

AffinityWater

AFW19 – Price Control Deliverables



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1. Introduction to PCDs

The following appendix provides an overview of the Price Control Deliverables we propose for our enhancement investments. These PCDs have been drafted in line with Ofwat guidance and will protect our customers against delayed or non-delivery of the outcomes (or outputs where more appropriate) enhancement investments are intended to deliver. PCDs cover over 70% of the value of our enhancement investments for PR24, with the remainder largely covered by the RAPID process for strategic regional solutions.

Each PCD is laid out within section 4, following a standard structure based on existing PCDs in place for Green Recovery and Accelerated Infrastructure Projects, with the following sub-sections:

- A brief introduction to the enhancement scheme and the rationale for the design of the PCD.
- Detailed information on how the output will be measured and the conditions of the allowance.
- Payment profile per year across the specific deliverables for that scheme. We recognise Ofwat would prefer an aggregated view of the unit rates and payment, but in some cases they differ significantly. Therefore, we provide a detailed payment profiles of each year of AMP8 to avoid paying too much or little to our customers in case of not delivering our proposed targets.
- Summary table with our reporting measures.
- Propose whether a time incentive should be applicable for the scheme.

2. How we made our assessment for PCDs

We have assessed our enhancement cases to determine where PCDs should be included to protect customers, based upon Ofwat guidance. Our assessment includes two stages:

1. Is a PCD required?
 - i. Assessment of materiality, following aggregation of schemes in line with Appendix 3 of the guidance
 - ii. Assessment of ODI coverage, to determine whether this provides sufficient protection to no longer require a PCD
 - iii. Consideration of whether investment is required only in future adverse scenarios (i.e., a potentially regretted investment)
 - iv. Level of regulatory scrutiny, to ensure all enhancement investments without existing regulatory scrutiny are covered by a PCD.
2. What is the required value of the PCD?
 - i. Assess suitability of PCD unit based on outcomes being delivered, or outputs where outcomes cannot be accurately measured in a timely manner
 - ii. Assess the PCD value based on the level of existing scrutiny applied to the investment, ensure more is returned to customers than the value of the scheme in the event of non-delivery.

3. Is a time incentive required for the PCDs?
 - i. Assessment of ODI coverage, to determine whether this provides sufficient protection.

2.1 Result of PCD requirement assessment

After evaluating our enhancement cases, we have excluded several small schemes from our PCD framework related to our WINEP, Lead & SEMD enhancement programmes based on low materiality, given these are below £17m even when aggregated. In addition, we have excluded Biodiversity, Water Network Resilience to Climate Change (Network Calming) Calming and Greenhouse gas reduction as these are protected by ODIs.

Whilst our investment plan will deliver significant benefit to our customers over the longer term, only the 'Water Network Resilience to Climate Change (Network Calming)' scheme delivers sufficient in-period performance commitment benefit to offer full customer protection for non-delivery within the period through ODIs. We therefore do not propose a PCD for this scheme on that basis.

2.2 Result of PCD valuation assessment

The total value of each PCD was set as greater than that of the scheme value for all PCDs where ODIs would not already ensure more is returned to customers within the period in the event of non-delivery. Smart Metering is the only scheme not to have a PCD set at greater than scheme value on this basis. All other PCDs values have been set at 1% above the total scheme value for schemes of lower regulatory scrutiny and 0.5% for high scrutiny. For example, resilience enhancements have been set at 1% above, whereas WINEP investments, which are closely monitored by the Environment Agency, have been set at 0.5% above.

2.3 Result of Time incentives assessment

None of the investments requiring PCDs have sufficient ODI coverage to provide incentive for timely delivery above the Ofwat minimum of 3.5% of total scheme value per annum. We therefore propose time incentives of 3.5% per annum across all PCDs, returning costs to customers where there are delays.

We propose these time incentives to be symmetrical, providing the same 3.5% of scheme cost per annum as reward for early delivery as penalty for the delay. The rationale for this is twofold, to incentivise early delivery and therefore deliver greater value (beyond that reflected within ODIs) to customers through the 2025-30 period, and to begin to address the asymmetry which we have observed in our risk analysis. As laid out in Appendix AFW20 Annex E, with the support of Economic Insight we have assessed an indicative RoRE risk impact of PCDs as developed under the current guidance, showing the impact to be heavily negatively skewed. We estimate the RoRE range impact of PCDs to be between -1.68% and -0.54%, based upon the notional structure. Given the materiality of this impact, we believe a symmetrical time incentive can help balance overall risk and reward for PCD, and

would welcome an opportunity to engage further on these matters further with Ofwat through the determination process.

3. Overview of our PCDs

The following table provides an overall view of the PCD we propose for PR24. This includes total expenditure covered by our PCDs, the deliverable unit (outcomes or output) and unit costs. We also provide information on our coverage to ODIs, based upon the benefit delivered and ODI rate. This informs our decision whether to propose a time incentive mechanism.

Table 1. Overview of PCDs

PCD Grouping	Scheme	Operating Expenditure (£m)	Total Expenditure (£m) to be assessed within PCDs	PCD unit	PCD unit to be delivered	AMP8 ODI Coverage (£m)	Eligible for PCD?	Does symmetrical 3.5% time incentive apply	PCD unit cost after applying inflator adjustment (£)	Time incentive reward/penalty (+/-3.5%) (£m)
PCDW11	WRMP Schemes	HS2 Non SESRO	6.14	MI/d	15.00	N/A	Yes	Yes	411,581	0.22
PCDW11		Tappington South	0.66	MI/d	0.70				943,265	0.02
		Totals	6.80	MI/d	15.70				435,287	0.24
PCDW11	Connect 2050	Transfer water from Egham to Harefield inc. BPS upgrade	62.17	MI/d	38	N/A	Yes	Yes	1,644,311	2.19
PCDW11		Grove Park Link BS (Grove Licence increase)	3.04	MI/d	25				122,253	0.11
PCDW11		Midway North BPS upgrade	1.93	MI/d	8				242,953	0.07
PCDW11		Hadham Mill 20 MI cells	6.90	MI	20				346,568	0.24
PCDW16		Hills 10MI Cell	6.83	MI	10				685,955	0.24
PCDW16		Increase DO Egham/Chertsey/Walton	7.70	MI/d	40				193,513	0.27
		Total	88.57	Various	141				628,173	3.12
PCDW12		Smart metering	New optant meter installation for existing customers	0.12	No. of meters				942	7.69
PCDW13	New selective meter installation for existing customers		32.40	No. of meters	67,657	478.84	1.13			
PCDW14	New business meter installation for existing customers		0.11	No. of meters	250	454.55	0.00			
PCDW15	Residential meters renewed		82.56	No. of meters	288,563	286.09	2.89			
PCDW16	Business meters renewed		9.31	No. of meters	19,750	471.47	0.33			
	Total		124.50	No. of meters	377,162	330.09	4.36			
PCDW14	Raw Water deterioration	Iver	45.48	MI/d	225.00	N/A	Yes	Yes	203,124	1.60
PCDW14		Egham	14.22	MI/d	120.06				119,053	0.50
PCDW14		Ardleigh	0.65	MI/d	8.10				80,832	0.02
PCDW14		Bowring and Baldock Road	6.90	MI/d	5.50				1,261,051	0.24
PCDW14		Holywell	0.28	MI/d	9.39				29,725	0.01
PCDW14		Wheathampstead	0.04	MI/d	0.00				17,759,858	0.00
PCDW14		Blackford	10.53	MI/d	16.00				661,403	0.37

PCDW14		Broome	4.81	MI/d	2.28				2,119,901	0.17
PCDW14		Kingsdown	4.81	MI/d	3.17				1,524,724	0.17
PCDW14		Storford	1.94	MI/d	1.75				1,114,114	0.07
		Totals	89.65	MI/d	391.25				230,288	3.15
PCDW5	Sustainability reductions	Sustainability Reduction	42.78	MI	15.06	N/A	Yes	Yes	2,854,730	1.50
PCDW5		No deterioration licence capping	54.40	MI	5.33				10,256,784	1.91
PCDW5		ADO relocation	28.17	MI	14.11				2,006,593	0.99
		Totals	125.35	MI	34.50				3,651,418	4.41
PCDW5	Catchment and nature-based solutions	Beane Flagship River Restoration	1.14	Metres	1,440	N/A	Yes	Yes	794	0.04
PCDW5		Beane Catchment Management	1.51	Hectares	3,199				474	0.05
PCDW5		Colne Operational Catchment River Restoration	3.17	Metres	3,600				885	0.11
PCDW5		Colne Catchment Management	0.99	Hectares	2,047				484	0.03
PCDW5		Dour and Little Stour River Restoration	0.77	Metres	1,080				721	0.03
PCDW5		Dour and Little Stour Catchment Management	0.84	Hectares	1,545				547	0.03
PCDW5		Lee Operational Catchment River Restoration	2.97	Metres	3,960				753	0.10
PCDW5		Lee Catchment Management	1.35	Hectares	2,843				477	0.05
PCDW5		Cam & Ivel Operational Catchment River Restoration	3.46	Metres	4,680				743	0.12
PCDW5		Cam & Ivel Catchment Management	0.51	Hectares	990				513	0.02
		Totals Metres	11.51	Metres	14,760				784	0.40
		Totals Hectares	5.19	Hectares	10,624				491	0.18
PCDW16		Resilience	Single Points of failure	5.14	Properties protected				114,259	N/A
PCDW16	Floods alleviation		1.06	Sites protected	6.00	N/A	179,112	0.04		
PCDW16	Water Network Resilience to Climate Change (Network calming)		8.78	Leakage	3.37	6.67	No - ODI exposure	No	N/A	N/A
	Totals		14.99	Various	N/A	N/A		N/A	0.22	
PCDW4	Drinking Water Protected areas	Lower Thames DrWPA	1.92	Sq. km	18.93	N/A	No, it does not pass the materiality threshold.	No	101,875	0.07
PCDW4		Karstic ground water	1.52	Sq. km	4.65				329,256	0.05
		Totals	3.44	Sq. km	23.58				146,724	0.12
PCDW1		Biodiversity	7.26	N/A	N/A	N/A	No, it does not pass the	No	N/A	N/A
PCDW3		Invasive non-native species	2.42	N/A	N/A				N/A	N/A

