Affinity Water

Affinity Water: PR24 Business Plan Submission - Commentary

OUT1: Overall outcome performance
OUT2: Outcome performance from base expenditure
OUT3: Outcome performance from enhancement options

Reason for blank cells in OUT1, OUT2 & OUT3

Table / lines	Performance commitment	Columns	Reason
OUT1.2	CRI	G, H, I	Water quality reporting in its current form started in 2014. We did not collect the data necessary to perform this calculation Prior to this date.
OUT2.2	CRI	G, H, I	
OUT2.3	Customer contacts about water quality	G	For 2011-12, we reported this measure as three separate companies before becoming Affinity Water. We do not have data for this year for each individual company and therefore cannot report a figure.
OUT2.6	Biodiversity	G-U	We do not have historic surveys of our sites so cannot report data in these lines
OUT4.13-15 **OUT4.17-19**	Biodiversity	F-AC F-U	
OUT2.14	Discharge permit compliance	G-O	We did not collect data before 2020 for this metric and therefore cannot report before this date.
OUT2.19	Unplanned outage	G-O	Unplanned outage started as a performance commitment in 2020, We did not collect the data necessary to perform this calculation before this date
OUT2.27	AIM	G-N	AIM started as a performance commitment in 2016, We did not collect the data necessary to perform this calculation before this date
OUT2.30	Low pressure	G-N	Our average time that properties experience low pressure started as a performance commitment in 2020, as a result, we did not collect the data necessary to perform this calculation before this date, other than a 2019 shadow year
OUT1.37	PCC (aligned with historical reporting)	G, H, I	Before 2014 we reported this measure as three separate companies before combining reporting as Affinity Water. We do not have data for earlier years for each individual company and therefore cannot report a figure.
OUT2.37	PCC (aligned with historical reporting)	G, H, I	
OUT3.35	PCC (aligned with historical reporting)	G, H, I	

Common performance commitments

In setting Performance Commitment Levels (PCLs), we have also considered the requirements set out in the Final Methodology:

- PCLs set at PR19
- Historical outturn performance at an individual company and sector level
- Historical expenditure included in the base expenditure models at PR24
- Company forecasts of performance levels that can be delivered from base expenditure
- Performance levels of efficient companies
- The opportunity for transformational performance improvements

Details of how we addressed these requirements is given in **Appendix AFW17 - Outcomes**, alongside other supporting evidence.

The process we have used for setting performance commitments was:

- Reviewing our existing performance levels and sector position
- Reviewing PCLs set at PR19 (where relevant)
- Developing detailed performance improvement plans led by 'business owners' alongside the 'strategy owner' for each performance commitment (PC) understanding activities that we will undertake to improve performance linking together Totex Business Cases with outcomes
- Determining Base – Enhancement split

Data
- We have used the published Ofwat data to complete historic data where available.
- Where historic data has not been published or numbers have been restated, data has been taken from APR submissions
- In some circumstances, where we do not have historic data, these cells have been left blank. Comments for each of these are included for the specific PCs.

OUT1.1, OUT2.1, OUT3.1: PR24_WSI_AFW: Water supply interruptions
Historic data has been entered and has been taken from Ofwat's published dataset, with the proviso's noted above.

Forecasts have been developed based on our historic performance as the baseline from which to start our 2025 – 2030 forecasting.

AffinityWater

Water Supply Interruptions
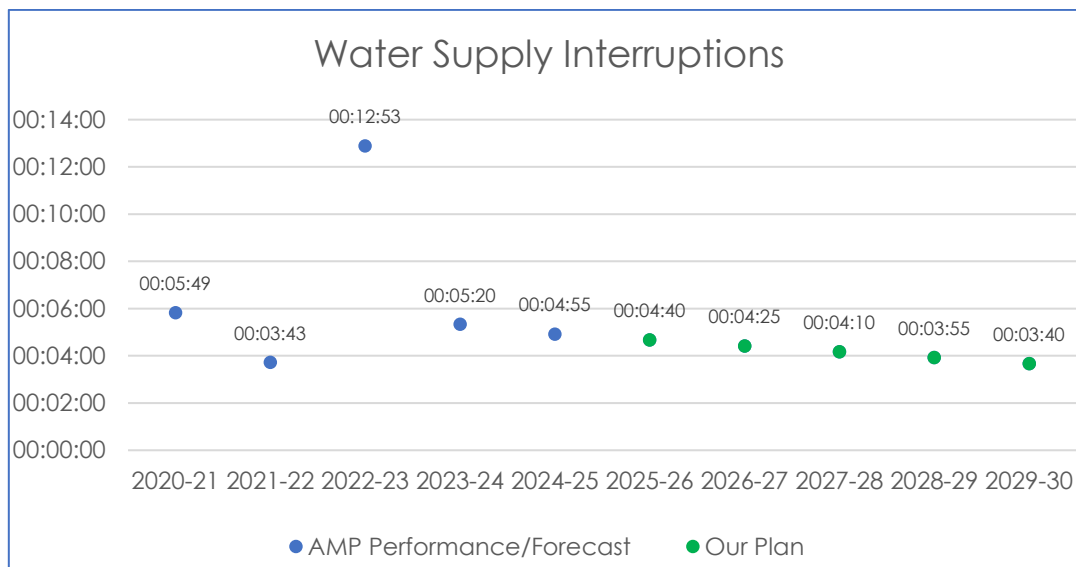
We have used our expected 2024-25 position, based on current performance and plans and have created a detailed bottom-up investment plan to improve on this position further through targeted interventions through our Capex and Opex channels.

The improvements identified have been quantified into an estimated PC benefit to create a profile to our 2029-30 position. We have created our profile to ensure we are setting ambitious targets for ourselves and are targeting stretching performance from base expenditure. We have performed well in Water Supply Interruptions for the first two years of 2020 – 2025 and will look to continue upper quartile levels into 2025 – 2030.

The improvement initiatives which we will be implementing either through projects or business as usual processes are listed below. Benefits are estimated and should be treated with a tolerance associated with concept stage of project development.

Improvement Initiative Description	Business Case	Base / Enhancement	Benefit (Seconds)
Network MOTs - GIS records, DV checks etc, trunk main walking	Opex	Base	44
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

Improvement Initiative Description	Business Case	Base / Enhancement	Benefit (Seconds)
Smart Valves	Network Calming	Enhancement	
Single Points of Failure	SPoF	Enhancement	7

Whilst we have split our activities and identified the benefit for each one, our interventions need to be seen as a holistic package which fit together to give the overall benefit. This approach is further discussed in the Deliverability chapter of our Business Plan.

Our Network Calming and Single Points of Failure benefits will be delivered through enhancement expenditure. We have forecast benefits of 31 seconds through this enhancement activity. All other benefits will be derived from base expenditure. Enhancement benefit has been profiled with 4 seconds in 2025-26 with the remaining benefit equally spread across the other years of the period.

Longer term to 2035 we see a target of 3 minutes 30 seconds representing a challenging target -10 seconds of this will be delivered through enhancement investment in 2030 – 2035 and therefore is not shown in the OUT tables. Whilst we expect underlying performance to continue at very good levels, low frequency, high severity events will remain a risk whilst we address single points of failure and mains renewals in the longer term. 3 minutes 30 seconds would represent a step change in performance from historic levels and maintaining this level would mean we would continue performing at the top end of the industry and ensure a constant stretch on ourselves.

OUT1.2, OUT2.2, OUT3.2: PR24_CRI_AFW: Compliance risk index (CRI)

Our Compliance Risk Index (CRI) performance for the first three years of AMP7 (2020: 1.31, 2021: 0.87 and 2022: 1.09) has been significantly better than our forecast at PR19 where we predicted performance of 2.8 for the whole of AMP7. The improvement in our performance has been driven by a reduction in the number of exceedances, particularly from treatment works and service reservoirs, and more thorough investigations into the exceedances which has resulted in fewer recommendations and suggestions.

We have used our CRI performance from 2020 – 2022 as the basis for our forecasting for the rest of AMP7 and AMP8, taking the average of these three years at 1.09. A single coliform detection at one of our largest treatment works in the first quarter of 2023, has led to us forecasting performance slightly above this figure for 2023 but we still expect to be within the deadband. We expect to bring performance back in line with the 2020 – 2022 average for 2024-25.
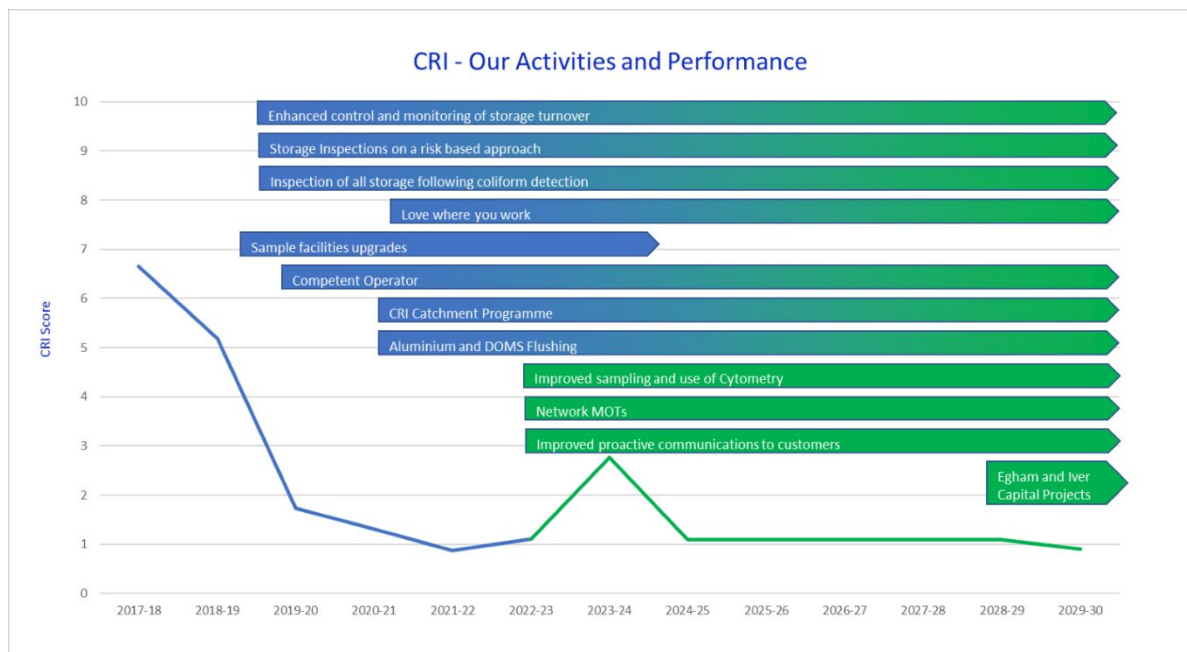
We have noted the impact one off exceedances can have on CRI performance as part of our forecasting for 2025 – 2030, however we have taken the view that our underlying performance sits at 1.09 and that this represents the most appropriate target for ourselves, delivering an ambitious plan for our customers. Given our strong performance in CRI, maintaining this level will continue to stretch us.

