Cambridge Water

South Staffs Water

South Staffordshire Water PLC

Representations on Ofwat's draft determination of our business plan for 2025 to 2030

Contents

Guide to reading this document

Summary

We have submitted the following overviews of our key arguments and representations to Ofwat's draft determination of our business plan for the five years from 2025 to 2030.

- A covering letter from Andy Willicott to David Black.
- An executive summary of our key arguments and representations (SSC-DD-01, page 6).
- Our completed pro forma (SSC-DD-05).
- Our company briefing note (SSC-DD-13).

We have submitted a main document that details all our key representation areas and additional evidence, and that addresses Ofwat's actions. We have provided supporting information, models and spreadsheets in a number of appendices. Our complete list of submission documents is as follows.

- SSC-DD-01: Main document.
- SSC-DD-02: Resubmitted PR24 data tables.
- SSC-DD-03: Additional PR24 data tables.
- SSC-DD-04: Data table commentary.
- SSC-DD-05: Pro forma document.
- SSC-DD-06: Supporting evidence for enhancement cases.
- SSC-DD-07: PA PCC critique.
- SSC-DD-08: Oxera letter of assurance.
- SSC-DD-09: Baringa report on energy RPE.
- SSC-DD-10: Past delivery.
- SSC-DD-11: Risk and return – RORE.
- SSC-DD-12: Regional demand management activity.
- SSC-DD-13: Company briefing note.

Reading guide

Below, we set out a guide to reading this document, including references to the appropriate appendices and supporting information.

SSC-DD-01 chapter	Page no.	Description	Linked appendices	SSC-DD-02/03 updated tables
Part 1: Outcomes representations				
1. Outcome delivery incentive skew to penalty	13	We highlight issues with Ofwat's approach to assessing outcomes at the draft determinations that result in a significant negatively skewed outcome delivery incentives (ODI) package. We identify solutions that would result in a more proportionate package.	n/a	ADD18
2. Per capita consumption penalty	24	We critique the Europe Economics study used to calculated COVID-19 impacts on per capita consumption (PCC) and set penalties. We propose a pragmatic approach to PCC penalty removal.	SSC-DD-07: PA PCC critique	n/a
Part 2: Base cost representations				
3. Base costs overall approach	34	We outline our views on Ofwat's cost assessment approach to our base and retail costs.	n/a	n/a

SSC-DD-01 chapter	Page no.	Description	Linked appendices	SSC-DD-02/03 updated tables
4. Topography and power costs	36	We seek further actions by Ofwat to ensure our power costs are funded appropriately. We restate our cost adjustment claim on topography, and consider the energy input price pressure and real price effects adjustment.	SSC-DD-08: Oxera letter of assurance SSC-DD-09: Baringa report on energy RPE	CW18
Part 3: Enhancement cost representations				
5. Enhancement allowances	46	We recognise and broadly accept Ofwat's transparent approach in assessing our enhancement costs. We have carefully considered Ofwat's efficiency challenges and are making representations on: • water efficiency; • leakage; • metering; and • resilience.	SSC-DD-06: Enhancement costs – supporting evidence	CW3 CW7 CW8
6. Post-model efficiency approach	57	We are making representations on Ofwat's approach to post-modelling efficiency assessments on enhancement through the 20% efficiency cap and frontier shift.	n/a	ADD2
7. Price control deliverables	59	We have carefully considered our draft determination price control deliverables (PCDs) and are making representations on: • the Grafham transfer (supply-side scheme); and • metering (demand-side scheme).	SSC-DD-06: Enhancement costs – supporting evidence	n/a
8. New enhancement submissions	63	Since we submitted our business plan to Ofwat in October 2023, some additional enhancement requirements have arisen. We have put forward new cases for: • new water supply – Fenstanton; • development costs for the Fens reservoir strategic resource option; • PFAS uncertainty; and • cyber costs.	SSC-DD-06: Enhancement costs – supporting evidence	CW3 CW8
Part 4: Risk and return				
9. Regulatory capital value run-off rate	68	We are asking Ofwat to unwind its proposed RCV run-off reduction and allow a rate of 4.5%, as set out in our business plan.	n/a	n/a
10. Financial resilience	74	We have considered in detail what Ofwat's draft determination means for our financial resilience over the five years to 2030 and beyond.	SSC-DD-10: Past delivery SSC-DD-11: Risk and return – RORE	n/a
Part 5: Addressing Ofwat's actions				
11. Dividend policy	81	We address Ofwat's QAA feedback on gaps in our dividend pay policy.	n/a	n/a
12. Executive pay policy	84	We address Ofwat's QAA feedback on gaps in our Executive pay policy.	n/a	n/a

SSC-DD-01 chapter	Page no.	Description	Linked appendices	SSC-DD-02/03 updated tables
13. Other Ofwat actions	88	We address Ofwat's action in the pro forma document on: • providing our water efficiency and metering activity, and the associated demand reductions by region; • how we intend to use our net zero adjustment to base costs; and • our cyber-security maturity.	SSC-DD-12: Regional demand management activity	n/a

Joint introduction from the Chair and Managing Director

We are pleased to present our response to Ofwat's draft determination on our business plan for the five years from 2025 to 2030, the next stage in the comprehensive PR24 price review process. We welcome the collaborative approach the regulator has taken in reaching its initial decisions and are delighted that the ambition of our plan in the round has been recognised.

While we are broadly content with our determination, there are a number of areas where we have specific concerns and would ask for a reconsideration. We have focused our representations on these areas rather than considering any wider arguments in general. These specific concerns focus on the following key areas.

- We welcome the increased focus Ofwat has put on power costs to address the pressures facing all companies in the England and Wales water sector. But we are concerned that the cost assessment approach in our draft determination still underfunds us for efficient power costs. We have provided additional evidence to support the claim put forward in our business plan and ask Ofwat to reconsider its decision.

- As an efficient, local drinking water supplier, we pride ourselves on our service delivery for customers and the environment. We are supportive of the regulatory mechanisms that drive our performance commitments and the outcome delivery incentive targets that underpin them. We are concerned, however, that Ofwat's proposals may have unintended consequences for us in terms of a skewed package and have put forward recommendations we think will rectify this.

- We welcome that Ofwat has considered the impact the global COVID-19 pandemic – and the numerous lockdowns associated with it – has had on household customers' individual water use. We have proposed an adjustment for the smaller companies in the water sector to address the disadvantages that appear to have arisen from the current assessment.

- The final area of concern for us is our financeability in the round. Within our representations, we have provided additional evidence to support our arguments for an RCV run-off rate of 4.5%, as set out in our plan, and explore different mechanisms to ensure any potential impact on the affordability of customers' bills is managed effectively.

We appreciate that Ofwat has only a short time frame to evaluate our representations fully before making its final determinations at the end of the year. We will continue to work constructively with Ofwat in the coming months to deliver a final determination on our plan that ensures we can secure the water future for our customers, our communities and the environment.

Lord Chris Smith of Finsbury
Chair

Andy Willicott
Managing Director

Executive summary

We have read Ofwat's draft determination on our business plan for 2025 to 2030 (known as 'AMP8') in detail and in the context of its objective to transform the England and Wales water sector over the long term. We are broadly supportive of the approach Ofwat has taken in reaching its decisions on our plan.

For example, we are pleased to have agreed an approach to the Fens reservoir strategic resource option that we are delivering in partnership with our neighbours Anglian Water, which means the project will not be delayed. We think this is the best possible outcome for customers and the environment over the long term.

We are also pleased that Ofwat has sought to reflect the inflationary pressures we have experienced during the current five-year planning period from 2020 to 2025 (known as 'AMP7') in its approach to our retail costs. This ensures we can continue to deliver services to the standards our customers expect – at a price they are willing to pay.

And while we are not challenging Ofwat's PR24 price review framework, we do have some company-specific challenges to address – which will cause us serious concerns if they are not reviewed and adjusted. We consider we have got legitimate reasons and strong evidence in the areas where we are pushing back, which we discuss in more detail in this document – and to which we require Ofwat to respond. We have also made representations on elements of our enhancement programme and have addressed the actions Ofwat gave us in our draft determination.

It is worth noting that some of the issues we raise in this document have implications for the whole sector. We highlight where this is the case in the relevant chapters and sections.

Principal areas of concern

There are a number of areas where we have specific concerns and would ask Ofwat to reconsider its decisions. We outline each of these below.

Outcome delivery incentives package

We think it is in everyone's interests that there are tangible improvements in performance in areas that are important to customers and where they have said they want to hold us to account. We are broadly supportive of the regulatory mechanisms Ofwat has put in place to drive the improvements in performance our customers expect and pay for. Since the current framework was launched at PR14, covering the five years from 2015 to 2020, we have worked with customers to co-create meaningful performance commitments underpinned by stretching, but achievable outcome delivery incentive (ODI) targets.

We think this framework works best when the targets, the allowances for what we can spend and the incentives to drive performance forwards all align. This creates a positive regulatory environment for change. But if an ODI package is unbalanced, it can result in unintended consequences. This can increase the risks on companies, which could make it harder to attract new investment. It can also result in more short-term thinking, rather than sustainable, long-term improvements. Ultimately, we do not consider an unbalanced ODI package will deliver good outcomes for customers and the environment.

Along with other companies in the sector, we are concerned the approach Ofwat has taken in its draft determinations to set stretching performance commitments and associated ODI targets has created a negative impact within the overall package. We recognise the need to stretch service levels and continually drive performance forward. But we think some of the targets set will be unachievable because of, for example, the uncertainty arising from events that may be outside of our control.

Overall, we consider there is a negative skew for most of the performance commitments within the context of our overall ODI package. In particular, we think that a small number of more volatile measures, such as leakage, water quality contacts, compliance with drinking water quality regulations and discharge permit compliance, dominate the overall package and compound the negative skew. We have provided detailed information of the impact this will have on our business and on our ability to deliver the services that are important to our customers.

To address this, we have identified solutions we think would result in a more proportionate, balanced and less punitive package of performance commitments. These are to:

- remove the step in Ofwat's process that re-normalises ODI rates as this will address the disproportionate nature of some of our targets; and
- make specific interventions as we have outlined in section 1.4 to resolve the risks around certain performance commitments.

We think this will create a more balanced ODI package that is less dominated by a small number of volatile performance measures.

Per capita consumption penalty

We welcome the sector-wide Europe Economics study into per capita consumption (PCC) commissioned by Ofwat and recognition of the significant impacts of the COVID-19 pandemic on household and non-household water use.

While we agree with many of the report's qualitative findings, we are concerned that there has been no direct examination or evaluation of the evidence we put forward in our business plan. This means Ofwat has not taken our unique circumstances into account in our draft determination.

In particular, there has been no consideration of the specific impacts of the pandemic on our South Staffs region.

As we explained in our business plan, the geography of our South Staffs region is unique. We supply a very dense urban area to the west and north of Birmingham and to the east and south of Wolverhampton. And yet, we do not supply either city.

Both cities and their immediate surrounding areas are very densely populated and highly industrial. The proximity of residential and industrial areas coupled with short commuting times is likely to mean there is a high level of cross-boundary activity from our South Staffs region into these cities. That is, there is likely to be a high number of people who live in our South Staffs region, but who work in Birmingham and Wolverhampton.

When the COVID-19 pandemic hit, this cross-border commuting stopped immediately as the various lockdowns resulted in more people working from home – and using more water as a result. We have continued to see this with more hybrid employment arrangements, with people continuing to work from home for part of the week.

Because we think the Europe Economics report does not consider our specific circumstances, we are asking Ofwat to recognise that the level of penalty applied for the impact of the pandemic between different companies is disproportionate – especially as our South Staffs region is a considerable outlier not explained by the models used.

We think Ofwat should consider abandoning the PCC ODI incentives in full because the Europe Economics models disadvantage the smaller companies in the sector. If it considers this is inappropriate, then we are asking Ofwat to take an average of the middle group of companies for which the models work somewhat better, to ensure greater proportionality for the smaller companies.

We also think Ofwat should set the performance commitment levels for leakage, PCC and non-household (business) demand at the levels set out in our final Cambridge and South Staffs water resources management plans (WRMPs). This is because these represent the optimum supply/demand balance position in terms of meeting our interim and long-term Environment Act 2021 targets.

Topography and power costs

We welcome that Ofwat has put an increased focus on power costs in its draft determinations. In particular, we welcome the re-introduction of, and fundamental support for, the average pumping head variable as the best cost driver to account for the physical features in the landscape (topography). The average pumping head is a measure of the average pumping pressure needed to overcome gravity and frictional losses in water companies' supply networks.

We also welcome Ofwat's further examination of the price pressures on companies resulting from the surge in energy prices over the past couple of years, and its introduction of a real price effects (RPE) mechanism. This refers to the adjustments made because of changes in real costs, such as wages, energy, chemicals and materials.

But at a company level, we are concerned that the cost assessment approach Ofwat has used still underfunds us for efficient power costs. This is a combination of topography and power real price effects.

We think our power costs are already efficient. We operate a competitive process at contract renewal and leverage our scale of energy use to secure the best deals. We also operate a long-standing pump efficiency programme to ensure we operate our assets at optimum levels. And we optimise other aspects our energy use where possible – for example, for our treatment processes, network transfers and water pressure control. Ofwat's own modelling has us at sector leading in terms of our historic base cost efficiency.

We are asking Ofwat to fund us fully for the £98.6 million forecast budget for power in AMP8 and have provided detailed evidence to support our ask in this area.

Regulatory capital value (RCV) run-off rate

The regulatory capital value (RCV) is the value of the capital base of each water company in the sector. Ofwat uses it to set price controls. The run-off rate represents how much of companies' previous capital investment is recovered from customers each year.

In line with Ofwat's guidance on the upper limits of water companies' RCV run-off rates, we assumed a rate of 4.5% in our business plan. In our draft determination, Ofwat proposed an RCV run-off rate of 4.09%. This implies an allowed revenue reduction of £11 million or 1.3% during AMP8.

We are concerned the approach Ofwat has taken will keep customers' bills artificially low in AMP8, leading to greater pressure on those bills in future planning periods. It will also have a negative impact on our financeability at a time when all companies across the sector need to attract considerable amounts of external finance to fund their ambitious investment programmes.

In addition, we are concerned that Ofwat appears to be focused on a five-year timeframe, without accounting for the fact that the investment challenge the sector is facing is a long-term one.

So, we are asking Ofwat to unwind its proposed RCV run-off reduction and allow a rate of 4.5%, as set out in our business plan.

Enhancement costs

We recognise and broadly accept the transparent approach Ofwat has taken in assessing our enhancement costs. We have considered Ofwat's efficiency challenges and are making representations in the following areas.

Enhancement allowances

Our representations in this area focus on the following.

- Water efficiency allowances. Here, we acknowledge the difficulty in assessing allowances through a modelled approach, given the relative sector difference in starting positions, metering penetration, range of activity and associated costs. So, we propose a model methodology adjustment to account for this variance more effectively. We are focusing our water efficiency activity on a programme of household and non-household water audits. To deliver this, we propose recruiting sufficient in-house expertise at a cost of £7.2 million across AMP8. We think this will deliver a water saving benefit of 3.56 million litres of water a day (Ml/d).

- Metering allowances. In our business plan, we proposed a universal metering programme of Advance Metering Infrastructure (AMI)-capable meters, with a focus on Automatic Meter Reading (AMR) drive-by meter reading. Instead, we are going for AMI-enabled metering as set out in our draft determination. We support Ofwat's approach in this area and appreciate that it is trying to deliver a sector-wide comparative assessment for funding in this critical area.

- Resilience allowances. We acknowledge Ofwat's assessment of our booster resilience enhancement claims. We have made representations on our borehole, treatment works and interconnector resilience enhancement claims. As well as the schemes we put forward in our business plan, we are submitting additional schemes specifically to address climate change impacts in our Cambridge region and to enhance power resilience.

- Leakage allowances. We accept and welcome Ofwat's approach for modelling leakage allowances to 2030 – in particular, the reallocation of base funding for leakage into enhancement.

Post-model efficiency

We are concerned that Ofwat is not comparing like-for-like costs in its calculations for enhancement efficiency. This leads to the 20% efficiency gap being applied incorrectly. This has a particular impact on our AMP8 metering and leakage programmes. We have adjusted our enhancement costs in these areas and ask Ofwat to reconsider these.

We also recommend that Ofwat applies the same approach it used at PR19 and considers the efficiency of our whole enhancement programme, as applying efficiency caps on certain themes may lead to underfunding of it in the round. This is because the detailed work we carried out to develop our enhancement cases, and the associated costings, was already inclusive of an efficiency challenge.

Price control deliverables (PCDs)

Ofwat introduced price control deliverables (PCDs) for the first time at PR24. They set expectations for delivery specifically on improvements funded through enhancement expenditure. If water companies fail to

deliver the outcomes associated with these improvements, they are required to return funding to customers.

We have made representations on the following PCDs applied to the enhancement expenditure set out in our business plan.

- Grafham transfer. In our business plan, we proposed a PCD to install infrastructure to enable a water transfer of 26 Ml/d from Anglian Water's Grafham reservoir into our Cambridge region from around 2032. There are several interdependencies with this project. So, we are asking Ofwat to reflect this in the PCD, as the only element within our control is the installation of the infrastructure to transfer the water into our Cambridge region.

- Water metering. We are also asking Ofwat to consider our new proposal for a metering enhancement PCD that focuses on new installations and on metering replacements and upgrades. This follows our change in strategy outlined above. We discuss this in more detail in section 7.2.

New enhancement cases

After we submitted our business plan to Ofwat in October 2023, we received feedback from the Department for Environment, Food and Rural Affairs (Defra) on the draft WRMP for our Cambridge region. Defra asked us to consider reinstating a decommissioned water supply option at Fenstanton, which has the potential to provide up to 1 Ml/d, pending further work to explore the site's environmental impact. Bringing Fenstanton back into supply could unlock new developments of between 1,400 and 5,000 properties, depending on yield, supporting the UK Government's growth objectives.

We have explored a range of options for the site and have put forward a new proposal to refurbish the boreholes, install new equipment and transfer to water to our St Ives site for treatment and distribution. The cost of this scheme is £1.95 million.

We have also put forward a new enhancement claim to support the development costs for the Fens reservoir strategic resource option. During AMP8, we estimate the funding requirement for these costs will be £3.3 million. This is to fulfil our requirements as the 'Non-Lead' partner in delivering the Fens reservoir project with Anglian Water.

Our business plan includes our ongoing strategy for so-called 'forever chemicals' – specifically, per- and polyfluoroalkyl substances (PFAS) – alongside the specific PCD introduced by Ofwat in the draft determinations as part of the overall water quality programme. But there is a risk that investment needs might arise during AMP8 that are not currently funded. So, we would advocate for some form of in-period reopener if investment is required to tackle PFAS in our Cambridge or South Staffs regions.

Financial resilience

While we are broadly content with the approach Ofwat has taken in assessing our business plan, we are concerned that one of the main consequences of our draft determination is that returns on equity will be below Ofwat's view of the cost of equity capital. We think there are several reasons for this.

- Ofwat has under-estimated the amount of energy we use and has not fully captured the uplift in energy prices we are facing.

- As outlined above, our overall ODI package has a negative skew to penalty.

- Ofwat has not taken our unique circumstances into account in relation to PCC, which leaves us in a punitive penalty position.

The business is financeable from a debt point of view, even though the artificially low RCV run-off rate (also outlined above) puts unnecessary pressure on our credit metrics. Overall, this serves to reduce the equity return from an allowance of 4.8% to less than 3% on a notional basis, which would make it less attractive to equity providers.

We recognise the role our shareholder would play in helping us to manage shocks or deal with changes in rating criteria. It remains willing and able to be supportive if the need arises, through the wider resources of our parent company, South Staffordshire plc. But it should be noted that the case to provide additional funds is weakened when equity returns are below those required by the market and set out in our business plan, and the ability to monetise those returns may become restricted by regulatory rules.

We consider that for the price control package to be financeable to equity, the core scenarios need to deliver a stable and predictable cash yield. And that only the most extreme downside scenarios where we are under-performing a balanced series of measures, should the cash yield need to reduce to zero.

So, we ask that Ofwat reconsiders its decisions in this area to ensure we can continue to finance our functions now and over the long term.

Addressing Ofwat's actions

As well as the representations we are making on our draft determination, we have also included in this document our responses to specific actions from Ofwat. These are areas where we have clarified our business plan position or are providing the regulator with additional information.

Dividend policy

In response to challenge from Ofwat in our draft determination, we have clarified our dividend policy.

Each year, we make an in-the-round assessment of our performance in relation to the new water company licence condition introduced by the regulator in May 2023. This determines the payment of a dividend and includes a consideration of:

- whether paying the dividend will materially impact our financial resilience;
- our performance against key targets in terms of the services we deliver to customers;
- how we deliver for the environment over the long term;
- whether we remain on track to deliver our investment programme; and
- whether we have continued to do all this efficiently.

Executive pay policy

In response to challenge from Ofwat in our draft determination, we have clarified our Executive pay policy. This includes incorporating a substantial link between Executive pay and delivery for customers and the environment.

Our Executive pay policy establishes the principles, framework and guidelines governing the remuneration of the Managing Director and the Executive Directors. It is designed to enable us to attract, retain and motivate high-calibre Executive Directors across the business, while making sure we always comply with our legal and regulatory requirements.

The policy considers a range of factors, including the components of Executive pay and the provisions we have put in place in the event of an Executive Director engaging in conduct that is detrimental to the interests of the business or that causes it significant harm.

It also sets out how annual and deferred bonuses are determined and the conditions under which they can be awarded. Key to this is a consideration of how company performance in delivering for customers and the environment is taken into account when decisions on bonus levels are made by the Remuneration Committee each year.

Demand targets, net zero adjustment and cyber-security maturity

We have provided information to support our representations on other actions set out in our draft determination. These relate to our:

- demand targets, where we reinforce the sensible assumptions set out in our Cambridge and South Staffs WRMPs that meet Environment Act 2021 interim and long-term targets to deliver a sustainable supply/demand balance in both regions;
- net zero adjustment, where we provide information about the role our pump efficiency programme plays in making sure our assets are working at their optimum efficiency, along with the carbon emissions savings that could be made as a result; and
- cyber-security maturity, where we have worked closely with the Drinking Water Inspectorate's (DWI) Network and Information Security team to ensure our cyber improvement plan aligns with the appropriate requirements.

Board assurance statement

The Board has considered Ofwat's 11 July draft determination carefully and, in particular, the interventions made to the business plan submitted in October 2023.

The Board met on 18 July and 15 August specifically to consider the draft determination.

- We have made two representations on Ofwat's approach to power costs – including our topography cost adjustment claim and the approach to the real price effects adjustment.
- We have proposed a number of changes to the outcomes to ensure a balanced overall package.
- We have made representations on the Europe Economics PCC penalty model and propose suitable adjustments to resolve the model issues.
- We have made a representation on Ofwat's adjustment to the RCV run-off rate.

The Board has assured the changes made to our business plan in our representation to address areas of concern from Ofwat.

These include:

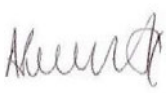
- re-evidencing enhancement cases and proposing adjustments to PCDs where necessary to ensure deliverability;
- changing the company metering strategy from AMR reading to AMI reading on the universal metering programme, in line with Ofwat's views;
- adjusting demand targets to align with WRMP plans and reflect changes in metering policy. The activity driving reductions is set out by region; and
- adding further detail to our dividend policy and Executive pay policy to address Ofwat's feedback.

The Board reaffirms that the plan we are submitting is of high quality, ambitious and in accordance with Ofwat's PR24 methodology.

The Board has assessed our financial resilience for the 2025/30 period in the context of the draft determination as set out in chapter 10 and confirms that it is financeable based on the following.

- If required under the stress test scenarios, the Board would seek to procure additional equity sufficient to ensure financial resilience. Our shareholder remains willing and able to be supportive if the need arises, through the wider resources of our parent company, South Staffordshire plc.
- That the certainty of the regulatory framework allows the sector to remain attractive to new equity providers by ensuring the allowed cost of equity can be achieved. If our proposed changes to ODIs and power cost allowances are accepted, it will ensure the risk package is balanced.
- That headroom on financial metrics will improve if the representations on our draft determination are accepted for a higher RCV run-off rate and reduction in the 2020/25 PCC penalty.

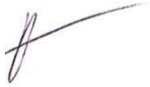
The Board is assuring the representations and other information set out in this document based on Ofwat's further consideration of the concerns raised. The Board will require Ofwat's attention on this to ensure it can accept the final determination.

Lord Chris Smith Andy Willicott


Catherine May Alice Cummings


Professor Ian Barker Keith Harris



Peter Antolik

Part 1:
Outcomes representations

1. Outcome delivery incentives skew to penalty

Summary

We recognise that it is in the long-term interests of customers and the wider water sector that performance improves in the key areas customers care about and where they have said they want to hold us to account. Overall, we support the regulatory mechanisms of performance commitments (PCs) and outcome delivery incentives (ODIs).

But we are concerned that if an ODI package is unbalanced, it creates greater risk for water companies like us and results in a short-term focus rather than long-term improvement. Ultimately, it will not deliver good outcomes for customers and other stakeholders.

For our overall ODI package, Ofwat has assumed the performance commitment level (PCL) set is the P50 level for all PCs. We disagree that this is the case, as a number of PCs represent considerable stretch from current performance levels and there are many other factors which mean the median risk level is not at the PCL level.

Ofwat's Monte Carlo modelling appears to set symmetrical distributions for all PCs and does not appear to set necessary constraints – for example, on preventing negative performance scores.

Ofwat has implemented a post-normalisation averaging step in the setting of ODI rates, which skews several of our ODI rates significantly upwards. This results in disproportionate ODI risk compared with other companies in several areas.

These issues result in a significant negatively skewed ODI package at draft determination. Through analysis of risk using our own Monte Carlo approach, we have identified solutions that would result in a more proportionate, balanced and less punitive package of PCs. We propose these changes are implemented in full alongside any sector-wide changes to Ofwat's overall modelling approach.

1.1 Introduction

It is in the long-term interests of customers and the England and Wales water sector that performance improves in key areas that customers and other stakeholders care about and where they have said they want to hold us to account. Overall, we are supportive of the regulatory mechanisms for performance commitments (PCs) and outcome delivery incentives (ODIs) that Ofwat first introduced at PR14 – and that are now in their third iteration at PR24.

We think this mechanism will be most successful and enhance the reputation of the sector if future targets, expenditure allowances and incentives are well aligned to create a positive regulatory environment for change.

An ODI package that is unbalanced with itself or with other regulatory incentives creates excessive downside risk for companies, meaning that it may be more difficult to attract investment. It also fosters a short-term 'firefighting' focus, rather than a sustainable long term improvement path. Ultimately, an unbalanced package will not deliver good outcomes for customers and stakeholders. It also risks the sector experiencing further reputational issues when headlines focus on targets not met (even if they are incredibly stretching) and not on the areas where innovation and focus have improved performance over time.

1.2 Draft determination issues

We understand that the entire sector is concerned about disproportionality and significantly negative risk skew as a result of the package of PCs and associated ODI rates. We have participated in the KPMG club project on risk range and concur with its overall findings.

We have carried out specific analysis of our own draft determination to identify the issues that have the most impact on our PC package and risk balance.

In doing so, we find two main themes. These are the:

- methodological issues with Ofwat's PC target and ODI rate setting process; and
- specific issues with the balance of our PC package when considered in terms of risk.

We address these themes in this representation.

1.3 Ofwat's ODI risk modelling

1.3.1 Setting the P50 level

Our understanding of Ofwat's approach is that it assumes the PC set is the P50 level of risk for all PCs. Ofwat also made this assumption in its risk assessment at PR19.

This assumption is incorrect.

Improving service requires change. Change comes with challenge and uncertainty. For example, it may require the design and development of new projects, or changes to business procedures to improve service. In some areas, significant change is only possible through considerable additional investment – for example, to improve network interconnectivity, find and fix additional leakage or lower carbon emissions.

The P50 level in a risk analysis represents the point at which there is an equal 50% chance of risk being higher or lower than this value. The P50 also represents the most likely outcome, considering all possible variables and their probabilities.

There is often not a direct link between investment and service, or the link may be lagged to some degree. There are also externalities, such as the weather or customer behaviours, that influence the outcomes.

The PCs that have been set for PR24 are stretching. The majority of them require continued improvements in performance from AMP7 levels and over AMP8. In some cases, these improvements are aligned to long-term UK Government policy – for example, on leakage and water consumption. And many of them have the potential to be impacted by external factors.

We recognise the need to stretch service levels – to continually improve and drive performance forward in the sector and deliver the right outcomes for customers. We support stretching targets where improvements are desirable, cost beneficial and underpinned by the right levels of investment and support. However, a stretching step change is not the P50 level. This is a target beyond the P50 level because of the degree of intervention required, and the uncertainties present on delivery and externalities.

To assume that all performance commitment levels (PCLs) are the P50 is essentially saying that, ignoring volatility, all PCs would be expected to be delivered for all companies. This has not been the case historically, and is not expected to be the case in the future given the degree of improvement being asked for across the whole package and the diversity of that package.

There are some instances where we consider setting the PCL at the P50 is appropriate from a regulatory perspective. For example, on leakage the target has been set in alignment with the Environment Act 2021 and companies' water resources management plans (WRMPs), and direct investment has been included in business plans and determinations to deliver this target based on good historical data of what delivery is possible.

But in other areas setting the P50 at the target is not reasonable because it is more stretching or uncertain. For example on the Compliance Risk Index (CRI), the key regulatory measure of drinking water quality, a target of zero is not the P50 because it is very unlikely for most companies to achieve this, because of the uncertainty arising from random events.

In the table below, we show the PCs where we consider it appropriate or inappropriate to set the P50 at the PCL. It should be noted that this table represents our view of our PCLs, and is specific to us and our circumstances.

PC	PCL = P50?	Comments
Customer contacts on water quality	X	A rapid pace of change is required in PCLs over AMP8. Our target is approaching frontier level for the sector, which will be extremely stretching to deliver. While we have seen sustained success at this pace of reduction over AMP7, it is not certain that improvement can be sustained at this rate over AMP8.
Compliance Risk Index (CRI)	X	Few companies currently achieve the zero level for CRI. We do not expect to achieve this given the random element to compliance sample failures. The recognition that a deadband is required on CRI itself demonstrates that the P50 (the median expectation) is not zero.
Water supply interruptions	X	We are historically a strong performer on supply interruptions and we expect to outperform the PCL unless a serious event occurs. So, we think our P50 is likely to be beyond the PCL here. But as a common PCL across the sector, it is clear that a number of companies are some way off this, and it is not realistic for those companies to achieve the PCL in the short term. Using a common PCL here clearly shows that the level cannot be the P50 for all companies, as each one is different. At a sector level, the PCL is far more stretching than the real P50.