	Biodiversity and conservation	Totals	9.68	N/A	N/A		materiality threshold.		N/A	N/A
PCDW11	WRMP Major schemes	SESRO (Additional line 1 - Strategic regional resource solutions)	29.21	Gate 4	N/A	N/A	No, the RAPID regulatory framework already provides a customer protection mechanism.	No	N/A	N/A
PCDW11		GUC (Additional line 1 - Strategic regional resource solutions)	9.75	Gate 4	N/A				N/A	N/A
PCDW11		Thames to Affinity Transfer (Additional line 1 - Strategic regional resource solutions)	6.68	-	N/A				N/A	N/A
		Totals	45.64	N/A	N/A				N/A	N/A

4. Our PCDs in detail

4.1 Connect 2050

4.1.1 Summary of the Scheme

Our supply 2050 -a AMP8 programme represents our comprehensive strategic approach of our investment based on three costs driver areas:

Supply demand balance improvements delivering benefits starting from 2031 comprises of the following programmes:

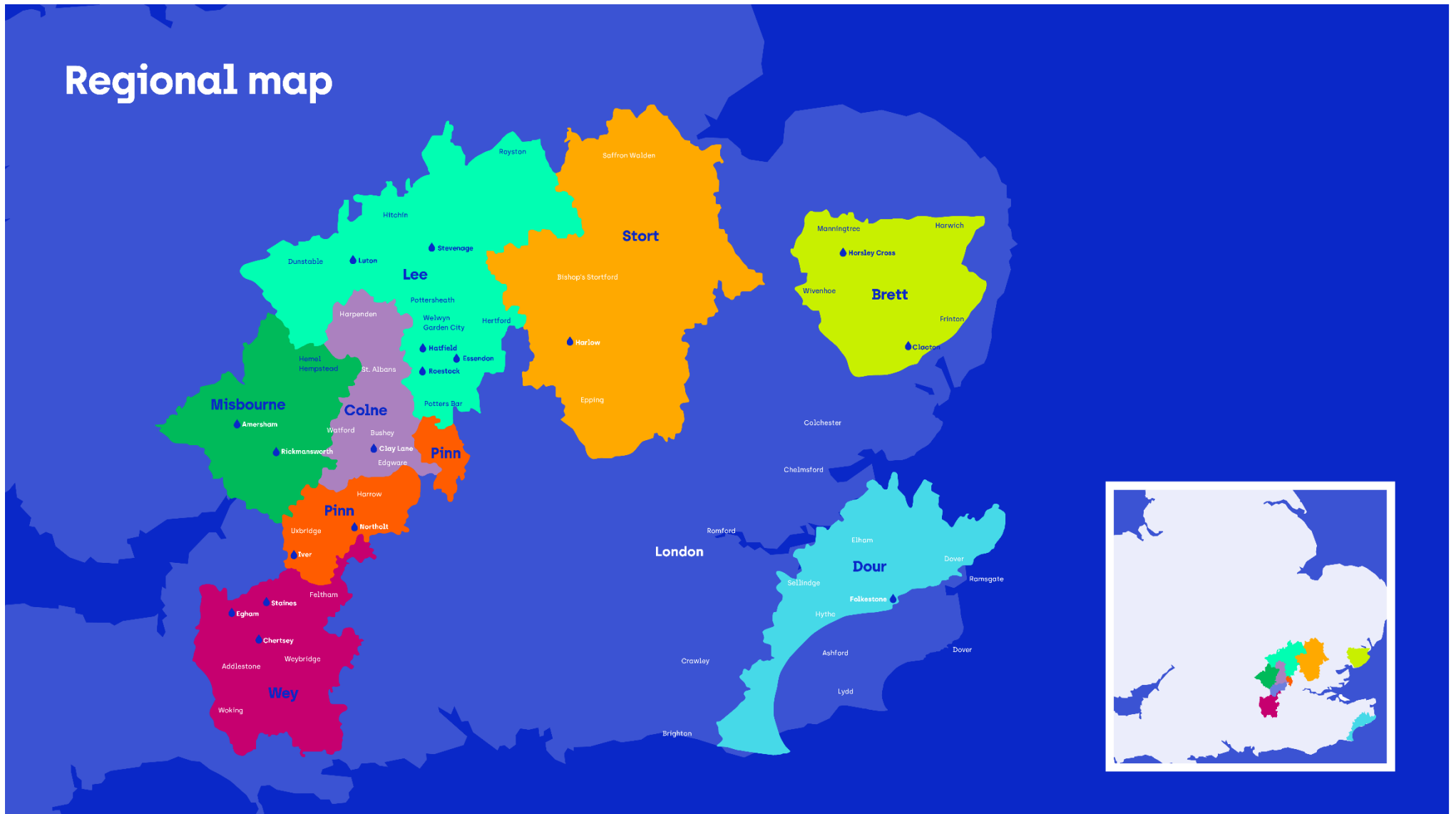
- WRZ6 and WRZ1- Transfer water from Egham to Harefield including BPS upgrade.
- WRZ2 to WRZ1 - Grove Park Link BS (Grove Licence increase)
- WRZ6 and WRZ4 - Midway North BPS upgrade.
- Increase deployable output in Egham, Chertsey, and Walton

Resilience includes the following programmes:

- WRZ5 - Hadham Mill 20 MI cells
- WRZ7 - Hills 10MI Cell.

Our WRZ zones are detailed in figure 1, 'our WRZ locations' for context on their geography.

Figure 1. Our WRZ locations



4.1.2 The PCD

Our PCD will relate to our Connect 2050 activities. The table below provides a summary of our PCD:

Scheme delivery	
Description	<ul style="list-style-type: none"> This programme of work will provide additional transfer capacity between Hydraulic Demand Zones (HDZs) and will be delivered by 31 March 2030. The programme has been developed as part of our WRMP and aligns with and supports the sustainable reductions that forms part of our WINEP. The delivery of this programme is, therefore, critical to delivering both WRMP and WINEP. The benefits from this programme are to ensure future supply and to meet our WRMP objectives and targets; to enable the targeted sustainability reductions to be achieved. The programme will also support other performance commitments including Low Pressure and Interruption to Supply.
Output measurement and reporting	<ul style="list-style-type: none"> This programme of work will provide additional transfer capacity between Hydraulic Demand Zones (HDZs) and will be delivered by 31 March 2030. The programme has been developed as part of our WRMP and aligns with and supports the sustainable reductions that forms part of our WINEP. The delivery of this programme is, therefore, critical to delivering both WRMP and WINEP. The benefits from this programme are to ensure future supply and to meet our WRMP objectives and targets; to enable the targeted sustainability reductions to be achieved. The programme will also support other performance commitments including Low Pressure and Interruption to Supply.
Assurance	We will report on progress annually as part of our Annual Performance Report and will be subject to full third-party assurance.
Conditions of allowance	We have set a target in MI/d for the whole AMP and a cost to achieve this, then set a cost per MI/d.

4.1.3 Summary of Deliverables

Table 1 below displays the total expenditure (totex), the deliverables and unit costs we propose for this deliverable across our different drivers. We are delivering additional protections to customers to ensure they receive the benefits we have agreed in our business plan by setting 0.05% uplift adjustment on our payment for our customers.

Table 1. Connect 2050 - expenditure and activity – AMP8

Driver	Zone	Totex Expenditure (£m)	Mld	PCD unit cost (£)
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Interconnectors delivering benefits in 2025-2030	WRZ6 and WRZ1- Transfer water from Egham to Harefield including BPS upgrade	62.48	38	1,644,311
	WRZ2 to WRZ1 - Grove Park Link BS (Grove Licence increase)	3.06	25	122,253
	WRZ6 and WRZ4 - Midway North BPS upgrade.	1.94	8	242,953
Supply demand balance improvements delivering benefits starting from 2031	Increase deployable output in Egham, Chertsey, and Walton	7.74	40	193,513
Totals	Totals	75.22	111.00	677,696
Resilience	WRZ5 - Hadham Mill 20 MI cells	6.93	20	346,568
	WRZ7 - Hills 10MI Cell	6.86	10	685,955
Totals	Totals	13.79	30.00	459,697

Given that our unit costs and activity profile differ significantly between our drivers, we present detailed payment profile in table 3. This is to avoid the risk paying too much or too little to our consumers in the case of not delivering our commitments.

We have assumed the unit cost per each driver is the same between years of AMP8. We also assumed all these scheme deliverables will be backloaded for year 5 of the AMP.

