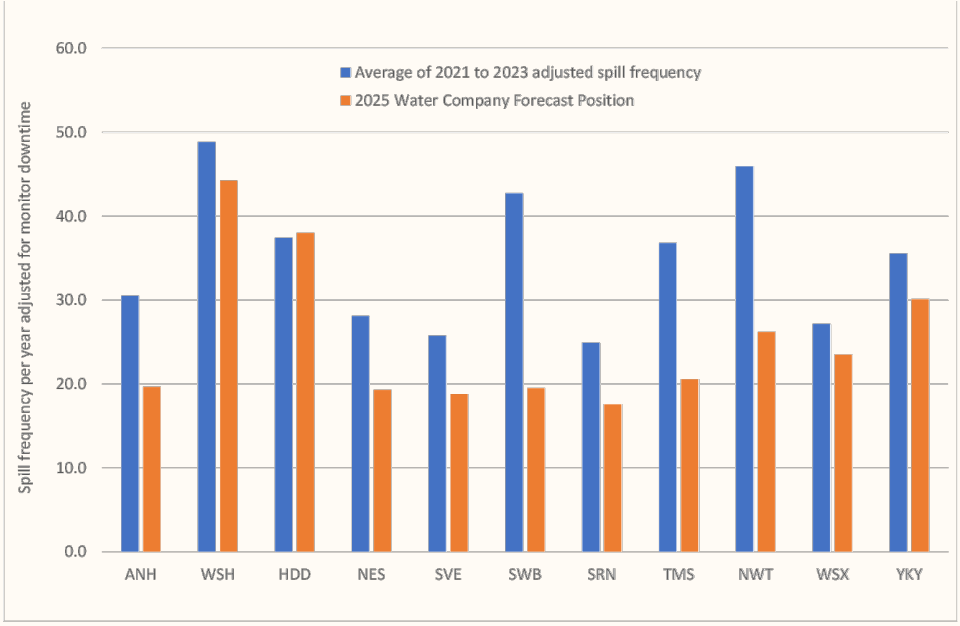
In our business plan submission, we provided compelling evidence as to why a performance level of 20 discharges per overflow could not be achieved in 2025-26. We have clarified our position with the River Water Quality Management Plan above, as well as the improvements we have made leading into AMP8, and have confirmed our intention to deliver a PCL of 20 monitored spills in 2029-30. We reinstate our evidence for exogenous variables with further detail in the storm overflows PCL appendix (YKY-PR24-DDR-58). Below we summarise the evidence supporting our proposal for a 2025-26 PCL of 29.6 monitored average spills.

Our proportionate and realistic starting point in comparison with other companies

We have developed our starting point based on our historical position and the recent and ongoing investments to reduce storm overflow spills. We believe our approach is realistic considering the starting position and estimate of improved performance that is deliverable and achievable by the start of AMP8. In comparison with what PCL starting points other water companies proposed, we believe a number of companies set overly ambitious and unlikely to deliver PCLs, based on current performance.

Figure 16-1 shows the average discharge frequency for the last 3 years (2021 to 2023), adjusted for monitor downtime only, as a realistic evidenced view of the true performance on monitored assets (in blue). The 2025 forecast position as proposed by the water companies (not the levels indicated by Ofwat in the draft determination) is in orange. This graph starkly highlights the significant improvements that will be required to be achieved by several water companies, which based on historical performance would present a significant challenge. We propose our PCL starting point is both deliverable and in line with our other factors, sewer network modelling and econometric modelling.

Figure 16-1 Comparison of historical performance of storm overflow spill frequency and each water companies PCL starting position proposed to Ofwat



Exogenous factors that in combination drive our high historical starting point

Ofwat has challenged the justification for a different PCL AMP8 starting point, citing insufficient compelling evidence. This response outlines the key exogenous factors that influence storm overflow performance, emphasising that no single factor alone determines performance. Instead, it is the combination of several factors that provides a more accurate understanding of how storm overflows operate, how they impact our AMP8 PCL starting point, and the scale of investment needed to meet the AMP8 exit PCL.

Regional rainfall alone as a proxy for storm overflow performance fails to account for a) the specific local rainfall conditions at each overflow site and b) the runoff generated from

impermeable areas and the proportion of combined sewers associated with each storm overflow (i.e. how much water each overflow receives).

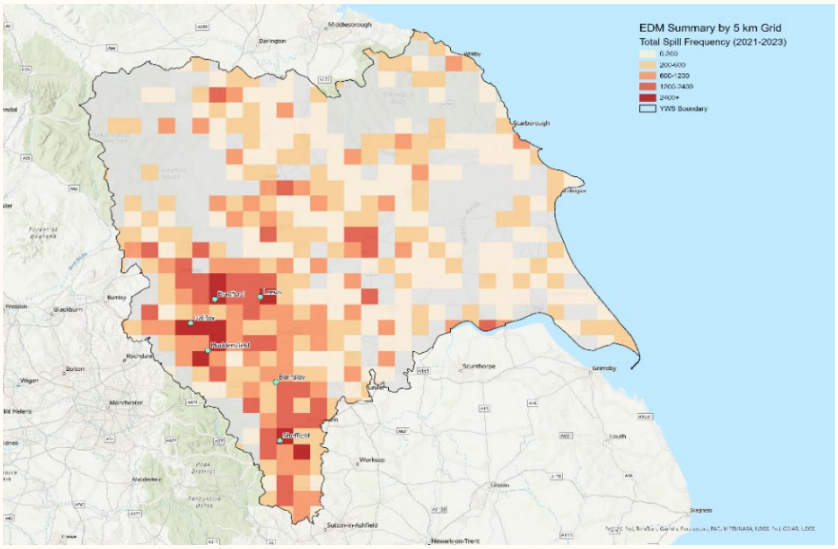
Our analysis reveals that when these factors are considered collectively, we rank second in the industry regarding the volume of runoff that must be managed at each overflow. This ranking is largely due to our unique historical context and the legacy of our combined sewer system. The combination of rainfall, our combined sewer asset base and volume of runoff highlights the distinctive challenges we face in managing storm overflows compared to other regions, particularly those located to the south of Yorkshire and on the eastern side of the country. Our historical infrastructure, coupled with the extensive network of combined sewers, has created a situation where managing runoff volume is more complex and demanding. This underscores the importance of a tailored approach in addressing our storm overflow performance, as a one-size-fits-all solution does not adequately address the specific challenges posed by our infrastructure legacy.

Understanding discharge frequency

Analysing the frequency of storm overflows across our region, we examined EDM data within 5km² grid spacings, considering the total number of spills recorded from 2021 to 2023. As illustrated in Figure 16-2 below, the southern and western parts of our region exhibit the highest density of spills; areas characterised by higher population density and large urban areas. This is visually represented by the darker oranges and reds in the western part of our region.

The spill frequency data correlates with areas of higher population density in urban areas such as the west of our region, specifically Leeds, Bradford, Halifax, Huddersfield and Sheffield. By comparing ourselves to other water companies, we rank third consecutively behind United Utilities and South West Water across 3 years of EDM data (2021-2023) for the average number of discharges measured by EDM across the period, unadjusted for uptime (data shown in YKY-PR24-DDR-58).

Figure 16-2 Total EDM spill frequency at 5km grid spacings for years 2021-23

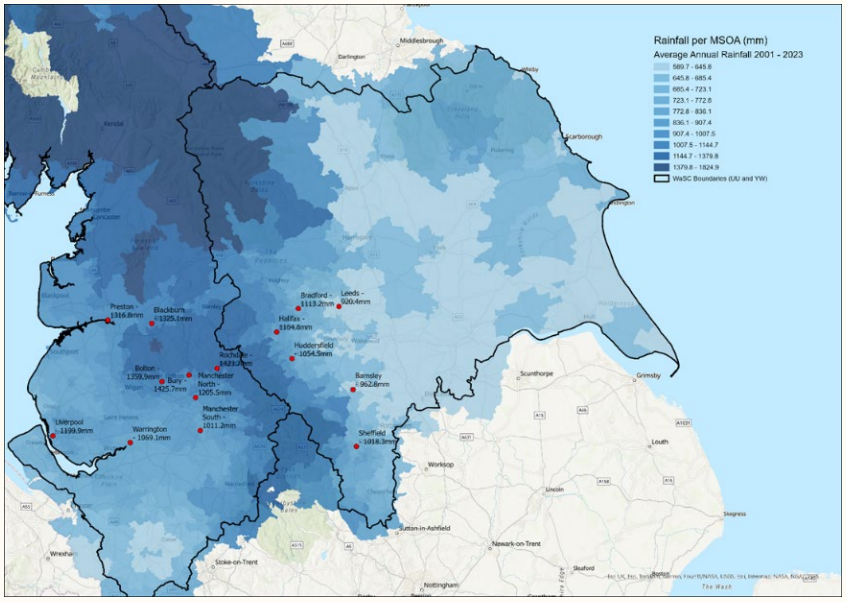


These statistics alone do not provide a complete picture of performance. The higher frequency of discharges in certain areas is influenced by a combination of factors, including population density, urbanisation, the capacity of existing infrastructure and regional rainfall patterns. Additionally, the historical development of our sewer systems, particularly the prevalence of combined sewers, plays a significant role in understanding the root cause of discharge frequency.

Therefore, while the raw data indicates our ranking and spill density, a deeper analysis is necessary to appreciate the complex interplay of factors that drive these outcomes.

Understanding rainfall distribution across the region

Figure 16-3 Rainfall variation across the Yorkshire Water and United Utilities Regions



The map in Figure 16-3 shows the rainfall distribution in Yorkshire. Yorkshire is characterised by upland areas and steep sided valleys in the west of the region and lowland agricultural land to the east. This topographical difference creates significant variations in rainfall volumes between locations. The west is significantly wetter than the east of the region, an example being Bradford which has 40% more rainfall than York. Areas in the west of our region have similar rainfall amounts to Liverpool and Manchester in the United Utilities region. Considering the rainfall at a granular level is important as this important distinction between rainfall in eastern and western areas is masked if rainfall is considered at a regional level.

The areas where there is higher rainfall correlates strongly with areas where there is a high predominance of combined sewers and storm overflow discharges. In a broader comparison across England and Wales, Yorkshire's average regional rainfall is influenced by the drier areas in the middle and eastern parts of our region, which places us as a mid-table Water Company for annual rainfall totals. If we compare ourselves to our nearest westerly neighbour, United Utilities, their region's total average annual rainfall is likely being influenced upwards by high rainfall totals over the Lake District and Yorkshire Dales (Figure 16-3). Urban rainfall totals for areas of large urban conurbation are actually comparable between companies; the furthest west of our region compared to South Manchester and the south and west of United Utilities region. Towards the north of Manchester, as you head towards the Yorkshire Dales, these average rainfall totals climb significantly, highlighting that topography is a factor when considering regional rainfall averages for each Water Company.

The effect of combined sewers in increasing the flow and volume to storm overflows

Although rainfall is an important factor in storm overflow performance, it is not the only factor that needs to be considered. The prevalence of combined sewers means the runoff generated from the rainfall falling on impermeable and some permeable surfaces will enter the drainage system and arrive at an overflow.

The proportion of combined sewers and our indigenous housing stock (see YKY-PR24-DDR-58) are all combinatory factors, influencing our historic storm overflow operation. When these factors are considered in the context of the amount of runoff that Yorkshire Water must manage in our combined sewer network a fuller picture of storm overflow performance becomes apparent. As can be seen from Figure 16-4, the prevalence of our combined sewer network is also in the area where we experience the highest rainfall totals and EDM activation. Figure 16-5 shows we rank second in the industry for the proportion of our network which is combined (marginally lower than United Utilities) and are over 1.5 times the industry average in terms of the percentage of our network that is combined.

Figure 16-4 Combined sewer density variation across Yorkshire

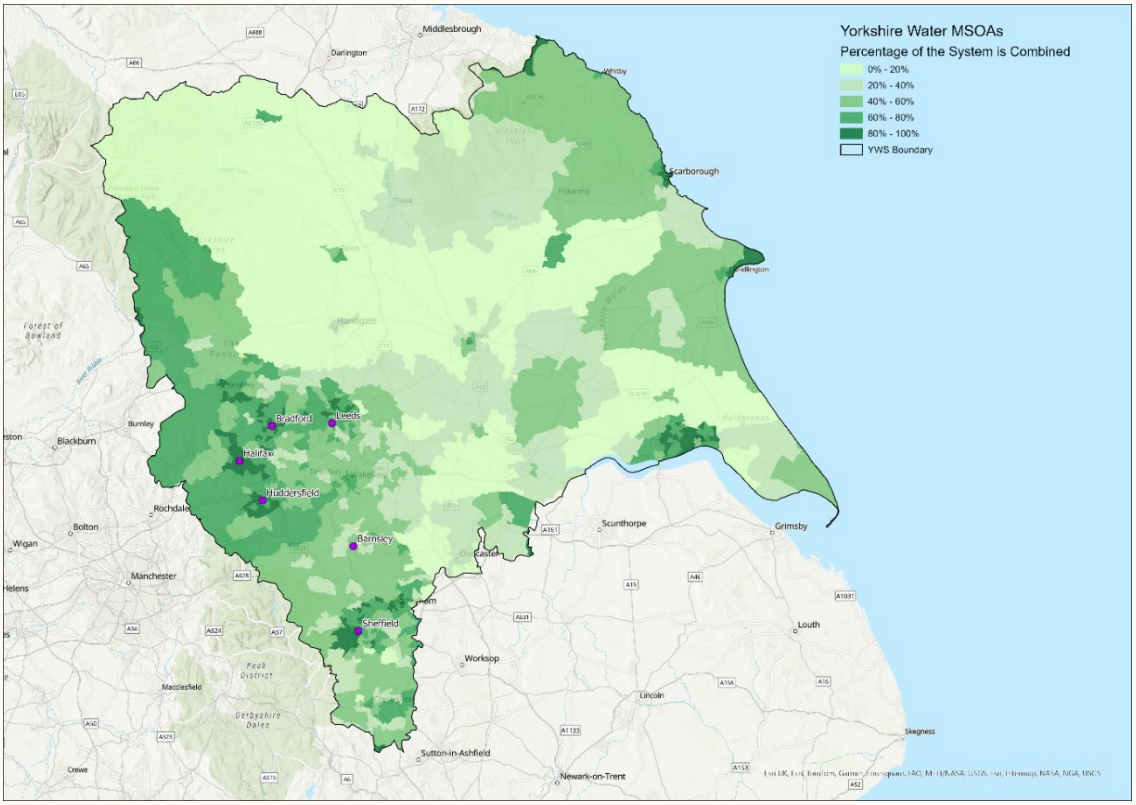
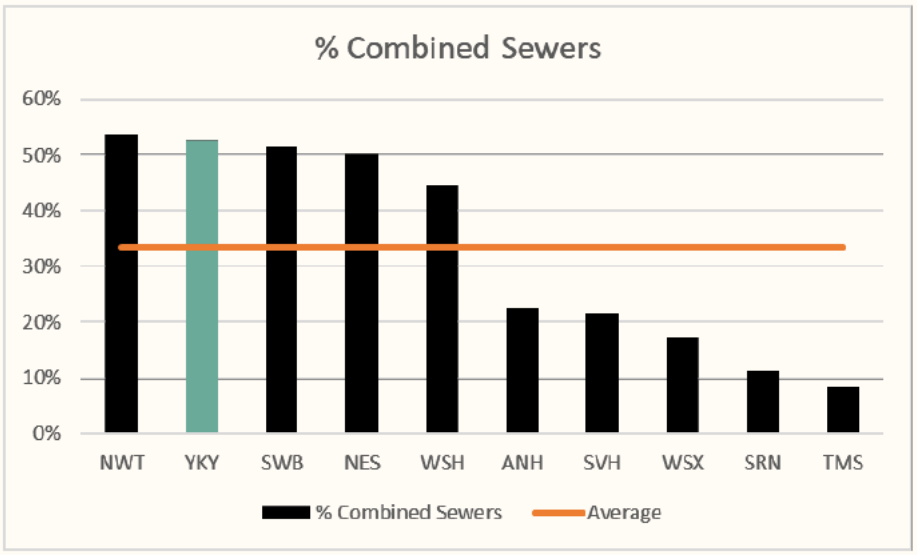


