

# AffinityWater

## AFW17 - Outcomes



# Contents

---

<b>Contents</b> .....	<b>2</b>
<b>Purpose</b> .....	<b>3</b>
<b>Setting stretching targets</b> .....	<b>3</b>
<b>Performance plans</b> .....	<b>3</b>
<b>Ambition levels</b> .....	<b>4</b>
<b>P90/10 positions</b> .....	<b>4</b>
<b>Incentive rates / marginal benefits</b> .....	<b>6</b>
<b>What customers want</b> .....	<b>7</b>
<b>Deliverability and our track record</b> .....	<b>7</b>
<b>Performance commitments</b> .....	<b>8</b>
Leakage.....	8
Per capita consumption.....	12
Business demand.....	17
Biodiversity .....	18
Operational greenhouse gas emissions (water).....	21
Discharge permit compliance .....	24
Serious pollution incidents .....	25
Mains repairs.....	27
Unplanned outage .....	31
Water supply interruptions .....	36
Compliance risk index (CRI) .....	40
Customer contacts about water quality .....	44
Average time properties experience low pressure .....	48
Abstraction incentive mechanism.....	51
Whole life carbon.....	54

## Purpose

The following appendix provides additional information for how we have developed our Outcomes package and should be read in conjunction with the main business plan document. Additional detail is given in the commentary accompanying the data tables. The document sets out the general principles of how we have approached Outcomes, before outlining each performance commitment in turn.

## Setting stretching targets

We have followed the Final Methodology steps for determining performance improvements and have ensured we have challenged ourselves to deliver stretching performance from Base expenditure. We have considered:

- Performance commitment levels set at PR19
- Historical outturn performance at an individual company and sector level
- Historical expenditure included in the base expenditure models
- Company forecasts of performance levels that can be delivered from base expenditure
- Performance levels of efficient companies
- The opportunity for transformational performance improvements

We have reviewed our performance levels against efficient companies across the industry using 2022 – 23 data.

## Performance plans

Detailed plans for each performance commitments have been developed, matching incremental activity and expenditure with performance improvements. These plans, as well as the associated targets, have been reviewed and assured as part of our Board assurance statements.

The following diagram sets out the process for the development of our performance commitments:



In developing our performance commitments, we have been mindful of Ofwat request for: "... companies to provide more substantive evidence than what was provided in responses to our request for evidence on the influence of enhancement

expenditure on historical performance. For example, we expect companies to detail how they have calculated the benefits delivered from their future investment including any assumptions made”<sup>1</sup>.

Individual business cases have been developed for each of the enhancement lines with details of costs and benefits described. The benefits of these enhancement schemes are summarised for each PC in this appendix.

## Ambition levels

We have challenged ourselves to be ambitious in the performance commitments we have set for 2025 to 2030 and aspire to become an industry leading performer over the course of the period.

We have reviewed industry performance where available to forecast the future performance trends and set out target our performance levels accordingly. We have inferred as far as possible quartile positions using Annual Performance Report data. We recognise there is uncertainty around these estimates, particularly for measures that are affected by weather events, so have focussed on overall industry trends over as long a time series as possible.

We have reviewed companies' performance where transformations in delivery have been achieved and to set our aspirations to match or outperform those step changes.

## P90/10 positions

For all relevant performance commitments, we have used a process to develop our expected performance range and calculate the P10 and P90 positions over time.

- P90 is our estimation of performance in a 1 in 10 good year
- P10 is our estimation of performance in a 1 in 10 bad year

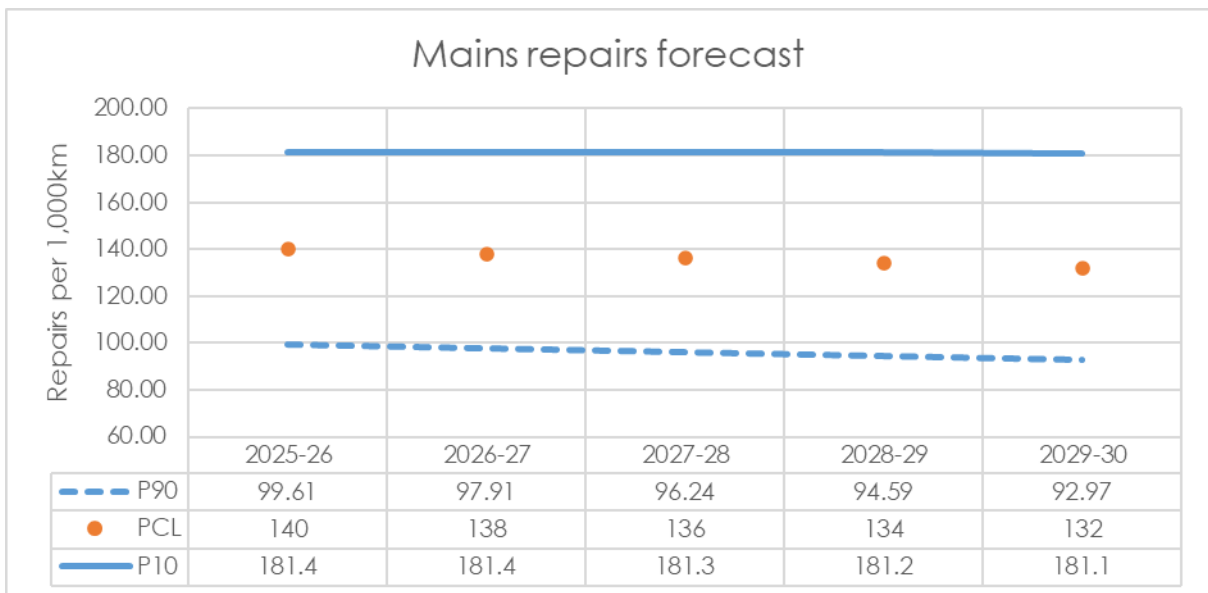
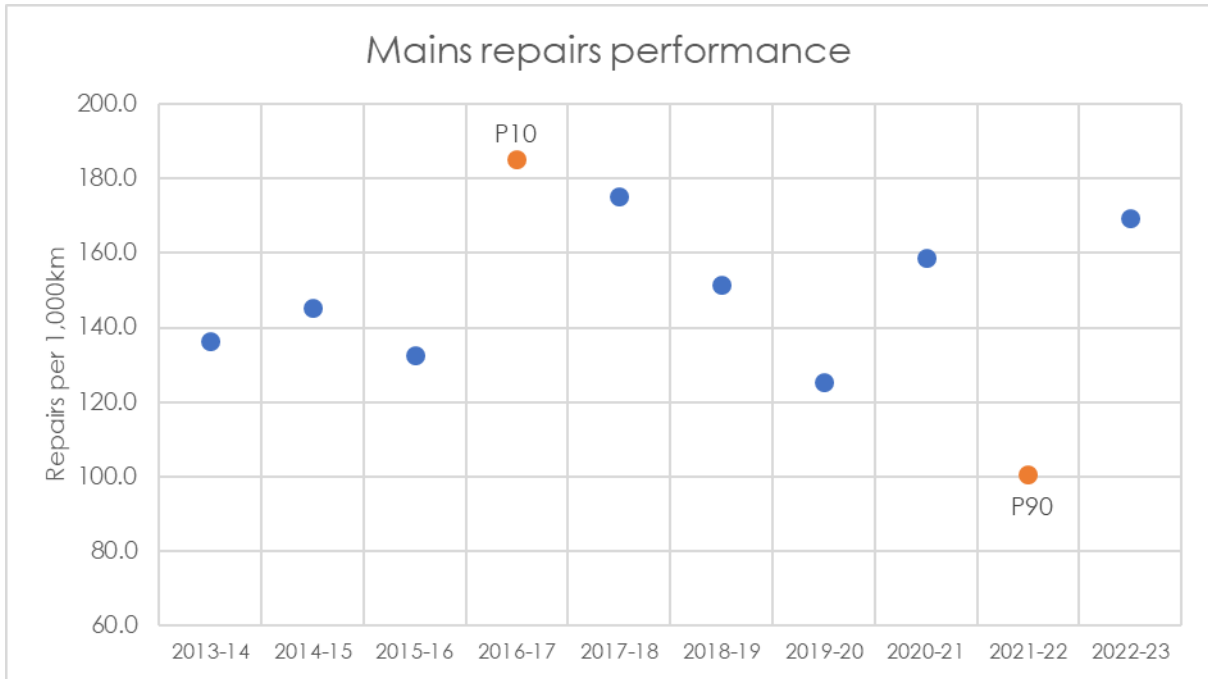
We have maintained a common methodology in creating these positions; however, due to the availability of data, we have had to adapt our approach for some performance commitments. We have looked to use multiple sources of data to give the fullest picture performance, with our primary source the published industry Annual Performance Review (APR) data.

Performance Commitments	Historic data available	Our Methodology
<ul style="list-style-type: none"> <li>• Mains Repairs</li> <li>• Unplanned Outage</li> <li>• CRI</li> <li>• Water supply interruptions</li> </ul>	<ul style="list-style-type: none"> <li>• Minimum of four years of historic industry data</li> </ul>	<ul style="list-style-type: none"> <li>• Using APR data, collate all company's submissions into year on year performance</li> <li>• Determine 10<sup>th</sup> and 90<sup>th</sup> percentile positions, as well as mean average position</li> </ul>

<sup>1</sup> IN 23/07 Assessing the influence of enhancement expenditure on historical performance trends for PR24

<ul style="list-style-type: none"> <li>• Customer contacts about water quality</li> <li>• Leakage</li> <li>• Per capita consumption</li> <li>• AIM</li> </ul>		<ul style="list-style-type: none"> <li>• Review shape of the trend that this analysis has delivered, and determine best fit line for each</li> <li>• Extend best fit lines over the period from latest APR data until 2030</li> <li>• Overlay our own performance over this time period, and our forecasts for the remainder of AMP7 and AMP8</li> <li>• Review the outputs and use expert judgement to adapt to fit realistic performance levels</li> </ul>
<ul style="list-style-type: none"> <li>• Operational GHG emissions</li> <li>• Discharge permit compliance</li> <li>• Serious pollution incidents</li> <li>• Average time customers experience low pressure</li> </ul>	<ul style="list-style-type: none"> <li>• Fewer than four years historic industry data</li> </ul>	<ul style="list-style-type: none"> <li>• Using APR data, collate all company's submissions into year-on-year performance</li> <li>• Where relevant, included quarterly data to expand number of data points available</li> <li>• Created trendlines of performance based on 10<sup>th</sup> and 90<sup>th</sup> percentiles</li> <li>• Use expert judgement to adapt to fit realistic performance levels</li> </ul>
<ul style="list-style-type: none"> <li>• Biodiversity</li> <li>• Business demand</li> <li>• Whole life carbon</li> </ul>	<ul style="list-style-type: none"> <li>• No historic industry data</li> </ul>	<ul style="list-style-type: none"> <li>• Reviewed existing data sets to find similar or surrogate measures where possible</li> <li>• Created detailed delivery plans and expected levels of performance</li> <li>• Used top down approach based on expert judgement</li> </ul>

An example of this would be with our Mains repairs performance, shown below. Our P90 year was 2021/22 where we achieved 100.2 repairs per 100km of mains, whereas our P10 year was 2016/17 where we achieved 185 repairs per 100km of mains. As we expect to improve performance over time, we have put a stretch on both positions to give 2025/26 forecasts of P90: 99.6 and P10: 81.4 per 100km of mains. With improving performance these both move downwards throughout 2025-30. We have used this forecast for our RoRE analysis.



## Incentive rates / marginal benefits

We have followed Ofwat's guidance for setting of ODI rates for our bespoke performance commitments, using customer valuations to inform the rates where possible.

For whole life carbon, as the measure will be in tonnes of CO<sub>2</sub>, it is reasonable to maintain parity with the common PC for GHG emissions. Therefore, we will use the tonnes of CO<sub>2</sub>e that Ofwat derive for operational GHG emissions for water. We have used a top down methodology as described in Appendix AFW18 – Bespoke Performance Commitments.

We note that the collaborative customer research for the majority of performance commitments as described in the Final Methodology was not used for setting of the

common marginal benefit rates and instead a top-down approach was used. This leads to a disconnect between our performance incentives and the Ofwat customer valuations. We have adopted the Ofwat marginal benefit estimates and sharing rate to maintain compliance with the methodology.

We have included the marginal benefits and sharing factors submitted in our business plan, including the variation from any existing rate for comparison. In all cases the incentive rate has increased from the level currently set introducing a higher level of risk and reward potential than previously seen.

## **What customers want**

We have completed detailed customer research, as laid out in our What Customers and Stakeholders Want chapter in our business plan and accompanying appendices AFW04 and AFW05 . We have used this research to inform our plans and support setting our targets. We have included snap shots of our customer research for relevant performance commitments, to show line of sight between customers and stakeholders views and our plans.

We have also engaged with our Independent Challenge Group (ICG) who have provided valuable insight and challenge to our performance plans.

## **Deliverability and our track record**

In developing our stretching performance commitments, we have been careful to ensure they are supported by credible and robust delivery plans. We have included our delivery plans in the 'Performance plans' sections for each performance commitment, and we have also reflected on our current performance and delivery. For each performance commitment we have looked at areas where we have delivered successfully and areas that need further work to deliver the expected performance of our plan. Details of our deliverability challenge can be found in our business plan and the associated appendix (AFW32).



# Performance commitments

## Leakage

### Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	Our PCL for 2024/25 was a 20% reduction from the 2019/20 baseline and we are on track to achieve this. We have used our WRMP profile to continue this trend and deliver the majority of our 2050 commitment of a 50% reduction by 2030.
Historical outturn performance at an individual company and sector level	Having delivered the largest % reduction of any water company during AMP6 we have delivered further significant reductions of over 15% between 2020-23 which has been the largest reduction from across the industry so far in AMP7 demonstrating we are already stretching our leakage performance.
Historical expenditure included in the base expenditure models at PR24	We have used base expenditure to deliver improvements to date and we will continue to deliver stretching performance from base. However, as our volume of leakage reduces, additional interventions are required to make step changes in performance. Where there are leakage benefits derived from enhancement schemes, the schemes are named below in the performance plans with details of the relevant business case.
Company forecasts of performance levels that can be delivered from base expenditure	
Performance levels of efficient companies	We have delivered the highest percentage reduction from baseline in the industry and significantly higher than the three efficient companies. Our plan will continue that stretch on performance.
The opportunity for transformational performance improvements	We have identified interventions to deliver transformational performance improvement, for example, our network calming programme is set to deliver significant leakage benefit across 2025-30.

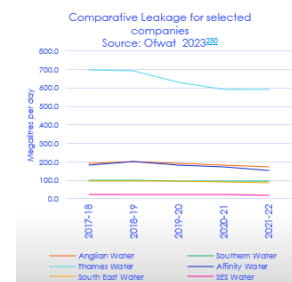
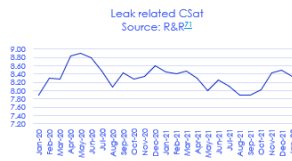
In the last price review determination we did not have any enhancement schemes related to leakage and therefore all performance improvement has been delivered through base expenditure.



## What customers want

### Reducing leakage

**What we know: customers are concerned about leaks and expect us to be dealing with those before handing any increased costs onto them for additional supplies**



#### Customers are concerned about leaks

Leakage is the most emotive topic to consumers across the county, and one that exacerbates other issues. Customers believe that leaks are fundamentally responsible for and within the control of water companies. When issues such as CEO payments and TUBs arrive, it is felt that tubs can be avoided if less leaks, which creates resentment and lack of compliance. Any efforts to reduce usage are insignificant compared to what's wasted, and profits are unjust as a result<sup>21</sup>

Leaks are a subject where the Water Community are very vocal.<sup>25, 223</sup> There is an expectation that Affinity Water will protect the customers from the cost of internal leaks and protect the environment from the impact of the wasted water. Those who care strongly about the environment are most likely to be concerned with external leaks.<sup>23</sup>

The Water Community members are going to be more vocal than most customers, but it reflects findings in other research and other companies that have similar findings - that leaks are something water companies have complete control over and are just not doing enough to fix.<sup>22, 24</sup> This has also come up in multiple studies with other Affinity Water customers who spontaneously brought up concerns about leaks, and an expectation that these are addressed before any demands are made of customers.<sup>111, 134, 209</sup> Where people are asked to prioritise different issues, leaks frequently comes top or near the top.<sup>156, 205, 207, 241</sup>

#### Issues with leaks make up a notable proportion of calls and feedback

In Q1 2021, leak-related calls made up 1.4% of all contacts (0.4% were customer-side leaks.) From January 2020 to Feb 2022, leak-related feedback on R&R made up 3.6% of all feedback in that period. The average CSAT was 8.31, compared to the total feedback mean of 9.16.<sup>21</sup>

#### Whilst leaks are substantial, customers are likely to resent being asked to pay more

Leaks are an issue that pervades other research, with the issue being raised multiple times.<sup>111, 205, 217</sup> When other ideas and plans were presented to the Water Community, leaks were raised as an issue to be dealt with before any price rises are made.<sup>24</sup> In focus groups on environmental plans and resilience, fixing links before doing other things is also raised.<sup>139, 144</sup>

#### Messaging around leaks had a positive impact, at least in the short term

TV & Radio Advertising in early 2022 around leakage seemed to produce a short term results. The brand metrics for Q1 2022-23, the first quarter after the campaign, showed a significant increase in ratings for 'cares for the environment' and 'cares about my local area the previous quarter, but fell back to pre-advertising levels by the following quarter.<sup>138, 121</sup> Comparing those who recall seeing the campaign with those who haven't - those who do recall it are much more likely to agree with statements about Affinity Water's commitment to the environment and fixing leaks than those who haven't, by a wide margin. This supports the idea that raising awareness about our work does change opinions, at least in the short term. This campaign focused on how Affinity is proactive in finding leaks<sup>23</sup>; later 3<sup>rd</sup> party research highlighted a perceptions of a lack of pro-activity was key in not building trust.<sup>211</sup>

"Number 1. If there is money haemorrhaging out of one's bank account (for whatever reason), one fixes that first before deciding which investments one should make!"  
Established Prosperity, Wey

"I feel top priority should be put on water main leaks as the loss of water is damaging to the environment and undermines most other savings which are made."  
Established Prosperity, Storr

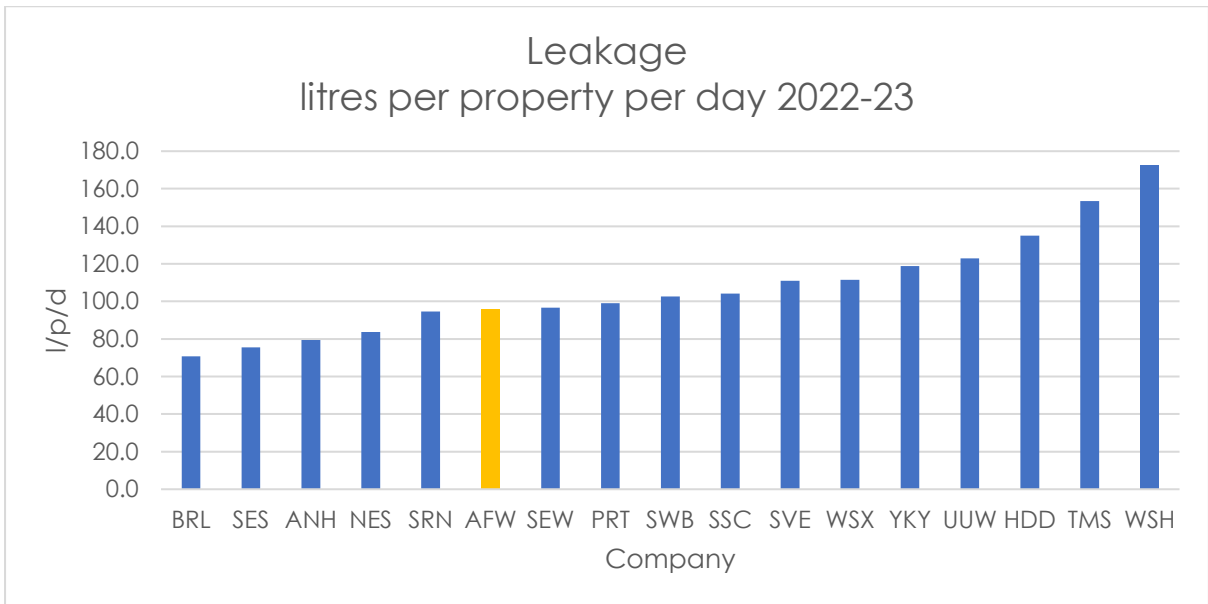
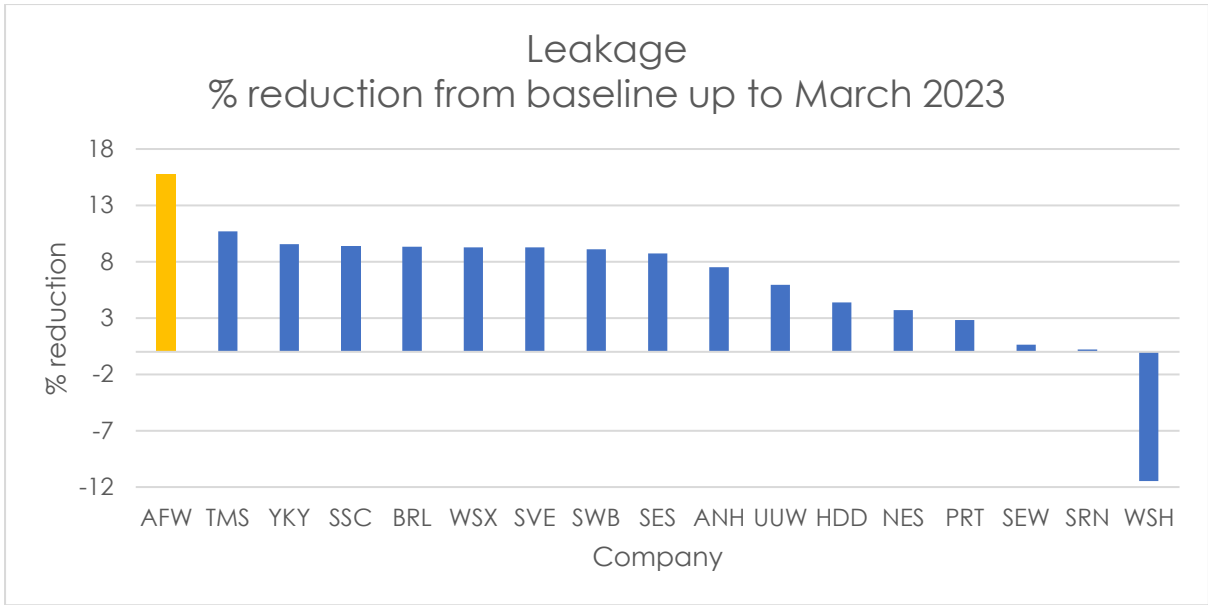
## Performance plan

We have developed performance plans for this performance commitment with quantified benefits referenced to relevant business cases. These plans have supported the bottom-up development of our performance targets.