Table 2. Payment profile

Site	Payment information	Year 1 (31/03/2026)	Year 2 (31/03/2027)	Year 3 (31/03/2028)	Year 4 (31/03/2029)	Year 5 (31/03/2030)	Totals
WRZ6 and WRZ1- Transfer water from Egham to Harefield including BPS upgrade	Unit delivered (Mld)	0.00	0.00	0.00	0.00	38.00	38.00
	Unit rate (£)	1,644,311	1,644,311	1,644,311	1,644,311	1,644,311	1,644,311
	Total payment (£m)	0.00	0.00	0.00	0.00	62.48	62.48
WRZ2 to WRZ1 - Grove Park Link BS (Grove Licence increase)	Unit delivered (Mld)	0.00	0.00	0.00	0.00	25.00	25.00
	Unit rate (£)	122,253	122,253	122,253	122,253	122,253	122,253
	Total payment (£m)	0.00	0.00	0.00	0.00	3.06	3.06
	Unit delivered (Mld)	0.00	0.00	0.00	0.00	8.00	8.00

WRZ6 and WRZ4 - Midway North BPS upgrade.	Unit rate (£)	242,953	242,953	242,953	242,953	242,953	242,953
	Total payment (£m)	0.00	0.00	0.00	0.00	1.94	1.94
Increase deployable output in Egham, Chertsey, and Walton	Unit delivered (Mld)	0.00	0.00	0.00	0.00	40.00	40.00
	Unit rate (£)	193,513	193,513	193,513	193,513	193,513	193,513
	Total payment (£m)	0.00	0.00	0.00	0.00	7.74	7.74
WRZ5 - Hadham Mill 20 MI cells	Unit delivered (MI)	0.00	0.00	0.00	0.00	20.00	20.00
	Unit rate (£)	346,568	346,568	346,568	346,568	346,568	346,568
	Total payment (£m)	0.00	0.00	0.00	0.00	6.93	6.93
WRZ7 - Hills 10MI Cell	Unit delivered (MI)	0.00	0.00	0.00	0.00	10.00	10.00
	Unit rate (£)	685,955	685,955	685,955	685,955	685,955	685,955
	Total payment (£m)	0.00	0.00	0.00	0.00	6.86	6.86
Totals (MID)	Unit delivered (Mld)	0.00	0.00	0.00	0.00	111.00	111.00
	Unit rate (£)	677,696	677,696	677,696	677,696	677,696	677,696
	Total payment (£m)	0.00	0.00	0.00	0.00	75.22	75.22
Totals (MI)	Unit delivered (MI)	0.00	0.00	0.00	0.00	30.00	30.00
	Unit rate (£)	459,697	459,697	459,697	459,697	459,697	459,697
	Total payment (£m)	0.00	0.00	0.00	0.00	13.79	13.79

4.1.4 Summary of reporting measures

Additional reporting requirements		
Metric	Unit	Further comments
Additional flow produced at the site	MI/d	Additional amount for WTW sites could be achieved, as demonstrated by the design and capacity of the refurbished, upgraded, or new treatment processes.
Additional transfer for capacity Interconnectors delivering benefits in 2025-2030	MI/d	Additional amount for transfer capacity for Water Resource Zone Interconnectors
Additional storage capacity	MI	Additional storage capacity for Clean Water Storage Reservoir

4.1.5 Time incentives

We consider a time incentive is applicable for this enhancement case as there is insufficient ODI coverage on this scheme within the period. We propose a symmetrical time incentive rate of 3.5% per annum.

4.2 Smart Metering

4.2.1 Summary of the Scheme

The main objective of this scheme is to deliver our demand management strategy. The installation of smart new meters will promote reductions in the demand for water. This is a critical element of our Water Resources Management Plans (WRMPs) strategy and will underpin all future supply-side interventions, enabling us to reach our challenging and ambitious regulatory targets. Our smart metering programme is linked with three of our performance commitments:

- Achieving a per-capita consumption of 110l/h/d
- Reducing business demand by 15%
- Reducing leakage by 50% by 2050.

The Smart Metering Programme will be a significant step change in terms of number of meters installed, technologies used, and volume of meter readings received.

We will introduce new customer journeys, upgrade our IT systems, and leverage the wealth of new data to enhance our understanding of our network, ultimately boosting efficiency. This transformation will reshape our current processes and demand management activities, as the smart meter data will empower us to adopt a more precise and effective approach.

We recognise there is going to be a significant increase in the required funding to deliver these activities. Therefore, we propose a price control deliverable (PCD) to protect our consumers against these investments.

4.2.2 The PCD

Our PCD will relate to our smart metering programme activities. The table below provides a summary of our PCD:

Scheme delivery	
Description	We will begin our smart metering programme by installing 377,000 household and non-household smart meters in AMP 8. This comprises our compulsory (UMP), replacement and optant meter installation programmes. Data from the smart meters will help us achieve our targets through behavioural change, water efficiency initiatives, but also from finding and fixing both internal plumbing losses and supply pipe leakage.

<p>Output measurement and reporting</p>	<p>Smart meters are defined for the purpose of this scheme as meters that use advanced metering infrastructure (AMI) technology that enables them to be read remotely through an integrated system of smart meters, communications networks, and data management systems. This system will comply with the company's obligations under competition law and have the capability to:</p> <ul style="list-style-type: none"> • Record consumption data and comply with the appropriate regulations governing cold water meters. • Allow ready access to this data by customers (directly or via contractors/agents) and the company at near real time, with data updated daily at a minimum, and made available at a minimum granularity of 1-hour intervals. • Enable the capability for automated leak alarms to be communicated to the customer and company. • Transfer consumption data to the company remotely without requiring access to the meter or property. <p>We define existing meters as meters that were installed in the Affinity Water network prior to 1 April 2025 without smart meter capability. A smart meter can only be counted once in the five-year period for a property. For example, if a smart meter fails within the five years and is replaced, it cannot be recounted towards this programme.</p> <p>The measurement of meters in this scheme includes the:</p> <ul style="list-style-type: none"> • Installation of new smart meters for existing unmeasured properties through our Universal Metering Programme. • Installation of new smart meters for existing unmeasured properties at the request of a customer through our Optant Metering Programme. • Replacement of existing meters with new smart meters either proactively or reactively through our Replacement Metering Programme. • Conversion of AMR meters installed in AMP7 to smart meters.
<p>Assurance</p>	<p>During AMP8, we will use a third-party that will quality-assure to ensure our work is robust and reliable.</p> <p>We will report on progress annually as part of our Annual Performance Report and will be subject to full third part assurance.</p>
<p>Conditions of allowance</p>	<p>We will fund each meter installation based on a unit cost allowance (including a proportion of support costs) up to a maximum number of installations completed by 31 March 2030. Our unit rates are shown in the table below. If the company delivers less than the maximum number of meters, we will calculate any cost sharing based on a proportioned 'target cost'.</p>

4.2.3 Summary of deliverables

Table 1 below displays the total expenditure (totex), number of smart meters and unit costs we propose for this deliverable across different smart meter categories.

<p>Table 1. Smart metering - expenditure and activity – AMP8 Meters category</p>	<p>Totex Expenditure (£m)</p>	<p>Number of meters delivered</p>	<p>PCD unit cost (£)</p>
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New optant meter installation for existing customers	0.12	942	126.31
New selective meter installation for existing customers	32.40	67,657	478.84
New business meter installation for existing customers	0.11	250	454.55
Residential meters renewed	82.56	288,563	286.09
Business meters renewed	9.31	19,750	471.47
Totals	124.50	377,165	330.09

Table 2 below displays a delivery profile of the number of smart meters across the categories described above.

Table 2. Delivery profile – smart metering programme

Meters category	Year 1 (31/03/2026)	Year 2 (31/03/2027)	Year 3 (31/03/2028)	Year 4 (31/03/2029)	Year 5 (31/03/2030)	Totals
New optant meter installation for existing customers	275	250	167	167	83	942
New selective meter installation for existing customers	13,531	13,531	13,531	13,531	13,531	67,657
New business meter installation for existing customers	50	50	50	50	50	250
Residential meters renewed	57,713	57,713	57,713	57,713	57,713	288,563
Business meters renewed	2,650	3,250	4,050	4,900	4,900	19,750
Totals	74,219	74,794	75,511	76,361	76,277	377,162

As we are proposing different unit rates for our smart meters, we present detailed profile of proposed payments across each category. Table 3 shows our aggregated payment profile across AMP 8.

	Total payment (£m)	16.51	16.51	16.51	16.51	16.51	82.56
Business meters renewed	Unit delivered (Number of meters)	2,650	3,250	4,050	4,900	4,900	19,750
	Unit rate (£)	471.47	471.47	471.47	471.47	471.47	471.47
	Total payment (£m)	1.25	1.53	1.91	2.31	2.31	9.31
Totals	Unit delivered (Number of meters)	74,219	74,794	75,511	76,361	76,277	377,162
	Unit rate (£)	330.09	330.09	330.09	330.09	330.09	330.09
	Total payment (£m)	24.30	24.58	24.94	25.34	25.33	124.50

There is an expected improvement in performance. The impact on PCC, leakage and business demand activities is presented in table 4.

Table 4. Smart metering – Benefits during AMP8

PCs	Unit	Year 1 (31/03/2026)	Year 2 (31/03/2027)	Year 3 (31/03/2028)	Year 4 (31/03/2029)	Year 5 (31/03/2030)	Totals
PCC	l/h/d	1.26	1.26	1.26	1.26	1.26	6.30
Leakage	MI/d	0.49	0.42	0.28	0.33	0.31	1.83
Business demand	MI/d	0.63	0.11	0.00	0.00	0.08	0.82

Our exposure to ODI penalties is presented in table 5.