PC	PCL = P50?	Comments
Serious pollution incidents	X	This is a penalty-only measure, so it is not symmetrical. As a result, the P50 cannot be zero. Also, there is always a level of residual failure risk, however small, which means the P50 is not zero. For us, the P50 here may be in the order of a 1-in-20-year failure risk, but these are very rare events so it is difficult for us to quantify.
Discharge permit compliance	X	This is a penalty-only measure, so it is not symmetrical. Again, the residual failure risk, however small, means the P50 cannot be zero. For us, the P50 here is in the order of a 1-in-5-year failure risk.
Leakage	Y	There is close alignment between investment and delivery for the leakage PC, as it is in greater company control with less externalities, correlated more directly to short-term investment levels. There is also alignment between business plans, WRMPs, and Environment Act 2021 targets. Each company's target is specific to them. Although the targets require continual improvement, this is well planned for and direct investment has been allowed. So, we think it is a reasonable regulatory judgement to say the PCL can equal the P50 in this area.
Per capita consumption (PCC)	X	While there is also alignment between business plans, WRMPs and Environment Act 2021 targets for PCC, there is also considerable uncertainty over customer behavioural change. Companies are not in complete control over the measure because of this, and targets rely on continued adoption of water efficiency in the wider economy, such as for white goods and new homes. The COVID-19 pandemic risk was so extreme and unprecedented, and unlikely to reoccur, so we do not consider it in our analysis. But qualitatively, it is an example of a very one-sided shock that can occur in PCC. This means the targets are very stretching to deliver and not at the P50 level.
Business (non-household) demand	X	This is a new PC at PR24, and requires most companies to set up resources and processes for delivery. While targets are aligned between business plans, WRMPs and Environment Act 2021 targets, there is considerable uncertainty over delivery success given the externalities involved with dealing with business customer behaviour, as with PCC. Also, Ofwat has only partially allowed the level of investment required to deliver the target, on cost efficiency grounds. And there is considerable uncertainty over growth levels as this is linked to the performance of the wider economy and UK Government policy. This is why Ofwat has introduced an uncertainty mechanism for this PC. For all these reasons, we do not consider the PCL is the P50 in this case. We have expressed our view previously that this measure is a poor outcome to attach ODIs to, because of the uncertainties, and we still consider this is the case.
Mains repairs	Y	As with leakage, investment in infrastructure renewals is a well-established component of base costs in the sector. Ofwat is also seeking to ensure a minimum level of renewal through its mains renewal performance commitment deliverables (PCDs). In the main, companies set targets, with an improving and sensible glide-path over time, which Ofwat accepts. Weather volatility on burst mains can cause significant spikes, but this may be a reasonably symmetrical risk. So, we can support the PCL being set as the P50 in this case.
Unplanned outage	X	This PC has had a definition change, which removes all exclusions. This means the level of outage will be higher than the AMP7 version of the measure. We adjusted for this in our business plan forecasts and stretched the performance further from this level in our own forecasts. Ofwat has taken even more stretching targets than this, so its PCL is not our P50 level.
Biodiversity	X	This measure is new for PR24 and there is considerable uncertainty over how the Natural England workbook aligns to the targets set. This is because we have not yet been through the site-by-site reviews required to set the baseline levels. Neither we nor Ofwat has the necessary data to assume the PCL is the P50. This means we do not think any judgement can be taken until data becomes available. For this reason, we do not think it is appropriate to introduce incentives to this measure in PR24, and that this should wait until PR29 when more data is available.

PC	PCL = P50?	Comments
Greenhouse gas (GHG) emissions	X	This is another new PC for the sector, although historic data is available. Our business plan set a forecast that was already stretching and based on successful delivery of several improvement initiatives, including the use of solar photovoltaic (PV) measures where it is cost effective. Ofwat disallowed this investment because it viewed it as base. However, our overall base allowance was cut from what we requested in our business plan. On top of this, Ofwat has stretched the target further, asking us to deliver a 10% reduction over the period rather than the 5% reduction in our plan. Therefore, the PCL Ofwat has set is far beyond our view of the P50 level.

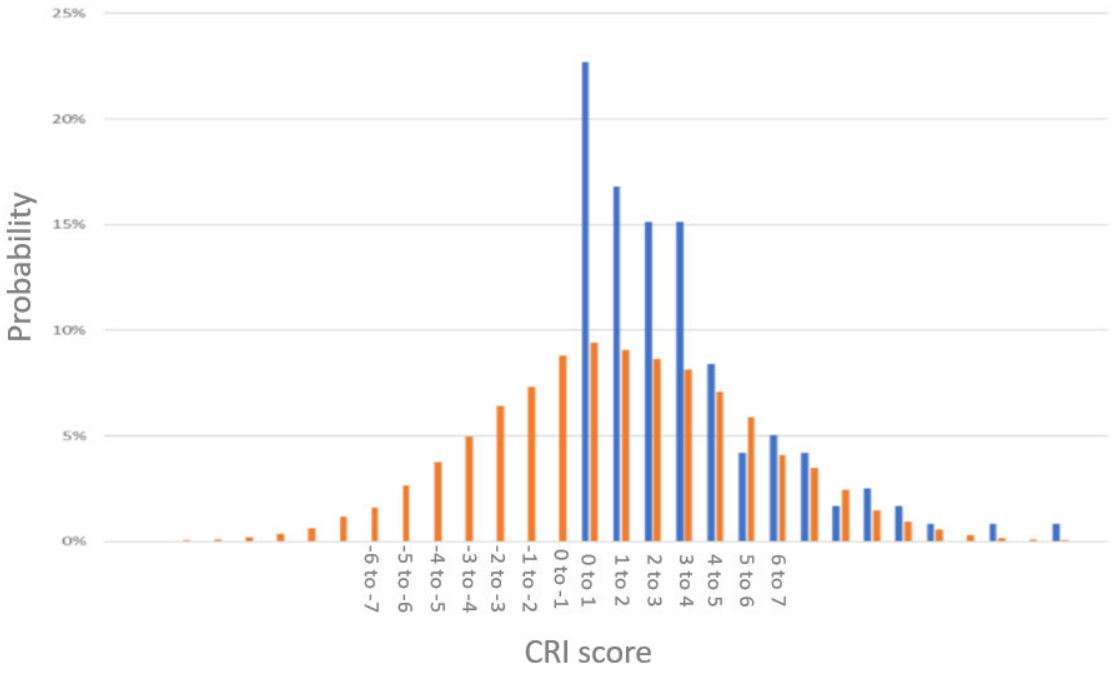
1.3.2 Assumption of symmetrical distributions and no truncation

Our understanding of Ofwat's Monte Carlo modelling approach is that all PCs are assumed to follow a normal distribution. This means the assumption is that all risk distributions are perfectly symmetrical, as a normal distribution does not allow skew.

In our own modelling, we used a range of distributions – including normal, Weibull, lognormal, and discrete. This was necessary to ensure each PC distribution reflected the right shape and spread of data. For example, when performance is very close to and truncated at zero, and the mode and median are different values, a normal distribution is not suitable. So, instead we use Weibull or lognormal distributions, which allow more control over the shape and level of skew. Or, when risk is discrete, such as for serious pollution incidents or discharge permit failures (the number of incidents can only be positive whole numbers), we use a discrete distribution.

An example of the inappropriateness of Ofwat's approach is shown below, using a histogram of CRI data. The blue bars represent actual data, and the orange bars represent Ofwat's model using the normal distribution. First, it is not possible for CRI to be a negative value, yet with no truncation Ofwat's model allows this to occur. In addition, the choice of distribution does not reflect the correct P50 level, which is not at zero.

The reality is that the P50 (defined as the median of the data) is somewhere between a score of 2 and 3 and the tenth percentile is between 0 and 1. The mode of the data (most common value) may be between 0 and 1, but here the mode and median are significantly different and the mode is not a reflection of central tendency. In other words this is a skewed PC.



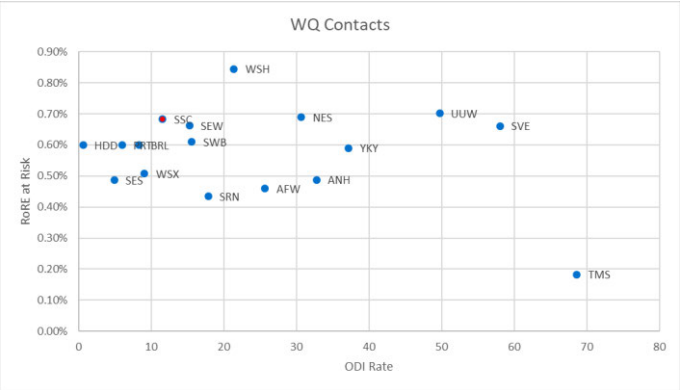
1.3.3 Post-normalisation averaging step for ODI rates

One of Ofwat's main preferences for ODIs at PR24 has been to calibrate them to a broadly equal risk level for all companies. This is an 'equity at risk' approach. The ODI calculation process starts with a top-down figure of 5% of regulated equity and splits this across all the PCs based on the priorities research conducted in 2023. ODI rates are then calibrated to each company's regulatory capital value (RCV) in the ODI rate model.

However, there is an extra step in the model which then adjusts individual company rates to a median level. This median is segregated into two RCV groups – a large and a small group. We are in the small group. It appears the purpose of this step is to attempt to normalise ODI rates across the sector. But as the Grant Thornton review finds, these objectives are at odds with each other. It is not possible to have normalised ODI rates and normalised risk levels in RCV terms.

It appears this extra step causes our ODI rates to be disproportionately high compared with the rest of the sector. We illustrate this below for several common PCs.

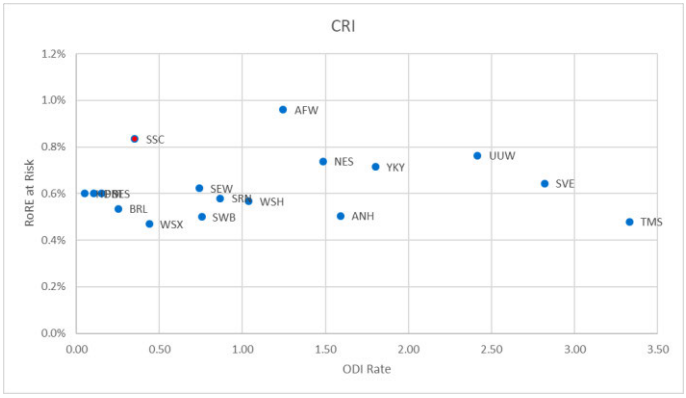
1.3.3.1 Water quality contacts[1]



For water quality contacts, we have the second highest return on regulated equity (RORE) at risk after the re-normalisation step.

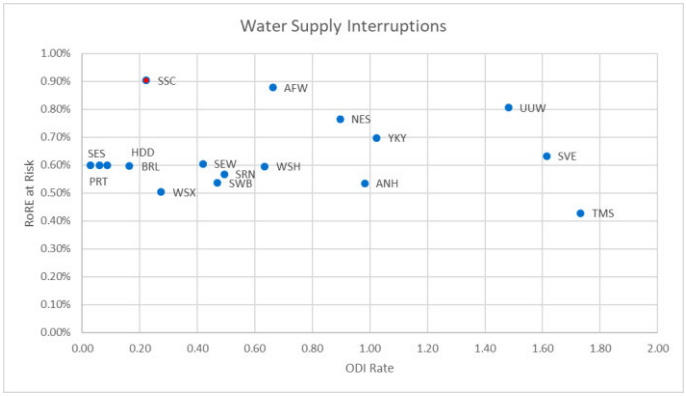
It should be noted that this ODI rate in our draft determination is more than ten times higher than at PR19. At PR19, a single contact was worth £625; in our PR24 draft determination, it is now more than £6,600. This is a level far in excess of a reasonable compensatory value.

1.3.3.2 CRI



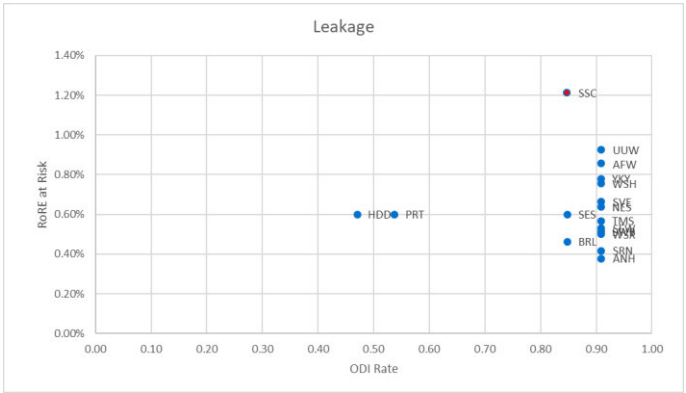
On CRI, we also have the second highest RORE at risk. The ODI rate here is 30% higher than at PR19.

1.3.3.3 Water supply interruptions



On supply interruptions, we have the highest RORE at risk.

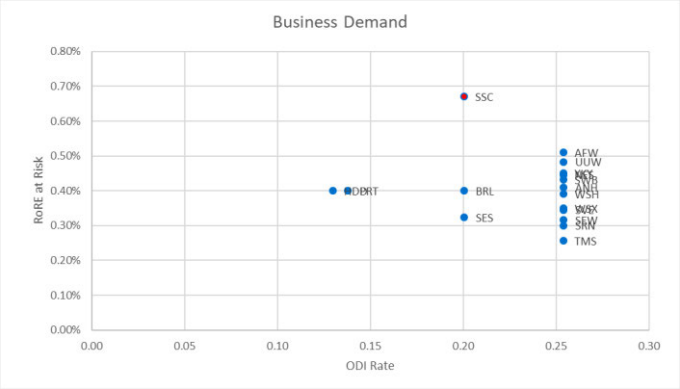
1.3.3.4 Leakage



We are highest RORE at risk on leakage. ODI rates are more than three times higher than at PR19.

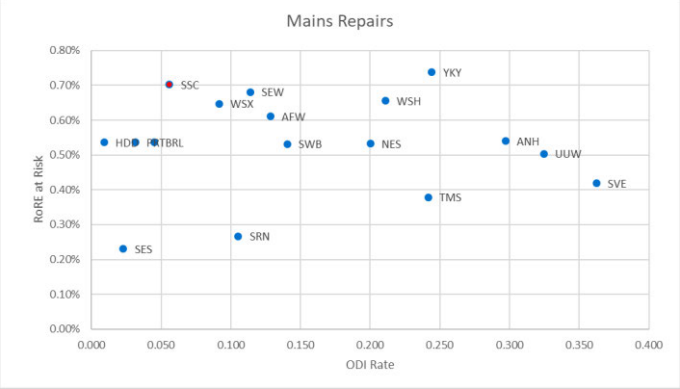
[1] AFW = Affinity Water; ANH = Anglian Water; BRL = Bristol Water; HDD = Hafren Dyfrdwy; NES = Northumbrian Water; PRT = Portsmouth Water; SES = SES Water; SEW = South East Water; SRN = Southern Water; SVE = Severn Trent Water; SWB = South West Water; SSC = South Staffordshire Water; TMS = Thames Water; UUW = United Utilities; WSH = Dŵr Cymru Welsh Water; WSX = Wessex Water; YKY = Yorkshire Water.

1.3.3.5 Business demand



We are highest RORE at risk on business demand.

1.3.3.6 Mains repairs



We are second highest for RORE at risk on mains repairs.

Overall, these effects are combining to create a significant degree of disproportionality for us. Combined with a stretching package and Ofwat's inappropriate Monte Carlo modelling, this is creating an incredibly negatively skewed risk package for PCs as a whole, and several measures are displaying levels of risk that are punitive and not reflective of customer value in a compensatory sense.

As recommended by the Grant Thornton report, we ask Ofwat to look again at how the ODI rates are calculated and the judgements made around equity at risk across the sector.

The complexity of the approach and our expectation for significant change based on the sector feedback so far makes it difficult to suggest a complete end-to-end approach of our own. So, we would advise an intermediate stage before final determinations where we have sight, and opportunity to comment further, on the revisions to the approach.

1.4 Specific call outs of imbalances in our ODI package

We have looked closely at the PC package presented in our draft determination and assessed the risk around this. We specifically looked across the package in the round to identify areas of imbalance. An imbalance is an area that has a disproportionate impact on total ODI risk compared with other areas in the package, at either P10, P50 or P90 – for example, a specific issue with a definition, target or ODI rate that is creating a disproportionate level of ODI risk compared with other areas.

The issues we present below are based on our draft determination figures, including the ODI rates set. This follows the serious concerns we have outlined above with the ODI rates set and the high level of RORE at risk they produce, which is disproportionate compared with the rest of the sector.

It is our expectation that most other companies will make their own representations on ODI risk, and that this may result in a number of framework changes. Any changes to the underlying framework will alter our risk profile, so the specific issues we present below may be affected.

As we mentioned in the previous section above, Ofwat should introduce an interim stage into the process to enable companies to feedback on any alterations to the PC or ODI packages ahead of final determinations. This is to ensure we have a chance to input views and suggestions in a timely manner – and before the only avenue for representation remaining to us is a Competition and Markets Authority (CMA) referral decision.

1.4.1 Discharge permit compliance

This PC is creating a significant downside skew to the package as a whole because of the sensitivity of the measure to a single permit failure. This is an issue that affects all water only companies because we have a much smaller number of discharge permits compared with the water and sewerage companies.

The PC is measured in the percentage of permits failing. This means that a single permit failure is worth around 2.5 percentage points for us. With an ODI rate of £0.56 million per percentage point, this gives rise to an ODI penalty for a single permit failure of around £1.4 million. This is the same penalty value as would be incurred for a single serious pollution incident, which is far more severe than a numeric permit failure. We think this is highly disproportionate.

It should be noted that we are currently working to discover whether all of our permits count for the purposes of this PC, as we have several non-numeric permits related to very small-scale sewage treatment plants (servicing toilets at some of our production locations, for example). We are unsure whether these count for this measure; if they do not, we have an even lower number of permits and the sensitivity increases further. We have based our calculation above on 40 permits.

We understand that Ofwat is already aware of this issue as several water only companies have raised it as a query.

We ask for further normalisation of the measure to ensure the ODI rate for a single permit failure is of a similar order to that incurred by the water and sewerage companies. On the basis that a serious pollution incident is a far more serious compliance failure than a single numeric permit failure, we would expect the ODI rate for this measure to be reduced significantly.

Our analysis suggests the ODI rate needs to be reduced to at most one-tenth of the current proposal (£0.05 million per percentage point compared with the draft determination rate of £0.56 million per percentage point). Again, this is based on 40 permits. If our number of permits that count towards this measure is even lower, then the ODI rate would need to be reduced still further because the sensitivity to a single permit failure would be higher.

1.4.2 CRI

At PR19, we raised concerns about our sensitivity to CRI compared with other companies. This is because we have two very large treatment works in our South Staffs region that supply a significant proportion of our customers. This means a compliance failure at one of these works scores significantly higher than the industry average level for a works failure.

We are also concerned that the use of CRI as the sole water quality compliance measure is disproportionate. For example, the recent event in South West Water's operating area where many thousands of people were subject to a boil water notice lasting for several weeks because of a cryptosporidium risk was not subject to CRI at all. So, we question whether it is a measure that really represents quality from a customer perspective.

We recognise that quality compliance is a very important metric. But most compliance failures under CRI do not have a customer impact. And as shown with the South West example above, serious customer impact can occur because of a quality issue that is not covered by CRI. Given that CRI is a penalty-only PC, with a shrinking deadband, it creates a significant negative exposure at our P50 (where a small number of non-customer impacting compliance failures would result in a breach of the deadband), and at the P10 where, during AMP7, we have experienced failures at our largest works. This has resulted in significant CRI scores, mainly because of the size of these works.

Our PR24 CRI penalty rate has been increased by about 33% compared with the AMP7 rate, and the deadband reduces from two to one over the period.

We do not think the risk on this measure should be increased further from the levels to which we are currently exposed, given the end customer significance and the other formal avenues available to the Drinking Water Inspectorate (DWI) on water quality compliance enforcement. This means keeping the ODI rate the same and the deadband the same at two points, reflecting the additional exposure we face as a small company with large treatment works. This is a similar principle to that raised for discharge permits, where disproportionality occurs because of different relative sizes between companies.

1.4.3 Unplanned outage

The definition for this PC has been modified since PR19, and exclusions for transient water quality are no longer allowed. As a result, we restated data in our business plan that showed a historic uplift of approximately 2.5x on our PR19 definition values. In our business plan, we put forward a very stretching target from this new baseline. However, Ofwat has over-ridden our projection with a common level for all companies.

We are concerned that a common target may not be appropriate for this PC. We do not know the extent of other companies' exclusions and the robustness with which the business plan forecasts have been amended to take this definition change into account, so data may not be comparable. There may not be a consistent rate of exclusion across the sector, as companies may be afflicted in different ways from transient water quality issues on production and treatment assets.

In addition, the ODI rate is approximately double the AMP7 level, from £0.567 million per outage percentage to £1.1 million per outage percentage. We do not think this ODI rate is representative of the customer impact of unplanned outage. This is because all outages that have occurred in our production and treatment assets have never impacted customers directly as a result of the resilience we already have in place in our networks by design.

We think the combination of a doubled ODI rate and a more stretching target is increasing the risk too much in our PC package, and unplanned outage is a measure where we see a negative P50 and a significantly negative

P10 compared with other measures. A single asset failure, with no impact on customers, could result in a 1% underperformance and a penalty of £1.1 million. We think this is highly disproportionate and not reflective of the likely zero short term customer impact.

So, we think the ODI rate should be restored to the AMP7 rate of £0.567 million per outage percentage for this PC. This still results in a stretching target and strong incentive given the PCL adopted is tougher than our business plan proposal and that the definition has changed to disallow any exclusions. We still expect a negative P50 with this intervention, but this action will help ensure penalties are not punitive for a single large outage with no customer impact.

1.4.4 Water quality contacts

We would like to remind Ofwat that the business plan data tables did not ask us to forecast our PCL. Rather, they asked us to forecast our performance.

On water quality contacts, we put forward a very stretching forecast that is aiming for frontier performance by 2029/30, a level of around 0.4 contacts per 1,000 customers.

Ofwat has set this level as our PCL. This means that even if we almost achieve our PCL and almost achieve frontier performance for the sector – but not quite – we would be in a penalty position as we would not have met our target. We do not think this is the intention of the mechanism. While we will make every effort to achieve this, the scale of improvement involved to push to frontier is incredibly stretching and it is inappropriate to adopt this as our PCL.

In addition, the ODI rate on water quality contacts has increased ten times from AMP7, from £1.083 million per contact per 1,000 of population, to £11.5 million per unit. This is equivalent to a change from £625 per contact to £6,673 per contact, which is a highly disproportionate per contact value and far in excess of any reasonable compensatory value.

This creates a very skewed measure, and in the later part of AMP8 when we are pushing towards frontier, we are likely to find significant penalty.

To rebalance this PC, we think the ODI rate needs to be lowered significantly. We suggest that a level more consistent with the current AMP7 rate is more appropriate. Also, we think Ofwat should adjust the PCL such that if we achieve frontier performance level by 2029/30 and the glide-path that leads into it in the years before this, we would be earning outperformance rewards. This is appropriate because such an improvement would represent a very strong and stretching change in performance from current levels.

1.4.5 Greenhouse gas (GHG) emissions

In our business plan, we put forward an approximately 5% reduction in GHG emissions. But in our draft determination, Ofwat has strengthened this to a 10% reduction. Ofwat has also not allowed the enhancement funding for our solar photovoltaic (PV) scheme that we were intending to contribute significantly to this PC reduction.

We have previously argued that as a water only company we are much more limited in our scope for carbon emissions reductions in absolute terms. Our forecast reductions in leakage and customer demand mean that we should need to treat and pump less water, and these benefits are built into our emissions reduction targets. On top of this, we had planned for solar PV, no longer directly funded (but assumed to be in base; itself cut from our business plan proposal), and for continuation of our pump efficiency programme. These were all already included in our 5% reduction level.

Ofwat's definition does not allow us to include power purchase agreements (PPAs) as a contributor to emissions reductions. But these are all we have left after the options outlined above are utilised. This issue was also referenced in a report by Jacobs, which sought to understand scope for emissions reduction in the water sector, where the lack of options for water only companies compared with water and sewerage companies was highlighted.

We have looked again at our emissions reductions targets, and we are certain that we cannot achieve a 10% reduction in five years without Ofwat allowing the inclusion of PPAs. There is simply not the scope in our business-as-usual (BAU) activities as we are an energy intensive business (with the highest proportion of energy use in the sector because of our topography). Nor is there the funding allowance for sufficient solar PV, to achieve a reduction of this scale.

This creates a significant penalty expectation at our P50 level, because we cannot achieve the more stretching target set. We request that Ofwat reverts our target to the 5% reduction we forecast in our plan, which we note still requires us to deliver our solar PV proposals out of base expenditure. Alternatively, if the 10% reduction is retained then Ofwat must allow us to count PPAs towards our reductions as there is no other way to achieve it.

1.4.6 C-MeX

Ofwat's proposal to move from a within sector relative measure of customer experience to an Institute of

Customer Services customer satisfaction index (UKCSI) benchmark is incredibly stretching. Historical data shows that only a small number of companies have met this benchmark previously – and none at all in some years. Adopting this policy is likely to mean that for most years, almost all companies incur penalties, especially at the start of the period when they will need to develop new strategies to try and meet the new benchmark.

While we will try our hardest to reach the benchmark for C-MeX, this outcome is well beyond our P50 level. As a result, we expect recurring penalties on C-MeX across AMP8.

1.5 Our view of draft determination RORE risk level and conclusions

We have carried out our own view of the level of risk and balance of our ODI package based on our draft determination targets and ODI rates.

We have used a Monte Carlo model to assess this risk. We have assigned an appropriate distribution (either normal, Weibull, lognormal or discrete) to each PC and have assessed our view of P10, P50 and P90 performance for each year. This is based on our historic performance and our expectations for improvement in the future given the upside and downside risks. It includes a recognition that incentives will create challenge on management to deliver performance improvements where possible. We have taken account of the deadband on CRI. We have also included enhanced reward levels for leakage and supply interruptions in our model. And we have ensured that distribution truncation limits are set so that impossible or unrealistic values are not chosen, such as values below zero for some PCs or unrealistically high values.

The only PC not included in our analysis is biodiversity, as we remain uncertain on the level of risk given it is a new measure and we have not yet completed baseline surveys.

In our draft determination, Ofwat has set an overall framework where:

- targets are made more stretching than our already ambitious business plan forecasts;
- ODI rates have substantially increased;
- some enhancement investment requests have been reduced; and
- our base allowances are lower than requested.

So, it will not be a surprise that we consider this a substantially negative balance of ODI risk – far more so than Ofwat has set out in our draft determination, which is based on unrealistic risk assumptions and modelling approaches.

Below, we set out our overall view of ODI risk across five years and in total. It is shown in £m for years 1 to 5 of AMP8, with the total shown in £m and as a percentage of regulated equity.

	2025/26	2026/27	2027/28	2028/29	2029/30	Total	% of RORE
P10	-6.851	-7.074	-7.466	-7.936	-8.606	-23.035	-1.6%
P50	-0.649	-1.077	-1.710	-2.262	-3.069	-10.622	-0.8%
P90	4.064	3.607	2.402	1.731	0.916	0.131	0.0%

It should be noted that Ofwat's expectation was initially +/- 1 to 3% of regulated equity as both downside and upside. We find that the downside does fall into this range, although we demonstrate below that this is an unbalanced package, and that the P50 is significantly negative, with next to zero upside potential. Overall, this results in a total package range of -1.6% to 0.0% of regulated equity.

The results also show that risk increases over the period. In year 1 we are not too far off a symmetrical position, with a P50 close to zero and a P10 and P90 from -£6.8 million to +£4.1 million. But as we move through AMP8 the increasing difficulty of the target levels means the opportunity for outperformance falls away by more than three-quarters by year 5, and the P10 level also worsens as targets become tougher. As a result, the P50 level becomes increasingly negative over the five years.

Below, we set out how this risk is distributed across our PC package.

	Risk P10 per PC				
Performance commitment	2025/26	2026/27	2027/28	2028/29	2029/30
CMEX	-1.164	-0.699	-0.420	-0.280	-0.140
DMEX	-0.279	-0.279	-0.279	-0.279	-0.279
BRMEX	-0.279	-0.279	-0.279	-0.279	-0.279
Supply interruptions	-0.223	-0.223	-0.223	-0.223	-0.223
CRI (deadband shown)	-2.232	-2.289	-2.349	-2.437	-2.526
Water quality contacts	1.270	0.571	-0.131	-0.835	-1.542
Mains repairs	-1.625	-1.605	-1.585	-1.563	-1.541
Unplanned outage	-1.155	-1.243	-1.331	-1.419	-1.496
Biodiversity					
Operational greenhouse gas emissions	-0.613	-0.617	-0.623	-0.686	-1.155
Discharge permit compliance	-2.722	-2.722	-2.722	-2.722	-2.722
Serious polution incidents	0.000	0.000	0.000	0.000	0.000
Leakage SST	-5.075	-4.870	-4.661	-4.542	-4.424
Leakage CAM	-1.097	-1.053	-1.070	-1.001	-0.932
PCC SST	-0.642	-0.637	-0.637	-0.636	-0.636
PCC CAM	-0.631	-0.622	-0.621	-0.618	-0.614
Business demand SST	-0.592	-0.587	-0.580	-0.573	-0.566
Business demand CAM	-0.259	-0.262	-0.265	-0.268	-0.272

For P10 levels, we find the package is significantly unbalanced, as some P10 penalty levels far exceed others. We note the following, in order of largest impact first.

- **Leakage is significantly unbalanced**, because of the large step up in ODI rate. Our assumption here is a not excessive P10 level of only -10% deterioration on target, and this results in a significant penalty risk. This supports our view that the ODI rate is too high.

- **Discharge permit compliance**, as discussed previously, is disproportionate to water only companies because of the number of permits. So, the ODI rate is not normalised properly and is too high. This results in a large penalty at P10 for only a very small number of permit failures.

- **CRI** has a large penalty risk at P10, as a result of the reducing deadband, increased ODI rate, and lack of recognition of company-specific circumstances on this measure.

- **Mains repairs** has a significant penalty risk because of the impact of the weather, which can cause annual volatility. But we note this is a symmetrical risk, so we do not directly challenge this PC.

- **Unplanned outage** has a significant penalty risk, largely as a result to the change in definition, higher ODI rate, and the increasing stretch in the target from our business plan proposal. This accounted for the change in definition and was already considerably stretching.

- On **C-MeX**, we note that the risk starts off substantially negative, but improves over AMP8 as we assume management actions can go some way to improve performance against the new UKCSI benchmark. But this assumption remains to be seen.

- It should be noted that we consider **water quality contacts** to be positive at the P10. This is as a result of Ofwat adopting a slightly different profile to the PCL from our business plan forecast. This changes to negative at the end of AMP8 as frontier level is reached. The size of the ODI rate (ten times higher than the current level) makes these values quite large for only a small change in performance – the profile above results from only a 4% deviation from target performance. So, we think this ODI rate is disproportionate.

Looking at the P90 position for each PC, we find the following.