The forecasts we have set ourselves for the rest of AMP7 and AMP8 look to continue our position in the upper quartile of water companies for this measure.
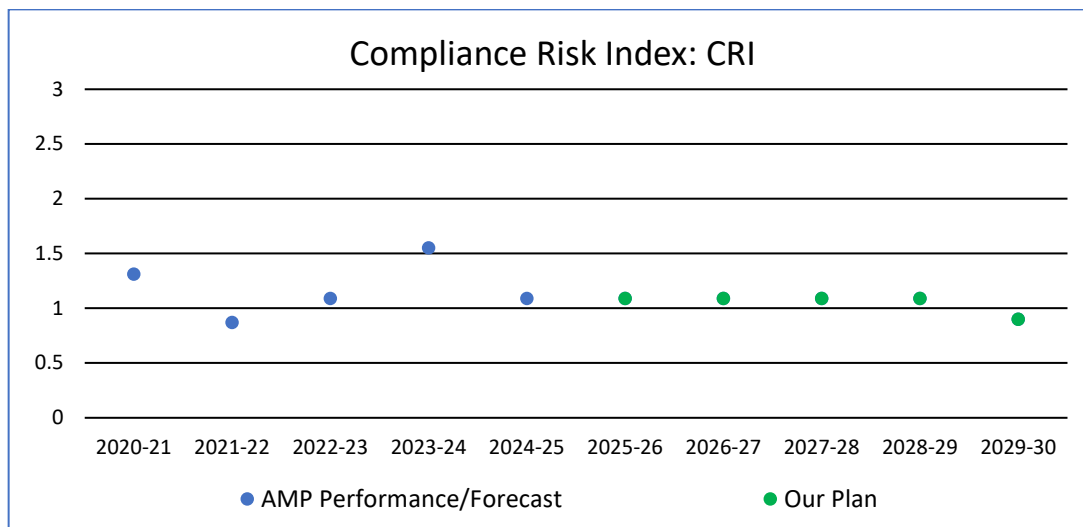
We recognise that there is significant upward pressure on CRI performance and to maintain stable performance requires interventions including maintenance, operations and capital investment.

We have determined a number of activities to maintain stable performance from 2020 – 2022. Due to the volatility associated with CRI, it is difficult to define specific and accurate benefits to each activity. Instead, we will use all measures to deliver a collective benefit, using the improvements we have made using this approach since 2017 as evidence that a holistic approach can deliver the performance levels forecast. These summary activities are shown in the graph below, with named activities, which have been identified through the improvement plan exercise, included in the following table.

CRI - Our Activities and Performance

Improvement Initiative Description	Business Case	Base / Enhancement
Competent Operator, Licence to Control, RAMS, Valve Ops, Flushing, RTS, hydraulics and transients, WQ Awareness, EUSR, DWSP Awareness, Introduction to Water Treatment,	Opex	Base
Aluminium and DOMS Flushing	Flushing	Base
Storage Programme including Sample Lines and CFD modelling Enhanced monitoring, Inspection using risk based approach	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 Iver	Egham Iver	Enhancement

The proposed drinking water quality schemes for 2025 – 2030 will also play a part in maintaining our CRI performance at our current level by preventing exceedances of drinking water standards in the future. We believe we will achieve a small improvement in our CRI score in the final year of AMP8 as a result of the cumulative effect of all initiatives and schemes.

Our enhancement spend used to deliver the DWI notices at Egham and Iver is recognised as a driver to an improved performance for CRI. This is estimated at 0.19 based on historic data.

Longer term to 2035, a CRI score of 0.9 will continue to be our forecast. Given the challenges described this will continue to be a stretching target but also recognises that the significant step changes we have made across 2020-25 and forecast to

make by 2030. The underlying upward pressure on CRI will continue, so a static target represents a challenging target.

We note that the OUT tables should be linked that OUT1 – OUT2 – OUT3 = zero. However given the nature of these numbers, this is not correct for CRI. We have attempted to make clear that we forecast level base performance of 1.09 from 2025 onwards, with a 0.19 enhancement benefit being realised from 2029-30, which gives an overall forecast of 0.9 for 2029-30 onwards.

OUT1.3, OUT2.3, OUT3.3: PR24_WQC_AFW: Customer contacts about water quality

We have entered historic data where available which has been taken from Ofwat's published dataset.

At PR19 we forecast 3,000 contacts a year throughout AMP7 from customers concerned about the taste, odour and appearance of their water supplies. In 2020 we received 3157 contacts, in 2021, 2,864 contacts and in 2022, 2,104 contacts. We believe there were more contacts in 2020 because of the Covid-19 related lockdowns and since the last restrictions finished in 2021 the number of contacts has fallen and is now well below our PR19 forecast.

We have developed our forecasts for the rest of AMP7 and AMP8 based on our historic and improving performance. Customer contacts about water quality is a challenging metric to control as it is driven by customer perception, this can be influenced by external factors such as Covid-19/ health and media coverage. Given our current industry position with a low rate of contact and overall industry performance for this metric appearing static with the median staying broadly unchanged for the previous three years, we have forecast flat performance for this PC.

We have significant challenges within the customer perception of water quality, as we move to using more surface derived water to replace groundwater sources in our drinking water supplies. Despite the conditioning plant at Sundon reservoir coming online to support our environmental aspirations to reduce ground water abstraction, we are still expecting some customers in the affected areas to notice the change in the aesthetic quality of their water supply and so will provide upward pressure on the customer contact rate. We have therefore forecast an increase on our 2022 performance into AMP8 to the existing PCL of 0.67.
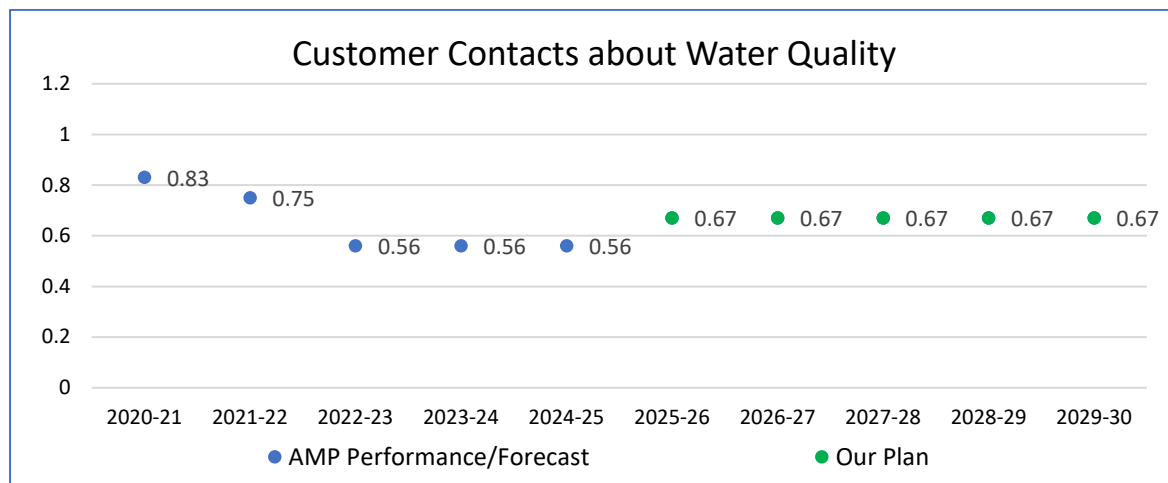
Affinity Water

Customer Contacts about Water Quality

We have identified a number of improvement initiatives which we will be implementing through either projects or business as usual channels. These initiatives are listed below, will look to offset the upward pressure described above.

Improvement Initiative Description	Business Case	Base / Enhancement
Competent Operator, Licence to Control, RAMS, Valve Ops, Flushing, RTS, hydraulics and transients, WQ Awareness, EUSR, DWSP Awareness, Introduction to Water Treatment	Opex	Base
Aluminium and DOMS Flushing	Aluminium and DOMS Flushing	Base
Proactive communications, better self-help signposting, stop using AWS www as a source of information, add WQ to new proactive comms team Qs as well as leak, flow and pressure	Opex	Base
Influencing Supply chain, 3rd party and developers. Including fire hydrant use	Opex	Base
Influencing white good standards, plumbing skills and apprenticeships, include standards in water efficiency audits, wruk/water fittings Regs education and enforcement	Opex	Base

The challenges described will continue in the longer term (to 2035) therefore we have continued at a constant rate. This rate will continue to mean we operate at the top level of the industry whilst stretching ourselves to perform in more challenging conditions brought about by the need to change how we operate our network.

OUT1.4, OUT2.4, OUT3.4: PR24_ISF_AFW: Internal sewer flooding
Not applicable to Affinity Water

OUT1.5, OUT2.5, OUT3.5: PR24_ESF_AFW: External sewer flooding
Not applicable to Affinity Water

OUT1.6, OUT2,6, OUT3.6: PR24_BIO_AFW: Biodiversity
As we have not reported Biodiversity data historically, there are significant gaps in our data. We have not completed any biodiversity audits at present so do not have a baseline to report.

We are planning to survey 25% of our sites in 2023-24 and maintain this percentage of surveys going forwards. As a 4-year gap is required before a biodiversity gain can be recorded, then the first opportunity to report a change in biodiversity is 2027-28. The PC methodology states that no gain can be recorded within this 4-year gap, we have followed this for our performance forecasts.