Table 5. Smart metering – ODI exposure (£m)

ODI exposure	Unit	Year 1 (31/03/2026)	Year 2 (31/03/2027)	Year 3 (31/03/2028)	Year 4 (31/03/2029)	Year 5 (31/03/2030)	Totals
PCC	£m	1.78	1.78	1.78	1.78	1.78	8.90
Leakage	£m	0.18	0.15	0.10	0.12	0.11	0.66
Business demand	£m	0.23	0.04	0.00	0.00	0.03	0.30

4.2.4 Summary of Reporting Measures

Table 6 below displays the additional reporting requirements we will comply with.

Table 6. Reporting measures

Additional reporting requirements		
Metric	Unit	Further comments
HH - Number of new optant and selective meter installations	68,602	As reported in future APRs
HH - Number of replacements and upgrades	288,563	As reported in future APRs
NHH - Number of new meter installations and replacements	20,000	As reported in future APRs
Leakage savings from meters installed in this programme	1.82 MI/d	Increased awareness time of continuous flow alarms from daily alarm data
Usage savings from meter installations – includes both direct usage savings and reduction in customer internal losses/wastage	25.7 MI/d	The following sources will be used for reliable and accurate data:

		<ul style="list-style-type: none">• From our Behavioural Change campaigns and activities such as our Save Our Streams campaign• From net behavioural change from customers using less water and/or fixing leaks after our proactive engagement• From Home Water Efficiency Checks (HWECs)• From us fixing leaks at customers' properties
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4.2.5 Time Incentive

We consider a time incentive is applicable for this enhancement case as there is insufficient ODI coverage on this scheme within the period. We propose a symmetrical time incentive rate of 3.5% per annum.

4.3 Raw Water Deterioration

4.3.1 Summary of the Scheme

The main objective of investment in this scheme is to comply with the Drinking Water Inspectorate (DWI) requirements. These investments will enable us to improve our resilience and significantly reduce the probability of high consequence events. We have identified a list of water treatment works requiring the following investment:

- *To address the risk from the presence of Cryptosporidium Oocysts in the River Thames.* Ingestion of these oocysts by humans can lead to severe diarrhoea and vomiting, which can be life-threatening for individuals with a weakened immune system. **This investment applies to the following WTWs: Iver, and Egham.**
- *To reduce the amount of the presence of PFAS (Perfluoroalkyl and Polyfluoroalkyl Substances) in raw water in line with the revised guidance published by the Drinking Water Inspectorate (DWI).* PFAS are compounds found in fire-fighting foams and anti-staining coatings for carpets and textiles, among other uses. There are multiple PFAS compounds present in some of the groundwater aquifers from which we abstract water for supply to customers. This is usually the result of diffuse or point-source pollution events which took place in the past, although may also be related to ongoing activities. PFAS are sometimes referred to as 'forever chemicals' because of their persistence in the environment. **This applies to the following WTWs: Ardleigh, Bowring and Baldock Road, Blackford and Holywell.**
- *To carry out research into the effectiveness of ion-exchange resins for the removal of PFAS (Perfluoroalkyl and Polyfluoroalkyl Substances) in raw water in line with the revised guidance published by the Drinking Water Inspectorate (DWI).* We will compare performance of the resin in a small-scale pilot plant. **This applies to the following WTW: Wheathampsted**
- *To address the risk from Nitrate (NO₃), a soluble form of nitrogen, that is naturally present in the environment from both natural and anthropogenic sources.* Water abstracted from rivers and boreholes in agricultural areas often contain nitrates. Very high amounts of nitrate in drinking water can be cause illness. The DWI sets the safe nitrate concentration as NO₃ in drinking water at a maximum of 50 mg/l, but, due to limitations of monitoring equipment, our current management strategy is to cease abstraction from a source when a monitor reaches a trigger of 47 mg/l of NO₃. **This applies to the following WTWs: Broome and Kingsdown, and to the Stortford supply area.**

4.3.2 The PCD

Our PCD will relate to our deployable output flow with the exception of Stortford which relates to the capacity of a new blend main. The table below provides a summary of our PCD:

Scheme delivery	
Description	

	<p>To mitigate our water quality risk from increasing Cryptosporidium Oocysts, PFAS and Nitrate trends at our WTWs totalling 391.25 Ml/d under all reasonably foreseeable raw water quality conditions.</p> <p>This will be achieved through implementation of treatment or blending arrangements, or via some other means, while ensuring that treated water delivered to consumers complies with DWI regulatory requirements.</p>
Measurement	The success measure will be compliance with the DWI Notice, online and grab sample water quality data indicating compliance with regulatory requirements and demonstrable production of water at target flow.
Assurance	<p>There will be third party assurance of the number we will report during the AMP.</p> <p>We will report on progress annually as part of our Annual Performance Report and will be subject to full third part assurance.</p>
Conditions of allowance	<ul style="list-style-type: none"> We will develop our strategies for managing the water quality risk on multiple sites and implement the changes by 31st March 2030. The costs for the investments will be based upon bottom-up cost estimations from an external consultancy agency who are supporting on this project. If we spend less money than anticipated while still delivering the same outcome for consumers, then we will calculate any cost sharing based on a proportioned 'target cost'.

4.3.3 Summary of Deliverables

Table 1 below displays the total expenditure (totex), units delivered (in Ml/d) and unit costs we propose for this deliverable across our different WTWs. Our capital expenditure is associated with the deliverability hence our unit costs are based on capex. We also present our operating expenditure for transparency. We are delivering additional protections to customers to ensure they receive the benefits we have agreed in our business plan by setting 0.05% inflator adjustments on our payment for our customers.

Table 1. Raw water deterioration - expenditure and activity – AMP8

Water treatment site	Operating Expenditure (opex) (£m)	Capital Expenditure (capex) (£m)	MLD	PCD unit cost (£) - capex
Iver	0.99	45.70	225.000	203,124
Egham	0.96	14.29	120.060	119,053
Ardleigh	0.00	0.65	8.100	80,832
Bowring and Baldock Road	0.07	6.94	5.500	1,261,051
Holywell	0.78	0.28	9.390	29,725
Wheathampsted	0.46	0.04	0.002	17,759,858
Blackford	0.33	10.58	16.000	661,403
Broome	0.21	4.83	2.280	2,119,901

Kingsdown	0.34	4.83	3.170	1,524,724
Supply area				
Storrford	0.03	1.95	1.750	1,114,114
Totals	4.16	90.10	391.252	230,288

Table 2 below displays a PCD payments profile of the WTWs listed above. We assume our costs correlate proportionally to our delivery profile. Table 2 shows that our programme will be delivered at a different pace at each site across the five years of the AMP8. For instance, most of the programme of work at Holywell WTW will be delivered in year 1 of AMP8 while the programmes of work at Iver and Egham WTWs will be mostly delivered during the first three years of AMP8. Conversely, most of the activity at Broome WTW will be carried out towards the end AMP8.

Table 2. PCD payments for each site (all figures presented are in £m)

Water treatment site	Year 1 (31/03/2026)	Year 2 (31/03/2027)	Year 3 (31/03/2028)	Year 4 (31/03/2029)	Year 5 (31/03/2030)	Totals
Iver	18.28	18.28	9.14	0.00	0.00	45.70
Egham	5.72	5.72	2.86	0.00	0.00	14.29
Ardleigh	0.33	0.33	0.00	0.00	0.00	0.65
Bowring and Baldock Road	0.04	0.00	1.17	5.72	0.00	6.94
Holywell	0.28	0.00	0.00	0.00	0.00	0.28
Wheathampsted	0.04	0.00	0.00	0.00	0.00	0.04
Blackford	0.77	4.61	5.20	0.00	0.00	10.58
Broome	0.00	0.00	1.56	3.27	0.00	4.83
Kingsdown	1.56	3.27	0.00	0.00	0.00	4.83
Supply Area						
Storrford	1.95	0.00	0.00	0.00	0.00	1.95
Totals	28.96	32.21	19.93	9.00	0.00	90.10

Given that our unit costs and activity profile differ significantly between our WTWs, we present detailed payment profile in table 3. This is to avoid the risk paying too much or too little to our consumers in the case of not delivering our commitments.

We have assumed the unit cost for each WTWs is apportioned evenly across each year of AMP8. Then we apportioned our level of activity to be delivered throughout each year of the AMP8 per each WTW using our internal totex numbers as basis.