Figure 16-5 Comparison of water company's proportion of sewers that are combined



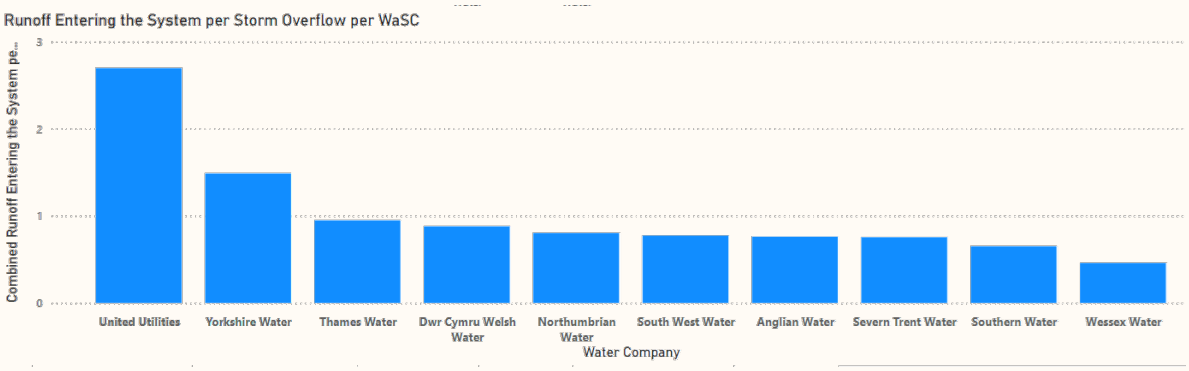
Taking all these factors into consideration we created a model from available Ofwat datasets that illustrate the average volume that must be managed in these combined sewer areas using the latest MSOA rainfall and runoff data.

Essentially, the analysis uplifted the annual regional water companies' rainfall averages by a factor which accounted for the rainfall that fell in MSOAs that have EDMs present. This is to be more representative of the rainfall and associated runoff that fell in each EDM catchment. This approach, for example, reduces data skewing such that rain that fell in less urbanised areas does not influence regional water company annual rainfall statistics e.g. over mountainous Lakeland areas or areas of high topography.

By using each companywide proportion of combined sewers, this allowed for cross company comparison. The runoff volume generated in these combined sewered areas is then normalised for the number of storm overflows as reported in APR24. The results are shown in Figure 16-6.

Understanding the managed volume allows us to assess the performance of each storm overflow on average. While volume does not directly translate to the average number of discharges, it serves as a stronger proxy for storm overflow performance than using regional water company rainfall. It also bears a stronger relationship as to why different water companies have a different baseline position on discharge frequency.

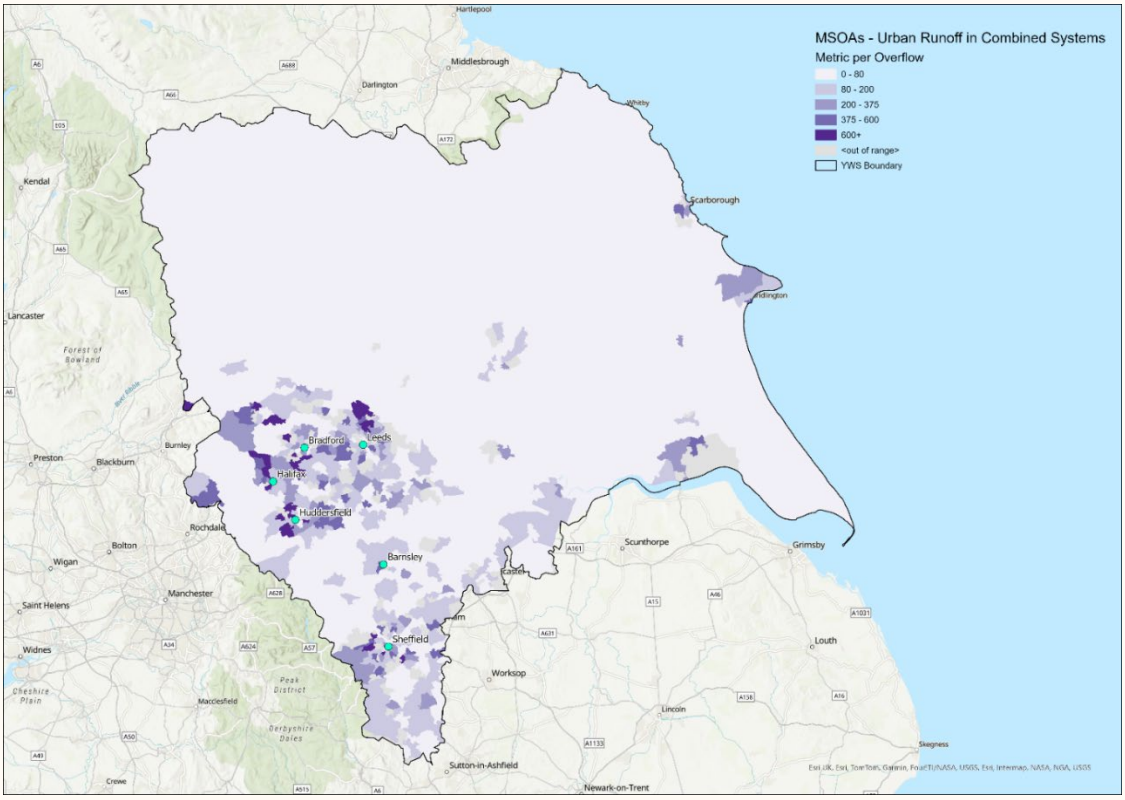
Figure 16-6 Yorkshire Water comparison with other Water Companies relative to the amount of runoff that must be managed in their respective combined sewers



The results show that Yorkshire Water is placed second in the industry in terms of the volume that must be managed within our combined sewer networks. A combination of run off volume, rainfall, combined sewer legacy and housing stock age are valid reasons why we seek a higher AMP8 entry point due to these historic and exogenous factors. Our understanding is United Utilities have successfully argued a 2025-26 PCL greater than 20 spills based on the same arguments and we seek to do the same.

Further detail is provided in YKY-PR24-DDR-58, including sensitivity tests for surface water that may enter via partially separate systems and analysis for the amount of runoff that has to be managed for spills that occurred during the EDM monitoring period (2021-2023).

Figure 16-7 Regional analysis of the volume of rainfall runoff that has to be managed within YW region based on the percentage of combined sewer within each MSOA



By using our sewer records within each MSOA to calculate the percentage of combined sewer, as opposed to a regional company level percentage (as included in our original submission),

more granular analysis can be observed as illustrated in Figure 16-7. As can be seen from the graphic there is further correlation with Figure 16-7 by using more catchment specific datasets in that the total discharge frequency during the period 2021-23 directly correlates with the volume of runoff which must be managed. This is a function of the density of combined sewers at each storm overflow, the rainfall in that area, and are inextricably linked to our historical starting position.

Our further evidence focused here on the combined effects of exogenous factors should be considered alongside that provided in our original submission. The original submission also highlighted other factors leads us to our historical baseline position; a) the varied approach to setting permits for each overflow, b) our historical investment to target water quality improvements for dissolved pollutants (not discharge frequency) and c) aesthetic screens. Our commitment to reduce our discharges in AMP7 by 20%, explained in section 16.5.1, as well as our econometric modelling provides our clear reasoning as to why our starting point is above 20 spills. Our proposed starting point is in line with our performance glide path from AMP7 into AMP8 towards 20 spills by 2029-30.

16.5.3 Modelling and operating a clean network

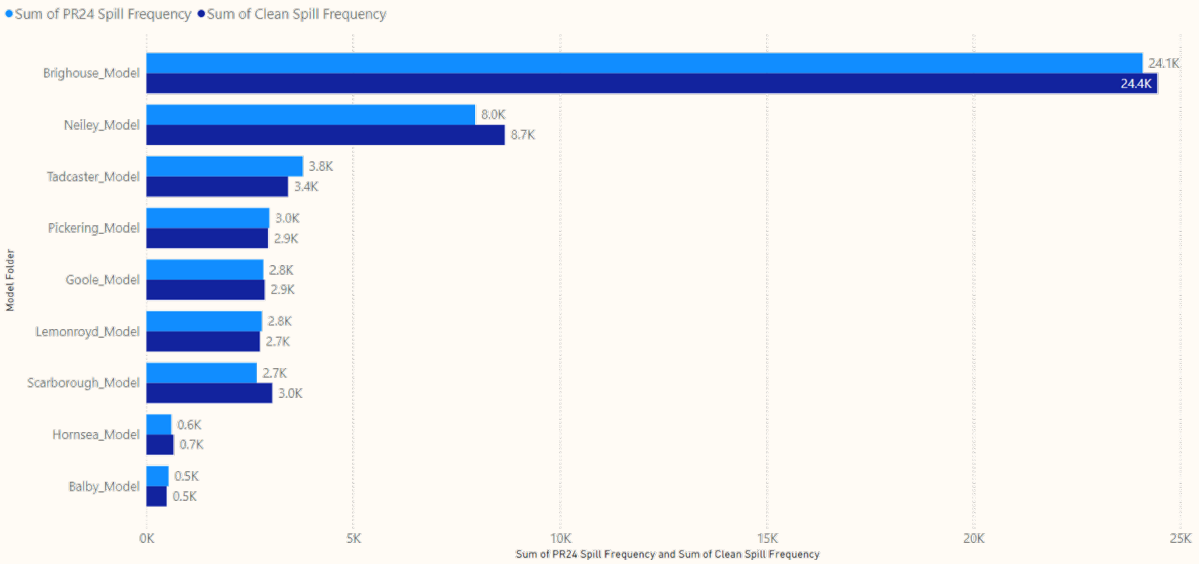
We provide detailed evidence of our approach to modelling a clean network in Appendix YKY-PR24-DDR-42. Our work summarised below indicates that a fully clean network model has no overall material impact on discharge frequency, discharge duration or volumes across a catchment. There are individual asset changes as slightly more flow or volume will be passed forward from an overflow (to another one downstream) or arrive at an overflow.

Sewers convey solids, silt and sediment from highways and properties, and the capacity within combined sewers can change due to these solids settling if the sewers are not regularly and proactively maintained. Ofwat raised concerns regarding the validity of our hydraulic modelling as we did not ascertain whether the levels of storm overflow spill performance would be affected if we had a hypothetical totally clean sewer network. This test seeks to establish the impact of a ‘clean’ sewer network on storm overflow performance. For modelling purposes, this has been interpreted as a sewerage network without any sediment or silt represented, and uniform low pipe roughness, thus creating maximum capacity in each pipe.

It should be noted it is unrealistic to operate a fully ‘clean’ system. This is because sediment which enters through exogenous factors, such as highway gullies (which varies according to local authority cleaning programmes) is naturally deposited and eroded as flows – specifically velocities – vary in dry weather and storm conditions. This means that after any maintenance activities such as jetting, sediment will naturally redeposit in certain pipes according to local physical and hydraulic conditions. So, the results are a theoretical best case and would only be representative if a cost-prohibitive and substantial daily vacuuming programme was undertaken.

We tested 86 storm overflows across 9 sewer network models with varying amounts of sediment modelled within their conduits (further details Sewer Network Modelling – ‘Clean’ System’ Appendix YKY-PR24-DDR-42). Detailed results of the DWMP baseline 10yr Time Series Rainfall (TSR) simulation and ‘clean’ network were created in terms of discharge frequency, discharge duration and discharge volume.

Figure 16-8 Network modelling output showing spill frequencies across 9 sewer network models



The results showed that for discharge frequency there was no general trend and that results are catchment-specific, based on catchment-specific factors. Figure 16-8 shows this variation, with some discharge frequencies slightly increasing in each catchment while others slightly reducing. The same was true for discharge duration and volume as highlighted in Table 16-2, which shows the level of sediment in each catchment and the corresponding impact when operating a clean network. When considered at an asset level there were variations that would be expected. For example, as slightly more flow may reach an overflow more quickly it may increase the discharges. Alternatively, slightly more flow may be passed forward, thus reducing the discharges at that overflow but slightly increasing the discharge frequency at an overflow downstream.

Table 16-2: Percentage change in Spill Frequency, Duration and Volume at Catchment Scale for a 'Clean' System on the 9 sewer network models

Model Folder	Percentage of Conduits with Sediment	Number of Storm Overflows	Percentage change in Spill Frequency	Percentage Change in Spill Duration	Percentage Change in Spill Volume
Goole_Model	15.1	5	+ 3%	+20%	+1%
Tadcaster_Model	7.7	4	-10%	-2%	-3%
Balby_Model	6	5	-6%	+11%	+3%
Pickering_Model	4	7	-1%	+6%	0%
Brighouse_Model	3.2	26	+1%	+9%	-1%
Scarborough_Model	2.7	12	+12%	+28%	+1%
Neiley_Model	1.5	19	+10%	+15%	0%
Lemonroyd_Model	0.9	6	-2%	-1%	0%
Hornsea_Model	0.4	2	+11%	+41%	+3%

The largest increase (Scarborough +12%) and decrease (Tadcaster -10%) in discharge frequency are associated with conduits with lower (2.7%) and higher (7.7%) sediment respectively. The highest percentage of conduits with sediment within the model library (Goole at 15.1%) has only a 3% increase in discharge frequency.

