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# **Draft Determination Representation Expenditure allowances:**

## **Part 4: Cross-Cutting Issues**

YKY-PR24-DDR-05-Cost-efficiency-Part-4-cross-cutting-issues



YorkshireWater

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# 1. Cost / Outcome Disconnect

## 1.1 Overview

The introduction of the ODI and totex approach at PR14 was intended to incentivise companies to improve performance in the areas that matter to customers in a flexible and efficient way. In practice, however, the implementation of this approach, has led to excessive stretch to both performance commitment (PC) targets and cost allowances (which have been set with little or no relation to one another) – to the detriment of customers. Customers benefit from companies delivering proactive sustainable investment, which improves service but keeps bills down over the long-term compared to short-term reactive interventions to avoid penalties.

In this section, we set out the issues associated with the continuation of this approach at PR24. This formed part of one of our key arguments in our representations at PR19 and the CMA's redetermination. There is clear evidence that the stretch applied at PR19 was excessive, with the vast majority of companies underperforming on both cost and service to the detriment of customers.

We attach a detailed analysis from Oxera, cost outcomes disconnect appendix ([YKY-PR24-DDR-16](#)) on the issues associated with continuing this approach into PR24 and the ongoing funding gaps and unachievable targets that arise because of it. The report sets out some alternative approaches that could be implemented to inform what base cost allowances can deliver, and to set realistic cost allowances into AMP8. We recommend that Ofwat should use these approaches to sense-check how its final decisions combine to create an overall cost/service stretch that can deliver cost-efficient improvements for customers.

At this stage of the PR24 process we do not anticipate that Ofwat will take a completely new approach to its cost modelling. We therefore ask that Ofwat considers our representations, including our proposed alternative approaches to ensure it is:

- Making the appropriate efficiency challenges (benchmark / frontier shift).
- Assessing our cost adjustment claims in the round which arise because of the funding gap and the need to spend allowances elsewhere to minimise penalty against overly stretching performance targets set at PR19.
- Setting achievable performance commitment targets from an appropriate baseline.
- Balancing the risk and reward of the plan to ensure that the overall package is a 'fair bet'.

The clear cost/service gap set out below and in Oxera's report should be considered by Ofwat when making its final decisions on each of these areas. The wider framework should be reviewed ahead of future price reviews.

## 1.2 Key messages

Ofwat's approaches to setting base cost allowances and performance commitment targets are disconnected and based on flawed assumptions, leading to insufficient cost allowances and/or overly stretching PCLs.

This is detrimental to customers as they do not get the service levels they value, as companies are unable to fully invest in service into the long-term.

- Totex allowances are too low, not funding the efficient level of service.
- Money is returned to customers through penalties that could otherwise be invested.
- Companies cannot make the best long-term decisions because the focus is constantly on avoiding short-term penalty.

Our draft determination representation (DDR) evidences several areas where Ofwat should reconsider cost allowances or set alternative performance commitment targets. These will mitigate some of these issues in the short-term. However, without addressing these issues with the framework from PR29 onwards, the gap between costs and service will continue to grow into the long-term, to the detriment of customers, companies and the overall perception of the water industry.

### 1.3 Change requested

Ofwat should take full account of the evidence set out in this section, and in the attached appendices, when making its final determination (FD) decisions on cost efficiency, cost adjustment claims and performance commitment targets.

### 1.4 Yorkshire Water's response to Ofwat

We are representing on the ongoing disconnect between cost and service. We consider it is a key issue that has not been addressed since it emerged through Ofwat's PR14 and particularly PR19 methodologies and determinations. Several reports were produced through the PR19 process to Ofwat and the CMA<sup>1 2 3</sup> concerning this issue, and we reiterate these points, whilst focusing on new evidence that has emerged over AMP7.

The disconnect is detrimental to customers as they do not receive service levels they value, as companies are unable to fully invest in service into the long-term.

- Totex allowances are too low, not funding the efficient level of service. This has been seen in reduced investment in infrastructure across the industry in recent periods as we discuss in the post modelling adjustment mains renewal section of [\(YKY-PR24-DDR-02\)](#).
- Money is returned to customers through penalties that could otherwise be invested in assets or innovation. We note that nearly all companies are in penalty in AMP7 (see Figure 1-1).
- Companies cannot make the best long-term decisions because the focus is constantly on avoiding short-term penalty. While infrastructure investment has reduced, the industry has significantly overspent totex allowances (see Figure 1-1)

#### 1.4.1 PR19 Approach

At PR19, Ofwat's assessment of costs was materially disconnected from its assessment of performance commitment levels (PCLs). Specifically, expenditure allowances on base and enhancement activities were determined through econometric modelling, unit cost comparisons, or deep or shallow dives. PCLs were generally determined by (i) considering the upper-quartile (UQ) performance or improvement forecast in companies' business plans, (ii) applying a specific rate of improvement relative to the PR14 targets or (iii) setting targets which would achieve full statutory compliance with a legal obligation.

We do not consider that a robust and properly considered assessment was carried out of what companies could deliver through expenditure allowances. In addition, no reasonable evidence was provided by Ofwat at PR19 to conclude that the overall stretch applied to outcomes was achievable. If the assessment had allowed achievable cost and service targets at PR19, we would expect companies to have generally met or surpassed these targets during AMP7, given the strong incentives for companies to improve performance while reducing costs.