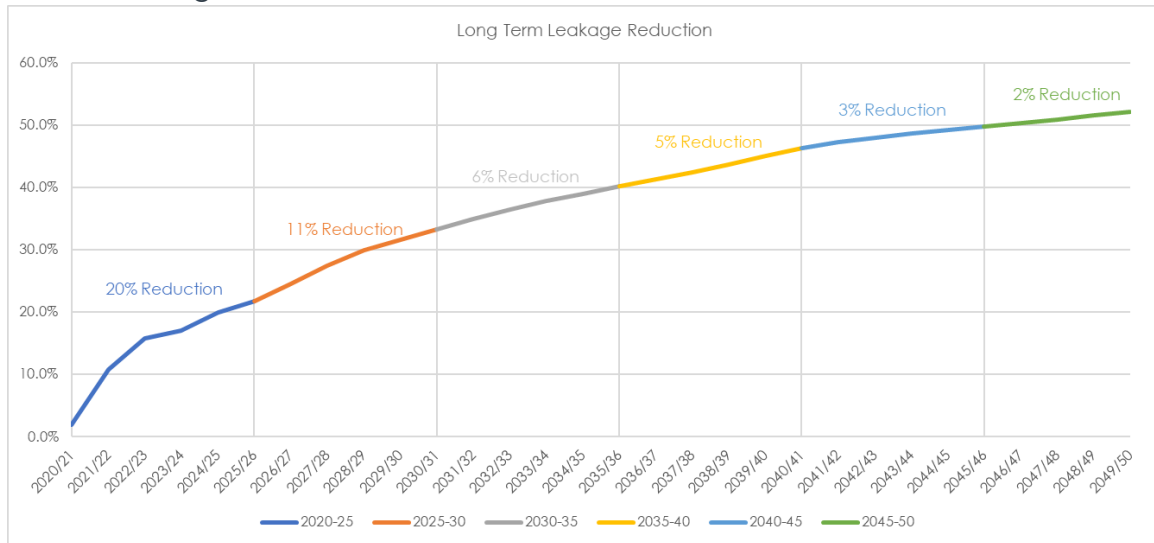
Improvement Initiative Description	Business Case	Base / Enhancement	Benefit (MI/d)
Additional Routine field leak identification and detection	Leakage	Base	7.24
Customer Side Leakage Support - Provision of free supply pipe repairs for customers who have leaks on their supply pipes	Leakage	Base	4.65
Increased awareness time of continuous flow alarms from daily alarm data.	Smart metering	Enhancement	1.82
Increased coverage of pressure management and smart controls on existing schemes	Network calming	Enhancement	3.40
		Base	5.29

## Ambition

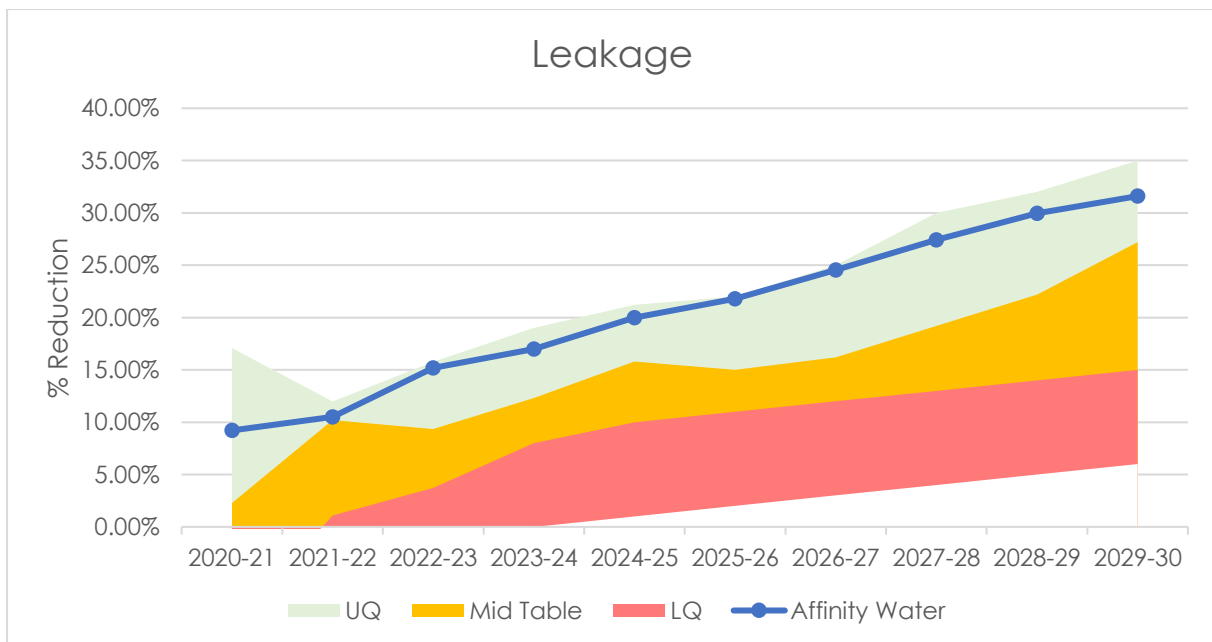
Our leakage reduction performance to March 2023 is by far the largest in the industry demonstrating we can deliver a stretching target. We have used this learning to develop our delivery plan for 2025-30.



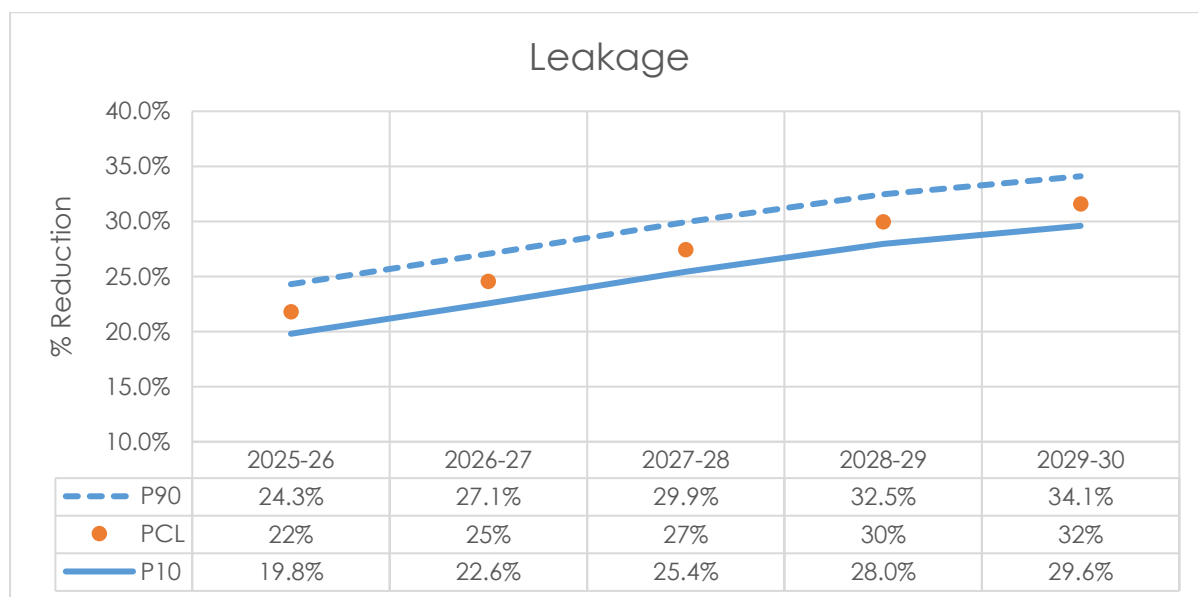
We have also reviewed our leakage plans in the context of our long term 50% reduction target:



Our trajectory forecasts us to retain upper quartile performance throughout 2025-30.



## P90/P10



## Incentive rates / Caps / Collars

We have adopted the Ofwat marginal benefit and sharing rate:

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
Leakage (MI/d)	0.133	-0.16	0.365

## Per capita consumption

### Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	The PCL for 2024/25 is a 12.5% reduction from 2019/20. This has proven extremely challenging, primarily due to the changing behaviours of customers as a result of Covid-19.
Historical outturn performance at an individual company and sector level	The majority of the sector has experienced similar challenges in reducing PCC, with no companies achieving the target in 2022/23. Our 2025-30 targets will be to reduce PCC considerably and meet our requirements for our WRMP.

Historical expenditure included in the base expenditure models at PR24	We are planning on delivering improvement through the continuation of our save our streams campaign and increasing home water efficiency checks. Our smart metering programme is a step change for our performance and will be deliver the majority of our PCC benefit. All performance improvement is planned through enhancement expenditure.
Company forecasts of performance levels that can be delivered from base expenditure	
Performance levels of efficient companies	Our l/p/d performance is very similar to PRT although behind the other two efficient companies. Our forecasts are to make reductions from our current position to maintain our position amongst efficient companies. Our % change up to 2022/23 was significantly better than SSC and PRT.
The opportunity for transformational performance improvements	We are forecasting the installation of smart meters in 2025-30 aligned with our award winning save our streams campaign will deliver a transformational change to our PCC performance.

At PR19, £62.7m was allocated for supply and demand side enhancement. We are on track to deliver our programme, however over this same time period our PCC has increased – primarily due to the impact of Covid on customer behaviour, but also due to the increasing frequency of dry weather.

We have not reported any benefit from our enhancement expenditure for PCC as this is a particularly complex area, with multiple and differing factors affecting outturn PCC performance:

- The enduring effects of Covid-19;
- The impact of increasing 'dry' weather years;
- The delays to the metering programme as a result of Covid-19, and relatedly;
- The recognised 'lag' in the PCC reduction benefit after meters are installed (which may be linked to the timing and frequency of customers receiving bills after meter installations).

We are continuing to investigate the enduring effects of Covid-19 on water consumption behaviour, and as outlined in the Past Performance Appendix (AFW02), we will provide this evidence to Ofwat in due course.

We note that while the WRMP recognises different expectations for PCC during 'normal' weather years and 'dry' weather years (where customers consistently use significantly more water), this recognition has not been applied by Ofwat. We would encourage further investigation and consideration of this in the application of PCC targets at draft Determination and Final Determination.

## What customers want

# Helping our customers to reduce demand #1

**What we know: our customers use a lot of water with no real understanding of how much, and no conviction that they really need to use less**

### Respondents have little idea how much water they really use

Respondents struggle to quantify and report their water usage; much comes from frequent subconscious daily routines.<sup>1, 187, 218</sup> Quantities are hard to conceptualise<sup>187</sup>, and anyone not living alone<sup>1</sup> does not get a full household view of the use of others. CCW also found that there was some denial of irresponsible behaviours. This is reflected in other research; before Covid-19, 94% of customers believed they were medium or low water users, and 88% believed they used the same or less than similar households, suggesting that they have no objective conception of their usage.<sup>22</sup> After covid this situation hasn't changed much, with 83% saying they use average or less.<sup>187</sup> At the same time over three quarters of Affinity Water customers think that "other people" wastewater in their homes and gardens.<sup>187</sup>

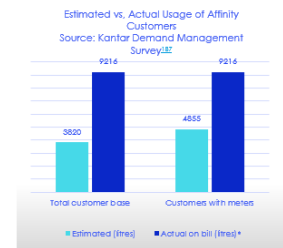
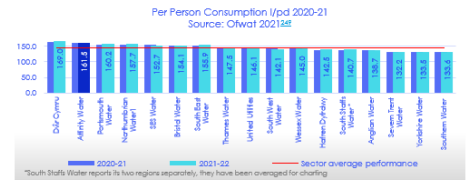
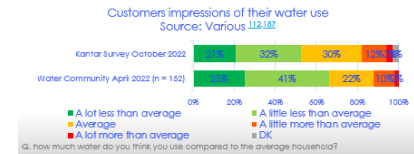
This is confirmed for Affinity Water customers with research amongst a representative sample of customers, as well as the customer panel and the SOS Mailing list.<sup>111, 112, 187</sup> Furthermore, only a third said their household needed to reduce its water consumption.<sup>22</sup> The Sundon taste test work also showed that the Affinity Water customers interviewed also had no real idea of how much water they used.<sup>22</sup> This contrasts with actual consumption that shows Affinity Water customers have the second highest consumption in England & Wales.<sup>23</sup> The Covid-19 pandemic has also had an impact, with daily PCC increasing. Some of this change will be permanent as people move to more home-working but should also reduce a little as leisure facilities reopen and travel restrictions are lifted.<sup>24</sup> New designs for the bill do include comparative usage, but only for metered customers, and currently only 65% of customers have a meter.

### There is some suggestion that there are few commonalities by usage level

Average water use for 2021-22 was 161l/pp/pd, a decrease of just a third of a litre on the previous year, showing that patterns of use from lockdown aren't changing very fast.<sup>25</sup> It is the second largest on any water company. Analysis of nearly 200,000 households in the Affinity Water Area by Per Capita Consumption level shows that each PCC level has few clear defining features. Within each group, regardless of how much or little is used per day, there is a notable level of diversity in household types. The lowest users (PCC of 150 l/ppd) are more likely to be financially stretched, suggesting that cost does play a role in managing demand, and implying that current costs are not high enough to deter even average users.<sup>154</sup>

### Evidence points to broadly three types of consumer attitude to water saving

The WRSE (2021) drought research indicates there are three different types of person when it comes to saving water: Resisters, Persuadables, and Believers.<sup>26</sup> A similar set of archetypes was found amongst the Affinity Water Community, when asked about actions they take to save water (Irregular Water Savers, with low willingness to change; Habit Changers, who try, short of serious financial commitments; Engaged Eco Leaders, who are highly engaged).<sup>28</sup> In both cases, these personas were described but not quantified.



# Helping our customers to reduce demand #2

**What we know: current usage is at 162 litres per person/per day, but metering alone won't be enough**

### Pre-Covid-19 modelling suggested that installing a meter would save anywhere from 3 to 27 litres per person (pp) per day (pd). (This is still not enough to get 162 litres/pp/pd down to 110 litres/pp/pd)

This modelling was conducted on subgroups based on the ACORN geodemographic groupings, rather than the whole customer base, to take into account different family and property types. However, it doesn't appear to have gone beyond the point of switching to metered bills.<sup>124</sup>

Home Water Efficiency Checks (HWECS) had strong appeal amongst the more highly motivated customers (from the Water Community and the SOS mailing list), especially the leak check and the provision of free water-saving devices.<sup>111</sup>

Further knowledge of usage is helpful, and accurate awareness of usage is key to reducing PCC.<sup>141</sup> Reading meters is difficult for customers, often due to location or disability, so the inclusion of previous usage data for context on the bill is welcomed, although comparing usage to six months is not ideal, as this fails to take into account seasonal change. The household comparison feature is also welcome, and normative comparisons like these have been shown in other places to produce anywhere up to a 5% drop in household consumption.<sup>120, 122, 141</sup>

### Customers are generally positive when it comes to increased metering as they believe it's fair to pay for what you use

Whilst some lower income customers are less keen, due to an assumption of increased costs, many Affinity Water customers are happy to see an increased level of metering, believing it is the fairest way to pay, as long as provision is made for those who may have high usage due to health needs.<sup>111</sup> However, asking for more frequent manual meter readings was not welcomed, as many have difficulties reading their meter, even if they know where it is, and there is an expectation of app-integrated smart meters, rather than manual ones.<sup>112, 113</sup>

The Demand Management Strategy research also showed that there was interest in Water Efficiency Labelling, especially if a form similar to the familiar energy ratings for electrical appliances, and the rating guaranteed by an independent body.<sup>111, 144</sup> However, this interest is expressed as something to be considered as part of the purchase decision, rather than a prime driver.<sup>144</sup> It is worth noting that this research is conducted with Water Community members, and people from the SOS mailing list, who are probably more motivated and interested than the population as a whole.

### But there is an expectation that meters will be just one tool in a suite of measures to help reduce demand

There is evidence that installing a meter alone doesn't actually change awareness levels of the impact of the water they use – The CCW Water Awareness Index is the same for those with meters and those without.<sup>122</sup> Multiple sources shows that customers want to see a variety of ways to reduce demand, not just installing meters. People would mention things like variable tariffs, water efficiency labelling, and better comms and education.<sup>112, 122, 208</sup> (Though it should be noted that respondents largely seem to think of others than themselves.) There is also an expectation now that meters aren't just meters, but smart meters as are seen in the energy industry.<sup>145</sup>

### Incentives are currently focused on reduction, rather than maintenance of low usage

Reducing demand is going to be particularly challenging as many customers do not believe their water use needs to change. Most believe they are already doing as much as they can to reduce water.<sup>112</sup>

The WC (Jan 2022) shows that the current incentives for usage reduction (10 x £50 gift vouchers for anyone who reduces their usage) is not the most popular option. The most popular financial options are 'money off your next bill', and direct refunds; free months are considered, but customers are concerned this may result in wastefulness that counters the savings. Emails around behaviour change were not considered to be useful, and other suggestions made included an app to track usage and visualise impact.<sup>24</sup>

"I like the way Fibril displays a number of metres in a lovely infographic type way. The AW app could display my daily water usage, it could give me a goal to enter and, as the circles show, fill the circle once I've reached my goal. Or, if I stay under the goal, it could be coloured green, if I reach it, it could go yellow and if I overuse, it could go red." Career Commuter, Wey<sup>111</sup>

"I'd like the labels to be done by an official body rather than the product maker, otherwise I would not trust them!" Career Commuter, Lee<sup>144</sup>

## Performance plan

We have developed performance plans for this performance commitment with quantified benefits referenced to business cases where relevant. These plans have supported the bottom up development of our performance targets. Benefits have been calculated for individual lines through the WRMP process.

Improvement Initiative Description	Business Case	Base / Enhancement	PR24 Submission (M/d)
Smart Metering Programme (inc. SOS)	Smart metering	Enhancement	17.9
Accelerating customer comms to enable more effective behavioural change.	Opex	Enhancement	4.8
76,800 Home Water Efficiency Checks in AMP8, based on the current saving of 32 litres per visit	Opex	Enhancement	2.1
Wastage Reduction - company repairs - based on increased smart meter coverage	Opex	Enhancement	0.87

In addition to these investment plans, we are also embarking on innovative tariff trials to help support the twin purpose of reducing water consumption and also affordability support. We have launched 'WaterSave', our rising block tariff trial, in October 2023 to increase the financial incentives for customers to reduce their water use, particularly where they have been identified as exceptionally high users. If the tariff trial is successful in achieving these aims, we will look to roll it out more widely to our customer base throughout 2025-230. Further details can be found on our website<sup>2</sup>.

### Ambition

We recognise the challenge both ourselves and rest of the industry face with delivering PCC with all but one company having an increased PCC against the 2020 baseline by 2022/23.

Our trajectory for reductions is forecast to be in the median of the industry.

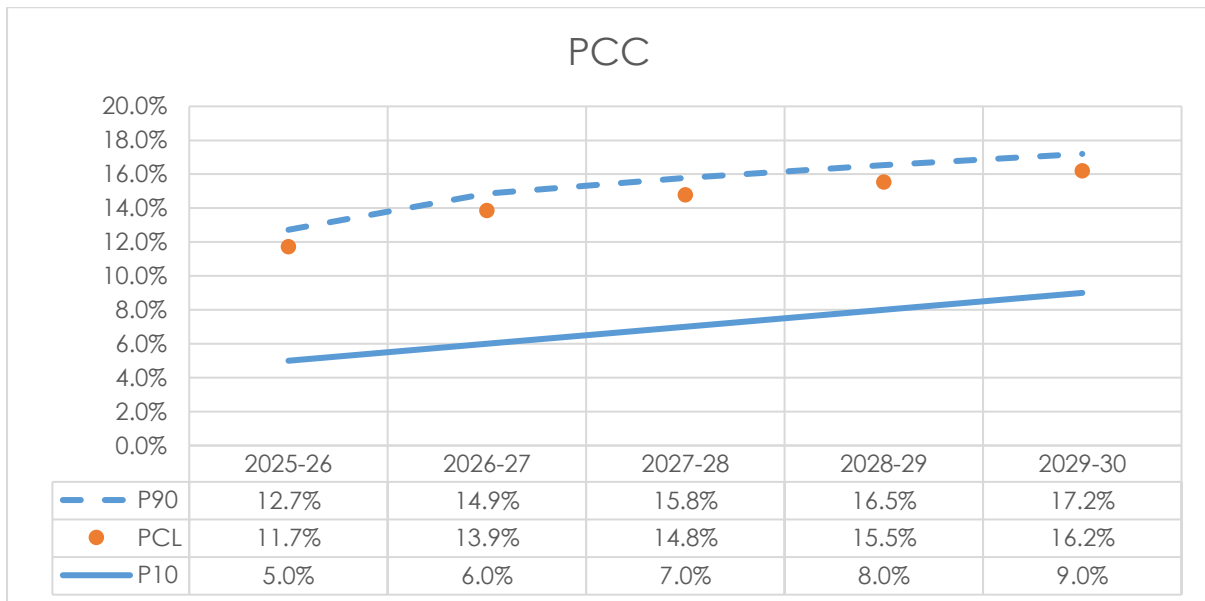
---

<sup>2</sup>

<https://www.affinitywater.co.uk/billing/watersavetariff#:~:text=We%20expect%20that%20%20out,be%20selected%20for%20the%20trial.>



## P90/P10



## Incentive rates / Caps / Collars

We have adopted the Ofwat marginal benefit and sharing rate:

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
PCC (l/h/d)	0.273	-0.289	1.412

## Business demand

### Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	n/a
Historical outturn performance at an individual company and sector level	n/a
Historical expenditure included in the base expenditure models at PR24	n/a
Company forecasts of performance levels that can be delivered from base expenditure	We are forecasting to achieve the defined benefits from enhancement investments for Business Demand in line with our WRMP. We are also undertaking activities from base expenditure including behaviour change programmes; however, we have no evidence of quantifiable benefit for non-household customers from these activities so have not attributed any at this stage. We will improve this evidence base as we deliver the schemes.
Performance levels of efficient companies	n/a
The opportunity for transformational performance improvements	Business demand is a new performance commitment. We will be implementing our smart metering programme across business customers as well and have attributed benefit to this measure accordingly.

### Performance plan

We have developed performance plans for this PC with quantified benefits referenced to business cases where relevant. These plans have supported the bottom up development of our performance targets.

