

2022/23

Annual Performance Report

Part 3



Annual Performance Report 2022/23

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1. Introduction

Our vision is “to earn the trust of our customers every day”.

Welsh Water’s purpose is to provide high quality and better value drinking water and environmental services, so as to enhance the wellbeing of our customers and the communities we serve, both now and for generations to come.

Throughout the year, we monitor our performance against a wide range of indicators, including 56 performance commitments (PCs) as contained within Ofwat’s 2019 Final Determination (FD).

In this part of the Annual Performance Report, we set out how we have performed against our PCs, of which 15 are common measures across all companies and the remainder are bespoke measures for Welsh Water. The 56 PCs comprise:

- 25 financial (i.e., the PCs have either rewards/penalties applying in the year depending on our performance to meet the Ofwat FD target for the year or the end of the AMP);
- 25 reputational (i.e., no reward/penalty is applicable, but we strive to meet the target set for the year); and
- 6 expenditure delivery (i.e., there are penalties both for late delivery during the AMP and non-delivery at the end of the AMP).

In terms of presentation, we have used colour coding to group these PCs together by reference to our eight Customer-led Success Initiatives (Outcomes). These are:

- Safe clean water for all;
- Safeguard our environment for future generations;
- Fair bills for everyone;
- Put things right if they go wrong;
- Resilience;
- Personal service that’s right for you;
- Create a better future for all communities; and
- Colleague promises.

A summary of overall performance for all PCs is contained within section 2.1.

Performance against each individual PC is set out in section 2.2. Where we can, we have included details of historical performance and how our performance compares with other companies in the sector. We have included brief commentary on our performance. Some of the individual PCs have associated rewards or penalties for over or under performance. Where this is the case, we provide an update and show on the appropriate graph actual performance against target and where this places us in terms of earning a reward or incurring a penalty.

In section 3, we have set out the assurance processes followed in preparing this document and, in particular, ensuring that the information we have provided is accurate and complete.

An Assurance Statement provided by our Reporter, who audited aspects of this Annual Performance Report, is included in section 3.2.

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2. Performance Commitments

For the AMP7 period (2020-2025) we are reporting against a suite of 56 performance commitments.

2.1 Summary of Overall Performance

Table 1 below lists 15 of our performance commitments which are common across the industry, with the remaining 41 performance commitments listed within Table 2 which are bespoke and not largely comparable across the industry. The tables summarise our performance on each of the 56 measures and compares against the 2022/23 Ofwat Final Determination target. To provide further transparency in relation to the Outcome Delivery Incentive (ODI) penalty and reward payments that are applicable on our 2022/23 performance we have included this within the summary table on page 5 and also our forecast for ODI incentives to the end of this 5 year AMP period i.e. 2024/25.

Each of the performance commitments are colour coded to reflect which of the eight Outcomes they are most applicable to. Finally, reference is made to the page number where further detail on performance, industry comparison, measure definition and some high-level commentary on the current year's performance is included.

2.2 Restatement of 2020/21 and 2021/22 data

We have provided a summary below of where we are restating figures from our Annual Performance Report Part 3.

Performance Commitment	2020/21		2021/22		Reason for change
	Original	Restated	Original	Restated	
Wt2 - Water supply interruptions	11:05	11:08	16:12	16:17	It was identified that the denominator used in the calculation (i.e. the number of properties) included cattle troughs. Our restated numbers now exclude cattle troughs as per the Ofwat request. See page 10 for further detail.
En5 – Per Capita Consumption (PCC)	-5.2%	-3.9%	-8.9%	-5.6%	Restatement following independent review of PCC and Leakage reporting.
En4 - Leakage	2.2%	-3.6%	5.2%	-7.3%	See pages 17 and 20 for further detail.
Wt8 – Lead pipes replaced	1,097	1,065	1,462	1,410	As part of a data improvement process, we have reviewed all lead pipe replacement jobs delivered by our contractors since 1 April 2020. See page 37 for further detail.
Co2 - Employee Training and Expertise.	85.0%	79.0%	87.7%	79.6%	Due to an error in calculation. See page 73 for further detail.