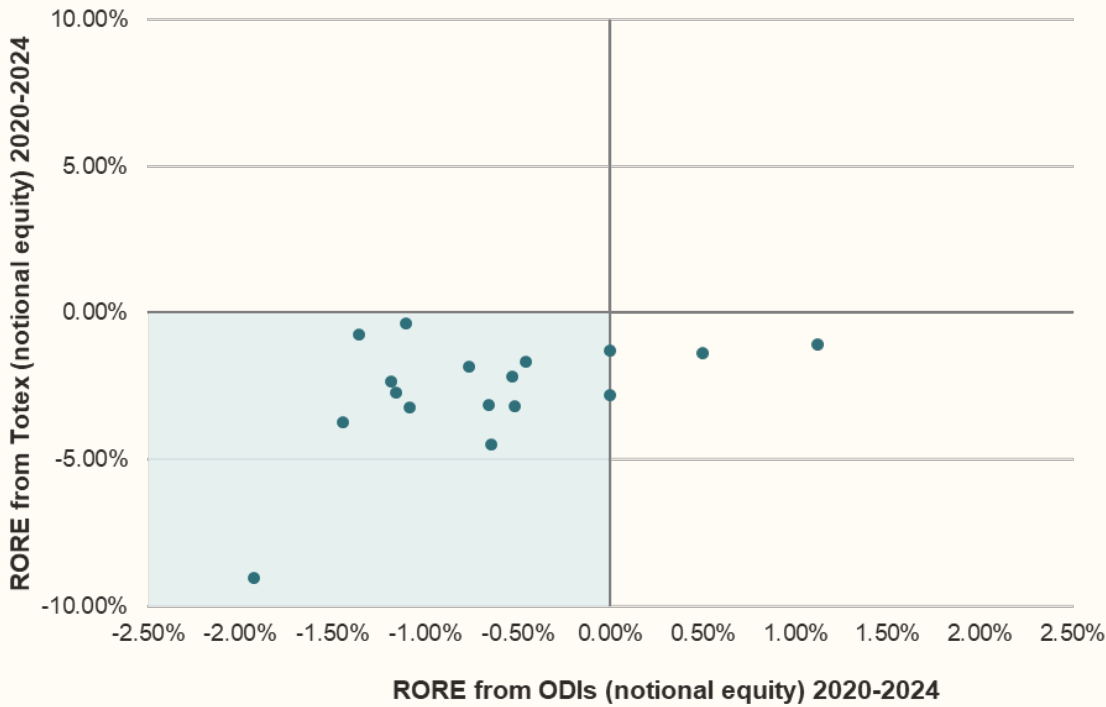
Figure 1-1 below shows companies' outperformance levels on cost and service to date. This shows that companies have for the most part failed to meet their targets. We note that the companies with positive ODI RoRE are achieving this primarily from bespoke performance commitments, which are largely removed from the PR24 regime. Outperformance against common PCs is even less common with only one company (SES) showing a positive ODI position against common PCs in 2023-24. This provides a strong indication of a serious ongoing cost/service disconnect, and of an overall stretch that is simply too big.

<sup>1</sup> *Economic Insight (March 2019) "Maximising customer benefits from the outcomes framework"*

<sup>2</sup> *Economic Insight (20.3.2020), "Ofwat's approach to funding upper quartile performance – A report for Yorkshire Water"*.

<sup>3</sup> *Annex 8 CMA - Oxera (27.3.2020) Integrating cost and outcomes*

Figure 1-1 RoRE performance by company – ODIs vs Totex (2020-24)



However, despite the stated intention, Ofwat did not propose a concrete approach for doing so in its PR24 methodology or at draft determination.

We expect that even where companies have overspent allowances in AMP7, this overspend may not have been as high as would be necessary into the long-term (companies are strongly incentivised not to overspend allowances and may have financing constraints which prevent them to do so). Therefore, Ofwat’s historic econometric base models will not capture the true sustainable level of investment required by the industry and continue to underestimate what is required in the future.

**1.4.2 PR24 Approach & targets**

In its consultation *Assessing base costs at PR24*, Ofwat states:

*“Our ambition for PR24 is to build on our PR19 approach to setting cost allowances and performance levels by drawing a more explicit link between cost allowances and the service levels we set (ie the cost-service relationship)<sup>4</sup>”*

Ofwat has not materially addressed the PR19 shortcomings in its PR24 approach. While some common targets have been set only at the ‘median’ rather than the UQ company level, several of these are for PCs that had previously been company-specific, and so the stretch is still greater than that proposed at PR19 for many companies. Elsewhere, the starting assumption that the PR19 targets were achievable adds an additional challenge that does not account for the evidence to the contrary.

Given companies are strongly incentivised to propose ‘ambitious’ (i.e. low-cost, high-service) plans, it is expected that business plans submitted by water companies will reflect the upper end of what they anticipate being able to deliver. Careful consideration is given to the overall balance of the plan while still maximising the company’s ability to benefit from regulatory incentives wherever possible.

Doing this provides companies with reputational and financial rewards, while failing to do so results in reputational and financial penalties. However, it is feasible that at least some

<sup>4</sup> Ofwat (2021), ‘Assessing base costs at PR24’, December, p. 66.

companies will have proposed ‘overly ambitious’ and ultimately unachievable business plans. This imposes a risk on the rest of the sector that the PR24 determinations will be unachievable. PR19 targets were set in a similar way and in 2023-24 no large water and sewerage company delivered its common water quality compliance, water supply interruptions or pollution incidents targets.

Despite these incentives, Figure 1-2 below shows that, based on the difference between company business plans and Ofwat’s draft determinations, the penalty position is set to continue into the 2025-30 period. It shows a simple analysis of the penalty (red) and reward (green) positions if companies achieve the targets set out in plans but against Ofwat’s proposed draft determination PCLs, using the updated ODI rates in the draft determination. We note that this is a very optimistic view as it assumes companies receive all the funding requested to achieve the targets proposed.

While over half of the penalty appears in the difference between Thames Water and Ofwat’s proposed targets, the statement would remain true if Thames Water was not considered.

**Figure 1-2 £m Penalty/Reward - Company Plans v Ofwat draft determination PCL targets x ODI Rates**

		Water & Sewerage Company											
		ANH	WSH	HDD	NES	SVE	SWB	SRN	TMS	UUW	WSX	YWS	Total
Performance Commitment	WSI	-10.9	1.2	-0.4	2.9	-1.7	1.5	-11.3	-40.8	3.5	0.5	-2.8	-58.3
	CRI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-13.1	-13.1
	WQC	-56.3	-2.8	-1.4	-21.6	-11.0	-5.9	-16.6	21.2	13.9	-16.8	-11.9	-109.1
	ISF	-5.4	3.2	-0.3	1.8	2.8	12.4	-11.9	-81.5	-97.6	2.8	-57.7	-231.3
	ESF	-41.0	-2.6	-0.1	7.4	34.1	7.0	18.0	-1128.0	46.8	-67.8	33.9	-1092.4
	BIO	-10.1	-10.0	1.3	-4.8	5.9	0.8	-8.9	-3.7	-6.1	-4.6	2.3	-37.9
	OGW	6.5	26.5	-0.5	-0.4	-19.6	-0.5	-13.9	-3.6	-5.7	10.0	-0.5	-1.7
	OGWW	-26.4	32.0	-0.2	0.6	-85.2	-0.8	17.2	-4.1	-21.7	39.1	-31.0	-80.5
	LEA	-34.0	-77.8	0.0	-2.1	-0.4	-2.7	-4.2	-24.1	-3.6	0.3	-14.8	-163.4
	PCC	-9.1	-12.0	-1.0	-9.4	8.1	-1.1	-18.8	-39.9	2.7	-5.1	-39.7	-125.3
	NHH	-0.3	-0.1	-0.5	-33.4	-10.7	-0.3	-0.1	-22.0	-4.8	-1.4	-6.7	-80.4
	POL	-81.1	-20.6	-0.3	-1.1	-0.2	-15.3	-93.6	-230.1	21.6	-19.8	30.0	-410.6
	SPL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-47.2	0.0	0.0	0.0	-47.2
	DPC	0.0	0.0	0.0	0.0	-0.3	0.0	-0.2	0.0	0.0	0.0	0.0	-0.5
	BWQ	-0.1	-0.2	0.0	-0.3	0.0	0.0	-0.7	0.0	-0.4	0.2	-0.1	-1.6
	SOF	-0.9	-57.6	-0.1	-3.0	0.0	-1.9	-16.2	-6.2	-3.1	-39.1	-67.8	-195.8
	MRP	-12.1	0.0	-0.1	-4.8	-5.4	0.0	-20.7	-13.0	1.3	12.1	-41.0	-83.6
	UNO	0.1	0.1	0.0	-0.4	0.3	0.1	-0.2	0.2	1.4	0.2	0.1	2.0
	SCO	0.0	0.7	0.1	0.2	-17.8	10.0	-1.6	1.0	0.1	-15.3	42.5	20.1
	<b>Total</b>		<b>-280.9</b>	<b>-120.0</b>	<b>-3.4</b>	<b>-68.3</b>	<b>-101.0</b>	<b>3.3</b>	<b>-183.6</b>	<b>-1621.8</b>	<b>-51.7</b>	<b>-104.8</b>	<b>-178.3</b>