Table 3. PCD payment profile

Site	Payment information	Year 1 (31/03/2026)	Year 2 (31/03/2027)	Year 3 (31/03/2028)	Year 4 (31/03/2029)	Year 5 (31/03/2030)	Totals
Iver	Unit delivered (MLD)	0.00	0.00	225.00	0.00	0.00	225.00
	Unit rate	203,124.27	203,124.27	203,124.27	203,124.27	203,124.27	203,124.27
	Total payment (£m)	18.28	18.28	9.14	0.00	0.00	45.70
Egham	Unit delivered (MLD)	0.00	0.00	120.06	0.00	0.00	120.06
	Unit rate	119,052.93	119,052.93	119,052.93	119,052.93	119,052.93	119,052.93
	Total payment (£m)	5.72	5.72	2.86	0.00	0.00	14.29
Ardleigh	Unit delivered (MLD)	0.00	8.10	0.00	0.00	0.00	8.10
	Unit rate	80,831.78	80,831.78	80,831.78	80,831.78	80,831.78	80,831.78
	Total payment (£m)	0.33	0.33	0.00	0.00	0.00	0.65
Bowring and Baldock Road	Unit delivered (MLD)	0.00	0.00	0.00	5.50	0.00	5.50
	Unit rate	1,261,050.61	1,261,050.61	1,261,050.61	1,261,050.61	1,261,050.61	1,261,050.61
	Total payment (£m)	0.04	0.00	1.17	5.72	0.00	6.94
Holywell	Unit delivered (MLD)	9.39	0.00	0.00	0.00	0.00	9.39
	Unit rate	29,724.99	29,724.99	29,724.99	29,724.99	29,724.99	29,724.99
	Total payment (£m)	0.28	0.00	0.00	0.00	0.00	0.28
Wheathampsted	Unit delivered (MLD)	0.002	0.000	0.000	0.000	0.000	0.002
	Unit rate	17,759,857.50	17,759,857.50	17,759,857.50	17,759,857.50	17,759,857.50	17,759,857.50
	Total payment (£m)	0.04	0.00	0.00	0.00	0.00	0.04
Blackford	Unit delivered (MLD)	0.00	0.00	16.00	0.00	0.00	16.00
	Unit rate	661,403.19	661,403.19	661,403.19	661,403.19	661,403.19	661,403.19
	Total payment (£m)	0.77	4.61	5.20	0.00	0.00	10.58
Broome	Unit delivered (MLD)	0.00	0.00	0.00	2.28	0.00	2.28
	Unit rate	2,119,900.72	2,119,900.72	2,119,900.72	2,119,900.72	2,119,900.72	2,119,900.72
	Total payment (£m)	0.00	0.00	1.56	3.27	0.00	4.83
Kingsdown	Unit delivered (MLD)	0.00	3.17	0.00	0.00	0.00	3.17
	Unit rate	1,524,723.54	1,524,723.54	1,524,723.54	1,524,723.54	1,524,723.54	1,524,723.54
	Total payment (£m)	1.56	3.27	0.00	0.00	0.00	4.83
Supply Area							
Stortford	Unit delivered (MLD)	1.75	0.00	0.00	0.00	0.00	1.75
	Unit rate	1,114,114.29	1,114,114.29	1,114,114.29	1,114,114.29	1,114,114.29	1,114,114.29
	Total payment (£m)	1.95	0.00	0.00	0.00	0.00	1.95
Totals	Unit delivered (MLD)	11.14	11.27	361.06	7.78	0.00	391.25

	Unit rate	230,287.66	230,287.66	230,287.66	230,287.66	230,287.66	230,287.66
	Total payment (£m)	2.57	2.60	83.15	1.79	0.00	90.10

4.3.4 Summary of Reporting Measures

Table 4 below displays the additional reporting requirements we will comply with.

Table 4. Additional reporting requirements

Additional reporting requirements		
Metric	Unit	Further comments
Flow produced at the site	MI/d	Amount for each WTW site could be achieved, as demonstrated by the design and capacity of the refurbished, upgraded, or new treatment processes.

4.3.5 Time Incentives

We consider a time incentive is applicable for this enhancement case as there is insufficient ODI coverage on this scheme within the period. We propose a symmetrical time incentive rate of 3.5% per annum.

4.4 Sustainability Reductions

4.4.1 Summary of the Scheme

The main objective of investment in this scheme is to comply with our PR24 Water Industry National Environment Programme (WINEP) requirements, process, and outcomes for our proposed AMP8 sustainability reductions (SR). SRs are decreases in water company deployable output (DO), aiming to improve the condition of waterbodies whilst meeting the legislative requirements as set out in the Water Framework Directive (WFD), River Basin Management Plans (RBMP) and the Habitats Directive.

Following extensive discussions with the Environment Agency (EA), we are planning to implement the following SRs in AMP8:

- Sustainability Reductions comprising a mixture of cessations and reductions to average (15.06 MI/d) and peak (3.35 MI/d) deployable outputs.
- No Deterioration Reductions, comprising reductions (5.33 MI/d) to average deployable outputs to meet WFD No Deterioration requirements.
- Average Deployable Output (ADO) Relocation, comprising a decrease in groundwater abstraction (ADO) of 14.11 MI/d in the upper catchments of a number of chalk streams and concurrent increase in abstraction by an equivalent amount at four downstream sources.

We recognise there is going to be a significant increase in the required funding to deliver these activities. Therefore, we propose a price control deliverable (PCD) to protect our consumers against these investments.

4.4.2 The PCD

Our PCD will relate to our SR programme activities. The table below provides a summary of our PCD:

Scheme Delivery	
Description	<ul style="list-style-type: none">• To reduce groundwater abstraction in chalk stream catchments in line with our PR24 Water Industry National Environment Programme (WINEP) requirements and contributing towards Water Framework Directive (WFD) objectives.• There are three components to this deliverable:<ul style="list-style-type: none">○ Sustainability reductions – cessation or reduction in Chalk groundwater abstraction resulting in loss of average deployable output from ten groundwater sources.○ WFD no deterioration – reduction in average deployable output associated with licence capping at nine Chalk groundwater sources as agreed with the Environment Agency (EA)○ Reduction in average deployable output from four Chalk groundwater sources located in the headwaters of the Colne Operational catchment and relocation of this deployable output to four sources located in the lower part of the catchment,

	<p>referred to as Average Deployable Output (ADO) Relocation. This has a net impact of 0MI/d in terms of ADO in the end of AMP8 supply demand balance, as the reduction in abstraction from the headwaters is replaced with an equivalent increase from groundwater sources in the lower catchment.</p>
<p>Measurement</p>	<ul style="list-style-type: none"> • All reductions are measured in Megalitres per day (MI/d) as per the 1 in 200 drought average deployable output (ADO) as stated in our revised draft Water Resources Management Plan 2024. • Measurement of this PCD will comprise of three components: <ul style="list-style-type: none"> ○ Reduction in ADO associated with cessation/reduction in abstraction (as above) - 15.06MI/d. ○ Reduction in ADO resulting from WFD No deterioration licence capping- 5.33MI/d. ○ Reduction in ADO from sources in the headwaters of the Colne Operational catchment- 14.11MI/d. • All to be implemented by 31 March 2030. • NB Deployable output is a theoretical quantity of water used in water resource planning to estimate how much water the company will be able to supply in a given scenario (e.g., 1:200 drought). An assumed annual average deployable output scenario for each year is used, as the actual conditions in each forecast year cannot be predicted. • NB the ADO relocation (14.11 MI/d) is subject to the relocated abstraction volume being licenced. Should the new abstraction licence(s) not be granted, this volume will be excluded from this PCD.
<p>Assurance</p>	<p>The reduction in average deployable output will be assessed as part of the annual review of the Water Resources Management Plan 2024.</p> <p>Third party assurance of the numbers reported.</p> <p>We will report on progress annually as part of our Annual Performance Report and will be subject to full third-party assurance.</p>
<p>Conditions of Allowance</p>	<ul style="list-style-type: none"> • We will deliver abstraction reductions in line with our PR24 WINEP. In the event a licence variation is not determined to permit the change in abstraction, then where capital works are underway, cost risk will not be absorbed. • The ADO relocation is subject to us being able to demonstrate that the scheme will not risk an environmental impact on the Mid Colne waterbodies or 3 nearby SSSI's. Initial groundwater modelling has shown this is viable, but we need further evidence to support a licence variation application. • The ADO relocation volume is subject to the relocated abstraction volume being licensed. Should the new abstraction licence(s) not be granted, this volume will be excluded from this PCD. Expenditure incurred to undertake the necessary assessments, testing, and monitoring to ascertain and

	<p>support the licence variation(s) will be deemed necessary expenditure, regardless of the whether the ADO relocation volume progresses.</p> <ul style="list-style-type: none"> • All sustainability reductions are subject to the company completing an assessment to ensure that there will be no increased flooding/groundwater emergence risk and also to ensure that there will not be deterioration of water quality of groundwater, groundwater dependent wildlife sites and third-party receptors e.g., private abstractions. • At the present time it is anticipated that any flood risk or groundwater emergence risk can be managed through licence provisions or a s20 agreement, however groundwater quality deterioration and impact on 3rd party receptors is not yet understood.
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4.4.3 Summary of Deliverables

Table 1 below displays the capital expenditure (capex), the deliverables and unit costs we propose for this deliverable across our three components. We are delivering additional protections to customers to ensure they receive the benefits we have agreed in our business plan by setting 0.05% uplift adjustment on our payment for our customers.

Table 1. SR - expenditure and activity – AMP8

Project component	Totex Expenditure (£m)	MLD	PCD unit cost (£)
Sustainability Reduction	42.99	15.06	2,854,730
No deterioration licence capping	54.67	5.33	10,256,784
ADO relocation	28.31	14.11	2,006,593
Totals	125.97	34.50	3,651,418

*Table 1 Note: 14.11 Ml/d ADO relocation comprises upstream abstraction reductions but downstream abstraction increases.

Given that our unit costs and activity profile differ significantly between our drivers, we present detailed payment profile in table 3. This is to avoid the risk paying too much or too little to our consumers in the case of not delivering our commitments.