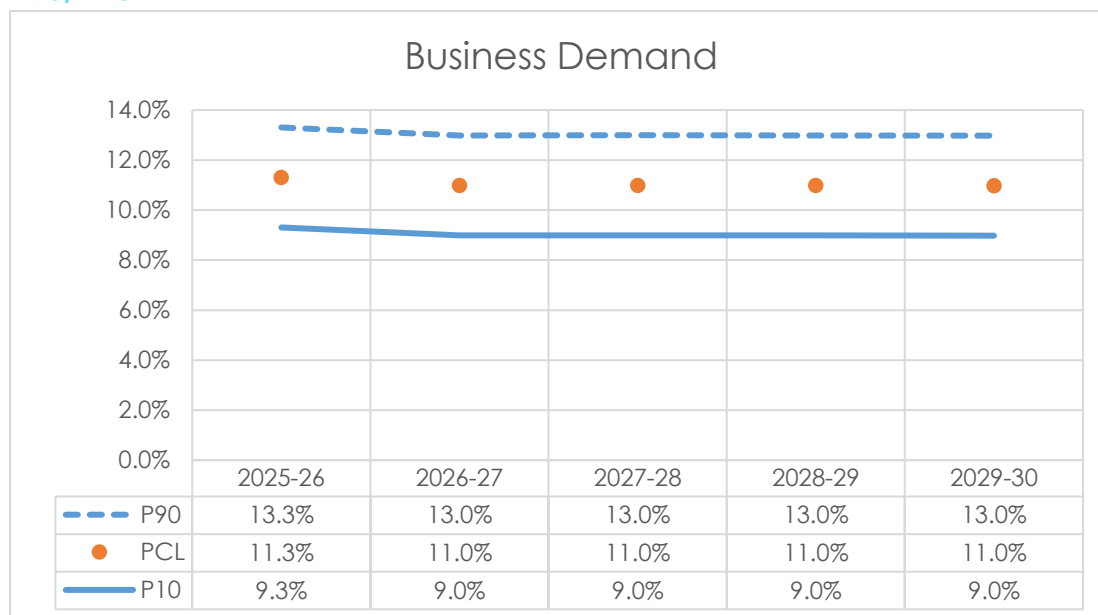
Improvement Initiative Description	Business Case	Base / Enhancement	PR24 Submission (Ml/d)
Business water efficiency interventions (200 institutions)	Smart metering	Enhancement	2
To undertake water efficiency activity within schools to reduce water wastage and to educate pupils on water efficiency. Pupils understanding water wastage/efficiency can help with the education to parents as part of our domestic water efficiency activity,	Opex	Base	None articulated
Market Platform development	Opex	Base	None articulated

NHH demand reduction programme (WRMP)	Opex	Base	None articulated
NHH metering and behaviour change	Opex	Base	None articulated

## Ambition

With no industry reporting on Business Demand at present, we have followed our WRMP for setting our ambition for this metric.

## P90/P10



## Incentive rates / Caps / Collars

We have adopted the Ofwat marginal benefit and sharing rate:

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
Business Demand (Ml/d)	n/a	n/a	0.365

## Biodiversity

### Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	n/a
Historical outturn performance at an individual company and sector level	n/a
Historical expenditure included in the base expenditure models at PR24	n/a

Company forecasts of performance levels that can be delivered from base expenditure	Our investment in biodiversity comes from our enhancement programme as part of our WINEP investments. Base expenditure will be used to monitor and report improvements.
Performance levels of efficient companies	n/a
The opportunity for transformational performance improvements	We have an ambitious plan for our WINEP including significant programmes for improving biodiversity. We forecast taking significant steps towards increases in the biodiversity value of our land.

## What customers want

### Enhancing natural capital - biodiversity

**What we know: customers generally support our ambition to prioritise biodiversity, but are split on how far to go – and a significant majority do not want to go beyond current levels**

#### Increasing biodiversity is supported by customers

Hearing that biodiversity and the flows of rivers will be a priority for us is well-received by customers; it shows them that we are doing more than just offering the required services.<sup>134, 200</sup> During our preferences research with household customers, they chose an environmental option that not only achieved the statutory minimum in terms of reducing abstraction reduction but with the additional benefits of additional catchments undergoing ecological and biodiversity improvements. Non-Household customers were more reticent, with the largest preference going to maintain the status quo. However, with both sets of customers, these preferences are not unequivocal; with large minorities choosing other options.<sup>200, 207</sup>

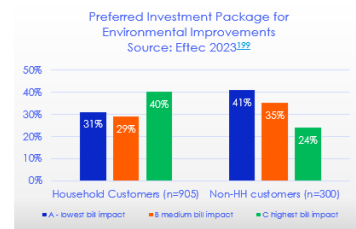
#### Customers support increasing biodiversity and improving the environment when building large infrastructure schemes

Household customers in the East of England valued the following project additions most highly: 'specialist habitats created for wildlife' (£3.87 annually); 'new wetland area' (£3.24 annually); 'space provided for sustainable agriculture' (£2.61 annually).<sup>153</sup> Households' average valuation of any project addition was considerably higher in the environmental area (£3.05), compared to the economic area (£1.19) and the social area (£1.16). The combined annual valuation of all project additions was around £36.<sup>153</sup>

"I say C, 1) because of the price and 2) because it's a realistic expectation... Water is a massive part of the environment but without all the other things being in line, you're never going to get back to what it was. Unfortunately, it's gone too far."  
Male, Vulnerable Customer, 55+, Dour

"Improving the flow and biodiversity within the rivers is an excellent idea as the time has come to look after the environment"  
Comfortable Retirement, Dour

"But I'd say supporting biodiversity is slightly more important, in my opinion."  
Male, Future customer, ABC1, 18-24



## Performance plan

We have developed performance plans for this PC with quantified benefits referenced to relevant business cases. These plans have supported the bottom up development of our performance targets.

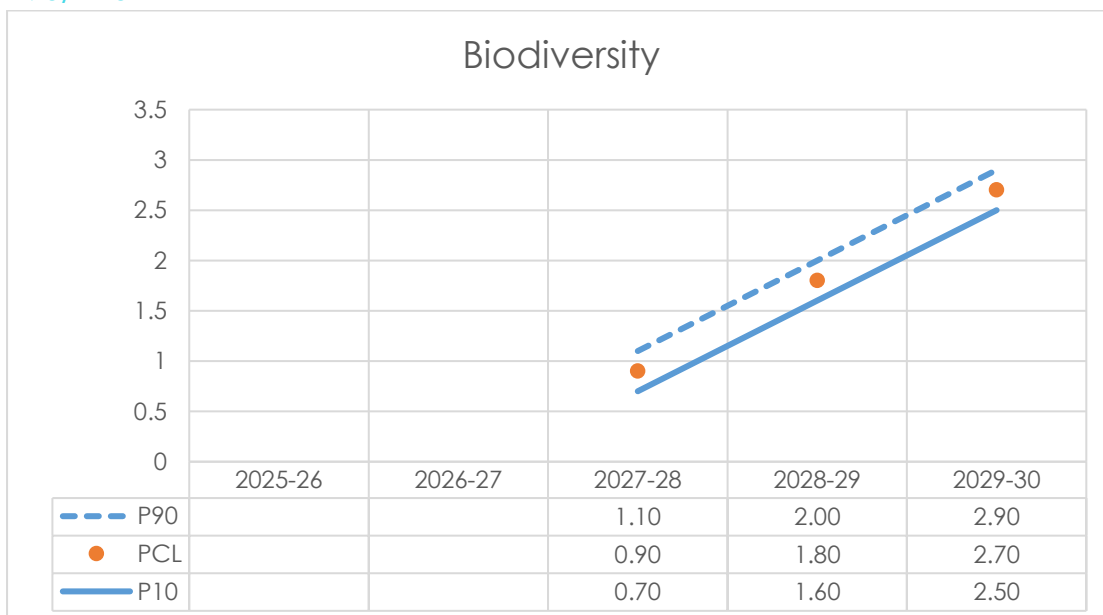
To determine the benefit from investments, we have used the average costs of creating one unit (which is assumed to be approximately £20,000, as suggested in the Defra [Consultation on Biodiversity Net Gain Regulations and Implementation](#)) to calculate how many units we would be able to achieve over the AMP with the activity plan budget.

Improvement Initiative Description	Business Case	Base / Enhancement	Benefit (Biodiversity Units)
Enhance habitat for pollinators and NERC41 habitats and species through delivery of AMP7 pollinator management plans, linking to National Pollinator Strategy, and NERC41 site enhancement plans.	Biodiversity WINEP	Enhancement	63
Investigation and implementation of methods to maintain and enhance Springwell reedbed.	Biodiversity WINEP	Enhancement	2
Enhance woodland and hedgerow habitat in the supply area through the planting of trees and whips.	Biodiversity WINEP	Enhancement	25
Work with partners to enhance NERC41 habitats and connectivity to increase the abundance of priority species and habitats on Affinity Water sites and surrounding countryside.	Biodiversity WINEP	Enhancement	32

### Ambition

With no reporting and no baseline available for biodiversity, setting comparative ambition level is challenging. Our ambition comes from our WINEP programme and represents a step change in our biodiversity delivery. We have used industry standard rates to calculate the biodiversity units we expect to deliver. 2025-30 will be the first time we are quantifying the benefits of our biodiversity interventions and we see this as part of a long term commitment to the environment.

### P90/P10



## Incentive rates / Caps / Collars

We have adopted the Ofwat marginal benefit and sharing rate:

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
Biodiversity	n/a	n/a	To be confirmed

## Operational greenhouse gas emissions (water)

### Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	n/a
Historical outturn performance at an individual company and sector level	Using APR data, on a location based kg of CO2e/MI, we perform better than two of the three efficient companies (SWB and SSC). With significant upward pressure from our WINEP and WRMP programmes, our interventions will look to maintain a stable position.
Historical expenditure included in the base expenditure models at PR24	n/a
Company forecasts of performance levels that can be delivered from base expenditure	We will deliver the majority of benefit through base expenditure for this PC and will build on our current delivery of energy efficiency and renewable power.
Performance levels of efficient companies	n/a
The opportunity for transformational performance improvements	We are delivering transformational change in this area by moving our diesel fleet of vehicles to electric. This is a significant step in reducing our GHG emissions and sustaining those savings in the long term.

## What customers want

# Achieving net zero carbon

**What we know: concern over carbon emissions is increasing, although customers balance it with other environmental drivers. Transparency over cost and effectiveness of our solutions will help customers support our approach**

### Support for green policies and carbon reduction is contingent on cost

In 2016, 12% of customers surveyed considered it the number one priority, but since then, with the rise of groups such as Extinction Rebellion, and the prominence of events like COP 26, environmental issues now rate much higher after covid. <sup>133,134</sup> There are indications that this importance is falling again in the face of the cost-of-living crisis, and out of the five investment areas tested, reducing carbon emissions was rated lowest of the five. <sup>135,136,137</sup> It also ranked higher by non-household customers than household customers <sup>138</sup>, probably due to needing to meeting net-zero targets in their own operations.

Few UK water bill payers (now or future) are willing to pay more for environmentally-friendly products and services, and only 45% of those who pay the bill now or expect to in the future rated the environment as one of the top five issues they face today. (Overall, it ranked 6<sup>th</sup> after health of selves and family, and finances).<sup>139</sup>

WRMP (February 2021)<sup>140</sup> work amongst customers of multiple water companies suggested that customers are in favour of companies reducing their carbon footprint and using more green energy – but that support was contingent on the impact it had on their bills. They also wanted the impact on the vulnerable to be considered as part of this.

Qual research showed that customer respondents were reluctant to spend more to increase the speed of change <sup>134</sup>, however, quant research in winter 2022/23 showed that the vast majority of customers, both household and non-household favoured going beyond the minimum. Whilst they opted for an intermediate level of investment, representing an estimated bill impact of £5.75, 1 in 4 household customers would go even further to ensure targets were reached earlier. <sup>141</sup> For those more reluctant, Carbon emissions are seen as a wider societal problem that everyone needs to work on, rather than something we should prioritise. <sup>134</sup> Future customers are more likely to want to see this prioritised, but just over half had no preference between minimising the use of chemicals or using less carbon intensive treatments.

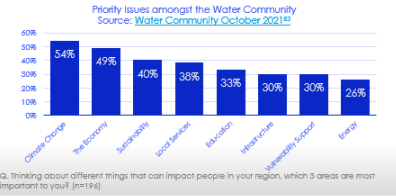
### Customers are largely positive about the Affinity Carbon Net Zero policy

Three quarters of the customer panel felt positively towards it. The 5% who felt negatively thought we should be more focused on undoing existing damage, such as sewage in rivers. More detail was wanted on the timeline of achieving net-zero, and how current emissions broke down. They were also keen to see how we generate our own power renewably, and to switch to green sources. <sup>142</sup> In principle the high energy solution to reducing carbon when treating water was the most appealing option overall, as whilst it may be costly now, the option to use renewables would bring the cost down in future, but there was hesitancy from some due to its dependence on large amounts of energy, especially against the rising cost of living. However, the impact on bills of any change was of far more concern to respondents than the methods used to clean the water. <sup>134</sup>

However, in in-depth discussions some felt that tackling Carbon shouldn't be a priority for water companies. <sup>134</sup>

### The link between water and net zero is not clear or direct in consumers' minds

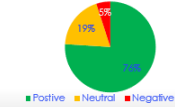
Nationally, fewer than 9% consider using less water to be a route to net zero. <sup>138</sup> across twelve focus groups, no-one mentioned this spontaneously, and the link was new knowledge to many. <sup>134,139</sup>



Q. Thinking about different things that can impact people in your region, which 3 areas are most important to you? (n=194)

"All companies, not only Affinity, should prioritise reducing carbon emissions as a close 2nd to providing their primary function."  
Modest Mid-Life, Slorf

Feelings towards the Net Zero Policy  
Source: Water Community December 2021<sup>144</sup>



Q. Which face best represent how you feel (about the Net Zero Policy) (n=125)

## Performance plan

We have developed performance plans for this performance commitment with quantified benefits referenced to relevant business cases. These plans have supported the bottom up development of our performance targets. Estimates for benefits for enhancement schemes can be found in the relevant business case. Other benefits have been derived through bottom up calculations which have undergone third party assurance.

Improvement Initiative Description	Business Case	Base / Enhancement	Benefit (TCO2e)
Energy Efficiency Assets - Pump Replacement	Energy	Base	1,254
Energy Efficiency Assets - Testing and Monitoring	Energy	Base	
Installation of Solar Panels	Energy	Base	761
Replace small and medium livered fleet vehicles with EV alternatives and provision of charging infrastructure	EV	Enhancement	1,920
Restrict generator use to only resilience power & replace diesel with HVO	Energy	Base	989
Verification of carbon benefits from nature based solutions	WINEP	Enhancement	760

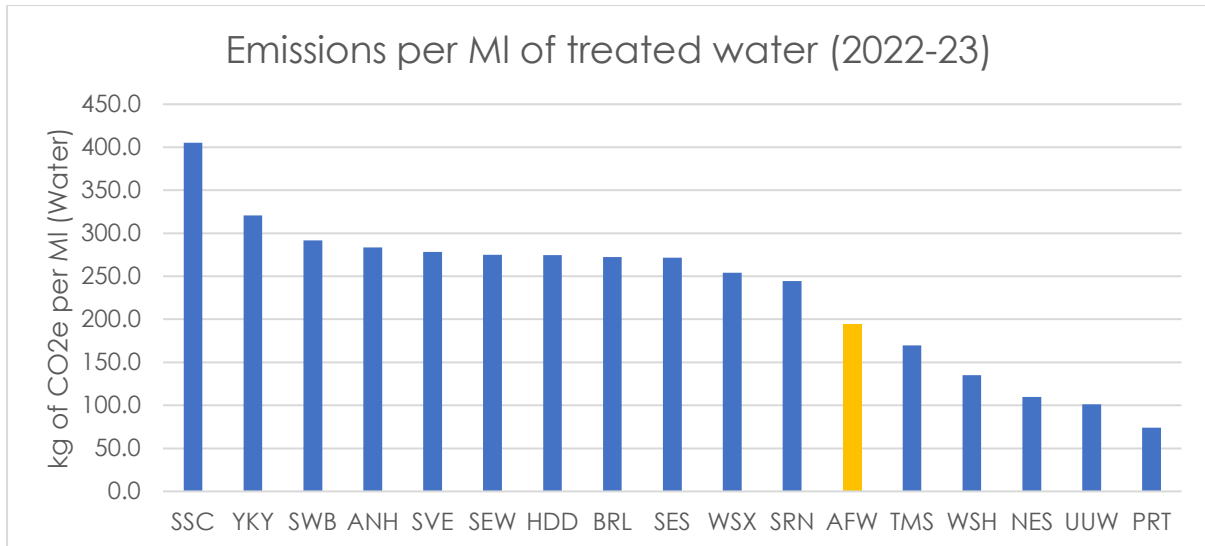
## Ambition

We are expecting significant upward pressure on our operational GHG emissions as we change our operating philosophy to reduce chalk steam abstraction and introduce new treatment processes and pumping stations. This is recognised in the

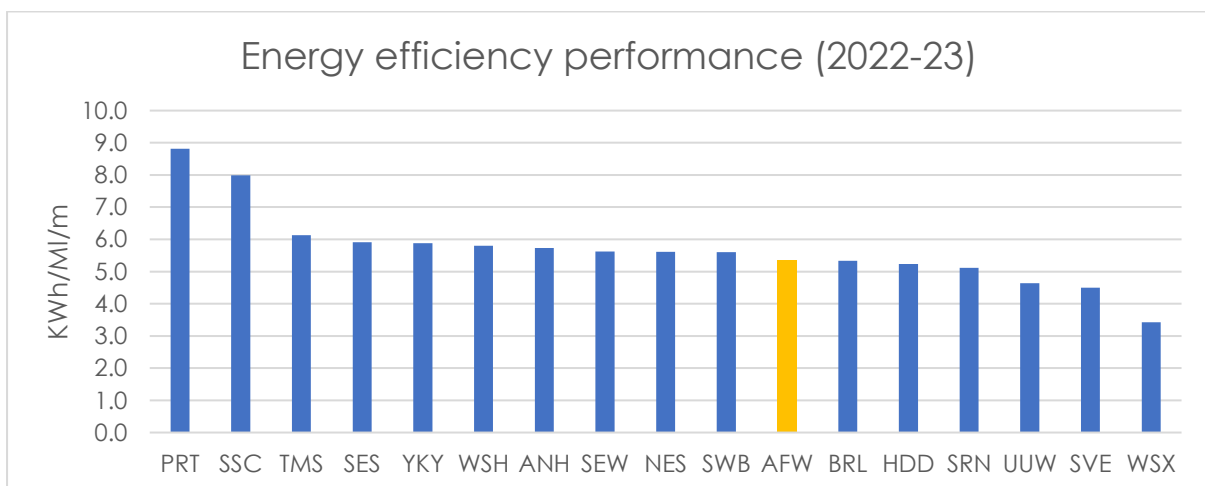


upward trajectory of the overall measure despite our energy efficiency and EV programmes.

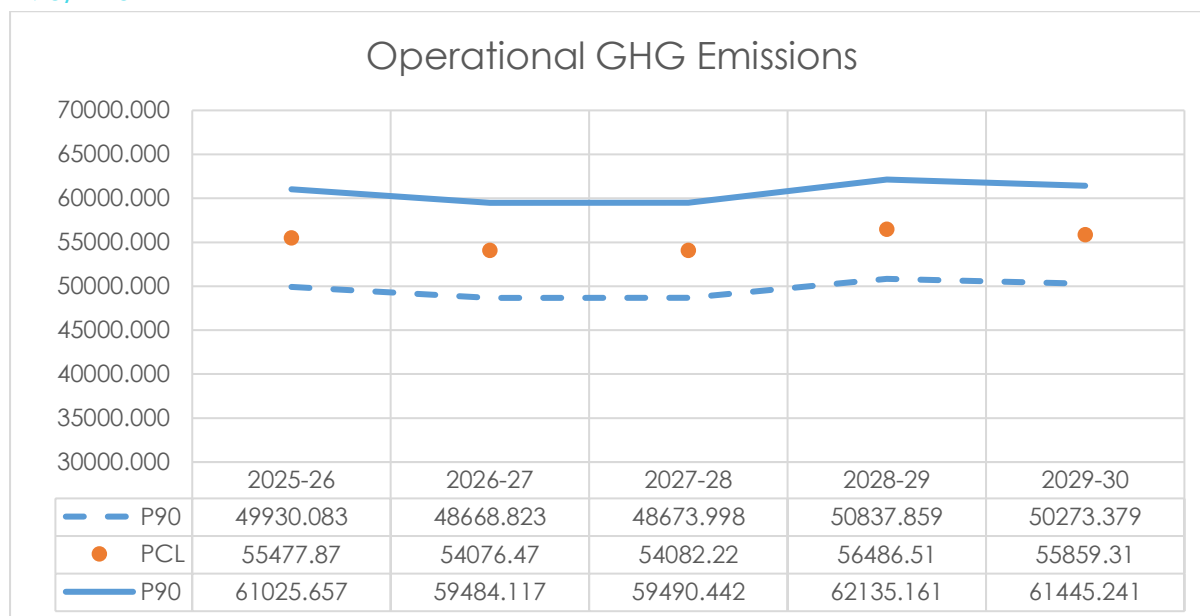
Our starting point for this measure is strong, currently 6<sup>th</sup> in the industry and significantly ahead of 2 of the 3 efficient companies.



However, this measure misses a key aspect of the potential performance of a company, namely the pumping head. For energy, the primary measure of efficiency is kWh per MI per m lift. On this measure we can compare with other companies in the industry. We improved our performance by 10% from 2022/22 and outperformed all of the efficient companies (PRT, SWB and SSC).



## P90/P10



## Incentive rates / Caps / Collars

As no rates have been received from Ofwat for GHG emissions, we have adopted the UK government rate for tonnes of carbon for use in business cases.