The lack of correlation with the proportion of sediment to the change in performance is also observed in discharge duration and volume. The total volume range for the 9 catchments is +/- 3% which, given the accuracy of a network model, is within the accepted tolerance. It suggests no meaningful change in discharge volume or retention of volume within the sewerage network, only its transfer of flows between overflows within the catchment. Discharge duration is more complex with a greater range (-2% to +41%). A review of individual overflows highlights that the

Wastewater Treatment Works (WwTW) is commonly the longest duration and largest individual increase, which intuitively based on engineering judgment would make sense as more flows reach the treatment works per se, rather than spill upstream.

The models used for the DWMP 2020 epoch and subsequently for the PR24 datasets were based on the Needs model. The submission included 1,940 overflows from 132 network models. Using verified and realistic sewer conditions, this modelling indicates an average of 37.4 discharges per overflow per year, based on a 10-year rainfall time series set at a 2020 baseline.

In 2021, event duration monitoring (EDM) data showed a monitored spill frequency of 34 discharges per overflow (unadjusted for uptime). When accounting for monitor uptime adjustments, the EDM spills per year per overflow increases the 34 discharges per overflow to 36 discharges per overflow (assuming a pro-rata increase for the number of unmonitored overflows).

Overall, our DWMP/PR24 baseline modelling discharge frequency and the actual 2021 EDM discharge frequency baseline are closely aligned (37.4 compared to 36). This alignment supports the PR24 model not being significantly sensitive to discharge frequency at a catchment and regulatory scale when consideration is given to the impact of siltation at a local overflow scale.

Due to there being no clear pattern between sediment and discharge metrics, it is not recommended to amend the existing sewerage network models based on this comparison and our original business plan submission and modelling starting point remains valid.

16.5.4 Getting to 20 monitored spills

We have clarified with Ofwat that the PCL is based on the average number of monitored spills, with an associated EDM uptime target. This creates a PCL of monitored spills with an unmonitored adjustment. Since then, we have reviewed the wider enhancement programme we set out in our October business plan submission, assessing the best approach to achieving this target, given our challenging operational circumstances (discussed in section 16.5.2.)

We are proposing to reprioritise £370.28m of activity in our enhancement investment programme, initially allocated for non-WINEP coastal schemes, into greater discharge reduction.

Storm Overflow Optimised Discharge plan: this part of our plan repurposes our proposed coastal bathing enhancement expenditure to drive a more effective plan. We're focussing on bringing forward investment for overflows that have a high discharge frequency, that would have been incurred in later periods to meet the Storm Overflow Discharge Reduction targets, to AMP8. This will contribute to the delivery of the 20 spills PCL but may mean that we do not achieve the full SODRP targets. Instead we will reduce the largest number of discharges for the most optimal investment, delivering the SODRP targets in a phased manner, by applying adaptive planning principles. Where the discharge or harm target is not fully delivered in AMP8, further intervention in future AMPs will be required to achieve the statutory targets in line with the requirements of the SODRP. AMP8 interventions will be designed with this adaptive approach in mind.

Maintaining our network: in addition to the enhancement investment being undertaken as described above, we are also progressing with multiple streams within our base activities which will focus on optimising our assets in order to reduce the number of overflow events.

Since 2021, we have co-developed with Siemens a blockage predictor tool and applied this to our storm overflows using data from the EDM. This work focuses on pollution reduction (that is, to prevent spills that might occur prematurely) but is also used to identify where there may be a capacity issue forming in and around the overflows, for example, with deposition of silt.

There are a total of 2,038 sensors, made up of 1,733 CSOs and 305 manholes, monitoring performance. A summary of total alarms raised in 2021, 2022 and 2023 were 11, 61 and 205 alarms respectively. Our system learns data trends and identifies where there is inconsistency in the latest data, so it is continually improving on alarm notification. All alarms are investigated, and if a problem is forming, it is resolved by our operational teams. Our alarm success rate, i.e.

alarms that result in operational interventions, was 42% on average over this two-year period (allowing for a period of learning in 2021). Continuing to develop this analysis, and continually improving our response approach will ensure an ongoing reduction in spills.

Across our wider asset base we have continued to invest to reduce spills through our operational and maintenance practices. Some of these activities have started in 2024-25 with others beginning or expanding in AMP8, as shown by Tables 16-3 and 16-4 below, and include:

- Where appropriate and without impacting quality, optimising our WwTW assets to go beyond their consented flows. This will see us treat more flow through our sites reducing the frequency and duration of overflows where possible.
- Optimisation of storm tanks and associated return systems, including automation of these processes where possible. 28 WwTW sites currently have manual returns and we are currently working to understand if these can be automated to help optimise overflow frequency.
- We are continuing to train and educate our teams on how to optimise storm returns to get the best result for environmental performance. This will ensure that any changes we make are embedded going forward.
- Continued Operational Investigation into high spilling assets, implementing actions to reduce and resolve where possible including asset modifications and network maintenance. We have investigated 243 sites so far, delivering overflow reductions at 35 sites (including resolving data or monitoring issues), and have identified further overflow reduction opportunities at another 108 sites.

Table 16-3: Base activities in 2024-25

Activity	Description
Data Stream – Data Validation	Validation of STW storm tank overflows using UMON3 monitors. Validated spills to environment only occur when both storm tank EDM and UMON3 monitors are active.
Data Stream – Spike Removal	Automatic removal of single point data spikes that would otherwise incorrectly register as a spill event.
Site Investigations/ Interventions	Investigate highest spilling assets to identify and deliver operational interventions to reduce spill frequency.

Table 16-4: Base activities planned for AMP8

Activity	Description
Site Investigations/ Interventions	Investigate highest spilling assets to identify and deliver operational interventions to reduce spill frequency.
Storm Tank Investment & Return Optimisation	Ensure storm tanks and associated equipment are working optimally to maximise available storage capacity for storm flows: • Repair/refurbishment/replacement of storm tank cleaning & auto return equipment • Optimise auto return systems to empty storm tanks as quickly as possible • Maximise storm storage capacity through simple structural modifications to existing assets
Pass Forward Flow Increase	Use available capacity to increase flows passing storm overflow points and reduce spill frequency/duration: • Use existing process and/or hydraulic capacity in sewer/STW where available to increase pass forward flows • Remove hydraulic and straightforward process restrictions to enable pass forward flow to be increased where it is not currently possible
Data Validation	Ensure recorded spills are representative of spills to environment: • Use a dual validation approach on hydraulically linked assets to ensure that recorded spills are spills to environment and are not returned to the sewer network
Additional targeted Planned Proactive Maintenance (PPM) around high spilling CSOs	Ensure maximised sewer capacity around highest spilling CSOs through additional, targeted, proactive sewer cleaning programme
Additional targeted PPM at high spilling SPS	Ensure optimal SPS performance through additional targeted proactive cleaning/maintenance programme
Additional targeted PPM at high spilling STW Inlets without grit removal/ screening	Ensure grit/rag build up is not causing additional storm spills through targeted additional inlet cleaning programme

We are committed to operating and maintaining our network to operate appropriately through our base activities. We are proposing that our base activities deliver a >5% improvement in discharge reduction and that these activities provide the platform for the 27% improvement in discharge reduction proposed in our enhancement programme.

16.5.5 Evidence to show customer support for this change

In preparing our PR24 business plan, we conducted thorough research with a wide range of customers throughout Yorkshire, including households, businesses, future customers, and those facing affordability and vulnerability challenges, all of this evidence can be found on our website here.

Customers are aware of the existence of storm overflows – mostly through media scrutiny - however, they are generally misunderstood. Customers have limited knowledge of how and why they operate and what other factors influence discharges, as the media tends to not explain why we have this infrastructure and how they protect customers' homes and towns from sewer flooding. They see discharges of any kind as a company failure and something that must be avoided. We have learned that once the function of overflows is explained to customers, they are generally accepting of the infrastructure and grateful their homes are protected. They do, however, want the use and reliance of these to be reduced over time.

After incorporating changes and challenges to Ofwat's draft determination into our plan at representation, we completed our customer research with an Affordability & Acceptability Testing survey. This survey evaluated our draft determination representation plan by engaging 950 household customers, 60 future bill payers, and 111 informed customers. Our plan indicated Yorkshire Water's intention to exceed the proposals in Ofwat's draft determination, which would result in higher customer bills than those proposed by Ofwat. The findings revealed strong support for our plans: 84% of household customers, 84% of future customers, and 77% of informed customers found our plan at representation to be acceptable.

Within the study we presented our proposal to refocus storm overflow investment to meet Ofwat's 20 spill target. In Yorkshire this meant us refocusing a great deal of expensive coastal storm overflow investment with relatively low discharge benefit to tackle Yorkshire wide river overflow discharges. We presented our dilemma to customers and interestingly, 86% of household customers, 91% of future customers and 69% of informed customers supported this refocus of investment due to the wider river health benefits it brings to Yorkshire.

In addition, to further strengthen our evidence regarding the inclusion of our combined sewer cost adjustment claim, we conducted quantitative research (surveying a representative sample of 1,967 customers) and qualitative research (interviewing 154 customers in depth) to assess customer support and perceived value for money of our proposed cost adjustment claims for combined sewers. In this comprehensive and rigorous research, we found the vast majority of customers endorsed our proposed claim. Here are some key findings:

- 78% of household customers support the claim, with support levels increasing to 85% of non-household customers and to 84% of future bill payers. This indicates very high levels of support from all relevant customer segments.
- The majority of customers we consulted also believe the claim to offer good value for money, with 53% of households agreeing, increasing to 67% of non-households.
- The vast majority of customers also consider this cost adjustment claim to be important to them, with 85% of households, 92% of non-households, and 92% of future bill payers expressing this view.

Overall, the evidence from our extensive engagement with customers on this demonstrates a strong preference for the refocusing of investment to wider Yorkshire overflows from the Coast and the inclusion of the combined sewers cost adjustment claim in our plan. Below are some of the comments we received on the combined sewers cost adjustment proposals, highlighting the reasons for this high level of support, such as the negligible bill impact and the urgency and necessity of this work:

16.6 Concluding points

We are on track to deliver the benefits of the River Water Quality Action Plan and our undertaking. The 20% improvement from all our activities in AMP7 will be realised by calendar year 2026 and has fed into our AMP8 PCL calculation.

We are committed to delivering stretching environmental improvements that are affordable to customers and deliverable in AMP8. We meet Ofwat's ambition test by proposing a 2029-30 performance level of 20 spills per monitored overflow with a 98% uptime, therefore giving a 22 spills per overflow level of monitored performance, with the unmonitored adjustment. To achieve this, we have replanned our enhancement investment to achieve a greater discharge reduction than was in the original plan.

We propose an AMP8 entry point (2024-25) of 33.96 monitored overflows with 97% uptime, therefore giving a 38.9 spills per overflow level of monitored performance with the unmonitored adjustment. This leads to a year 1 (2025-26) PCL of 29.57 monitored spills with a 97.25% uptime and 32.57% level of monitored performance with the unmonitored adjustment. This is supported by econometric modelling of operating variables that are relevant to our operating area, and a comparison of industry historical performance and proposed PCL starting points.

We have shown how rainfall, together with the combined nature of our infrastructure leads to the Yorkshire region having the second highest run-off rates into the sewer system in England. This is specifically focused on urban areas in the west close to the Pennines, which have high rainfall and a high proportion of combined sewers. This combination of factors also correlates with the area we have recorded the highest number of EDM spills in 2021-23 in our region.

We have evidenced our modelling of a clean network concluding that for discharge frequency there was no general trend, and that results are catchment-specific based on catchment-specific factors. The results indicate that discharge frequency may slightly increase or decrease, but the "clean" model is not material in our work and performance estimates. The same was true for discharge duration and volume. When considered at an individual storm overflow level there were variations that would be expected.

Our DWMP/PR24 baseline modelling discharge frequency and the 2021 EDM discharge frequency baseline are closely aligned. This alignment is not significantly sensitive to discharge frequency at a catchment and regulatory scale when consideration is given to the impact of siltation at a local overflow scale.

Due to there being no clear pattern between sediment and discharge metrics, it is not recommended to amend the existing sewerage network models based on this comparison and our original business plan submission and modelling starting point remains valid.

We are committed to maintaining a clean network and propose to deliver a 5% improvement from our base capital and operational activities.

17 Operational GHG emissions: water and wastewater

17.1 Overview

17.1.1 Operational GHG emissions: wastewater

We are supportive of the need to move companies towards a net zero glide path. However, the PCL targets set for wastewater in Ofwat's draft determination (DD) do not consider the significant upwards pressure on emissions arising from our WINEP, which is unique to Yorkshire Water in both scale and timing. When we exclude the impacts of the WINEP schemes, our emissions show a 25.8% reduction over AMP8.

Ofwat's DD also fails to consider the broader implications of the relatively efficient performance of Yorkshire Water compared to other companies (as modelled by Ofwat). Ofwat fails to recognise that, given our relative efficiency and low emissions in key areas, there is limited potential to achieve significant further reductions through base reduction or stretch.

Our representation also challenges the baseline year (2022-23) set for wastewater GHG emissions. We deem this to be inappropriate, as it predates the AMP7 WINEP impact and differs from the 2024-25 baseline precedent set for other companies. In this representation, we demonstrate how setting the baseline in this way will lead to progressively increasing emissions from Year 5 of AMP7 through to Year 3 of AMP8.

17.1.2 Operational GHG emissions: water

We are supportive of the need to move companies towards a net zero glide path. However, the PCL targets set for water in Ofwat's draft determination have not considered the upwards pressure on emissions arising from our statutory WRMP programme, which we mistakenly allocated to our wastewater price control in our original PR24 submission in October 2023.

Ofwat also fails to recognise that, given our relative efficiency and low emissions in key areas, we have relatively limited ability to achieve significant further reductions through base reduction or stretch. Our forecast PCL for water is, then, dependent on additional base allocation. Without support for this, there will be further deterioration in our GHG emissions performance across the AMP.

Our representations for both water and wastewater explain why emissions will not increase in a linear fashion, why PCLs cannot be flat, and why further reductions through base are not feasible.

17.2 Ofwat action reference

The following actions are addressed within section 17.4 of this representation:

DDQ_010 - The delivery profile of water and wastewater greenhouse gas emission reductions from 2024-25 to 2029-30 is assumed to be a linear profile for draft determinations. We invite companies to respond with convincing and sufficient evidence to support an alternative profile.

17.3 Key messages

The Ofwat proposed PCLs for water and wastewater reflect a 12% and 3% reduction respectively against the assigned baseline year. These targets are too stretching, particularly when you consider we will also need to offset 14.5% and 30% emissions increase through statutory schemes, making this in actuality a 26.5% and 33% reduction target for water and wastewater respectively.