Without a baseline available, we have used the expected improvement as our reported figures in OUT1 and OUT2.
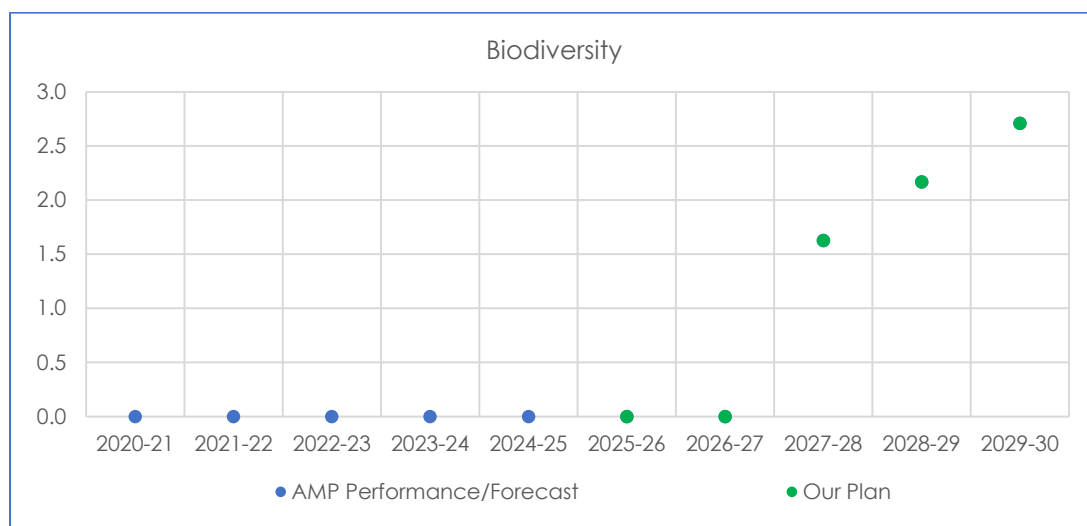
Figures have been derived based on our activity plans for 2025 – 2030 where we will generate a gain in biodiversity. Benefits are estimated and should be treated with a tolerance associated with concept stage of project development.

Improvement Initiative Description	Business Case	Base / Enhancement	Benefit (Biodiversity Units)
Continued monitoring of RR projects (macrophyte and invert)- EA suggested this could be looked to be included in the Bio programme to assess the benefits of the works done to date both for RR and INNS Out	Biodiversity WINEP	Enhancement	9
Implementation of pollinator management plans. Implementation of the management plans that were created in AMP7 across 50 sites.	Biodiversity WINEP	Enhancement	18
Implementation of NERC41 habitat management plans. Implementation of the management plans across 55 sites.	Biodiversity WINEP	Enhancement	36
Investigation and implementation of methods to maintain Springwell reedbed	Biodiversity WINEP	Enhancement	2
Planting and maintenance of 100,000 trees in line with WaterUK tree planting commitment and to sequester carbon	Biodiversity PR24	Enhancement	25
Work with Essex Wildlife Trust to manage 5 biodiversity strategic sites in the East supply area utilising branding, joint messaging and linking to wider landscape	Biodiversity PR24	Enhancement	7
Work with HMWT to manage 5 biodiversity strategic sites in the Central supply area, utilising branding, joint messaging and linking to wider landscape	Biodiversity PR24	Enhancement	15

Improvement Initiative Description	Business Case	Base / Enhancement	Benefit (Biodiversity Units)
Work with White Cliffs Countryside Partnership to manage 5 strategic sites in the Southeast supply area utilising branding, joint messaging and linking to wider landscape	Biodiversity WINEP	Enhancement	10

As a new performance commitment, all performance improvement has been derived from enhancement expenditure.

These activity plans total £2.44m. We have then 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. This gives a total of 122 units allocated to each improvement initiative as illustrated in the table above.

As baseline surveying began in 2023, we cannot realise any uplift until four years later, the summer of 2027 (AMP8, year 3), year 1 and year 2 of AMP8 are therefore 0. Sites baselined in year 1 of the AMP, will be able to be resurveyed in year 5, at the stable performance rate. (122 units/5 year=24.4units per year). The remaining target units for the AMP, 97.6, have been divided equally between years 3 and 4, resulting in 48.8 units each year.

Nominated sites will be divided into 4 surveying blocks, so 100% gains measured on each of these sites can be realised on a 4-year rolling cycle. The remaining estate sites, or unnominated sites, will make up the remaining 25% to be surveyed each year, to report against the no deterioration element of the PC.

Due to the uncertainty surrounding Biodiversity measurement, we have looked to maintain stable performance in the period 2030-35. This will be updated as we baseline, intervene and rescore sites as we build knowledge of how we can best increase biodiversity across our sites.

OUT1.7, OUT2.7, OUT3.7: PR24_OGW_AFW: Operational greenhouse gas emissions (water)

The updated version of the GHG emissions definition has made historic data challenging to produce. With an increased scope in the definition which has not previously been recorded, the generation of historic data has not been possible on a like for like basis.

Forecasts have been developed using our baseline emissions (as a total and by scope) and applying efficiencies through identified schemes, supported (where relevant) by business cases.

- **Scope 1** – we will be completing significant work to reduce our scope 1 emissions in the 2020-25 period. Most notably we will limit the use of our standby diesel generators for resilience purposes only and transition to low carbon fuel

alternatives. We will also begin the transition of our fleet to EV from diesel. Towards the end of AMP 8 we will begin to move away from the use of gas boilers and switch to low carbon alternatives such as heat pumps.

- **Scope 2** – the majority of our operational GHG emissions are from scope 2 due to the electricity required to pump and treat water. We have developed a number of schemes to increase our energy efficiency and reduce our scope 2 emissions (using a fixed-location based grid factor). These include investing in energy efficiency at asset and system level. Due to the nature of pumping and treatment assets, a level of efficiency deterioration is expected as assets age. This has been included in the overall calculation to ensure a more accurate forecast. Given asset deterioration over time, base investment in capital maintenance outside of our specific energy business case is expected to maintain a steady state on energy efficiency. We have also included in our energy forecast increases in energy demand to reflect the impact of or WRMP and the WINEP. These increases will be significant with new treatment at our largest sites (Iver and Egham) requiring new intermediate pumping stations for over 350Ml/d of water. Our Connect 2020 programme is essential as we reduce unsustainable chalk catchment abstraction. It will require the creation of new booster pumping stations as we move water further- this has a significant upward pressure on our electricity usage.

  We currently have a programme of solar power installations underway which is due to complete before the end of AMP7. The benefit of this investment has been included in our forecast.

  The benefit of investment in energy efficiency and solar generation has also been reflected in our scope 3 energy and fuel related emissions.

- **Scope 3** – The Operational GHG performance commitment includes some scope 3 emissions. Chemical consumption is a key component of our scope 3 emissions. Through AMP 8 we will explore opportunities to reduce chemical consumption, the use of regenerated GAC has been identified as an improvement initiative.

- **Insetting** – we have included a 1% reduction in emissions from nature based solutions as per the Ofwat methodology, which we expect to account and verify from catchment management practices such as the funding of cover crops.

Overall operational GHG emissions per Ml are shown below:
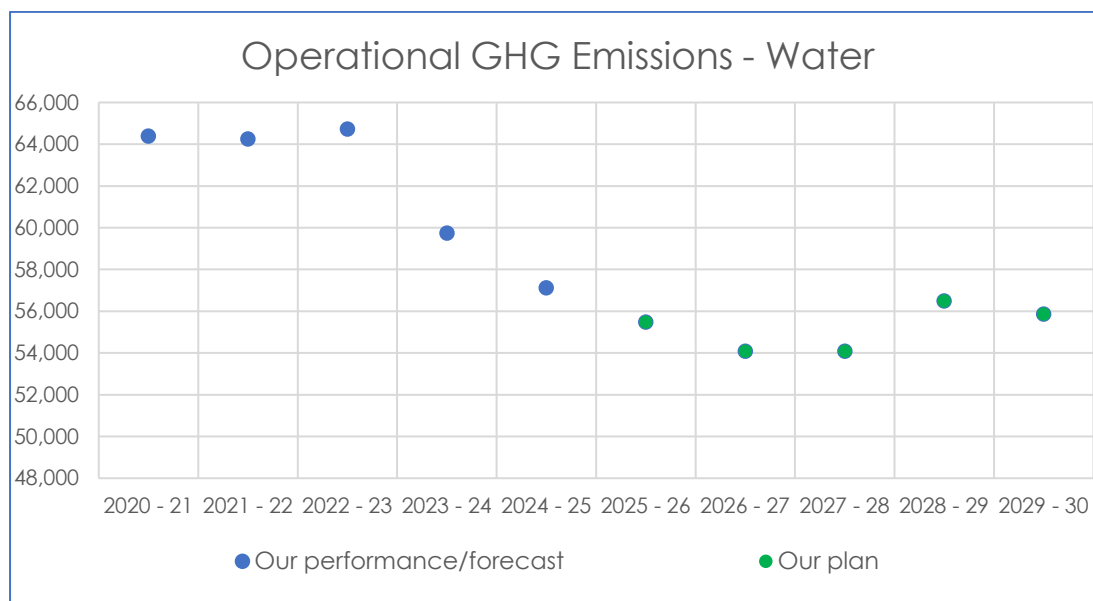
Affinity Water

Operational GHG Emissions - Water

We have identified a number of improvement initiatives which we will be implementing through either projects or business as usual channels. These initiatives are listed below.

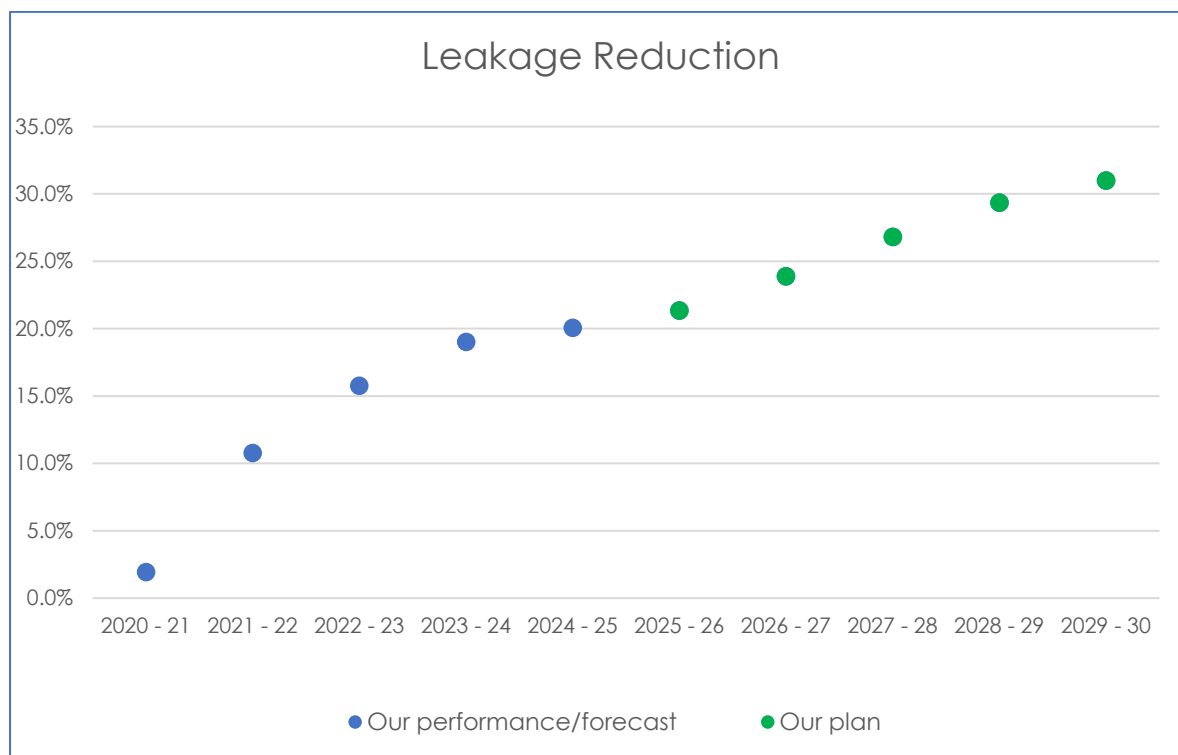| Improvement Initiative Description	Business Case	Base / Enhancement	Benefit (TCO2e)
Energy Efficiency Assets - Pump Replacement	Energy	Base	1,254
Energy Efficiency Assets - Testing and Monitoring	Energy	Base	
Installation of Solar Panels	Energy	Base	3,847
Replace small and medium livered fleet vehicles with EV alternatives and provision of charging infrastructure	EV	Enhancement	6,297
Restrict generator use to only resilience power & replace diesel with HVO	Energy	Base	4,946
Verification of carbon benefits from nature based solutions	WINEP	Enhancement	2,788
Utilise more regenerated GAC in favour of virgin GAC	N/A	Base	5,637

The split between base and enhancement spend is shown above, with the majority of benefit coming from base. Longer term we will continue our progress towards Net Zero by maintaining our focus on efficiency, renewables and nature based solutions.