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
GHG (Tonnes of CO2e per MI)	n/a	n/a	To be confirmed

## Discharge permit compliance

### Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	n/a
Historical outturn performance at an individual company and sector level	We are forecasting 100% compliance in line with final methodology guidance
Historical expenditure included in the base expenditure models at PR24	n/a
Company forecasts of performance levels that can be delivered from base expenditure	All performance will be derived from base expenditure
Performance levels of efficient companies	n/a

The opportunity for transformational performance improvements	n/a
---	-----

### Performance plan

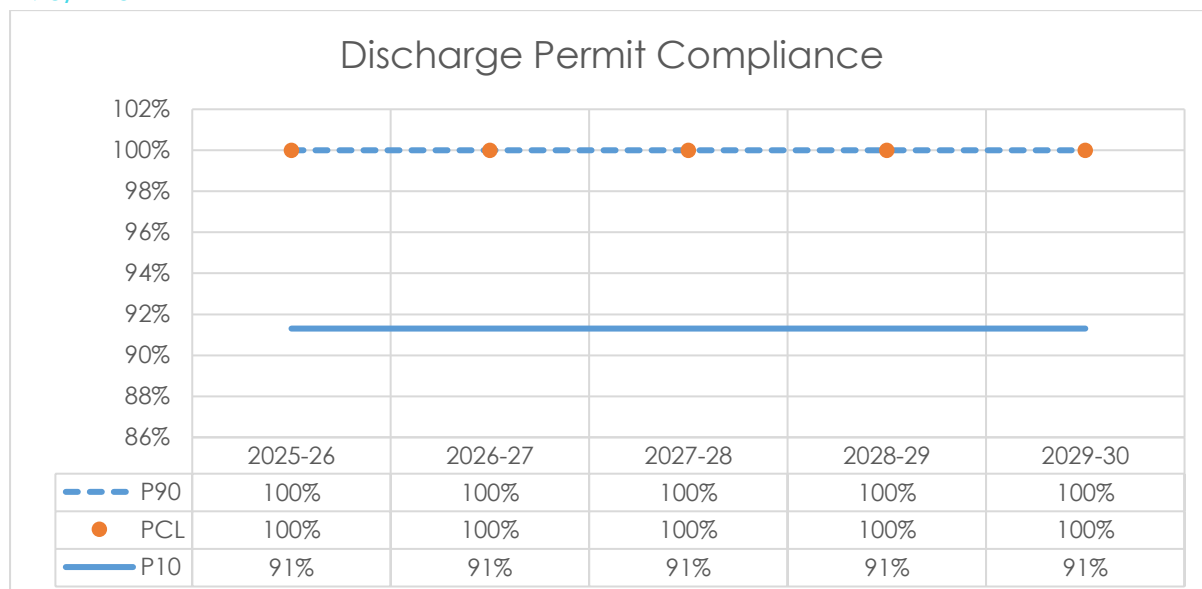
We are not proposing specific capital investment for discharge permit compliance as our existing controls allow us to effectively maintain compliance.

We will be investing in training and awareness programmes for our employees to improve our operational activity in this area. We will also be reviewing and strengthening our governance and reporting of this measure ahead of the start of 2025.

### Ambition

Our ambition will be to achieve 100% compliance for this measure in line with the final methodology.

### P90/P10



### Incentive rates / Caps / Collars

We have adopted the Ofwat marginal benefit and sharing rate:

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
Discharge Permit Compliance	n/a	n/a	0.168

## Serious pollution incidents

### Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	n/a
Historical outturn performance at an individual company and sector level	We are forecasting 0 incidents in line with final methodology guidance
Historical expenditure included in the base expenditure models at PR24	All performance will be derived from base expenditure
Company forecasts of performance levels that can be delivered from base expenditure	
Performance levels of efficient companies	We perform well in comparison to efficient companies
The opportunity for transformational performance improvements	n/a

### Performance plan

We are not proposing specific capital investment for discharge permit compliance as our existing controls allow us to effectively maintain compliance.

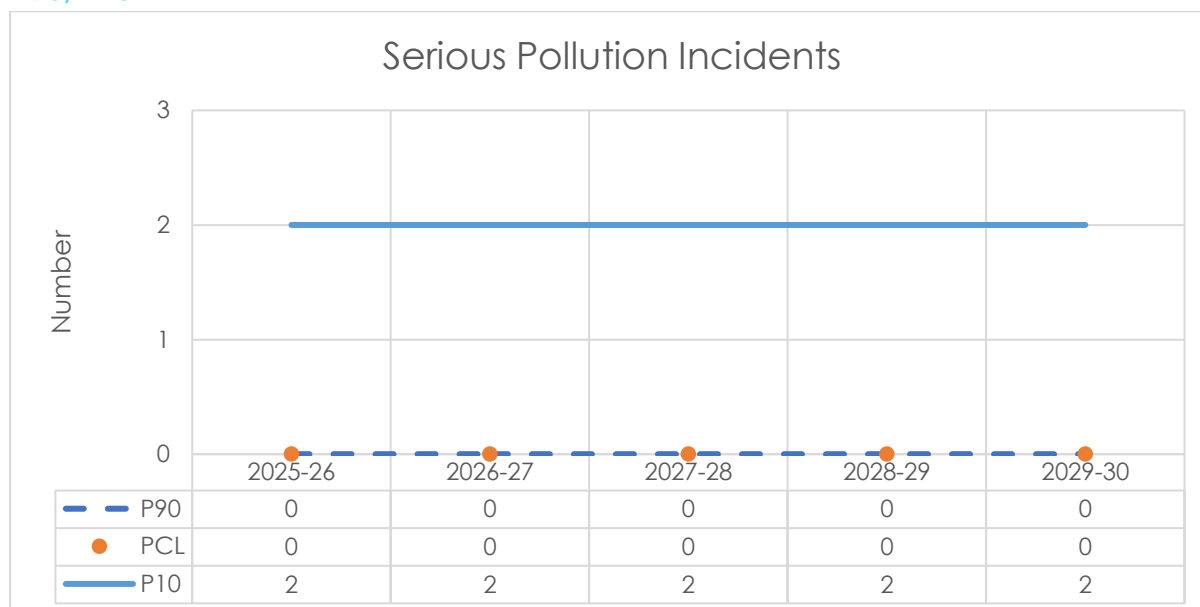
We will be investing in training and awareness programmes for our employees to improve our operational activity in this area. We will also be reviewing and strengthening our governance and reporting of this measure ahead of the start of 2025.

We recognise that the most likely cause of pollution incidents will be from mains bursts. We are reviewing our approach to dealing with large bursts and how to minimise the environmental impact of such these events.

### Ambition

Our ambition will be to have 0 serious pollution incidents.

## P90/P10



## Incentive rates / Caps / Collars

We have adopted the Ofwat marginal benefit and sharing rate:

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
Serious Pollution Incidents	n/a	n/a	1.363

## Mains repairs

### Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	We are using the PR19 target as our baseline for performance in 2025-30. We are forecasting improving performance year on year from this point.
Historical outturn performance at an individual company and sector level	Given the volatility associated with mains repairs, forecasting accurate year on year performance is challenging. However, we are looking to achieve performance near upper quartile through 2025-30.
Historical expenditure included in the base expenditure models at PR24	Mains repairs by the nature experiences upward pressure as asset age and extreme weather events become more frequent. We are delivering the majority of our benefit from base expenditure. We are supplementing this with our enhancement
Company forecasts of performance levels that can be delivered from base expenditure	

	scheme to deliver our Network Calming programme and a reduction in repairs.
Performance levels of efficient companies	Our performance has been very similar to efficient companies in the last 3 years. We are forecasting improving performance throughout 2025-30
The opportunity for transformational performance improvements	Our ambitious network calming programme will deliver a transformational performance improvement. We anticipate an 8% improvement on our current performance through this programme.

## What customers want

### Maintaining a resilient water supply

**What we know: customers mainly connect resilience to leaks and bursts and don't automatically link a reliable supply to wider issues of resilience; when explored there was an assumption we plan for most eventualities**

#### UK awareness of resilience issues is mixed

Third party research into resilience issues has found a mixed level of awareness, with some studies finding it low, and others finding it high. One study of southeast water consumers says: 'there is no coherent view on the drivers of customer support for resilience planning and the relevant importance of different factors.'<sup>48,49</sup> The same is found amongst Affinity customers where the Water Community, made up of those with an active interest in Affinity Water's performance, easily and spontaneously mentioned environmental challenges, and population change, as well as issues with leaks and aging infrastructure. Initial thoughts from respondents in other focus groups didn't go beyond issues with leaks and maintenance.<sup>135,136</sup> Amongst most of Affinity Water's customers, clean water is taken for granted and it is assumed that supply will always be there.<sup>82</sup>

When asked what they wanted Affinity Water to talk to them about, the key areas were socio-political risks, particularly financial ones, despite feeling that it was a less important area of focus. This was closely followed by environmental risks. Operational and asset risks were of less interest. In discussing various communications pieces, the words and phrases that elicited the most positive reaction expressed proactivity towards threats, transparency and fairness.

<sup>135</sup> When asked to prioritise resilience amongst a variety of asset investment aims, resilience came first amongst non-household customers, but just fourth amongst household customers. However, the ranking was very close, suggesting that all options were important, and that a low ranking should not be seen as low priority.<sup>202</sup>

#### Links to climate change are shaky

Issues with supply are not linked to climate change according to water consumers, whether they are Affinity Water customers or not.<sup>85,111</sup> It is also hard to link the idea of water scarcity to a country famous for its wet weather, especially when hot weather is often welcomed and people remember huge floods of recent years.<sup>108, 134</sup> Much current communication is too 'polite' and focused on hoses/pipes and gardens which many consumers do not have, further reducing the relevancy of communications.<sup>45,42</sup>

When asked to think about what might interrupt water supply to Affinity Water customers' homes, they initially focused on leaks and pipe bursts and other operational threats, though once other issues had been discussed, environmental threats become more of a priority. When customers were shown a mood board of various images relating to resilience after discussing issues around it, the most popular images were a deep red heat map of extreme temperatures in Britain in Summer 2022, and an image of plastic pollution in the ocean.<sup>134</sup>

#### Maintaining supply

When it comes to maintaining supply, Affinity Water customers think leaks should be fixed before anything else. They consider education and demand management next. There is minimal evidence of supply-oriented actions.<sup>48,42, 134</sup>

There appears to be little disagreement to the principle of investing to maintain supply. In 2018, only 3% of residents in Affinity Water's area said they actively opposed the principle of investing to secure future supply though the question wording made disagreement unlikely.<sup>22</sup> The Water Community haven't been asked this directly, although responses on other topics make it clear that investment is welcome, if Affinity Water has fixed leaks, and doesn't use money raised for this purpose to fund profits.<sup>42,82</sup>

Operational and asset-based threats were seen by customers as areas that Affinity Water had most control over, whereas environmental and weather risks were important to mitigate against, despite the lack of control. Third party and socio-political risks were harder to comment on. Third party risks were considered the least important to focus on, whereas socio-political ones were hard to control, and customers were divided on what sort of priority they should take.<sup>134</sup>

"We all take advantage of water because it's on tap. If we lived in a country where we had to get water, then we probably would appreciate it a bit more."  
New Farmer, Storr

"Loss of water supply sounds very scary. I wouldn't be worried about no water for a day or two, but after that the thought of not having water accessible when I want/need it makes me want to cry."  
Career Commuters, Wey

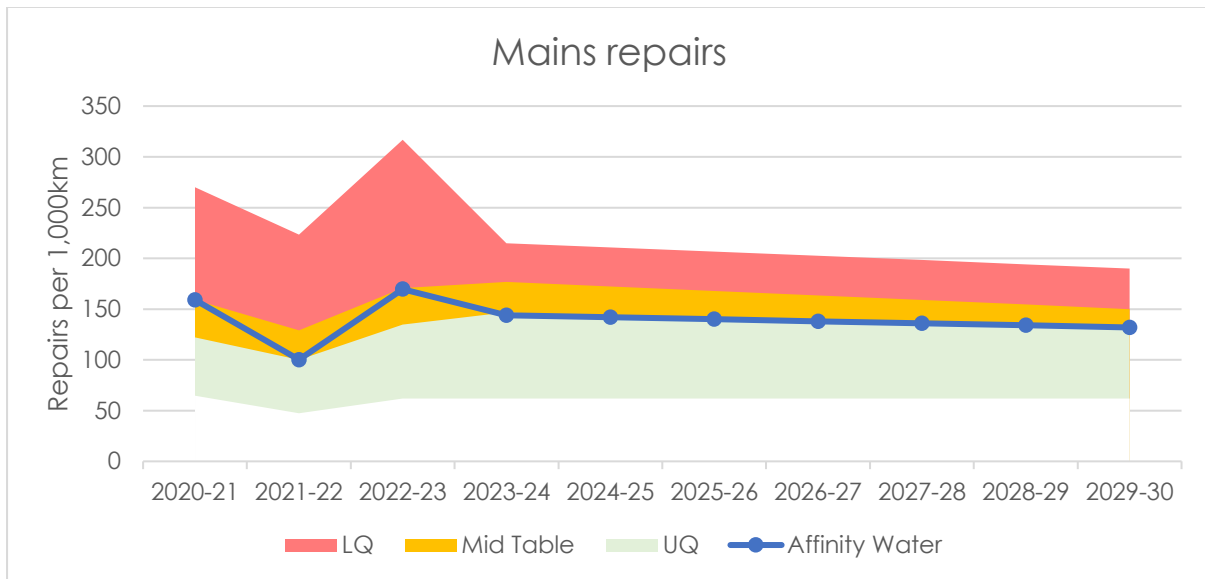
## Performance plan

We have developed performance plans for this PC with quantified benefits referenced to business cases where relevant. These plans have supported the bottom up development of our performance targets. Benefits estimates for network calming can be found in the business case contained in Appendix AFW13 (Base Costs). The base expenditure items will deliver benefit, however, it is extremely difficult to quantify these given the nature of the measure. In line with our asset management investment planning and modelling approach outlined in Appendix AFW08 (Investment Planning Process), these investments halt the deterioration of mains repairs, whilst the enhancement case will deliver the improvement elements of performance.

Improvement Initiative Description	Business Case	Base / Enhancement	Benefit (No. of Repairs)
Valve operations & transient pressure/hydraulics training	Opex	Base	49
Licence to Control & Competent Operator	Capex	Base	
Network MOTs	Opex	Base	
Root Cause and Hot Spots - hydraulic experts	Capex	Base	
TM & DM Mains Renewals	Capex	Base	
TM Maintenance	Opex	Base	
Burst Model	Opex	Base	
SA/Digital Twin Live	Opex	Base	
Network Calming	Network calming	Enhancement	10
		Base	73

### Ambition

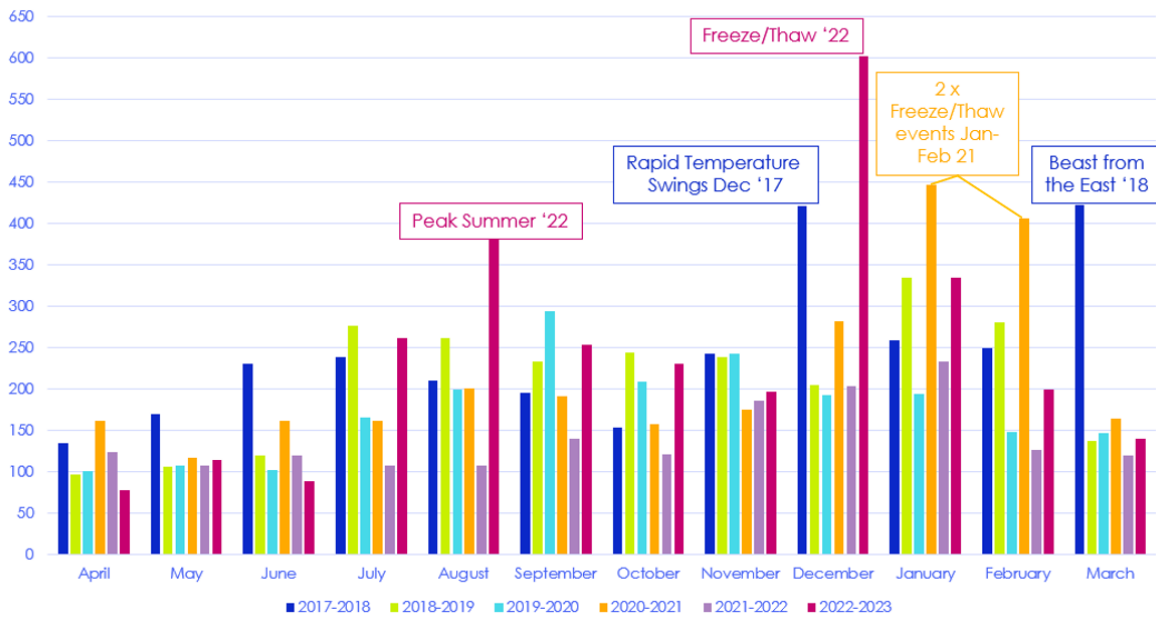
We have seen significant volatility in the mains repairs measure, due to extreme weather conditions from the 'freeze-thaw' event in December 2022. Our plan will bring our performance back in line with upper quartile for the industry as we achieved in 2021/22.



We see a strong correlation between extreme weather and high occurrences of mains repairs. Each of the extreme weather periods in recent years have caused a high volume of main repairs. Due to effects of climate change, the frequency of extreme weather events is likely to increase, and therefore the volatility of Mains Repairs. Accounting for this uncertainty, we will continually improve our performance year on year and target the upper quartile of the industry.

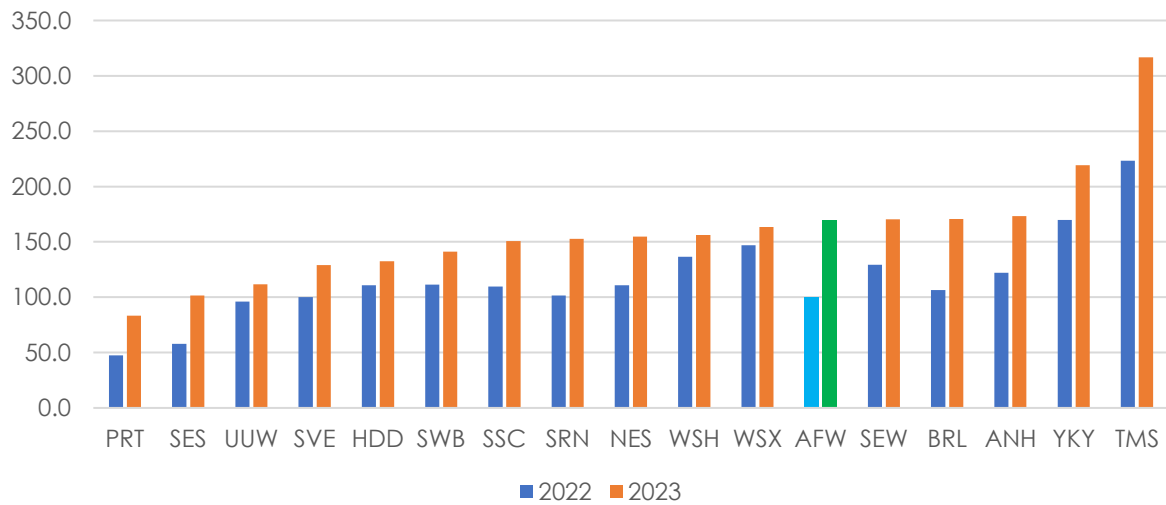


Number of Mains Repairs by month 2017-2023

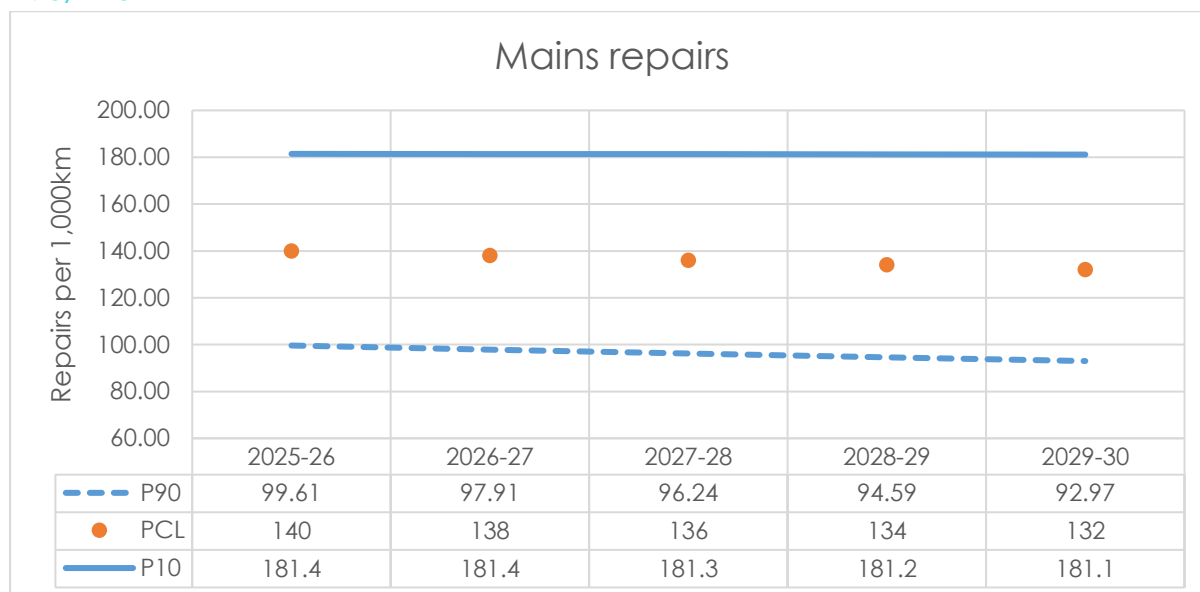


We note that every company deteriorated in performance between the benign weather year of 2021/22 and 2022/23 giving further evidence that weather is the critical factor in relative performance.

Mains repairs 2021/22 - 2022/23



## P90/P10



## Incentive rates / Caps / Collars

We have adopted the Ofwat marginal benefit and sharing rate:

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
Mains repairs	n/a	-0.113	0.148

## Unplanned outage

### Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	We are expecting to outperform the PR19 PCL (when adjusted for the PR24 definition) for 2024/25. We have used this forecast position as the starting point for our 2020-25 planning. We are estimating improving performance year on year.
Historical outturn performance at an individual company and sector level	We have achieved above average performance for the first two years of 2020-25, we are forecasting to continue improving our performance and looking to achieve a consistent upper quartile position in 2025-30.

Historical expenditure included in the base expenditure models at PR24	We are forecasting all performance benefit from base expenditure.
Company forecasts of performance levels that can be delivered from base expenditure	
Performance levels of efficient companies	We perform better on unplanned outage than efficient companies and we are forecasting performance improvement in 2025-30 when using the PR24 definition. Given the companies' respective reporting between PR19 and PR24 definitions, it appears that we have with significantly more raw water issues than other companies – therefore in absolute terms there may be some divergence in performance levels.
The opportunity for transformational performance improvements	Through our bottom up performance improvement planning, we did not identify opportunities for transformational performance improvement. Instead, our plans will focus on delivering consistent and sustainable organisational level improvements to performance.

## What customers want

### Maintaining a resilient water supply

**What we know: customers mainly connect resilience to leaks and bursts and don't automatically link a reliable supply to wider issues of resilience; when explored there was an assumption we plan for most eventualities**

#### UK awareness of resilience issues is mixed

Third party research into resilience issues has found a mixed level of awareness, with some studies finding it low, and others finding it high. One study of southeast water consumers says: 'there is no coherent view on the drivers of customer support for resilience planning and the relevant importance of different factors.'<sup>48</sup> The same is found amongst Affinity customers where the Water Community, made up of those with an active interest in Affinity Water's performance, easily and spontaneously mentioned environmental challenges, and population change, as well as issues with leaks and aging infrastructure. Initial thoughts from respondents in other focus groups didn't go beyond issues with leaks and maintenance.<sup>135,136</sup> Amongst most of Affinity Water's customers, clean water is taken for granted and it is assumed that supply will always be there.<sup>42</sup>

When asked what they wanted Affinity Water to talk to them about, the key areas were socio-political risks, particularly financial ones, despite feeling that it was a less important area of focus. This was closely followed by environmental risks. Operational and asset risks were of less interest. In discussing various communications pieces, the words and phrases that elicited the most positive reaction expressed proactivity towards threats, transparency and fairness.