	Risk P90 per PC				
Performance commitment	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**
CMEX	-0.278	-0.056	0.000	0.196	0.420
DMEX	0.279	0.279	0.279	0.279	0.279
BRMEX	0.279	0.279	0.279	0.279	0.279
Supply interruptions	0.803	0.847	0.892	0.937	0.981
CRI (deadband shown)	0.000	0.000	0.000	0.000	0.000
Water quality contacts	1.815	1.597	1.317	0.982	0.597
Mains repairs	0.874	0.861	0.848	0.835	0.822
Unplanned outage	1.045	0.957	0.869	0.781	0.704
Biodiversity					
Operational greenhouse gas emissions	0.224	0.222	0.219	0.216	0.204
Discharge permit compliance	0.000	0.000	0.000	0.000	0.000
Serious polution incidents	0.000	0.000	0.000	0.000	0.000
Leakage SST	3.795	3.742	2.625	2.278	2.172
Leakage CAM	1.297	0.857	0.524	0.480	0.481
PCC SST	0.385	0.382	0.382	0.382	0.381
PCC CAM	0.379	0.373	0.373	0.371	0.368
Business demand SST	0.355	0.352	0.348	0.344	0.340
Business demand CAM	0.155	0.157	0.159	0.161	0.163

Again, we consider this package is unbalanced, because of the size of some values compared with others.

- The **leakage reward potential** is disproportionately high. This is driven by the high ODI rate, which doubles if in enhanced reward territory. While we think it is good to strongly incentivise leakage, this is dominating our package and does not give a balanced incentive.

- **Water quality contacts** is again disproportionately high. The change represented here is only a 10% outperformance against our stretching targets and yet results in quite large values. It should be noted that, as we have discussed previously, the incentive on water quality contacts falls away substantially through AMP8 because of the target level approaching frontier performance, where it is much less likely that we will be able to outperform. We face the risk of almost reaching frontier performance on water quality contacts, but still incurring a penalty for it. We think this is disproportionate.

- **Mains repairs and unplanned outage** represent reasonable views of a possible P90 position.

- **Supply interruptions** is the next largest value and is relatively stable over AMP8. We are relatively strong performers in supply interruptions and would expect to incur rewards. It should be noted that the ODI rate on supply interruptions has been increased from PR19, but only by a small amount. So, the effect on the package is limited and appears to be a reasonable balance.

- It should also be noted that other important PCs, such as **PCC, business demand, carbon emissions, C-MeX, D-MeX, and BR-MeX**, have very limited outperformance potential at the P90 level. This is the result of the degree of stretch in the targets and our expectations that outperformance on these measures will be very difficult to achieve.

Overall, we see that some measures have significant outperformance values at the P90, and other PCs, which are also important in the package, have hardly any. This again demonstrates that the package is not well balanced, and dominated by a small number of large values. We do not think this will create a healthy and balanced set of incentives for our business.

In addition, the P10 penalties are significantly larger than the P90 rewards for almost all measures, which we can see if we put these two tables side by side as an average over AMP8.

	P10 av	P90 av	Direction
CMEX	-0.529	0.056	P10 larger
DMEX	-0.279	0.279	Symmetrical
BRMEX	-0.279	0.279	Symmetrical
Supply interruptions	-0.223	0.892	P90 larger
CRI (deadband shown)	-2.367	0.000	P10 larger
Water quality contacts	-0.133	1.262	P90 larger
Mains repairs	-1.584	0.848	P10 larger
Unplanned outage	-1.329	0.871	P10 larger
Biodiversity			
Operational greenhouse gas emissions	-0.739	0.217	P10 larger
Discharge permit compliance	-2.722	0.000	P10 larger
Serious polution incidents	0.000	0.000	Risk beyond P10
Leakage SST	-4.714	2.923	P10 larger
Leakage CAM	-1.031	0.728	P10 larger
PCC SST	-0.637	0.382	P10 larger
PCC CAM	-0.621	0.373	P10 larger
Business demand SST	-0.580	0.348	P10 larger
Business demand CAM	-0.265	0.159	P10 larger

It is also apparent how dominated the package is by ODIs for:

- leakage;
- water quality contacts;
- CRI;
- discharge permit compliance; and
- asset health measures.

1.6 Conclusion

Based on the evidence and analysis detailed above, we have two main conclusions.

- First, **the ODI risk package is skewed significantly negative on aggregate**, and worsens from a close to symmetrical position at the start of AMP8 to a strong negative skew by the end of it.

- Second, **the disproportionate ODI rates are causing some PCs to dominate the package**, both for penalty and reward risk, at the expense of other PCs. This does not result in a balanced package.

The resolution for this situation is, first, to remove the step in the ODI rate setting approach which re-normalises ODI rates. This will remove some of the very large ODI rates that are disproportionate for us compared with the rest of the sector. And, second, to make specific interventions as we list in section 1.4 to resolve specific PC risks.

We consider both actions will help ensure a more balanced package. This is because they will remove the dominance of a small number of more volatile measures that, at the levels shown above, are punitive in nature on the penalty side, and excessively biased on the reward side, leading to a skewed management focus.

If Ofwat does not address this, it could negatively affect our revenue, leading to an overall adverse effect on our financeability. For more detail on our financial resilience, see chapter 10. It could also impact the investability of the sector as a whole as it discourages the right investor behaviours.

2. Per capita consumption penalty

Summary

We welcome the sector-wide Europe Economics study and recognition of the significant impacts of the COVID-19 pandemic on household and non-household water consumption. We are in agreement with much of Europe Economics' qualitative findings and we draw out our view of these in this representation.

But we are concerned that the impact on us is potentially greater than for the rest of the sector. And that there has been no direct examination or evaluation of the evidence we put forward in our business plan. While Europe Economics acknowledges our rationale, it is not critically examined in any way, and the adjustment that Ofwat makes does not take our unique circumstances into account.

On the quantitative findings, we find the assessment of the year 2 and year 3 impacts in our South Staffs region is not in line with the data – and dramatically understates the actual impact in these years. It appears the approach taken is not fully accommodating the regional impacts as a result of the unique nature of our South Staffs region. Europe Economics appears not to have questioned why it is that our South Staffs region, a significant outlier nationally, does not fit with its projected model outputs.

We have commissioned a review of the Europe Economics model, and our third party consultant has identified a number of issues with the approach and model.

We think there is a disproportionate application of penalty incentives across the sector when using the direct outputs of the Europe Economics model. We are impacted significantly above the rest of the sector because the model does not represent regional factors.

We favour a pragmatic approach to per capita consumption (PCC) penalty removal. The Europe Economics study says that the vast majority of PCC uplift is because of acute COVID-19 impacts, and this results in removing the bulk of the penalty for those companies that the model fits well. So, this should be the outcome for us as well. We do not think it is reasonable that we are left with a very significant residual penalty of £7.8 million (approximately equivalent to 0.93% of regulated equity each year) when many other companies have had penalty reductions almost to a zero level through the same modelling process.

2.1 Actual PCC data and recap of the COVID-19 impacts on our Cambridge and South Staffs regions

In our business plan, we put forward a large volume of evidence and critique into our per capita consumption (PCC) performance that has been severely impacted by the COVID-19 pandemic and caused a significant penalty of around £14 million to accrue as a result. We sought to understand, using the best data available to us analysed through a third party machine learning model, why our South Staffs region had the most significant PCC impact nationally and why this impact did not fall away as rapidly as other areas of the country.

We included this evidence in our business plan appendix, 'SSC18: Our approach to PCC targets and the impact of the COVID-19 pandemic'.

We showed a data table of company PCC performance since 2017/18, which we have updated for 2023/24 data below. This clearly shows a regional differential between our South Staffs region and most other company areas, including our Cambridge region – with our South Staffs region remaining very high in PCC for years 1, 2, 3 and now year 4 of AMP7, compared with other areas.

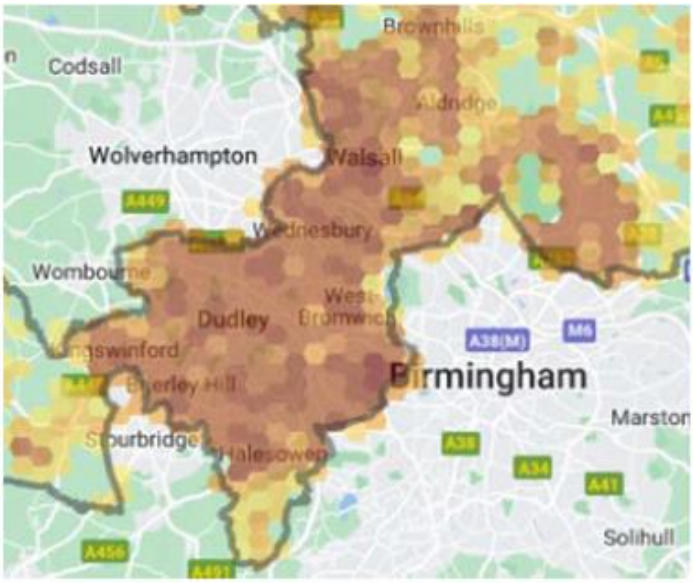
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	Percentage change 2020/21 to 3ya baseline	Percentage change 2021/22 to 3ya baseline	Percentage change 2022/23 to 3ya baseline	Percentage change 2023/24 to 3ya baseline	Average increase over four years
SSC-SST	127.5	131.6	126.5	150.9	149.0	142.9	136.9	+17%	+16%	+11%	+7%	+13%
SEW	143.6	145.3	143.1	165.9	158.6	150.3	143.4	+15%	+10%	+4%	-0%	+7%
PRT	146.8	151.3	149.9	170.5	160.3	152.2	154.4	+14%	+7%	+2%	+3%	+7%
SSC-CAM	137.4	140.0	127.0	150.4	141.0	135.9	119.4	+12%	+5%	+1%	-11%	+1%
WSH	143.7	147.6	145.8	160.9	154.8	148.7	148.6	+10%	+6%	+2%	+2%	+5%
YKY	128.3	128.6	127.7	141.2	131.5	123.9	125.3	+10%	+3%	-3%	-2%	+2%
WSX	135.9	139.3	138.3	151.8	144.9	138.8	132.9	+10%	+5%	+1%	-4%	+3%
NES	148.7	153.6	149.6	165.7	157.8	153.8	152.5	+10%	+5%	+2%	+1%	+5%
SES	146.8	156.9	143.3	163.4	151.5	150.8	146.4	+10%	+2%	+1%	-2%	+3%
HDD	128.8	135.0	133.9	145.3	147.3	144.6	120.5	+10%	+11%	+9%	-9%	+5%
ANH	134.8	134.1	133.3	146.9	136.0	131.3	127.6	+10%	+1%	-2%	-5%	+1%
SRN	126.0	129.6	128.1	139.0	133.6	128.4	126.7	+9%	+4%	+0%	-1%	+3%
AFW	151.0	158.3	152.8	167.0	157.9	157.0	154.0	+8%	+3%	+2%	-0%	+3%
SVE	134.4	133.9	132.8	144.7	137.7	130.3	126.2	+8%	+3%	-3%	-6%	+1%
BRL	148.9	151.3	146.4	161.1	154.7	148.7	144.7	+8%	+4%	-0%	-3%	+2%
UUW	143.6	144.4	144.0	151.2	143.0	140.0	138.2	+5%	-1%	-3%	-4%	-1%
TMS	145.8	147.1	144.9	152.8	144.7	140.6	138.2	+5%	-1%	-4%	-5%	-1%
SWB	141.9	152.1	144.0	138.6	143.6	152.6	147.3	-5%	-2%	+5%	+1%	-0%
Average impact								+9%	+5%	+1%	-2%	+3%

This data shows that our South Staffs region had the largest increase in PCC in year 1 – and that there is a clear skew towards smaller companies, as the top four are all water only companies. It also shows that this impact has continued into years 2, 3 and 4, where the region still had the largest difference to its baseline across all those years. In contrast, many companies' PCC values fell back sharply after year 1, typically by around half, and then another half again into year 3. In year 3, our South Staffs region was still 11% above its baseline, and is still 7% above in year 4. This impact was from a position as one of the lowest PCCs in the country before 2020.

It is clear that an industry model is not fully accounting for the specific impacts in our South Staffs region, and that the performance drivers chosen by Europe Economics for use in the models are not picking up a critical aspect – which is driving this very different regional impact from the rest of the country.

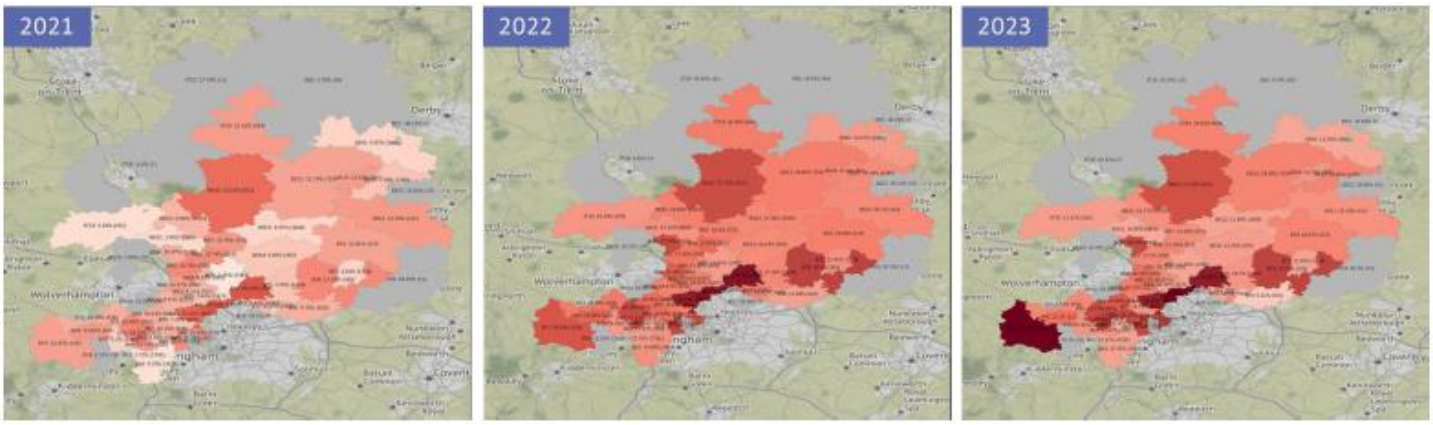
We explained in our business plan appendix SSC18 that this is because of the unique geography of our South Staffs region. We supply a very dense urban area to the west and north of Birmingham and to the east and south of Wolverhampton, but we do not supply either city. Both these cities and their immediate surrounding areas, including the corridor between them, are very densely populated and highly industrial. The proximity of dense residential areas coupled with high industry and short commuting times is likely to mean a very high level of cross-boundary activity from our area into these cities.

Below, we illustrate the population density in our cross-border region. The visual on the left is from our business plan appendix SSC18.The visual on the right, from the Office for National Statistics (ONS), shows population density for the area.

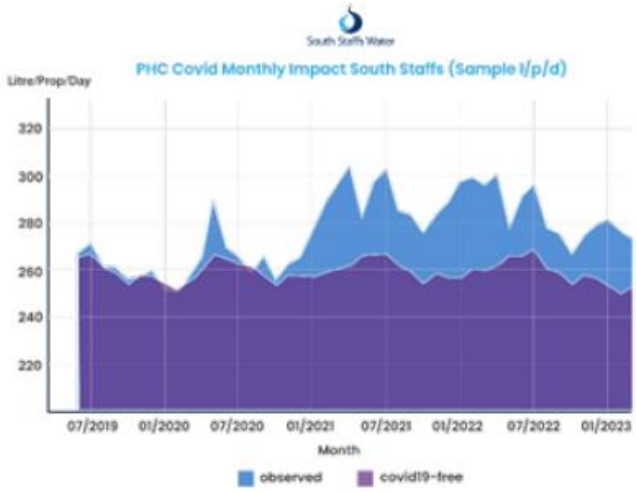


The distance between the city centres of Birmingham and Wolverhampton is only around 10 km, indicating just how narrow and dense this corridor is, and how easy cross-border commuting is in this area between us and Severn Trent.

In our business plan appendix SSC18, we also presented a heat map showing how water consumption had increased significantly more in the areas bordering Birmingham compared with other parts of our operating area.



And we showed the outputs of our Skewb machine learning model, which had used a large volume of district metered area (DMA) level data to identify the COVID-19 impact. This showed that all the impact was because of the COVID-19 pandemic.



While we never had need to formally consider why our pre-COVID PCC was one of the sector leaders in the past, it is now clear, having been evaluated as a result of the COVID-19 pandemic impacts, that this is likely the result of the degree of cross-border commuting under normal circumstances. This stopped immediately when the pandemic hit, and has continued to have an impact in all years of AMP7. This includes 2024, where our PCC is still 7% up on pre-COVID conditions. Some companies had a lower than 7% impact in year 1 of the pandemic, highlighting the national differences across regions.

2.2 Europe Economics study and outputs critique

2.2.1 Model and methodology critique

We have commissioned PA Consulting (PA) to evaluate the Europe Economics' model in terms of its methodology and modelling approach. See appendix SSC-DD-07 for PA's full report.

PA finds the following challenges with the study.

2.2.1.1 Effective modelling of national and regional impacts

- The Europe Economics model ignores regional exogenous impacts for our South Staffs region, which was the main case made in our business plan.
- The analysis does not break down to water resource zone (WRZ) level for companies with disparate geographies, demonstrating the lack of 'regionalisation' in the model.
- The source demand data set out section 2.1 indicates that incomplete monthly demand data was used from only 8 of the 18 companies. This represents insufficient coverage for the basis of assessing all the companies and the data used was not sufficiently granular to detect regional and cross-boundary effects.

- Because of the lack of granular data resolution used in these models, the approach seems to disadvantage companies in close proximity to large conurbations. For example, for companies with major urban centres (United Utilities, Severn Trent and Thames Water) most of the PCC overshoot is attributed to COVID. For the majority of the companies that border these companies, such as Affinity Water, South East Water, Southern and us, only between 40% and 60% of the 'overshoot' is attributed to COVID. No explanation is given for this finding and there has been no attempt to validate it being a sensible output.

- Europe Economics are generally unable to quantify any components of change in demand, such as sanitary and recreational drivers during the pandemic (in most cases the assessment is inconclusive – which is likely a function of not having sufficiently granular data).

- Assumptions are generally only viewed at a national and not a regional level. Overall, there is limited modelling or analysis undertaken to understand regional impacts.

- The report says that, "The literature also suggests that this hybrid working model is expected to stay in the picture for the near future. It is worth noting that there is a lack of data for the United Kingdom, with most insights coming from the United States." Some of these assumptions have been used in the modelling and are potentially inappropriate to use for the UK.

- Home working assumptions are based on proportioning the percentage of home workers in a region to the water companies' operating areas. This potentially presents a significant assumption with scope for error. The report further states, "to convert this into an estimate of time spent at home, we assume that the homeworkers in the ONS data spend 80 per cent of their working time at home." There is no basis given for this assumption, which could underestimate home working during the 2020/24 period.

2.2.1.2 Failure to consider interactions with other aspects of the water balance

- Fundamentally, the model only uses PCC and not all other demand components. This exhibits a lack of understanding of the complexities of supply/demand modelling and the inherent uncertainties across the components.

- The report states that, "A further effect upon total water consumption arises where water-using businesses are either shut down or their output is curtailed. Because our focus in this report is on PCC we do not explore this effect further." This is an example of some of the flaws in the modelling and a failure to understand the impacts on the overall water balance.

- For water efficiency measures, the Europe Economics analysis implies this has a significant impact on PCC when, in reality, it is limited. Europe Economics also used a set of qualitative criteria to RAG each company, which is not clearly defined.

- In the Europe Economics report, figure 4.6 compares impacts in the COVID period to typical historical variations in PCC to get an idea of the magnitude of these shocks relative to the usual fluctuations that might be expected in annual PCC. For this analysis, only 14 of the 18 water companies are included, as there was not sufficient historical PCC data for the remaining 4 companies (including our Cambridge and South Staffs regions). For each of the 14 companies, Europe Economics calculates a PCC trend for the period 2011/19 and then calculates the average absolute deviation from that trend over the same period. By not including the Cambridge and South Staffs regions, the Europe Economics conclusions from this analysis is that:
  - the overall COVID impact was far bigger than a typical historic PCC deviation;
  - the residual COVID shock alone was bigger than a typical PCC deviation; and
  - the metering impact of COVID was much smaller than a typical PCC shock, do not apply to the Cambridge and South Staffs regions in the analysis and it is not clear how the "miss attributable to COVID" or "overshoot" has been calculated for the Cambridge and South Staffs regions.

2.2.1.3 Statistical performance of the models and data quality

- A number of the linear regression model outputs shown in the appendix to Europe Economics' report seem to show R^2 values, indicating weak to moderate correlations between parameters at best. However, the report states that all coefficients are statistically significant with no further commentary to support this assertion.

- The overall averaging is impacted by South West Water, which is a significant negative and skews some

of the key statistics (although this is removed in the final assessment).

- It is not clear whether the historical PCC figures used are "convergence corrected". So, these may not be comparable prior to 2017/18.

2.2.2 Disproportionate model outputs for the South Staffs region

The Europe Economics study is clear that the COVID-19 pandemic had an acute and severe impact on water use, citing that this impact was six standard deviations above the normal level of variance seen in PCC in pre-COVID years at a sector level. The report looks at several drivers of this, including the effects of working from home or furlough (collectively "workers not at work") and international travel, which it cites as the main factors.

The impact in the South Staffs region was the highest and most sustained of all company regions, including when compared with our Cambridge region, as can be seen from the data in section 2.1 above. The table below shows how the actual data aligns to the impact derived by Europe Economics for each region.

South Staffs region	2020/21	2021/22	2022/23	2023/24
Actual change in PCC	17.4%	15.9%	11.2%	6.5%
Modelled change in PCC, Europe Economics preferred model	11.1%	3.4%	1.8%	1.8%
Difference between the Europe Economics model and actuals	**1.5x**	**4.5x**	**6x**	**3.6x**
Cambridge region	**2020/21**	**2021/22**	**2022/23**	**2023/24**
Actual change in PCC	11.6%	4.6%	0.8%	-11.4%
Modelled change in PCC, Europe Economics preferred model	9.4%	4.4%	1.8%	1.8%
Difference between the Europe Economics model and actuals	**1.2x**	**1x**	**0.4x**	**-5x**

It should be noted that the Europe Economics model does not model year 3 onwards on the same basis as years 1 or 2. Instead, Ofwat has used an average future trend of 1.8% impact for years 3, 4 and 5.

There is a clear difference here that is not being explained by the work Europe Economics has done. The models do not explain our South Staffs region uplift across any of the years in the period to date.

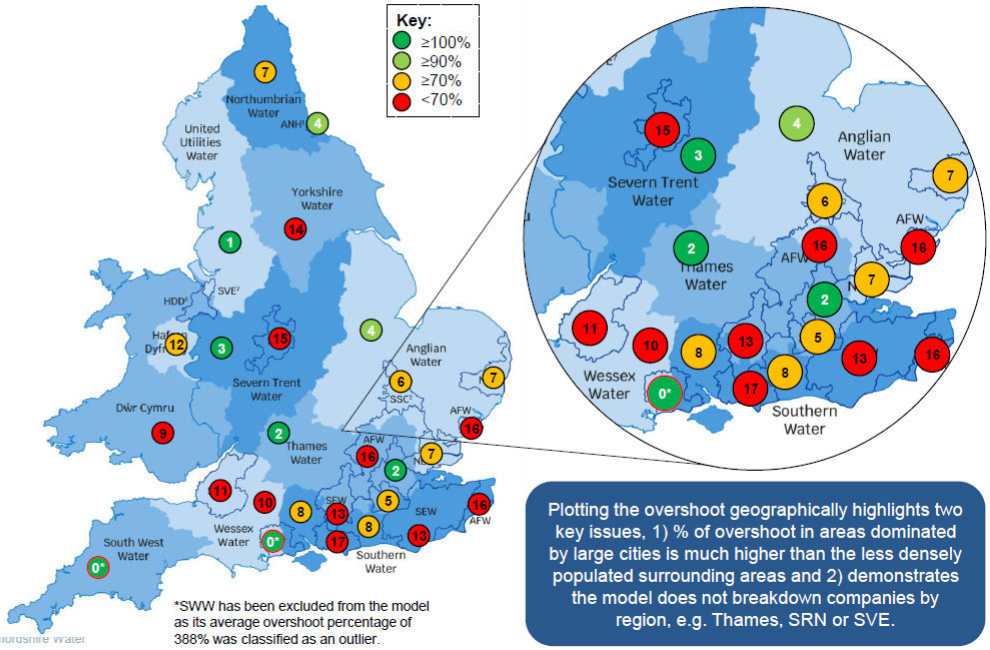
Also, the Europe Economics report does not explain why its predictions are so far off for our South Staffs region, or what is driving the residual PCC uplift, if it is not deemed to be COVID. So, the way in which Ofwat has used these values to recalculate penalty values is not logical.

This is because it is not logical to say that the majority of movement from a PCC of 126.5 litres per person per day (l/p/d) in 2019/20 to a PCC of 150.9 l/p/d in 2020/21 is because of the impact of the COVID-19 pandemic, but then to say that for the following year, 2021/22, the PCC of 149.0 l/p/d is only impacted by a small amount from COVID. If it is not COVID and its consequential impacts, then what else is driving the sustained level of PCC in year 2 after the uplift in year 1? The report does not attempt to explain this.

In addition, the report does not seek to explain the regional variance, even between neighbouring companies with very different PCC impacts. The image below shows each company area against how much of the PCC uplift is explained by the Europe Economics model.

Map Displaying Average Proportion of overshoot attributable to Covid (%) in PCC for Water Companies (2020/21 – 2022/23)

No	Company	Average Proportion of overshoot attributable to Covid (%)
1	UUW	122
2	TMS	102
3	SVE	100
4	ANH	93
5	SES	77
6	SSC-CAM	73
7	NES	72
8	SRN	70
9	WSH	68
10	WSX	68
11	BRL	66
12	HDD	64
13	SEW	60
14	YKY	56
15	SSC-SST	51
16	AFW	51
17	PRT	50
Average impact		73



It is not reasonable that the model explains 100% of the PCC uplift for Severn Trent, but only 51% of the uplift for us, given that we operate in the same area of the country. This demonstrates that the granularity of data and the geography of the region matters. It does appear that much larger companies, with both large cities and surrounding rural areas, are better served by the model than smaller companies that border these larger ones.

We expect this is because of the granularity of the data, whereby a much larger company having both large cities and more sparse rural areas will have experienced a balancing effect to some degree, smoothing out the impacts. These areas will also be more representative, predominantly because of their size, to the national data sets being used within the modelling approach.

2.2.3 Disproportionate application of penalties

Ofwat has used the Europe Economics model outputs directly to calculate the COVID-adjusted PCC value, on which the application of penalties is based.

Looking at the adjustments Ofwat has made across the sector shows disproportionate penalties for us. The table below shows the total penalty, expressed as a percentage of regulated equity (we have used 5x the wholesale water 2023/24 year for this purpose), is significantly higher for us than for the rest of the sector – at 23 times the median level and 6.6 times the mean. These values show that the majority of penalty has been removed for most of the other companies, and yet we are left with a material amount.

Company	ODI incentive (£m)	Annual regulated equity water service (£m)	Penalty as % of regulated equity (per annum)
South Staffs Water (combined SST/CAM)	**-7.818**	169.028	-0.93%
Affinity Water	**-9.970**	464.796	-0.43%
Hafren Dyfrdwy	**-0.630**	46.816	-0.27%
SES Water	**-0.810**	72.679	-0.22%
Portsmouth Water	**-1.396**	127.906	-0.22%
South East Water	**-3.686**	385.370	-0.19%
Northumbrian Water	**-3.703**	1623.646	-0.05%
Yorkshire Water	**-5.372**	2867.241	-0.04%
Southern Water	**-3.596**	1929.262	-0.04%
Bristol Water	**-0.720**	667.805	-0.02%
Dŵr Cymru	**-2.781**	2908.619	-0.02%
Wessex Water	**-0.923**	1341.534	-0.01%
Severn Trent Water	**-0.140**	4636.766	0.00%
Anglian Water	**0.868**	3315.491	0.01%
South West Water	**1.218**	4169.976	0.01%
Thames Water	**1.691**	3739.130	0.01%
United Utilities	**2.508**	4611.860	0.01%

It is clear from this table that the level of penalty applied is highly disproportionate and biased against small areas, as the top six areas are water only companies (or the equivalent[2]). Bristol Water is the only water only company that fits within the pack in terms of overall penalty level applied.

The level of penalty on us, expressed as a proportion of regulated equity per year, is twice that of the next largest company and 25 times larger than the median company (-0.03%).

This outcome is a direct result of the modelling approach being unable to resolve for complex regional factors and our specific issues regarding close proximity cross-border interaction with Severn Trent's area not being considered.

If we look at the seven companies in the centre of the distribution in the table above, we find an average penalty rate of 0.029% of regulated equity per year.

Given the current level of disproportionality, the clear issues with the modelling approach and lack of a robust counterfactual position, we consider there is no robust rationale for applying any underperformance penalty on PCC. It is clear that the COVID-19 pandemic caused the vast majority of the uplift, either directly and by amplifying any indirect effects. It is not possible to robustly determine a counterfactual position had the pandemic not occurred because the data does not exist at the required level of granularity. This means any chosen counterfactual is fraught with assumptions.

In our business plan, we set out that one possible position could be a 'no deterioration' rule – that is, to assume our PCC may not have improved over AMP7 (so we may not have met our targets), but that it would have been unlikely to experience any material deterioration either.

Given the findings of the Europe Economics model, the concerns and flaws with the approach, and the degree of penalty disproportionality across different companies, we now consider two additional approaches.

- First, the complete removal of penalties, on the basis that Europe Economics qualitatively concludes that the vast majority of PCC uplift is related to the COVID-19 pandemic.
- Second, to take the average of the middle group of companies – that is, to exclude the top six small companies in the table above where the model is not able to provide robust regional results, and also to exclude those companies in outperformance reward. This results in a mean calculated using the following seven companies.

Company	ODI incentive (£m)	Annual regulated equity water service (£m)	Penalty as % of regulated equity (per annum)	
Northumbrian Water	**-3.703**	1623.646	-0.05%	
Yorkshire Water	**-5.372**	2867.241	-0.04%	
Southern Water	**-3.596**	1929.262	-0.04%	Average of these 7 companies in the centre of the distribution is -0.025%
Bristol Water	**-0.720**	667.805	-0.02%	
Dŵr Cymru	**-2.781**	2908.619	-0.02%	
Wessex Water	**-0.923**	1341.534	-0.01%	
Severn Trent Water	**-0.140**	4636.766	0.00%	

Below, we consider these options in more detail.

2.2.3.1 Option 1 – removal of the South Staffs region penalties as set out in our business plan

In our business plan, we set out that it is impossible to robustly identify a counterfactual position had the COVID-19 pandemic not occurred. The concerns with the Europe Economics model support this view, as it clearly does not work for all companies. This is likely the result of issues with modelling smaller regional areas.

We provided evidence in our business plan about why our South Staffs region's penalties should be removed completely. Based on its historically low PCC in the sector and its historic stability, there would have been no good reason why PCC would have spiked and remained high had COVID not occurred, and it is likely we would have met our target in this region.