We note the independent Moody’s analysis discussed in the Aligning risk and return section of [\(YKY-PR24-DDR-08\)](#) reports similar results including Water only companies (although it excludes the Thames Water ESF penalty due to uncertainty).

**1.4.3 Key Cost/Outcome Disconnect Issues**

We asked Oxera to reassess this issue as part of our draft determination response and we attach a more detailed appendix [\(YKY-PR24-DDR-16\)](#) setting out its findings. We highlight some of the key concerns below and confirm we share these views.

The draft determination assumes the achievability of PR19 targets

- Ofwat generally assumes that the PR19 PCLs have already been funded, i.e. the PR19 PCLs serve as a baseline from which companies are expected to further improve performance.
- However, there was a strong disconnect between cost and outcomes at PR19—Ofwat did not present evidence that the PCLs were achievable within the cost allowances. Indeed, the vast majority of companies have underperformed in AMP7 on both cost and service, while not a single company has outperformed on both cost and service.

- Setting the 'Year 0' target at the PR19 PCL imposes a significant and unjustified efficiency challenge on companies.
- Where companies have failed to achieve the PC, they have returned money to customers (through ODI penalties) in compensation. Requiring these improvements to be delivered again through base is an additional unfunded obligation.

*The draft determination uses companies' business plans to determine targets*

Ofwat uses the targets proposed by companies in their business plans to validate (or set) the PCLs. We have the following concerns with this approach:

- Companies do not propose PCLs in isolation, but as part of an overall package for consumers. Companies would only expect to meet those targets if they were also allowed to spend what they proposed to spend (on both base and enhancement). However, Ofwat has made several material challenges to companies' totex proposals in a manner divorced from other aspects of the price control.
- Relatedly, a company may propose a stretching PCL in one area and a less stretching PCL in another (e.g. due to consumer preference). Cherry-picking the most stretching PCLs in each area is likely to result in a set of targets that will continue not to be achievable. Indeed, no company has had their proposed PCLs accepted in full.
- Companies are strongly incentivised to submit 'ambitious' business plans, given that doing so provides companies with financial and reputational rewards. It is certainly feasible that at least some companies in at least some service areas have proposed overly ambitious (ultimately unachievable) PCLs and using these companies to set stretching PCLs imposes a risk on the rest of the sector. Indeed, we saw this risk in practice at PR19 in residential retail, where several companies proposed significant efficiency savings (and set the benchmark for the rest of the sector) and ultimately did not deliver on those savings.

*Differences between companies are not reflected when setting common PCLs*

Simple comparisons across companies do not take into account relevant regional factors that may drive performance or customer preferences. That is, some companies may be better able to achieve stretching PCLs on account of their operating environment (e.g. density, topography, climate) or historical enhancement expenditure allowances than others.

Ofwat recognises that there are differences between companies when setting cost allowances through explanatory variables and cost adjustment claims used in econometric modelling. There is however no recognition of the true level and extent to which companies differ. As a result, Ofwat's approach misses that company differences can lead to variations in performance levels. Without accounting for these variations, that often cannot be meaningfully addressed through investment, the resulting PCLs will lead to an excessive stretch to companies whose performance is significantly negatively impacted by these factors and non-stretching PCLs to those that are not.

**1.4.4 Developing Alternative Approaches**

We recognise that at this stage of the PR24 process Ofwat is unlikely to take a completely new approach to its cost and performance modelling. However, in its base cost appendix ([YKY-PR24-DDR-14](#)), Oxera sets out four increasingly complex alternative approaches that could be implemented to inform what base buys and to set realistic cost allowances or performance allowances into AMP8.

We recommend that Ofwat uses these approaches to sense-check how its final decisions combine to create an overall cost/service stretch. Our draft determination response contains several representations that try to mitigate this risk for Yorkshire Water in the short-term. We believe that Ofwat should consider these representations when assessing:

- Making appropriate efficiency challenges (benchmark / frontier shift).
- Assessing our cost adjustment claims in the round, which arise because of the funding gap and the need to spend allowances elsewhere to minimise penalty against overly stretching performance targets set at PR19.
- Setting achievable performance commitment targets from an appropriate baseline.



- Balancing the risk and reward of the plan to ensure that the overall package in the round is a 'fair bet'.

However, we note, without addressing the cost/outcome disconnect within the framework from PR29, the service and cost gap will continue to grow in the long-term to the detriment of customers, companies and the overall perception of the water industry.

The four alternative approaches are summarised below. We recognise that none of these approaches is perfect, but each would provide an important cross-check for Ofwat to consider as it sets cost and service targets in the round at final determination:

**Industry average performance.** Building on Ofwat's approach to determining CACs and post-modelling adjustments, this approach estimates the implicitly funded level of service based on the industry average performance in the outturn period. Consistent with arguments on Ofwat's post-modelling adjustments, it uses the industry average performance in the benchmarking period (i.e. the last five years, 2019 to 2023). This approach assumes that service performance is uncorrelated with the cost drivers included in the models and that there are no other drivers of differences in performance across companies. This is very simple (both conceptually and computationally) and is therefore easily implementable for the final determination. It is consistent with Ofwat's logic in determining what outcomes base costs should deliver and presents a useful validation for determining achievability.