We have assumed the unit cost per component is the same between years of AMP8. We also assumed all these scheme deliverables will be delivered in year 5 of the AMP:

Table 2. SR – Payment profile

Project component	Payment information	Year 1 (31/03/2026)	Year 2 (31/03/2027)	Year 3 (31/03/2028)	Year 4 (31/03/2029)	Year 5 (31/03/2030)	Totals
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Sustainability Reduction	Unit delivered (MLD)	0.00	0.00	0.00	0.00	15.06	15.06
	Unit rate (£)	2,854,730	2,854,730	2,854,730	2,854,730	2,854,730	2,854,730
	Total payment (£m)	0.00	0.00	0.00	0.00	42.99	42.99
No Deterioration Licence capping	Unit delivered (MLD)	0.00	0.00	0.00	0.00	5.33	5.33
	Unit rate (£)	10,256,784	10,256,784	10,256,784	10,256,784	10,256,784	10,256,784
	Total payment (£m)	0.00	0.00	0.00	0.00	54.67	54.67
ADO relocation	Unit delivered (MLD)	0.00	0.00	0.00	0.00	14.11	14.11
	Unit rate (£)	2,006,593	2,006,593	2,006,593	2,006,593	2,006,593	2,006,593
	Total payment (£m)	0.00	0.00	0.00	0.00	28.31	28.31
Totals	Unit delivered (MLD)	0.00	0.00	0.00	0.00	34.50	34.50
	Unit rate (£)	3,651,418	3,651,418	3,651,418	3,651,418	3,651,418	3,651,418
	Total payment (£m)	0.00	0.00	0.00	0.00	125.97	125.97

4.4.4 Summary of Reporting Measures

Table 4 below displays the additional reporting requirements we will comply with.

Table 4. Reporting measures

Additional Reporting Requirements		
Metric	Unit	Further Comments
ADO relocation	MI/d	Associated increase in ADO resulting from the relocation of abstraction to the lower catchment, subject to this being licensed by the EA (as per notes above)

4.4.5 Time incentives

We consider a time incentive is applicable for this enhancement case as there is insufficient ODI coverage on this scheme within the period. We propose a symmetrical time incentive rate of 3.5% per annum.

4.5 Resilience

4.5.1 Summary of the Scheme

Our resilience ambition is to ensure our customers' supplies are resilient in the long-term. This ambition spans both base and enhancement activity. Within base we intend to ensure sustainable levels of asset health through effective capital maintenance and operational management. In addition, enhancement activity will increase our asset systems' resilience to high-impact low-probability events.

This PCD relates to the following resilience activities:

- **Single point of failure (SPoF):** SPoF vulnerabilities can arise when critical components, such as trunk mains or key infrastructure, are compromised, resulting in service interruptions and inconvenience for customers. Our investment aims to resolve SPoFs, by providing adequate level of resilience to the various shocks and stresses that our assets face, and to ensure continuity of service to customers.
- **Flood resilience:** Severe weather events will become more common, and rainfall will become more intense. This will lead to increased river flows, a rise in ground water levels, and more surface water runoff. As a result, the likelihood of our flood prone production sites being affected is higher and could impact on our ability to produce and deliver water to customers. The proposed investment in AMP8 will provide resilience against the impacts of extreme flooding events at our highest risk production sites to safeguard customer water supplies.
- **Network calming:** Our water network faces increasing risks events such as climate change driven by extreme weather which will significantly increase the number of bursts on our network of water mains. The ambition of our network calming activity is to help offset and mitigate this emerging risk in a cost-efficient manner.

4.5.2 The PCD

Our PCD will relate to our resilience activities. The table below provides a summary of our PCD:

Scheme delivery	
Description	<ul style="list-style-type: none">• Single point of failures: this programme of work will reduce the number of properties supplied by Single Point of Failure assets by mitigating with dual supplies and hence provide additional resilience to our network for extreme weather events resulting from climate change. The programme will be completed by 31 March 2030. It prioritises each of the sites, based upon risk and cost to mitigate.• Flood resilience: We will continue our programme of flood resilience protection of our facilities to ensure continued operations and supply. Through this project we aim to build upon our many years of flood management experience, to protect all our flood prone sites using a wide range of flood protection approaches. <p>In AMP8, we aim to continue to meet our long-term ambition by:</p>

	<ul style="list-style-type: none"> o Reviewing and evaluating our flooding risks and our existing flood protection o Continuing our long-term programme of physical protection works on our above ground assets that are prone to flooding. <ul style="list-style-type: none"> • Network Calming: Our network calming plans have been developed as part of an integrated 25-year asset strategy enabling optimisation of the investment to maximise additional benefit and ensure best value for customers. Our ambition for this investment therefore encompasses the delivery of the wider benefits such as Burst, Leakage and Interruption to supply reductions. By investing in Network calming initiatives, we are creating the first step change towards an optimised, innovative, and resilient water network in the face of current climate change scenarios. We have identified an optimised programme of network calming over the period 2025-2030 mitigating the impacts of climate change in the most efficient way.
Measurement	<ul style="list-style-type: none"> • Single point of failure: The measurement of this PCD will be based upon the reduction of the risk of significant interruptions to supply resulting from severe weather events. The measure will identify the number properties supplied by the Single Point of Failure, as measured prior to 1 April 2025. • Flood resilience: The measurement of this PCD will be based on the number of sites that are protected from the impact of flooding arising from extreme weather events. In total, we aim to complete flood protection works on 6 flood prone sites spread over 5-year period. • Network calming: The measurement of this PCD will be based on the reduction of the risk of bursts, leakage and significant interruptions to supply resulting from severe weather events.
Assurance	<p>There will be third party assurance of the number we will report during the AMP.</p> <p>We will report on progress annually as part of our Annual Performance Report and will be subject to full third-party assurance.</p>
Conditions of allowance	<p>We will fund each scheme based on a unit cost allowance up to a maximum number of properties mitigated completed by 31 March 2030.</p> <p>If the company delivers less than the maximum number of properties mitigated, we will calculate any cost sharing based on a proportioned 'target cost'.</p>

4.5.3 Summary of deliverables

The table below displays the total expenditure (totex), and deliverables across each resilience category. We are delivering additional protections to customers to ensure they receive the benefits we have agreed in our business plan by setting 0.1% uplift adjustment on our payment for our customers.

Table 1. Resilience - expenditure and activity – AMP8

Driver	Totex Expenditure (£m)	PCD unit	PCD unit description	PCD unit cost (£)
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Single Points of failure	5.19	114,259	Number of properties protected	45.44
Floods resilience	1.07	6	Sites protected	179,111.89
Network calming	8.78	3.37	Leakage (Ml/d)	2,605,637.98
Totals	15.05			

Given that our unit costs and activity profile differ significantly between our drivers, we present detailed payment profile in table 2. This is to avoid the risk paying too much or too little to our consumers in the case of not delivering our commitments.

We have assumed the unit cost per component is the same between years of AMP8 and the scheme deliverables will be backloaded for year 5 of the AMP:

Table 2. Payment Profile

Site	Payment information	Year 1 (31/03/2026)	Year 2 (31/03/2027)	Year 3 (31/03/2028)	Year 4 (31/03/2029)	Year 5 (31/03/2030)
Single Points of failure	Unit delivered (No. Props)	0.00	0.00	0.00	0.00	114,259.00
	Unit rate (£)	45.44	45.44	45.44	45.44	45.44
	Total payment (£m)	0.00	0.00	0.00	0.00	5.19
Floods resilience	Unit delivered (Sites Protected)	0.00	2.00	0.00	3.00	1.00
	Unit rate (£)	179,111.89	179,111.89	179,111.89	179,111.89	179,111.89
	Total payment (£m)	0.00	0.36	0.00	0.54	0.18
Network calming	Unit delivered (Mld)	0.00	0.00	0.00	0.00	3.37
	Unit rate (£)	2,605,637.98	2,605,637.98	2,605,637.98	2,605,637.98	2,605,637.98
	Total payment (£m)	0.00	0.00	0.00	0.00	8.78
Totals	Total payment (£m)	0.00	0.36	0.00	0.54	14.15

There is an expected improvement in performance. The impact on leakage, main repairs and IS2 activities is presented in table 4.

Table 3. Resilience – Benefits during AMP8

PCs	Unit	Year 1 (31/03/2026)	Year 2 (31/03/2027)	Year 3 (31/03/2028)	Year 4 (31/03/2029)	Year 5 (31/03/2030)	Totals
Leakage	MI/d	0.48	2.92	0.00	0.00	0.00	3.40
Mains repairs	Repairs per 000 km	0.19	0.29	0.42	0.50	0.65	2.05
Interruptions to supply	Seconds	0.06	0.10	0.19	0.29	0.50	1.14

Our exposure to ODI penalties is presented in table 5.

Table 4. Resilience – ODI exposure (£m)

ODI exposure	Unit	Year 1 (31/03/2026)	Year 2 (31/03/2027)	Year 3 (31/03/2028)	Year 4 (31/03/2029)	Year 5 (31/03/2030)	Totals
Leakage	MI/d	0.18	1.07	0.00	0.00	0.00	1.25
Mains repairs	Repairs per 000 km	0.03	0.04	0.06	0.07	0.09	0.29
Interruptions to supply	Seconds	0.06	0.09	0.17	0.26	0.45	1.03

4.5.4 Summary of Reporting Measures

Table 6 below displays the additional reporting requirements we will comply with.

Table 5. Reporting Measures

Additional reporting requirements		
Metric	Unit	Further comments
Length of mains laid (SPoF)	m	Additional length of mains via the implementation the SPoFs components
Number of schemes implemented (SPoF)	Each	
Additional properties served with a dual supply	Property	Cumulative number of properties protected via the implementation the SPoFs components
Flood resilience Project Completion	% of Project Completed	Project completed and signed off by flooding subject matter expert

Leakage Reduction by Network Calming Programme	MI/d	Cumulative leakage reduction delivered via the implementation of the Network calming components
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4.5.5 Time incentives

We consider a time incentive is applicable for this enhancement case as there is insufficient ODI coverage on this scheme within the period. We propose a symmetrical time incentive rate of 3.5% per annum.