OUT1.8, OUT2.8, OUT3.8: PR24_OGWW_AFW: Operational greenhouse gas emissions (wastewater)

Not applicable to Affinity Water.

OUT1.9, OUT2.9, OUT3.9: PR24_LEA_AFW: Leakage

Leakage forecasts from 2025 – 2035 have been taken from our WRMP. We have reviewed actions detailed in the WRMP to check expected benefits and to ensure deliverability as part of our wider portfolio.

Leakage Reduction

We have identified several improvement initiatives which we will be implementing through either projects or business as usual channels. These initiatives are listed below.

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

From the accelerated funding programme, the following benefits are recognised in the enhancement figures.

Performance commitment	Unit	Forecast benefits						
		2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Per capita consumption	l/h/d (cum.)	–	0.21	0.85	0.85	0.85	0.85	0.85
Leakage	Ml/d (cum.)	–	0.07	0.07	0.07	0.07	0.07	0.07

OUT1.10, OUT2.10, OUT3.10: PR24_PCC_AFW: Per capita consumption

PCC forecasts for 2025 – 2035 have been developed using figures from our WRMP. This has updated out initial forecasts shared in the Q1 quarterly performance data collection.

Covid-19 changed the working patterns of our customers and their water use and therefore PCC. We note that Ofwat will determine incentives at the end of the period, for that reason we have decided not to include any adjustments in our data table numbers for Covid-19 impact.

We have reviewed actions detailed in the WRMP to check expected benefits and to ensure deliverability as part of our wider portfolio.

We are proposing significant investment in smart metering in 2025 – 2030 which we believe will provide a step change in our performance in this area.

Through our WRMP process we have identified a number of improvement initiatives which we will be implementing through either projects or business as usual channels. These initiatives are listed below. (Note. The unit for benefit is listed as Ml/d in the table below as this is the mechanism for the water balance, this is transformed into l/p/d and then to the associated % reduction which is reported in the tables).

All performance has been derived from enhancement until 2035.

Improvement Initiative Description	Business Case	Base / Enhancement	PR24 Submission (Ml/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

From the accelerated funding programme, the following benefits are recognised in the enhancement figures. The total enhancement benefit will be 4.48l/h/d.

Performance commitment	Unit	Forecast benefits						
		2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Per capita consumption	l/h/d (cum.)	–	0.21	0.85	0.85	0.85	0.85	0.85
Leakage	Ml/d (cum.)	–	0.07	0.07	0.07	0.07	0.07	0.07

OUT1.11, OUT2.11, OUT3.11: PR24_NHH_AFW: Business demand

Business Demand forecasts for 2025 – 2035 have been developed using figures from our WRMP. We have reviewed actions detailed in the WRMP to check expected benefits and to ensure deliverability as part of our wider portfolio.

Business Demand is a new PC and there is limited data available to understand the ability of a water company to influence non-household customers to reduce water usage. There are also significant external factors which could impact on this PC, for example new businesses or industries locating in our supply area, or the impact of the wider economy on productivity and therefore water use.

Through our WRMP process we have identified a number of improvement initiatives which we will be implementing through either projects or business as usual channels. These initiatives are listed below.

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

As this is a new PC, all benefits are expected through enhancement spend with our smart metering programme across non-household customers. All performance has been derived from enhancement until 2035.

Our base activity will continue however we do not have evidence to justify applying benefits to these activities.

OUT1.12, OUT2.12, OUT3.12: PR24_POL_AFW: Total pollution incidents

Not applicable to Affinity Water.

### OUT1.13, OUT2.13, OUT3.13: PR24_SPL_AFW: Serious pollution incidents

We expect to have no serious pollution incidents from 2025 onwards. We have therefore profiled 0 for the remaining period. We have experienced 2 incidents in the 2022-23 period but none in the previous 5 years. All incidents resulted from burst mains located near water courses. We have learnt lessons from these incidents and will implement changes to how we respond to any future events to minimise the environmental impact. These lessons have been used to inform our 2025 – 2030 delivery plan.

Our action plan will focus on improving competence of teams:

- The environmental model on our e-learning platform is under review with a consideration to make it mandatory as part of the competent operator scheme for network, water quality and production operations. The training will include specifics around Cat1 and Cat2 pollution causes and additional guidance around the lesser Cat3 and Cat4 incidents.

- Emergency controllers (SILVER) Commanders) have been briefed on the PEAR risk assessment process to assess where the immediate harm is and put in measures to protect the environment and prevent pollution as a priority if people are not at risk of immediate harm.

Improvement Initiative Description	Business Case	Base / Enhancement
Competency and Training	Opex	Base
Tool Box Talks & Briefing Notes	Opex	Base

With the PCL being set at 0, we expect to achieve this target.
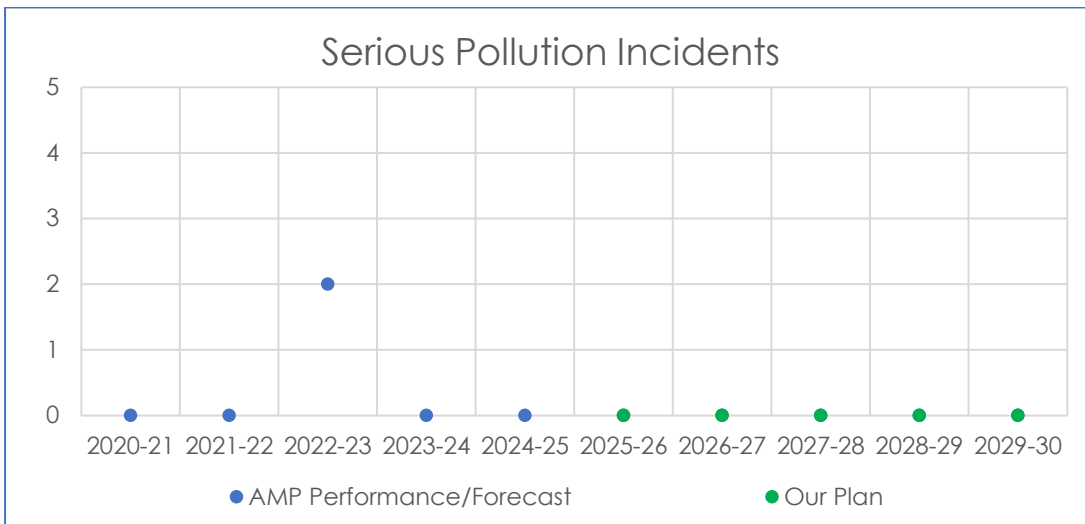
All of our performance will come from base expenditure.

Our long term target out to 2035 will continue to be zero.

## OUT1.14, OUT2.14, OUT3.14: PR24_DPC_AFW: Discharge permit compliance
We do not have data of discharge non-compliances before 2020. With no evidence available to us, we have left these cells blank.

We expect to have full compliance with Discharge Permit Compliance from 2025 onwards. We have therefore profiled 100% for the remaining period. We have experienced 3 incidents between 2020-2025, however we do not expect a continuing trend as we have amended internal processes to deliver an improved control outcome. With the PCL being set at 100%, we expect to achieve this target.

Improvement Initiative Description	Business Case	Base / Enhancement
Competency and Training	Opex	Base

Sampling – locations with sampling points for EA	Opex	Base
Flow monitoring	Opex	Base
Environmental Reporting tool	Opex	Base
Proactive operational monitoring	Opex	Base
Environmental Audits	Opex	Base
Tool Box Talks & Briefing Notes	Opex	Base
EA notice periods and triggers	Opex	Base
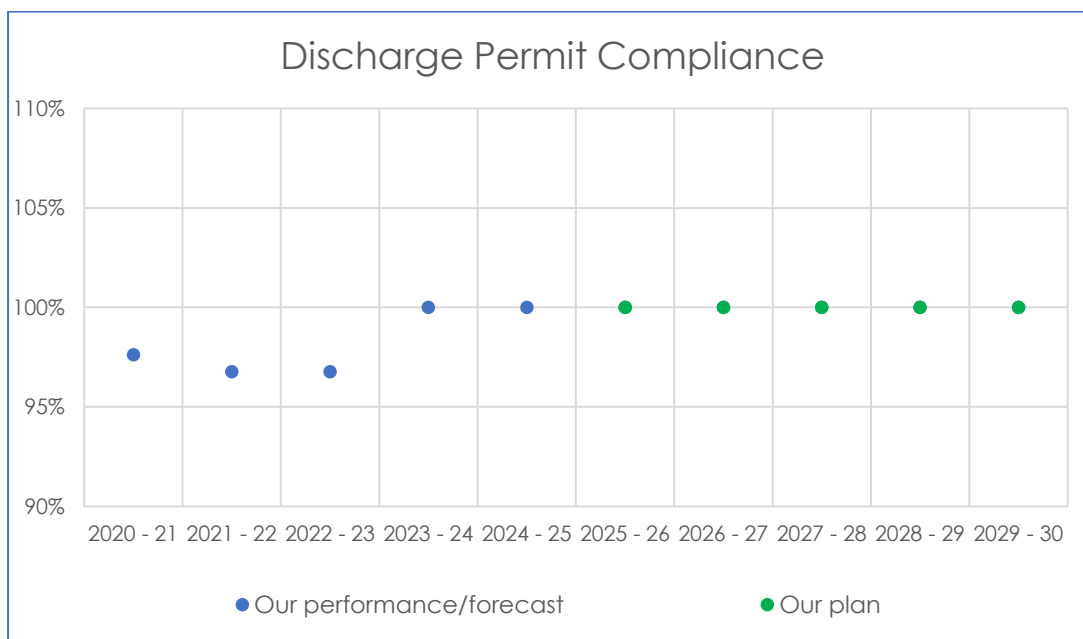
Discharge Permit Compliance

All of our performance will come from base expenditure.