Any such targets need to take into consideration the impact of our AMP8 WRMP for water and our AMP7 and AMP8 WINEP for wastewater. Our AMP7 WINEP is the largest in the sector with a c.37ktCO2e emission increase landing after the selected 2022-23 baseline year, making this an inappropriate year for the AMP 8 baseline. Emission reduction associated with these increases were not funded in AMP 7.

They also need to consider that Ofwat has determined Yorkshire Water to be amongst the most efficient companies in terms of emissions for water, and the most efficient company for wastewater, and recognises that we have limited potential for emission reduction from base investments.

Both Ofwat and the Environment Agency recognise that phosphorus-removal compliance will be an exogenous driver for emissions increase. We seek a PCL profile that better reflects the 2024-25 baseline and WINEP emissions increases across AMP8. A linear profile is not aligned to our forecast emissions, as we will demonstrate in this representation.

We have reprofiled emissions according to our forecast, considering known drivers. Using our well-established cost and carbon model, we have integrated base and enhancement reductions (the latter for wastewater only) aligned to our separate base allowance and enhancement case representations. Either we require support for our amended enhancement case representation and base allowance to deliver our represented PCL profile (as set out in section 17.4), or for the forecast emission profiles (and PCL) will need to be adjusted upwards.

17.4 Change requested

17.1.2 Change requested - wastewater PCL

See also tables OUT1, OUT2, OUT5 and LS1 and LS2

For our wastewater PCL, as stated above, we have significant uplift pressure due to our AMP7 and AMP8 WINEP. We have remodelled our anticipated emissions profile since our October business plan submission. These amendments include the reallocation of WRMP programme related emissions to the water price control (previously incorrectly categorised in our PR24 submission), revisions to our wastewater expenditure allowance enhancement case for net zero, additional base stretch to replace enhancement (related to solar renewables and leak detection) and additional base allocation for EVs and heat pumps.

We have submitted our updated PCL profile below and in consideration of the reprofiled emissions seek the following changes for wastewater:

- To align 2024-25 emissions to those in our OUT5 table and for this to become the updated baseline for our AMP8 PCL, now forecast as 171,567 tCO2e.
- To accept that our profile of GHG emissions across AMP8 per Table 17-1 will increase:
  a) Due to the scale of our AMP7 WINEP programme, including the significant phosphorous removal schemes that are delivered in the last year of AMP7 and the first two years of AMP8,
  b) Given the fact that none of these schemes were in place in 2022-23, making that year an inappropriate baseline choice (see our evidence and explanation in section 17.5).
- We note that Ofwat intervened on Yorkshire Water's proposed AMP8 profile on the basis of a deteriorating profile. However, once the AMP7 WINEP emissions (c. 37ktCO2e a year by 2027-28) are taken into account, Yorkshire Water is forecasting an improving profile. As such, we would seek for Ofwat to not make a further intervention on our proposed PCL profile.

Table 17-1: Summary of changes to the Wastewater GHG PCL

Unit of measurement:	**tCO2e**				
	2025-26	**2026-27**	**2027-28**	**2028-29**	**2029-30**
October 2023 Business Plan submission	182,203	186,635	191,231	195,663	200,259
January 2024 Business Plan resubmission	182,203	186635	191,231	195,663	200,259
Ofwat's Draft Determination	159,125	159,051	158,976	158,901	154,847.
YKY Draft Determination Representation	204,420 *	190,469 **	174,987	174,988	181,082

*Elevated emissions in year 1 by 15,000tCO2e due to use of grid electricity and natural gas to replace energy from CHP lost due to export of biogas to grid. **Year 2 this is replaced by private wire electricity and heat from Energy and Waste from adjacent facilities (applies to both Knostrop and Blackburn Meadows).

Reason for a non-linear profile

As indicated in section 17.1, our delivery profile across AMP8 will not follow a linear profile, because of material growth in emissions from delivery of our statutory AMP7 and AMP8 WINEP programmes. We have modelled the change in emissions using our cost and carbon modelling tool, which is well established, the outputs from which have been annually audited using PAS2080 for whole life carbon.

We would also ask Ofwat to note in our PCL profile for wastewater that we have a Year 1 increase of 15,000 tCO2e that is largely removed from Year 2. This increase is associated with our transition to gas to grid at Knostrop and Blackburn Meadows. Rather than use the gas generated in our digesters to run our CHP engines, which help power our site and heat our digesters, we will export our gas into the gas grid for later use as vehicle fuel. This is being undertaken in the best financial interest of customers as well as to provide a net environmental benefit by replacing fossil fuels, however it will lead to an increase in purchased electricity and natural gas in Year 1 of AMP8. This will be replaced by heat and power purchased from an adjacent energy from waste facility, once it comes online from Year 2 onwards, on low carbon private wire arrangement, negating the reportable emissions in Year 1.

17.1.3 Change requested - water PCL

See also data tables OUT1, OUT2 and OUT4, and LS1 and LS2

We have reprofiled our water operational GHG emissions in Table 17-2 (and in OUT4) to reflect the latest carbon emissions forecast associated with our AMP8 and 9 WRMP programme, and as stated above have made a re-allocation of emissions to the water price control that were mistakenly attributed to wastewater in our October 2023 PR24 submission.

We have also modelled the removal of our water enhancement case funding for renewables (with replacement investment in base) and incorporated the additional base allocation for EVs and heat pumps.

As a result of these aggregate changes, we are forecasting a flatter emission profile over AMP8, and then further reductions in AMP9.

Forecast GHG emissions for water across AMP8 will not follow a linear profile due to the phasing of the WRMP increases.

While we anticipate a slight reduction in emissions against the previously forecast 2024-25 baseline by 2029-30 (111,475 tCO2e in baseline reducing to 110,718 tCO2e at the end of the AMP), the reprofiled PCL in Table 17-2 below shows that emissions will rise through the early years and then fall across the AMP as growth and base investment, including energy efficiency, chemical efficiency, fleet transition, and demand management, are phased in.

In considering our updated profile, we request Ofwat considers the upwards emission pressure from WRMP which we have now forecast across AMP8 and by 2029-30 contributes 11,755t CO2e/year (non-cumulative) of additional emissions, with additions in each year of the AMP.

In the absence of increased emission from new or expanded assets, our emission profile would align to our original forecast in terms of reduction.

As it stands, our PCL profile increases are more than net off by base investments, and their associated carbon reductions. However, with the scale of growth in emissions attributable to our WRMP programme (chemicals, energy etc), the level of reductions previously forecast is not achievable.

Taking the above into account, we seek:

- A change to the linear emission reduction profile in the draft determination based on a 12% reduction plus the additional base stretch, to an alignment with our submitted profile in this representation that delivers reduction in the order of 1.5% across the AMP.

- That it is accepted that our profile of emissions and this reduction will be non-linear and will follow the profile we have submitted in Table 17-2 below, which accounts for our increases and balancing decreases each year.

Table 17-2: Summary of changes to the Water GHG PCL

Unit of measurement:	tCO2e				
	2025-26	2026-27	2027-28	2028-29	2029-30
October 2023 Business Plan submission	109,476	107,360	105,361	103,244	101,245
January 2024 Business Plan resubmission	109,476	107,360	105,361	103,244	101,245
Ofwat's Draft Determination	109,476	107,360	105,361	103,244	98,458
YKY Draft Determination Representation	109,534	109,049	112,296	112,237	110,718

Reason for a non-linear profile

As indicated in section 17.2, and Table 17.4 our delivery profile across AMP8 will not follow a linear profile, because of material growth in emissions from delivery of our statutory WRMP programmes and these have timing differences with a particular peak increase in year 3. We have modelled the change in emissions using our cost and carbon modelling tool, which is well established, the outputs from which have been annually audited using PAS2080 for whole life carbon, and we are confident our proposed PCL profile is representative of the emissions we can target in each year.

17.1.4 Change requested - chemical emissions

The current emission factors for chemicals are very outdated, in some cases dating back to 2010. A UKWIR task and finish group on chemical emission factors was set up earlier this year with the intention of refreshing this standard. The set of updated emission factors for chemicals it developed show significantly lower emission factors for chemicals than those currently used. In some cases, the factors overstate emissions by up to 40%.

We ask Ofwat to consider re-baselining emissions using the updated chemical emission factors and, in the future, use these for APR reporting against the common performance commitments for operational GHGs, for both water and wastewater. The latest set have been updated to those available in 2021. We believe these provide a more consistent measure, as some companies may use publicly available data to report, while others use the emission factors in the Carbon Accounting Workbook (CAW), leading to differing outturns for the same reported chemical use.

17.5 Yorkshire Water's response to Ofwat - wastewater

We seek to agree an appropriately stretching PCL for operational GHG emissions (wastewater) that reflects the carbon impact of our hugely consequential AMP7 and AMP8 WINEP schemes, rather than a linear reduction from 2022-23 baseline that we have demonstrated is not appropriate for our wastewater PCL.

Our proposed amended PCL is set out in Table 17-1 and is based on two key themes:

- **The need for an amended baseline** from 2022-23 to our updated 2024-25 PCL forecast per Table OUT4, as discussed further under section 17.5.1.
- **A reduced stretch** considering that in the absence of our statutory WINEP programmes for AMP 7 and 8 we propose 25.8% emissions reduction, as detailed in section 17.5.2.

We also highlight changes from our October Business Plan submission in section 17.5.3.

17.5.1 The need for a new baseline: emissions are misrepresented by WINEP

Our wastewater programme for AMP7's WINEP (particularly our phosphorus-removal programme) is back-end loaded, with almost all regulatory deadlines after 2023-24. These statutory requirements will result in a significant increase in operational emissions, c. 37ktCO2e, including increased use of energy, chemicals, additional sludge transport and processing. None of this uplift will be seen in 2022-23.

As shown later in Table 17-3, the impact of these schemes will be seen as they are delivered in 2024-25 (30%) and the first three years of AMP8 (the remaining 70%). The 2022-23 baseline does not, then, present a fair starting point against which to profile emissions across AMP8. This impact, along with the AMP8 WINEP programme will make the linear profile of reductions set in the draft determination unachievable.

We propose that Ofwat amends Yorkshire Water's baseline to the 2024-25 figure, which will account for only 30% of the AMP7 WINEP schemes and none of the planned AMP8 schemes but is more consistent with that applied to other companies. We recognise this has been applied for companies that do not show a deteriorating profile, however when you exclude the WINEP impact, which disproportionally impacts Yorkshire Water, we forecast a net reduction in wastewater emissions of 25.8% over AMP8 (see section 17.5.2).

Upwards pressure from AMP7 WINEP is a fundamental driver for baseline change, non-linear profile and reduced stretch, as evidenced below.

Ofwat's phosphorous timelines disadvantage Yorkshire Water

One of the key drivers of wastewater tCO2e emissions is the use of chemicals to meet statutory requirements on output water quality. This has been widely recognised, including by Ofwat, the Environment Agency (EA), and other companies. Ofwat's emissions econometric model, which estimates the efficient level of emissions for each company, includes phosphorous as a driver to recognise the exogenous impact this has on emissions.

The EA's response to Ofwat's consultation on the GHG PC stated that:

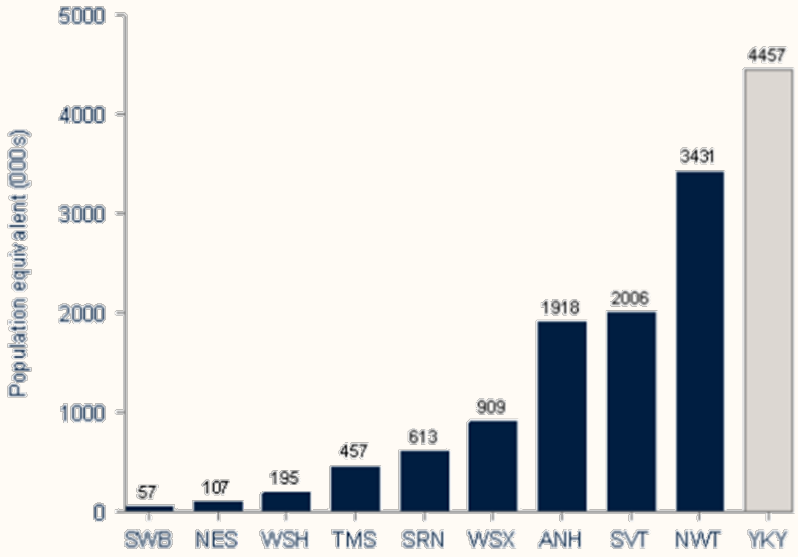
"*Regulatory requirements for reduction of phosphorous will lead to the use of more chemicals, and therefore more emissions will need to be reported*".[6] Several other companies have also raised the emissions impact of increased chemicals usage to meet WINEP requirements including Anglian Water, Severn Trent, and United Utilities (see Figure 17-1 below).

Yorkshire Water has the largest new phosphorus removal programme across the industry, with 30% more population equivalent impacted than the second highest company (Northumbrian Water). Ofwat has recognised phosphorous as an exogenous driver of emissions in its greenhouse gas emissions econometric model, and the Environment Agency has confirmed that meeting these regulatory requirements will lead to higher emissions (PR24-DD-PCM-OGGE-Econometric-modelling.xlsx).

Our 2024-25 baseline forecast better reflects our large AMP7 programme of phosphorous removal activity, even though it will only account for 30%. This is significantly larger than other companies and will increase wastewater CO2e emissions towards the end of AMP7, and in first 2-3 years of AMP8. The impact of the programme is evidenced below, with illustrations on the relative scale and timing in Figures 17-1 and 17-2 respectively.

[6] https://www.ofwat.gov.uk/wp-content/uploads/2023/02/EA_GHG_Emissions_Definition_Consultation_Response_March_2023.pdf

Figure 17-1 Population equivalent impact by new phosphorous permits for each company in AMP7



[1] Environment Agency, Response to Ofwat consultation on PR24 operational greenhouse gas emissions performance commitment definitions[7]

Yorkshire Water has a uniquely large phosphorous removal programme in AMP7. It has the largest total population equivalent (PE) of sites with new phosphorous drivers in the industry (Figure 17-1), and the level of improvement in phosphorous permits is larger than companies that already had permits in place.

The exceptional scale of these new requirements, which are primarily delivered via chemical dosing[8], means that Yorkshire Water will see a material increase in wastewater CO2e emissions over AMP7 compared to other companies. The phasing of these increases is also important for setting the 2024-25 baseline.