In our Cambridge region, we acknowledged that the target was tougher as it was starting from a higher level. So, we proposed an assumption that the region would have, at worst, failed to improve against its targets. But there would have been no good reason why the region would have suddenly deteriorated either.

2.2.3.2 Option 2 – abandoning the penalty on PCC

It is qualitatively clear from the Europe Economics study that the vast majority of PCC increase is attributed to COVID for larger companies. The model clearly does not

[2] While Hafren Dyfrdwy is a water and sewerage company, its area is historically water only and comparable in size and geography as such.

work for smaller companies. This is because of issues with modelling smaller areas and the greater impacts that have occurred on smaller water only company areas. This is the case particularly our South Staffs region, where we have explained in detail exogenous reasons why we have been impacted to a greater extent (that is, the proximity of our dense population to Birmingham and Wolverhampton, which are in Severn Trent's supply area).

The lack of a robust counterfactual, and the clear adverse and severe impacts that resulted from the change in consumption patterns seen during the COVID-19 pandemic, and the fact that these issues are entirely exogenous and unforeseeable, means that Ofwat should consider abandoning PCC incentives in full for AMP7.

The outturn (what actually happened) is simply not representative of any PR19 forecasts, targets, spending projections or funding allowances made at the time. So, it is not appropriate to penalise or reward. In addition, the volatility of the data, and lack of regionalisation makes modelling extremely unreliable.

An appropriate approach is to abandon all incentives on PCC for AMP7, and begin again in AMP8 with targets mapped to WRMPs, on the glide path to the 2050 and interim targets, and correctly incentivised.

2.2.3.3 Option 3 – apply the modelled average for outlier companies

While we consider option 1 is the most conservative, and option 2 is really the right choice given all the uncertainty, we also propose a third option, which enables the modelled output to be used – but in a pragmatic way.

As we have demonstrated in this representation, the model has significant flaws and is not able to represent small water only company areas as shown in our table on page 29. However, it may be adequately representing the much larger, more spread out and so more diverse areas associated with the water and sewerage companies. The model has assigned a much greater proportion of PCC uplift to COVID causes for these areas, likely because they are so much larger and contain much more of a mix of rural, urban and city demographics. This means the impacts of a lack of regionalised data are averaged out somewhat.

So, it may be appropriate to take an average of the penalty rate applied, excluding those companies in reward and excluding the top six small water only company areas. This leaves seven companies with an average penalty of -0.029% of regulated equity per year.

Taking this assumption would result in a penalty level between options 1 and 2. It would implicitly assume that we may not have met our AMP7 PCC targets in full, but would likely have gone some way towards them. It would also remove all the uplift from 2019/20 baseline as attributed to the COVID-19 pandemic, which is reasonable. And it would ensure that the penalties applied are proportionate for those six water areas where the modelling approach is not working.

2.3 Future PCC targets

In our draft determination, Ofwat recognises that there was some uncertainty in our PCC targets between our South Staffs WRMP and business plan. This arises because the WRMP process was running in parallel and figures in this submission were also undergoing challenge and changes.

Ofwat also makes a small adjustment (about 2%) to the PCC targets based on the Europe Economics study, to reflect an uplift to the starting point as a result of a lingering COVID impact. As we have demonstrated above, this figure does not represent our actual experience and does not reflect our future projections. It is not appropriate to apply this figure to our targets to set the PC, as this is not aligned to our WRMP, which looks across the spectrum of supply and demand inputs and outputs to achieve a balanced set of projections.

We have responded to the WRMP challenges and numerous figures, including PCC and business demand, have now been amended in our WRMP. We will publish our final WRMP shortly.

The leakage, PCC and business demand projections in our latest WRMP are the result of sensible assumptions, which meet the Environment Act 2021 interim and long-term targets; and which, alongside investment options, deliver the sustainable supply/demand balance in both our supply regions. So, it is critical that the performance commitment targets are set exactly at the WRMP values.

2.4 Conclusion

Our overall view is that the Europe Economics report is a good attempt to explain the impacts of the COVID-19 pandemic on PCC, and sensible factors have been identified overall. The report is qualitatively clear that the majority of the impact at a national level is due to COVID. We welcome that an attempt has been made to address this complex issue.

However, the output does not explain, and hugely understates, the continued sustained impact in our South Staffs region. There is a clear bias against smaller water only company areas in the disproportionate penalty levels that have been applied, with our level of penalty at 25 times higher than the industry median.

We expect this is a combination of the granularity of the data and the small size of the region in question. This makes it difficult to gain meaningful data specifically for our supply area, coupled with a difficulty in finding a performance driver that can properly represent the very unique and specific factor that has most impacted our PCC – namely the very close proximity (less than 10 km) cross-border commuting issue in a very dense urban area. No other company has such a close proximity to major industrial cities from neighbouring densely populated residential areas while not supplying those cities themselves.

The report takes a general view that almost all of the PCC increase is because of the COVID-19 pandemic, and for many companies this results in almost complete removal of penalties (down to very small percentages of regulated equity as shown in the table on page 29). Given the limitations of the modelling, it is not appropriate to apply such a large and disproportionate penalty to us.

We have considered three options for how this issue can be corrected. The limitations of the modelling and data, and the clearly unavoidable, exogenous, sudden and acute impacts of the pandemic, mean that we think the most appropriate approach is to abandon PCC ODIs for AMP7, and begin again from sensible baselines, glide paths and ODI rates in AMP8. This is our preferred option, given the evidence we have presented.

However, we have analysed a further option, which considers the validity of applying a mid-group average to the outlying companies. This approach still makes use of the Europe Economics modelling, but recognises its limitations and disproportionality for some companies. It also seeks to implement a penalty, but one which is not punitive and reflects the possibility that we may not have met our AMP7 targets in full.

To conclude, in this representation we are asking Ofwat to recognise that the level of penalty applied for the COVID impact between different companies is highly disproportionate. It is clear that the Europe Economics study tried to determine the impacts of the pandemic and has partially succeeded, but our South Staffs region is a considerable outlier not explained by the models used.

We have presented strong evidence why this is the case – the unique circumstances of the region because of the very close proximity to Severn Trent's major cities of Birmingham and Wolverhampton, from which we get a significant influence in terms of our demographics and geography. Ofwat should consider abandoning the ODI incentives in full because of the inherent issues in modelling this. But if it considers this is inappropriate, it should take an average of the middle group of companies for which the model works somewhat better, to ensure proportionality of penalty values for smaller companies.

In addition, it is critical that Ofwat sets the performance commitment levels for the leakage, PCC and business demand targets at the levels in our final WRMP, which has had significant changes in response to challenges, and which now represents the optimum supply/demand balance position, meeting all interim and long-term Environment Act 2021 targets. We have included these figures in table OUT4.








Part 2:
Base cost representations

3. Base costs overall approach

Summary

For our wholesale base costs, the focus of our representations are on our company-specific circumstances, with particular reference to our topography. We do not consider these are adequately reflected by Ofwat's modelling. So, we have restated our cost-adjustment claim.

Another area of focus is on our energy cost adjustments. This includes the role our pump efficiency programme will play in helping us to reduce our Scope 1 and 2 carbon emissions.

We support the approach Ofwat has taken to exclude fixed costs such as business rates and abstraction charges (that is, those charges outside management control) from its frontier shift assessment.

We are not making any representations on Ofwat's retail cost modelling approach. We are pleased that, in our draft determination, Ofwat has sought to reflect inflationary pressures experienced during AMP7 in its approach to setting retail costs. This ensures we can continue to deliver services to the standards our customers expect.

Below, we outline our views on Ofwat's base cost modelling approach methodology.

3.1 Wholesale

3.1.1 Models and triangulation

We do not make representations on Ofwat's base cost modelling approach. We focus our representation on our company-specific circumstances on topography not reflected by the modelling suite and restate our cost adjustment claim in chapter 4.

3.1.2 Catch up efficiency challenge

We think that using the upper quartile (UQ) catch-up challenge is sufficiently stretching to ensure efficient cost allowances. Fundamentally, this benchmark should be based on the precision of the econometric modelling and the underlying degree of certainty around water companies' cost predictions.

Ofwat should consider confidence interval assessments, the range of efficiency score distributions, and their tests of model robustness when assessing the justification of the benchmark position, in line with the CMA approach at PR19.

Based on our assessments of these factors, we consider this analysis will conclude that Ofwat's assumption to impose a UQ level of efficiency on companies' wholesale water base cost predictions is at the upper bound of reasonable expectations that can be derived from its models.

3.1.3 Base cost sector-wide cost adjustments

We focus our representation on the energy cost adjustment and real price effects (RPE) in chapter 4.

We outline how we intend to use our £1.117 million adjustment for net zero below, in line with Ofwat's action on page 44 of its 'Expenditure allowances' document.

We have long recognised that the core business of water treatment and supply uses significant amounts of electrical energy, which directly impacts our GHG Scope 1 and 2 carbon emissions.

Because of the physical constraints of pumping water and the topography of our South Staffs region, the abstraction and distribution of water to our customers is energy intensive and 98% of our energy is consumed for these purposes.

Ofwat and the sector have long since recognised that topography is significant and requires companies to calculate their average pumping head to understand and bench mark the variation across the industry. The higher pumping heads present in our South Staffs region mean it is critical to ensure our pumping assets are operating as efficiently as possible to reduce our overall energy consumption and GHG emissions.

Our pump efficiency programme is a series of planned, preventative investigations into our pumping energy consumption, which will run across the whole of AMP8. The plan will allow for scheduled thermodynamic pump efficiency testing to take place, which will identify where

assets are no longer operating at their best efficiency points (BEP) and the energy and carbon emissions saving that could be made were the assets to be refurbished or replaced.

These tangible savings can be modelled to produce a refurbishment programme throughout the AMP. They can also be used to identify more efficient operational strategies, as well as where newer technology can be utilised to maximise the energy savings – for example, fitting permanent magnet motors during the refurbishment.

As part of an overall carbon reduction strategy, our pump efficiency programme can provide further reductions by identifying and reducing operational inefficiencies at source.

3.1.4 Frontier shift

We maintain our sector-leading 1.1% base cost frontier shift adjustment in our data tables (CW2/ADD1), which is in line with Ofwat's draft determination assumption. We support Ofwat excluding fixed costs that are outside management control from the frontier shift assessment, such as business rates and abstraction charges.

3.2 Retail

We do not make representations on Ofwat's retail cost modelling approach.

In our business plan, we did not apply a frontier shift assumption to our retail costs because of the implicit efficiency within the modelled allowances set and the fact that the retail price control was not going to be indexed. During AMP7, it has been challenging to absorb inflation within our allowances, with rates much higher than 2% creating significant efficiency challenges far in excess of an appropriate frontier shift assumption. We also recommended that a protection mechanism be put in place for greater than 2% inflationary increases on labour costs.

We are pleased that in our draft determination Ofwat has sought to reflect the AMP7 cost pressures in its approach to setting retail costs. We are supportive of the ex-ante inflation adjustment and labour RPE it has introduced. This will ensure we can continue to deliver services to the standards all our customers expect.

4. Topography and power costs

Summary

We welcome that Ofwat has put an increased focus on power costs – through the re-introduction and fundamental support for the average pumping head variable as the best cost driver for topography and the further examination of recent power price input pressure faced by all companies in the sector, by introducing an RPE mechanism.

The cost assessment approach at draft determination still underfunds us for efficient power costs. This is a combination of topography and power RPEs. In this representation, we set out why our specific topography is still under-accounted for in Ofwat's modelling suite. We also set out updates to the RPE model for power costs that show our draft determination adjustment is an incorrect starting point for AMP8.

Our efficient AMP8 power budget is £98.6 million. This is derived from a detailed bottom-up assessment of energy use, both electricity and gas, including various pass through charges. In our draft determination, our base cost allowance is £24 million short of what we asked for, and this gap appears to be entirely as a result of the power issue, which we explain further in this representation.

Our power costs are efficient. We operate a competitive process at contract renewal, historically hedging a portion of our costs, and we leverage our scale of energy use to broker competitive deals. On our assets, we run an extensive pump efficiency programme – and have done for many years – to ensure we keep on top of pump deterioration. We optimise other aspects of our energy use where possible such as treatment processes, network transfers, variable speed pumping plant and pressure control. In Ofwat's own modelling, we are sector leading in historic base cost efficiency.

We seek further actions by Ofwat to address this shortfall in our final determination, to ensure that power – a fundamental cost critical to our operations – is funded appropriately. Not doing so could make it harder for us to accept our final determination. This is because correctly funding power ensures we do not have to make expenditure trade-offs that dis-benefit our customers – for example, through reduced asset investment in the face of increasing investment pressures such as continued service improvement and reduced flexibility in our programme because of the implementation of performance commitment deliverables (PCDs).

4.1 Introduction

Our business plan set out a comprehensive evidence suite, explaining the engineering fundamentals relating to our regional topography issue. We provided extensive, externally assured evidence that covered the following.

- Choice of cost drivers. We examined the engineering fundamentals of the average pumping head and boosters per length of mains cost drivers. We explained why average pumping head reflects our regional topography but boosters per length of mains does not. We provided a third party review (WRc) of the engineering case supported by network modelling scenarios.
- Data quality and correlations. We demonstrated that boosters per length of mains is not a proxy for topography, as it does not correlate to the energy costs data as would be expected in a topography proxy, nor to the average pumping head data. We showed that boosters per length of main has partial correlation to the population density cost drivers. We also set out how we and the sector had worked to improve data quality on average pumping head.
- Real graphical representations of our customer base in relation to our regional topography. This demonstrated that we have dense areas of our customer base located in the areas of our region with highest topography.
- Implicit allowances for power costs calculated from Ofwat's own models. In an econometric approach where multiple categories of costs are rolled up together with multiple cost drivers for an holistic analysis, estimating implicit allowances is the only robust method that can be used to determine the extent of a certain cost category within that model suite. We used this approach to show that the implicit allowance for power was £61.1 million, which is substantially below our AMP8 energy forecast.

In our business plan, we also set out our future forecasts of energy prices, which are substantially higher than they have been in the past as a result of recent world events creating supply restrictions and price volatility. We provided the following evidence for our energy price forecasts.

- Sector forecasts. We participated in two iterations of Cornwall Insight's sector-wide energy forecasting club project. Cornwall Insight is a respected forecaster in this area. We also used other forecasts from Aurora and Baringa in our analysis.

- Unwinding of hedging arrangements. We explained that our efficient procurement strategy for energy utilises hedging to reduce short-term price volatility. This approach is common to large users and is supported by CEPA in its energy RPE review. This hedging protected us and our customers during the very volatile period over 2022/23 where prices spiked substantially above baseline historic levels. But the timing of our hedging arrangements means that when these contracts expire we are then exposed to higher prices than those we have secured under the current contracts.

- Forecasts and impacts on our power costs. We showed how we had utilised these forecasts in creating our detailed bottom-up energy budget, which incorporated detail on electricity and gas use, including various pass through charges.

- Recognising the potential cross-over with our topography cost claim. We set out that there could be potential for cross-over between our topography cost claim and our energy RPE claim, as they both relate to the same set of costs. For this reason, we restricted our topography claim to be a model challenge only, dealing with the RPE separately.

Before we submitted our business plan, there was no guidance on how companies should submit claims for power input price pressure. We took the view that, as a sector-wide issue, it should not be submitted as a cost adjustment claim, but as a general representation. We note a range of approaches across the sector, with some companies submitting as a cost adjustment and others using our approach. So, our only 'official' cost adjustment claim was for topography. But as these two areas are highly related we need to consider them as a combined issue in this representation.

Ofwat's review of our topography claim has not addressed our evidence at a detailed level. Our claim has been rejected in full, with Ofwat referring back to its proposed set of cost models, which incorporate an equal weight approach (50/50) to both average pumping head and boosters per length of main cost drivers. We remain in disagreement with this approach, as it does not fund us for our efficient costs of power that are materially higher than the sector average because of our entirely exogenous regional topography. We include a section in this representation covering this issue and its impacts.

On future power price forecasts and the real price effects adjustment, we have found that the overall negative adjustment (-£5 million in our case) at draft determinations is driven by a forecast (CEPA/Bloomberg) that falls sharply downwards for 2023/24 and then continues to reduce over AMP8.

But we note that when updating for 2023/24 actual data, this forecast reduction did not actually manifest. The index chosen, the DESNZ industrial users index, rose substantially in 2023/24 in real terms. This would be expected because this index represents large users which are likely hedged to some degree, in the same way as the water sector does, and so there is a lag in this index compared with direct forward wholesale prices. This means the starting point for the ex-ante portion of the power uplift is substantially underestimated and we provide evidence in this representation.

These two issues are independent rationales. But they act on the same category of cost – power costs. We are aware that caution is needed to ensure the result of both of these claims does not sum to greater than the power costs we seek to ensure are funded. So, the outcome we seek in this representation is to be properly funded for efficient power costs for AMP8, which is inclusive of the effect of both the energy price uplift and our topography combined. This figure is £98.6 million. We provide evidence in this representation as to why our costs are efficient.

It is critical that this amount is funded in full. To do otherwise means we have no choice but to make trade-offs in other areas of base investment to meet our power cost obligations. This is not good for our assets or our customers over the long term. Nor is it compatible with a regulatory framework that seeks to increasingly stretch levels of performance and ensure long-term asset health. This is because it continually results in an extra degree of efficiency for us compared with other companies that do not have such a substantial pressure on their energy costs.

4.2 Topography

In this section, we focus on the assessment gateways that Ofwat has used to assess our cost adjustment claim for topography, as set out in the spreadsheet 'PR24-DD-SSC_cost-adjustment-claims'. We include our evidence that addresses each element of feedback.

4.2.1 'Unique circumstances' assessment gateway

We consider Ofwat's statements in this section are contradictory.

Ofwat states that we do not demonstrate unique circumstances. But it also states that we have the highest average pumping head in the sector. This clearly places us in a unique position. It should be noted that we also have the highest proportion of power costs in the sector, as shown in CEPA's energy RPE model for the historic five-year average.

Wholesale water base power cost share		2018-19 to 2022-23 average
AFW	%	13.99%
ANH	%	12.32%
BRL	%	12.10%
HDD	%	11.39%
NES	%	13.10%
NWT	%	9.44%
PRT	%	10.20%
SES	%	14.47%
SEW	%	14.60%
SRN	%	8.25%
SSC	%	19.68%
SVE	%	13.22%
SWB	%	16.86%
TMS	%	9.94%
WSH	%	13.25%
WSX	%	9.18%
YKY	%	10.53%

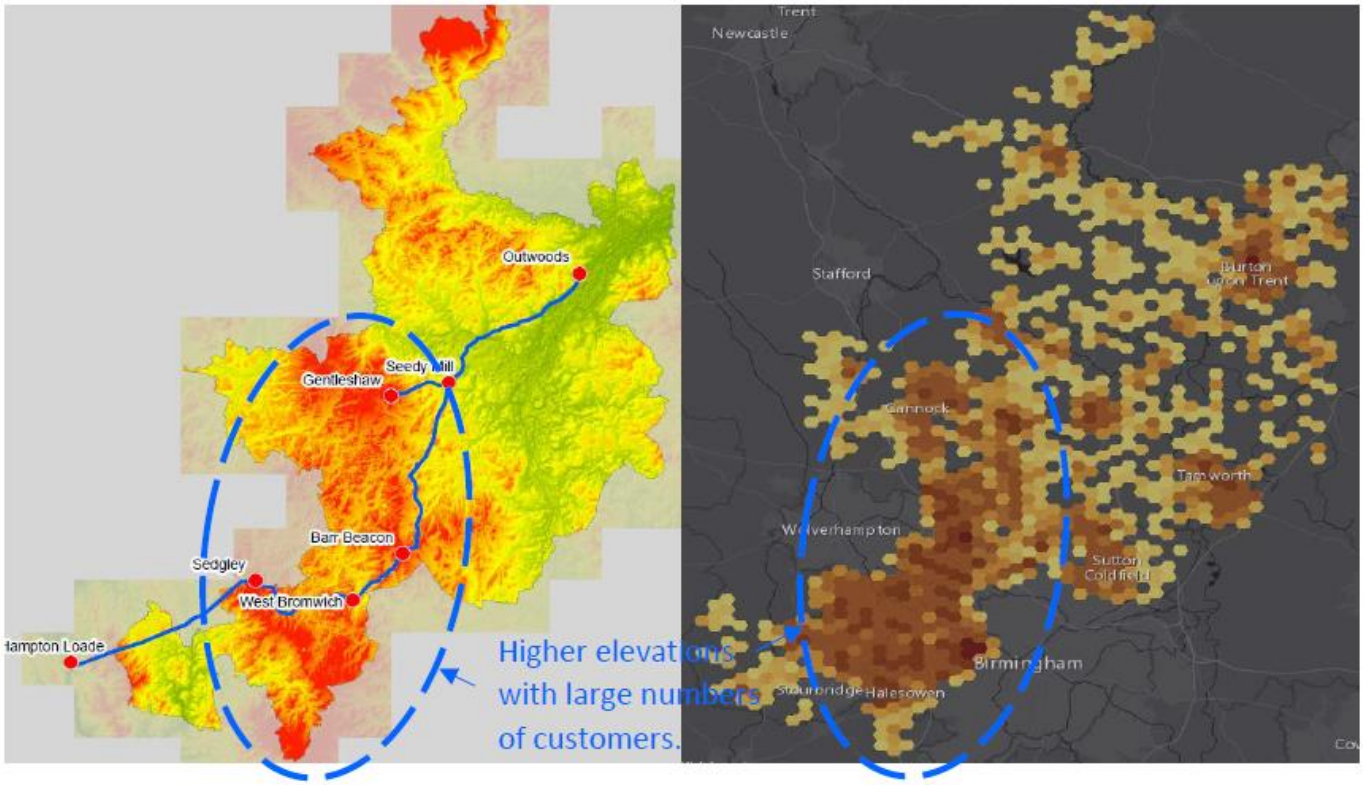
We are nearly 3 percentage points higher than the next highest company, and nearly 1.6 times higher than the sector average of 12.5%.

It is true that we are just below average on boosters per length of mains. But this is irrelevant, as this means models using this driver would be funding us broadly at an industry average level, and therefore not accounting for our sector highest level of pumping head and proportion of power costs. We demonstrated in our cost adjustment claim why the boosters per length of main cost driver does not represent how our network is configured to overcome the high topography, where we use a smaller number of larger assets, not a large number of small assets, to supply our network. We also remain unclear on why Ofwat has not further explored the booster capacity driver, if it wants an alternative to average pumping head that can proxy power use. This data would fit the brief far better than an asset count.

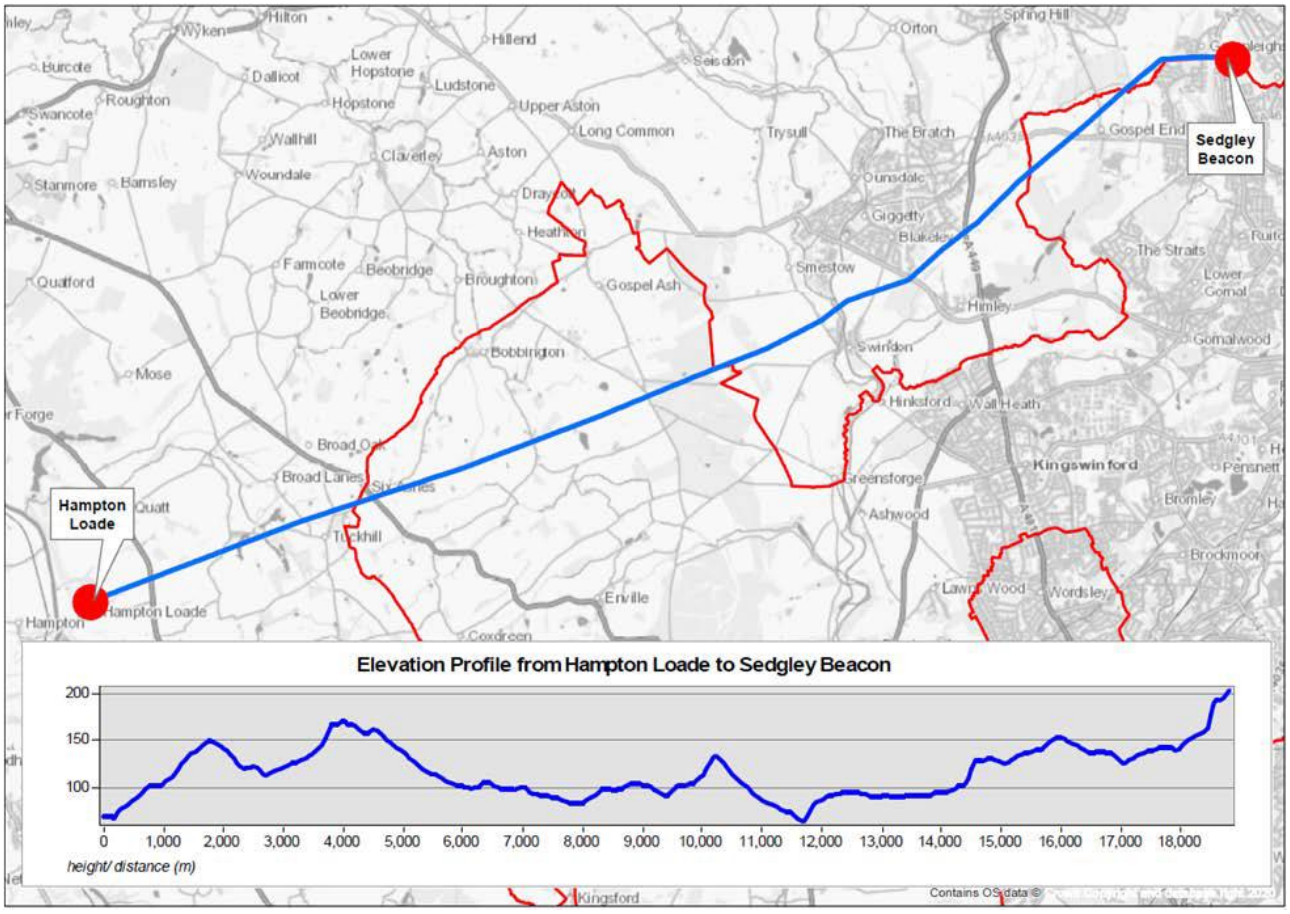
Below, we have included again a visual from our June 2023 topography claim showing two of our operational sites that have vastly different capacities – yet the boosters per length of mains cost driver treats both equally.

We also provided extensive evidence, in the form of supply zone maps and cross-sections of our main pumping pipelines, to demonstrate the specific regional topography we have to overcome, in areas where customers are very densely populated, and why this translates directly to our reported average pumping head value. It would not be possible for us to present similar data for other companies to demonstrate this is a unique position, as we do not have access to other companies' network data.

But our comprehensive evidence does explain, at a fundamental network engineering perspective, why we have the highest average pumping head and power cost proportion in the sector. This is illustrated in the visual below from our June 2023 topography claim, which demonstrates the high population density in the areas of highest elevation in our South Staffs region.



We have also included the following diagram showing a cross-section of the Hampton Loade to Sedgley trunk main system, from where up to 60% of the supply to our South Staffs region is sourced, configured as a single high-lift pumping station located at Hampton Loade with 12 megawatts (MW)[3] of pumping capacity.



[3] One megawatt = one million watts.

4.2.2 'Adjustments to allowances' assessment gateway

Ofwat states that, "we do not consider it appropriate to remove models containing booster pumping stations per network length from the modelling suite", and that, "we still have some concerns with data quality, with estimated data still being used in some cases". We recognise that Ofwat remains unconvinced on the choice of cost drivers to represent topography within its modelling suite and remains concerned about data quality. In turn, we think Ofwat should recognise there are a number of companies that dis-benefit from further inclusion of average pumping head within models, and it would not be unexpected for there to be challenges on data quality from those that dis-benefit.

In addition, we do not necessarily think that any other cost driver is inherently any more reliable. Various restatements on cost driver data have occurred over the years from many companies. We note that data on the boosters cost driver from Portsmouth Water was restated for both its 2022/23 and 2023/24 annual performance reports. And yet in its draft determination models Ofwat is using the incorrect number of boosters for Portsmouth for 2022/23 (it should be 40 instead of 22).

We acknowledge that average pumping head is a more complex piece of data than the number of boosters in terms of its underlying calculation method. But it is also long-standing and has been used over the past 20 years of regulatory decision-making. When reporting errors are also occurring in other cost drivers, it is clearly not only average pumping head that has potential data trust issues. It should be noted that the population density measures in base models and the deprivation measures in retail are also not fully up to date – yet they are still considered suitable for use. Ofwat is also happy to use future estimates of cost drivers, which are also an approximation. There are lots of places where estimation and some uncertainty is considered perfectly fine in the modelling process.

We note that Ofwat also references the support of the CMA for its modelling approach at PR19. But this was a very different set of circumstances, as the main company challenging in this area was Anglian Water, which is not an outlier in the average pumping head metric. We were not an appellant company at PR19.

The correlations to population density we have discovered were not presented at that time and, as a result, were not considered. And the company-specific evidence we have presented in our cost adjustment claim would robustly demonstrate the flaws with the rationale of the driver. So, we consider that should the CMA look at this issue again, its conclusion is likely to be different.

Given the concerns discussed above, we recognise why Ofwat is against using the average pumping head driver for a further symmetrical cross-sector adjustment, or to change its models. But it does not prevent Ofwat from making a company-specific adjustment to our cost allowances based on the extensive evidence we have demonstrated on why we are uniquely impacted to a high degree on this issue. It is unfair to hold us to account for the data limitations of the sector when the effect on our costs is the most acute of any company. And we have clearly demonstrated why the boosters per length of main cost driver does not represent our network configuration or topography issue.

In the final paragraph in this section, Ofwat states that, "South Staffs Water is among the most efficient water companies. And our current analysis shows that South Staffs' wholesale water base cost allowance is in line with its business plan proposal."

This statement refers to pre-frontier shift cost allowances and other adjustments. Once these are added on, Ofwat's cost allowances fall short of our business plan proposal. Our business plan was already inclusive of a 1.1% frontier shift challenge for base costs, the highest of any company in the sector.

It is true that we are among the most efficient companies in the modelling suite. This is because of our historically tight control of costs and continued efforts to achieve value for money for customers. This makes it even more important to ensure any exogenous cost pressures we face are properly funded, as we have a lower scope for further efficiency than other companies. We address the cost efficiency challenge in more detail below.

4.2.3 'Cost efficiency' assessment gateway

Ofwat states that, "The company has not provided compelling evidence that its cost estimates are efficient".

We have provided extensive evidence of our build-up of power costs as part of our power claim submission and analysis of the rates we put forward shows them to be similar to the rates that CEPA estimated for its sector wide power cost real price effects. We address the future power costs further in the section 4.3 below relating to the power real price effects adjustment.

Our power costs are efficient. We operate a competitive process at contract renewal, historically hedging a portion of our costs and we leverage our scale of energy use to broker competitive deals. This is an approach common to

large users and supported by CEPA in its review of real energy price effects. This hedging substantially protected us and our customers during the very volatile period over 2022/23 where prices spiked substantially above baseline historic levels. But the timing of our hedging arrangements means that when these contracts expire we are then exposed to higher prices than those we have secured under the current contracts. This is a market issue, as recognised by Ofwat in implementing the energy prices true-up.