Table 1 - Performance Commitment – Common Measures		*	2022/23 Outturn	2021/22 Outturn	2022/23 FD Target (Final Determination)	2022/23 Vs FD Target	Penalty or Reward 2022/23 (£m)	Total ODI Incentive (2020/21 to 2024/25) (£m)	PAGE
*C – Calendar year									
Wt1	Water Quality Compliance (CRI) (%)	c	5.40	9.77	0	X	-1.659	-8.818	8
Wt2	Water supply interruptions (mm:secs)		44:31	16:17	05:45	X	-10.370	-23.303	10
Wt4	Mains repairs		156.2	136.6	135.1	X	-2.152	-2.285	12
Wt5	Unplanned outage %		1.05	0.55	2.34	✓	0.000	0.000	13
En1	Treatment works compliance %	c	98.50	98.32	100.00	X	-0.350	-0.826	15
En3	Pollution incidents (per 10,000km of Sewer)	c	24.55	22.90	23.00	X	-0.333	-0.066	16
En4	Leakage (% reduction) – 3 year average		-11.5	-7.3	7.3	X	-4.486	-21.302	17
En5	Per capita consumption (% reduction) – 3 year average		-6.2	-5.6	3.0	X	0.000	-6.777	20
Ft1	Risk of severe restrictions in a drought %		4.4	4.5	4.5	✓	Reputational		23
Ft2	Risk of sewer flooding in a storm %		24.28	25.05	30.07	✓	Reputational		24
Rt1	Internal sewer flooding (per 10,000km sewer connections)		1.14	1.36	1.58	✓	1.880	1.624	25
Rt3	Sewer collapses (per 1,000km sewer)		6.68	6.71	7.20	✓	0.000	-0.069	27
Sv1	C-MeX – Company Measure		82.92	82.93			2.191		29
Sv2	D-MeX		84.68	83.94			-1.127		30
Sv5	Priority services for customers in vulnerable circumstances								
•	• Reach %		10.4	8.1	5.6	✓	Reputational		32
•	• Actual contact %		43.4	40.9	35.0	✓	Reputational		32
•	• Attempted contact %		96.2	93.2	90.0	✓	Reputational		32

Outcomes

Fair Bills for everyone

Put things right if they go wrong

Resilience

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Table 2 - Performance Commitment – Bespoke Measures			2022/23 Outturn	2021/22 Outturn	2022/23 FD Target (Final Determination)	2022/23 Vs FD Target	Penalty or Reward 2022/23 (£m)	Total ODI Incentive (2020/21 to 2024/25) (£m)	PAGE
*FD – Final Determination									
*C – Calendar year									
Wt3	Acceptability of drinking water (contacts per 1,000 population)	c	2.35	2.44	1.91	X	-1.059	-4.116	34
Wt6	Tap water quality event risk index (ERI)	c	1,313.064	355.169	10.000	X	Reputational		35
Wt7	Water catchments improved		23	23	23	✓	Reputational		36
Wt8	Lead pipes replaced		1,731	1,410	4,200	X	0.000	0.000	37
En2	Wastewater treatment works 'look-up table' compliance %	c	99.82	99.82	100.00	X	Reputational		39
En6	Km of river improved		122	94	25	✓	0.000	6.627	40
En7	Bioresources product quality %		98.3	99.2	97.3	✓	0.413	1.322	41
En8	Bioresources disposal compliance %	c	99.87	100.00	100.00	X	-0.013	-0.013	42
En9	Combined sewer overflow storage systems		0	0	0	✓	0.000	0.000	43
Ft3	Energy self-sufficiency %		22	24	33	X	Reputational		44
Ft4	Surface water removed from sewers (m3)		10,752	0	141,900	X	-0.050	-0.455	45
Ft5	Asset resilience (reservoirs) %		95.3	92.7	93.3	✓	Reputational		46
Ft6	Asset resilience (water network+ above ground) %		87.2	86.7	84.8	✓	Reputational		47
Ft7	Asset resilience (water network+ below ground) %		68.9	68.0	70.0	X	Reputational		48
Ft8	Asset resilience (wastewater network+ above ground) %		79.0	79.4	78.5	✓	Reputational		49
Ft9	Asset resilience (wastewater network+ below ground) %		36.9	30.9	33.9	✓	Reputational		50
Ft10	Community education		80,194	45,655	73,000	✓	0.014	-0.203	51
Ft11	Visitors to recreational facilities		739,294	842,701	720,000	✓	0.019	-0.343	52
Rt2	External sewer flooding on customer property (per 10,000km sewer connections)		24.42	26.27	23.89	X	-0.476	-3.493	54
Rt4	Total complaints (per 10,000 connections)		49.9	28.2	UQ	X	-0.030	-0.084	55
Rt5	Worst served customers for water service		5,029	3,230	1,901	X	Reputational		56
Rt6	Worst served customers for wastewater service		508	557	371	X	Reputational		58