We have reviewed our AMP7 phosphorous removal programme to understand the timing of emission increases. We looked at the total population equivalent[9] (PE) for phosphorous-driven WINEP schemes with deadlines in each year of AMP7 as a proportion of the total PE impacted by AMP7 phosphorous WINEP schemes. As shown in Figure 17-2, the vast majority of PE is covered by schemes that have a regulatory deadline of 2024-25 and 2026-27. In comparison, almost no schemes had deadlines for 2022-23, which is the year that Ofwat has used to adjust our 2024-25 baseline in its draft determination, making that a non-representative baseline option.

Given the high emissions impact of delivering these schemes (c. 37ktCO2e additional impact forecast between 2024-25 and 2027-28), our operational emissions should be expected to increase in the last year of AMP7 and over the first three years of AMP8[10]. Even if we chose to deliver some of these schemes before their regulatory deadline, the overall programme is significantly backloaded after the year selected for our PCL baseline for wastewater in the draft determination.

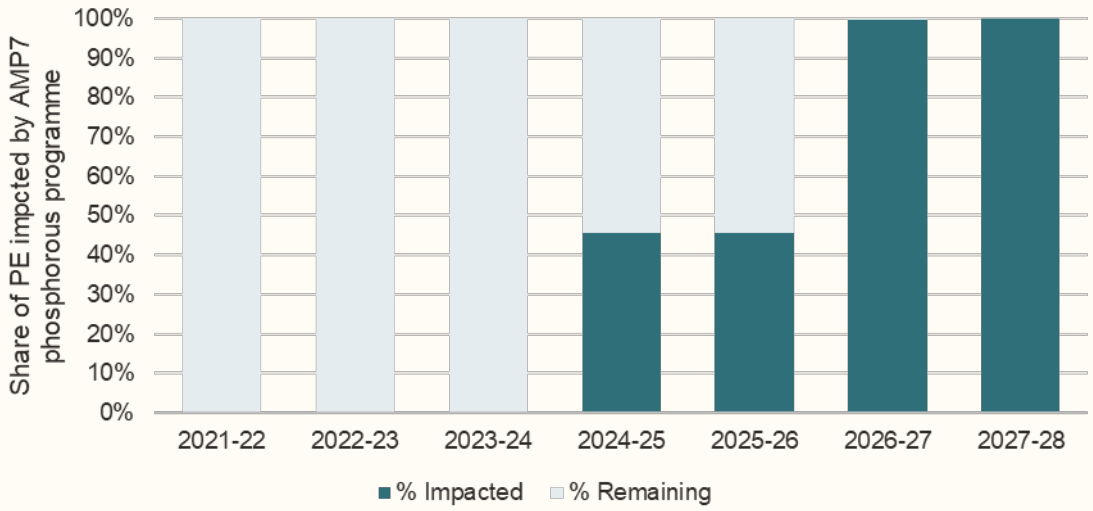
[7] https://www.ofwat.gov.uk/wp-content/uploads/2023/02/EA_GHG_Emissions_Definition_Consultation_Response_March_2023.pdf

[8] There are two main approaches to remove phosphorous: chemical dosing or biological solutions. Chemical dosing is the most common approach used as it is proven technology and has lower upfront costs. Biological solutions have a higher upfront capital cost but may have lower whole life costs and whole life carbon costs for some schemes. Yorkshire Water has previously discussed this with Ofwat and progressed on the basis that Ofwat's cost allowances are currently set on the basis of chemical dosing rather than biological solutions.

[9] Size of STW sites is typically measured by population equivalent.

[10] There can be a 1-year lag between implementing a phosphorous removal intervention and observing the carbon emissions impact in reporting due to the reporting period. For example, a scheme with an agreed completion date of the 30/09/24. GHG emissions reporting is carried out on a financial year basis. This means that a 6-month impact would be observed in 24-25, with the full impact observed in 25-26 onwards

Figure 17-2 Share of PE impacted by AMP7 phosphorous removal schemes in each year

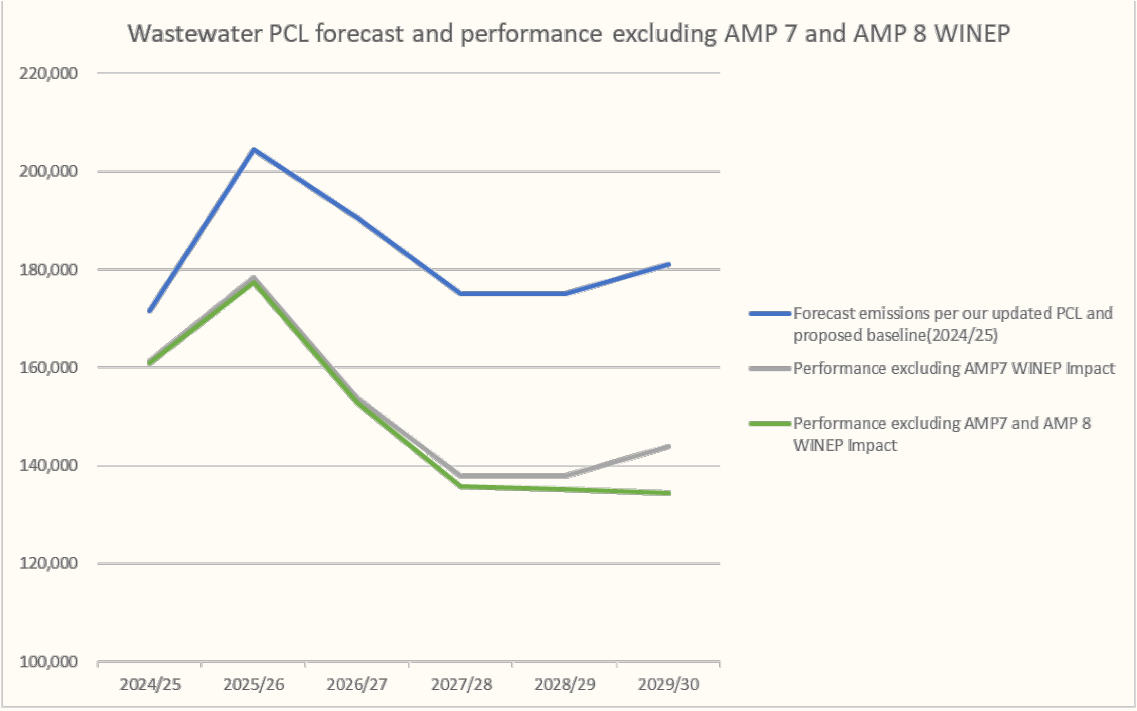


Source: Water Industry National Environment Programme update 2020
Note: Using the population impacted by each phosphorous project and their proposed completion date to illustrate the timing and size of Yorkshire Water's phosphorous programmes. 100% represents the total population equivalent impacted by AMP7 projects.

17.5.2 Yorkshire Water's reduction target needs to account for future investment schemes

Yorkshire Water passed Ofwat's three tests on performance from base expenditure, however Ofwat intervened on our proposed PCL on the basis that it does not accept a deteriorating performance. We make the case that excluding WINEP emissions (both AMP7 and 8) which, as highlighted in Figure 17-1, are particularly pronounced for Yorkshire Water compared to other companies, we forecast a net reduction in wastewater emissions of 25.8% over AMP8. Details of this reduction can be seen later in Table 17-3 and illustrated here in Figure 17-3 below. The figure highlights that our underlying performance, particularly given past efficiency (discussed further below), is indeed already leading and stretching.

Figure 17-3 Yorkshire Water's emissions reduce by over 25% when excluding WINEP schemes



Our proposed 25.8% emissions reduction

Figure 17-3 shows the contributors to increased and decreased emissions in each year of AMP8 and the last year of AMP7 and highlights that Yorkshire Water is committing significant reductions - c53ktCO2e. c19ktCO2e of this comes from our enhancement representation and 34ktCO2e from base reductions, including the additional base allocation.

It is important to note that Ofwat has not allocated any net zero enhancement funding in its draft determination. This is addressed in our separate and revised representation on our cost efficiency enhancement costs – wastewater (YKY-PR24-DDR-04).

If supported, our proposed net zero enhancement case interventions will reduce emissions on full deployment by 19,321 tCO2e/year by 2029-30 (NB. This is in year, not cumulative reduction for the AMP). These emissions have been incorporated into the reductions in AMP8 but would need removing if the enhancement case is not supported, leading to a further increase in emissions.

Our updated enhancement case has been amended as follows:

- Includes investment for CH4 vacuum degassing and reduction of N2O building on the case put forward in our October submission with provision for additional reduction monitoring.
- Removes the investment for solar renewables (water and wastewater) and the investment for digester upgrades (Ephyra) and leak detection because we agreed with Ofwat's determination that renewables are not a core business, digester upgrades offer some commercial benefit, and leak detection should be a base maintenance activity.

Within base we are forecasting 34ktCO2e/year removed through increased energy self-generation, expanded private wire low or zero carbon energy use, digester upgrades at 3 sites, chemical and energy efficiency projects, and incorporating reductions associated with the additional base allocation in Ofwat's draft determination for electric vehicles (EVs) and heat pumps (impacting both wastewater and water). These are detailed our cost efficiency enhancement costs – wastewater (YKY-PR24-DDR-04).

Please note that the GHG emission reduction for both enhancement and additional base allocation would need to be removed from our submitted PCL if our representation is not supported, which would lead to a further deterioration of performance, and an increased emission profile. Funding is essential to deliver a level of reduction in scope 1 emissions, which counter the AMP7 and 8 increased emissions for wastewater. It is not reasonable to assume these emission reductions would be replaced by base investment if enhancement funding is not allocated.

Yorkshire Water is already the most efficient company

Ofwat calculated an 'efficiency score' for each company using its econometric model and Yorkshire Water was assessed to be the most efficient company with respect to historic wastewater emissions across the whole industry.

Ofwat also assessed that Yorkshire Water has limited opportunity to make additional reductions in wastewater emissions from base expenditure which suggests that it would not be reasonable to place any degree of additional stretch in our PCL. We refer to Ofwat's 'test iii: opportunities for reduction from base expenditure' in which Yorkshire Water's normalised emissions are below the median for burning of fossil fuels, vehicle transport, and purchased electricity, and the assessment indicated Yorkshire Water as having limited scope for further stretch from base in all three areas.

Furthermore, Ofwat's decision to use a relative measure for the PC definition (the percentage change in operational emissions since 2022-23) means that this adjustment leads to additional stretch for every year of AMP8, compounding the required reduction.

As highlighted above we request Ofwat amend our baseline and accept our PCL representation without putting further stretch on emissions beyond what we have already proposed.

17.5.3 Emissions changes we have modelled to evidence the amended PCL profile for wastewater

In our remodelling for wastewater, we have included the various changes to forecast emissions over the coming AMPs these include:

- WINEP programme and modelled increases in use including energy, chemicals, sludge transport and potential maintenance impacts that have potential to increase emissions – taken from our EDA solutions for AMP7, 8 and 9.
- The amended enhancement case investment as set out within our representation for wastewater including both N2O reduction and CH4 reductions.
- Amendments to our original enhancement case removing solar renewables, digester in series and leak detection per Ofwat's DD.
- Fleet emission reductions including those attributable to the additional base allocation as set out in our representation on how we will utilise the allocation.
- Heat pump related emission reduction linked to the additional base allocation.
- Our plans for energy efficiency, chemical efficiency (included in base opex).
- Our plans for energy self-generation or private wire (included in base opex).
- Other changes – biogas to grid (that presents an AMP8, Year 1 impact and makes a linear profile unachievable), sludge export, site rationalisation.

These are summarised in Table 17-3 below, which shows that while emissions over the AMP will increase by 9,517 tCO2e from the baseline, that efforts to reduce emissions will contribute 52,974tCO2e offsetting significant increased emissions of 62,491tCO2e to deliver statutory compliance. The data shows the increases and decreases do not follow a linear profile across the AMP hence our forecast PCL in our draft determination per Table 17-1. Figure 17-3 further highlights the impact of AMP7 and 8 and emissions reductions excluding related increases. As can be seen emissions reduce from c.181ktCO2e to c. 134ktCO2e representing a 25.8% reduction if we excluded AMP7 and AM8 WINEP increases.

Table 17-3: Emission increases and reductions contributing to our updated PCL for wastewater.

Wastewater factors contributing change		Annual Net Increase (tCO2e)	Annual Net Decrease (tCO2e)	Annual Net Change (tCO2e)	Notes
Baseline 24/25	**171,567**				
PCL 29/30	**181,082**				
Year 1					
Base - Additional energy use to biogas to grid		15,000		15,000	
AMP 7 - WINEP Overhang		15,771		15,771	
Disposal of sludge to 3rd party		3,600		3,600	
AMP 8 WINEP		1,025		1,025	
Base - Additional allocation - heat pump			-42	-42	From additional base allocation
Base - energy efficiency, self gen and private wire			-2,500	-2,500	
Year 1 Total		**35,395**	**-2,542**	**32,854**	Increase mainly due to overhang WINEP and energy

				to replace biogas to grid
Year 2				
AMP 7 - WINEP Overhang	10,573		10,573	
AMP 8 WINEP	914		914	
Base - Biogas to Grid additional energy replaced with EFW		-15,000	-15,000	Energy from waste comes on line to replace biogas to grid increase
Base - Additional allocation - heat pump		-42	-42	
Base - energy efficiency, self gen and private wire		-2,500	-2,500	
New enhancement case (N2O and CH4)		-7,897	-7,897	
Year 2 Total	**11,488**	**-25,439**	**-13,951**	In year WINEP increase net off by reversal of gas to grid impact and reductions from enhancement case
Year 3				
AMP 7 - WINEP Overhang	462		462	
AMP 8 WINEP	2,008		2,008	
Base - reduced sludge disposal to 3rd party land		-1,800	-1,800	
Base - Fleet EV transition		-212	-212	This includes our additional base cost allocation
Base - Ephyra (3 sites)		-2,933	-2,933	
Base - energy efficiency, self gen and private wire		-2,500	-2,500	
New enhancement case (N2O and CH4)		-10,506	-10,506	
Year 3 Total	**2,470**	**-17,951**	**-15,481**	In year WINEP increase net off by reductions from enhancement case and base investments
Year 4				
AMP 8 WINEP	2,631		2,631	
Base - Additional energy use at 3 sites due to rationalisation	1,000		1,000	

Base - Fleet EV transition		-212	-212	
Base - energy efficiency, self gen and private wire		-2,500	-2,500	
New enhancement case (N2O and CH4)		-918	-918	
Year 4 Total	**3,631**	**-3,630**	**1**	In year WINEP increase net off by reductions from enhancement case and base investments
Year 5				
AMP 8 WINEP	9,507		9,507	
Base - Fleet EV transition		-912	-912	
Base - energy efficiency, self gen and private wire		-2,500	-2,500	
Year 5 Total	**9,507**	**-3,412**	**6,095**	Increase due to AMP8 WINEP investments exceeding base investments.
Contributing totals to outturn	**62,491**	**-52,974**	**9,517**	

17.6 Yorkshire Water's response to Ofwat - water

We are supportive of the need to move companies towards a net zero glide path. However, the PCL target set for water in Ofwat's draft determination has not considered the upwards pressure on emissions arising from our statutory WRMP programme, which we mistakenly allocated to our wastewater price control in our original PR24 submission in October 2023. Nor does Ofwat recognise that, given our relative efficiency and low emissions in key areas, we have relatively limited ability to achieve significant further reductions through base reduction or stretch.