On our assets, we run an extensive pump efficiency programme – and have done for many years – to ensure we keep on top of pump deterioration. We optimise other aspects of our energy use where possible, such as our treatment processes, network transfers, variable speed pumping plant and pressure control.

Despite having the highest proportion of energy costs in the sector relative to wholesale water base costs, we are still sector leading in historic base cost efficiency. To achieve this, against the whole sector of water companies – from small to very large – we must be good at achieving underlying cost efficiency in the round for our base costs. It should be noted that we also have one of the highest infrastructure renewal rates in the sector – we are one of the few companies with a rate higher than the 0.3% Ofwat considers base costs should fund.

Finally, Ofwat has challenged our third party assurance. In our original cost adjustment claim we had engaged Oxera to peer review our work, although we did not ask Oxera to support this review with a signed statement. In our business plan, we updated our cost adjustment claim and also submitted a separate independent study from WRc looking at the drivers of topography from a network engineering perspective. In addition, we provided signed Board assurance statements in our business plan in line with the methodology requirements, which covered the Board's sign off of our topography claim.

We have now obtained further written assurance from Oxera to support our draft determination representation (see appendix 'SSC-DD-08: Oxera letter of assurance' submitted alongside this document). It should be noted that this statement covers both the topography issue and the update to the CEPA power RPEs adjustment as we see both operating in the same space for these representations. We have also gained Board support for this representation and this is covered by the Board assurance submitted as part of our overall draft determination response.

4.2.4 Conclusion

While we still think there is a strong case for replacing boosters with average pumping head in full, we recognise other companies disagree. Our response has addressed why our unique circumstances mean that Ofwat's modelling suite does not reflect our topography and leads to underfunding of our efficient power costs, which are the highest proportion of base costs in the sector. So, we restate our cost adjustment claim, which we ask is applied as a post-modelling adjustment specifically for us.

As we explained in section 4.1 above, there is cross-over with the ex-ante power cost true-up as both issues act on the same category of cost. We address the power cost adjustment in the next section and our final conclusion addresses the total value of the adjustment we are asking for.

4.3 Energy input price pressure and real price effects adjustment

4.3.1 Introduction

We welcome that Ofwat has taken a sector-wide approach to this issue, as it is something that affects all companies. So, it is appropriate to take an approach that standardises the adjustments and ensures they are based on realistic forecasts, with the true-up should the future be different from the forecast position.

This part of our draft determination response looks at the model used and makes representations on the starting point of the model, as updating for 2023/24 actual data makes a material difference to the adjustment.

4.3.2 Updating the model for 2023/24

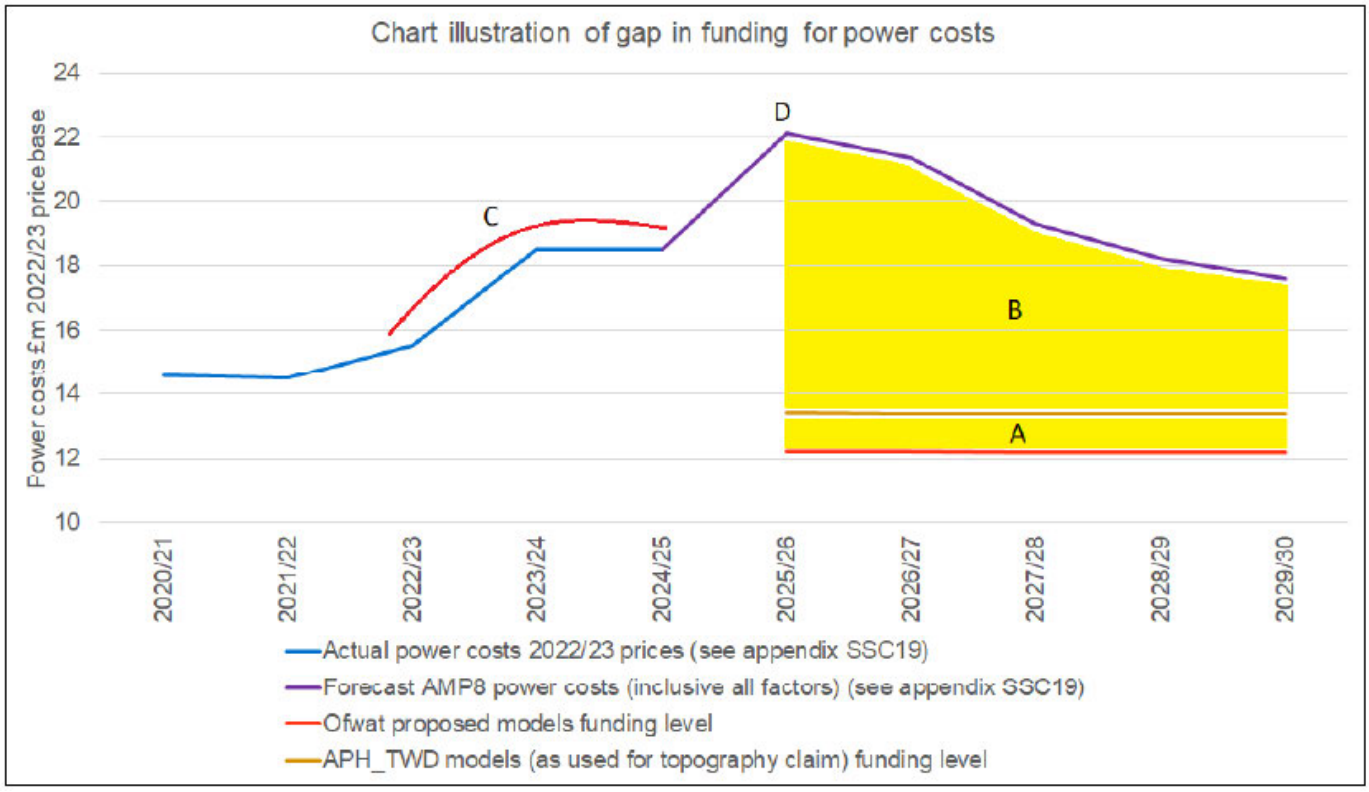
We were surprised at draft determinations to find that the ex-ante energy adjustment was negative for the sector, given the scale of the price spikes in recent years and our forecast that we would experience significant uplifts in energy costs as we exit our current contracts and procure new agreements.

In our business plan, we provided a detailed analysis of our power costs (see business plan appendix 'SSC19: Base cost assessment factors including real price effects and topography claim update' and its sub-appendices). This included electricity, gas, and various pass through charges. We showed how our future energy costs would step up materially from our past levels as a result of our current contracts expiring.

Our existing contracts were competitively procured before the 2022 volatility occurred and a high proportion of our use was at a fixed price. This substantially protected us from market volatility across 2022 and 2023.

But we were not fully hedged into 2024 and our contracts expire completely by the end of March 2025.

The chart below from our business plan shows the step up in power prices from historic levels (blue) to future forecasts (purple). The yellow shaded area is the gap to Ofwat's models.



In its model, CEPA has used Bloomberg forecasts to project power prices and has combined this with pass through charges to create a projection of future power rates. This is illustrated in the table below, alongside the forecast we included in our business plan.

	2025/26	2026/27	2027/28	2028/29	2029/30
CEPA delivered electricity prices forecast	179.14	185.02	182.54	182.00	180.36
South Staffordshire Water electricity prices forecast (SSC19)	198.12	192.41	174.54	165.42	160.54

Notes:

CEPA five-year average = £181.81 per MWh.

South Staffordshire Water five-year average = £178.21 per MWh.

It should be noted that our forecast starts off higher than CEPA's, but is lower from year 3 onwards. The average across five years is very similar. We based our forecast on projections derived from Cornwall Insight through a water sector club project that went through two iterations before we submitted our business plan. We also validated this forecast with additional forecasts obtained from Aurora and Baringa.

Overall, our forecast is broadly in line with CEPA. It is not exactly the same, which we would not expect because they are from different sources and produced at different points in time. But they are reasonably well aligned, and for that reason we are happy to accept the CEPA forecast as a reasonable future projection for use within the real price effects model.

However, the CEPA model also looks backwards to 2011/12 to calculate the uplift factor for 2022/23, which is the starting point for the future forecast rate of change. This is used to calculate the ex-ante adjustment, which is negative.

The reason it is negative is that CEPA utilises the DESNZ index until 2022/23, but then switches to its Bloomberg forecast, which is based on day ahead prices, for 2023/24. Wholesale prices were beginning to reduce from their highs, but the DESNZ index was still rising. This is as expected, as the DESNZ index is based on actual delivered electricity prices for a sample of large users. These users, as in the water sector, would be running procurement

processes periodically and fixing some aspect of their prices for certain terms. As these contracts unwind, companies are then having to renegotiate contracts at new rates, which are still higher than historic rates, and so the index rises. The chosen index likely lags the market prices to some degree for this reason.

In 2023/24, the DESNZ index continued to rise, despite the fall in wholesale prices. This means the model is at the wrong starting point, and needs to be updated to 2023/24. We have undertaken this update with the support of Oxera. In addition, Baringa has been commissioned on behalf of all water companies to examine CEPA's model.

Updating the model for 2023/24 actual index data shows that the DESNZ index rose in real terms, by 12.6%. This is compared to a CEPA projection of -20.5% for the same year. This is illustrated in the table below.

Growth rate net of CPIH	2020/21	2021/22	2022/23	2023/24
DESNZ electricity index, including CCL	1.7%	8.3%	43.2%	12.6%
CEPA projection growth rate based on wholesale rates				-20.5%

This change materially alters the ex-ante adjustment. Leaving the future forecast unchanged, our adjustment changes from -£5.2 million using draft determination models, to +£28.6 million. This is a very significant difference and clearly demonstrates that our business plan analysis was correct – we do expect to see a very material step up in energy costs in AMP8 compared with AMP7 because of the unwinding of existing contracts. It is imperative that Ofwat makes this change in its final determination.

4.3.3 Gas use

The CEPA model has inputs and indices for gas usage, but it does not appear to be part of the calculation of the ex-ante value in wholesale water. We also note that the third party charges inputs were coarse estimates.

We are a large gas user (31% of our portfolio) as we self-generate a large proportion of our energy at our Hampton Loade works, using a gas engine, installed in 2020. This project enabled us to generate energy at cheaper rates than the grid electricity to help ease the burden of our higher energy use, given our PR19 cost allowances.

Gas prices also rose during the recent spikes and, as with electricity, we face similar proportional uplifts to prices once existing contracts unwind. Gas and electricity prices tend to be correlated as much of UK electricity is gas generated. So, we think it is important that gas is also included in the true-up mechanism, ensuring the spark spread is treated equally.

4.3.4 Conclusion

We demonstrated in our business plan that we would be exposed to a step up in energy costs as our current contracts expire. While we also projected that the unit prices we pay for energy would fall over AMP8, this does not negate the significant step change that occurs as our current contracts come to an end. Our future forecasts for delivered electricity prices are broadly in line with CEPA's.

The issue lies in the baseline year. CEPA's model projected wholesale rates would fall substantially between 2022/23 and 2023/24. But the DESNZ industrial users index rose in real terms, demonstrating the step change that has occurred and that needs to be adjusted for.

We ask Ofwat to update its model for 2023/24 to ensure the correct starting point is reflected in final determination cost allowances for power. It is imperative that we are funded correctly for power, a largely exogenous cost and one which is essential for us to meet our fundamental obligation of treating and supplying water to customers. It would not be reasonable for the business to carry this substantial true-up through to AMP9 because of the impact on our cash flow and financial metrics.

The ex-post true-up mechanism, which we fully support, will ensure that the future level of funding is adjusted appropriately for upwards or downwards movements in the index.

4.4 Overall conclusions and outcome sought in the round

Because of the topography issue and the ex-ante power costs adjustment acting on the same category of costs within our base cost allowances, we think it is important to consider the combined effect when deriving the adjustment we are asking for.

We are seeking to be funded at our forecast budget for power in AMP8. This is a power cost of £98.6 million.

This is efficient because for the following reasons.

- We have **demonstrated that our regional topography makes a significant difference to our power expenditure**, that we are an industry outlier in this area, and that the models which incorporate boosters per length of main do not appropriately represent our configuration.

- We have **demonstrated that we are one of the most efficient companies on base expenditure overall**, despite our cost pressures on power. This is a significant achievement and shows the tight control we have on our costs, our strong procurement processes and our continued emphasis on value for money.

- We have **demonstrated that our own power projections are broadly in line with CEPA's future projections**, although the starting point used at draft determination needs to be updated for latest data to ensure the correct ex-ante adjustment.

In page 16 of our business plan appendix SSC18, we calculated the historic implicit allowance for power at £61.1 million in Ofwat's base model set, updated to our annual performance report 2023 data. We then calculated the historic implicit allowance for power using APH_TWD only, at £67 million, using the same models. These were both assuming fourth place catch-up efficiency and 1.1% frontier shift per year. We then separately assessed the power RPE uplift for the future period as the gap between modelled implicit allowance and our business plan total power forecast.

We have updated this analysis using the model set that Ofwat provided with the draft determinations and with the support of Oxera.

We find that implicit allowance for power in Ofwat's models has increased to £82 million. From this, we deduct £5 million for the draft determination of the ex-ante RPE adjustment. So, the total implicit allowance that Ofwat's approach gives for power is £77 million. This gives a £21.6 million gap to our £98.6 million total power costs forecast.

We note this is a similar gap to the overall reduction in base costs from what we asked for in our business plan. We asked for £590 million, and Ofwat applied base cost adjustments of +£1 million for net zero and +£1 million for meter replacements, meaning an equivalent base plan of £592 million. We were awarded £568 million – a gap of £24 million.

Oxera has also found that the topography cost adjustment claim on a stand-alone basis using 2023/24 data is £29 million. This is the difference between using Ofwat's models with 50/50 weighting on both average pumping head and boosters, against models which only utilise average pumping head.

It should be noted that based on updating the CEPA energy RPE model to 2023/24, we would also expect a positive ex-ante RPE uplift to power costs.

We are not seeking to receive an adjustment, either for topography or RPE individually or combined, which is in excess of our requested power forecast of £98.6 million or our total base costs ask of £592 million (after Ofwat's additions). We only seek to be funded for the amount we ask for, which is based on robust projections and efficient costs. Against the modelled implicit allowance, this is a gap of approximately £21.6 million.

We recognise that models may change at final determinations. So, we reserve the right to update our view of this gap based on any amendments to the models.








Part 3: Enhancement cost representations

5. Enhancement allowances

Summary

We recognise and broadly accept Ofwat's transparent approach in assessing our enhancement costs. We have considered carefully Ofwat's efficiency challenges and are making representations in the following areas.

- **Water efficiency allowances.** Here, we acknowledge the difficulty in assessing allowances through a modelled approach, given the relative sector difference in starting positions, metering penetration, range of activity and associated costs. Given this, we propose a model methodology adjustment to account for this variance more effectively. We are focusing our water efficiency activities on household and non-household water efficiency audits. Our modelling shows this has the greatest opportunity and is likely to be a sustainable solution compared with other activities that rely on behaviour change. We propose recruiting sufficient in-house expertise to carry out all three water activities at a cost of £7.2 million across AMP8. We think this will deliver a water saving benefit of 3.56 million litres of water a day (Ml/d).
- **Water metering allowances.** In our business plan, we proposed a universal metering programme of Advanced Metering Infrastructure (AMI)-capable meters, with a focus on Automated Meter Reading (AMR) drive-by meter reading. Instead, we are going for AMI-enabled metering as set out in our draft determination. We support Ofwat's approach in this area and appreciate that it is trying to deliver a sector-wide comparative assessment for such critical funding. We have updated our costs to reflect the change in scope – we have used these costs in the model. But the scope of our universal metering programme remains ambitious. So, we would welcome some support from Ofwat in relaxing the price control deliverable (PCD). We discuss this in more detail in section 7.2.
- **Water resilience allowances.** We acknowledge Ofwat's assessment in this area to our booster resilience enhancement claims. We have made representations on our borehole, treatment works and interconnector resilience enhancement claims. As well as the schemes we put forward in our business plan, we are submitting additional schemes to address climate change impacts in our Cambridge region and enhance power resilience.
- **Water leakage allowances.** We accept and welcome Ofwat's approach for modelling leakage allowances to 2030 – in particular, the reallocation of base funding for leakage into enhancement.

We have also set out where we have clarified our business plan position or provided additional evidence to support our representations.

This chapter should be read alongside appendix 'SSC-DD-06: Enhancement costs – supporting evidence', which provides more detail on each area of our representation.

We recognise and broadly accept the transparent modelling approach used by Ofwat in assessing our enhancement costs. We have considered with care Ofwat's specific efficiency challenges and the useful feedback within both modelled and deep dive assessments, providing further supporting information in this regard. These representations cover our water efficiency, metering and resilience enhancement costs, referencing back to the CW3 table to highlight where our proposed costs are aligned to the relevant enhancement category.

In chapter 7, we also outline our representations on the price control deliverables (PCDs) associated with our enhancement programme. This is to ensure both we and Ofwat have complete clarity on the timing and nature of the delivery commitments to our customers in AMP8.

Below, we set out those areas where we clarify or provide additional information to support our representations against the draft determination allowances from the water enhancement expenditure models.

5.1 Water efficiency allowances

5.1.1 Demand-side improvements[4]

We appreciate that Ofwat has attempted to provide a modelled solution, whereby comparative cost allowances can be calculated for water efficiency. But in our review of the outputs and sector arguments, we consider the difference in starting position, metering penetration and range of activity are all determining factors in assessing appropriate levels of funding – and as such are too complex for a robust model at this time.

[4] Ref. model PR24-DD-W-Demand-side-improvements.

5.1.2 Our proposal

We are mindful of the time Ofwat has to appraise all companies' representations; we understand there may not be time to carry out robust deep dives on all water efficiency proposals. So, we suggest a simpler solution: maintain the modelled approach, but shift to the mean benchmark rather than the median. We think this approach would account for the range in costs across the sector more effectively.

5.1.3 Our efficient costs

In section 5.1 of appendix SSC-DD-06, we provide our full evidence base on why we consider our costs to be both appropriate to our need, and also efficient.

The costs we submitted in our business plan were developed by Artesia for our WRMPs, using costs from the across the sector for water efficiency activities. These costs were developed in 2020 and 2021, and as we are now in year 4 of AMP7, there is more data available from companies with existing programmes in place for certain activities, which can be used to update our cost profiles and approach.

We acknowledge there are other companies in the sector that are ahead of us in this field, and that these companies also have high meter coverage and a good proportion of 'smart' meters, which are key factors in enabling this. The data provided by smart meters enables a far more targeted approach to water efficiency by providing live data on high usage that can be explored directly. Without this smart meter coverage, water efficiency activity is less targeted. As a result, the benefits delivered for the same activity are lower, meaning the cost per megalitre[5] of saving is higher compared with other activities that rely on behaviour change.

This is a particular issue for our South Staffs region, which has an overall meter penetration of around 45% and no Advanced Metering Infrastructure (AMI) meters. Following our draft determination, we will be progressing with AMI meters during AMP8 as part of our universal metering programme. But it will take time for the benefits to be recognised in our South Staffs region because of the low penetration starting position. In our Cambridge region, we already have 75% meter penetration – these are not AMI and we will not be replacing them during AMP8. So, we will not have a full smart network in place at this stage.

This means companies with high smart metering penetration will be able to deliver water efficiency savings at a cost notably lower than for those companies without. This is apparent in the large variety of costs in companies' business plan submissions. Water efficiency activity can vary significantly in cost depending on the activity being carried out. Our plan looks to deliver household and non-household water audits. Our modelling shows this has the greatest opportunity and is likely to be a sustainable solution

As we have outlined in section 5.1 of appendix SSC-DD-06, we are proposing to recruit 17 qualified and competent employees to carry out the different types of audits on both household and non-household properties.

Our calculations show that we will need to carry out 16,075 audits across AMP8, with each individual undertaking four jobs a day over a total of 256 working days a year.

The cost for these employees, including full cost of employment, vehicles and spare parts and water efficient devices for installation, equates to £80,000 per person per year. With 17 people, this totals £6.96 million over the course of AMP8.

We will also need back-office support for this new activity, with a new scheduler and data analyst role to organise and distribute the workloads and to then collate and analyse the information to determine the benefits delivered from the activities. The total employment cost of this individual would be £60,000 a year, with a total cost of £300,000 over AMP8.

Together, these total £7.2 million. This cost delivers 3.56 Ml/d of water saving benefit, giving a combined unit cost of £2.05 million/Ml.

5.1.4 Water efficiency – table CW3 update

The CW3 table reference for this £7.2 million we are including in our resubmission is shown in the table below.

Ofwat table ref.	Description	Total (£m)
CW3.44	Demand-side improvements delivering benefits in 2025/30 (excl. leakage and metering); SDB capex	2.379
CW3.45	Demand-side improvements delivering benefits in 2025/30 (excl. leakage and metering); SDB opex	4.821
CW3.46	Demand-side improvements delivering benefits in 2025/30 (excl. leakage and metering); SDB totex	7.200

[5] One megalitre (Ml) = one million litres.

5.2 Water metering allowances

5.2.1 Metering[6] strategy change

In our draft determination Ofwat made it clear it expects full delivery of AMI-enabled metering, with the specific requirements set out in the industry PCD and has allowed us the associated funding required to deliver this. We have accepted Ofwat's challenge on the following basis.

- The additional 2% benefit from AMI-enabled meters improves our supply/demand balance, which is important as both our regions are water stressed.
- We were already fitting AMI meters and there are economies of scale by setting up meter reads at the same time.
- Ofwat's cost assessment approach supports the delivery of AMI-enabled meter reading though our wholesale enhancement cost allowances.

We note that the scale of our metering programme remains ambitious, increasing our metering penetration from 51% to 78% in one AMP. So, with the additional complexity of new reading technology, we have put forward the following mitigations to ensure our plan remains deliverable in line with the new PCD mechanism.

- We have updated our costs to reflect the change in strategy. We propose Ofwat uses our updated costs as a model input (see section 5.2.2).
- We have re-phased our year 1 metering programme, to ensure we have sufficient time to set up the required contracts and delivery plans for AMI-enabled universal metering (see section 7.2.1).
- The transmission requirement in the PCD should only apply to selective meter replacements and upgrades, completed as part of the universal programme. BAU optants and replacements should be considered separately (see section 7.2.2).
- The success rates on the PCD should be reconsidered to reflect what is reasonably achievable (see section 7.2.3).

5.2.2 Ofwat's cost assessment and our updated costs

Assessing smart metering enhancement costs across the sector is challenging. We recognise Ofwat's endeavours to improve how it assesses efficient unit rate costs, considering:

- base cost allocations;
- differences in costs between upgrades and new installations; and
- using econometric modelling.

We think the approach taken is proportionate and optimal considering the data available. We recognise that by using forecast cost data, rather than historic actuals, the models are inherently weaker. But Ofwat has suitably mitigated this by funding companies at the average level, instead of the more challenging UQ position used in the more established base cost models.

So, the resulting output cost allowances are robust and reflective of efficient sector unit costs, while avoiding underfunding of this critical enhancement activity.

Because of the change in strategy outlined above, we have updated our metering cost submission to reflect the uplift in AMI meter reading costs. As Ofwat's cost assessment approach looks to model AMI metering, we consider our updated costs should be used as modelling inputs to ensure comparability with other companies in the sector and improve the accuracy of the cost model. We have also updated our approach to meter replacement enhancement costs to align with Ofwat's reallocation.

We summarise the changes in costs in the table below.

[6] Ref. model PR24CA32_W_Metering.

Deliverable – meter installation type	Cumulative no. of meters	Oct 2023 (totex £m)	Aug 2024 (totex £m)	Difference (totex £m)	Comments
New meters requested by existing customers (optants)	45,000	12.6	12.6	0.0	No change – already AMI-capable meters
New meters introduced by companies for existing customers	114,225	18.5	18.5	0.0	No change – already AMI-capable meters
New meters for existing customers – business	2,230	1.8	1.8	0.0	No change – already AMI-capable meters
Replacing existing basic meters with AMI meters for business customers	15,660	1.6	1.1	-0.5	Job costs reallocated to base to align with Ofwat's approach
Replacing existing AMR meters with AMI meters for business customers	7,625	0.8	0.5	-0.3	Job costs reallocated to base to align with Ofwat's approach
Smart meter infrastructure		1.0	12.8	+11.8	Additional costs reflect the change from AMR technology to AMI-reading technology
Total metering expenditure		**36.3**	**47.3**	**+11.0**	

The smart meter infrastructure costs can now be broken down as follows.

Meter stream	Quantity	Cost component	Detail	Capex or opex	Cost (£m)
Universal household meter fits	114,225	Smart technology and network	Network gateway	Opex	5.81
			Site installation	Capex	5.71
Non-household new meters and upgrades	23,285	Smart technology	Network gateway (simply annual fees – set-up fees included in household universal meter fits network gateway costs)	Opex	0.19
Universal reading software	n/a	Smart technology Software that enables all meter types to be stored and data analysed centrally, compatible with a wide range of reading solutions	Ongoing costs (annual fees)	Opex	0.24
			Implementation costs	Capex	0.88
				Capex	**6.59**
				Opex	**6.24**
				Total	**12.82**

We have reviewed four costings from third party suppliers of AMI solutions (network provision, data transmission and antenna-type infrastructure) that we engaged with in 2022/23 when carrying out early analysis on our approach to universal metering. Three of these costings were based on typical component costs – that is:

- annual fees per meter for the service provided (primarily, data transmission);
- training fees per roll-out;
- installation costs per roll-out; and
- back-office costs.

In these cases, we have extrapolated these component costs to reflect the quantities of meters we are fitting to arrive at annual/AMP smart metering costs. The fourth costing was provided based on specific parameters. These parameters differ from our business plan, but we have adapted the costings to suit.

While these costs were not part of a full tender process, and were only indicative and structured in different ways, they were broadly similar in terms of total cost requirements. This gives us confidence that when we do tender, the proposed costs will be in line with what we are asking for. Equally, we have benchmarked against the sector ask in October 2023. Our estimates for smart metering infrastructure (SMI) per meter are in the range of existing company costs.

We have attributed £5.71 million to site installation costs. This includes the up-front activity required to set up each site/roll-out, such as installing the antenna infrastructure and other mobilisation costs that providers incur. We have also attributed £5.81 million to operating the network gateways for our household universal metering programme, which includes costs for:

- the network provision;
- acquiring satellite maps;
- software; and
- annual fees (for example, for data transmission and analysis provision).

We have only included site installation costs once (in the household universal metering section), as we hope our non-household upgrades can be located within the same network provisions. But the non-household upgrades do include the cost of ongoing annual fees for AMI reading.

We will invest in universal reading software, as outlined in our business plan. This is shown on the final line within the table above with the expected ongoing fees. The costs shown in this line are lower than in our business plan. This is to avoid duplication, as the majority of the £1 million is captured in the lines above.

5.2.3 Metering – table CW3 update

Ofwat table ref.	Description	Total (£m)
CW3.60	New meters requested by existing customers (optants); metering capex	12.600
CW3.61	New meters requested by existing customers (optants); metering opex	0.000
CW3.62	**New meters requested by existing customers (optants); metering totex**	**12.600**
CW3.63	New meters introduced by companies for existing customers; metering capex	18.504
CW3.64	New meters introduced by companies for existing customers; metering opex	0.000
CW3.65	**New meters introduced by companies for existing customers; metering totex**	**18.504**
CW3.66	New meters for existing customers – business; metering capex	1.813
CW3.67	New meters for existing customers – business; metering opex	0.000
CW3.68	**New meters for existing customers – business; metering totex**	**1.813**
CW3.81	Replacement of existing basic meters with AMI meters for business customers; metering capex	1.111
CW3.82	Replacement of existing basic meters with AMI meters for business customers; metering opex	0.000
CW3.83	**Replacement of existing basic meters with AMI meters for business customers; metering totex**	**1.111**
CW3.84	Replacement of existing AMR meters with AMI meters for business customers; metering capex	0.540
CW3.85	Replacement of existing AMR meters with AMI meters for business customers; metering opex	0.000
CW3.86	**Replacement of existing AMR meters with AMI meters for business customers; metering totex**	**0.540**
CW3.87	Smart meter infrastructure; metering capex	6.587

Ofwat table ref.	Description	Total (£m)
CW3.88	Smart meter infrastructure; metering opex	6.236
CW3.89	Smart meter infrastructure; metering totex	12.822
	Total metering expenditure (totex)	47.390

5.3 Water resilience allowances

5.3.1 Resilience[7]

Our representation on the allowances in this section are specific only to the 'Borehole' and 'Treatment works' resilience (£5.121 million) enhancement claims.

We acknowledge the assessment and challenges applied to the 'Booster' resilience (£2.217 million) enhancement claims, and we provide a response to these in context of the resilience climate change uplift, which can be found in section 5.3.2 below.

We also make a representation on the resilience interconnectors efficiency challenge in section 5.3.3.

Scheme	Enhancement investment	Submitted AMP8 enhancement totex (£k)	Cost challenge (%)	Frontier shift (%)	DD allowance totex (£k)	SSC DD response
Euston borehole	Drill second borehole	1,920	50	5	866	30% challenge 1,536
Heydon borehole	Drill second borehole	2,096	50	5	945	30% challenge 1,677
Gentleshaw re-lift pump	Install re-lift pump and pipework	1,105	50	5	498	30% challenge 884
Total		5,121			2,309	4,097

5.3.1.1 Best option for customers

Following the deep dive assessment of the 'Production resilience' section within our business plan appendix 'SSC36: Evidencing our enhancement expenditure in 2025-2030', we acknowledge the commentary and associated challenge around evidencing the inclusion of a robust cost benefit analysis and associated outputs informing our investment proposal. In response, we provide additional information and evidence below.

We have updated the longlisting solution options to include the cost estimates for these alternative options. We set these options out and provide evidence of the multi-criteria analysis (MCA) process compiled as part of our design process flow, led by Aqua Consultants, in chapter 1 of appendix SSC-DD-06. This detail outlines the pathway we have followed to review needs, optioneering from longlist to shortlist, and the associated cost estimation.

Outputs of this process generated feasibility of options that incorporated cost-benefit appraisal, with ranking on net present values (NPV), together with increased cost confidence using detailed estimation builds.

The longlisting stage included the costing of options to +/- 50%. When solutions were progressed through to the shortlisting stage, the costing of options progressed to +/- 20%. Any variance between the costs for the same solution at longlisting and then shortlisting stage is indicative of this movement through the design process flow.

The shortlisted options, including a summary of the cost and benefit valuation, are shown in the following tables. These were developed through our MCA approach, working with Aqua Consultants and using Copperleaf,

[7] Ref. model PR24-DD-W-Resilience-model.

our investment risk management and optimisation tool. The solutions have been valued against our six-capital framework which provides a monetised NPV. The NPV considers the cost of the investment and the carbon impact, and values the solution against the benefit against the six-capital models. We outline these in the tables below.

We have included further information on our value framework in business plan appendix 'SSC37: Our Asset management approach to best-value investment planning through 2025-2030 and beyond' (see section 1.2 for our value framework and chapter 4 for our optimisation approach).