Outcomes

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Performance Commitment – Bespoke Measures Cont'd		2022/23 Outturn	2021/22 Outturn	2022/23 FD Target (Final Determination)	2022/23 Vs FD Target	Penalty or Reward 2022/23 (£m)	Total ODI Incentive (2020/21 to 2024/25) (£m)	PAGE
*FD – Final Determination								
*C – Calendar year								
Sv3	Customer trust	7.75	8.30	8.15	X	Reputational		60
Sv4	Business customer satisfaction	4.4	4.4	4.5	X	-0.125	-0.625	61
Sv6	Customers on Welsh language register	6,649	6,568	19,000	X	Reputational		62
Bl1	Change in average household bill %	-2.4	-1.5	<CPIH	✓	Reputational		63
Bl2	Vulnerable customers on social tariffs	128,531	127,247	133,000	X	Reputational		64
Bl3	Company level of bad debt %	2.9	2.4	2.1	X	Reputational		66
Bl4	Unbilled properties (Voids) %	3.93	3.78	3.70	X	-0.601	-0.888	67
Bl5	Financial resilience	High	High	High	✓	Reputational		68
Bl6	Delivery of our reservoirs enhancement programme	14	8	13	✓	0.000	0.000	69
Bl8	Delivery of our water network improvement programme	2	2	0	✓	0.000	0.000	70
Bl10	Delivery of our South Wales Grid water supply resilience scheme	2	0	10	X	0.000	0.000	71
Co1	Reportable injuries	5	9	7	✓	Reputational		72
Co2	Employee training and expertise %	78.7	79.6	95.0	X	Reputational		73
Co3	Employee engagement %	75	69	80	X	Reputational		74
DPC01	Direct procurement for customers: Cwm Taf Water supply strategy scheme (Underperformance)	0	0	OBC delivered	✓	0.000	0.000	75
DPC02	Direct procurement for customers: Cwm Taf Water supply strategy scheme (Outperformance)	TBC	TBC	TBA	✓	0.000	0.000	75
VIS01	Delivery of a new visitor centre	N/A	N/A	N/A	✓	0.000	0.000	76
DWMPs	Drainage and wastewater management plans	0	0	100	X	Reputational		77
NEP01	Delivery of Environment programme requirements	Met	Met	Met	✓	Reputational		78
Total						-18.314	-64.093	

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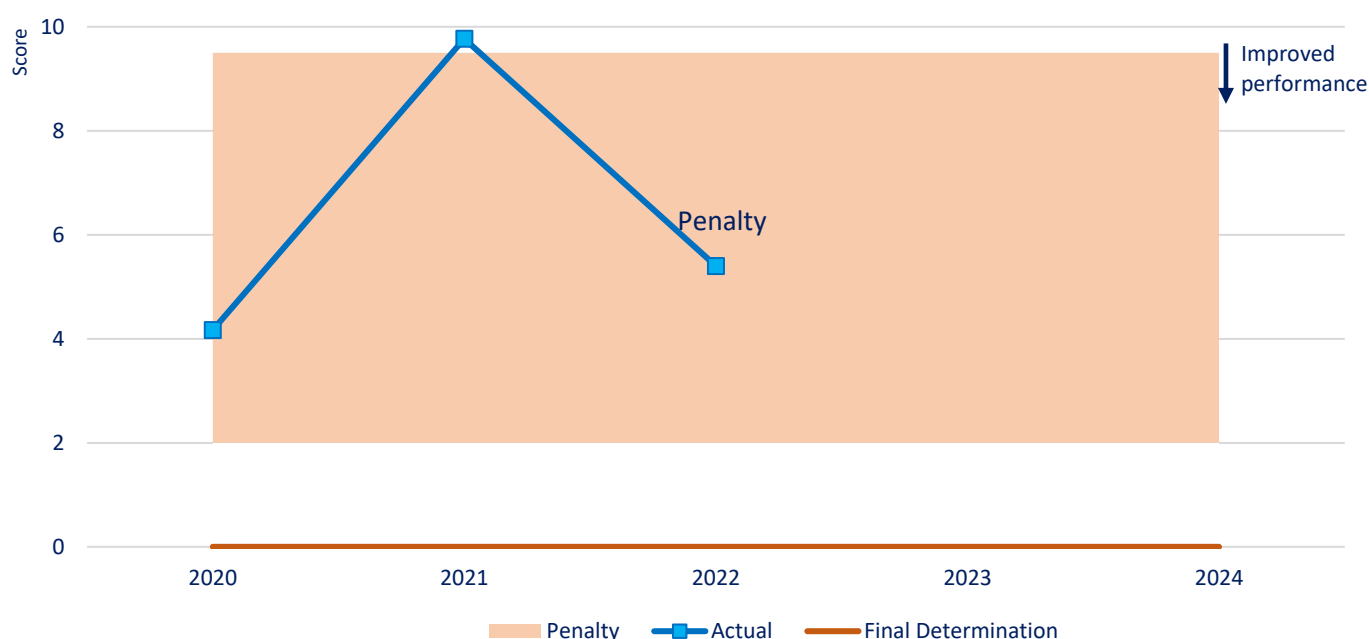
2.3 Performance Against Individual Measures