**Predicted performance—cost drivers.** For some PCs, it is probable that companies' performance is correlated with some of the cost drivers in the models. Therefore, the estimated coefficients in the cost models will capture, in part, some of the costs associated with achieving different levels of service performance. That is, companies would be implicitly funded for a different level of service depending on the relationship between service quality and the cost drivers included in the models.

In this approach, Oxera considers that the extent to which the cost drivers capture differences in service by –

- Estimating a regression of the performance measure against the cost drivers included within the econometric models.
- Using that model to predict the level of service quality, which is the implicitly funded level.

Oxera considers that this approach may be more technically valid. However, we do note that the regression outputs in the first step are not operationally validated at this stage and hence some of the coefficients in the regression may not be aligned with operational expectations. More importantly, the regressions in the first step do not account for specific drivers of service quality (e.g. Ofwat's base models for wholesale water do not account for meter penetration, but meter penetration may be a relevant driver of leakage performance).

**Predicted performance—service drivers.** In this approach, Oxera develops econometric models that seek to capture how differences in operating characteristics between companies and over time explain differences in performance. That is, we apply Ofwat's cost modelling approach to the determination of service quality targets.

This aligns with our approach to setting a non-common target for Yorkshire Water for ISF and storm overflows. We believe these can be adjusted for an individual company, but we do recognise that implementing this for all companies across all PCs ahead of final determination is unlikely to be achievable.

**Cost-outcomes integrated analysis** - An even more robust option would be to develop a systems or integrated approach to estimating cost and service targets jointly wherein all the core performance measures are modelled simultaneously alongside costs with different set of factors included to explain the different service measures and costs, while taking into account the inter-relationships between them. The 'simplistic' form of this that regulators have considered would be to either (i) include service measures or a composite of these in the cost models directly or (ii) convert service measures to monetary values and include in the modelled costs.

## 1.5 Concluding points

Ofwat's has not addressed the issue that the assessment of costs is largely disconnected from assessment of PCLs, despite recognising it as a problem after PR19. The assumptions that the draft determination targets are achievable and funded within base are flawed and this will result in a combination of insufficient cost allowances and overly stretching PCLs.

This is detrimental to customers as they do not get the service levels they value, as companies are unable to fully invest in service into the long-term. This in turn impacts long-term resilience, leaving future customers with higher bills and poorer service.

Our draft determination representations on cost and outcomes set out specific adjustments that we believe Ofwat should address to set realistic efficient cost allowances and stretching but achievable PCLs. However, while these will mitigate some of these issues in the short-term, without addressing these issues with the framework, the service and cost gap will continue to grow in the long term, to the detriment of customers, companies and the overall perception of the water industry. We set out some approaches that Ofwat can use to sense-check how its final decisions combine to create an overall cost/service stretch.

## 2. Frontier Shift

### 2.1 Overview

In its draft determination, Ofwat applied a frontier shift assumption of 1.0% per year for all base and enhancement expenditure. This figure lies in the middle of the range recommended to Ofwat by CEPA (0.8% to 1.2%). This is marginally less than the 1.1% Ofwat proposed at its PR19 final determinations and equal to the 1.0% frontier shift challenge set by the CMA for the PR19 redeterminations. Ofwat's frontier shift challenge is around twice that proposed in the average PR24 business plan and matches the highest challenge set by any company in its plan. Ofwat argues that an even more stretching target of 1.2% could be appropriate, citing cost savings through embodied technological change, increased use of AI, the innovation fund, and increased enhancement expenditure.

We consider that a stretch 1.0% is excessive and is not supported by evidence. We were part of an industry consortium to commission an industry report from Economic Insight that presented a 'focused' range of 0.3% to 0.7%. We applied a frontier shift from 2025 onwards of 0.7% which we believed demonstrated an ambitious challenge and accounted for the cost saving factors set out by Ofwat.

An updated report<sup>5</sup> has since been produced by Economic Insight which reviewed the original report to ensure that the most complete and robust dataset was being used. It found that updated evidence suggested that a frontier shift towards the bottom end of its original range is appropriate, and it also addressed suggestions from Ofwat and other regulators that the factors affecting low productivity in the UK do not apply to regulated industries. This was shared with Ofwat in April 2024.

As part of the draft determination, Ofwat presented a report from CEPA that provides critique of the approach taken by Economic Insight to estimating its frontier shift range. Our final report Frontier shift update of analysis ([YKY-PR24-DDR-18](#)) is further evidence from Economic Insight responding to the CEPA critique.

### 2.2 Key messages

- Ofwat's frontier shift efficiency assumption of 1.0% per year for all base and enhancement expenditure is excessive and not in line with the wider UK economy. There is no evidence that a further stretch to 1.2% is appropriate.
- We, along with the majority of companies, are supportive of the evidence set out in Economic Insight's analysis and that a range of 0.3% to 0.7% is more viable / realistic. We provide two additional reports since the original October submission that further evidence this.
- In our DDR plan we maintain a frontier shift 0.7% applied from 2025, at the upper end of Economic Insight's range which is an ambitious challenge for the industry.

### 2.3 Change requested

It is our view that Ofwat should review the evidence and apply a maximum of 0.7% frontier shift in its final determination. As APR24 will be incorporated into the final determination decisions the frontier shift should be applied at most from 2024-25 onwards.

### 2.4 Yorkshire Water's response to Ofwat

The frontier shift efficiency decision has a material impact on our totex allowances (> £100m) and setting an unachievably high assumption harms our ability to achieve our proposed

<sup>5</sup> [Further Evidence on Frontier Shift at PR24 - Economic Insight London \(economic-insight.com\)](#)

performance commitment levels and deliver the service and environmental improvements that are needed to achieve our vision and deliver for customers.

We have set out in section 1 above why we believe Ofwat's approach to setting costs and performance commitment levels have led to a material underfunding of companies over time and how this has been demonstrated in AMP7 with the whole industry over-spending and under-performing relative to allowances and PCLs. Applying an additional unjustified frontier efficiency stretch to companies only exacerbates this issue.

In our business plan submission, we appended a report<sup>6</sup> commissioned by several companies, and authored by Economic Insight, which informed our view of what an appropriate frontier shift assumption should be. The report concluded that a figure within the range 0.3% to 0.7% would be feasible, and in order to demonstrate a realistic but ambitious stretch we adopted the upper end of the recommended range, namely 0.7% (0.6% in retail).

We applied this figure from 2025 onwards on the basis that a large number of our costs we presented for 2025-26 were driven by AMP7 Year 5 cost assumptions which already included frontier shift assumptions from PR19.