Following review of our AMP8 WRMP for water, we are now forecasting a non-linear emission profile over AMP8 (see Table 17-2). Factors impacting that profile include:

- The re-allocation of emissions related to WRMP.
- The replacement of the enhancement investment reductions with choice in base spend to drive energy efficiency.
- An increase in private wire and self-generation energy use.
- The additional base allowance we have integrated related to EV charging and heat pumps. Please see Cost efficiency-Part 1-Introduction and base costs (YKY-PR24-DDR-02).

With the removal of the enhancement case for water, all emissions reductions across AMP8 will come from base investments. These investments will counter the increased emissions from related to the WRMP that have been re-allocated from wastewater and contribute a net increase of c.11,755 tCO2e/year by 2029-30.

Against the baseline 2024-25 (111,475 tCO2e), we now forecast to deliver a smaller emission reduction (c. 1.5%) by 2029-30. We believe this profile offers a true indication of our outturn emissions across AMP8 and provide details to support this, particularly in Table 17-4.

As Table 17-2 indicates, emission changes year-on-year will not be linear due to increases and decreases landing in different years. Emissions will increase across the AMP before finishing below the 2024-25 baseline in 2029-30.

17.6.1 Our water reductions will be delivered through base funds

As all emissions reductions for water will be delivered through base, and these are already stretching (as shown in Table 17-4), delivering the proposed 12% reduction against the baseline 2024-25 year will not be possible. We believe a 1.5% reduction on the non-linear profile is the best achievable given the upwards pressure and stretching reduction from base investment we will make.

We have not identified any cost-efficient base or enhancement investment to drive further for water emissions reduction.

17.6.2 Emissions changes we have modelled to evidence the amended PCL profile for water

In our remodelling for water, we have included the various changes to forecast emissions over the coming AMPs. These include:

- WRMP programme including modelled increases and decreases in use of energy, chemicals, clean sludge transport and maintenance impacts that increase emissions but are required to meet our statutory compliance – taken from our EDA solution for AMP7, 8 and 9.
- Demand management, leakage reduction improvement to reduce pumping and treatment etc., bringing reductions in emissions.
- Fleet emission reductions including those attributable to the additional base allocation as set out in our representation on the how we will utilise the allocation.
- Heat pump benefit linked to the additional base allocation.
- Our plans for energy efficiency, chemical efficiency (included in base opex).
- Our plans for energy self-generation or private wire (included in base opex).
- Amendments to our original enhancement case removing solar renewables per Ofwat's DD.

These are summarised in Table 17-4 below and show that Yorkshire Water will deliver a stretching reduction of 16,983 tCO2e to offset the significant net WRMP related growth of 16,226tCO2e across the AMP. In the absence of these increases, this would be equivalent to a 14% reduction against the baseline.

The data in Table 17-4 also shows that the increases and decreases do not follow a linear profile across the AMP, hence our forecast PCL in our draft determination per Table 17-2, and recommendation for a non-linear profile.

Table 17-4: Emission increases and reductions contributing to our updated PCL for water.

Water factors contributing change		Annual Increases tCO2e	Annual Decreases tCO2e	Annual net change tCO2e
Baseline 2024-25	**111,475**			
PCL 2029-30	**110,718**			
Year 1				
AMP 8 - WRMP		1,358		1,358
AMP8 Leakage reduction and demand management programmes			-963	-963
AMP 7 WRMP		246		246
Base - Additional allocation - heat pumps			-82	-82
Base - energy efficiency, self gen and private wire			-2,500	-2,500
Year 1 Total		**1,604**	**-3,545**	**-1,941**
Year 2				
AMP 8 - WRMP		3,213		3,213
AMP8 Leakage reduction and demand management programmes			-1,116	-1,116
Base - Additional allocation - heat pump			-82	-82
Base - energy efficiency, self gen and private wire			-2,500	-2,500
Year 2 Total		**3,213**	**-3,699**	**-485**
Year 3				
Base - Fleet EV transition			-212	-212
AMP 8 - WRMP		6,275		6,275
AMP8 Leakage reduction and demand management programmes			-316	-316
Base - energy efficiency, self gen and private wire			-2,500	-2,500
Year 3 Total		**6,275**	**-3,028**	**3,247**
Year 4				
Base - Fleet EV transition			-212	-212
AMP 8 - WRMP		2,963		2,963
AMP8 Leakage reduction and demand management programmes			-310	-310

Base - energy efficiency, self gen and private wire		-2,500	-2,500
Year 4 Total	**2,963**	**-3,022**	**-59**
Year 5			
Base - Fleet EV transition		-912	-912
AMP 8 - WRMP	2,170		2,170
AMP8 Leakage reduction and demand management programmes		-277	-277
Base - energy efficiency, self gen and private wire		-2,500	-2,500
Year 5 Total	**2,170**	**-3,689**	**-1,519**
Contributing Totals to outturn	**16,226**	**-16,983**	**-757**

17.7 The impact of using fixed emission factors – wastewater and water

An additional point for Ofwat to note when considering this representation (applicable to both water and wastewater outcomes) is that all data included in our OUT and LS table updates are linked to forecasts using fixed emission factors from 2022. This is a requirement in Ofwat's GHG emissions calculation and reporting methodology. As such, they do not represent the future outturn emissions but are for comparative purposes only. Over time, use of fixed emission factors will significantly overstate the true emissions.

We anticipate the electricity grid will be fully decarbonised by 2040 at the latest, and this will lead to reduced embedded emissions in purchased goods and services, including those for chemicals. If we applied forecast emission factors for future years in our LS tables out to 2050, we would expect significantly lower outturn numbers than those included in this update. For water, the majority of emissions are energy or chemical related so this will be more pronounced than for wastewater, which also has a large element of process emissions.

The basis for setting the reduction pathway for both water and wastewater has been aligned to UK target reduction levels. However, as we are required to use fixed emission factors from 2022, the tailwind benefit of grid electricity decarbonisation and that impact on other reportable emissions including chemicals is not considered, and targets are therefore inherently and unnecessarily over-stretching.

The use of fixed emission factors has been applied in all table amendments including all OUT and LS tables.

17.8 Concluding points

We believe Ofwat has included in its draft determination overly stretching targets that are not deliverable in the absence of significant additional funding, and do not consider the unique nature and timing of our AMP7 WINEP programme for wastewater. Nor do they consider the impact of continued emissions growth in AMP8 that results from our statutory compliance programmes (water and wastewater) and our limited potential for further reductions from base investments – even though these featured in Ofwat's draft determination models of our historic efficiency.

We consider it is reasonable that Ofwat recognises the ongoing operational emissions impact when setting the 2024-25 baseline and AMP8 stretch from base for Yorkshire Water, particularly given that it has already assessed our historical wastewater emission performance to be the most efficient across the whole industry. Not doing so would mean that the baseline and PCLs are inconsistent with Ofwat's own assessment of exogenous emissions drivers.

PCL targets in our draft determination have not considered the impact of upwards pressure on emissions in both water and wastewater operations (arising from additional assets or treatment we are required to build or utilise for statutory compliance reasons both WINEP and WRMP). Nor do these targets recognise that the scale of challenge is more significant for Yorkshire Water than it is for most companies.

The reductions have been set from variable baseline dates, and assuming a linear (flat) profile of forward emissions, whereas our forecast is for increasing emissions in wastewater, and a smaller reduction in water across the AMP. Based on our representation, and as demonstrated in Tables 17-3 and 17-4, a linear profile is not appropriate for either wastewater or water.

For wastewater specifically we have:

- Evidenced the scale/impact and timing of our AMP7 WINEP programme and how this makes the 2022-23 year outturn an inappropriate baseline. We have requested an amendment to use the 2024-25-year emissions per the updated forecast in our OUT5 table.
- Responded to the question with respect to the linear profile of reductions and advised that this would not be applicable for wastewater, considering the AMP7 and 8 impacts and phasing of the base and enhancement case interventions.
- Highlighted that the performance is stretching, taking into consideration our relative historic efficiency in terms of GHG emissions and Ofwat's recognition of this and the limited potential for significant reductions from base. We have also asked Ofwat to take into consideration that, in the absence of our large WINEP programmes, we would be achieving an emission reduction of 25.8% across the AMP.
- Highlighted that our forecast PCL as set out in Table17-1 above is dependent on allocation of the enhancement investment in our amended enhancement case representation, and the additional base allocation. Without support for these, there would be further deterioration in our performance in terms of GHG emissions across the AMP and the PCLs would need amending.
- Demonstrated that, in the absence of growth, our base and proposed enhancement investments will deliver c. 53 ktCO2e reduction to offset growth of 62.5 ktCO2e. This represents a significant reduction, and we believe further reductions are undeliverable without significant further investment to address process emissions.

For water, specifically, we have:

- Explained the increase in emissions associated with the re-allocation of WINEP and WRMP emissions mistakenly allocated to our wastewater price control in our Oct 2023 PR24 submission, and the impact this has on our emission reductions across the AMP from our 2024-25 baseline.
- Requested a change to the linear emission reduction profile in the draft determination from a 12% reduction plus the additional base stretch, to an alignment with our submitted profile in this representation. That delivers a reduction in the order of 1.5% across the AMP aligned to the forecast in our updated OUT4 Table.
- Made a request that Ofwat accept our profile of emissions and explained that this reduction will be non-linear and will follow the profile we have submitted in Table 17-2 which accounts for our increases and balancing decreases each year, as presented in our representation including details in Table 17-4.
- Highlighted that our forecast PCL is dependent on the additional base allocation, and explained that without support for this, there would be further deterioration in our performance in terms of GHG emissions across the AMP for water.
- Demonstrated that, in total, base reductions for water will deliver c. 17 ktCO2e, offsetting growth of c. 16.2 ktCO2e. In the absence of growth this represents c. 14% of baseline emission, and a significant stretch. Further reductions are not deemed possible without significant further investment.

18 Compliance Risk Index

18.1 Overview

The deadband for the Compliance Risk Index (CRI) performance commitment is not consistently applied across all water companies. Yorkshire Water and two other companies have a harsher deadband due to regulations applied as part of the Competition and Markets Authority (CMA) process at PR19. We believe that Yorkshire Water's deadband should be changed to align with all other companies at final determination.

As set out in our ODI chapter, in order to balance the overall package of risk and to protect against extreme events, we propose a cap and collar on this PC at 0.5% of relevant price control RoRE.

18.2 Ofwat action reference

No related actions.

18.3 Key messages

1. We agree with Ofwat applying an outcome delivery incentive (ODI) deadband to CRI to manage the uncertainty associated with the measure;
2. We believe our deadband should be aligned to most companies with the starting point of 1.83; and,
3. We have provided industry performance data to show we are not outliers in historic performance of CRI, and therefore there is no justification for a harsher deadband to be applied.

18.4 Change requested

Table 1 below outlines the deadband that Ofwat has given to Yorkshire Water for PR24 at the draft determination, and the proposed deadband (starting at 1.83 and ending at 1.00) that would align with the other water companies.

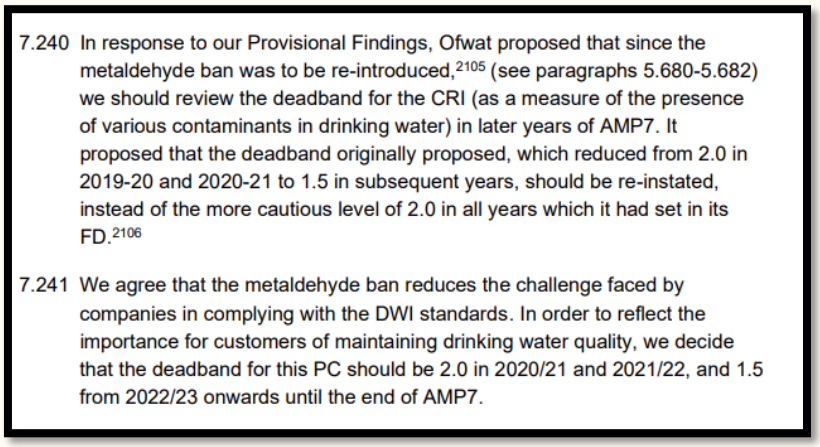
Table 18-1: AMP8 business plan targets and Ofwat DD target

PR24 Deadbands for CRI					
Deadbands	**2025-26**	**2026-27**	**2027-28**	**2028-29**	**2029-30**
Ofwat's Draft Determination	1.50	1.50	1.50	1.25	1.00
YKY Draft Determination Representation	1.83	1.67	1.50	1.25	1.00

18.5 Yorkshire Water's response to Ofwat

18.5.1 PR19 Deadbands

As part of the CMA process at PR19, the harsher deadband was applied to Yorkshire Water for AMP7, reducing from 2.0 in 2019-20 and 2020-21 to 1.5 in subsequent years. See below excerpt from the CMA Final Report on p.667 outlining the CMA's findings and reason for applying the deadband.



7.240 In response to our Provisional Findings, Ofwat proposed that since the metaldehyde ban was to be re-introduced,[2105] (see paragraphs 5.680-5.682) we should review the deadband for the CRI (as a measure of the presence of various contaminants in drinking water) in later years of AMP7. It proposed that the deadband originally proposed, which reduced from 2.0 in 2019-20 and 2020-21 to 1.5 in subsequent years, should be re-instated, instead of the more cautious level of 2.0 in all years which it had set in its FD.[2106]

7.241 We agree that the metaldehyde ban reduces the challenge faced by companies in complying with the DWI standards. In order to reflect the importance for customers of maintaining drinking water quality, we decide that the deadband for this PC should be 2.0 in 2020/21 and 2021/22, and 1.5 from 2022/23 onwards until the end of AMP7.

Whilst Yorkshire Water accepted the deadband for AMP7 as it was part of a full re-determination by the CMA, we still considered it stretching, and it was not applied to the whole industry. Our AMP7 performance and that of most companies in the industry show that this deadband is not appropriate for application in AMP8 and the more cautious level should be applied.

18.5.2 PR24 Deadbands

We believe that the deadband for CRI should be applied consistently across the water industry (*Source: Key-Dataset-2*). Inconsistent regulation will potentially expose Yorkshire Water to greater penalty, when assessed against the harsher deadbands with no rationale from Ofwat.