Our long term target out to 2035 will continue to be 100%. We recognise that a single failure can undermine this forecast and plan, so we are currently discussing an increase in Operator Self Monitoring, creating new internal asset standards for minimum required OSM and looking forward to the anticipated move to increase this as a statutory requirement as the Environment Agency step back from their own monitoring activities.

OUT1.15, OUT2.15, OUT2.15: PR24_BWQ_AFW: Bathing water quality
Not applicable to Affinity Water

OUT1.16, OUT2.16, OUT3.16: PR24_RWQ_AFW: River water quality (phosphorus)
Not applicable to Affinity Water

OUT1.17, OUT2.17, OUT3.17: PR24_SOF_AFW: Storm overflows
Not applicable to Affinity Water

OUT1.18, OUT2.18, OUT3.18: PR24_MRP_AFW: Mains repairs

Historic data has been entered where available and has been taken from Ofwat's published dataset.

Forecasts have been developed based on our historic and improving performance. We have forecast for a continued declining (i.e. improving) trend in main repairs. The historic data shows a strong correlation between extreme weather events (long, hot summer periods, freeze-thaw events etc.) and high reported mains repairs.
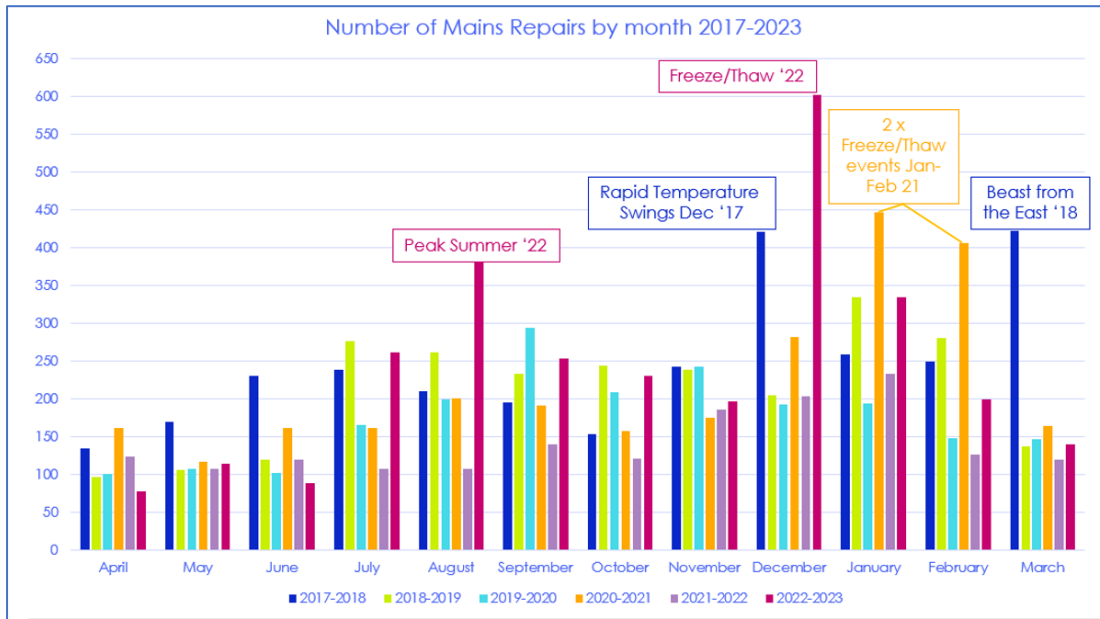
We anticipate that we will experience a number of years in the 2025 – 2030 period where extreme weather will impact mains repairs performance, therefore we expect an oscillation around our expected performance on a year by year basis.
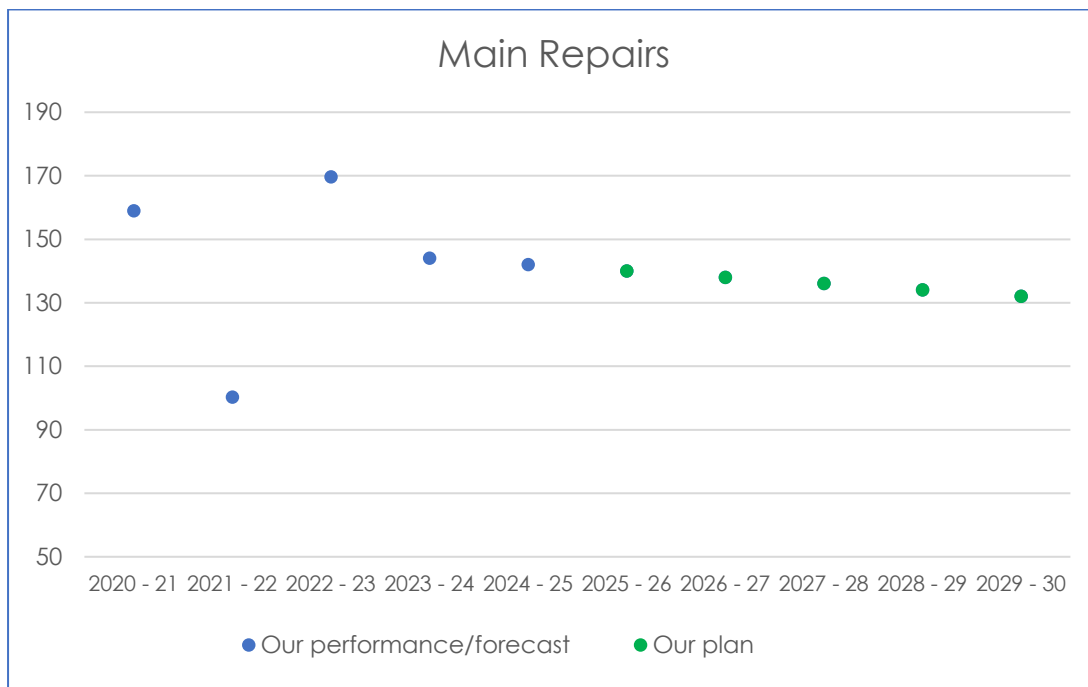
As part of our plans for 2025 – 2030 we will invest heavily in Network Calming which will significantly reduce instances of mains repairs, additionally we have identified a number of improvement initiatives which we will be implementing through either projects or business as usual channels. These initiatives are listed below.

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

We are forecasting benefit from our Network Calming business case, under a mix of Base and Enhancement funding. The benefits have been estimated at 89 repairs per annum over the course of 2025 – 2030. This will deliver an improvement in performance and protect against the upward pressure this PC faces.

For longer term targets (2030-35), the level of mains repairs is predicted to level off at 130 per 1,000km of mains. This prediction is based on the interventions during 2025 – 2030 to improve our network control (most notably our Network Calming programme) will deliver a step change, however the interventions available from 2030 onwards are unlikely to deliver a further step change. Interventions from this point onwards will focus on longer term performance. As extreme weather events become more frequent there will be upward pressure on Mains Repairs, therefore stretching performance to maintain service levels at 130 repairs per 1,000km.

### OUT1.19, OUT2,19, OUT3.19: PR24_UNO_AFW: Unplanned outage

Historic data has been entered where available and has been taken from Ofwat's published dataset using the PR24 Unplanned Outage PC definition which has significantly changed from the existing definition.

We have created our forecasts to show continued improved performance from 2025 – 2030 based on current run rates and our improvement plans for this period.

The changes to the definition of Unplanned Outage adds a significant risk to our performance, most notably through the removal of exclusions for Raw Water. Given the nature of our raw water, we are frequently required to reduce abstraction at our sources to maintain water quality standards and plant reliability.

From Ofwat published data, we have analysed and found an average variance between both industry and Affinity Water reported figures is 0.9% between new and current definition. We have used this to uplift our forecasts for 2025 – 2030.

	2017-18	2018-19	2019-20	2020-21	2021-22	Average
Industry New Definition Average	6.77	5.45	4.68	2.89	2.82	
Industry Current Definition Average	5.72	4.47	3.55	2.10	2.10	
Industry Variance	**1.05**	**0.98**	**1.13**	**0.80**	**0.72**	**0.94**
Affinity Water New Definition Average	3.58	2.73	4.92	2.17	1.86	
Affinity Water Current Definition Average	2.49	1.9	3.42	1.65	1.19	
Affinity Water Variance	**1.09**	**0.83**	**1.50**	**0.52**	**0.67**	**0.92**
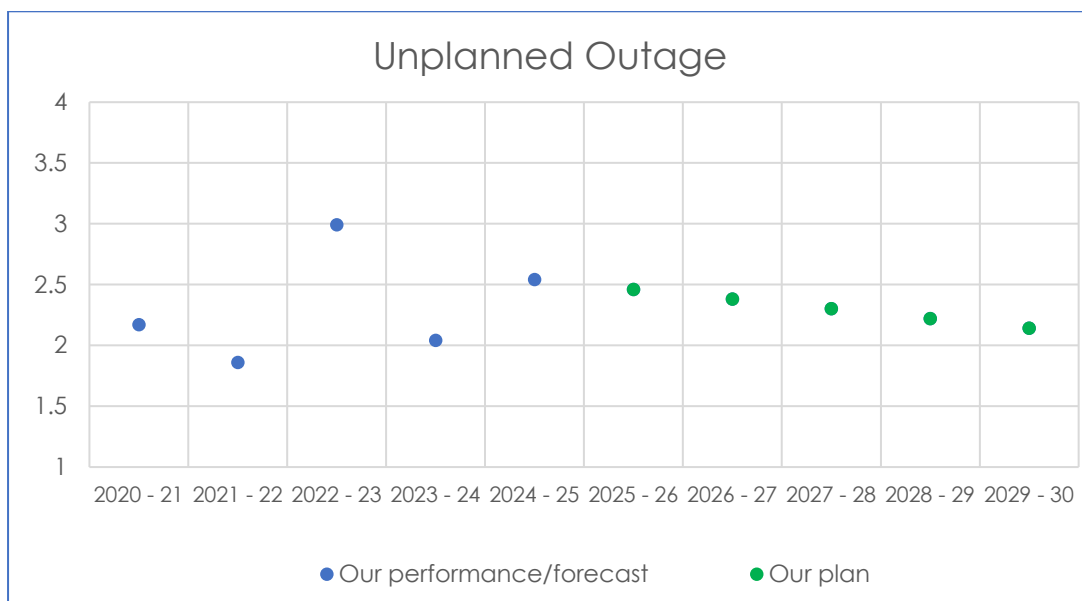
We have identified a number of improvement initiatives which we will be implementing through either projects or business as usual channels. Given the nature of unplanned outage, it is very difficult to quantify the impact of individual investments to the unplanned outage percentage, instead we will focus on a holistic approach to managing performance, focussing on:

- Planned Maintenance
- Critical Spares
- Asset Risk Calibration
- Competency

The overall benefit we think is deliverable is defined at 0.4%. We have consulted with the various stakeholders around the business to develop with goal trees to determine a series of priority projects that will drive improvement for this measure. The benefit has been calculated using a bottom up estimation of each individual intervention.