Ofwat applied a frontier shift assumption of 1.0% per year for all base and enhancement expenditure. This figure lies in the middle of the range recommended to Ofwat by CEPA (0.8% to 1.2%). This is marginally less than the 1.1% Ofwat proposed at its PR19 final determinations and equal to the 1.0% frontier shift challenge set by the CMA for the PR19 redeterminations. Ofwat's frontier shift challenge is around twice that proposed in the average PR24 business plan and matches the highest challenge set by any company in its plan. Ofwat argues that an even more stretching target of 1.2% could be appropriate, citing cost savings through embodied technological change, increase use of AI, the innovation fund, and increased enhancement expenditure.

We present two additional reports produced by Economic Insight (commissioned by several companies) to provide evidence against the position taken by Ofwat (and CEPA & Europe Economics) in its draft determination.

- The first report was produced in advance of the draft determinations and was shared with Ofwat in April 2024<sup>7</sup>. It updated the original frontier shift report using data and other evidence gathered since it the original report. Economic Insight assessed the extent to which any recent evidence in relation to productivity (which directly affects the frontier shift assumption) implies a material change to its recommended range for PR24 (0.3% to 0.7%). Economic Insight also explored whether other evidence, including its survey of leading UK academic experts in productivity analysis, suggests that regulated industries (in particular, water) are not impacted (or only to a lesser extent) by factors affecting low productivity in the UK. Its findings were:
  - regarding the former, there is no indication that its recommended range should change (in fact a frontier shift towards the bottom end of the range may be appropriate); and
  - regarding the latter, although there are reasons that some factors might affect certain industries more than others, generally it found that factors affecting the UK's productivity slowdown apply economy-wide, including to regulated industries.
- The second report, 'The importance of a balanced approach to frontier shift' ([YKY-PR24-DDR-17](#)) addresses criticisms expressed by Europe Economics in Ofwat's draft determination appendix,<sup>8</sup> and sets out evidence for the following:
  - Ofwat's comparator sectors are not based on robust, data-driven criteria and rather are based on a surface level assessment of similarity;

<sup>6</sup> [An independent view on the scope for frontier shift in the water industry at PR24 - Economic Insight London \(economic-insight.com\)](#)

<sup>7</sup> [Further Evidence on Frontier Shift at PR24 - Economic Insight London \(economic-insight.com\)](#)

<sup>8</sup> [Critique-of-Economic-Insight-reports-on-PR24-frontier-shift-1.pdf \(ofwat.gov.uk\)](#)

- Ofwat uses data from 1996-2010 in its assessment which is less representative of the structural break in productivity seen since the financial crisis;
- Ofwat is not correct in its assumption that economy-wide causes of productivity slow-down do not apply to the water sector; and
- Ofwat's assumption that the outlook for productivity growth being high is not correct.

*It summarises: 'When one focuses on the core intuition, and appraises the evidence in a balanced way, it remains the case that frontier shift for the water industry at PR24 should be set at a substantially lower level than currently proposed by Ofwat (i.e. should be in line with our previous reports). This is because: (i) we would expect frontier shift to be higher at times of high productivity, and lower at times of low productivity; (ii) data shows that over PR14 and PR19, the water industry delivered low productivity, in-line with the low and flat productivity performance of the UK; and (iii) the water industry is not 'high-tech'.'*

### **Concluding points**

In conclusion we maintain our position on frontier shift as set out in our original plan and believe that recent data supports and strengthens it. We believe our plan is stretching and builds in significant efficiency challenges. It is not in customers' interests to provide an additional overly stretching frontier shift. Underfunding of companies will lead to poorer performance and customers not receiving the service levels they value. Overspend or ODI penalties will further skew risk to the downside, reducing investor confidence, and ultimately costing customers as finance becomes more expensive to raise.

We have provided additional evidence of why the assumptions in the CEPA and Europe Economics reports supporting Ofwat's decision are flawed, and why a range of 0.3-0.7% is reasonable. We see no good evidence for Ofwat to go beyond this.

As shown in the Economic Insight report the average productivity growth achieved by the water sector has been significantly below the frontier shift targets Ofwat has set in each of the most recent price control periods, setting a target at 1.0% risks this occurring again.

## 3. Real Price Effects

### 3.1 Wholesale Real Price Effects

We did not propose wholesale real price effects (RPEs) in our plan as they are inherently unpredictable. Instead, we proposed that input prices should be subjected to appropriate indexation to protect companies and customers from variations away from CPIH.

We note that Ofwat has applied RPEs for labour costs (as an adjustment to the frontier shift) and to energy costs (as part of the post modelling adjustment). Given that true-ups are allowed, we do not have a strong position on whether RPEs are applied or not in these areas, as long as the cost allowances reflect:

- Historic differences in input prices compared to CPIH.
- An appropriate central estimate of input prices going forward.

We set out our views on the Energy RPE in our response to the energy post modelling adjustment ([YKY-PR24-DDR-15](#)). We discuss our views on indexation in the 'Uncertainty mechanisms' section below.

### 3.2 Retail Real Price Effects

Our approach to applying our proposed real price effect for Retail labour was incorrect. We reported our RET1a table at 22/23 prices, however our RPE was applied as if the table was reported at nominal prices. We have adjusted our RET1 and SUP11 tables to reflect the RPE approach applied by Ofwat at draft determination.

## 4. Uncertainty Mechanisms

### 4.1 Overview

We welcome that Ofwat has introduced several uncertainty mechanisms into its draft determination and note that they provide additional protection for companies to the downside risks in AMP8. However, despite the protection for uncertainty being stronger for companies than at PR19, the level of regulatory uncertainty is significantly greater. We also have concerns that Ofwat has in part used uncertainty mechanisms (such as cost sharing) as an alternative to funding an appropriate estimate of efficient costs and maintain as a matter of principle that it is not appropriate for Ofwat to do so.

The uncertainties include:

- The conclusion of Ofwat's investigation into wastewater management across the industry and how this will affect the operating and capital costs of the industry in future;
- Regulatory obligations that must be met during AMP8, yet will remain undefined at the time of final determinations, such as guidance from the Environment Agency (EA) or Drinking Water Inspectorate (DWI) and including the planned review of Storm Overflows Discharge Reduction Plan (SODRP) in 2027;
- Rapidly evolving scientific knowledge, public opinion, and corresponding legislation in areas like Biosolids and PFAS and
- An unpredictable set of third parties that could significantly influence our costs and performance levels.

Given this, it is our view that the suite of interventions still leaves companies open to significant risk outside of management control.

In the below sections we set out our concerns and the changes we consider are required to the uncertainty mechanisms package in order to mitigate risk exposure. Ensuring a reasonable balance of risk and reward ultimately protects customers as finance can be raised at lower rates which ultimately feeds through to bills.