5.3.1.2 Euston borehole

Option	Description	NPV (£k)	AMP8 capex cost (£k)	Decision
Option 2 – drill new borehole	Drill new borehole at Euston pumping station	34,977	1,920	Recommended alternative

5.3.1.3 Heydon borehole

Option	Description	NPV (£k)	AMP8 capex cost (£k)	Decision
Option 2 – drill new borehole	Drill new borehole at Heydon pumping station	4,784	2,096	Recommended alternative

5.3.1.4 Seedy Mill water treatment works Gentleshaw pump

Options	Description	NPV (£k)	AMP8 capex cost (£k)	Decision
Option 1 – install re-lift pump for Gentleshaw in car park at works	Install single re-lift pump	17,521	1,105	Recommended alternative
Option 2 – install re-lift pump for Gentleshaw next to surge vessel building at works	Install single re-lift pump	17,423	1,176	

5.3.1.5 Cost efficiency

Following the deep dive assessment of the 'Production resilience' section within business plan appendix SSC36, we acknowledge the commentary and associated challenge that has been provided. We have provided more detail below to address this Ofwat's comments. This relates to all proposed investments, as the approach was carried out consistently across our enhancement claim.

We appointed Aqua Consultants to carry out the costing of our shortlisting process. Aqua used a parametric cost modelled approach supported by bottom-up costing where it was not possible to use a modelled approach. While Aqua has cost models informed by a wealth of data, consisting of actual outturn costs, in certain instances we approached third party companies to provide exact quotes for specific solutions or assets. The works were costed under the headings of 'Direct work costs', 'Indirect costs' and 'Project costs'.

For more in-depth information and background to our process and cost efficiency development within our submission, see chapters 3 and 4 of business plan appendix SSC37. The industry benchmarking and third-party review can be found on pages 54 to 57.

Aqua Consultants carry out various project benchmarking exercises for a number of companies throughout the AMP. Their cost data is checked regularly against the sector, which allows them to review and adjust their models where necessary. In our engagement with Aqua, we have ensured that the costs underpinning our plan are robust. We have done this by using the most detailed costing approaches outlined above with the highest level of certainty for our most complex and material investments – this includes, in particular, our enhancement spend.

We also appointed Gardiner & Theobald to carry out a review of our costing process, with the aim of benchmarking the accuracy and reliability of the cost estimates provided by Aqua Consultants across a representative sample of our key base and enhancement schemes. The key findings of this benchmarking exercise are set out below.

Gardiner & Theobald summary findings from benchmark exercise

- **Methodology and process.** The estimating methodologies and processes employed by Aqua Consultants are in line with industry best practices and standards. They demonstrate a systematic approach to cost estimation at project feasibility. However, further development of the solution would aid cost certainty.
- **Data sources and assumptions.** The data sources and assumptions used in the estimates have been appropriately documented and appear reasonable based on the available information.
- **Comparison with historical data/industry benchmarks.** The estimates have been compared to historical project data and industry benchmarks, and they generally align well with historical trends and industry norms. However, given the current market trends, it is recommended that further supply chain engagement is undertaken to improve cost certainty.
- **Uncertainty documentation.** Gardiner & Theobald has adequately documented uncertainties associated with the estimates, providing a transparent view of potential risks.
- **Updates and changes.** Any updates or changes made to the estimates during the project's development phase were well-documented and justifiable.

5.3.2 Climate change resilience allowance

In its draft determinations, Ofwat rejected power resilience enhancement claims across the sector, but has included a climate change allowance. This is calculated using 0.7% of our base allowance, which equates to £3.7 million in our draft determination. Ofwat stated that it required schemes to be allocated to the climate change uplift for companies to secure this funding.

In our South Staffs region, we supply water to customers through two large treatment works and 20 borehole pumping stations. The treatment works provide around 65% of the water required to supply customers and have power resilience installed on site. In addition, our borehole pumping stations have power resilience installed at around 40% of the sites. Around 60% of the pumping stations with an output of more than 5 Ml/d have power generation installed. Overall, our South Staffs region is currently more resilient to power interruptions than our Cambridge region.

In contrast, our Cambridge region relies solely on borehole pumping stations to supply water to our customers. Only 29% of the 24 pumping stations have a generator on site. So, the schemes we propose below focus predominantly on our Cambridge region.

In the following table, we highlight the schemes we submitted in our business plan for power resilience enhancement funding. The three schemes were costed at £2.217 million. This leaves £1.483 million of the £3.7 million for additional schemes to address climate change impacts.

Scheme	Enhancement investment	Submitted AMP8 enhancement totex (£k)	Cost challenge (%)	DD allowance totex (£k)
Grantchester Road booster station, Cambridge region	Install generator and fuel tank	541	100	0
Fleam Dyke pumping/booster station, Cambridge region	Install generator and fuel tank	313	100	0
West Bromwich booster station, South Staffs region	Install generator and fuel tank	1,363	100	0
Total		**2,217**		**0**

In the table below, we summarise the selected schemes we propose to enhance power resilience with the climate change allowance. For the Grantchester, Fleam Dyke and West Bromwich booster power resilience schemes, the supporting information can be found in our business plan (see appendix SSC36, section 5.5, case 12, 'Production resilience'). The information provided is predominantly for the additional five schemes identified at Westley, Great Wilbraham, Melbourn, Hinxton Grange and Brettenham pumping stations.

Scheme	Enhancement investment	Cost (£k)
Grantchester Road booster station, Cambridge region	Install generator and fuel tank	541
Fleam Dyke pumping/booster station, Cambridge region	Install generator and fuel tank	313
West Bromwich booster station, South Staffs region	Install generator and fuel tank	1,363
Westley pumping station, Cambridge region	Install generator and fuel tank	353
Great Wilbraham pumping station, Cambridge region	Install generator and fuel tank	299
Melbourn pumping station, Cambridge region	Install generator and fuel tank	326
Hinxton Grange pumping station, Cambridge region	Install generator and fuel tank	299
Brettenham pumping station, Cambridge region	Install generator and fuel tank	356
Total		**3,850**

As well as the proposed generator installations at the above sites, there is base capital expenditure (capex) within our base programme to support the resilience of these stations. This includes upgrades to PLC and telemetry, with some flow meter replacements where identified. We will also install enhanced disinfection at our Great Wilbraham site during AMP8.

For further detail on the climate change drivers that sit behind our submission for this allowance, as well as the evidencing of our best value optioneering and approach to ensuring cost efficiency, please see chapter 2 of appendix SSC-DD-06.

5.3.3 Resilience interconnectors[8]

There were three schemes that Ofwat grouped into resilience interconnectors. These were Hanbury resilience, Burntwood resilience and Langley service reservoir. All three schemes were subject to a deep dive assessment, with a 10% challenge on Ofwat's 'Best option for customers' gateway.

While we accept the efficiency challenges applied to both the Hanbury and Langley schemes, we provide further evidence below in terms of our approach to demonstrating the chosen option was the best one for our customers in relation to our Burntwood scheme. In the following table, we summarise the efficiency challenge applied to this scheme and our resubmitted costs as part of our representation.

Scheme	Enhancement investment	Submitted AMP8 enhancement totex (£k)	Cost challenge (%)	Frontier shift (%)	DD allowance totex (£k)	SSC DD response
Burntwood resilience	New 400mm resilience link main	396	10	4	340	396
Total		**396**			**340**	**396**

[8] Ref. model PR24-DD-W-Resilience-Interconnectors.

In this section, we set out our supporting evidence to address the 10% best option for customers challenge from Ofwat. This should be read in conjunction with business plan appendix SSC36, case 11, section 5.1.5.1. The following tables set out our solution criteria stages, and the weighting applied to each to demonstrate that the chosen two options for shortlisting are the most cost beneficial solutions.

Solutions criteria	Weighting
Ability to meet project drivers and regulatory compliance	35%
Provide a long-term solution	15%
Technically feasibility	10%
Green solutions	20%
Deliverability	10%
Cost	10%

Option	Description	Estimated cost	MCA scoring – shortlisted options (highlighted)
0	Do nothing	n/a	2.15
1	Upsize existing cross connections and add strategic fittings	£268,866	2.64
2	Duplicate the 18" main 1.5km	£2,907,080	3.07
3	Replace 18" CI with new 450mm DI	£1,873,456	2.90
4	Install new resilience link main through private land (770 m)	£1,947,649	3.29

We also provide the shortlisted option NPVs, which we have calculated through Copperleaf. The chosen solution (option 4 in the above table) has much higher costs at this stage in the process. In section 5.1.5.1 of business plan appendix SSC36, we explain why we have reduced the Aqua developed cost for the project at shortlisting stage, based on our internal benchmarking and efficiency challenge. Table 7 in section 1.1 of appendix SSC-DD-06, shows the MCA scores applied across each option and associated weighting of the criteria.

The table below shows the two shortlisted options that we entered into Copperleaf (with the chosen being option 1). These solutions have been valued against our six-capital framework, which provides a monetised NPV.

Options	Description	NPV (£k)	Cost (£k)	Decision
1	Install new resilience link main through private land (770 meters)	109,802	£395	Recommended alternative (best value)
2	Duplicate the 18" main 1.5km	109,032	£1,261	

We consider the recommended alternative offers the best value option for customers. The NPVs for both shortlisted solutions are similar; this is because they offer the same in terms of meeting the resilience drivers. The difference between the two is that the link main through private land is a more environmentally friendly solution that produces less carbon impact to deliver and is less in terms of length of main required and cost.

5.3.4 Resilience – CW3 update

For the purposes of this representation, all costs for water resilience (including climate change resilience) and resilience interconnectors have been submitted in the resilience lines as shown in the following CW3 table.

Ofwat table ref.	Description	Total (£m)
CW3.118	Resilience; enhancement water capex	15.123
CW3.119	Resilience; enhancement water opex	0.000
CW3.120	Resilience; enhancement water totex	15.123

5.4 Water leakage allowances

We accept and welcome the approach Ofwat has taken for modelling leakage enhancement for AMP8 – in particular, the reallocation of base funding for leakage into enhancement. In line CW3.47 (see below), provision has been made for the totex required for all our leakage reduction activities. This is in line with the costs outlined in line CW19.2, minus £0.36 million that was reallocated from 'Customer supply pipe leakage' into 'Smart metering infrastructure'.

5.4.1 Leakage – table CW3 update

The totex is now £8.94 million and the CW3 table reference for this amount is shown in the table below.

Ofwat table ref.	Description	Total (£m)
CW3.47	Leakage improvements delivering benefits in 2025/30; SDB capex	3.200
CW3.48	Leakage improvements delivering benefits in 2025/30; SDB opex	5.739
CW3.49	Leakage improvements delivering benefits in 2025/30; SDB totex	8.939

6. Post-model efficiency approach

Summary

We are concerned that Ofwat is not comparing like-for-like costs in its calculations for enhancement efficiency. This leads to the 20% efficiency gap being applied incorrectly. This has a particular impact on our AMP8 metering and leakage programmes. We have adjusted our enhancement costs in these areas and ask Ofwat to reconsider these.

We also recommend that Ofwat applies the same approach it used at PR19 and considers the efficiency of our whole enhancement programme, as applying efficiency caps on certain themes may lead to underfunding of it in the round. This is because the detailed work we carried out to develop our enhancement cases, and the associated costings, was already inclusive of an efficiency challenge.

6.1 Post-modelling adjustment representation

Our primary concern with Ofwat's post-modelling adjustment is that the regulator is not comparing like-for-like costs in its enhancement efficiency calculations, which leads to the 20% efficiency cap being applied incorrectly. Ofwat considers our supply/demand balance scheme costs to be 45% efficient compared with its modelling, and subsequently caps our allowance at 20% over what we asked for. But there are two significant differences in scope when comparing our view with Ofwat's views of the supply/demand balance schemes, outlined below.

- Metering. Our submitted costs were for an AMI-capable solution that did not include AMI-enabled technology and reading costs. Ofwat's modelled costs are based on an AMI-enabled solution, which is undoubtedly more expensive to implement. So, the costs compared in Ofwat's efficiency calculations are not for like-for-like schemes.

- Leakage. Our submitted costs for leakage enhancement were for a 4 Ml/d reduction. We included costs for an additional 7.4 Ml/d in our base cost plan. In this respect, we were more ambitious in our consideration for what base buys than other companies. In our draft determination, Ofwat has considered all leakage reduction costs to be enhancement, and has adjusted our allowance accordingly to fund all 11.4 Ml/d. However, again Ofwat has compared our costs for a 4 Ml/d reduction to a modelled cost of 11.4 Ml/d reduction, which contributes to our allowance being capped in the efficiency calculations.

In our representation, we have adjusted our supply/demand balance enhancement costs to align with Ofwat's considered scopes. So, Ofwat should consider these resubmitted costs when estimating our efficiency compared to modelled costs.

Our secondary concern is that applying caps on theme areas, rather than the enhancement programme in full, may lead to underfunding of the programme in the round. Ofwat's current approach is not intuitive as capping companies' allowances in some areas can result in the overall allowance being lower than their requests. This is equivalent to penalising cost inefficiency in full while only partly rewarding cost efficiency. So, we recommend Ofwat considers the efficiency of the whole enhancement programme compared with its assessed costs, instead of isolated areas of the programme.

6.2 Frontier shift representation

We do not provide representations on Ofwat's approach to the frontier shift on base expenditure or retail expenditure. We use our sector leading 1.1% base cost frontier shift adjustment in our data tables (CW2/ADD1).

But we maintain the approach from our business plan on the frontier shift on enhancement expenditure. We have not applied a frontier shift here because our detailed work to develop our enhancement cases and their costings was already inclusive of efficiency challenge within the costs that were developed. They are based on optioneering analysis and third party cost estimations of our specific investment scheme scopes. These are unlikely to change significantly during AMP8 as a result of productivity improvements. So, we have not applied a frontier shift adjustment between CW3 and ADD2.

Ofwat has already used sector benchmarking and deep-dive assessments to apply efficiencies to enhancement cases which, in some cases, has led to large adjustments. We consider applying further efficiencies to the adjusted costs is inappropriate and risks underfunding companies for crucial investment programmes that are needed to deliver improvements for customers and the environment.

At PR19, Ofwat recognised this by not applying the frontier shift to enhancement schemes in the majority of cases and we think this approach should remain consistent at PR24. The adjusted cost sharing rates on enhancement spending of 40:40 ensure that if companies do benefit from productivity improvements on these schemes, customers will receive the majority of the benefits. This rationale supports our approach to the frontier shift to enhancement expenditure.

7. Price control deliverables

Summary

In our business plan, we proposed a price control deliverable (PCD) to install infrastructure to enable a bulk supply transfer of 26 Ml/d from Anglian Water's Grafham reservoir into our Cambridge region from around 2032. There are a number of key interdependencies with this project. So, the only element within our control is the installation of the infrastructure to transfer the water into our Cambridge region.

Given the interdependencies are outside of our control, we are asking Ofwat to change the PCD definition from 'water available for use' (WAFU). Instead, we think the requirement should be to deliver the infrastructure needed to transfer the 26 Ml/d into our Cambridge region. We are supportive of the representations from Anglian Water and Severn Trent in relation to enabling the upstream elements of this project. We would also welcome further engagement with Ofwat on the PCD definition and the approach taken to incentives and penalties to ensure a fair and proportionate mechanism for all parties.

We are also asking Ofwat to consider our new proposal for the metering enhancement PCD. As we discussed in section 5.3, we have accepted Ofwat's challenge on our metering strategy. But the scale of our programme remains ambitious. So, we have put some mitigations in place and have presented a new proposal for the metering PCD for new installations and for replacements and upgrades.

This chapter should be read alongside appendix 'SSC-DD-06: Enhancement costs – supporting evidence', which provides more detail around our specific PCD representations.

Below, we set out below those areas where we clarify or provide additional information to support our representations on the PCDs applied to our proposed enhancement expenditure.

7.1 Water supply PCD – Grafham transfer[9]

In our business plan, we proposed a PCD for the installation of the infrastructure required to allow us to receive the 26 Ml/d benefit when the water is available from Anglian Water's Grafham reservoir (current timelines indicate this will be 2032).

The framing of the PCD in this way is the result of the dependency we have with the construction of Anglian's Grafham to Rede pipeline and the delivery of other projects such as the Severn Trent Minworth wastewater treatment works recycling project, and the multi-company Grand Union Canal strategic resource option (SRO) to enable the availability of supply from the Grafham reservoir water treatment works into our Cambridge region.

The only element within our control is the installation of the infrastructure to receive the 26 Ml/d. All other dependant elements, which allow Anglian to be able to release the 26 Ml/d to us and deliver it through new pipeline infrastructure, reside with other companies.

Given the dependency on other schemes, we do not consider it is appropriate to apply a PCD that is time bound to the 'water available for use' (WAFU) benefit, as we have no control over this aspect.

When we deliver the infrastructure required to receive the 26 Ml/d, we expect this to complete the deliverable element of the PCD. We will then be ready to receive the WAFU benefit when released by upstream project delivery. This is currently forecast to be 2031/32.

We do not consider that we can be penalised by the terms of the proposed PCD if by 2031/32, with everything in place to receive the water, the 26 Ml/d cannot be released (and WAFU achieved) because of delays on projects being delivered outside of our management control. In particular, we reference here the criticality of timely delivery of Anglian's Grafham to Rede interconnector project, which will provide supply from the Grafham reservoir water treatment works to a tee point in the vicinity of Lowther, from where the Grafham transfer project pipeline will start and supply our Madingley service reservoir.

[9] Ref. model PR24CA107 Water Supply and Demand Balance PCDs.

So, we request that the PCD definition is amended so that the requirement is to deliver the installation of a 26 Ml/d capacity pipeline with an outcome benefit delivered by 2031/32, for use when water is made available through the completion of the enabling upstream projects.

As such, we are supportive of company representations made to secure successful outcomes for the Minworth wastewater treatment works recycling project and the Grand Union Canal SRO project in addition to the Grafham to Rede transfer pipeline.

We also welcome further consultation around the definition and approach to the application of any under- and outperformance incentives associated with the delivery of this scheme to ensure a fair and proportionate mechanism is applied for all parties.

7.2 Water metering PCD[10]

As we explained in section 5.2, we have accepted Ofwat's challenge on our meter reading strategy, and plan to deliver AMI-enabled metering where possible. But the scale of our metering programme remains ambitious. So, given the additional complexity of new reading technology, we have put forward some mitigations to ensure our plan remains deliverable in line with the new PCD. We discuss each of these in more detail below.

7.2.1 Mitigation 1 – re-phasing the delivery programme

Under this mitigation, we re-phase the delivery programme to ensure sufficient time to set up the required contracts and delivery plans for AMI-enabled universal metering.

We still plan to deliver the quantity of meters we committed to in our business plan, which aligns to our WRMPs. But we need to allow sufficient time to scope, tender, award and mobilise AMI contracts in our delivery.

We are unable to complete this ahead of AMP8 as we must include the exact parameters of the PCD requirements in our contracts to ensure delivery. These will not be set until final determinations. So, we are reducing the quantity of universally fitted household and non-household meters in year 1 (2025/26) and spreading the shortfall across years 2 to 5 to cater for a delayed start.

We request that Ofwat updates the PCD phasing accordingly to ensure we can deliver the set requirements.

7.2.2 Mitigation 2 – applying the transmission requirement selectively

We think the transmission requirement should only apply to selective meter replacements and upgrades, completed as part of our universal metering programme. BAU optants and replacements should be considered separately.

We consider all the meters fitted on new installations will be able to achieve the first requirement relating to measuring and recording water consumption – that is, all these meters will be AMI-compatible. But achieving the transmission requirement is much more difficult for meter optants – which are reactively delivered one-by-one and geographically scattered across our operating areas based on customer requests – than it is for meters fitted under our universal metering programme, which are proactively fitted in concentrated batches.

Achieving the transmission requirement requires AMI meter reading. This requires a network and some form of antenna device. Other water companies that are more advanced in rolling out network coverage as part of their historic AMI programmes may be able to do this. But our roll-out will start in earnest in AMP8. So, we do not consider it is practical or cost effective to apply this element of the PCD to meters outside the universal programme.

Achieving AMI meter reading transmission through our universal metering programme is much more feasible. This is because we will be able to set up network provision that can capture meters sited within a concentrated proximity (aligning to our batch fitting approach).

In addition, we propose that our household meter replacements are removed from the PCD as these relate to base activity, with no associated enhancement expenditure. This BAU replacement activity is similar to that of household optants in its scattered nature as we reactively replace meters that have reached the end of their life. So, we will not be able to read these using AMI technology. These replacements are not required to deliver our supply/demand balance benefits and are not included in our WRMP strategy. So, they should not be treated as a fixed deliverable in the PCD, in line with other base capital cost approaches.

[10] Ref. model PR24CA107 Water Supply and Demand Balance PCDs.

7.2.3 Mitigation 3 – reconsidering the PCD success rates to reflect what is achievable

While AMI data transmission and reading are more feasible within our universal metering programme, we are not confident of achieving a 95% success rate, especially within the one-month timeframe specified in the PCD. We think 95% might be achievable where the parameters of an AMI scheme are ideal and where the number of meters is small.

But as we are delivering significant volumes of meters across a range of locations, there will inevitably be areas where network set up (suitable locations for antenna), network availability, meter locations and other factors contribute to transmission being less successful. Had we been fitting a smaller number of meters during AMP8, we could have cherry picked areas with known network success. And while this is not the case for us, it may be the case for other companies.

Equally, we have very little experience of rolling out AMI metering, especially at scale. This places a significant risk on our ability to deliver similar success as other companies, which may be more experienced.

Finally, we will be ordering our universal metering programme roll out (over the course of AMP8 and AMP9) based on a series of factors, including levels of deprivation among the customer base, and leakage and consumption benefit (in terms of insight). The expected AMI network capability will only be one of the considerations. So, it may be that we deliver a large proportion of our AMP8 meters in areas with poorer network coverage, which will affect the success rate, but still drive the desired outcome in terms of behaviours and consumption reduction.

As we are not experienced in rolling out AMI technology, we would ask Ofwat to review the percentage success rate based on an average of the feedback from other companies with more experience. We would expect this success rate is not taken simply from companies that now have well-established networks across their operating areas. That is, it needs to take account of the inevitable lessons learned and the challenges we will face as we start to roll out AMI metering.

Because of these factors, we ask Ofwat to review the 95% success rate criteria and reduce it accordingly.

We also ask that the transmission success rates are assessed based on the performance by the end of the AMP – and not from the moment the meter is fitted. This is to ensure sufficient time to address any initial issues encountered because of the challenges described above.

7.2.4 Our new PCD proposal

Below, we set out our new proposal for the metering PCD. First, we illustrate the non-delivery PCD payment rates for installs, upgrades and replacements set in line with Ofwat's updated modelled efficient unit rates.

PCD outputs (cumulative)	2025/26 (no.)	2026/27 (no.)	2027/28 (no.)	2028/29 (no.)	2029/30 (no.)
New installations	**20,869**	**56,015**	**91,162**	**126,308**	**161,455**
Of which are household optants	9,000	18,000	27,000	36,000	45,000
Of which are non-household meter installations	446	892	1,338	1,784	2,230
Of which are household universal meters	11,423	37,123	62,824	88,524	114,225
Meter upgrades	**2,329**	**7,568**	**12,807**	**18,406**	**23,285**
Non-household meter replacements	2,329	7,568	12,807	18,406	23,285

Below, we set out our proposal for new installations.

Deliverable	Quantity	Requirements
New meters requested by existing customers (household optants and non-household meter fits	47,230	Measure and record water consumption data at least once an hour with a 95% or higher success rate. ~~Transmit the recorded consumption data to the smart infrastructural network at least once every 24 hours with a 95% or higher success rate.~~ ~~It is expected that once installed a meter should achieve these success rates on average until the end of the reporting period 31 March 2030.~~
New meters introduced by companies for existing household customers	114,225	Measure and record water consumption data at least once an hour with a 95% or higher success rate. Transmit the recorded consumption data to the smart infrastructural network at least once every 24 hours with a ~~95% or higher~~ success rate to be defined by an industry average. It is expected that meters ~~once~~ installed ~~a meter~~ should achieve these success rates on average ~~until~~ by the end of the reporting period 31 March 2030.

7.2.4.1 Replacements and upgrades

Household meter replacements (29,015) behave very similarly to household optants in their scattered nature as we reactively replace meters that have reached the end of their life. As these are base costs, we have not included them in our submission.

Non-household replacements (23,285) will involve us replacing existing 'dumb' meters with smart meters. We will deliver these within our universal metering programme, so they will behave similarly to our household universal meters in their batch fitted nature. For these reasons, we would expect to amend the requirements for replacements and upgrades as below.

Stream	Quantity	Requirements
Upgrade of existing basic/AMR meters with AMI meters for business customers	23,285	Measure and record water consumption data at least once an hour with a 95% or higher success rate. Transmit the recorded consumption data to the smart infrastructural network at least once every 24 hours with a ~~95% or higher~~ success rate to be define by an industry average. It is expected that meters ~~once~~ installed ~~a meter~~ should achieve these success rates on average ~~until~~ by the end of the reporting period 31 March 2030.

8. New enhancement cost submissions

Summary

After we submitted our business plan to Ofwat in October 2023, we received feedback from the Department for Environment, Food and Rural Affairs (Defra) on our draft Cambridge WRMP. Defra asked us to consider reinstating a decommissioned supply option at Fenstanton, which has the potential to supply up to 1 Ml/d, pending further work to explore the site's environmental impact. Bringing Fenstanton back into supply could unlock new developments of between 1,400 and 5,000 households, depending on yield, supporting the UK Government's growth objectives.

We have considered a range of options for the Fenstanton site and have put forward a proposal to refurbish the boreholes, install new above-ground assets and transfer water to the site from St Ives for treatment and distribution. This is to address the quality issues that prevented us from including this scheme as a supply-side option in our business plan. The cost of this scheme is £1.950 million.

We have also put forward a new enhancement claim to support the development costs for the Fens reservoir. During AMP8, we estimate the funding requirement for these costs will be £3.3 million. This is to fulfil our requirements as the 'Non-Lead' partners in delivering the Fens reservoir scheme with Anglian Water.

Our business plan includes our ongoing business strategy for so-called 'forever chemicals' – specifically, per- and polyfluoroalkyl substances (PFAS) – alongside the specific PCD introduced by Ofwat in the draft determinations as part of the overall water quality programme. But there is a risk that investment needs might arise during AMP8 that are not currently funded. So, we would advocate for some form of in-period reopener if investment is required to tackle PFAS in our Cambridge or South Staffs regions.

This chapter should be read alongside appendix 'SSC-DD-06: Enhancement costs – supporting evidence', which provides more detail around each new cost submission.

8.1 New water supply submission – Fenstanton

We have amended table CW3 with a new cost submission, as set out below.

Ofwat table ref.	Description	Total (£m)
CW3.41	Supply-side improvements delivering benefits in 2025-2030; SDB capex	1.923
CW3.42	Supply-side improvements delivering benefits in 2025-2030; SDB opex	0.027
CW3.43	Supply-side improvements delivering benefits in 2025-2030; SDB totex	1.950

8.1.1 Summary of new investment need

We submitted the draft WRMP for our Cambridge region to Defra and the Environment Agency in 2022, and subsequently published it for consultation in early 2023. We then revised it and received further feedback from Defra in late 2023, after we submitted our business plan to Ofwat.

In this feedback, we were asked to consider the feasibility of reinstating a decommissioned water supply option – our Fenstanton source station. Defra has subsequently reinforced this request in a letter to us dated 6 July 2024. We have reproduced an excerpt of the letter below.

> **Issue 6 - Accelerate and develop supply options**. The company previously committed to provide information on the feasibility of additional supply options in June 2024. It should determine the viability of the Fenstanton borehole option so that it can be used with confidence in planning or screened out as not feasible. If feasible, the company should develop this option by 2030 to help provide an alternative source of supply ahead of the delivery of strategic options.

We completed the feasibility study Defra requested in June 2024, highlighting that there is 0.4 Ml/d available now from the Fenstanton source, with the potential for this to increase to 1 Ml/d, pending further work to ensure it is environmentally sustainable given the location of nearby lakes and an area of Special Scientific Interest (SSSI). We have an existing abstraction licence for 0.4 Ml/d for the site.

But we decommissioned the source more than 20 years ago and it has been excluded from our annual performance report and fixed asset register. We decommissioned it because of water quality issues and a lack of treatment options at that time. We are now confident that our planned upgrade to the treatment process at the nearby St Ives site will mean water from Fenstanton can be treated to the required standards. There are no assets on site (pumping or treatment), although some buildings and wells remain.

We did not initially select Fenstanton as a supply-side option in our revised draft WRMP because of concerns, raised by Natural England in particular, about the potential environmental impacts of reinstating the source. But multiple other external factors have driven Defra to request that we reconsider, including the following.

- The UK Government's Water Scarcity Group's objective to unlock growth in our Cambridge region by helping progress new housing and development schemes that are currently blocked at a planning stage because of a lack of sustainable water supply options in the region.

- The certainty of our need to submit overriding public interest cases to the Environment Agency to delay the capping of some of our licences so we can continue to supply our customers until the transfer from Anglian's Grafham reservoir is available in 2032.

While Fenstanton is small, it is a gravel sands aquifer site where we have an existing licence to abstract 0.4 Ml/d (with the potential for this to increase this to 1.0 Ml/d). It will unlock new developments of between 1,400 and 5,000 households depending on yield, supporting the UK Government's objectives in the region. In addition, it demonstrates that we have taken all reasonable action to prevent overriding public interest cases being submitted, which is an important criteria assessed by the Environment Agency during the process.

As such the scheme will now be included in our revised draft WRMP, and we include costs here as required to deliver on this commitment.

Further information on the background to the emerging need can be found in section 3.1 of appendix SSC-DD-06.

8.1.2 Demonstrating best option approach and cost assurance

In this section, we detail our request for enhancement funding to deliver on Defra's request to recommission the Fenstanton source station at 0.4 Ml/d, and carry out further feasibility work to explore if 1.0Ml/d is possible without impacting the local environment. We have explored a range of options, but our preferred approach is to:

- refurbish the boreholes;
- install new pumping assets; and
- transfer the water to St Ives for treatment and distribution.

The detail around our cost benefit analysis, optioneering, cost estimation and delivery approach, together with evidence of customer support for this scheme, is set out in sections 3.2 to 3.7 of appendix SSC-DD-06.

This new supply-side enhancement scheme will cost £1.950 million and has a benefit cost ratio of 30.7, based on the supply-side resilience and new developments unlocked for our Cambridge region. This additional enhancement case was highlighted to Ofwat in February 2024 as part of query OFW-OBQ-SSC-078.

8.2 Fens reservoir – SRO development costs

We have amended table CW3 with a new cost submission, as set out below.

Ofwat table ref.	Description	Total (£m)
CW3.56	Strategic regional resource solutions; SDB capex	3.300
CW3.57	Strategic regional resource solutions; SDB opex	0.000
CW3.58	Strategic regional resource solutions; SDB totex	3.300

8.2.1 Summary of new investment need

The Fens reservoir is the preferred SRO prescribed by our draft Cambridge WRMP to meet water resource challenges both for our Cambridge region and for Anglian Water. The project is being developed under the Regulators' Alliance for Progressing Infrastructure Development (RAPID) SRO gated process and will secure planning consent through the Development Consent Order (DCO) process.