AffinityWater

We have then blended these options to give an overall benefit for the performance commitment. Named initiatives are listed below.

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% benefit across 2025 – 2030
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, recruitment and retention	
Competent Operator, Licence to Control	
Non-Infra intensive assessment (External)	
All known risks on ARM and improve ARM calibration	

Longer term to 2035, we will be looking to continue a downward trend on Unplanned Outage with incremental increases year on year. We will continue with the interventions listed above and learn from our delivery in 2025 – 2030 with the new methodology to inform plans further for our next Business Plan.

OUT1.20, OUT2.20, OUT3.20: PR24_SCO_AFW: Sewer collapses
Not applicable to Affinity Water

OUT1.21-26, OUT2.21-26, OUT3.21,26: Regional PCs
Not applicable to Affinity Water

Bespoke performance commitments

OUT1.27, OUT2.27, OUT3.27: PR24_AIM_AFW: Abstraction incentive mechanism (AIM)
Historic data has been entered where available and has been taken from our APR submissions for the sites included in the PR24 definition. Our forecast for AIM will be at our PCL level due to the uncertainty associated with river flow and if triggers will be met each year. Setting a target below 0 could lead to penalty for us just because triggers are not active therefore must be set at 0.

Affinity Water
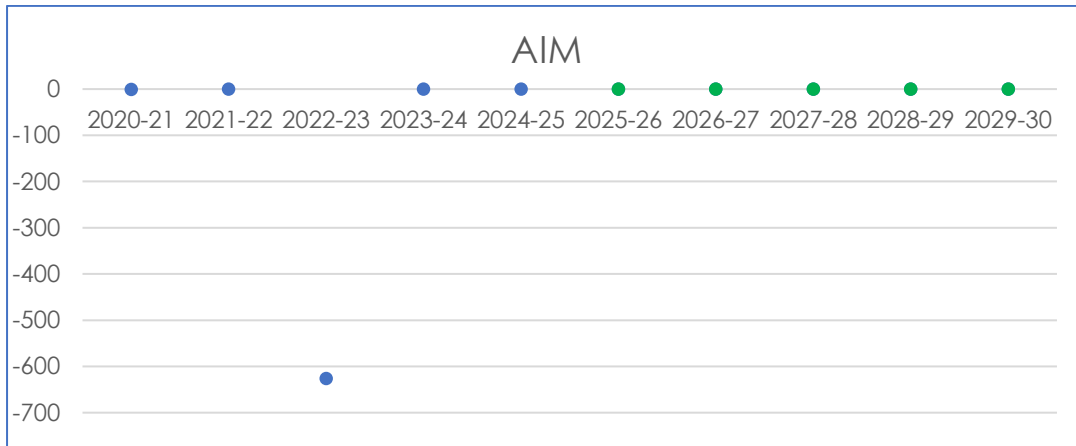
AIM is not associated with any specific investment actions, instead focusses on our operational management of sites at times of low river flow. We will continue to manage our water network to look to reduce abstraction in line with triggers where possible – we do not expect to require significant capital intervention to enable this performance commitment.

OUT1.28, OUT2.28, OUT3.28: PR24_LCC_AFW: Low carbon concrete
Not applicable to Affinity Water

OUT1.29, OUT2.29, OUT3.29: PR24_EGHG_AFW: Embedded greenhouse gas emissions
Not applicable to Affinity Water

OUT1.30, OUT2.30, OUT3.30: PR24_LPR_AFW: Low pressure
Historic data has been based on our APR reporting where available. As a new performance commitment for PR19, we have not captured data for this measure before 2019. Therefore, cells have been left blank. Data before 2019 was not recorded and therefore has been left blank.

We understand the importance of low pressure as a performance commitment and have set ourselves stretching targets to improve our performance.
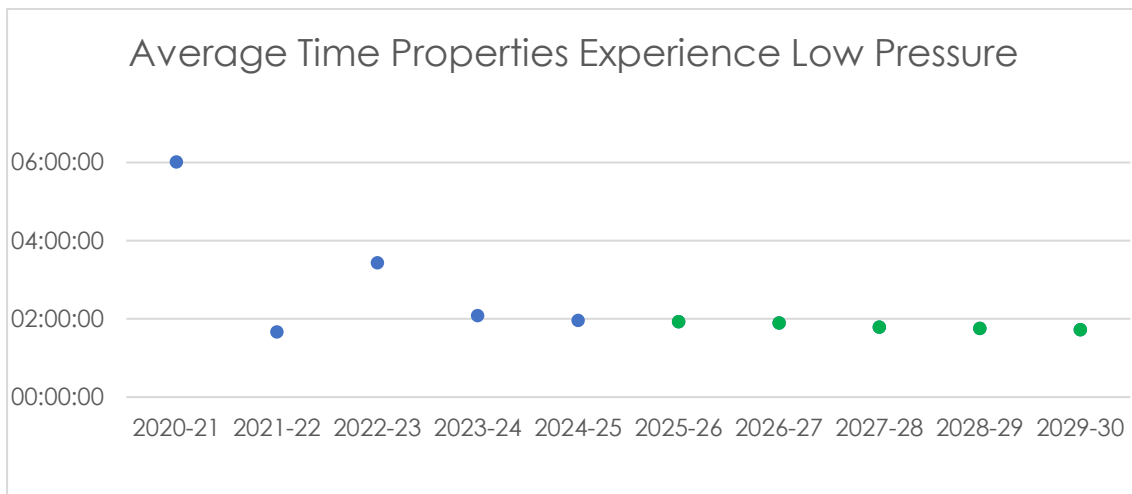
We have identified a number of improvement initiatives which we will be implementing through either projects or business as usual channels. For low pressure, we understand where we experience issues and have ensure localised plans to deliver real improvement to the pressure they experience. These initiatives are listed below.

Improvement Initiative Description	Business Case	Base / Enhancement	Benefit (hh:mm:ss)
Improvements within the Low Pressure team to allow earlier and more effective interventions to identify resolve / improve 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	
Reduce the number of single points of failure primarily via capital schemes.	SPoF	Enhancement	00:04:21

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 – 2030 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. Our ambition is to keep driving our baseline performance down and mitigate the extreme events as far as possible.

Affinity Water
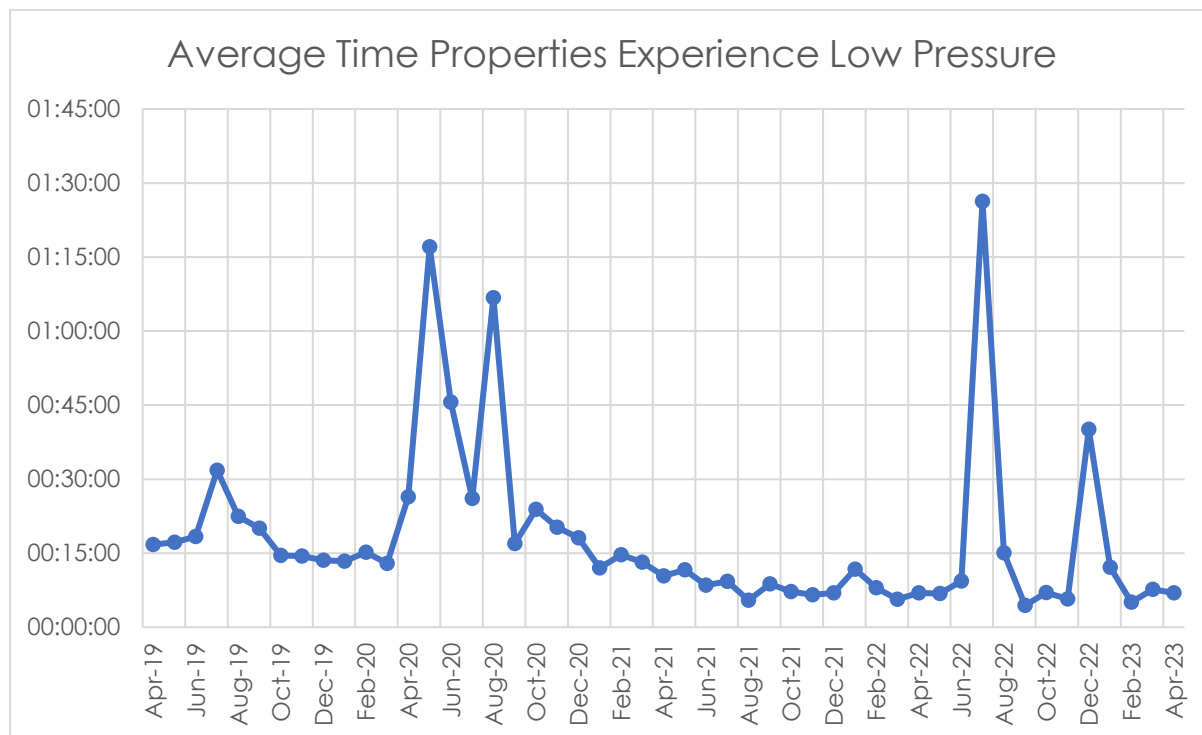
The targets we are setting will reduce the average time customers experience low pressure by 40% from the average of 2020 – 2025 to the average of 2025 – 2030. This demonstrates a real ambition to stretch our performance and deliver better results for customers.

OUT1.31, OUT2.31, OUT3.31: PR24_SWC_AFW: Street works collaboration
Not applicable to Affinity Water

OUT1.32, OUT2.32, OUT3.32: PR24_WSO_AFW: Water softening
Not applicable to Affinity Water

OUT1.33 & 34: PR24_BECW_AFW: Business customer experience in Wales
Not applicable to Affinity Water

OUT3.33: Customer contacts about water quality
No enhancement allowance has been made in the past, therefore no benefit has been attributed. We are not making any enhancement cases related to this PC in our business plan so will remain 0 in the future.