Wt1 – Water quality compliance (CRI)

ODI Penalty

Summary Performance

	2019	2020	2021	2022	2023	2024
Actual	3.97	4.17	9.77	5.40	n/a	n/a
Final Determination		0.00	0.00	0.00	0.00	0.00
ODI Penalty (£m)		£1.059	£3.660	£1.659		



Industry Performance 2021

Definition



A Compliance Risk Index (CRI) score is calculated for every individual compliance failure at water supply zones, supply points and treatment works, and service reservoirs. The annual CRI for a company, for any given calendar year, is the sum of the individual CRI scores for every compliance failure reported during the year. This measure is reported on a calendar year basis.

Commentary

Our performance for the year was 5.40 which is worse than the Ofwat Final Determination target of 0.00.

Performance is significantly improved compared to 2021 (CRI = 9.77), which can be attributed to a significant reduction in the number of bacteriological and turbidity failures at assets (WTWs and SRVs):

- WTW failures contributed a CRI score of 6.1 in 2021 compared to 1.7 in 2022 (72% reduction)
- SRV failures contributed a CRI score of 1.2 in 2021 compared to 0.06 in 2022 (95% reduction)

In total, the number of failures at assets was reduced from 21 in 2021 to 6 in 2022

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Where DWI initiate enforcement action as a result of a failure, the calculation of CRI for that failure will include a x5 multiplier. This was a contributory factor to the increase in CRI for 2021. For failures where a regulatory notice is already in force a x4 multiplier will be included in the CRI calculation for that failure. This has been the case for a significant number of failures in 2022. The value for CRI remains provisional until we receive confirmation from DWI in July.