<sup>135</sup> When asked to prioritise resilience amongst a variety of asset investment aims, resilience came first amongst non-household customers, but just fourth amongst household customers. However, the ranking was very close, suggesting that all options were important, and that a low ranking should not be seen as low priority.<sup>40</sup>

#### Links to climate change are shaky

Issues with supply are not linked to climate change according to water consumers, whether they are Affinity Water customers or not.<sup>45,111</sup> It is also hard to link the idea of water scarcity to a country famous for its wet weather, especially when hot weather is often welcomed and people remember huge floods of recent years.<sup>138,139</sup> Much current communication is too 'polite' and focused on hoses/pipes and gardens which many consumers do not have, further reducing the relevancy of communications.<sup>44,45</sup>

When asked to think about what might interrupt water supply to Affinity Water customers' homes, they initially focused on leaks and pipe bursts and other operational threats, though once other issues had been discussed, environmental threats became more of a priority. When customers were shown a mood board of various images relating to resilience after discussing issues around it, the most popular images were a deep red heat map of extreme temperatures in Britain in Summer 2022, and an image of plastic pollution in the ocean.<sup>134</sup>

#### Maintaining supply

When it comes to maintaining supply, Affinity Water customers think leaks should be fixed before anything else. They consider education and demand management next. There is minimal evidence of supply-oriented actions.<sup>44,45,134</sup>

There appears to be little disagreement to the principle of investing to maintain supply. In 2018, only 3% of residents in Affinity Water's area said they actively opposed the principle of investing to secure future supply though the question wording made disagreement unlikely.<sup>22</sup> The Water Community haven't been asked this directly, although responses on other topics make it clear that investment is welcome, if Affinity Water has fixed leaks, and doesn't use money raised for this purpose to fund profits.<sup>42,43</sup>

Operational and asset-based threats were seen by customers as areas that Affinity Water had most control over, whereas environmental and weather risks were important to mitigate against, despite the lack of control. Third party and socio-political risks were harder to comment on. Third party risks were considered the least important to focus on, whereas socio-political ones were hard to control, and customers were divided on what sort of priority they should take.<sup>138</sup>

"We all take advantage of water because it's on tap. If we lived in a country where we had to get water, then we probably would appreciate it a bit more."  
New Earner, Storr

"Loss of water supply sounds very scary. I wouldn't be worried about no water for a day or two, but after that the thought of not having water accessible when I want/need it makes me want to cry."  
Career Commuter, Wey

## Performance plan

We have developed performance plans for this performance commitment with quantified benefits referenced to relevant business cases. Due to the nature of *unplanned* outage, it is challenging to identify individual activities that will deliver quantifiable benefit. Instead we have used our organisational based approach, as described in our Business Plan, to review a selection of activities which deliver a total benefit of the whole package.

Improvement Initiative Description	Benefit (%)
Assets restored to available status within 24hours of failure where there is not a longer term issue discovered % compliance >95%	0.4%
Proactive maintenance	
Reactive maintenance planned to restore assets not covered in Restoration. 95% restored within 48hours	
Mature testing schedule in place to deliver 5% improvement in PWPC to inform ARM risk	
Asset Remote Reset and Condition assessment - ICA Upgrade	
Critical spares	
Apprenticeships, aging work force, recruitment and retention	
Competent Operator, Licence to Control	
Non-Infra intensive assessment (Jacobs)	

## Ambition

For Unplanned Outage, we have been successful in delivering our PCL in the first three years of 2020-25 and expect to continue this performance for the final two years. We are looking to deliver a continuous improvement journey from our 2024/25 position, however at the same time, we recognise the inherent risk that is present with the removal of the exclusion for raw water quality if external conditions were to change. For example, a third party creating a pollution incident that directly affects the raw water quality would now result in a penalty.

The differences between the PR19 and PR24 definitions as included in Ofwat published data is shown below. We have used the 0.9% difference as our average from the previous 5 years. 0.9% is also the average for the collective industry for this period.

Company	Increase in unplanned outage score between PR19 and PR24 definitions					
	2017-18	2018-19	2019-20	2020-21	2021-22	Average
WSX	1.0	1.6	3.7	4.1	3.4	2.7
SSC	2.8	2.9	1.9	0.4	2.0	2.0
NES	1.8	2.1	2.3	0.7	1.9	1.8
TMS	3.6	3.6	0.5	0.7	0.1	1.7
YKY	2.5	1.2	2.3	1.7	0.8	1.7
UU	0.4	0.9	2.7	2.2	1.9	1.6
ANH	1.0	0.9	0.9	1.0	0.6	0.9
<b>AFW</b>	<b>1.1</b>	<b>0.8</b>	<b>1.5</b>	<b>0.5</b>	<b>0.7</b>	<b>0.9</b>
BRL	0.1	1.7	2.3	0.4	0.2	0.9
SWB	0.7	0.4	0.9	0.8	0.0	0.6
SRN	0.4	0.3	0.2	0.2	0.1	0.3
SEW	0.4	0.2	0.1	0.6	0.2	0.3

SVE	-	0.0	0.1	0.2	0.5	0.2
WSH	0.0	0.0	0.0	0.0	0.0	0.0
HDD	-	0.0	0.0	0.0	0.0	0.0
PRT	0.0	0.0	0.0	0.0	0.0	0.0
SES	0.0	0.0	0.0	0.0	0.0	0.0
<b>Average</b>	<b>1.1</b>	<b>1.0</b>	<b>1.1</b>	<b>0.8</b>	<b>0.7</b>	<b>0.9</b>

The analysis above suggests that removal of raw water quality exclusions will affect us to a greater extent than the majority of the industry (including 6 of the 7 best performing companies from 2022-23 (SWB, HDD, SES, PRT, WSH, SVE). As a result, the upper quartile is far less affected by the definition change, making it significantly more challenging to realistically achieve. Simply put, companies are penalised due to factors of local geography and historical land use (the main explanators for raw water quality failures) rather than asset health, performance and management action.

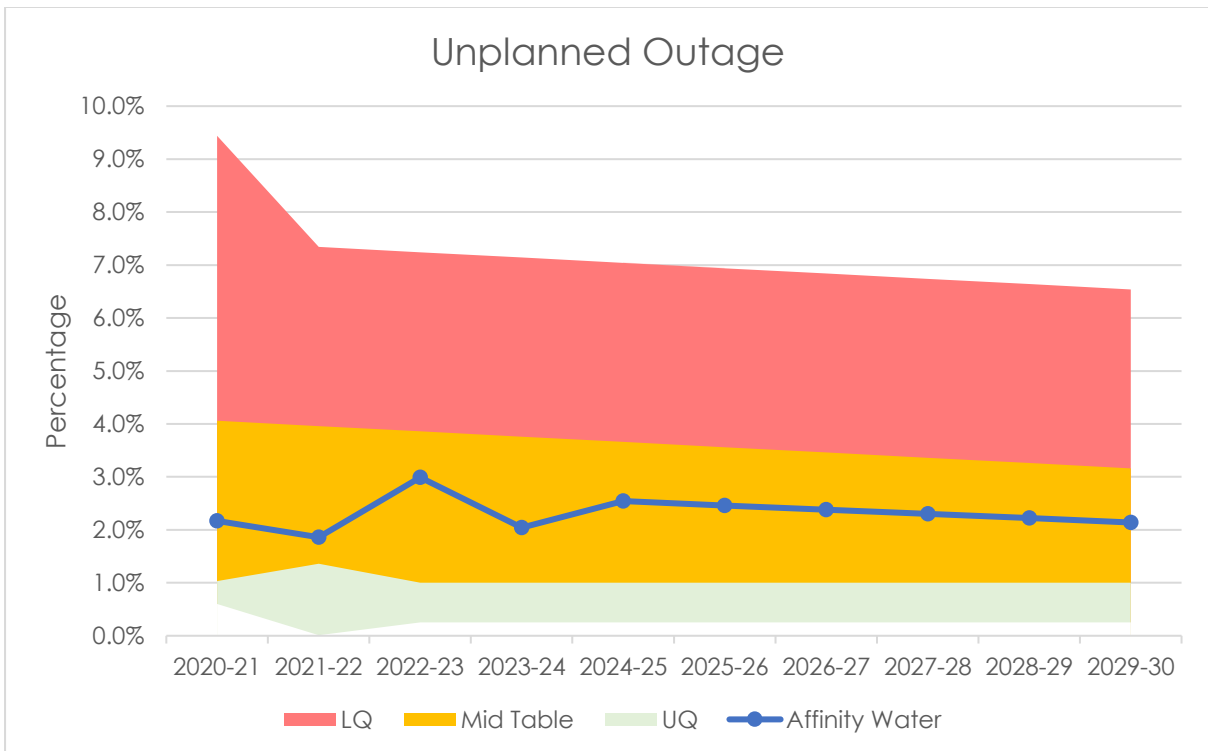
Raw water quality varies depending on the weather, in particular heavy rainfall causes drastic changes in raw water. We have a number of sites that experience raw water quality issues, which we then have to treat by blending the water with higher quality sources taken from other. Frequently blending is often not sufficient to bring the water quality up to the required standard, which then necessitates a reduction or cessation in flow from the affected sources. A selection of sites is given below:

Water Treatment Works	Configuration	Raw Water Quality Issues	Current Mitigation
Iver WTW PWPC 225Mld	Direct abstraction river treatment works, blending import from Thames Water reservoir available at a limited flow	Algae, turbidity, nitrates  Treatment plant unable to treat to acceptable levels if raw water quality parameters exceeded, waste recycling processes could also be overwhelmed	Reduction of abstraction flow to treatable limits, introduction of imported blending water
Clay Lane WTW PWPC 144.4Mld	8 remote borehole abstraction sources which are pumped in two systems to Clay Lane WTW for treatment	High turbidity  Treatment plant unable to treat to acceptable levels if turbidity too high.	Reduction or cessation of abstraction at affected sources, maximising other sources to compensate where possible
North Mymms WTW PWPC: 20.6MI/d	4 source sites treated at North Mymms WTW	High turbidity and bromates	Reduction or cessation of abstraction at individual sources if

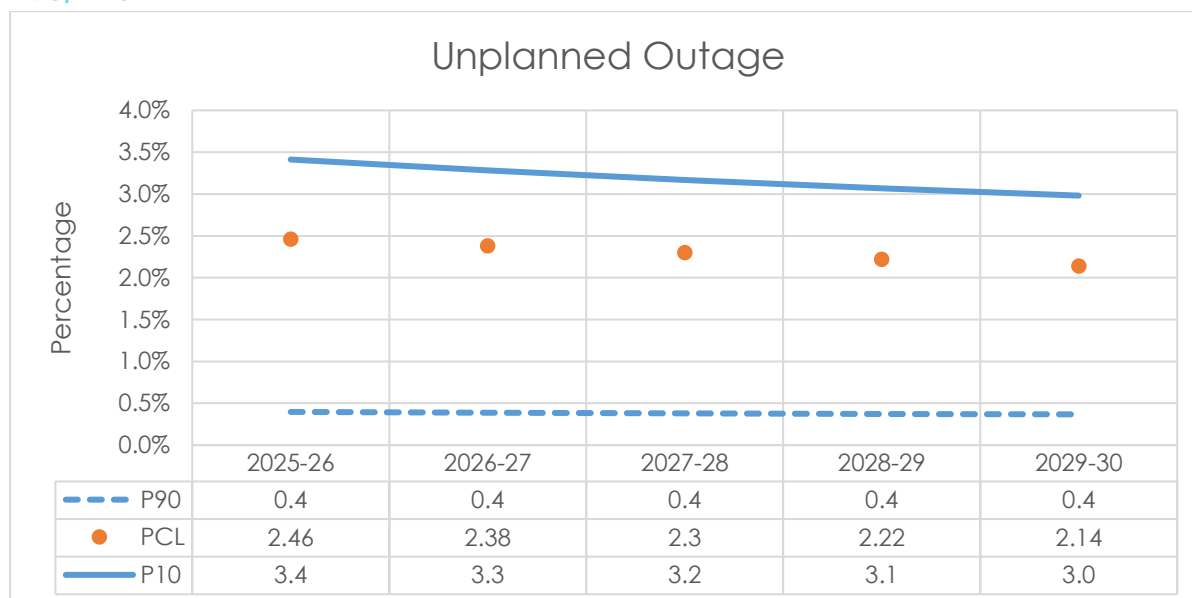
		Treatment plant unable to treat to acceptable levels if blending ratios exceeded	blending ratios cannot be maintained whilst maximising total treated water flow.
Mill End WTW and Springwell Pumping Station  PWPC: 17.0MI/d	Springwell operates as a remote source which is combined with boreholes at Mill End for treatment at Mill End WTW	High turbidity  Treatment plant unable to treat to acceptable levels if turbidity too high and blending ratio not able to bring to acceptable levels	Reduction or cessation of abstraction at Springwell if blending ratios cannot be maintained whilst maximising total treated water flow

Blending poor raw water quality with other sources inevitably increases the unit cost of water production, as more energy is required. As in some of the cases above, additional costs are also incurred from paying for water through bulk supply agreements with other providers, which are priced on a commercial basis.

As with all performance commitments, there is a balance between efficient cost and performance delivery. For 2025-30, we expect to maintain a mid-table position and continue to deliver excellent service to customers with no anticipated interruption to their supply and a continued improvement to asset health.



## P90/P10



## Incentive rates / Caps / Collars

We have adopted the Ofwat marginal benefit and sharing rate:

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
Unplanned Outage	n/a	-1,308	1,629

## Water supply interruptions

### Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	We have used the PCL from PR19 as the baseline for our 2025-30 forecasts. We are forecasting performance to improve year on year from this position.
Historical outturn performance at an individual company and sector level	We have set our targets based on achieving an upper quartile position for water supply interruptions.
Historical expenditure included in the base expenditure models at PR24	We are estimating a total performance improvement of 1 minute 15 seconds, with



Company forecasts of performance levels that can be delivered from base expenditure	51 seconds being delivered through base expenditure.
Performance levels of efficient companies	Our performance on water supply interruptions is comparable to the efficient companies 2021/22 and 2022/23. Our forecast for 2025-30 continues an improving trend from our current position.
The opportunity for transformational performance improvements	We have delivered a transformation in our performance from 2017 and have strong comparable industry performance industry, despite a single exceptional event in 2022/23. We have identified a number of schemes below which will continue our improvement journey.

## What customers want

### Maintaining a resilient water supply

**What we know: customers mainly connect resilience to leaks and bursts and don't automatically link a reliable supply to wider issues of resilience; when explored there was an assumption we plan for most eventualities**

#### UK awareness of resilience issues is mixed

Third party research into resilience issues has found a mixed level of awareness, with some studies finding it low, and others finding it high. One study of southeast water consumers says: "there is no coherent view on the drivers of customer support for resilience planning and the relevant importance of different factors."<sup>48,49</sup> The same is found amongst Affinity customers where the Water Community, made up of those with an active interest in Affinity Water's performance, easily and spontaneously mentioned environmental challenges, and population change, as well as issues with leaks and aging infrastructure. Initial thoughts from respondents in other focus groups didn't go beyond issues with leaks and maintenance.<sup>138,139</sup> Amongst most of Affinity Water's customers, clean water is taken for granted and it is assumed that supply will always be there.<sup>42</sup>

When asked what they wanted Affinity Water to talk to them about, the key areas were socio-political risks, particularly financial ones, despite feeling that it was a less important area of focus. This was closely followed by environmental risks. Operational and asset risks were of less interest. In discussing various communications pieces, the words and phrases that elicited the most positive reaction expressed proactivity towards threats, transparency and fairness.<sup>134</sup> When asked to prioritise resilience amongst a variety of asset investment aims, resilience came first amongst non-household customers, but just fourth amongst household customers. However, the ranking was very close, suggesting that all options were important, and that a low ranking should not be seen as low priority.<sup>200</sup>

#### Links to climate change are shaky

Issues with supply are not linked to climate change according to water consumers, whether they are Affinity Water customers or not.<sup>45,111</sup> It is also hard to link the idea of water scarcity to a country famous for its wet weather, especially when hot weather is often welcomed and people remember huge floods of recent years.<sup>128,134</sup> Much current communication is too 'polite' and focused on hoses/pipes and gardens which many consumers do not have, further reducing the relevancy of communications.<sup>35,42</sup>

When asked to think about what might interrupt water supply to Affinity Water customers' homes, they initially focused on leaks and pipe bursts and other operational threats, though once other issues had been discussed, environmental threats become more of a priority. When customers were shown a mood board of various images relating to resilience after discussing issues around it, the most popular images were a deep red heat map of extreme temperatures in Britain in Summer 2022, and an image of plastic pollution in the ocean.<sup>134</sup>

#### Maintaining supply

When it comes to maintaining supply, Affinity Water customers think leaks should be fixed before anything else. They consider education and demand management next. There is minimal evidence of supply-oriented actions.<sup>44,49,134</sup>

There appears to be little disagreement to the principle of investing to maintain supply. In 2018, only 3% of residents in Affinity Water's area said they actively opposed the principle of investing to secure future supply though the question wording made disagreement unlikely.<sup>22</sup> The Water Community haven't been asked this directly, although responses on other topics make it clear that investment is welcome, if Affinity Water has fixed leaks, and doesn't use money raised for this purpose to fund profits.<sup>44,87</sup>

Operational and asset-based threats were seen by customers as areas that Affinity Water had most control over, whereas environmental and weather risks were important to mitigate against, despite the lack of control. Third party and socio-political risks were harder to comment on. Third party risks were considered the least important to focus on, whereas socio-political ones were hard to control, and customers were divided on what sort of priority they should take.<sup>134</sup>

"We all take advantage of water because it's on tap. If we lived in a country where we had to get water, then we probably would appreciate it a bit more."  
New Earner, Stot

"Loss of water supply sounds very scary. I wouldn't be worried about no water for a day or two, but after that the thought of not having water accessible when I want/need it makes me want to cry."  
Career Commuter, Wey

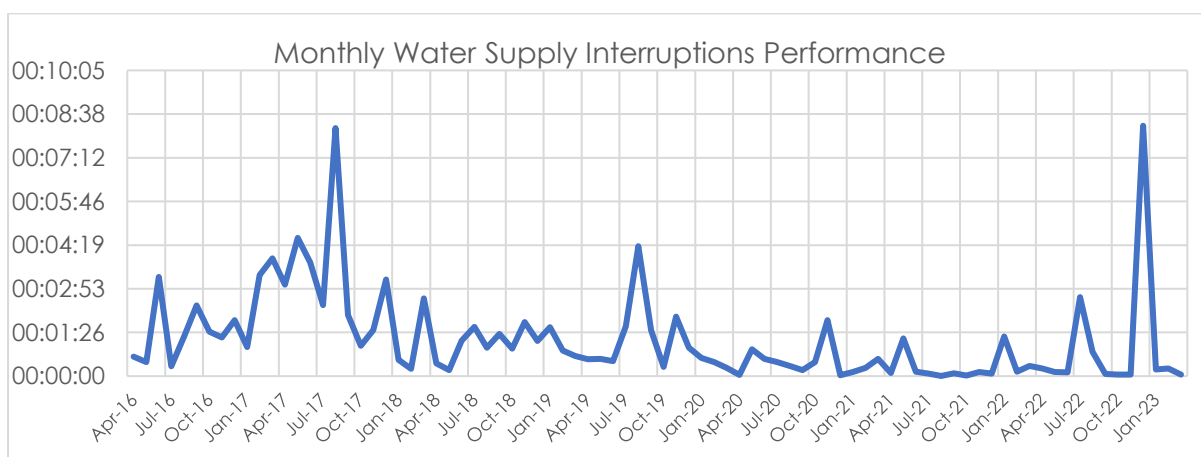
## Performance plan

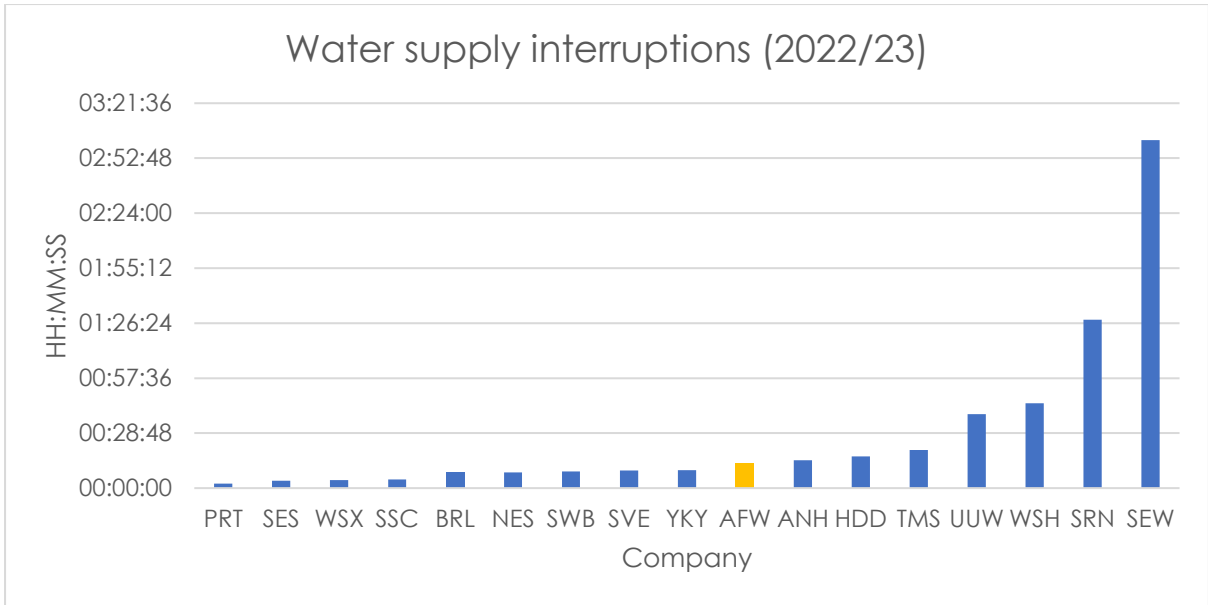
We have developed performance plans for this performance with quantified benefits referenced to relevant business cases. Due to the nature of water supply interruptions we have aggregated the total benefit, with the exception of our Network Calming business case, where we have been able to quantify the benefit.