OUT1.35, OUT2.33, OUT3.34: Total annual leakage (aligned with historical reporting)
Numbers have been populated using the published historic data from Ofwat.

To date we have not received any enhancement allowance for leakage, therefore all performance is derived from base.

AffinityWater

OUT1.36, OUT2.34, OUT3.35: Total annual leakage (aligned with PR24 reporting)

Numbers have been populated using the published historic data from Ofwat, 2017-18 – 2022-23 have been populated with the figures as restated in APR23

To date we have not received any enhancement allowance for leakage, therefore all performance is derived from base.

From 2025 onwards, we have maintained the split between base and enhancement investment at 76:24 as per the leakage business case and % reductions.

OUT1.37, OUT2.35, OUT3.36: Per capita consumption (aligned with historical reporting)

Numbers have been populated using the published historic data from Ofwat, 2017-18 – 2022-23 have been populated with the figures as restated in APR23

We have attributed all performance from 2020 onwards to enhancement.

Before 2014 we do not have a completed set of data as we reported as three individual companies and do not have the data to calculate a collective figure.

OUT1.38, OUT2.36, OUT3.37: Per capita consumption (aligned with PR24 reporting)

From 2025 – 30, we have attributed all benefit to enhancement, based on the business case for smart metering. Beyond 2030, we have assumed a 50:50 spilt between base and enhancement. This is also reflected in the % reduction lines in OUT2 and OUT3.

OUT1.39-46, OUT2.37-44, OUT3.38-45: Supporting data for leakage and per capita consumption (regional reporting

Not applicable to Affinity Water

OUT4: Underlying calculations for common performance commitments (water and combined)

OUT4.1: Total number of properties supplied at year end

Historic data as per APR returns.

Future data is taken from our WRMP.

Numbers have been taken from our historic 'DG3' Registers. While figures were not necessarily reported in the same format we have used the same data to report the total number of properties whose supply was interrupted >= 3 hours.

OUT4.2: The total number of properties whose supply was interrupted >= 3 hours.

Numbers have been taken from our historic 'DG3' Registers and as reported in APR/ June Returns. While figures were not necessarily reported against the same criteria, we have used the same data to report the total number of properties whose supply was interrupted >= 3 hours. Property figures are those used to calculate historic supply interruption figures and in line with those reported in Table 4R (or equivalent historic table) of the APR/ June Return.

Future property data is taken from our WRMP.

Future forecasts are based on time from proposed performance back calculated using the number of properties.

OUT4.3: The total minutes lost for supply interruptions of >= 3 hours.

Number of properties has historically followed an average of 0.25 x total minutes for lost supply >3hours. This factor has been used for calculating future number of properties.

OUT4.4-6

Calculated or copied data.

OUT4.7: Resident population (water) (calendar year)

Population figures have been derived from ONS data. Estimation of 3.5% increase in population is expected over the next 10 years. We have used a flat 0.35% per year increase in our numbers.

OUT4.8: Number of contacts - taste and odour
OUT4.9: Number of contacts - appearance

Historic data is as reported in the APR and the breakdown of taste, odour and appearance align with numbers reported to the DWI for their respective years.

Future contacts have been back calculated using our top-down view of the Customer Contacts about Water Quality PC.

Data for 2011-12 is not available due to reporting changes with three companies merging into one for the creation of Affinity Water. The cells have been left blank.

OUT4.10-11

Calculated or copied data.

OUT4.12: Area surveyed per year

Surveys not due to start until 2023-24 so 0 reported for all previous years.

Plans to survey 50% of land in 2023-24 and remaining 50% in 2024-25 to get baseline then move to 25% per year.

AffinityWater

OUT4.13 – OUT4.19: Biodiversity units baseline

We have no baseline data for Biodiversity Units – so these cells have been left blank. We are planning to meet Ofwat's requirements for surveying (PR24 Final Methodology) however we have no historical data to report.

With no baseline we do not have information all historic actual unit have been set as 'Unknown'. Forecast has been based on expenditure plans for AMP8 with a stable profile from the time of first survey where improvement can be recorded (2027-28 following the first surveys in 2023-24).

Ratio estimated of:

- 80% Area
- 18% Hedgerow
- 2% River

OUT4.20-21

Calculated or copied data.

OUT4.22: Water supply area

Historic data as per APR returns.

Future data is taken from our WRMP.

OUT4.23

Calculated data.

OUT4.24: Tonnes CO2e

Numbers from our GHG forecasts, set out in OUT1-3 commentary.

OUT4.25: Distribution input (per day)

Numbers taken from WRMP forecasts.

OUT4.26-30

Calculated or copied data.

OUT4.32-35: Leakage – Company level
OUT4.44-52: Per capita consumption - Company level
OUT4.71-74: Business demand - Company level

As per the requirements set out, our Leakage, PCC and Business Demand numbers match those as submitted in our WRMP.

OUT4.36-43: Leakage – Regions
OUT4.53-70: Per capita consumption - Regions
OUT4.75-82: Business demand - Regions

Not applicable to Affinity Water.

OUT4.83: Number of pollution incidents - category 1 (water)
OUT4.84: Number of pollution incidents - category 2 (water)
Historic numbers from Ofwat published data.

Serious pollution incidents: Following abandonment of the June Return serious pollution incidents were not tracked from 2014 onwards. We have had to use data Ofwat retain on this information, and this is our only evidence for the numbers in 2015-16 and 2016-17

Plan to achieve full compliance and therefore 0 incidents in the future.

OUT4.85: Number of pollution incidents – (water)
Calculated data.

OUT4.86: Total number of failing discharges (water)
Historic data based on Environment Agency returns.

Plan to achieve full compliance and therefore 100% in the future.

OUT4.87: Number of numeric discharge permits (water)
Data is of number of sites with discharge permits. Data taken from the DEFRA/Environment Agency database: 'Environmental Permitting Regulations – Discharges to Water and Groundwater'.

OUT4.88: Number of sites with failed discharges (water)
Historic data based on EA return.

Plan to achieve full compliance and therefore 100% in the future.

OUT4.89: Percentage compliance – (water)
Calculated data.

OUT4.90: Mains length
Historic data based on previous APR data.

OUT4.91-92: Mains repairs – proactive and reactive - actual
Historic data based on APR returns.

At the onset of AMP7 and the reporting of proactive / reactive repairs, we updated our reporting processes to ensure that mains repairs could be correctly categorised.

We reviewed and upgraded our systems to ensure that the reason for a job creation was captured and coded from its job initiation.

The reporting guidance does not provide a definition of what constitutes a proactive or reactive repair. We determine the split as anything identified directly from company generated systems (e.g. loggers) or investigations (e.g. step testing) as a proactive repair. If a mains repair is identified by a customer or other third party it is

deemed a reactive repair, this is irrespective of the reason for the job initially being raised, i.e. low pressure, road subsidence, visible water in road or if it is subsequently identified on one of our systems.

We explained in detail in query response AFW-APR-PR-001 how we identify and allocation repairs for reporting purposes.

Prior to APR21 and the requirement to report proactive/ reactive repairs, the same level of scrutiny was not given to these splits. Through interrogation for the onset of reporting we identified that historic figures were often reported against the type of team dealing with the repair rather than its actual initiation.

Data prior to 2020-21, the allocations have the above-mentioned weaknesses and the same level of confidence cannot be given to the figures. We are unable to retrospectively review these repairs and reapply as the systems did not collect the appropriate information to manually re allocate between proactive and reactive.

Reporting further back, for 2015-16 and 2016-17 the allocations can only be applied for our Central region. 'East' and 'South East' did not record jobs as proactive or reactive. Our Central region however represents 94% and 93% of bursts respectively and therefore we feel provides a representative indication of the split. We have therefore applied this proportional allocation to the East and South East figures for reporting purposes.

OUT4.93-96:
Calculated data.

OUT4.97: Peak week production capacity
OUT4.98: Unplanned outage – actual
Historic data based on Ofwat published data. Future is based on our target to reduce the level of Unplanned Outage.

OUT4.99:
Calculated data.

OUT4.100-109
Copied or calculated data.

OUT5: Underlying calculations for common performance commitments – wastewater

This table is intentionally unpopulated as it is not relevant to Affinity Water.

OUT6: Summary information on outcome delivery incentive payments

OUT6.1-6.7: Initial calculation of in-period revenue adjustment by price control

Calculated from OUT8 – using cost models to apportion to relevant price control.

All PC with the exception of PCC

OUT6.8-6.14: Initial calculation of end of period revenue adjustment by price control

Calculated from OUT8 – using cost models to apportion to relevant price control.

PCC only

OUT6.15-6.21: Initial calculation of end of period RCV adjustment by price control

No commentary.

OUT7: Outcome performance – ODIs (financial)

The proposed benefit sharing factor of 0.7 has been used.

The Marginal Benefit rates are those proposed by Ofwat.

Marginal Benefits for Bespoke PCs taken from our customer valuation work, details of this can be found in **Appendix AFW18- Bespoke performance commitments**.

As per the guidance, we have chosen to leave blank the 'Enhanced outperformance thresholds (where relevant)'.

As per ref 27 in the PR24 final methodology queries and responses (https://www.ofwat.gov.uk/wp-content/uploads/2023/02/PR24_FM_queries.pdf), we have left marginal benefits for Operational GHG Emissions – Water and Biodiversity blank.

OUT8: PR19 outcome performance summary

Forecast methodologies have been developed through and in conjunction with our APR process and audited through the PR24 process. These have been developed through a combination of our historic performance and future action plans.

Using expected performance with the ODI rates for the relevant PCs to calculate the reward/penalty expected.

We plan to achieve PCL performance across the relevant PCs, with the exception of:

- Per Capita Consumption – based on our projections of performance, given the challenges we expect to miss our target for the last two years of the 2020 - 2025 whilst we look to improve performance from current levels. We have aligned our forecasts to our WRMP which has been used for the ODI forecast.
- Properties at risk of receiving low pressure – given the scale of the gap between our target and performance, we do not expect to be able to intervene to the level required to bring under the performance collar. Nevertheless, we will continue to invest in this area to improve our performance.
- Unplanned interruptions to supply over 12 hours – given performance over the first three years of the period, we are forecasting penalty for the final two years. This penalty has been based on our current run rate.

We are forecast to outperform on:

- Environmental Innovation – we expect to deliver 3 and 2 projects in 2023-24 and 2024-25 respectively. With our target at 0, these projects being delivered are above target levels, and we have reflected the reward in the table.
- Leakage – we have used our forecasted performance, continuing our over performance in 2022-23. We expect to deliver slightly over target.
- Water supply interruptions – based on our overall performance run rate, we expect to be slightly under target for water supply interruptions with small rewards.