### 4.2 Timing of true-ups

Whilst the full detail of AMP8 reconciliation has yet to be confirmed, it appears that the majority of draft determination uncertainty mechanisms that Ofwat proposes would true-up the costs at the end of the AMP8 period. Given the scale, and potentially one-sided nature of the majority of the uncertainties, this approach requires companies to fund any shortfalls in the AMP8 period several years ahead of being able to receive the revenues. This uncertainty is inherently difficult to quantify, but our estimates of business rates and indexation risk alone suggest that a £12m-£30m annual overspend would need to be absorbed in realistic central to low case scenarios.

As a principle, we think that true-ups should happen as soon as possible after costs have occurred. This is both fairer to companies to recover the revenues required to efficiently fund their activities but also prevent potential bill shocks for future customers as reconciliations occur at the end of AMP8.

We therefore believe that Ofwat should make reconciliations as close as possible to the year end in which the efficient costs are incurred. We believe this can be implemented quite easily through the annual reporting process, particularly for the input price indexation and cost sharing associated with unmodelled costs such as business rates and lane rentals.



### 4.3 Bioresources Landbank Notified Item

In our business plan we proposed a ‘reopener’ for the bioresources price control to allow companies to respond promptly to a potential loss of landbank in AMP8 and to begin the necessary investment in bioresources sites to mitigate the risk that biosolids can no longer be recycled to agricultural land.

We described how this risk could arise through different statutory and non-statutory mechanisms;

- Changes to statutory guidance from Defra on how the existing Farming Rules for Water regulations should be applied by the EA.
- New changes in regulation following the completion of the EA sludge strategy.
- Change in public / farmer acceptance removing current recycling routes.

All of these would lead to less agricultural land across the UK for biosolids to be recycled to and the need for alternative options (such as the building of destruction technologies).

We proposed that a trigger would be linked to a central assessment of national landbank availability and the need for regional disposal schemes. We also set out why a standard notified item for this driver is not inappropriate for this mechanism, as the materiality threshold required to initiate an appointee level interim determination is likely to be too high to be triggered, despite the highly material impact on a notionally separate Bioresources price control.

In the draft determination, Ofwat has included a Notified Item for:

*...increase in costs to Bioresources reasonably attributable to any new or changed legal requirements in relation to the application to agricultural land of fertiliser derived from sludge over the 2025-26 to 2029-30 period.*

We are pleased that Ofwat recognises the uncertainty in this area but have significant concerns with the proposed notified item as formulated. We set these and our proposed mitigations out below.

- Limiting the item to new or changed legal requirements only may mean that risks highlighted above (1 and 3) may not be considered as applicable. The notified item needs to apply to all exogenous factors that may lead to landbank loss.
- The materiality threshold set at the appointee level is not in line with the current price control basis of regulation. To address this, the materiality threshold for such a notified item should be set on the basis of the Bioresources price control. (i.e. NPV of costs (five years of capex and 15 years of opex / revenue) are > 10% of prior year Bioresources revenue).

We are aware that significant levels of engagement between industry representatives, Ofwat, the EA and Defra have taken place in the intervening months since our plans were submitted and post draft determination. We are aligned with the industry views on this mechanism and support the approach set out in a note attached as an appendix [YKY-PR24-DDR-19](#), a version of which was shared with Ofwat in June 2024.

### 4.4 Storm Overflow Uncertainty Mechanism

We welcome the addition of a Storm Overflow Uncertainty Mechanism to the package. The key drivers for this as Ofwat sets out are:

- Improvements required to meet Urban Waste Water Treatment (England and Wales) Regulations 1994.
- Future designation of bathing waters.
- Defra’s review in 2027 of the Storm Overflows Discharge Reduction Plan.

We propose some key changes to this approach ahead of the final determination:



- New designations and statutory changes may result in additional storm overflow solutions, but alternatively may require companies to complete additional unfunded investigations. Depending on complexity, the cost of these investigations could be significant. We therefore propose that this mechanism is expanded to cover any statutory requirement on storm overflows triggered by the EA or Defra not limited to storm overflow improvements.
- Specifically regarding bathing water designations, solutions to improve bathing water quality can be a mix of both storm overflow and sewage treatment work final effluent interventions. Therefore, it is appropriate for the uncertainty mechanism related to bathing water designations to incorporate all additional statutory investment (including storm overflows, investigations and treatment works upgrades).
- Ofwat states in its description of this mechanism that it:

*... will provide additional funding for companies through the PR24 reconciliation at PR29, if companies have delivered additional storm overflow schemes and storage in the 2025-30 period and have overspent storm overflow storage scheme allowances*

In our view, the relative over or underspend of the existing programme should not impact on whether additional funding is allowed for new obligations. The mechanism as proposed may fail to reward companies that deliver efficient alternative solutions, simply because they are subject to external additional obligations outside of their control. The storm overflow uncertainty mechanism, as currently designed, would interact adversely with the cost-sharing incentives for delivering efficient solutions and this would not be in customers' long-term interests. We therefore recommend that the requirement for a company to have overspent is removed.

- In our 'Waste Water Investigations' section in cost efficiency enhancement costs – wastewater appendix ([YKY-PR24-DDR-04](#)), we set out our estimated programme of investigations under the EnvAct\_INV4 and SOAFv2 drivers. We have assumed a split between levels of detail required in the UPM approach however this will remain uncertain until a later stage of the process. The PCD sets how customers are protected against non-delivery of investigations however this doesn't protect customers or companies against the uncertainty associated with the level of investigation required. We also note that the guidance in this area is yet to be finalised, so for the SOAFv2 driver the number *and* level of detail of investigations is uncertain.

We therefore believe that Ofwat should expand the storm overflow uncertainty mechanism to incorporate the issue described above. This would involve a true-up to reflect differences in numbers and the level of detailed investigations required to those set out in our draft determination response.

We have set out in the storm overflow chapter (within [YKY-PR24-DDR-04](#)) that we have included funding for an assumed number of cost beneficial storm overflow assessment framework (SOAF) schemes which are subject to the completion of AMP7 SOAF investigations. We believe Ofwat should adopt this approach, rather than assuming allowances are secured through the uncertainty mechanism. This is because there is high likelihood that the SOAF assessments that we are yet to complete will identify cost-beneficial solutions at an equivalent proportion to those that have already completed. Delivering the cost-beneficial solutions that will be a statutory requirement will therefore require an overspend of the wastewater totex allowances in the AMP8 period which (i) places undue stress on Yorkshire Water from a financeability perspective, (ii) reduces the opportunity for any efficiencies to be targeted to improve service.