4.6 WRMP

4.6.1 Summary of the scheme

Our WRMP costs ensure that our statutory obligations to manage future targets sustainably and with the best value for customers in mind are met. Our WRMP schemes enable the strategic delivery of water and enables the cross connection necessary for our WINEP statutory obligations. The Majority of our WRMP programme does not qualify for a PCD as it falls under the RAPID guidance, however two schemes fall outside of that classification and are therefore eligible for a PCD.

This PCD relates to the following WRMP activities.

- **HS2 Non-Sesro:** This is a combination of Cockfosters transfer option and a Perivale transfer option. Both consist of a transfer of potable wholesome water from Thames Water network to Affinity water network via storage tank and water pumping station in order to facilitate the construction phase of High Speed 2 Project. The Perivale and Cockfosters options are part of the feasible options set considered by Affinity Water in deriving their best value Water Resources Management Plan (WRMP24) and by the Water Resources South East (WRSE) in deriving their draft Regional Plan. The Perivale option is a transfer option from TWUL of 10 MI/d and Cockfosters, one of 5MI/d. These connections facilitate the loss of AFW supply due to construction phase. The agreement is 10year with a 5year trigger. The WRSE modelling could explore the potential for longer term continuous utilisation of this connection beyond.
- **Tappington South:** This scheme involves Tappington South, an existing (but disused) groundwater source within an existing licence group. There is a sequence of boreholes connected by an existing raw water main to the treatment works; Denton; Tappington North; and Rakesole North. Tappington South is not within this sequence currently and the option is to re-commission the borehole to provide resilience for the licence group (the group output is limited by licence / treatment works). For example, the Denton source has turbidity issues at higher pumping rates and the recommissioning of Tappington South would allow the rate at Denton to be reduced. Test pumping is required to confirm the yield that can be achieved at an acceptable water quality. This scheme would require a new abstraction borehole, which would be pumped and treated at the existing group works to supplement the existing annual average surface water licence.

4.6.2 The PCD

Our PCD will relate to our WRMP activities. The Table below provides a summary of our PCD:

Scheme delivery	
Description	<ul style="list-style-type: none">• HS2 Non SESRO: Both Perivale and Cockfosters are transfer options of 10 and 5 MI/d accordingly to facilitate the High Speed 2 construction

	<p>phase. Perivale is already in operation and Cockfosters has been commissioned. Both consist of a transfer of potable wholesome water from Thames Water network to Affinity water network via storage tank and water pumping station.</p> <ul style="list-style-type: none"> • Tappington South: This scheme involves the reinstatement of Tappington South, an existing (but disused) groundwater source within an existing licence group. There is a sequence of boreholes connected by an existing raw water main to the treatment works; Denton; Tappington North; and Rakesole North. Tappington South is not within this sequence currently and the option is to re-commission the borehole to provide resilience for the licence group (the group output is limited by licence / treatment works). 												
<p>Measurement</p>	<ul style="list-style-type: none"> • HS2 Non SESRO: The measurement of this PCD will be based on the capability to meet demand requests in Ml/d for the HS2 construction phase. • Tappington South: The measurement of this PCD will be based on the predicted yield of the Tappington South borehole in Deployable Output represented by Ml/d. 												
<p>Assurance</p>	<p>This is a borehole re-instatement scheme that represents the Best Value solution for the WRZ according to the WRSE assessment methodology. Third party assurance of the numbers reported. We will report on progress annually as part of our Annual Performance Report and will be subject to full third-party assurance.</p>												
<p>Conditions of allowance</p>	<p>HS2 Non SESRO:</p> <p>The original plan was to remove the connection after HS2 project is completed, therefore the risk is that c £ 0.9 M needs to be refunded. This risk is low as we are already in conversation with HS2. This will be clarified during commission contract arrangements phase.</p> <p>Tappington South:</p> <p>The main uncertainty relates to water quality. This is currently unknown and for the purposes of affordability it has been assumed that modifications will not be required to the group treatment works.</p> <p>The location of the scheme is unknown at this stage. Ideally the borehole would be located at the existing treatment works site on Affinity Water land, although the site is conjectured, and this may not be feasible.</p> <p>Affinity Water has experience in dealing with these uncertainties, as described in the table below. The reduction of uncertainty is the focus of the AMP8 expenditure for the scheme.</p> <table border="1" data-bbox="502 1608 1425 2031"> <thead> <tr> <th data-bbox="502 1608 978 1664">Uncertainty</th> <th data-bbox="978 1608 1425 1664">Mitigation/Process</th> </tr> </thead> <tbody> <tr> <td data-bbox="502 1664 978 1720">Currently unknown feasible yield.</td> <td data-bbox="978 1664 1425 1720">OBH pump test</td> </tr> <tr> <td data-bbox="502 1720 978 1776">Currently unknown water quality.</td> <td data-bbox="978 1720 1425 1776">OBH pump test</td> </tr> <tr> <td data-bbox="502 1776 978 1899">Currently unknown thickness/uncertainties with geology, grain size etc.</td> <td data-bbox="978 1776 1425 1899">OBH pump test</td> </tr> <tr> <td data-bbox="502 1899 978 1977">Currently unknown potential for drawdown</td> <td data-bbox="978 1899 1425 1977">OBH pump test</td> </tr> <tr> <td data-bbox="502 1977 978 2031">EA appetite for LGS licences/policy.</td> <td data-bbox="978 1977 1425 2031">Initial regulator discussions</td> </tr> </tbody> </table>	Uncertainty	Mitigation/Process	Currently unknown feasible yield.	OBH pump test	Currently unknown water quality.	OBH pump test	Currently unknown thickness/uncertainties with geology, grain size etc.	OBH pump test	Currently unknown potential for drawdown	OBH pump test	EA appetite for LGS licences/policy.	Initial regulator discussions
Uncertainty	Mitigation/Process												
Currently unknown feasible yield.	OBH pump test												
Currently unknown water quality.	OBH pump test												
Currently unknown thickness/uncertainties with geology, grain size etc.	OBH pump test												
Currently unknown potential for drawdown	OBH pump test												
EA appetite for LGS licences/policy.	Initial regulator discussions												

4.6.3 Summary of Deliverables

Table 1 below displays the capital expenditure (capex), the deliverables and unit costs we propose for this deliverable across our two investments. We are delivering additional protections to customers to ensure they receive the benefits we have agreed in our business plan by setting 0.05% uplift adjustment on our payment for our customers.

Table 1. WRMP - expenditure and activity – AMP8

Project component	Totex Expenditure (£m)	MLD	PCD unit cost (£)
HS2 Non-Sesro	6.17	15.00	411,581
Tappington South	0.66	0.70	943,265
Totals	6.83	15.70	435,287

Given that our unit costs and activity profile differ significantly between our investments, we present detailed payment profile in table 3. This is to avoid the risk paying too much or too little to our consumers in the case of not delivering our commitments.

We have assumed the unit cost per component is the same between years of AMP8.

Table 2. Payment Profile

Project component	Payment information	Year 1 (31/03/2026)	Year 2 (31/03/2027)	Year 3 (31/03/2028)	Year 4 (31/03/2029)	Year 5 (31/03/2030)	Totals
HS2 Non-Sesro	Unit delivered (MLD)	10.00	0.00	0.00	0.00	5.00	15.00
	Unit rate (£)	411,581	411,581	411,581	411,581	411,581	411,581
	Total payment (£m)	4,115,809.72	0.00	0.00	0.00	2.06	6.17
Tappington South	Unit delivered (MLD)	0.00	0.00	0.00	0.00	0.70	0.70
	Unit rate (£)	943,265	943,265	943,265	943,265	943,265	943,265
	Total payment (£m)	0.00	0.00	0.00	0.00	0.66	0.66

Totals	Unit delivered (MLD)	10.00	0.00	0.00	0.00	5.70	15.70
	Unit rate (£)	435,287	435,287	435,287	435,287	435,287	435,287
	Total payment (£m)	4,352,866.24	0.00	0.00	0.00	2.48	6.83

4.6.4 Summary of Reporting Measures

Table 4 below displays the additional reporting requirements we will comply with.

Table 3. Reporting measures

Additional Reporting Requirements		
Metric	Unit	Further Comments
Additional DO	ML/d	ML/d delivered as a DO value to the licence group.

4.6.5 Time incentives

We consider a time incentive is applicable for this enhancement case as there is insufficient ODI coverage on this scheme within the period. We propose a symmetrical time incentive rate of 3.5% per annum.

4.7 Catchment Management and Nature Based Solutions

4.7.1 Summary of the scheme

The main objective of investment in this scheme is to comply with our PR24 WINEP requirements. These schemes will contribute towards meeting Water Framework Directive objectives to improve waterbody status, as set out in the associated River Basin Management Plans (RBMP). Our Catchment and Nature Based Solutions (C&NbS) schemes cover both the River Restoration and Catchment Management initiatives within the associated operational catchments in our supply area. We plan to undertake a long-term programme of river restoration and enhancement works to improve the habitat and quality of rivers in the areas that we operate and simultaneously work with the community, landowners, and farmers to implement nature-based solutions to improve the catchments in our supply area.

Our C&NbS programme seeks to manage water quality pressures affecting our groundwater sources, contribute to the mitigation of impacts of climate change, improve soil health and improve the ecology and habitats of the chalk streams within these catchments. We will deliver projects in collaboration with local partners to maximise opportunities for wider benefits. We will aim to deliver associated benefits of education, amenity, recreation and well-being for customers and communities.