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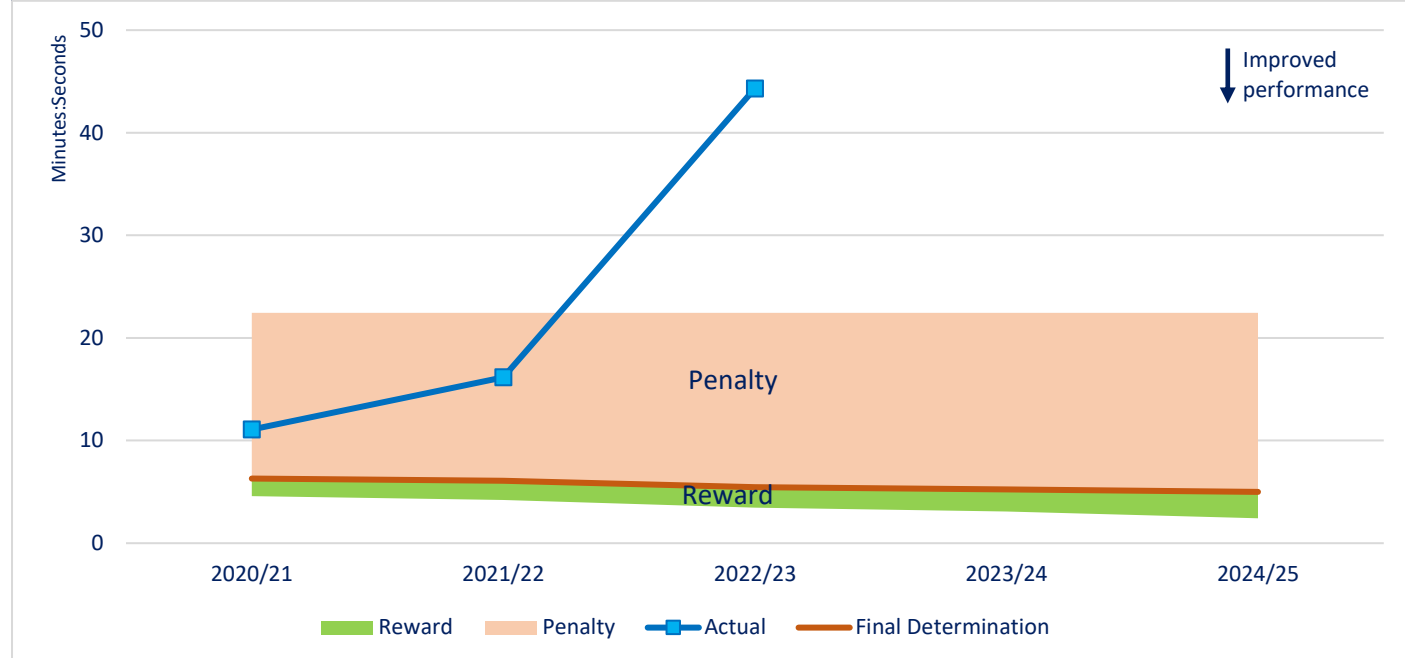
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Wt2 – Water supply interruptions

ODI Reward & Penalty

Summary Performance

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	17:46	11:08	16:17	44:31	n/a	n/a
Final Determination		6:30	6:08	5:45	5:23	5:00
ODI Reward/Penalty (£m)		£2.826	£6.193	£10.370		

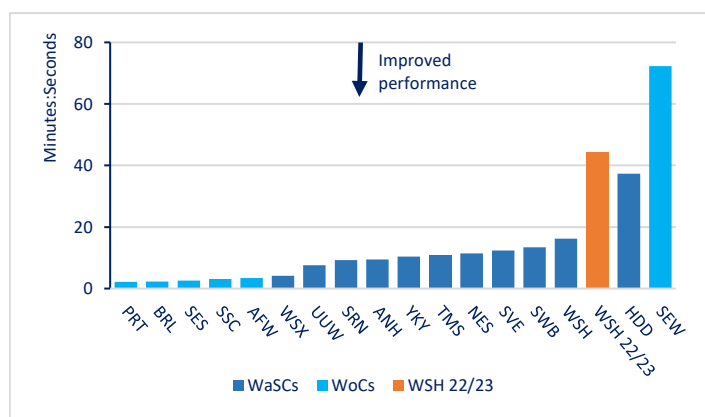


Industry Performance 2021/22

Definition

The average number of minutes that customers are without water within our supply area (includes both planned and unplanned interruptions).

It is calculated as the average number of minutes lost per customer for the whole customer base for interruptions that lasted three hours or more.



Source: 2021/22 Industry dashshare

Commentary

Our performance for the year was 44 minutes and 31 seconds, which is worse than the Ofwat Final Determination target of 5 minutes and 45 seconds.

Following an unprecedented year due to extreme weather events such as the summer drought and the freeze thaw during the winter, we have seen a significant underperformance on this performance commitment. These prolonged events imposed additional strain upon the distribution system resulting in increased activity and loss of supply across the network. In total, the December 2022 freeze thaw accounted for 25 minutes and 32 seconds of our reported performance and impacted 25,333 properties.

In addition, our performance has been impacted by some significant mains bursts affect large volumes of customers where restoration within 3 hours was unachievable. These include:

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- A burst on a trunk main in Cardiff impacted 5,525 properties in the LLanrumney/Cyncoed area in November 2022. Multiple restoration methods were put in place to mitigate impact, including laying overland pipes, rezoning and tankering;
- Another burst on a 15" trunk main in Cardiff impacted 4,299 properties in the Llanrumney area in November 2022. Rezoning and tankering activities took place, however due to burst happening at peak evening demand, the water network drained significantly, and recharge of the water took several hours; and
- A burst on a 18" main in Penarth impacted 2,988 properties in August 2022. Rezoning and tankering activities took place to minimise the impact.