In the AMP, the model for the reservoir has been aligned to a 'Joint' promoters and funders model, with us and Anglian providing joint funding for development costs on a 50/50 basis and having joint responsibilities to promote the project through the RAPID gated process.

Before we submitted our business plan to Ofwat, it became clear to us that the increasing estimates for the AMP8 development phase costs of the project would present significant and probably insurmountable challenges if the 'Joint' promoter model was continued into AMP8.

Further to our business plan and 'SSC03: Fens Reservoir – our approach into AMP8', which outlined the challenges referred to above, we held numerous discussions with Anglian and Ofwat. The purpose was to identify a way forward that would satisfactorily resolve:

- the challenges for our customers in relation to bill acceptability;
- the impact on our enhancement programme; and
- investor funding given the relative scale of investment required when compared with our customer base, turnover and RCV.

The proposition for AMP8 is that the model sees Anglian take a 'Lead' party role, promoting the project and funding direct development costs, with us taking a 'Non-Lead' party role. This has been confirmed in Anglian's draft determination, with the company being funded for the 'Lead' party role.

Now that this model for AMP8 has been confirmed, and further project development work has taken place in relation to the likely commercial delivery and operational model, we are now in a position to develop a high-level assessment of the activity cost heads and estimated costs that will be incurred as the 'Non-Lead' party.

There is still a degree of uncertainty with the granular detail of the commercial model, but at a high level there is an understanding of the likely contract structures and revenue flows. As such, we can build an estimate from various expected cost heads for which we will require funding to enable us to actively fulfil our obligations to ensure project delivery.

Our 'Non-Lead' party role in the project will primarily require advisory support services to enable us to meet our licence obligations to customers, and implement appropriate levels of oversight, assurance and governance to ensure our customers and the environment will benefit from the project outcomes as intended.

This will mean we have no direct requirement for investment funding for the project delivery development phase. This investment will be Anglian's responsibility, with funding allowances having been confirmed in its draft determination. In that respect, we are supportive of Anglian's AMP8 business plan where it relates to the funding allowances required to deliver the project to ensure successful outcomes for us and our customers.

Of particular note there are two matters on which Anglian will make representations and which we fully support. The first is the request for a separate price control. Given our 'Non-Lead' role, this is not necessarily a need for us for AMP8. But it would be seen as setting a precedent which would be of significant benefit for AMP9 and beyond. The other matter is the concept of base and contingent funding. Although we support Ofwat's intention to minimise at risk sunk costs for customers before a DCO decision, we feel this is at odds with concurrent programmes needed to meet the water into supply date and potentially adversely impacts investability.

We envisage that the specific requirements of our role will be prescribed by a Development Agreement between ourselves and Anglian, specifying certain reserve matters which will require 'Non-Lead' approval. Project progress and cost oversight, governance requirements and assurance matters will be set out in the terms of reference of a Sponsor/Stakeholder Steering Group.

We will be obliged to invest in our oversight and assurance role, and engage as a counter-party to key project contracts and legal instruments.

Subject to the final commercial model, contract and legal instruments are envisaged to include an Infrastructure Provider (IP) revenue agreement, a bulk supply agreement and any other operational/interface agreements, as required. In addition, we envisage we will need to agree regulatory licence amendments with Ofwat.

8.2.2 Cost assurance

The AMP8 cost estimate is that the funding requirement will be £3.3 million. This comprises internal costs of £1.2 million and £2.1 million for external advisory costs. The cost heads and estimate have been subject to third party assurance review by Agilia Infrastructure Partners (Agilia). A detailed cost breakdown and the findings of the Agilia report can be found in chapter 4 of appendix SSC-DD-06.

Given the nature of the activity, the inherent uncertainty in the process, and the limited precedents, there is a level of uncertainty in the estimate. So, we would be open to the concept of a re-opener to review cost forecasts part-way through AMP8 to ensure adequate funding, value for money and cost efficiency.

8.3 PFAS uncertainty

Our plan includes the ongoing business strategy for so-called 'forever chemicals' – specifically per- and polyfluoroalkyl substances (PFAS) alongside the specific PCD introduced by Ofwat in its draft determinations as part of the overall water quality programme. But there is a risk that further operating expenditure (opex) or capital investment needs may arise for PFAS in-period that are not currently included in our plans and expenditure allowances. This is a common sector issue and a joint project has been commissioned with Jacobs to evaluate the risks and potential options.

We would advocate the need for some form of in-period reopener if PFAS investment becomes required. The PCDs that now operate on the majority of the enhancement funding means that should a new regulatory need arise, there is now limited flexibility to reprioritise investment. So, if a new obligation arises, we would need to have additional funding to deliver this.

We would envisage a relatively straightforward and fast mechanism being required. If PFAS investment is required, then we work with the DWI to agree the solution which we then cost. With a DWI letter of support, we would then approach Ofwat to allow the additional funding, which is then included as an uplift to our expenditure allowances and revenues from the following charging year. We would propose a very small or zero materiality threshold, as there is very little headroom to absorb any unfunded needs in enhancement in the AMP8 period given the extent of other commitments.

8.4 Cyber costs

Following the recent a recent review of how we secure data, we now consider there to be additional benefits from encrypting sensitive data such as GDPR and NIS data. [redacted]

[redacted]

So, we have included an additional £1.35 million of costs relating to cyber-security in our enhancement expenditure. There is more detail on this in section 6 of appendix SSC-DD-06.








Part 4:
Risk and return

9. Regulatory capital value run-off rate

Summary

In our business plan, we estimated a natural regulatory capital value (RCV) run-off rate of 5.1% for AMP8, compared with 6.58% in AMP7. The RCV run-off rate represents how much of previous capital investment is recovered from customers each year. In line with Ofwat's guidance on the upper limits of water companies' RCV run-off rates, we assumed a rate of 4.5% in our business plan.

In our draft determination, Ofwat proposed an RCV run-off rate of 4.09%. This implies an allowed revenue reduction of £11 million or 1.3% during AMP8.

Our concern with this approach is that it will keep customers' bills artificially low in AMP8, leading to greater pressure on those bills in future AMPs. It will also have a negative impact on our financeability at a time when companies need to attract considerable amounts of debt and equity finance to deliver their ambitious investment programmes.

In addition, we are also concerned that Ofwat appears to be focused on a five-year time frame, without accounting for the fact that the investment challenge faced by the sector is a long-term one.

So, we are asking Ofwat to unwind its proposed RCV run-off reduction and allow a rate of 4.5%, as set out in our business plan.

9.1 Business plan and draft determinations context

In our business plan, we estimated the natural RCV run-off rate by:

- updating the PR19 current cost approach methodology, through uplifting the asset base revaluation by CPIH inflation in each year;
- removing fully depreciated assets; and
- adding new investments.

This resulted in a natural run-off rate of 5.1% for AMP8, compared with an average RCV run-off rate of 6.58% in AMP7. Given Ofwat's business plan guidance on the upper limits of RCV run-off rates, our business plan assumed an RCV run-off rate of 4.5%.

In its draft determinations, Ofwat has estimated RCV run-off rates by estimating remaining asset lives based on 2021/22 published company accounts. It has then made further adjustments where it considers companies have financial headroom (on the notional company basis). As a result, Ofwat has proposed to lower the RCV run-off rates for 12 out of 16 companies relative to the rates proposed in their business plans, implying a sector average reduction from 4.37% to 4.02%[11].

For us, Ofwat has proposed a run-off rate of 4.09% for the water resources and network plus price controls, compared with a 4.5% run-off rate proposed in our business plan. This implies an allowed revenue reduction of £11 million or 1.3% based on Ofwat's calculations[12].

In deciding to lower the run-off rates, Ofwat states that it has considered the following factors.

- Affordability.
- Financeability.
- Intertemporal[13] fairness.

Any decision on adjusting the RCV run-off rates implies a trade-off between the following objectives, as they imply counteracting adjustments.

- The affordability objective, based on keeping bills as low as possible in AMP8. This might imply lowering the RCV run-off rates, as this directly reduces the allowed revenues in AMP8.

- The financeability objective should lead to setting the RCV run-off rates at their natural rate. This is because the primary purpose of financeability testing is to ensure the normal operation of the business is financially sustainable and consistent with the target credit rating set by Ofwat.

[11] 'PR24 draft determinations. Aligning risk and return appendix', Ofwat, July 2024, p.44.

[12] Ibid., pp.77–78.

[13] Intergenerational.

- The intertemporal fairness objective can necessitate changing the RCV run-off rate in either direction, depending on the context of network development and population growth. A reduction in the run-off rate leads to lower bills in the initial price control period, but leads to higher bills in future periods, as a higher RCV base is retained (and vice versa).

In practice, Ofwat's approach in its draft determinations is to identify companies that it considers have financial headroom based on its notional financeability assessment and then to adjust RCV run-off rates for those companies to achieve a funds from operations (FFO)/debt ratio of 10.00% (to two decimal places). This means Ofwat is using the notional company financeability assessment as a tool to calibrate the price control, rather than as a cross-check that its price control is financeable.

Ofwat's decisions to i) place strict upper limits on RCV run-off; and ii) further amend the RCV run-off rate to artificially keep bills down in AMP8 are inconsistent with regulatory best practice. They will lead to greater bill pressures in future AMPs and have a negative impact on financeability during AMP8, at a time when the sector needs to attract considerable amounts of debt and equity finance.

9.2 Regulatory precedents on the treatment of RCV run-off rates

In the PR19 re-determinations, RCV run-off rates were not a contested issue. But Ofwat made adjustments to pay-as-you-go (PAYG) rates for a number of companies with a view to improving financeability. These adjustments were challenged by companies as part of the CMA's re-determinations[14]. In its decisions, the CMA upheld the companies' view that PAYG and RCV run-off rates should be set at their 'natural' levels[15].

9.3 Impact on customers' bills

Ofwat's adjustments are intended to keep headline customer bill increases down at PR24. It argues that the adjustments will help to avoid a step increase in charges in AMP8. But changes to the RCV run-off policy have an impact not only on the current price control period, but on future price control periods as well. This is because the carrying amount of total RCV is directly affected.

So, to inform a robust RCV run-off assumption it is important to consider its long-term impacts. This is particularly important in the context of PR24 as the increase in investment relative to past levels is not forecast to be a one-off and is instead expected to continue for multiple AMPs (based on companies' long-term delivery strategies). This means it is critical to think about the optimal price path over multiple AMPs—efforts to minimise the increase in bills today will create even larger increases in bills in the future.

Ofwat's decision appears to be focused on a five-year time frame, without accounting for the fact that the investment challenge is a long-term issue that requires long-term thinking. To test the long-term impact on customers and revenue to the business, we have sought to model the long-term impact of adjusting the RCV run-off rates on customers' bills.

9.3.1 Customer bill forecast assumptions

To evaluate the long-term impact of Ofwat's adjustments to RCV run off rates, we have developed forecasts of the average customer bill over the next 25 years under different run-off assumptions. These forecasts are based on several key assumptions (a breakdown of forecast assumptions outlined in the annex at the end of this chapter).

- AMP8 bills and revenues are based on the Ofwat draft determinations price control financial model (PCFM) assumptions.
- Enhancement capex from AMP9 onwards is based on the 'core' pathway of the long-term delivery strategy (LTDS).
- Maintenance capex from AMP9 onwards is based on the 'natural' RCV run-off rate estimated in our business plan at 5.1% of RCV.
- Population growth is based on the LTDS forecast.
- The opex forecast is calculated as a constant proportion of opening RCV from end of AMP8 onwards, to reflect a potential increase in opex as the total value of the network grows.

[14] 'Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations. Final Report'. CMA 17 March 2021, para. 10.78.

[15] Ibid., para. 10.82.

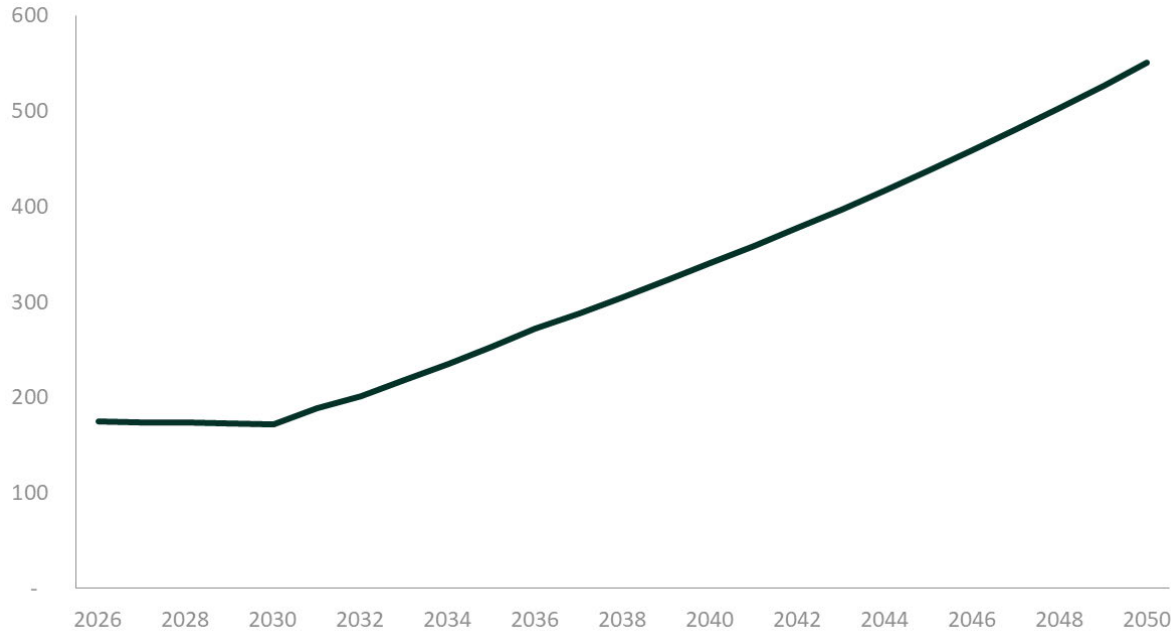
- The weighted average cost of capital (WACC) parameters are assumed to be consistent with Ofwat's draft determinations, with changes in WACC between AMPs driven by an increasing share of new debt.

This specification allows us to test the impact of RCV run-off assumptions on the overall customer bill forecast. As a central scenario, we assume that from AMP9 onwards, the RCV run-off rate is increased back to the 'natural' rate estimated in our business plan (5.1%), plus an additional rate increase required to offset the under-recovery during AMP8 relative to the 'natural' rate. This results in an RCV run-off rate of 5.28% from AMP9 onwards.

We also test the impact on the bill forecast of keeping the rate constant at 4.09% (as set by Ofwat for AMP8), 4.5% and 5.1% for the entire period.

9.3.2 Customer bills central forecast

The results of the central bill forecast scenario are summarised in the chart below. Under the central forecast scenario, bills are forecast to increase significantly from AMP9 onwards, as the extensive enhancement programmes materialise and the reduction in the RCV run-off rate is unwound. The average customer bill is set to increase from around £175 in AMP8 to around £550 by the end of AMP12. The chart shows that while the RCV adjustment in AMP8 helps to keep bills down until 2030, it does not prevent step increases in bills into the future.



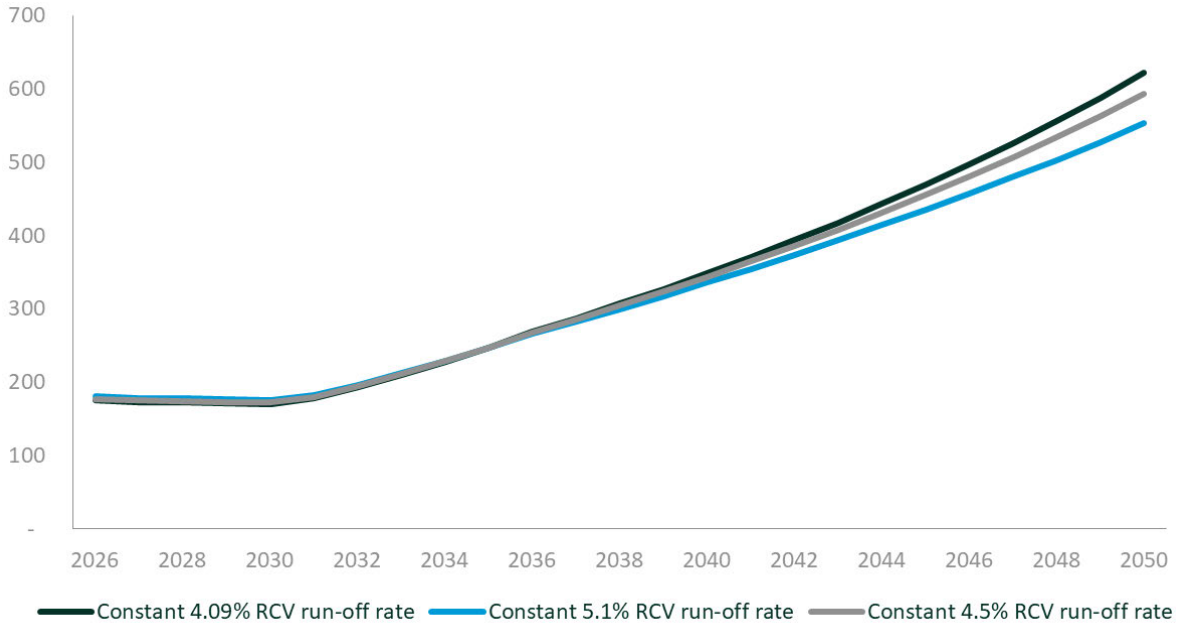
Source: Oxera analysis.

The customer bills forecast is sensitive to the underlying assumptions – in particular, on the level of required opex, customer growth and return on capital. Nonetheless, given the relatively high enhancement plans and corresponding network maintenance needs, it is reasonable to assume that customer bills will rise significantly over the next 25 years.

9.3.3 Customer bills forecast sensitivity to RCV run-off rate assumptions

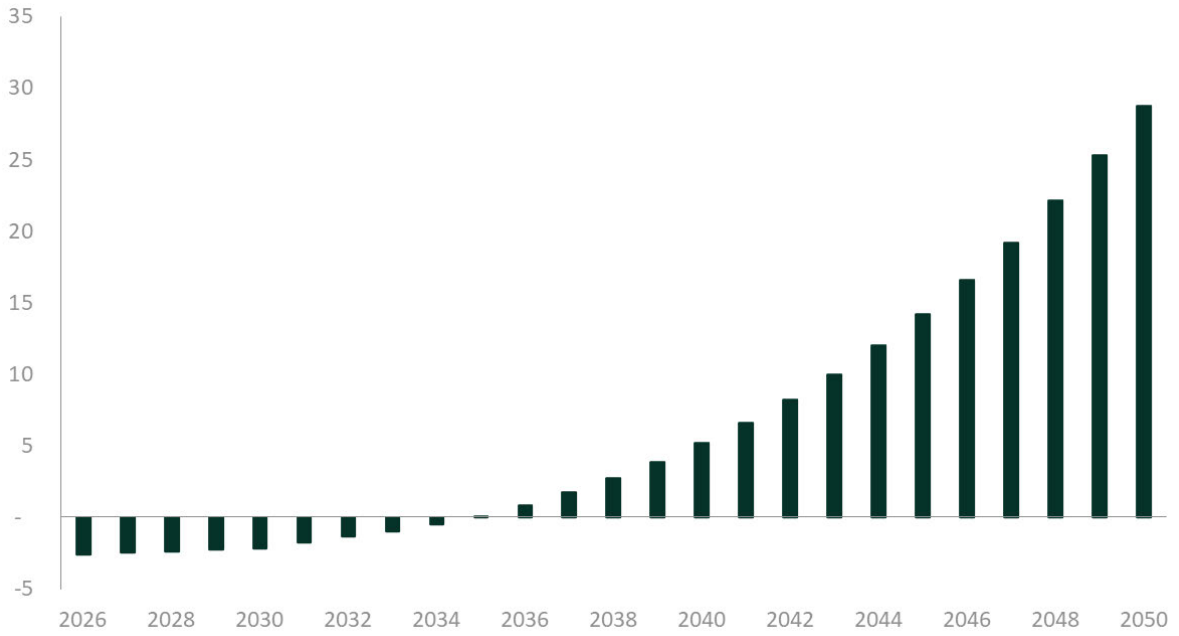
We also forecast customer bills using the same modelling specification but assuming RCV run-off rates remain constant throughout the period either at 4.09% as set in the draft determinations; at 5.1%, the estimated 'natural' rate; and at 4.5%, the value adopted in our business plan based on the upper rate allowed within Ofwat's methodology.

The chart below summarises the sensitivity of average customer bill forecast to varying constant RCV run-off rate assumptions over time. Based on the forecast assumptions, a higher RCV run-off rate (5.1%) leads to a minimal increase in customer bills in AMP8 and AMP9, and lower customer bills from AMP10 onwards, as lower carrying RCV value begins to outweigh the higher RCV run-off charge, relative to the draft determinations RCV run-off rate (4.09%).



Source: Oxera analysis.

The reduction of RCV run-off rates from the level of 4.5% proposed in our business plan to 4.09% proposed in the draft determinations has a very limited impact on affordability in AMP8, reducing the average consumer bill by around 1.4% each year. Conversely, this reduction in RCV run-off rates leads to an increase in average bills from AMP10 onwards. We summarise the overall relative bill impact in the chart below.



Source: Oxera analysis.

The reduction of the RCV run-off rates for AMP8 places further pressure on the bill increases in the following periods, as it leads to cash flow re-profiling as a result of retaining a higher RCV level. This reinforces the expected future affordability pressures driven by the significant investments in the sector over the next 25 years.

Despite the forecast customer growth of more than 20% over the next 25 years, the cash flow re-profiling puts increased pressure on intertemporal fairness, as the average customer paying less today directly results in an average customer paying more in the future. This analysis indicates that Ofwat's decision to adjust RCV run-off at

PR24 is not just storing up a problem for the future, it will actively exacerbate that future problem by increasing the amount of cost that needs to be recovered from future generations.

On balance, changes to RCV run-off rates on grounds of affordability have to consider carefully the interests of current consumers against the interest of future consumers. This is consistent with the UK Government's strategic priorities to Ofwat, which state, "The government has committed to taking a long-term approach to investment, recognising that a system that works in the enduring interests of consumers does not simply mean lower prices in the short-term at the expense of future generations."[16]

9.4 Our customers' views on intertemporal fairness

A key part of our customer research involved gaining a robust understanding of our customers' views on intertemporal fairness – in particular, for long term investments. A key conclusion is that customers focus on what is "fairest for all generations" when considering long-term bill profiles, spreading the cost evenly so that no generation is adversely affected.

As part of this research we also engaged with 16- to 18-year-olds to discuss a high-level concept test around phasing of long-term bill profiles. The option where all generations pay a similar amount was viewed as the fairest and most popular.

We set out this evidence in section 1.5 of business plan appendix 'SSC07: Customer engagement strategy and key insights'. In the quantitative stage of our PR24 affordability and acceptability testing research carried out in September 2023, household and non-household bill paying customers were asked the mandated question on intertemporal fairness around long-term bill profile preferences. There was a much stronger preference for the option where bill increases start sooner and then are spread evenly across the generations, with 42% selecting this option.

9.5 Impact on financeability

In our draft determination, Ofwat assessed our proposed settlement to be financeable on a notional company basis[17]. This result is underpinned by an assumption of a reduced dividend yield and an equity injection of £19.1 million on the notional basis. The table below summarises the results of Ofwat's financeability assessment.

Key financial ratios	2025/26	2026/27	2027/28	2028/29	2029/30	5-year average
Adjusted cash interest cover ratio (Ofwat)	1,796	1.595	1.583	1.638	1.667	1.652
Adjusted cash interest cover ratio (alternative)	1,796	1.595	1.583	1.638	1.667	1.652
Funds from operations/net debt (Ofwat)	10.79%	9.72$	9.54%	10.00%	10.03%	9.99%
Funds from operations/net debt (alternative)	10.17%	8.87%	8.76%	9.07%	9.42%	9.23%

Source: Ofwat.

These results are compared with an AICR of 1.7x required to achieve the Moody's target rating of Baa1 for a small water only company and an FFO/net debt (alternative) of 9% required to achieve the S&P target rating of BBB+.

Thus, Ofwat's modelling suggest no headroom over either the AICR or FFO/net debt threshold (which is below the threshold for part of the AMP).

On balance, the notional financeability assessment does not show significant headroom over the credit metric thresholds, which is particularly important at the time of increased scrutiny on the UK water sector. Lowering the RCV run-off rates places further downward pressure on financeability metrics, all else being equal. Reduction of the RCV run-off rates since companies submitted their business plans has been flagged by Fitch as one of the challenges facing the water companies over the next regulatory period[18]. Considering these factors, a higher RCV run-off rate of 4.5% proposed in our business plan seems reasonable.

The impact of Ofwat's run-off rate adjustments is to increase the required equity injection for the notional company. This means equity investors are effectively

[16] 'February 2022: The government's strategic priorities for Ofwat'. Department for Environment, Food and Rural Affairs, 28 March 2022.

[17] 'PR24 draft determinations. Aligning risk and return appendix '. Ofwat, July 2024, p.54.

[18] 'UK Water Companies After the Draft Determination'. Fitch, 26 July 2024.

being asked to put cash into the business to finance bill subsidies in the current AMP.

Given the significant amounts of debt and equity that are needed in the sector over multiple AMPs to deliver environmental improvements, deliver a resilient service as the population grows, and adjust to changing weather patterns, it is critical that investors have confidence that the regulatory framework is stable, predictable and will allow them to recover their costs. The adjustments to run-off rates run counter to this, and effectively signal to investors that Ofwat is willing to arbitrarily delay cost recovery in the name of short-term 'affordability' with no consideration of the long-term consequences.

9.6 Our ask of Ofwat

Based on the analysis set out above, we consider that:

- Ofwat's proposals do not adequately consider the long-term picture. Given the significant investment required over multiple AMPs, efforts to artificially reduce bill increases now will create even larger increases in the future, resulting in a less equitable distribution of cost recovery between current and future generations;
- the proposals have a negative impact on financial ratios. The financeability assessment should be used as a cross-check that cash flows within a period are sufficient for the company to meet its obligations, rather than being used as a tool to calibrate regulatory parameters by solving for a target FFO/net debt ratio;
- equity injections should be used to finance investment, rather than bill subsidies for current customers; and
- with the need to attract considerable amounts of debt and equity investment, Ofwat needs to send positive signals to potential investors. Reducing RCV run-off below the natural rate has the opposite effect—signalling to investors that Ofwat is willing to delay cost recovery, and reduce short-term cash flow, to keep prices below the cost-reflective level.

So, we are asking Ofwat to unwind the proposed RCV run-off reduction and allow a rate of 4.5% as set out in our business plan.

9.7 Annex: modelling assumptions

We have made the following assumptions for forecasting the average customer water bill from 2025 to 2050.

- AMP8 bills and revenues based on the Ofwat draft determinations price control financial model (PCFM) assumptions.
- Enhancement capex from AMP9 onwards based on the 'core' pathway of the LTDS.
- Maintenance capex from AMP9 onwards based the 'natural' RCV run-off rate estimated in our business plan of 5.1% of RCV.
- Population growth based on the LTDS forecast.
- Proportion of residential customers based on the PCFM forecast up to 2030 and assumed constant in following periods.
- Opex forecast as a constant proportion of opening RCV from end of AMP8 onwards, to reflect a potential increase in opex as the total value of the network grows.
- Constant WACC parameters consistent with the draft determinations, with changes between AMPs driven by an increasing share of new debt.
- Cost to serve customers assumed constant in real terms.
- Retail margin assumed constant at 1.2%.

10. Financial resilience

Summary

We have considered in detail what our draft determination means for our financial resilience over the five years to 2030 and beyond.

We have refreshed our internal financial models to provide us with an update of our key financial metrics – the adjusted cash interest cover ratio (AICR), funds from operations (FFO)/net debt and gearing.

We have also re-run Ofwat's stress testing scenarios, and included additional areas where we think our draft determination still exposes us to risk and on which we are making representations. These relate to a 20% increase in energy costs and a £2 million ODI penalty in each year of AMP8. And we have run a combined scenario of the two.

Having considered our draft determination, the stress tests performed and the assurances from our shareholder, the Board considers the company to be financeable from a debt perspective through the five years to 2030 and for the foreseeable subsequent period based on the wide range of severe, but plausible, scenarios presented.

But our draft determination will make it difficult to attract new investors as returns would be below the allowed cost of equity where mitigations are required to ensure we remain financially resilient.

Moody's has highlighted concerns over the balance of risk in Ofwat's draft determinations and has said it may lead it to lower its view of the stability of the regulatory framework, which would have a negative impact on credit ratings.

We have considered what our draft determination means for our financial resilience. In our business plan, our base metrics were as follows.

Key financial ratios	2025/26	2026/27	2027/28	2028/29	2029/30	5-year average
Adjusted cash interest cover ratio – AICR (Moody's, including non-appointed business)	1.93	1.81	1.71	1.62	1.58	1.73
Funds from operations (FFO)/net debt (S&P)	8.8%	8.5%	8.2%	7.8%	7.9%	8.3%
Gearing	66.9%	67.8%	68.9%	70.0%	70.3%	68.8%

We have updated our own internal models to provide an update on the key metrics of adjusted cash interest cover ratio (AICR), funds from operations (FFO)/net debt and gearing. This gives the following metrics where we continue to use a 4% dividend yield.

Key financial ratios	2025/26	2026/27	2027/28	2028/29	2029/30	5-year average
Adjusted cash interest cover ratio – AICR (Moody's, including non-appointed business)	2.23	2.02	1.93	1.84	1.76	1.96
FFO/net debt (S&P)	9.1%	8.6%	8.4%	8.1%	7.9%	8.4%
Gearing	67.9%	68.2%	68.8%	69.1%	69.8%	68.8%

We have reconciled the movements between the two for AICR and FFO/net debt.

Our AICR metric has improved as a result of a higher cost of capital allowance of 3.86% compared with 3.69%; and the treatment of recovery of Fens reservoir expenditure incurred over AMP8 being split on PR19 PAYG rates, compared with it being 100% capex in our business plan.

These improvements have been partially offset by the impact of an £8 million penalty for PCC.

Although FFO/net debt also benefits from this, the reduction in the RCV run-off rate from 4.5% to 4.09% results in very little change from our business plan.

The modelled AICR is above the current 1.7x threshold advised by Moody's for a target credit rating of Baa1. FFO/net debt is marginally below the S&P guidance to achieve BBB+. But we think we would still maintain our target credit rating, albeit with a downward trend over the period. The most significant driver for the lower metric is the proposed reduction in the RCV run-off rate.

Each 1% reduction in the run-off rate impacts the metric by around 0.7%. We think S&P would most likely take this into account in its assessment of our credit rating, given the longer-term strengthening of cash flows. But if S&P still required stronger metrics to maintain the current rating at BBB+, we would pay a lower divided yield accordingly. For example, reducing dividends to zero would give an average FFO/net debt ratio of 9.2% for the period.