#### 4.5 PFAS

We are aware that the risk associated with potential new obligations to remove PFAS from drinking water is a material one for the industry. Yorkshire Water does not have significant water resources at risk of PFAS non-compliance in the AMP8 period and our draft determination response limits our request in this area to a limited enhancement allowance focused on

conducting investigations (to complete sampling and catchment management) to maintain this position.

We are aware that other companies are exposed to much greater uncertainty in this area, and we support a common uncertainty mechanism that ensures that efficient costs of managing this uncertain risk can be recovered by companies in AMP8.

## 4.6 Cost sharing mechanisms

### 4.6.1 Enhancement Costs

Ofwat has introduced enhanced sharing for enhancement costs. Given the challenging regulatory landscape we expect risk in this area to be asymmetric and hence we broadly support this risk mitigation.

However, we note that this leads to less flexibility compared to a fully totex regime where companies can fully reallocate cost savings found through efficiencies to address cost pressures elsewhere.

It is also our view that if appropriate cost allowances are set for the specific enhancement areas (see the clean water enhancement ([YKY-PR24-DDR-03](#)) and wastewater enhancement ([YKY-PR24-DDR-04](#)) representations) and specific uncertainty mechanisms allowed for (see the rest of this chapter), an enhanced cost sharing is unlikely to be necessary for the broader enhancement programme.

### 4.6.2 Enhanced cost sharing – waste permitting

The bioresources price control is undergoing significant change and uncertainty. As discussed in section 4.3, the potential loss of landbank is a material risk to the industry, but other regulatory changes have led to a different legal view of how sludge is considered under the Water Framework Directive. The primary changes that are driving this are the Industrial Emissions Directive (IED) and subsequent reviews of the associated guidance under ‘appropriate measures’, and the EA’s Sludge Strategy, which is under development but very likely to have a significant impact on the requirements of our bioresources business and require many permits each year to enable biosolids recycling.

We set out our IED requirements, our views of what has been funded in AMP7 and our proposed AMP8 costs in our enhancement representation, Cost efficiency enhancement costs – wastewater ([YKY-PR24-DDR-04](#)) and welcome Ofwat’s proposal for an ongoing sharing mechanism to recognise uncertainty in this area.

However, when considering bioresources waste permitting requirements more broadly than the implications of the IED, there are further potential changes that may drive material new investment requirements in the bioresources sector that are not addressed by Ofwat’s draft determination proposals.

Waste permitting obligations beyond the scope of the IED, are still developing and there is a danger that the industry could face iterative and ad hoc new requirements over the course of AMP8 without a definitive regulatory timeline. We have not included these costs in our DDR plan as these requirements are not yet confirmed.

Because of the above uncertainty, the enhanced cost-sharing to protect companies from uncertainty for IED obligations needs to be expanded to cover all new enforcement of waste permitting obligations impacting companies in AMP8. The full scope of which may include:

- Waste exemption reforms
- Environmental permit competence requirements
- Appropriate Measures Guidance
- Renewal of regulatory position statements, such as RPS231

We attach a note drawn up by the industry Bioresources working group, Bioresources uncertainty – waste permitting ([YKY-PR24-DDR-20](#)) which sets out the issue and proposed expansion of the cost-sharing mechanism in more detail.

Expansion of this mechanism will provide reasonable protection against an uncertain but potentially material set of new obligations that are set to emerge beyond the PR24 FDs.

#### **4.6.3 Business rates**

We agree that the 10:10 sharing mechanism for business rates is appropriate as business rates are effectively a tax, substantially outside of company control. As set out in our response to 'Unmodelled costs' in the base cost assessment section of our plan, this sharing rate needs to be applied to a reasonable central estimate rather than to a minimum value, otherwise it is effectively an efficiency challenge.

As described in section 4.2, cost sharing should be implemented as soon as possible after the costs are incurred to enable companies to balance revenues and expenditure and so that future customers are not paying for expenditure in the past.

#### **4.6.4 Lane Rentals**

Since our October submission, we have received notice that three of our highway authorities intend to introduce lane rental schemes in our region. There is uncertainty on both:

- the scale of this application within these authority areas, and also;
- other highway authorities following suit, and the lane rental schemes expanding across our region.

Given the limited ability to influence where our highway-impacting activity takes place, and the choice of other authorities whether to implement lane rental schemes, we believe it is appropriate for a 10:10 cost-sharing to be applied to lane rentals in the same manner as they are for business rates.

As described in 4.2, cost sharing should be implemented as soon as possible after the costs are incurred to enable companies to balance revenues and expenditure and so that future customers are not paying for expenditure in the past.

### **4.7 Indexation of input prices**

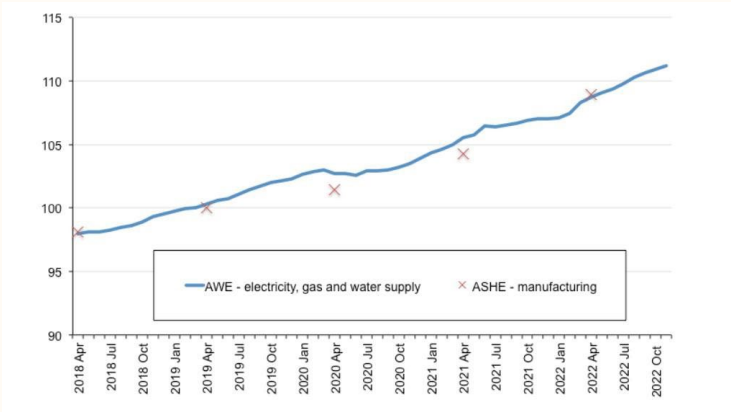
In our October plan, we recommended that Ofwat implemented indexation on input prices rather than trying to forecast RPEs going forward. We set out reasonable indices for Ofwat to consider.

#### **4.7.1 Labour Indexation**

For labour, we proposed a utility sector specific metric which would more closely capture water company trends whereas Ofwat has chosen a more generic ASHE manufacturing wage index for wholesale labour costs and using the ASHE construction wage index for enhancement labour costs.

On the face of it, historical trends do not indicate long-term material differences between the ONS's average weekly earnings index for the electricity, gas, and water supply industry and Ofwat's ASHE manufacturing wage index. However, the scale of expected changes in UK infrastructure sectors may imply that historical data is not a reliable predictor of future trends.