Improvement Initiative Description	Business Case	Base / Enhancement	Benefit (Seconds)
Network MOTs - GIS records, DV checks etc, trunk main walking	Opex	Base	51
Restoration solutions to hand for front line delivery teams	Opex	Base	
DNM & Hydraulic modeller role development - bronze incident lead 24/7/365	Opex	Base	
Competent Operator, Licence to Control, regulatory and necessary training and competency checks	Opex	Base	
CIT system stability	IT	Base	
CIT system development	IT	Base	
SA development	IT	Base	
Telemetry System Replacement	Telemetry	Base	
Bespoke Control Room HQ	n/a	Base	
Extended working hours, weekend and night working, T&Cs review	n/a	Base	
Emergency Plan and Escalation protocol	SEMD	Base	
Burst Model	Network calming	Enhancement	24
Smart Valves	Network calming	Enhancement	

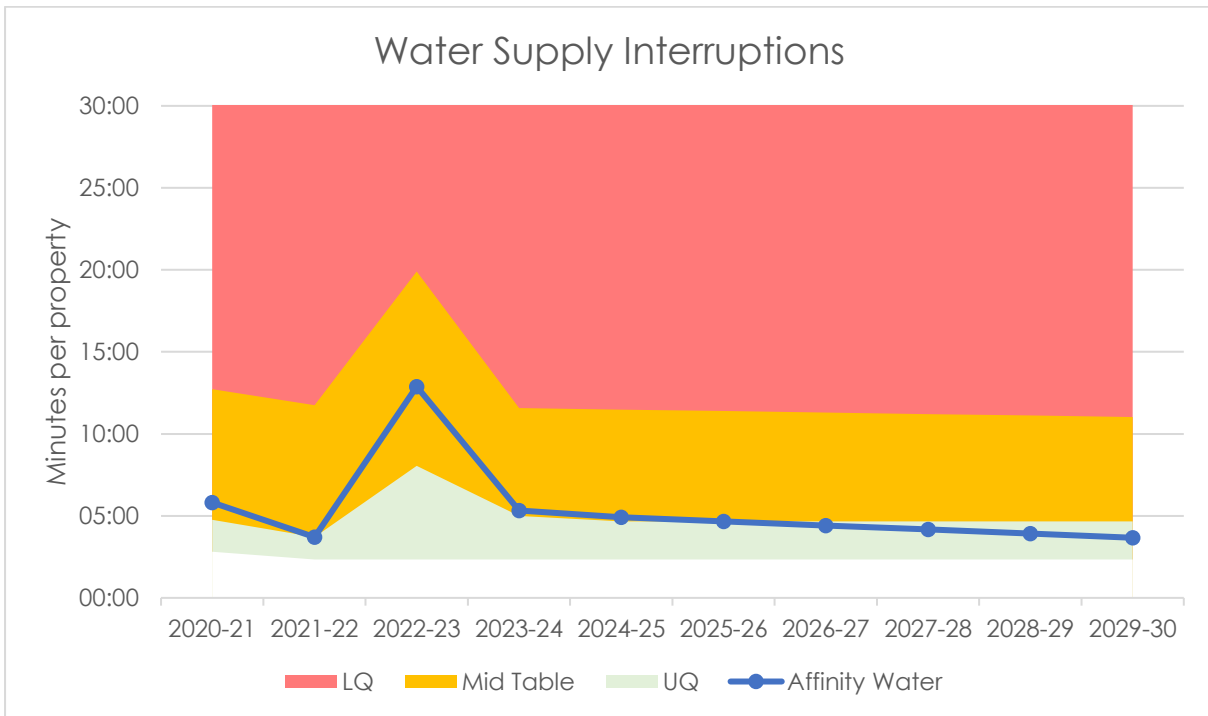
### Ambition

We have delivered a step change in improvement to water supply interruptions performance over the last 7 years. Looking at monthly performance over that time frame, we now achieve an average of 8 seconds interruptions, down from over 1 minute per month in 2018. However, we have experienced spikes in performance as a result of one off incidents, most notably in December 2023 during the 'freeze-thaw' event that created a significant number of burst pipes.





We recognise the challenging conditions face in 2022-23, however we will target achieving upper quartile performance through 2025-30.

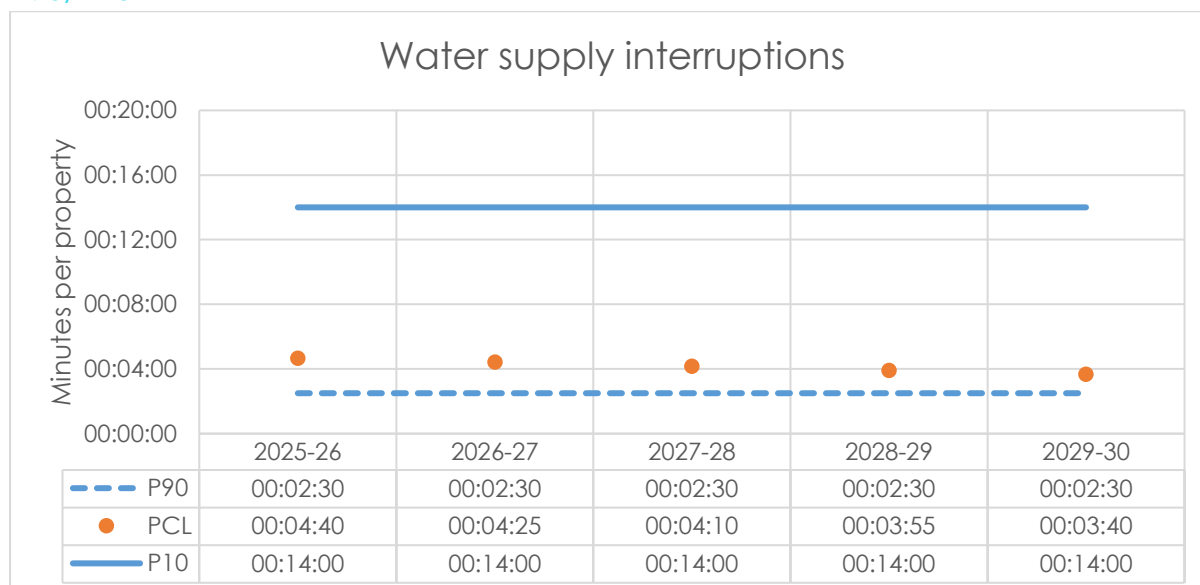


#### Incentive rates / Caps / Collars

We have adopted the Ofwat marginal benefit and sharing rate:

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
Supply interruptions >3 hours	0.525	-0.525	0.916

## P90/P10



## Compliance risk index (CRI)

### Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	The PCL will be set at 0, the same as PR19. We are forecasting to finish 2029/30 with a score of 0.9.
Historical outturn performance at an individual company and sector level	We are forecasting stable performance in 2025-20 with improvements in the final year attributed to our enhancement investment at Iver WTW and Egham WTW. We forecast that we will remain in the upper quartile of water companies for this measure.
Historical expenditure included in the base expenditure models at PR24	Our base expenditure on CRI will maintain existing levels of performance. Given the nature of the metric, it is very challenging to try to quantify this improvement.
Company forecasts of performance levels that can be delivered from base expenditure	
Performance levels of efficient companies	Our CRI score is comparable to the efficient companies and we are looking to improve performance further from this position.

The opportunity for transformational performance improvements	We are delivering significant infrastructure development at Iver WTWs and Egham WTWs which are two of our biggest works. We are forecasting this to have a 17% improvement to CRI score.
---	--

## What customers want

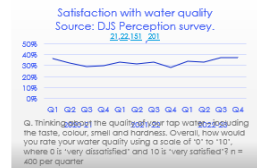
### Exceeding expectations for drinking water quality

**What we know: Clean good tasting water is the number 1 customer priority but customer perceptions are variable and driven by hardness - though few reach out to complain.**

#### We have a good performance on the technical aspects of water quality

The Ofwat Service Delivery Report 2022 showed that, compared to other companies, Affinity Water has had fewer failures of water quality than most, with their Compliance Risk Index being just 0.87, compared to the overall industry figure of 3.23 (0 is the best, 5 the worst), making them the 3rd best performer, improving from 1.31 and 4th place the previous year.<sup>25</sup> Customers are largely unaware of the process behind reaching this level; they know that somehow the water is cleaned, but are unsure how. July 2022 research showed that some were aware of chemicals like chlorine and fluoride being added but beyond that, knowledge was sparse, and some even chose not to know (this group preferred to drink bottled water).<sup>26</sup>

"It's safe, it doesn't smell, it's always available, it's quite cheap and you taste it for granted really."  
St Albans, post-family, male



#### Customer opinion appears to be highly variable; high quality water is taken for granted

Whilst in Q4 2022-23 satisfaction with water quality performed at its highest point in three years, it's still only just over a third of respondents, (37.3%)<sup>27</sup> The Sundon water taste testing survey (February 2020) found that the customers interviewed were generally happy with their water taste and smell, their only complaint being the hardness level.<sup>28</sup> Across the last three years, satisfaction with water quality is stable at an average of just 33% (top 2 boxes on a ten-point scale).<sup>29</sup>

Just 0.2% of contacts to the call centre in Q1 2021 were about water quality.<sup>22</sup> Feedback from Rant & Rave mirrors this low level of complaint, with just 823 surveys received from 1st Jan 2020 to 9th Feb 2022 mentioning water quality – 0.2% of the total. These surveys include Water Quality GoS codes and comments from other codes where the customer has mentioned 'water quality'. The combined average mean CSAT score is 8.40. Several complaints are raised about customer advisors being uninterested and unwilling to investigate.<sup>31</sup>

This low level of engagement over water quality further confirms findings from the water community and other qual that good quality water is just taken for granted and is therefore a hygiene factor. When the subject was brought up in focus groups in Summer 2022, the general feeling was this was Affinity Water's job, and respondents trusted us to make the decisions.<sup>32,33</sup> There may also be a regional effect to satisfaction with water quality; evidence is mixed, but strong enough to warrant further enquiry.<sup>34,35</sup>

"Everything becomes scaly and furry, it's a nightmare to clean – and keep things clean – and the kettle has to be de-scaled every week or two."  
Luton, family, female

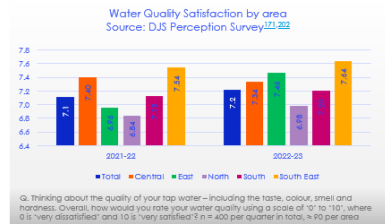
#### Lead replacement

Out of the five key investment areas (reducing abstraction/environmental restoration, carbon net zero, improving resilience, lead replacement, and hard water) Lead replacement ranked as the highest priority in a representative study, reflecting the highest overall priority in other research for clean, safe, drinking water. Just over half of respondents were aware that there are lead pipes in the Affinity Water area and most of those had either checked for them or had them removed. And 48% of participants in the study opted for the highest possible level of investment when allocating spend to the different investment areas.<sup>36</sup> This somewhat conflicts with previous research, which showed a much lower level of awareness and concern, though that was qualitative and not representative.<sup>37</sup>

#### Hardness is a pain point on water quality

Even though hardness is not technically a water quality/safety issue in regulatory terms, they are often intrinsically linked in the minds of the respondents. When water quality was discussed on the Water Community, participants identified five components to water quality: safety, clarity, reliability, softness and tastelessness. For them, Affinity Water only fell short on softness. Unprompted, most wanted Affinity Water to soften water, and didn't understand why they didn't, believing it would solve problems such as leaks, appliances breaking and reduce environmental damage due to the use of fewer chemicals to wash and clean. However, few people understood that hard water has health benefits.<sup>38</sup>

In the priorities studies<sup>39,40</sup> hard water improvements technically came 4th out of 5, but was scored closely with resilience and environment, well within the margins of error, and when discussed in depth opinions on its importance changed when discussing the potential impacts of softening water (adding extra chemicals to the water, potential environmental impacts), respondents became happier maintaining the status quo.<sup>42</sup>



## Performance plan

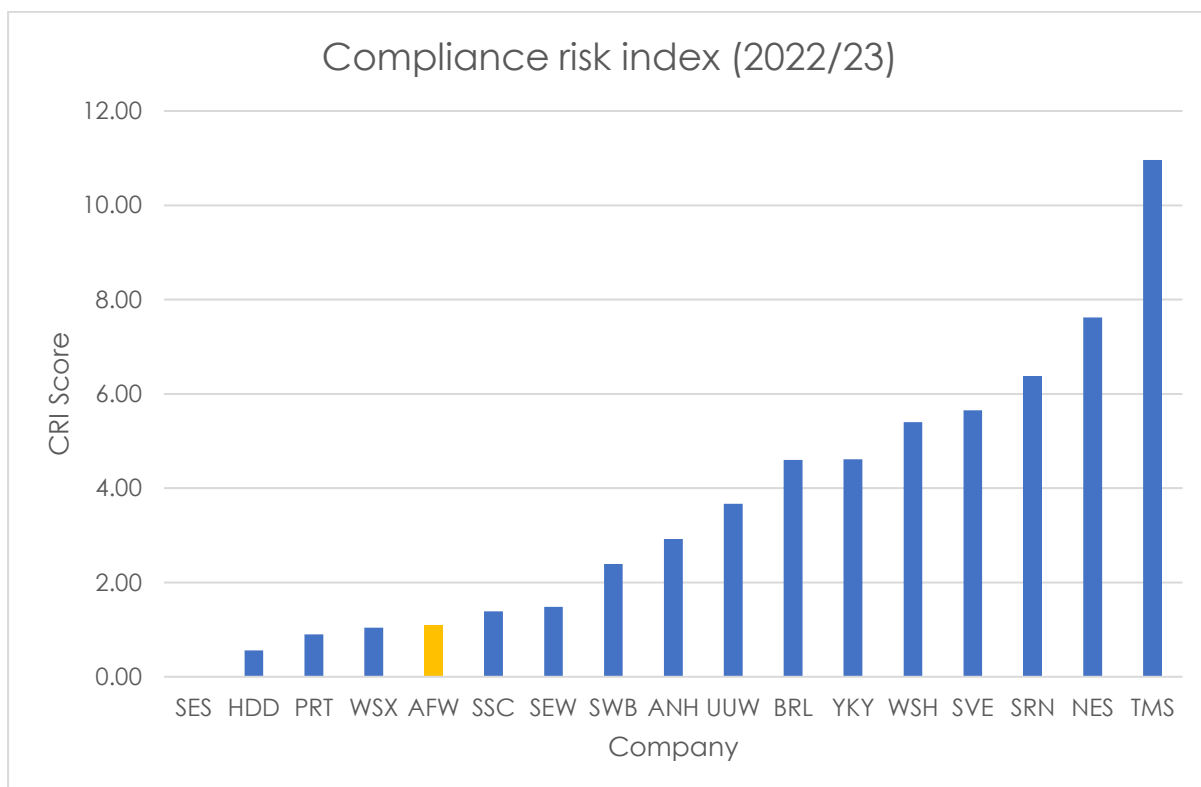
We have developed performance plans for this performance commitment with quantified benefits referenced to relevant business cases. Due to the nature of CRI, it is very challenging to identify individual activities that will deliver quantifiable benefit.

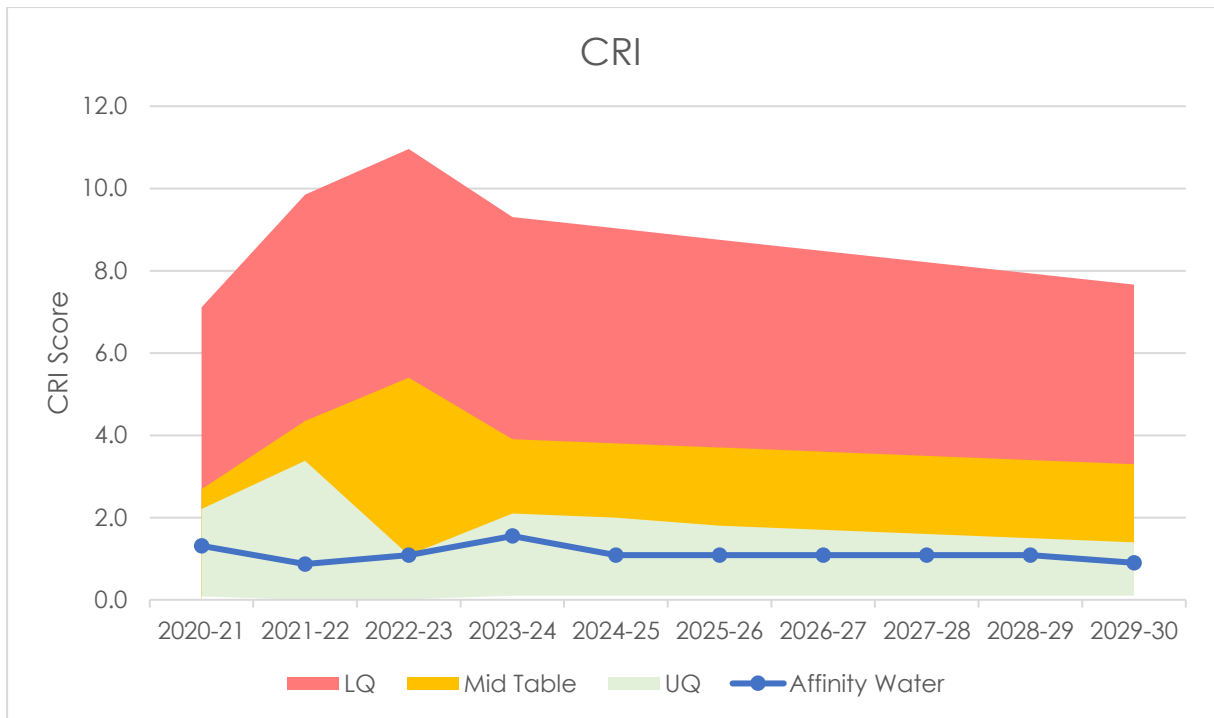
Instead, we have used our organisational based approach, as described in our Business Plan. Base investment will maintain existing levels of performance against upward pressure. The enhancement expenditure at Egham and Iver has been calculated to deliver benefit. This was quantified using the existing performance levels and the assumption that the investment at both sites will reduce the risk of incurring a CRI score at each site.

Improvement Initiative Description	Business Case	Base / Enhancement	Benefit (CRI score)
Competent Operator, Licence to Control, RAMS, Valve Ops, Flushing, RTS, hydraulics and transients, WQ Awareness, EUSR, DWSP Awareness, Introduction to Water Treatment	Opex	Base	n/a
Aluminium and DOMS Flushing	Flushing	Base	
Dead Ends	Dead Ends	Base	
Storage Programme including Sample Lines and CFD modelling	Non- Infra	Base	
Satellite imagery, production perimeter checks, landowner engagement	Catchment	Base	
Cytometry, equipment, processes, sample points	Opex	Base	
Site standards, estates GM, site signage, Love Where You Work	Opex	Base	
Supply chain, 3rd party and developers. Including fire hydrant use	Opex	Base	
Investment in treatment facilities at Egham and Iwer	Egham Iwer	Enhancement	0.19

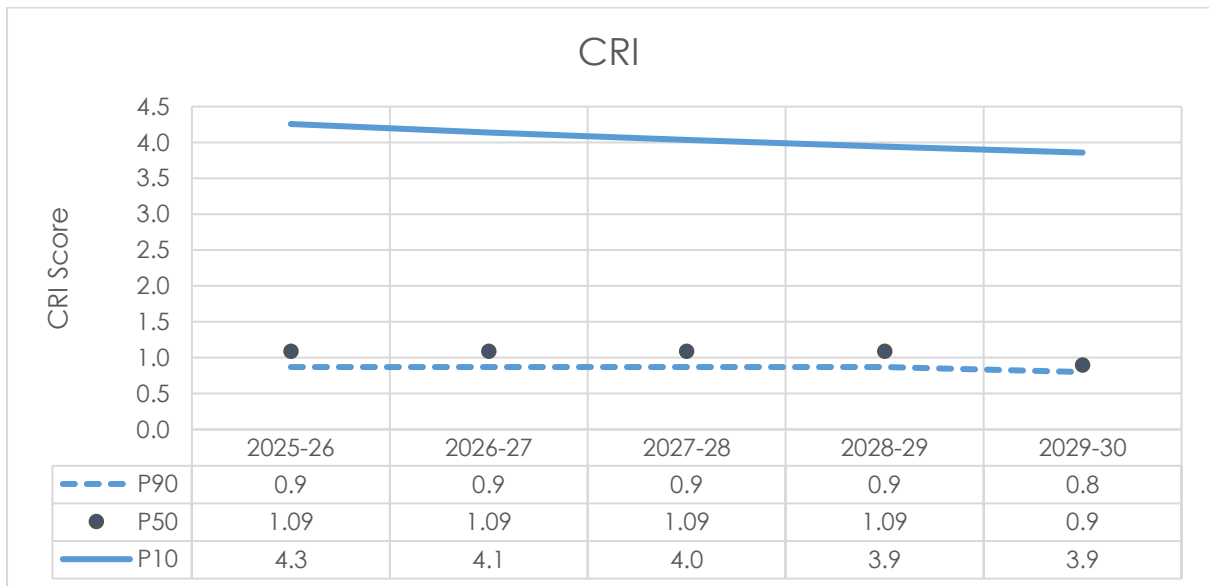
### Ambition

We are proud of our performance on CRI and will continue to target 0. Our forecast for performance will keep us in the upper quartile of water companies throughout 2025-30.





### P90/P10



### Incentive rates / Caps / Collars

We have adopted the Ofwat marginal benefit and sharing rate:

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
CRI	n/a	-0.849	0.982

## Customer contacts about water quality

### Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	The PCL at PR19 was 0.67. PR24 target set at 0.67 given the upward pressure driven by our changing operating conditions – reducing local chalk abstraction, moving river water further and the introduction of our Sundon Conditioning Plant
Historical outturn performance at an individual company and sector level	We perform well compared to the industry on customer contacts about water quality and have set a target that maintains an upper quartile position.
Historical expenditure included in the base expenditure models at PR24	We have listed below the schemes that will contribute to reducing the upward pressure from our changing operating philosophy. All performance will be delivered through base expenditure.
Company forecasts of performance levels that can be delivered from base expenditure	
Performance levels of efficient companies	Two of the three efficient companies do not have data reported in the 'Historic Performance trends for PR24 V2.0' so are unable to compare performance.
The opportunity for transformational performance improvements	Through our business plan development, we have not identified any transformational performance improvement opportunities.

In the last two price reviews, we have not received enhancement expenditure for this measure, therefore all improvement has been derived from Base expenditure.