Following extensive discussions with the EA, we plan to deliver C&NbS initiatives in the following catchments.

- The River Beane Chalk Stream Catchment Flagship Project
- The River Colne operational catchment
- The River Dour and Little Stour catchments
- The River Upper Lee operational catchment
- The River Cam & Ivel operational catchments

The total Totex for our programme of C&NbS under the WFD driver is £16.699m and therefore as a programme on its own is below the 1% materiality threshold. We have however included a PCD for this element based on the combined total WFD driver costs which also includes the sustainability reductions programme.

4.7.2 The PCD

Our PCD will relate to our WINEP activities. The Table below provides a summary of our PCD:

Scheme delivery	
Description	<p>To undertake a programme of Catchment and Nature-based Solutions comprising of river restoration and catchment management activities as per our PR24 WINEP. These schemes will support delivery of WFD objectives and contribute towards the creation of resilient chalk stream catchments. Scheme details will be agreed with the Environment Agency and set out in the associated WINEP Action Specification Forms (ASF). Projects will be prioritised in collaboration with the EA and catchment partners based on environmental benefit and technical feasibility. Works will be undertaken in the following catchments and will be subject to the associated conditions of allowance set out below:</p> <ul style="list-style-type: none"> • The River Beane (Flagship scheme) <ul style="list-style-type: none"> ○ River restoration (Revitalising Chalk Rivers option 2) and ○ Catchment Management (Resilient Chalk Catchments option C) • The River Colne Operational Catchment <ul style="list-style-type: none"> ○ River Restoration (Revitalising Chalk Rivers option 2) - and ○ Catchment Management (Resilient Chalk Catchments option C) • The River Dour and Little Stour Catchment <ul style="list-style-type: none"> ○ River restoration (Revitalising Chalk Rivers option 2) - and ○ Catchment Management (Resilient Chalk Catchments option C) • The River Upper Lee Operational Catchment (not including Beane) <ul style="list-style-type: none"> ○ River Restoration (Revitalising Chalk Rivers option 2) - and ○ Catchment Management (Resilient Chalk Catchments option C) • The River Cam & Ivel Operational Catchment <ul style="list-style-type: none"> ○ River restoration (Revitalising Chalk Rivers option 2) - and ○ Catchment Management (Resilient Chalk Catchments option C)
Measurement	<p>The measurements of this PCD will be based upon two metrics:</p> <ul style="list-style-type: none"> • the length of river and/or riparian habitat enhanced, created, improved, or restored (measured in metres) and • the area of land under a Catchment Management initiative (measured in hectares).
Assurance	<p>The Environment Agency will sign off the completion of river restoration projects and the associated length of river covered by the project through our established Affinity Water -Environment Agency Project Executive Board.</p> <p>The area of land under catchment intervention will be verified on GIS or where delivered in partnership figures will be provided by the relevant third-party. These figures will also be reported through to the Project Executive Board.</p> <p>There will be third party assurance of the number we will report during the AMP.</p> <p>We will report on progress annually as part of our Annual Performance Report and will be subject to full third party assurance.</p>
Conditions of allowance	<p>As this programme will be delivering initiatives and improvements on third party land we have set out a number of conditions of allowance that cover the eventuality of a project needing to be altered.</p> <ul style="list-style-type: none"> • There must be an opportunity – subject to agreement with the EA – that if we cannot deliver outcomes in one catchment due to third party constraints, we can deliver those outcomes in another catchment with an applicable WINEP statutory or statutory plus driver. • A change management process will be put in place with the EA to oversee any change in scope or location of a scheme/initiative to allow us to deliver

for customers, communities, and the environment in a suitable alternative location.

- In the event that outline design and/or detailed design for a river restoration project has been completed but it does not progress to implementation during AMP8, due to being unable to secure relevant land access agreements or environmental permitting, a scheme will be put on hold. An opportunity to return to the scheme in a later AMP period to deliver the overall project will be reviewed in subsequent planning cycles. Evidence will be provided by Affinity Water as to the reason and extent of the delay. Where appropriate, supportive information will also be provided from the Environment Agency to support justification that expenditure was incurred appropriately.
- We will fund a number of Statutory (S or S+) schemes with a Non-Statutory (NS) secondary or tertiary WINEP driver, and seek to obtain 20% third-party funding for the NS nature-based solutions that support our programme as defined in our Plan by 31st March 2030

4.7.3 Summary of Deliverables

Table 1 below displays the capital expenditure (capex), the deliverables and unit costs we propose for this deliverable across our five investments. We are delivering additional protections to customers to ensure they receive the benefits we have agreed in our business plan by setting 0.05% uplift adjustment on our payment for our customers.

Table 1. WINEP CNBS - expenditure and activity – AMP8

Operational Catchment	Project Component	TOTEX	River Restoration in Metres / Hectares of land under Catchment initiative	PCD unit cost (£) - capex
River Beane Flagship	River Restoration	1.14	1,440	794
	Catchment Management	1.51	3,199	474
River Colne	River Restoration	3.17	3,600	885
	Catchment Management	0.99	2,047	484
River Dour & Little Stour	River Restoration	0.77	1,080	721
	Catchment Management	0.84	1,545	547
River Lee	River Restoration	2.97	3,960	753
	Catchment Management	1.35	2,843	477
River Ivel & Cam	River Restoration	3.46	4,680	743
	Catchment Management	0.51	990	513
Totals	River Restoration	11.51	14,760	784
	Catchment Management	5.19	10,624	491

Given that our unit costs and activity profile alternate between length of river (metres) and area of land (hectares) in our investments, we present a detailed payment profile in table 3. This is to avoid the risk paying too much or too little to our consumers in the case of not delivering our commitments.

We have assumed the unit cost per component is the same between years of AMP8.

Table 2. WINEP CNBS – PCD Payment Profile

Operational Catchment	Site	Payment information	Year 1 (31/03/2026)	Year 2 (31/03/2027)	Year 3 (31/03/2028)	Year 4 (31/03/2029)	Year 5 (31/03/2030)	Totals
River Beane Flagship	River Restoration	Unit delivered (meters)	360	0	360	360	360	1,440
		Unit rate (£)	794	794	794	794	794	794
		Total payment (£m)	0.29	0.00	0.29	0.29	0.29	1.14
	Catchment Management	Unit delivered (Hectares)	320	640	960	960	320	3,199
		Unit rate (£)	474	474	474	474	474	474
		Total payment (£m)	0.15	0.30	0.46	0.46	0.15	1.52
River Colne	River Restoration	Unit delivered (meters)	0	1,080	1,440	1,080	0	3,600
		Unit rate (£)	885	885	885	885	885	885
		Total payment (£m)	0.00	0.96	1.27	0.96	0.00	3.19
	Catchment Management	Unit delivered (Hectares)	171	341	512	512	512	2,047
		Unit rate (£)	484	484	484	484	484	484
		Total payment (£m)	0.08	0.17	0.25	0.25	0.25	0.99
River Dour & Little Stour	River Restoration	Unit delivered (meters)	0.00	360.00	360.00	360.00	0.00	1,080
		Unit rate (£)	721	721	721	721	721	721
		Total payment (£m)	0.00	0.26	0.26	0.26	0.00	0.78
	Catchment Management	Unit delivered (Hectares)	144.00	323.40	359.33	359.33	359.33	1,545
		Unit rate (£)	547	547	547	547	547	547
		Total payment (£m)	0.08	0.18	0.20	0.20	0.20	0.85
River Lee	River Restoration	Unit delivered (meters)	0	360	1,800	720	1,080	3,960
		Unit rate (£)	753	753	753	753	753	753

		Total payment (£m)	0.00	0.27	1.35	0.54	0.81	2.98
	Catchment Management	Unit delivered (Hectares)	237	474	711	711	711	2,843
		Unit rate (£)	477	477	477	477	477	477
		Total payment (£m)	0.11	0.23	0.34	0.34	0.34	1.35
River level & Cam	River Restoration	Unit delivered (meters)	720	1,080	720	1,080	1,080	4,680
		Unit rate (£)	743	743	743	743	743	743
		Total payment (£m)	0.53	0.80	0.53	0.80	0.80	3.48
	Catchment Management	Unit delivered (Hectares)	82	165	247	247	247	990
		Unit rate (£)	513	513	513	513	513	513
		Total payment (£m)	0.04	0.08	0.13	0.13	0.13	0.51
Totals	River Restoration	Unit delivered (Meters)	1,080	2,880	4,680	3,600	2,520	14,760
		Unit rate (£)	784	784	784	784	784	784
		Total payment (£m)	0.85	2.26	3.67	2.82	1.97	11.57
	Catchment Management	Unit delivered (Hectares)	954	1,943	2,789	2,789	2,149	10,624
		Unit rate (£)	491	491	491	491	491	491
		Total payment (£m)	0.47	0.95	1.37	1.37	1.06	5.22

4.7.4 Summary of Reporting Measures

Table 3 below displays the additional reporting requirements we will comply with.

Table 3. Reporting measures

Additional Reporting Requirements		
Metric	Unit	Further Comments
Length of River Improved	Metres	The length of river in metres that has been enhanced or improved as part of the river restoration programme.
Hectares under catchment measures	Hectares	The area in hectares under a catchment measure or initiative as part of the catchment management programme.

4.7.5 Time incentives

We consider a time incentive is applicable for this enhancement case as there is insufficient ODI coverage on this scheme within the period. We propose a symmetrical time incentive rate of 3.5% per annum.