Table 18-2: CRI deadbands industry comparisons for PR19 FD and PR24

Company	PR19 FD	PR24 DD Deadband				
	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
ANH	1.5	1.5	1.5	1.5	1.25	1
WSH	2	1.83	1.67	1.5	1.25	1
HDD	2	1.83	1.67	1.5	1.25	1
NES	1.5	1.5	1.5	1.5	1.25	1
SVE	2	1.83	1.67	1.5	1.25	1
SRN	2	1.83	1.67	1.5	1.25	1
TMS	2	1.83	1.67	1.5	1.25	1
NWT	2	1.83	1.67	1.5	1.25	1
WSX	2	1.83	1.67	1.5	1.25	1
YKY	1.5	1.5	1.5	1.5	1.25	1
AFW	2	1.83	1.67	1.5	1.25	1
PRT	2	1.83	1.67	1.5	1.25	1
SEW	2	1.83	1.67	1.5	1.25	1
SSC	2	1.83	1.67	1.5	1.25	1
SES	2	1.83	1.67	1.5	1.25	1

18.5.3 Historic CRI performance

The table below shows the CRI scores across the industry since the metric was introduced in 2017-18. The table is ranked by average score across the seven-year period. The data shows that Yorkshire Water is not an outlier in performance across this time series, placed 12th out of 17 companies based on average yearly performance. As a result, we do not believe we should be penalised with a harsher deadband and we ask Ofwat to consider the glidepath we are suggesting.

When setting glidepaths for AMP8, actual performance over the AMP7 period should be accounted for. Ofwat has continued the PR19 regulation aligning the deadbands, when on average only three companies have met the deadband of two CRI points. This shows that the starting point of 1.83 is still significantly stretching for companies. We ask Ofwat to reconsider setting the harsher AMP8 starting point of 1.50 CRI for Yorkshire Water, and instead default to the 1.83 index of the other companies.

Table 18-3: Industry comparison of historic CRI and average from 2017-2024

CRI Historic Performance (2017-18 to 2023-2024)									
Rank	**Company**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**Average**
1	HDD	0.00	0.50	0.33	0.08	0.16	0.56	0.11	**0.25**
2	SES	0.23	0.01	0.48	2.16	0.00	0.01	0.01	**0.41**
3	WSX	0.52	0.87	0.88	1.61	0.37	1.04	0.93	**0.89**
4	SEW	2.03	3.39	3.22	2.26	1.21	1.49	1.31	**2.13**
5	ANH	3.17	2.09	1.75	1.98	4.05	2.32	3.57	**2.70**
6	SWB	2.85	1.91	3.64	2.06	3.86	2.39	3.02	**2.82**
7	TMS	1.22	1.95	0.66	2.42	2.59	10.96	1.43	**3.03**
8	BRL	0.03	0.75	2.31	3.02	4.19	4.6	7.05	**3.14**
9	UU	1.28	2.26	3.24	2.58	3.02	3.67	5.92	**3.14**
10	PRT	0.01	1.78	0.03	0.57	3.74	1.24	15.62	**3.28**
11	AFW	6.66	5.18	1.73	1.31	0.87	1.09	8.05	**3.56**
12	YKY	4.61	1.90	4.73	2.34	4.76	4.61	9.27	**4.60**
13	NES	2.41	2.26	3.21	7.11	6.36	7.62	3.45	**4.63**
14	SVE	9.44	8.4	3.94	1.53	2.43	5.65	6.19	**5.37**
15	SSC	6.18	13.69	3.60	1.09	0.91	1.39	10.9	**5.39**
16	WSH	2.85	4.31	3.97	4.17	9.77	5.4	7.74	**5.46**
17	SRN	5.46	11.59	7.66	4.61	6.69	6.38	3.07	**6.49**

18.6 Concluding points

We ask Ofwat to consider consistent application of deadbands for the CRI performance commitment across the industry.

We consider that actual performance across this industry should be considered when setting deadbands for AMP8, rather than a continuation of the AMP7 targets.

As Yorkshire Water is not a performance outlier for CRI and therefore should not be penalised with a harsher deadband in AMP8.

19 ODIs

19.1 Overview

Yorkshire Water is concerned that Ofwat's approach to the setting of performance commitment levels (PCLs) and outcome delivery incentives (ODI) risks individual companies, including ourselves, being faced with incentive packages that are materially downwardly-skewed, not in the interests of consumers, and act to the detriment of investability.

The approach may ultimately lead to customers paying more than they need to for services that are not aligned to their needs. In particular, we are concerned about the following issues:

(a) The incentives no longer aim to align with an efficient cost/benefit trade-off, meaning:
   a. they risk becoming increasingly misaligned with customer views at the company level; and
   b. that when combined with PCLs they can (and have) become inconsistent with Ofwat's decisions on expenditure allowances.

(b) That the evidential case for more powerful incentives at PR24 has not been made by Ofwat, and the volatility in incentive rates that results from its methodology is potentially damaging to long-term investment incentives.

(c) That at a detail level, Ofwat's calculations of ODI rates are highly sensitive to data and methodology decisions that lack transparency and compelling evidence-based justification.

(d) That Ofwat's analysis of a small negative skew to ODI risk obscures the true level of risks faced at the company level and is unlikely to satisfy investors (existing and potential) who are increasingly cognisant of the cashflow risks inherent in recent regulatory decisions.

These methodological issues combine to make it more likely that companies will face imbalanced incentive packages at this and/or future determinations that, all else equal, are likely to deter investment. In the following sections we discuss issues (b) and (c), taking an industry-level approach. We summarise our proposed interventions to the ODI framework in the context of the interventions set out in the wider outcomes chapter.

Points (a) and (d) are discussed in chapters within Cost efficiency - cross cutting issues appendix (YKY-PR24-DDR-05) and RoRE Risk Analysis within finance risk and return (YKY-PR24-DDR-08) respectively.

Our representation in this area does not propose that ODI rates are changed, provided that the performance commitment levels are set at those evidenced in the preceding chapters. We do, however, propose that caps and collars are applied to all performance commitments at final determination in order to help balance the risk/return of the package. We set out in section 19.5.5 our reasons for this and why some of Ofwat's concerns about collars are unjustified.

19.2 Ofwat action reference

No related actions.

19.3 Key messages

- Ofwat's approach to setting ODI rates is not well justified and leads to counterintuitive and inconsistent rates. When combined with an imbalanced set of PCL targets, these larger incentives widen the downside risk of the overall package.
- Ofwat should focus first on addressing the asymmetry of the package, which involves setting appropriate PCLs and ensuring extreme downside risk is mitigated. We recommend that Ofwat reconsiders its approach to setting ODI rates but do not propose specific alternatives in this response.
- We propose caps and collars are introduced for all performance commitments.

19.4 Change requested

The only specific change we are requesting in this section is that Ofwat applies caps and collars to all performance commitments at a value of +/- 0.5% Regulated Equity. However, this is on the

basis that Ofwat applies a greater adoption of achievable and company-specific PCLs, as set out in the preceding chapters.

19.5 Representation

We are representing in this section because we have concerns over several of Ofwat's approaches to setting incentives, which when combined with the stretching targets lead to a significant downside risk. We set out our key concerns, their impact and our justifications for caps and collars on all PCs, in the sections below.

19.5.1 Ofwat's approach to ODI rates are likely to be misaligned with local customer priorities

Ofwat's starting allocation of 0.5% RoRE is not well justified

At PR24, Ofwat has moved to a top-down approach to setting ODI rates, after the challenges surrounding the construction of meaningful bottom-up rates from customer research that could be applied to the whole industry. The approach ignores marginal costs and requires generalisations across the industry that might mean that customer views at local level are not being reflected, and customers do not get what they want at the right price level.

Ofwat's starting RoRE allocation at risk is 0.5%. This is derived from historical hypothetical payments from common PCs made to companies over 2020-21 and 2021-22 – the deviation in the performance of each company from each PCL is multiplied by the associated underperformance payment. The upper quartile and 90th percentile of these payments in RoRE terms are calculated, which are seen as 'stretching but achievable' levels of performance deviation from PCLs, and 0.5% is chosen as it is around the midpoint of the UQ and P90 payments for both water and wastewater PCs.

This top-down approach has not been well justified. In particular:

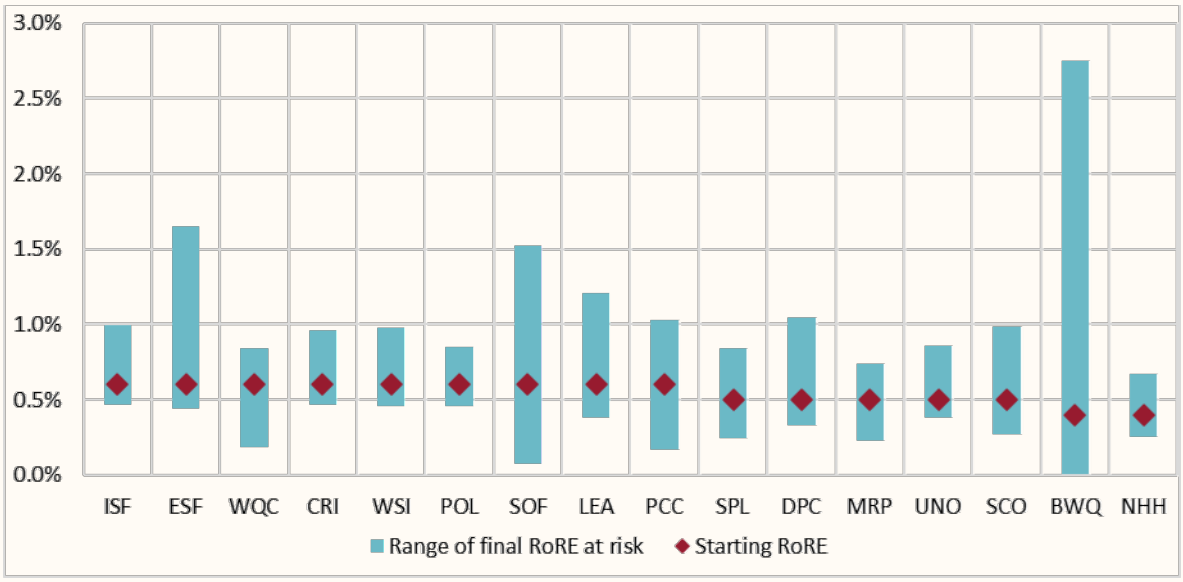
a. It is not clear why UQ and P90 are the right levels to consider for this analysis.
b. Nor is it clear whether an analysis based on two years of data can be sufficiently robust.
c. We also note that, while the performance against ODIs has generally worsened in the subsequent two years, Ofwat has not updated its analysis and has generally increased, rather than decreased, its RoRE at-risk targets, over this time.

Ofwat's methodology does not actually achieve what it sets out to do

Based on customer research and the level of importance placed on each measure of service by customers (and strategic priority from governments), the PCs are grouped into high, medium, and low priority by Ofwat and assigned a RoRE target of 0.6%, 0.5% and 0.4% accordingly.

The methodology for translating this into an ODI incentive rate, however, fails to achieve this; the range of actual RoRE at risk by measure is rather wide as can be seen in the figure below.

Figure 19-1: Starting RoRE vs range of final RoRE at risk for all PCs

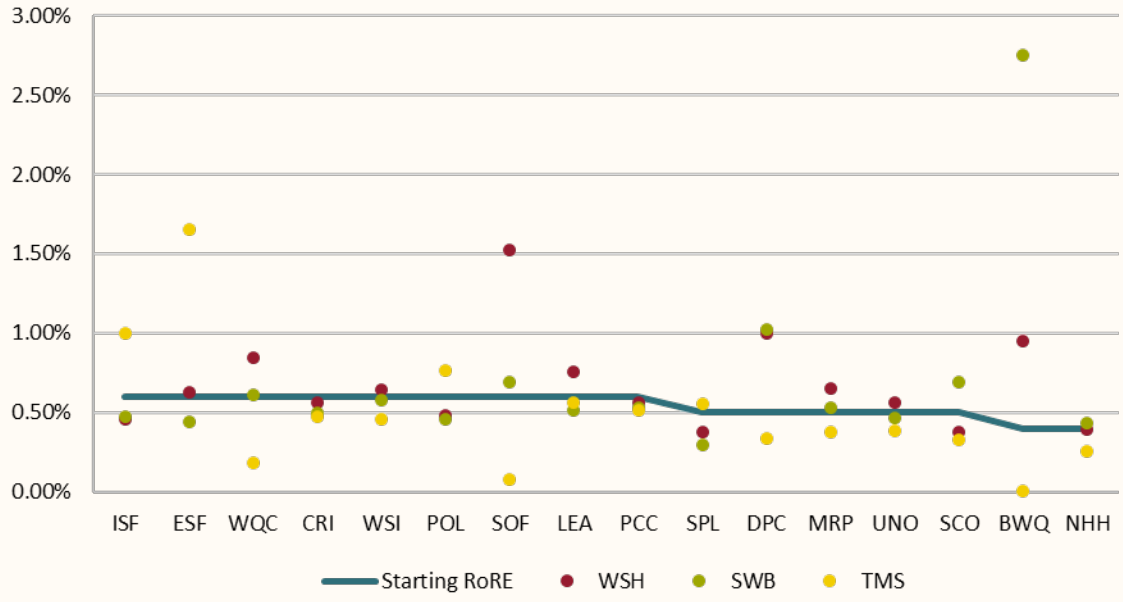


Source: *Analysis of Ofwat model PR24-DD-ODI-Rates*

At the company level this also creates some odd ordering effects of ODIs. For example, as the figure below shows visually:

- Thames Water's water quality contacts incentive (judged by Ofwat to be of high importance) has lower RoRE at risk than all the medium and low importance ODIs bar one.
- South West Water's incentives for high importance sewer flooding measures (ISF & ESF) are significantly below its incentives for low and medium incentives for discharge permits, sewer collapses and bathing water quality.
- Welsh Water's bathing water incentive (low importance) is higher than all but two other ODI measures.

Figure 19-2: Starting RoRE and final RoRE at risk by PC and company (for Dwr Cymru, South West Water, and Thames Water)



Source: *Analysis of Ofwat model PR24-DD-ODI-Rates*

Overall then, given the outcome of Ofwat's approach to setting the ODI rates, it is unlikely that the regulator's ODI rates will be reflective of customers' views at the company level. The

approach may therefore ultimately lead to customers paying more than they need to, for services that are not aligned to their needs.

The evidence from PR19 does not show this. In fact, there are no companies who are outperforming against their totex allowance while underperforming on their ODIs.