## What customers want

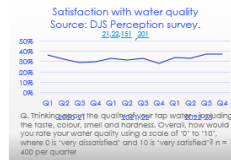
# Exceeding expectations for drinking water quality

**What we know: Clean good tasting water is the number 1 customer priority but customer perceptions are variable and driven by hardness - though few reach out to complain.**

### We have a good performance on the technical aspects of water quality

The Ofwat Service Delivery Report 2022 showed that, compared to other companies, Affinity Water has had fewer failures of water quality than most, with their Compliance Risk Index being just 0.57, compared to the overall industry figure of 3.23 (0 is the best, 5 the worst), making them the 3rd best performer, improving from 1.31 and 4th place the previous year.<sup>25, 26</sup> Customers are largely unaware of the process behind reaching this level; they know that somehow the water is cleaned, but are unsure how. July 2022 research showed that some were aware of chemicals like chlorine and fluoride being added but beyond that, knowledge was sparse, and some even chose not to know (this group preferred to drink bottled water).<sup>27</sup>

"It's safe, it doesn't smell, it's always available, it's quite cheap and you take it for granted, really."  
SI Albans, post-family, male<sup>28</sup>



### Customer opinion appears to be highly variable; high quality water is taken for granted

Whilst in Q4 2022-23 satisfaction with water quality performed at its highest point in three years, it's still only just over a third of respondents, (37.3%)<sup>29</sup> The Sundon water taste testing survey (February 2020) found that the customers interviewed were generally happy with their water taste and smell, their only complaint being the hardness level.<sup>30</sup> Across the last three years, satisfaction with water quality is stable at an average of just 33% (top 2 boxes on a ten-point scale).<sup>21, 22, 23, 24</sup>

Just 0.2% of contacts to the call centre in Q1 2021 were about water quality.<sup>22</sup> Feedback from Rant & Rave mirrors this low level of complaint, with just 823 surveys received from 1st Jan 2020 to 9th Feb 2022 mentioning water quality – 0.2% of the total. These surveys include Water Quality QoS codes and comments from other codes where the customer has mentioned "water quality". The combined average mean CSAT score is 8.40. Several complaints are raised about customer advisors being uninterested and unwilling to investigate.<sup>31</sup>

This low level of engagement over water quality further confirms findings from the water community and other qual that good quality water is just taken for granted and is therefore a hygiene factor. When the subject was brought up in focus groups in Summer 2022, the general feeling was this was Affinity Water's job, and respondents trusted us to make the decisions.<sup>32, 33</sup> There may also be a regional effect to satisfaction with water quality; evidence is mixed, but strong enough to warrant further enquiry.<sup>22, 23, 24</sup>

"Everything becomes scaly and furry. It's a nightmare to clean – and keep things clean – and the kettle has to be de-scated every week or two."  
Luton, family, female<sup>34</sup>

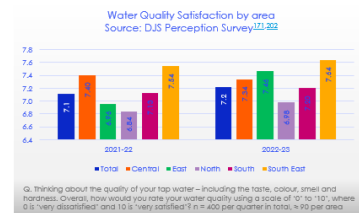
### Lead replacement

Out of the five key investment areas (reducing abstraction/environmental restoration, carbon net zero, improving resilience, lead replacement, and hard water) Lead replacement ranked as the highest priority in a representative study, reflecting the highest overall priority in other research for clean, safe, drinking water. Just over half of respondents were aware that there are lead pipes in the Affinity Water area and most of those had either checked for them or had them removed. And 49% of participants in the study opted for the highest possible level of investment when allocating spend to the different investment areas.<sup>35</sup> This somewhat conflicts with previous research, which showed a much lower level of awareness and concern, though that was qualitative and not representative.<sup>36</sup>

### Hardness is a pain point on water quality

Even though hardness is not technically a water quality/safety issue in regulatory terms, they are often intrinsically linked in the minds of the respondents. When water quality was discussed on the Water Community, participants identified five components to water quality; safety, clarity, reliability, softness and tastelessness. For them, Affinity Water only fell short on softness. Unprompted, most wanted Affinity Water to soften water, and didn't understand why they didn't, believing it would solve problems such as leaks, appliances breaking and reduce environmental damage due to the use of fewer chemicals to wash and clean. However, few people understood that hard water has health benefits.<sup>37</sup>

In the priorities studies<sup>205, 202, 202</sup> hard water improvements technically came 4th out of 5, but was scored closely with resilience and environment, well within the margins of error, and when discussed in depth opinions on its importance changed when discussing the potential impacts of softening water (adding extra chemicals to the water, potential environmental impacts), respondents became happier maintaining the status quo.<sup>202</sup>



## Performance plan

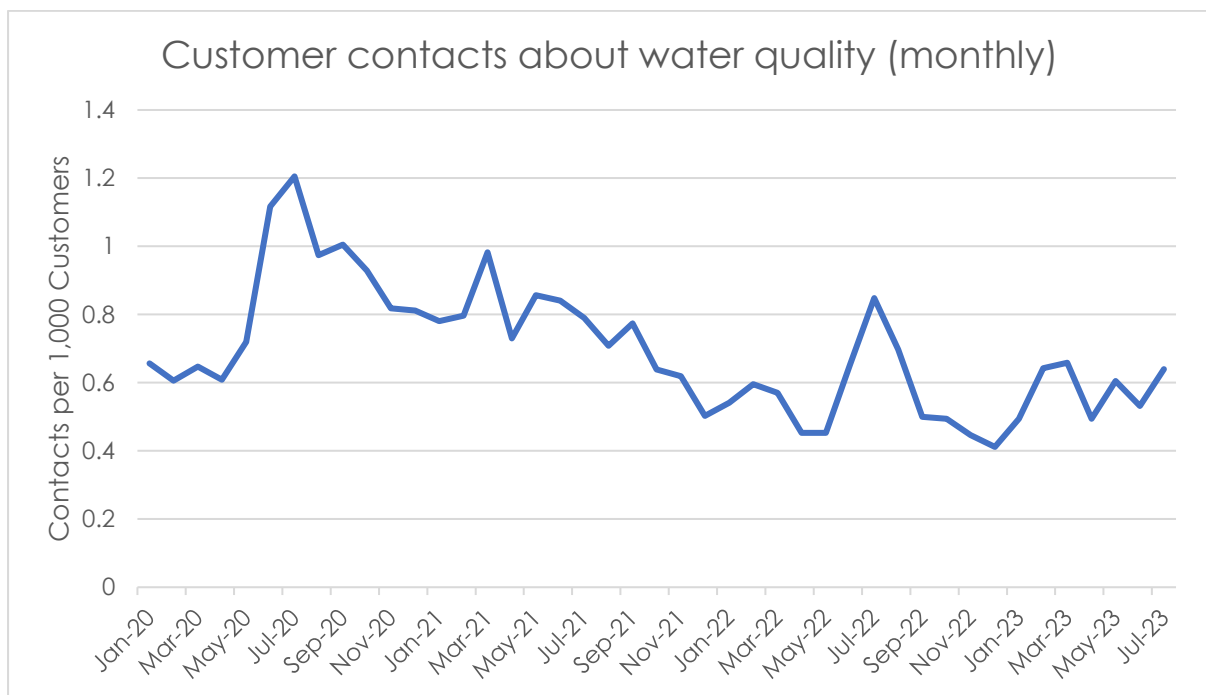
We have set our targets to maintain current PCL levels. Therefore, we have not listed quantified benefits. However, we have developed an activity plan from base expenditure to support our plans to hold at existing performance levels through operational improvements.

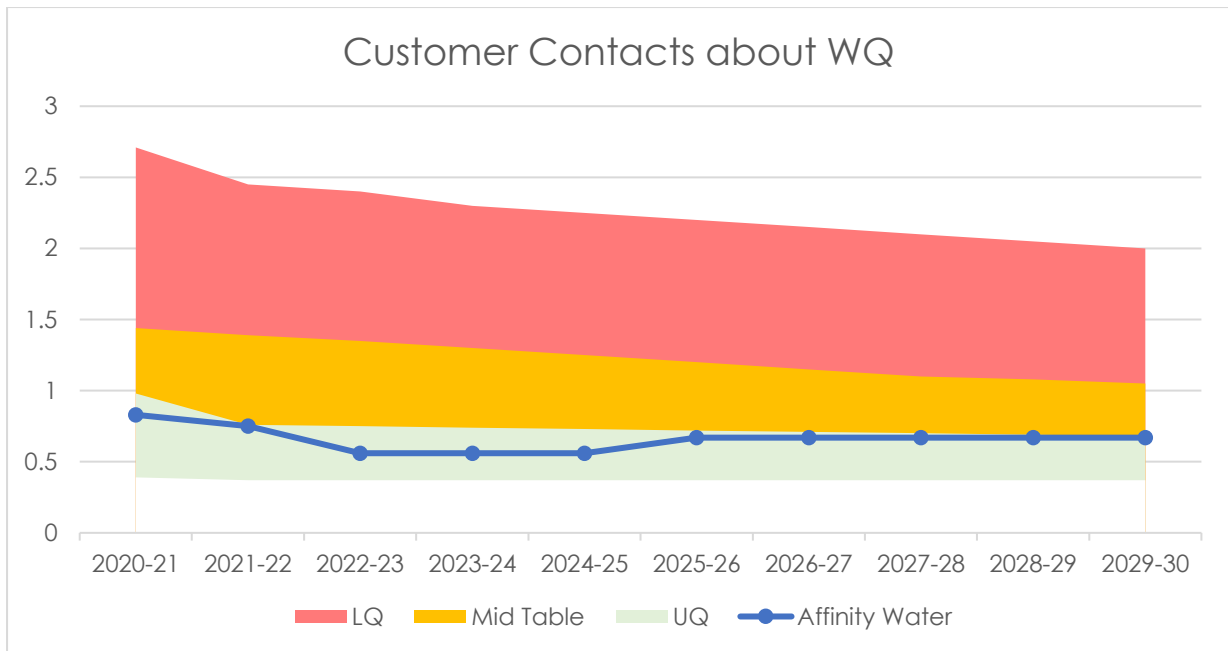
Improvement Initiative Description	Business Case	Base / Enhancement	PR24 Submission (No of contacts)
Competent Operator, Licence to Control, RAMS, Valve Ops, Flushing, RTS, hydraulics and transients, WQ Awareness, EUSR, DWSP Awareness, Introduction to Water Treatment	Opex	Base	n/a
Aluminium and DOMS Flushing	Aluminium and DOMS flushing	Base	
Proactive communications, better self-help signposting, add WQ to new proactive comms team Qs as well as leak, flow and pressure	Opex	Base	
Supply chain, 3rd party and developers. Including fire hydrant use	Opex	Base	
White good standards, plumbing skills and apprenticeships, include standards in water efficiency audits, water fittings education and enforcement	Opex	Base	

## Ambition

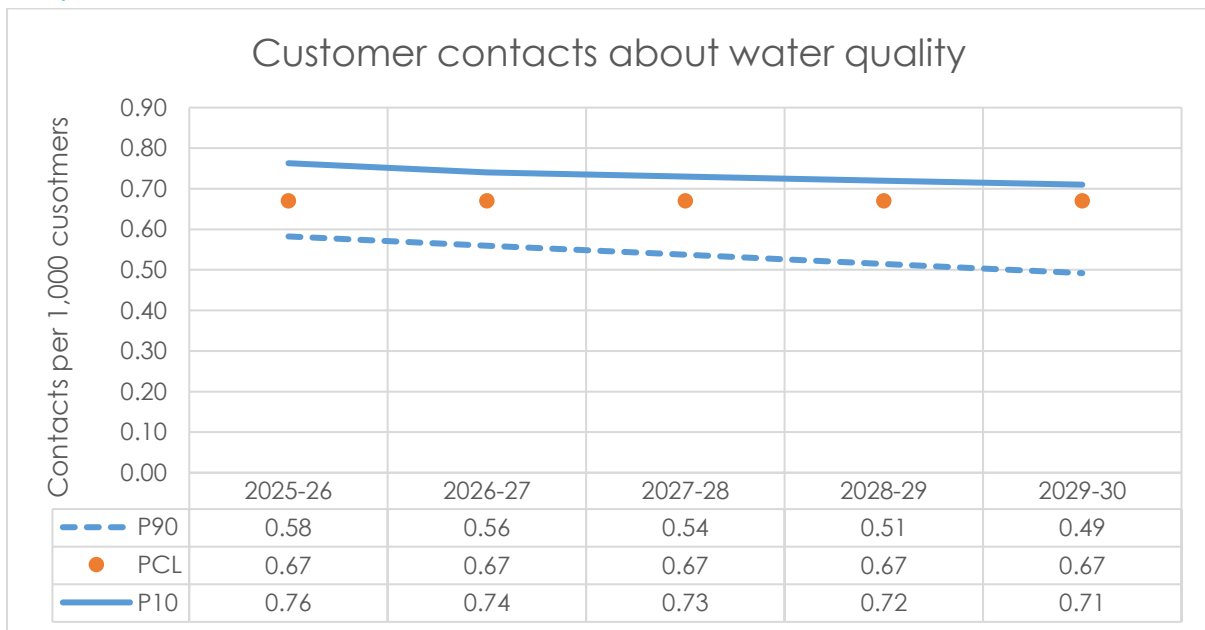
We have performed consistently well in maintaining low levels of customer contacts about water quality. We are changing the operational philosophy of our business with a shift from ground water to surface water as we continue to reduce abstraction from boreholes in chalk catchments.

Our Connect 2050 programme increases the connectivity of our network but will involve pumping water over longer distances, and customers will receive water from different sources than they do currently. We will also be using our conditioning plant at Sundon which will allow us to transport this water over longer distances. Whilst the water we supply will continue to meet the high quality standards required, customers may perceive a change in taste or odour and therefore increase the number of contacts we receive about. For this reason, we are proposing to maintain the existing performance commitment level at an upper quartile level.





#### P90/P10



#### Incentive rates / Caps / Collars

We have adopted the Ofwat marginal benefit and sharing rate:

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
Customer Contacts about WQ	n/a	-2.04	9.874

## Average time properties experience low pressure

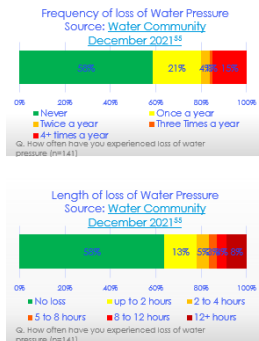
### Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	PCL was set at 08:42:00 for 2024-25, we are looking to stretch significantly beyond this figure.
Historical outturn performance at an individual company and sector level	We have achieved our PCL for 2020-23 and expect to do so for the final two year of this period. We do not have comparable data for the industry. We are planning to continue reducing the average time across 2025-30.
Historical expenditure included in the base expenditure models at PR24	Due to population change and the increasing challenges of climate change on our infrastructure network, there is upward pressure on this performance commitment. Our base expenditure will mitigate that impact and deliver improvements to improve overall performance.
Company forecasts of performance levels that can be delivered from base expenditure	
Performance levels of efficient companies	n/a
The opportunity for transformational performance improvements	Our Connect 2050 programme will have a transformative effect on our low pressure performance. Due to the profiling, of the programme, low pressure benefit is only anticipated in 2029/30, but will produce a step change in performance.

## What customers want

### Reducing low pressure events

**What we know: poor pressure has an emotional and practical impact; whilst it may affect many customers, very few reach out and tell us**



#### Most customers are happy

The Water Community customer panel showed that most customers are happy with their water pressure, with others having low pressure incidents once or twice a year.

38% of respondents had experienced low pressure - whilst there is some tolerance of short-term loss created by issues outside Affinity Water's control, there is less acceptance of pressure loss caused by Affinity Water's actions or lack thereof.<sup>46</sup>

Stakeholders considered minimising low-pressure incidents as a low priority, with some noting that customers might not even notice incidents, and that any event lasting less than 24 hours is insignificant.<sup>47</sup>

#### Even if they experience low pressure, they don't complain

Relatively few people call Affinity Water about pressure-related issues. Out of 649,492 inbound contacts in Q1 2021, just 2,295 included matters that were registered under pressure-related codes - 0.3% of all contacts.<sup>48</sup>

Research in 2017 showed that those affected felt that low pressure was something they 'had to put up with', being unaware of the causes and if they could be fixed.<sup>49</sup>

People who call for low pressure accounted for 1% of all R&R feedback, with an overall CSat score of 8.35 (vs 9.18 in total). Dissatisfied customers cite poor call handling and long wait times for investigation/repair as reasons for dissatisfaction, rather than the low pressure itself, but the call centre questionnaire talks about the call centre experience, rather than the source of the complaint.<sup>50</sup>

#### When prompted, customers are frustrated - they want proactivity and clear communication

Those with low water pressure see it as a frustration that can impact their daily lives and the routines of those who live in their home.<sup>51</sup> Customers expect much more proactivity from Affinity Water to avoid low pressure and to communicate what they're doing.<sup>52, 53</sup>

#### Low pressure often rates fairly low in tests of priorities, overshadowed by options around maintaining water supply and quality

Spring 2023 research shows that whilst low pressure has the highest level of priority for improvement after leakage (61% of HH respondents, and 43% of NHH) when explicitly asked, other areas have more impact when indirect methods are used. This research showed that intermittent low pressure had the least impact on household customers; permanent low pressure ranked higher, but offer long unplanned interruptions and equally with Do Not Drink notices.<sup>54</sup> Overall QDI work doesn't look at permanent low pressure, only unexpected low pressure, and finds that sensitivity towards that is in the lower half of the pack for Household customers, though its slightly higher for Non-Household customers.<sup>185, 186</sup>

"It's frustrating, especially nowadays when we're always being told to conserve water as much as possible, sometimes it takes days, if not more than a week to get it fixed and/or they don't get fixed properly and burst again a few days later." **New Earner, Midsbury**

"I have to make a choice with my electric shower - either I get good water pressure but then the water's cold, or I get bad water pressure and the water's warm/hot." **Career Commuter, Wey**

"I could not accept reasons such as faulty equipment, inadequate pumping stations, because I think the water board should be planning ahead for those instances." **Modest Mid-Life, Colne**

## Performance plan

We have used bottom up estimates of the benefits associated with our activities. We have reviewed areas which are impacted with low pressure, alongside the interventions that we are planning to make to determine the associated benefit.

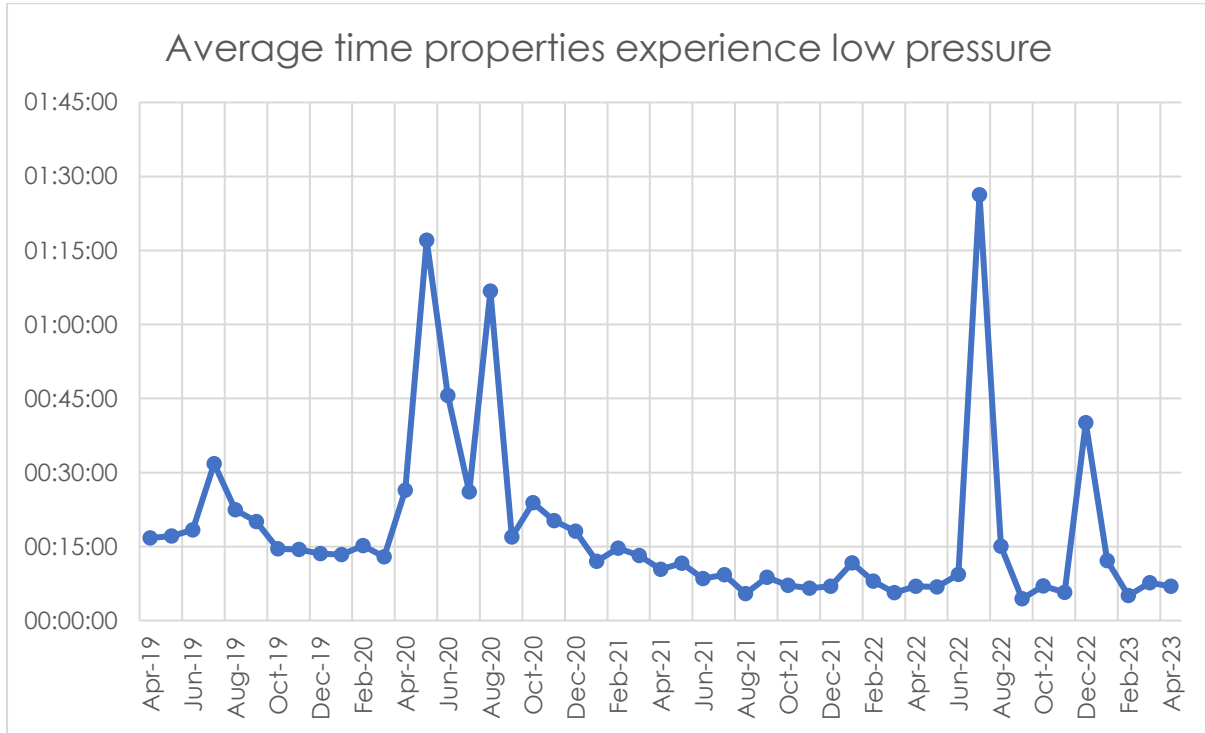
Improvement Initiative Description	Business Case	Base / Enhancement	Benefit (hh:mm:ss)
Improvements to allow earlier and more effective interventions to identify resolve instances of low pressure - focussing on competence, processes, systems & tools	Low pressure	Base	00:05:02
Network Calming	Network calming	Base	00:04:48
Proactive maintenance of network assets.	Maintenance	Base	
Competent Operator, Licence to Control, regulatory and necessary training and competency checks	Opex	Base	
Trunk and distributions mains renewals	Mains renewals	Base	00:04:21
Reduce the number of single points of failure primarily via capital schemes.	SPoF	Base	

## Ambition

Our ambition for low pressure is to provide a better service for our customers. We recognise our industry position as an outlier and will look to use 2025-30 to move in line with the rest of industry.

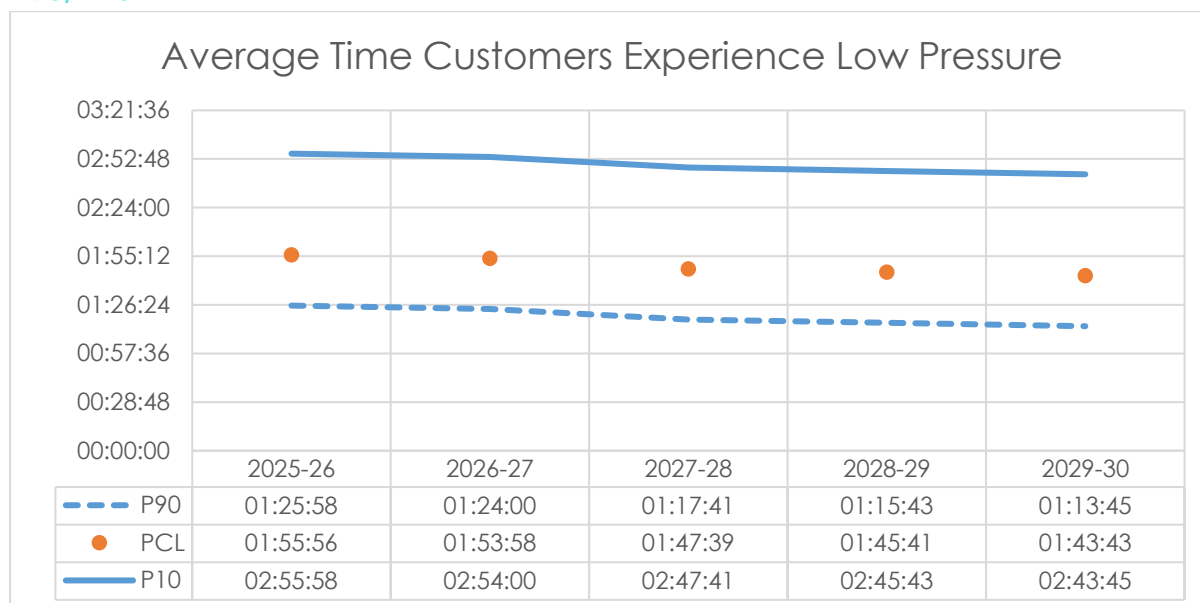
Despite outlying performance for low pressure, we have delivered significant improvements in our performance and delivered a clear improvement in our

baseline monthly performance from 15 minutes in 2019 to less than 7 minutes. However, we see significant impact during extreme events, similar to Water Supply Interruptions and Mains Repairs, as weather pressure creates more bursts on the network. Our ambition is to keep driving our baseline performance down and mitigate the extreme events as far as possible.