We have stress tested our draft determination with a 4% dividend yield, using the same prescribed Ofwat scenarios as we used in our business plan. We have also run three specific scenarios in relation to a 20% increase in energy costs, a £2 million ODI penalty each year and the combined impact of both as we see these as key risks on which we are making representations. This provides the following outputs.

Key financial ratios		AICR (Moody's, inc. non-appointed business)	FFO/net debt (S&P)	Gearing
Totex underperformance (10%)	Average	1.4	6%	75%
	Lowest	1.3	5%	81%
ODI underperformance payment	Average	1.9	8%	70%
	Lowest	1.6	7%	72%
Inflation under forecast	Average	1.9	9%	70%
	Lowest	1.7	9%	74%
Deflation	Average	1.9	9%	70%
	Lowest	1.8	8%	72%
High inflation	Average	2.0	6%	68%
	Lowest	1.8	3%	71%
Increase in bad debt	Average	2.0	8%	69%
	Lowest	1.8	8%	71%
High cost of new debt	Average	1.9	8%	69%
	Lowest	1.7	7%	72%
Financial penalty	Average	1.9	8%	70%
	Lowest	1.5	6%	72%
ODI penalty £2 million a year	Average	1.8	8%	70%
	Lowest	1.6	7%	72%
Energy costs + 20%	Average	1.8	8%	70%
	Lowest	1.6	7%	72%
Combined scenario (ODI penalty plus energy costs)	Average	1.6	7%	71%
	Lowest	1.4	6%	74%

The outputs show that average AICR remains at target except for the totex and combined scenario. FFO/net debt is generally consistent with one notch below our target rating. But under the following scenarios we would be at the minimum investment grade.

- Totex underperformance. We think a 10% overspend in totex (both capex and opex) is an extreme scenario and highly unlikely to arise. The largest overspend we have experienced over the last four AMPs was 6.8% in the five years from 2000 to 2005, as set out in annex A of Ofwat's final methodology appendix on aligning risk and return. This annex also shows that since 2000 there have only been a handful of instances where totex overspend by individual companies was close to or above 10%. If we model a more realistic overspend of 7%, credit ratings improve by one notch.

- **High inflation.** FFO/net debt is below target as a result of the spike in inflation and a significant RPI/CPIH wedge. This has a particular impact on us as a result of the long-dated RPI index-linked debt held. This situation is similar to that which occurred in 2022/23 where CPIH inflation spiked at 9.6% in October 2022 and the RPI/CPIH wedge increased to 4.7%. S&P recognised it was a one-off event and there was no downgrade as a result. So, we do not think this would be a cause for concern.

We also recognise the regulatory mechanisms in place that mitigate some of the scenarios. For example, the true-up of totex through the cost sharing mechanism and the energy RPE adjustment mechanism would mean the metrics would be expected to be restored to target levels from 2030. We have calculated a 'shadow' position as if these were applied in-period to understand the true impact of the scenario over the long term for the totex, energy and combined scenarios. This gives us the following metrics.

Key financial ratios		AICR (Moody's, inc. non-appointed business)	FFO/net debt (S&P)	Gearing
Totex underperformance (10%)	Average	1.6	7%	71%
	Lowest	1.4	6%	74%
ODI underperformance payment	Average	1.9	8%	70%
	Lowest	1.6	7%	72%
Inflation under forecast	Average	1.9	9%	70%
	Lowest	1.7	9%	74%
Deflation	Average	1.9	9%	70%
	Lowest	1.8	8%	72%
High inflation	Average	2.0	6%	68%
	Lowest	1.8	3%	71%
Increase in bad debt	Average	2.0	8%	69%
	Lowest	1.8	8%	71%
High cost of new debt	Average	1.9	8%	69%
	Lowest	1.7	7%	72%
Financial penalty	Average	1.9	8%	70%
	Lowest	1.5	6%	72%
ODI penalty £2 million a year	Average	1.8	8%	70%
	Lowest	1.6	7%	72%
Energy costs + 20%	Average	1.9	8%	69%
	Lowest	1.7	7%	71%
Combined scenario (ODI penalty plus energy costs)	Average	1.7	7%	70%
	Lowest	1.5	7%	73%

The Board of South Staffordshire Plc, our parent company, and the representatives of Arjun Infrastructure Partners (AIP) have confirmed they are confident that, if required under the stress test scenarios, the Group structure allows the potential to provide additional equity by:

1. using free cash flow from the unregulated associated group companies;
2. selling other Group companies and injecting the net proceeds as fresh equity; or
3. AIP securing additional investment commitments from the ultimate fund investors or from new investors willing to inject equity alongside them.

We have re-run our stress testing scenarios against a scenario where dividends are restricted to zero. The outputs are shown below.

Key financial ratios		AICR (Moody's, inc. non-appointed business)	FFO/net debt (S&P)	Gearing
Totex underperformance (10%)	Average	1.5	6%	72%
	Lowest	1.4	6%	76%
ODI underperformance payment	Average	2.0	9%	66%
	Lowest	1.7	7%	67%
Inflation under forecast	Average	2.0	10%	66%
	Lowest	1.9	10%	68%
Deflation	Average	2.0	10%	66%
	Lowest	2.0	9%	68%
High inflation	Average	2.2	7%	64%
	Lowest	2.0	3%	66%
Increase in bad debt	Average	2.1	9%	65%
	Lowest	2.0	9%	67%
High cost of new debt	Average	2.0	9%	65%
	Lowest	1.8	9%	67%
Financial penalty	Average	2.0	9%	66%
	Lowest	1.5	7%	68%
ODI penalty £2 million a year	Average	1.9	9%	66%
	Lowest	1.8	8%	67%
Energy costs + 20%	Average	1.9	9%	66%
	Lowest	1.8	8%	67%
Combined scenario (ODI penalty plus energy costs)	Average	1.7	8%	67%
	Lowest	1.6	7%	67%

The outputs show that, under most cases, average credit metrics are now consistent with our target rating. Only under the more severe stress test of totex underperformance, high inflation and our combined scenario does FFO/net debt in particular remain below target, although still investment grade. We have already set out above why we do not think that the totex and high inflation scenarios would cause concern and if we again apply the regulatory true-ups for cost sharing and RPEs the 'shadow' metrics would be updated to the following.

Key financial ratios		AICR (Moody's, inc. non-appointed business)	FFO/net debt (S&P)	Gearing
Totex underperformance (10%)	Average	1.7	8%	68%
	Lowest	1.6	7%	69%
ODI underperformance payment	Average	2.0	9%	66%
	Lowest	1.7	7%	67%
Inflation under forecast	Average	2.0	10%	66%
	Lowest	1.9	10%	68%
Deflation	Average	2.0	10%	66%
	Lowest	2.0	9%	68%
High inflation	Average	2.2	7%	64%
	Lowest	2.0	3%	66%
Increase in bad debt	Average	2.1	9%	65%
	Lowest	2.0	9%	67%
High cost of new debt	Average	2.0	9%	65%
	Lowest	1.8	9%	67%
Financial penalty	Average	2.0	9%	66%
	Lowest	1.5	7%	68%
ODI penalty £2 million a year	Average	1.9	9%	66%
	Lowest	1.8	8%	67%
Energy costs + 20%	Average	2.0	9%	66%
	Lowest	1.9	9%	67%
Combined scenario (ODI penalty plus energy costs)	Average	1.8	8%	67%
	Lowest	1.7	8%	67%

Although the modelling assumes dividend yield can be reduced – ultimately to zero – to solve debt financeability ratios, this clearly assumes the equity is financeable on these terms. In fact, the wider sentiment towards UK water companies and the scale of new debt and equity needed to meet the investment requirements means that existing and potential new equity providers are looking very critically at the relative attractiveness of the sector.

These investors need a proportion of predictable cash yield to support their investment decisions, and not just rely on asset value growth, with uncertainties as to how realisable this will be. So, for the price control package to be financeable to equity the core scenarios need to deliver a stable and predictable cash yield and only the most extreme downside scenarios, and where the company is under-performing a balanced series of measures, should the cash yield need to reduce to zero.

As an example, we have modelled a scenario on our draft determination where we:

- spend totex in line with our business plan, which reflects our view of energy cost funding required;
- we incur ODI penalties of £10 million based on our view of the current incentive package at P50 as set out in section 2.5; and
- we apply our own actual cost of debt compared with to the allowed cost of debt in our draft determination.

Overall, this serves to reduce the equity return from an allowance of 4.8% to less than 3% on a notional basis, which would make it less attractive to equity providers.

In addition, the increased risk to a predictable dividend yield should be considered in Ofwat's cost of equity asset beta estimates, where the market data relies on a narrow group of public water companies that in the historic data set have always paid a dividend.

Ofwat's proposal to restrict dividends where companies' gearing is above 70% will also hinder those companies' ability to attract new investors.

Credit rating agencies have highlighted the risk the current draft determinations bring to the ability of companies to raise equity funding. Moody's is considering lowering its view of the regulatory framework's stability, predictability and supportiveness because of:

- the risks of cost overruns;
- an increasing risk of incurring ODI penalties; and
- allowed returns being too low to attract new equity to fund investment programmes.

The impact of this change would be to reduce credit metrics by one notch. To maintain the current credit rating, it would require AICR to be higher. For us, this would mean the threshold would need to increase from 1.7x to 1.8x.

We set out in our representations below how Ofwat can ensure the business remains attractive to equity investors and addresses the issues set out by Moody's above.

- An appropriate RCV run-off rate (see chapter 9).
- Removal of the 2020/25 PCC penalty of £8 million (see chapter 2).
- Appropriate funding for energy costs (see chapter 4).
- A balanced ODI package to remove the current skew towards penalty (see chapter 1).

10.1 Financial resilience in the longer term

We have also updated our modelling to consider the metrics for the five years from 2030 to 2035 (AMP9) based on the draft determination scenario, with no dividend yield for 2025/30 as set out above. We have used the following assumptions.

Key area	Assumptions
Totex	We have assumed that costs are as those for the AMP8 draft determination in real terms.
Retail costs	We have assumed that retail costs are consistent with the 2025/30 period, with allowances rebased to 2027/28 prices.
PAYG rates	We have assumed that we continue with the natural rate based on the split of opex and capex.
RCV run-off	This remains at 4.09% for the period.
End-of-period PR24 reconciliations	We have assumed that there are no net adjustments from the various reconciliations – for example, totex and ODIs.
WACC	We have assumed that the WACC remains unchanged from our draft determination/
Dividend yield	We have assumed this to be 4%.
Customer numbers	This grows in line with our property growth projections from new developments.

The key metrics for both Moody's AICR, S&P FFO/net debt and gearing are summarised below for both the average and the lowest value.

Metric	2030/35 average	2030/35 low	Target level
AICR	1.82	1.79	1.7x
FFO/net debt	9.2%	9.0%	9%
Gearing	62%	64%	<75%

The modelling output shows that metrics are consistent with our target credit rating of Baa1/BBB+.

Stress testing this plan would lead to very similar outputs as those for 2025/30 and under those circumstances we would consider the same mitigations to return metrics to a level consistent with our target rating.

10.2 Board assurance statement on financial resilience

The Board assurance statement on financial resilience is set out on page 9.

Part 5:
Addressing Ofwat's actions

11. Dividend policy

Summary

In May 2023, Ofwat introduced a new principles-based licence condition on dividend payments that requires companies to consider:

- current and future investment needs, set within the context of long-term financial resilience;
- service delivery for customers and the environment, including meeting performance targets and other obligations; and
- the effective management of risks, set within the context of overall cost efficiency.

In accordance with this licence condition and in response to challenge from Ofwat in our draft determination, we have clarified our dividend policy.

Each year, we make an in-the-round assessment of our performance in relation to the new licence condition, which determines the payment of a dividend. This includes a consideration of:

- whether paying a dividend will materially impact our financial resilience;
- our performance against key targets in terms of the services we deliver to customers;
- how we deliver for the environment over the long term;
- whether we remain on track to deliver our investment programme; and
- whether we have continued to do all this efficiently.

In May 2023, Ofwat introduced a new licence condition for companies requiring that any dividends declared or paid are made in accordance with the following key principles.

- That dividends declared or paid **will not impair the ability of the Appointee to finance the Appointed Business**, taking account of current and future investment needs and financial resilience over the longer term.

- That dividends paid or declared **take account of service delivery for customers and the environment over time**, including performance levels, and other obligations.

- That dividends declared or paid **reward efficiency and the effective management of risks** to the Appointed Business.

Below, we set out the assessment areas that are considered when determining the dividend.

11.1 Choice of base dividend yield

The choice of base yield for appointed activities is determined based on several factors.

- The starting point is the **cost of equity allowed at PR24**, based on a notional gearing of 60% and performing in line with the final determination package. Taking any more than this without outperformance would mean us advancing revenues from future periods from customers to fund it.

- The next consideration is the **level of investment we are committing to** over the five-year planning period. Where there is significant investment, there may be a requirement to reduce the base yield to fund it.

- The final consideration is the **level of gearing**. To ensure we have some headroom in our debt covenants and credit rating, we aim to make sure our gearing levels do not exceed 70%.

11.2 Financial resilience

The Board will consider if paying a dividend will materially impact our resilience over the short and longer term or impair our ability to finance future investment needs. The key areas on which the Board determined that the dividend would not impact on financial resilience are as follows.

- Approved **budgets and plans** to ensure all key financial metrics used both by the credit rating agencies and debt lenders will still meet the required target levels. This also includes stress testing as part of the overall long-term viability statement published in our annual report and financial statements each year, which covers a ten-year period.

- The level of liquidity and facilities in place to fund our investment programme over the five-year business planning period.
- The credit ratings held by both Moody's and S&P – in particular, if there has been or is likely to be a downward revision in our rating.
- Covenants compliance under all significant debt, including the index-linked Artesian loan and bond, where there are various conditions that need to be met before a dividend can be paid.

11.3 Benefits of high inflation

The asset base of the business is indexed by CPIH. We recognise that if companies hold a significant level of fixed-rate debt, this will result in a beneficial increase in regulated equity and hence a higher dividend based on the same percentage dividend yield.

We currently hold around 75% of index-linked debt, and this increases with inflation. This is exacerbated by the fact that this debt is linked to RPI rather than CPIH. Historically, RPI is around 1% higher than CPIH and modelling suggests there is currently no significant benefit from high inflation on our gearing levels. We confirmed this in our annual performance report for the year ended 31 March 2024 (see page 51).

Over AMP8, the proportion of index-linked debt falls as our plans assume that new investment is funded with fixed-interest debt. By 2030, we estimate this will be around 60% of our total debt. So, there could be some benefit accruing under a high inflation scenario towards the end of the period. The dividend policy is that, in this situation, any benefits would be retained within the business.

11.4 Service delivery for customers

The Board will consider the performance in delivering for customers. This will be in reference to the level of ODI performance in the round. Where overall performance is in penalty, the level of dividend will be adjusted accordingly. This will also include the consideration of the likely level of performance in the future and whether dividends should be reduced to allow investment in areas of poor performance.

11.5 Current and future investment needs

The Board will consider whether we are on track to deliver our investment programme and the likely investment needs in the future, including any known risks that could require additional investment.

In the event of outperformance of allowances, we will consider if the sharing of a proportion of any rewards with investors is appropriate, taking account of the phasing across the five-year business planning period, to reflect acceleration or delay of expenditure because of timing differences.

11.6 Cost efficiency

Aligned with the principle that dividends should reward efficiency and effective management of risk, the Board will consider whether we are outperforming our allowances and consider if the sharing of a proportion of any rewards with investors is appropriate.

At the same time, the Board will take account of the phasing across the five-year business planning period, to reflect acceleration or delay of expenditure because of timing differences. If we are underperforming, then consideration will be given as to whether dividends should be reduced.

11.7 Delivery for the environment over time

We updated our dividend policy in 2023/24 to include environmental factors under a separate consideration. This includes:

- our long-term impact on the environment;
- responding to climate change;
- security of water supply;
- delivery of our WRMPs;
- compliance with licences and permits;
- biodiversity programmes; and
- sludge use.

Specific factors that will be considered are:

- the successful delivery of our water industry national environment programme (WINEP), with all activities completed within the appropriate timescales;
- compliance with regards to abstraction licence conditions; and
- compliance with our discharge permits.

Any poor performance in these areas will be taken into account when considering the appropriate level of dividend to be paid, including the likelihood of improvement over the longer term.

11.8 Reporting

The Board's assessment of the level of dividend paid each year will be set out in our annual performance report. This will provide a clear explanation that fully justifies the level of dividend and demonstrates that is in line with the current policy. This is important as it will help to maintain customers' and other stakeholders' trust and confidence.

12. Executive pay policy

Summary

Our Executive pay policy establishes the principles, framework and guidelines governing the remuneration of the Managing Director and the Executive Directors. We have implemented the policy with fairness, transparency and accountability in mind. It is designed to enable us to attract, retain and motivate high-calibre Executive Directors across the business, while making sure we always comply with our legal and regulatory requirements.

The policy considers a range of factors, including the components of Executive pay and the provisions we have put in place in the event of an Executive Director engaging in conduct that is detrimental to the interests of the business or that causes it significant harm. It also sets out how annual and deferred bonuses are determined and the conditions under which they can be awarded. And it considers the benefits that contribute to Executive Directors' overall remuneration.

The Remuneration Committee is responsible for approving and overseeing the implementation of this policy. When the Committee makes decisions on Executive pay, it takes into account the financial performance of the South Staffordshire Plc Group of companies, the interests of shareholders, and the applicable legal and regulatory requirements.

In response to challenge from Ofwat in our draft determination, we have clarified our Executive pay policy. This includes incorporating a substantial link between Executive pay and delivery for customers and the environment.

12.1 Objectives of the policy

The policy's objectives are to:

- attract, retain and motivate high-calibre Executive Directors;
- align the objectives and performance of the Executive Directors with those of our business;
- ensure a fair and transparent process in determining remuneration packages; and
- comply with relevant legal and regulatory requirements.

The policy applies to the Managing Director and members of the Executive team. It incorporates a substantial link between Executive pay and delivery for customers and the environment.

12.2 Terms of the policy

The terms of the policy are as follows.

- Performance targets are continually assessed to ensure they remain stretching throughout each five-year business planning period.

- The Remuneration Committee retains the power to reduce all or part of performance-related payments resulting from exceptional circumstances.

- In terms of the process for determining potential annual Executive team bonuses (short-term incentive plan – STIP) and deferred bonus payments, the Remuneration Committee reviews progress against objectives. This includes both actual financial and non-financial performance data. The Committee also considers other external factors influencing any measurement period.

- Final decisions on the STIP and deferred bonus payments are made at the June Remuneration Committee meeting each year. This follows receipt of the externally audited performance results for the year.

- Measures are in place to avoid or deal with any potential conflicts of interest that should arise during this process. The Managing Director is not present during the discussions of their potential STIP or deferred bonus awards. In addition, the Committee has access to third party audit reports to objectively verify both the financial and non-financial performance of the business, including the delivery of services to customers.

- Through the Remuneration Committee, the Board is committed to being fully transparent and to continuously reviewing Executive pay policies over time. Where they develop and change, it will explain the reasons for this in our annual report and financial statements.

12.3 Components of Executive pay

Executive pay may include the following components.

- Base salary. Fixed and regular compensation reflecting an individual's role, responsibilities and market conditions.
- Performance bonus (STIP). Variable component linked to the achievement of specific performance targets and corporate objectives. The STIP is designed to reward short-term performance. It is not intended to contribute to pension or retirement benefits.
- Benefits. Non-cash benefits, such as health insurance, retirement plans and other perquisites.
- Retention and sign-on bonuses. Special payments designed to incentivise the attraction or retention of key talent within our business. They do not form part of pension or retirement benefits.
- Performance reviews. Regular reviews to assess individual and company performance, with adjustments to remuneration as appropriate.

The deferred bonus plan is not counted as part of Executive pay and is designed to align the interests of Executive Directors with shareholders. It does not count as remuneration for any purpose and is not pensionable.

12.4 Malus and clawback provision

In the event that an Executive Director engages in conduct that is detrimental to our interests, we reserve the right to invoke malus or clawback provisions on STIP and deferred bonus plan arrangements. Examples of detrimental conduct include:

- fraud;
- unethical behaviour; and
- acts of gross misconduct.

Under malus provisions, we may withhold or reduce STIP bonuses or deferred bonus plan awards if circumstances arise during the five-year business planning period that materially impacts on Executive Directors' performance, reputation or contribution to our business.

Under clawback provisions, if an Executive Director is found to have engaged in conduct that causes our business significant harm, we have the right to recover sums previously paid out under STIP or deferred bonus plan arrangements within two years following the end of the five-year business planning period during which the payments were made. Deductions may be taken from any payment owing to an Executive Director, including but not limited to:

- salary;
- bonuses;
- holiday pay; or
- any other sum which would otherwise be payable under the clawback provisions of the scheme.

We can also recover any additional payments made for meeting environmental protection targets if an Executive Director who has left the business is found to be culpable of an environmental breach during their tenure at South Staffordshire Water.

The Remuneration Committee is responsible for making the decision to invoke the malus or clawback provisions, with the Board approving these decisions. Before making any such decision, the Committee will thoroughly investigate and consider all relevant factors. We will adhere to all legal requirements and contractual obligations in implementing malus or clawback provisions. This ensures accountability and aligns Executive compensation with our long-term success and sustainability.

12.5 Base salary

This is the core element of fixed remuneration, reflecting the size and scope of the role. Its purpose is to enable us to recruit and retain directors of the calibre required to drive our success and deliver upper quartile success for customers.

Executive Directors' base salary is reviewed each year, starting on 1 July. While the Executive Directors are contractually entitled to an annual review of their salary, there is no entitlement to an increase because of this review. The Remuneration Committee determines salary levels, taking a range of factors into consideration, including:

- role, experience and performance;
- prevailing market conditions;
- external benchmarks for similar roles at comparable companies; and
- award levels for the rest of the business.

While increases in base salaries are reviewed in the context of salary increases across the business, there will always be a great level of scrutiny for Executive pay. So, this is reviewed separately. The Remuneration Committee considers any reasons why increases should diverge from this benchmark, including:

- increases in scope, complexity or responsibility of the role;
- increase on promotion to an Executive role;
- a salary falling significantly below market positioning;
- alignment to inflation and market benchmarks; and
- the gap between Executive pay and the pay levels of the rest of the business.

12.6 Annual bonus – short-term incentive plan (STIP)

The STIP rewards performance against annual targets that support the strategic direction of the business. To qualify for a bonus payment, an Executive Director must be actively employed at the time the bonus is scheduled for payment and must not have given notice to terminate their employment.

Annual targets include:

- shared corporate targets for the levels of service to customers and the environment, and other aspects of operational performance;
- financial performance; and
- individual performance goals.

The Board sets these targets before the start of each financial year, following advice from the Remuneration Committee and independent assurance of the levels of service achieved. As with all bonuses, these remain discretionary and can be adjusted or removed at our discretion. The maximum bonus opportunities are detailed in Executive Directors' terms and conditions of employment.

12.7 Executive Director objectives

We select performance metrics to align with the delivery of our strategy. The targets are designed to be stretching and require year-on-year improvements in overall business performance. In setting stretching performance targets, the Remuneration Committee takes a range of factors into account, including:

- our medium-term business plans;
- customer and environmental commitments;
- regulatory and other obligations; and
- shareholder expectations.

Personal targets focus on critical areas of business development, including:

- process and service enhancements;
- demonstrating our values; and
- employee leadership and development.

Our ambition is to transition to a balanced score card approach that will bring us more in line with the rest of the England and Wales water sector. Key to this will be making sure we include an emphasis on environmental performance.

12.8 Deferred bonus plan

The deferred bonus plan rewards performance against long-term financial targets that support the strategic direction and value of the South Staffordshire Plc Group of which we are part. It also provides an incentive for Executives to remain in the business, which provides stability and continuity in a competitive market place, and allows full focus on achieving customer objectives.

The deferred bonus plan was introduced to align with the long-term interests of shareholders. Performance is assessed each year, following audit of the Group's financial statements and independent assurance of the levels of service achieved, ahead of the Group's annual report being published. Rewards only become payable following a two-year holding period after joining the scheme.

Should an Executive Director cease to be employed by a Group member company, they are not entitled to compensation for the loss of any significant right or benefit under the plan. The exception is if the Executive Director is described as a 'Good Leaver' under the scheme's rules.

The deferred bonus plan is discretionary and can be adjusted or removed at the Group's discretion. This is exercised by the Remuneration Committee on behalf of the Board.

Executive Directors are invited to participate in the deferred bonus plan scheme. But it does not form part of any contract of employment between an Executive Director and any Group member company. Executive Directors have no right to be granted an award and receiving one in any given year is no indication they will be granted subsequent awards. The deferred bonus plan does not form part of Executive Directors' remuneration or count as remuneration for any purpose. The annual payment banked to the deferred bonus plan is the equivalent value of what is awarded and paid as STIP.

12.9 Benefits

The purpose of benefits is to ensure the overall remuneration package is competitive, enabling us to recruit and retain directors of the calibre required for our business. Executive Directors receive benefits in line with market practice, which include:

- a car or car allowance;
- private medical insurance; and
- life assurance.

Other benefits may be provided based on the role and individual circumstances, and may include, for example, relocation costs and travel allowances.

Benefits are set at a level the Remuneration Committee considers appropriate against the market. They are designed to provide a sufficient level of benefit based on individual circumstances.

12.10 Retirement benefits

The purpose of these benefits is to enable us to recruit and retain directors of the calibre required and to provide market competitive post-employment benefits.

Executive Directors' pension contributions are set as per an individual's contract. This is higher than other employees within the business (at around 10% for the Managing Director, compared with 6% for all other employees) and is considered part of their overall remuneration package.

All Executive Directors are eligible to participate in our defined pension scheme (or such other pension plan as may be deemed appropriate). Executive Directors have personal pension plans or, where appropriate, an option of a pension allowance (at the same contribution rate as their pension) in lieu of pension contributions by us.

12.11 Performance metrics

The Remuneration Committee is responsible for setting clear and measurable performance metrics aligned with our strategic goals. These metrics are used to determine any increase in Executive Directors' base salary, as well as any adjustments to the variable components of remuneration.

12.12 Governance and decision-making

The Remuneration Committee is responsible for approving and overseeing the implementation of the Executive pay policy. This includes carrying out periodic reviews of Executive Directors' pay as and when required, taking into consideration market benchmarks and sector practices. This is to ensure the policy's continued effectiveness and relevance. Amendments may be made as necessary, with the approval of the Board.

Decisions on remuneration are made with due consideration for the financial performance of the Group, shareholder interests, and applicable legal and regulatory requirements.

13. Other Ofwat actions

Summary

We have provided information to support our representations on other action set out in our draft determination from Ofwat. These relate to our:

- demand targets, where we reinforce the sensible assumptions set out in our Cambridge and South Staffs WRMPs that meet Environment Act 2021 interim and long-term targets to deliver a sustainable supply/demand balance in both regions;
- net zero adjustment, where we provide information about the role our pump efficiency programme plays in making sure our assets are working at their optimum efficiency, along with the carbon emissions savings that could be made as a result; and
- cyber-security maturity, where we have worked closely with the DWI's Network and Information Security team to ensure our cyber improvement plan aligns with the appropriate requirements.

13.1 Demand targets

In our draft determination, Ofwat requested that we provide our water efficiency and metering activity and associated demand reductions by region. We submit the relevant activity and benefit lines regionally in tables CW7 and CW8, and in appendix 'SSC-DD-012: Regional demand management activity'. We confirm that this activity, and the associated benefits, aligns to our latest Cambridge and South Staffs WRMPs. The activity and benefits also align with our enhancement costs in CW3.

We also note Ofwat's recognition in our draft determination that there was some uncertainty in our PCC targets between our WRMP and business plan. This came about because the WRMP process was running in parallel with the business planning process, and figures in this submission were also undergoing challenge and changes.

Ofwat also made a small adjustment (about 2%) to the PCC targets based on the Europe Economics study, to reflect an uplift to the starting point because of the lingering impact of the COVID-19 pandemic. As we have demonstrated in chapter 2, this figure does not represent our actual experience and does not reflect our future projections. We do not think it is appropriate to apply this figure to our targets to set the PC. This is because this figure is not aligned with our WRMPs, which look across the spectrum of supply and demand inputs and outputs to achieve a balanced set of projections.

We have responded to the WRMP challenges and numerous figures, including PCC and business demand, have now been amended in our WRMPs. We will publish the final WRMPs for our Cambridge and South Staffs regions shortly.

The leakage, PCC and business demand projections in our latest WRMPs are the result of sensible assumptions that meet the Environment Act 2021 interim and long-term targets, and which, alongside investment options, deliver the sustainable supply/demand balance in both Cambridge and South Staffs regions. So, it is critical that the PC targets are set exactly at the WRMP values.

13.2 Net zero adjustment

Below, we outline how we intend to use our £1.117 million adjustment for net zero, in line with Ofwat's action on page 44 of its 'Expenditure allowances' document.

We have long recognised that the core business of water treatment and supply uses significant amounts of electrical energy, which directly impacts our GHG Scope 1 and 2 carbon emissions.

Because of the physical constraints of pumping water and the topography of our South Staffs region, the abstraction and distribution of water to our customers is energy intensive and 98% of our energy is consumed for these purposes.

Ofwat and the sector have long since recognised that topography is significant. Water companies are required to calculate their average pumping head to understand and benchmark the variation across the sector. The higher pumping heads present in our South Staffs region mean it is critical to ensure our pumping assets are operating as efficiently as possible to reduce our overall energy consumption and GHG emissions.

Our pump efficiency programme is a series of planned, preventative investigations into our pumping energy consumption, which will run across the whole of the AMP8 planning period.

The plan will allow for scheduled thermodynamic pump efficiency testing to take place. This will identify where assets are no longer operating at their best efficiency points (BEP), and the energy and carbon emissions savings that could be made were the assets to be refurbished or replaced.

These tangible savings can be modelled to produce a refurbishment programme throughout the AMP. They can also be used to identify more efficient operational strategies, as well as where newer technology can also be utilised to maximise the energy savings such as fitting permanent magnet motors during the refurbishment.

As part of an overall carbon reduction strategy, our pump efficiency programme can provide further reductions by identifying and reducing operational inefficiencies at source.

13.3 Cyber-security maturity

Since the criminal cyber-attack on our parent company, South Staffordshire plc, in 2022, we have worked closely with the DWI's Network and Information Security team to ensure our cyber improvement plans align with the Inspectorate's sector-specific profiles (SSP) and enhanced cyber assessment framework (eCAF).

It is of vital importance to us that we have a robust and resilient cyber improvement plan, having experienced first-hand the impact a criminal cyber-attack can have on our customers and our people. We measure our progress annually using the cyber assessment framework (CAF) self-assessment tool and consider ourselves on target to meet the SSP by 2025 and the eCAF by 2028.

For our 2025 CAF return, we will be seeking external assurance on our performance against the framework, and we will be happy to share the findings with Ofwat should they be required.

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