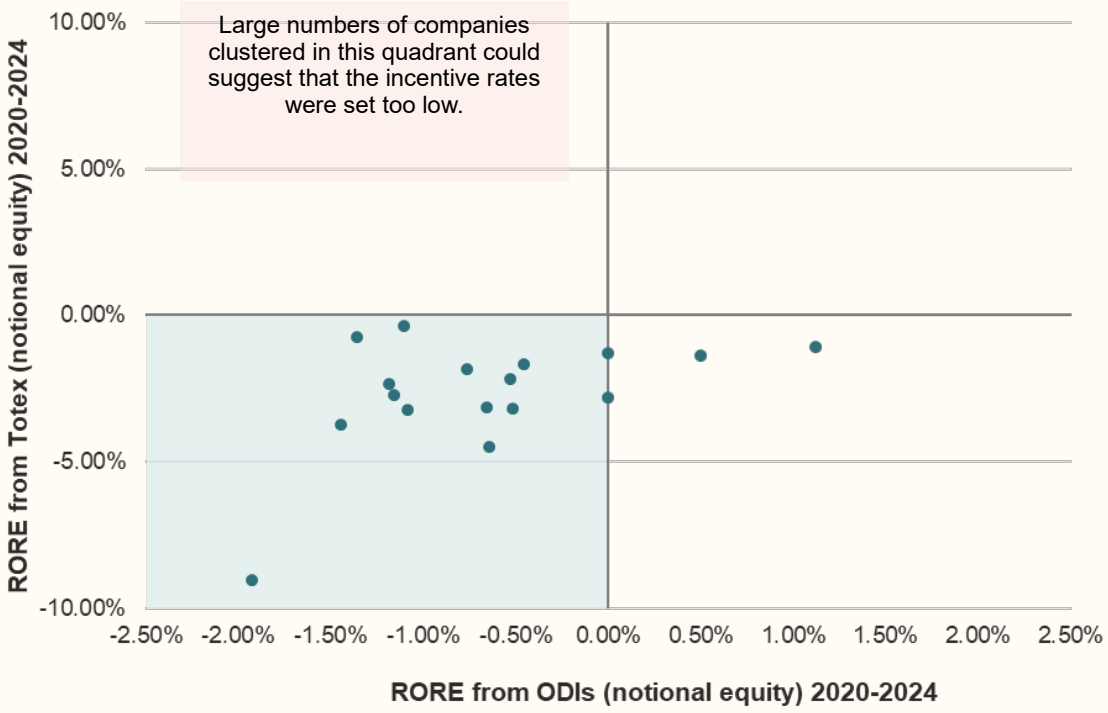
19.5.2 More powerful incentive rates - the case for more powerful incentives may misdiagnose the problem and be counterproductive

Ofwat's DD states that it is seeking to apply more powerful incentives and has taken a decision that ODI rates will be at least as strong, or stronger than at PR19, across all areas. Ofwat notes that this is to "deliver better performance" and separately that "we want these payments to provide powerful incentives on companies to focus on performance."

We deduce from this that Ofwat's view is that the relatively poor performance against PR19 ODIs requires bigger ODI incentives to rectify this at PR24. However, if it were the case that incentive rates were set too low, we would expect to find evidence of companies trading off their totex performance with ODI performance.

The evidence from PR19 does not show this. In fact, there are no companies who are outperforming against their totex allowance while underperforming on their ODIs.

Figure 19-3: RoRE performance by company – ODIs vs Totex (2020-24)



It is therefore reasonable to consider that Ofwat has misdiagnosed the cause of declining performance against PCLs through PR19 as insufficiently powerful incentives. This is a problem because the medicine administered (i.e., increased incentive rates) results in risk profiles which will contain more downside risk at PR24 – and the symptoms observed (i.e., poor performance against PCLs) are more likely to be exacerbated than cured.

The desire for more powerful incentives has also led to disproportionate ODI rate inflation in many individual areas.

Ofwat's methodology for setting ODI rates coupled with its desire for more powerful rates has led to some very significant upward jumps in incentive rates at a company level. The table below shows the average changes seen by measure and the range of changes.

The customer contacts ODI rate has seen a mean change of 1071% compared to PR19 – meaning that the average ODI rate is 11 times more than it was at PR19. The maximum ODI

rate change for the same PC has been 3905%. The sewer collapse ODI rate has seen an average increase of 1003%, and the average discharge permit compliance ODI rate has increased by 520%.

Table **19-1: Percentage change in ODI unit rates relative to PR19 underperformance rates**

	Median change	Mean change	Min change	Max change
Compliance Risk Index (CRI)	22%	24%	-36%	82%
Customer contacts	804%	**1071%**	91%	**3905%**
Discharge permit compliance	398%	**520%**	-56%	**1117%**
Greenhouse gas emissions	-95%	-95%	-99%	-90%
Leakage	184%	196%	10%	381%
Mains repairs	12%	14%	-45%	75%
Per capita consumption	139%	150%	-49%	300%
Unplanned outage	143%	178%	51%	533%
Water supply interruptions	-4%	8%	-38%	87%
Bathing water quality	807%	807%	-14%	1629%
Internal sewer flooding	55%	67%	-56%	176%
External sewer flooding	207%	178%	-18%	374%
River water quality	-100%	-100%	-100%	-100%
Sewer collapse	711%	**1003%**	55%	**1912%**

Source: Analysis of Ofwat model PR24-DD-ODI-Rates

It is very unlikely that customer valuations will have changed significantly in 5 years, and water companies are long-term service providers expected to plan and invest to provide services from assets with often very long asset lives.

In this context it is appropriate and most efficient for consumers in the long run for companies and their long-term investors to be presented with broadly consistent investment incentives from one 5-year period to another (and also from one PR24 publication to the next) rather than step-changes in ODI rates which may undermine the expected returns from previous investment decisions.

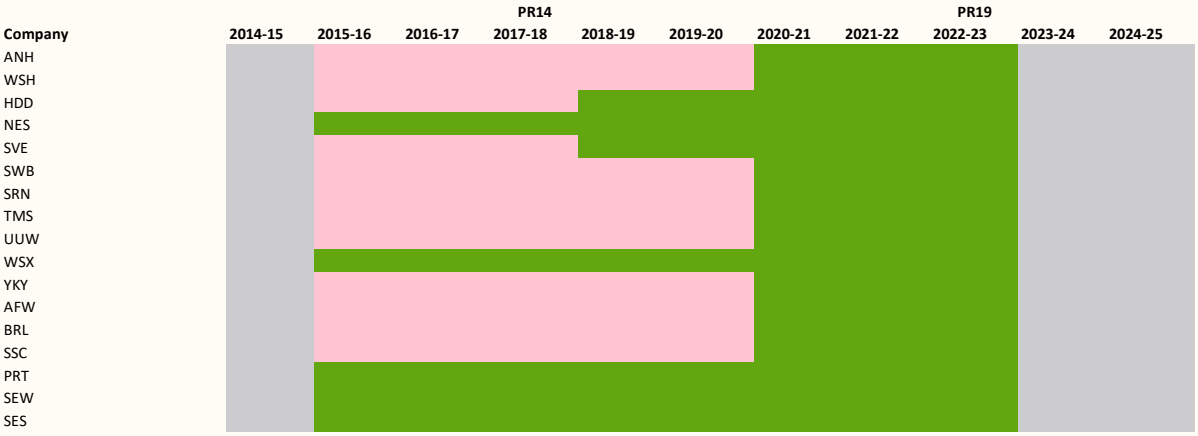
19.5.3 The sensitivity of outturn ODIs to data and methodology decisions

Ofwat's decision-making in calculating ODI rates lacks transparency in it is reasoning.

There are a number of issues with the PR24 methodology for ODI rates:

a) The ODI rates for many PCs are highly sensitive to the performance range used, and the data choices Ofwat has made (and its exclusions) when calculating performance ranges are not transparent. For example, for mains repairs it uses data covering three years for all companies. For six companies, it adds data going back five years, and for five companies it adds data going back eight years (see Figure 19-5).

Figure 19-5: Data used for the performance range calculation for mains repairs



Source: Ofwat ODI rates performance range model 1

Note: Green = data used for the calculation, light red = data not included

b) The choice of years covered in the dataset also changes the performance ranges, and in turn the ODI rates, considerably for some PCs. The table below shows the performance ranges for three PCs based on the dataset used by Ofwat, and datasets based on alternative sample years. For all but three PCs, Ofwat's performance range is smaller than the alternative options, which leads to higher incentive rates[11]. Given that future PCLs are set from a 2024-25 baseline, and given that more recent years are a better indicator of future performance than earlier years, it is important to incorporate the most recent evidence and give it sufficient weight in the analysis.

Table 19-2: Performance ranges calculated by Ofwat for select PCs and the alternative results with different sample years

	Water supply interruptions	Leakage	Total pollution incidents
Ofwat approach (all years)	246.1%	6.9%	43.3%
PR19 data used by Ofwat up to 22-23	573.9%	7.3%	286.4%
PR19 data including most recent year (2023-24)	604.0%	16.0%	283.7%

Note: Under all approaches, the higher absolute value of the P10/P90 is picked as the performance range (P90 for leakage)

c) After the calculation of the performance ranges, the unit ODI rate is effectively obtained by dividing £m RoRE by the performance range. Ofwat then uses the median unit rate

[11] Excludes business demand, the calculation for which relies on data presented using historical methodology. This data is not available for PR19.

for all companies (with adjustments for smaller companies). It is not clear why the median rate is appropriate for all companies.

d) The methodology for ODI rates appears complex, but the results are often driven almost entirely by unevidenced policy decisions such as "the average incentive rate cannot be lower than PR19", which results in very high increases in ODI rates for some companies, and significant decreases for others. For example, Ofwat applies an uplift factor to the PR24 rates derived from its methodology for water supply interruptions (as the average PR24 rate is lower than the average PR19 rate). This increases the ODI rate for Wessex Water by 66% compared to PR19, and South East Water by 87%. Conversely, the ODI rate for SES Water decreases by 38% after the uplift, and the rate for Yorkshire Water decreases by 29%.

The lack of transparency and the sensitivity to data assumptions in Ofwat's approach can act to obscure the true level of risk companies are facing from incentives, and likely created some of the results we have seen in the DD that do not match PR19 rankings and rates.

The discrepancy between the results in PR19 and PR24 may also suggest further erratic changes in incentive rates at future determinations which, all else being equal, are likely to act to reduce both confidence in the sector and its investment appeal.

19.5.4 The impact of setting ODIs incorrectly

Our chapter on the Cost Outcome Disconnect within Cost efficiency - cross cutting issues (YKY-PR24-DDR-05) sets out how Ofwat's PR19 and PR24 approaches fail to assess what PCLs are achievable with the allowed totex. When combining this with the approach to setting ODIs, this results in a material downside risk to companies. Please see RoRE risk analysis chapter within finance risk and return (YKY-PR24-DDR-08).

Ofwat's approach to PCLs and ODIs at PR24 represents a further significant shift away from the original intentions of ODIs, articulated before PR14. When ODIs were first introduced into the sector, the expectation was that companies (and Ofwat) would and could consider local circumstances, including their current performance, customer valuations and marginal costs. Under this model, the efficient cost/benefit trade-offs would be revealed as companies made decisions about which ODIs to prioritise or deprioritise.

Through PR19 and at PR24, the ODI framework has developed into a mechanism that penalises companies who do not perform as well as a notional stretching benchmark performer and (in increasingly limited cases) reward those who are able to go beyond this:

a) The benchmarks are set by companies with potentially different characteristics where the true cost/benefit trade-offs are very different.
b) The incentive rates are set at a national level with limited account taken of local customer valuations.
c) Stretching target levels set at previous price reviews become obligations already paid for by customers at the next period, and the starting point for future stretch.

A failure to meet any individual stretching PC target is now explicitly identified as leading Ofwat to consider formal enforcement action, and additional fines or remedial measures.[12]

While each of the above models of incentive regulation has pros and cons, the issue is that, although the ODI ethos has changed substantially over time, the regulatory framework around it has not adapted accordingly and has become inconsistent with it.

[12] Ofwat states "If a company's performance falls below the level set for a performance commitment …we will consider whether this is indicative of wider compliance issues to the detriment of consumers and whether enforcement action, with the potential for remedial and fining measures, is warranted." https://www.ofwat.gov.uk/wp-content/uploads/2024/07/PR24-draft-determinations-Delivering-outcomes-for-customers-and-the-environment.pdf p.16

Our plan sets out our efficient costs and a stretching but achievable set of targets that will allow us to deliver into AMP8, but it is important that Ofwat addresses the overall balance of its frameworks on cost, service levels and incentives. Without these changes:

- Lagging companies are likely to continue to receive penalties (or enforcement action) which in the long run will act as a further drag on their performance.
- The risk balance will become increasingly downward skewed.

19.5.5 Caps and Collars

We set out our analysis of ODI risk in our RoRE Risk Analysis section within finance risk and return (YKY-PR24-DDR-08), where we assess that the draft determination leads to a significant downside risk to the base returns if the PCLs set at draft determination are retained at final determination.

Our DD response proposes the interventions required to return this risk position to a fair bet for companies, and this involves mitigating against downside risk outside of company control. We therefore propose to set a cap and collar on ALL performance commitments in AMP8. This, in our view, is appropriate and required because of:

a) The asymmetrical nature of PCs combined with an increased set of ODI rates.
b) The significant impact of exogenous factors (typically weather) on performance in a given year.

We disagree with Ofwat's view that this will "limit incentives once the cap or collar level is reached". We do not think there is a significant incentive reduction, as:

- This view ignores the fact that performance does not occur each year in isolation; activity completed in one year is almost always positive for performance in the following year. Therefore, letting performance drop once a cap or collar is reached will have a detrimental effect on the ability to achieve service in the following year.
- Performance commitments do not exist in isolation, and similar activity can drive service improvement in multiple PCs. So, even if a cap or collar has been reached in one PC, the activity required to achieve performance in another will still be incentivised.
- There are several other incentives for companies to continue to perform once a penalty collar is hit. Ongoing Service Commitment Plans, the risk of enforcement action, and fines from other regulators will continue to incentivise performance in-year.

Caps and collars should not simply be put in place to protect against newly established PCs being set incorrectly, or on the basis of flawed data (although this is one reason to include them). They also help protect companies from events outside of management control. Since exclusions for extreme events have been removed from PC definitions, the risk of one-off events having a material downside impact on a PC is much greater. All performance commitments have uncertainty related to exogenous factors to a greater or lesser extent.

Our proposal is that the collar is set at the standard rate of 0.5% of price control RoRE. We note that this is a high value, and if performance commitments are set at an appropriate level this will only be hit in extreme circumstances. Our RoRE analysis concludes that caps and collars are necessary to manage the realistic downside position based on historic PC data.