The targets we are setting will reduce the average time customers experience low pressure by 40% from the average of 2020-25 to the average of 2025-30. This demonstrates a real ambition to stretch our performance and deliver better results for customers.

## P90/P10



## Incentive rates / Caps / Collars

We developed benefit and sharing rates using customer valuations, details for the calculations are found in Appendix AFW18:

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
Low Pressure	n/a	n/a	0.0165

## Abstraction incentive mechanism

### Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	The target was set at 0MI/d at PR19. By the nature of the definition, we are using the same target for PR24.
Historical outturn performance at an individual company and sector level	n/a
Historical expenditure included in the base expenditure models at PR24	n/a
Company forecasts of performance levels that can be delivered from base expenditure	We are not looking to include any standalone cost for AIM performance. All performance will be derived from base expenditure.
Performance levels of efficient companies	n/a

The opportunity for transformational performance improvements	n/a
---	-----

## What customers want

### Ending unsustainable abstraction

**What we know: going beyond the minimum standards for abstraction reduction has some support from customers but there is a limit to the amount to which they will fund this**

#### There is general support for reducing river abstraction near chalk streams

Whilst reducing abstraction appears to be a low-ranking priority at a national level,<sup>132</sup> customers appear to be somewhat aware of the local significance of chalk streams, with recent priorities work has shown leaving the environment in a sustainable and measurable improved state ranks 4<sup>th</sup> out of 11 options, and a majority choosing to take the maximum investment option towards reducing abstraction and river restoration.<sup>200-202</sup>

Few participants had detailed knowledge of what chalk streams were or how they are created,<sup>134, 200</sup> prompting speculation that the support comes from a generalised awareness of protecting the environment and/or local distinctiveness. Participants in one study wanted more information to better understand chalk stream catchments. There were some concerns about how future water demands would be met if abstraction were reduced, especially in light of the earlier population growth and climate change forecasts discussion.<sup>134</sup>

NHH customers also wanted to know more about chalk stream catchments and most felt that we should already be reducing the amount of water taken from these areas.<sup>134</sup>

#### Go beyond government minimum standards

The overall reaction to having minimum standard was that it should be viewed as the absolute minimum, and we should always strive to do better. This was especially true amongst the future customers, though they reiterated an earlier point that this should not have an impact on the bill, as domestic customers are unable to change water supplier. Several participants wanted to see higher minimum standards set by the government itself, and for increased collaboration between Affinity Water and other companies.<sup>134</sup>

#### Strong support for the cost of going above and beyond

Early investigations showed that an annual increase of £3 a year was deemed acceptable for going beyond the minimum, and there was an appetite to go higher still.<sup>134</sup> Follow-up research showed that that support was strong, with the majority opting for the maximum investment of £12,<sup>200-202</sup> However, it was acknowledged that a higher amount would be difficult for low-income households to afford, and some suggested any increase could potentially be voluntary.<sup>134</sup> The NHH customers were the least willing group to accept a bill increase, believing that we should be funding these improvements by investing our profits.<sup>134, 200</sup> Participants agreed that any cost increase would need to be communicated to customers, with an explanation.<sup>134</sup>



"It's really important to keep the natural habitats and not take water from places where it is rarer compared to a lot more places where there is water there, but I think it's something that's quite new because it's something they should have been focusing on for some time anyway?"  
NHH customer

"I think £3 a year doesn't seem much at all really and you wouldn't really notice it, and if it's going to have that much benefit then why not?"  
Domestic customer



“



I am concerned about the impact on climate change and our use of water on chalk streams and our environment”

– water company customer



## Performance plan

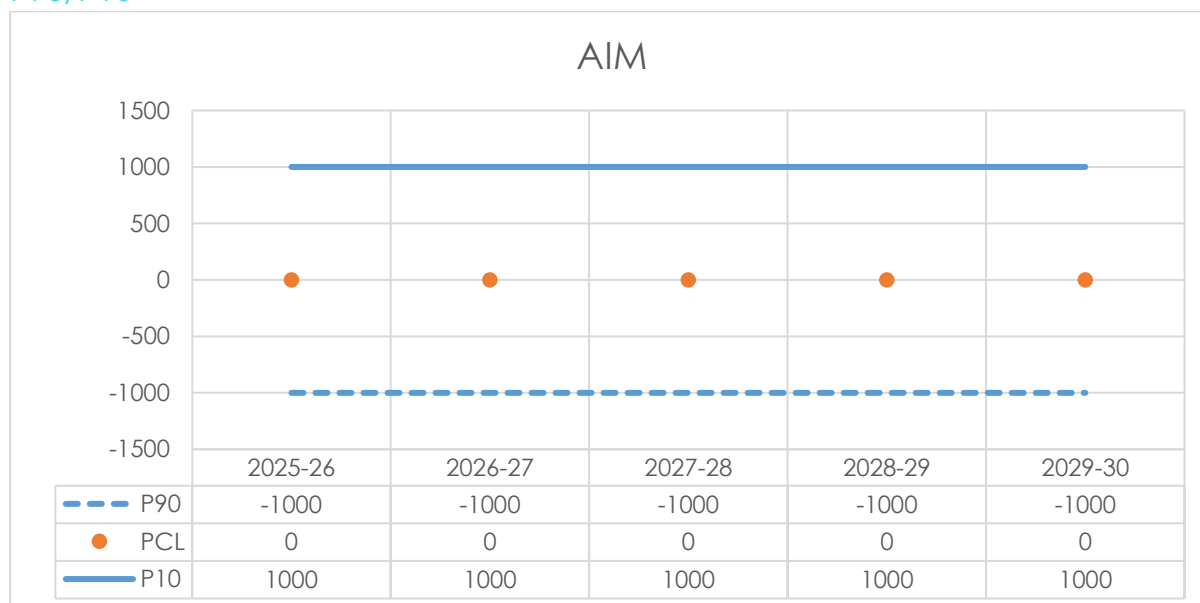
- Our performance plans for AIM focus on operational performance and control of our assets and overall system.
- Using early warning system and processes so that we can prepare for triggers to become active
- Optimising our system management so that we can move water around our network to support AIM sites.
- Optimising our planned outage management using our new planned works portal to ensure maximum capacity at our supporting works when low flow triggers would become active at AIM sites.

## Ambition

Our ambition for AIM meets our overall strategic direction of stopping unsustainable abstraction. AIM demonstrates this ambition by incentivising reducing abstraction above and beyond our Sustainability Reductions commitments. We will look to minimise abstraction when triggers are active as much as our operational situation allows.

The target for AIM is set at 0, to reflect the nature of the metric. If no triggers are active, there is no opportunity for us to outperform or underperform. A PCL of less than 0 would create penalties if no triggers are active.

## P90/P10



## Incentive rates / Caps / Collars

We developed benefit and sharing rates using customer valuations, details for the calculations are found in Appendix AFW18:

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
AIM	0.00011	0.000094	0.00136

# Whole life carbon

## Setting stretching targets

Final Methodology Guidance	How we have set our targets
PCLs set at PR19	n/a
Historical outturn performance at an individual company and sector level	n/a
Historical expenditure included in the base expenditure models at PR24	n/a
Company forecasts of performance levels that can be delivered from base expenditure	We anticipate performance to be proportional to the spend on base/enhancement. We have not directly attributed any cost to Whole Life Carbon
Performance levels of efficient companies	n/a
The opportunity for transformational performance improvements	As a new performance commitment, we will explore opportunities for transformation. The introduction of a PC will in itself drive a transformation in reducing whole life carbon through us and our supply chain.

## What customers want

### Achieving net zero carbon

**What we know: concern over carbon emissions is increasing, although customers balance it with other environmental drivers. Transparency over cost and effectiveness of our solutions will help customers support our approach**

#### Support for green policies and carbon reduction is contingent on cost

In 2016, 12% of customers surveyed considered it the number one priority, but since then, with the rise of groups such as Extinction Rebellion, and the prominence of events like COP 26, environmental issues now rate much higher after covid. <sup>33,34</sup> There are indications that this importance is falling again in the face of the cost-of-living crisis, and out of the five investment areas tested, reducing carbon emissions was rated lowest of the five. <sup>30,32,35</sup> It also ranked higher by non-household customers than household customers <sup>30</sup>, probably due to needing to meeting net-zero targets in their own operations.

Few UK water bill payers (now or future) are willing to pay more for environmentally-friendly products and services, and only 45% of those who pay the bill now or expect to in the future rated the environment as one of the top five issues they face today. (Overall, it ranked 6<sup>th</sup> after health of selves and family, and finances). <sup>3</sup>

WRMP (February 2021) <sup>34</sup> work amongst customers of multiple water companies suggested that customers are in favour of companies reducing their carbon footprint and using more green energy – but that support was contingent on the impact it had on their bills. They also wanted the impact on the vulnerable to be considered as part of this.

Qual research showed that customer respondents were reluctant to spend more to increase the speed of change. <sup>34</sup>, however, quant research in winter 2022/23 showed that the vast majority of customers, both household and non-household favoured going beyond the minimum. Whilst they opted for an intermediate level of investment, representing an estimated bill impact of £5.75, 1 in 4 household customers would go even further to ensure targets were reached earlier. <sup>32</sup> For those more reluctant, Carbon emissions are seen as a wider societal problem that everyone needs to work on, rather than something we should prioritise. <sup>32</sup> Future customers are more likely to want to see this prioritised, but just over half had no preference between minimising the use of chemicals or using less carbon intensive treatments.

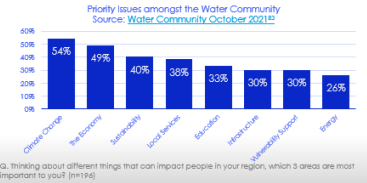
#### Customers are largely positive about the Affinity Carbon Net Zero policy

Three quarters of the customer panel fell positively towards it. The 5% who fell negatively thought we should be more focused on undoing existing damage, such as sewage in rivers. More detail was wanted on the timeline of achieving net-zero, and how current emissions broke down. They were also keen to see how we generate our own power renewably, and to switch to green sources. <sup>35</sup> In principle the high energy solution to reducing carbon when treating water was the most appealing option overall, as whilst it may be costly now, the option to use renewables would bring the cost down in future, but there was hesitancy from some due to its dependence on large amounts of energy, especially against the rising cost of living. However, the impact on bills of any change was of far more concern to respondents than the methods used to clean the water. <sup>34</sup>

However, in in-depth discussions some felt that tackling Carbon shouldn't be a priority for water companies. <sup>34</sup>

#### The link between water and net zero is not clear or direct in consumers' minds

Nationally, fewer than 9% consider using less water to be a route to net zero. <sup>38</sup> across twelve focus groups, no-one mentioned this spontaneously, and the link was new knowledge to many. <sup>34,39</sup>



"All companies, not only Affinity, should prioritise reducing carbon emissions as a close 2nd to providing their primary function."  
Modest Mid-Life, Stort

Feelings towards the Net Zero Policy

Source: Water Community December 2021 <sup>4</sup>



Q. Which face best represent how you feel (about the Net Zero Policy) (n=192)

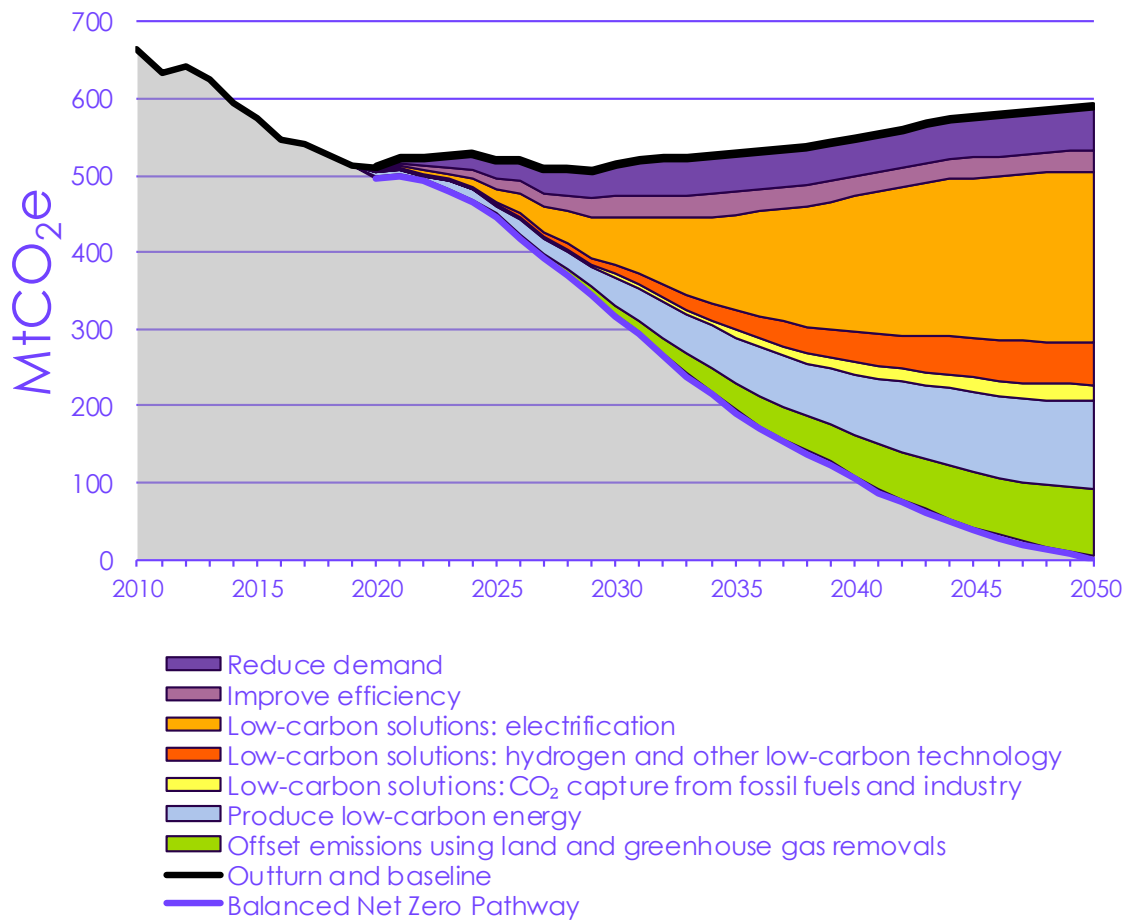
## Performance plan

Improvements will be delivered based on the delivery of individual schemes. The critical element of delivery for this performance commitment will be improved skills, knowledge and experience from our teams and our supply chain to seek new solutions and innovations to reduce both embedded and operational carbon of our capital projects. We will be investing in our teams and working with our supply chain to develop plans to reduce the whole life carbon of our investments.

## Ambition

2025-30 will be the first time that we will be incentivised financially to reduce our whole life carbon of capital projects, submitting the definition we have demonstrates a level of ambition in making real progress in this area. We have heard the challenge that our performance commitment and targets need to support the government achieve its Net Zero commitments. We have used the governments Balance Net Zero Pathway to set our level of ambition.

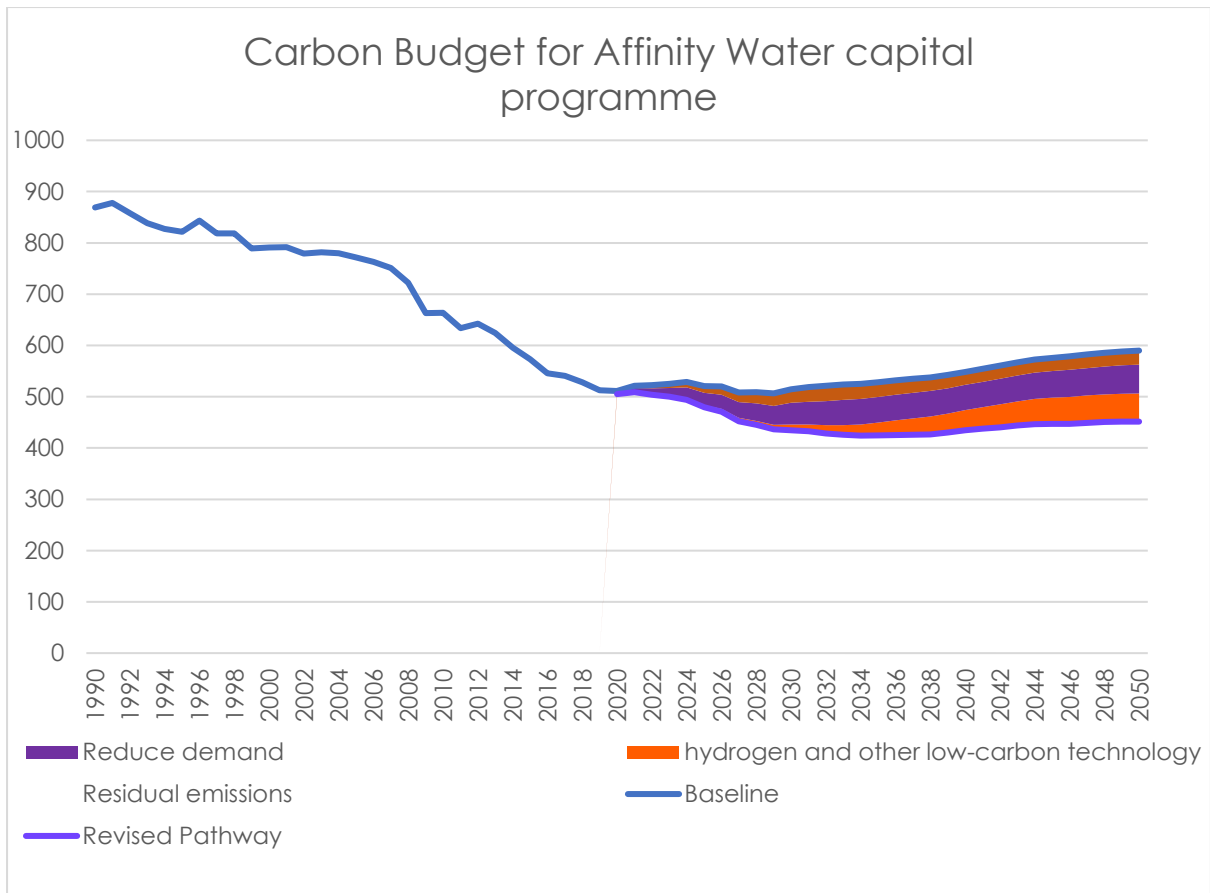
Figure 2.6 Types of abatement in the Balanced Net Zero pathway



Source: BEIS (2020) *Provisional UK greenhouse gas emissions national statistics 2019*; CCC analysis.

Notes: 'Other low-carbon technology' includes use of bioenergy and waste treatment measures. 'Producing low-carbon energy' requires the use of carbon capture and storage (CCS) in electricity generation.

We have reviewed this profile and determined which elements are applicable to our Whole Life Carbon performance commitment, namely; hydrogen, and other low-carbon technology, reduce demand and improve efficiency. We have stripped these element from the pathway to give our profile which will support the achievement of the UK target.

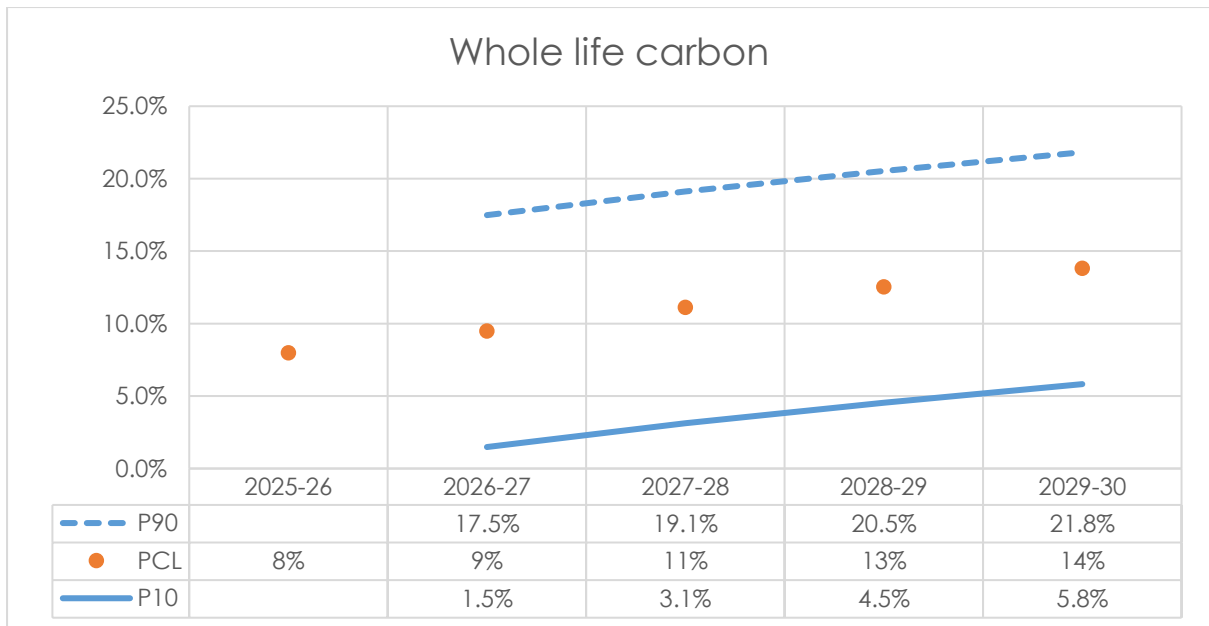


The trend gives a 2025-30 profile of:

Year	2025-26	2026-27	2027-28	2028-29	2029-30
Whole Life Carbon Reduction	8%	9%	11%	13%	14%

#### P90/P10

Given the lack of maturity of this measure, developing an accurate P90/P10 position has been challenging. Therefore, a top down approach has been used to develop our RoRE position.



### Incentive rates / Caps / Collars

A top down methodology has been used, as described in appendix AFW18.

Outcome	AMP7		AMP8
	Reward £m	Penalty £m	£m
Whole Life Carbon	n/a	n/a	0.28