Figure 4-1 Analysis of Historical Trends and Wage Indices



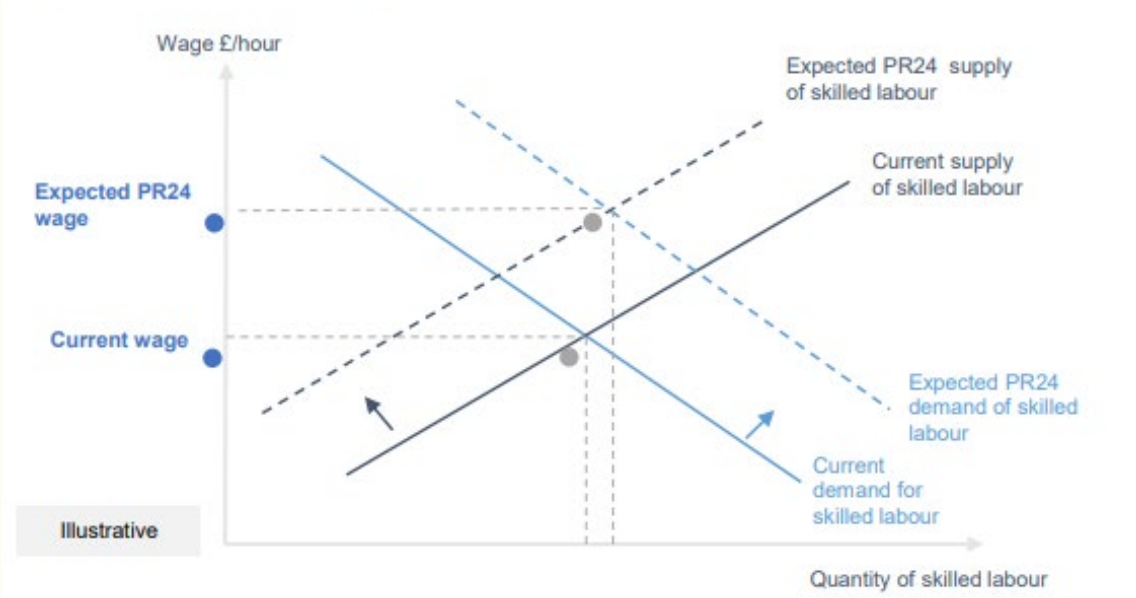
**Labour market projections and challenges**

Skilled labour shortages could pose significant challenges for water companies aiming to deliver large capital programmes at PR24. Concurrent large UK infrastructure projects, such as RII0 energy programmes and Hinkley Point C, will compete for resources, driving demand for skilled infrastructure professionals. The National Infrastructure Commission forecasts a 45% increase in UK infrastructure investment by 2030, compared to the 2010s.

The potential effect of labour market forces on wages and availability of labour is illustrated in the accompanying chart. An expected increase in wages at PR24 is driven by an upward shift in demand and a likely downward shift in the supply of skilled workers.

Figure 4-2 Wage and Labour Supply Dynamics

Potential wage increase in infrastructure at PR24 is driven by an upward shift in demand and a likely downward shift in supply of skilled workers in UK.



	Expected change	Key drivers of change
Demand for skilled labour	Increasing 	<ul style="list-style-type: none"> <li>- Significant step up in investment across infrastructure sectors</li> <li>- Backlog of job vacancies in key professions</li> <li>- Increased demand for specialised labour (e.g., smart technologies)</li> </ul>
Supply for skilled labour	Decreasing 	<ul style="list-style-type: none"> <li>- Ageing workforce in construction and other key professions</li> <li>- Tighten immigration policies from the EU post Brexit</li> </ul>

**Considerations for Ofwat's index selection**

Ofwat’s key concern regarding the ONS AWE index is likely to be its endogeneity, as there is some influence by water companies. The trade-off in using an index different from the water sector compared to one heavily based on the sector itself is that the former cannot be influenced, while the latter better reflects actual input price movements faced by companies.

Structural changes in supply and demand for materials and labour costs in the sector and the broader economy could mean that growth rates will deviate from the average rates observed historically and in other sectors. Therefore, Ofwat may need to reconsider the balance between independence and accuracy at PR24.

We recommend that the ONS’s average weekly earnings index for the electricity, gas, and water supply industry does strike an appropriate balance. The several contributing companies outside of the water sector reduce the endogeneity but will capture these structural changes into PR24.

**4.8 The conclusion of Ofwat’s investigation into wastewater management across the industry and how this will affect the operating and capital costs of the industry in the future**

**Impact of Ofwat draft penalty and enforcement notice**

We received a draft penalty and enforcement notice on 6<sup>th</sup> August 2024. The notice contains a proposed enforcement order against which we have undertaken an initial assessment of potential costs within the AMP8 period.

The draft order stipulates a number of triggers against which our asset base should be assessed, including:

- annual spills exceed 20 spills per year (or any tighter threshold established by EA or Government).
- failure to achieve 108% of the FFT level set out in environmental permit.
- failure to achieve the Q80 DWF level set out in environmental permit.
- storm tanks at a WWTW have a capacity of less than six hours of DWF.
- storm tanks at a Network asset have a capacity less than that agreed with EA.
- event duration monitors failing to accurately record data for at least 90% of any 12-month period.
- an asset having a reported pollution incident.
- an emergency overflow which discharges more than once in a year.
- an asset which fails to comply with conditions imposed by previous WINEP or other investment.

The draft order requires any exceedances of these triggers to be fully investigated and for required remediation to be delivered as quickly and efficiently as reasonably possible, taking account of deliverability, affordability and financeability.

Without any admission by Yorkshire Water in relation to any of these, and without any explicit or implicit acceptance of Ofwat's position, we have assessed our asset performance against these triggers using the most recently available data (2023 calendar year or rolling 12 months to date where feasible) and this has determined 2,015 individual instances which require investigation. We have estimated the cost to investigate all these instances to be c. £138m, which is in addition to our submitted AMP8 plan as the trigger thresholds are tighter than the levels which the EA has indicated as the compliance assessment point.

We recognise that a cost uncertainty mechanism has been proposed related to storm overflows, and this may cover £71m of the investigation costs (related to >20 spills), subject to the inclusion of investigation costs as set out in section 4.4 above.

A further £29m of investigations relates to areas where Ofwat has introduced a revised threshold compared to the EA stipulated compliance assessment point, and as such is introducing a new requirement that can be considered as enhancement funding, although the proposed storm overflow uncertainty mechanism does not cover this in its current form.

The final area of investigation cost is £38m relating to emergency overflows, which will result in an additional cost not recognised in our submitted plan.

Given the time required to investigate the trigger exceedances, we believe the remediations will take place from AMP9 onwards (including potential early start cases), so at this stage we are not anticipating a cost impact for delivering solutions in AMP8 where these solutions may require intervention beyond standard operational and maintenance actions. Should remediations be required in AMP8 then the same uncertainty mechanism would be used. As per the draft notice, remediation could be completed over multiple AMP periods, current forecasts are £1.2bn, subject to the outcome of the enforcement process.