OUT9: Biodiversity – habitat information

Data for this table is derived from a range of sources, including:

- Our GIS mapping software, where available
- Land agency data

Level of accuracy of OUT9: We have used our Geographical Information System (GIS) to estimate the categorisation of our land for use in data table OUT9. We can use this tool to measure to metres squared. Sites with priority habitats have been identified during AMP7 however we not yet mapped individual habitats – this is an ongoing project as part of developing our biodiversity baseline.

OUT9.1: Company owned land
Data is taken from our Geographic Information System (GIS) layer information

OUT9.2: Company land that is a protected site
Data is taken from our GIS layer information

OUT9.3: Land considered to have 'Wildlife-rich' habitats
This is an assumption based on sites that have been assessed as containing NERC41 habitats, and that 60% of the site size contains those habitats.

Affinity Water

OUT9.4: Company land associated or expected to be associated with obligations, including planning processes, in 2025 – 2030.

We have bene unable to calculate this number and have therefore left blank.

OUT9.5: Company land expected to be used for solar arrays in 2025 – 2030.

This is the total area of the arrays, but some of this will be on roof space that technically won't therefore decrease the green footprint of the site.

OUT9.6: Company land with long term tenancies (>=5 years)

Data provided by land agent.

OUT9.7: Company land with short term tenancies (<=5 years)

Data provided by land agent.

OUT9.8: Company land subject to shooting rights

Data provided by land agent.

OUT9.9: Company land subject to other rights

n/a

OUT9.10: Company land that is standing water

Waterbodies on our sites totalled 3km2 (GIS). All standing water lake sites have been accounted for in OUT9.2-9.9 other than Queensmead Lake which is accounted for here.

OUT9.11: Company land that is running water

Waterbodies on our sites totalled 3km2 (GIS). Sites with rivers were identified during NERC investigation and are included in biodiversity site list. Remaining sites (not already accounted for in OUT9.2.-9.10, assumed 2% of total land holdings is river (running water). This equates to 0km2 to 0 decimal places.

OUT9.12: Company land that is sealed surfaces

Data is taken from our GIS basemap layer.

OUT9.13: Company land that has tree canopy and woodland cover

Data is taken from our GIS woodland layer.

OUT9.14: Company land that has estuaries and coastal water habitats.

Data is taken from our GIS layer information

OUT9.15: Company land that has open habitats

Removed waterbodies, woodland and sealed from total to assume this.

OUT9.16: Land being managed as part of biodiversity plans –Good status
Without survey information, we cannot complete – 0 in the tables

OUT9.17: Land being managed as part of biodiversity plans –Moderate status
Without survey information, we cannot complete – 0 in the tables

OUT9.18: Land being managed as part of biodiversity plans –Poor status
Without survey information, we cannot complete – 0 in the tables

OUT10: Underlying calculations for bespoke performance commitments

OUT10.1-65: Abstraction Incentive Mechanism
Annual AIM performance

Table 1 provides the reported annual global AIM performance scores since AIM came into effect in April 2016. The global scores provided are the sum of the 16 sources that will be assessed under AIM in AMP8. Therefore, Hughenden, Periwinkle Lane, Runleywood Chalk, Bow Bridge, Chalfont St Giles and Chesham sources have been excluded from the global score. Fulling Mill, which was aggregated with Digswell, will not be assessed under AIM from AMP8 onwards. Since the sources were aggregated, the number of sources assessed under AIM is unaffected. The forecast for the last two years of AMP7 and the whole of AMP8 and AMP9, is provided in Table 2.

A negative AIM score signifies an improved performance compared to historic droughts, as average abstraction was lower than the baseline at the global scale when AIM was active. This suggests that the company met and outperformed the AIM baseline figures for each of the respective financial years at a global scale (April 2016 to March 2023). It should be noted that the global AIM performance score for 2016-17 is negative when all of the sources that were assessed under AIM at the time (23 in total) are included. This is mainly linked to low groundwater levels which provide many opportunities to score and long-term outages at some sources (e.g. Oughton Head and Runleywood Chalk).

The requirements from Ofwat changed from 2020-21 and we are no longer required to report the AIM performance per source. Therefore, only global AIM performance figures have been reported in Table 1. No changes have been made in the reporting methods or assumptions since AIM was introduced in 2016.

AIM is primarily linked to weather conditions which drive regional groundwater level trends. Groundwater levels cannot be reliably forecasted beyond a 6-month period. Therefore, our target for the measure, as per the PR19 final determination, is 0 Ml for 2023-24 and 2024-25 (year 4 and year 5 of AMP7), in addition to all financial years in AMP8 (2025-26 – 2029-30) and AMP9 (2030-31- 2034-35) (Table 2). The Lea catchment

score is excluded since Runleywood Chalk and Periwinkle Lane sources will not be assessed under AIM in AMP8 (2025 onwards) due to their cessation in 2024.

The global performance is based on the sum of scores for all sources that are included within AIM. We put forward 23 sources in 2016 to be included in AIM, based on the environmental sensitivity of the sources identified in previous studies. From 2016 to date, eight sources have been subject to Sustainability Reductions (SRs), with the deployable output (DO) at four of these sites being reduced to 0 Ml/d. These four sources were omitted from the AIM assessment at the time of the SR, in addition to one other source, which was removed following discussions with the Environment Agency. Therefore, 18 sources remain to be assessed under AIM as of 2022-23. From the beginning of AMP8 (2025-26), the number of sources to be assessed under AIM will reduce to 16. This is to reflect cessation of Periwinkle Lane and Runleywood Chalk in December 2024.

Each AIM site has a trigger, which is typically set as river flow at the downstream gauging station in catchments where the AIM sites are located. The only exception to this, is our Denge source which is assessed under AIM based on a local groundwater level trigger.

The number of active AIM triggers varies with background groundwater levels, meaning that the scores between years are not directly comparable. Therefore, year-on-year variances are expected, and we do not observe an improving/declining trend over time. Table 1 provides a short description of the annual scores, including the number of sources active during the respective financial year and a brief comment on the background groundwater level situation. A higher negative score was accumulated during 'dry' years (e.g. 2017-18 or 2019-20) where background groundwater levels were below the long-term average and the AIM triggers were active in most catchments.

Annual global AIM performance scores since 2016-17 (score is for the 16 sources to be assessed under AIM from AMP8 onwards only)

Year	AIM score (Ml- million litres)*	Score description
2016-17	+182.55	AIM active in 5 catchments; GWLs: average to dry year
2017-18	-1,026.07	AIM active in all catchments; GWLs: dry year
2018-19	-574.89	AIM active in 4 catchments (8 sources). GWLs: dry year
2019-20	-1,156.57	AIM active in 8 catchments (13 sources). GWLs: dry year
2020-21	-0.95	AIM active in 1 catchment (1 source). GWLs: above average; increasing trend from summer 2020
2021-22	0	AIM not active in any catchments. GWLs: above average; declining trend
2022-23	-626.03	AIM active in 4 catchments (6 sources). GWLs: below average/average year

*score excludes Hughenden, Periwinkle Lane, Runleywood Chalk, Bow Bridge, Chalfont St Giles and Chesham (not carried forward as AIM sources in AMP8)

Forecasted annual global AIM performance scores from **2023-24 to 2034-35**

Year	Forecast AIM score (MI- million litres)
2023-24	0
2024-25	0
2025-26	0
2026-27	0
2027-28	0
2028-29	0
2029-30	0
2030-31	0
2031-32	0
2032-33	0
2033-34	0
2034-35	0

Managing AIM performance

In order to track our AIM performance and be proactive, we have agreed an early warning mechanism with the Environment Agency (EA). The EA email us weekly to notify us if either an early warning trigger (which is higher than the actual AIM trigger) or an AIM trigger has been activated. The early warning trigger has been set up on a catchment basis to provides us with typically one month's notice of an AIM trigger being activated; this is communicated with our operational teams to aid in planning. When an actual AIM trigger is activated, we confirm with the Operations team that the abstraction at the respective source(s) is below the AIM trigger.

For 2022-23 and the rest of the AMP7 to date, we have calculated and tracked AIM performance on a monthly basis. We undertake the assessment and provide QA of the data, so we have the ability to screen out erroneous data that may impact the calculation (both on our abstraction data and the river flow data provided by the Environment Agency). Overall, the river flow and abstraction data are classed as highly reliable and accurate. The river flow data from the EA must be validated within a certain period, as specified by the data validation category. A grading is provided for each flow value by the EA and any suspect data is flagged. The daily abstraction is routinely checked and the instantaneous flow data is available on our telemetry system for additional checks if required. The abstraction flowmeters should be accurate within ±5% as these are the parameters required to pass the flow meter calibration.

The same process will be followed in AMP8 and there are no interdependencies between this metric and other lines or tables.

Data table (OUT10)

OUT10 outlines the global AIM performance score from the financial year 2016-17 to 2034-35. A forecast is provided from 2023-24 to 2034-35. Sites 1-16 listed in the data table correspond to the list of sources provided in the Ofwat definition document. Due to the moving AIM baseline at site 13 (Slip End source), the value in cells M57 and N57 have been adjusted such that the calculation in cells M60 and N60 represents the actual scores in 2018-19 and 2019-20. In other words, an AIM baseline of 5.18 Ml/d and the actual number of days below the trigger have been applied however the average abstraction figure has been adjusted. In addition, an AIM baseline of 5.18 Ml/d was assumed from 2023-24 to 2034-35 for Slip End.

It should also be noted that when the AIM trigger was not active, the average abstraction figure when flow was beneath the trigger does not apply. However, a value of zero has been inputted into the relevant cells so that no cells are left blank. Site 12 (Whitehall source) was not assessed for AIM in 2017-18 because a sustainability reduction was implemented mid-year. As described above, a value of zero was inputted into cells L53-L55 so that no cells were left blank.

OUT10.66-69: Embedded greenhouse gas emissions

Not applicable to Affinity Water.

OUT10.70-74: Low carbon concrete

Not applicable to Affinity Water

OUT10.75-81: Low Pressure

We have adapted historical reporting to the updated definition.

- OUT10.75 - Total number of properties covered by critical point loggers at year end has been calculated using our current logger coverage against forecast property numbers.
- OUT10.81 – we have calculated this figure using our baseline performance alongside our benefits delivery plan for Low Pressure. We have used this to back calculate OUT10.78.
- OUT10.77 - We have calculated the total number of data or logger error minutes historically and have applied the 5% uplift to OUT10.78.

OUT10.82: Streetworks collaboration

Not applicable to Affinity Water

OUT10.83-85: Water softening

Not applicable to Affinity Water