We continue to operate one of the highest-pressure trunk mains systems in the UK and safety remains our number one priority.

Our asset base is ageing meaning that bursts and power outages will continue to occur. We are making every effort to prevent and predict incidents, through pressure management and planned maintenance, and we must ensure that our response is adequate to prevent significant impact.

Restatement of previous data

We have not included Cattle troughs in the calculation of the actual number of properties and time of supply interruptions; however, cattle troughs have been included in the property numbers reported in 4R.27 (the denominator used for calculating the overall impact). Therefore, we need to restate a small change to our performance for 2020/21 and 2021/22. This is shown in the table below:

	Units	2020/21	2021/22
Total connected water properties at year end (less troughs)	000s	1452.324	1459.290
Original reported Water supply interruptions performance	Mins	11:05	16:12
Recalculated Water supply interruptions performance	Mins	11:08	16:17
Variance	Mins	00:03	00:05

This results in a small increase in ODI penalty of £0.030m and £0.054m for each year.

Please see appendix 2.ii, in this document, for details of the compliance checklist for this common performance measure. We are reporting all components as Green except for two Amber assessments as listed.

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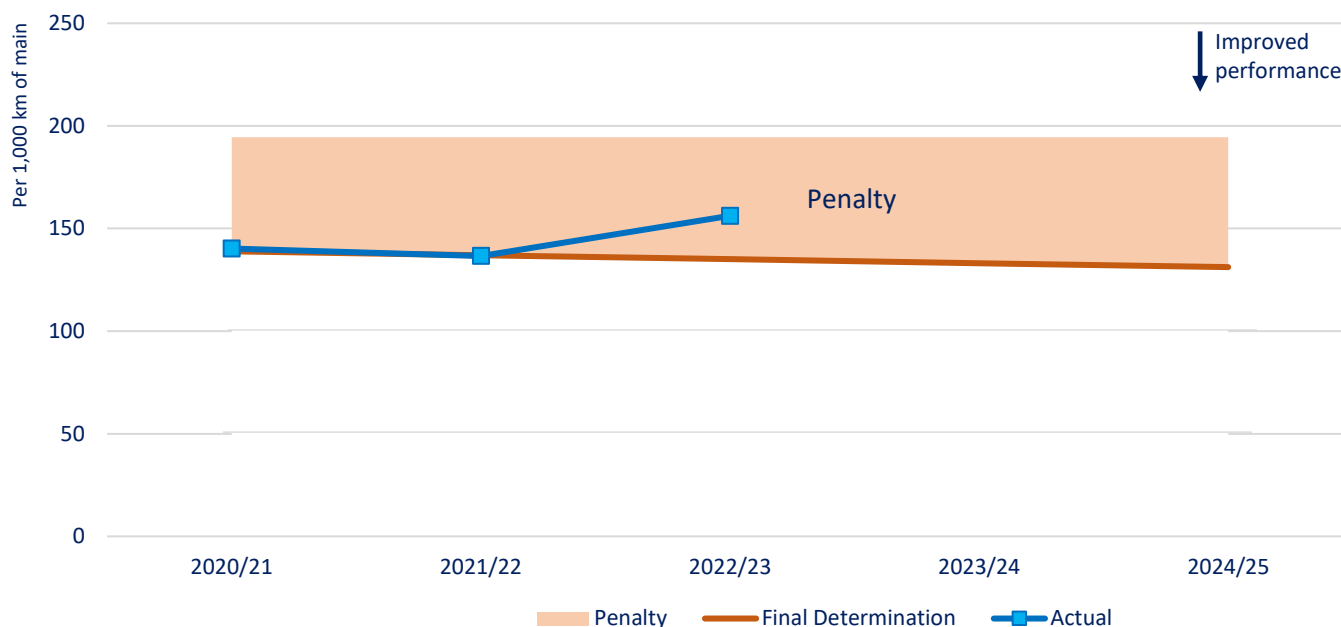
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Wt4 – Mains repairs

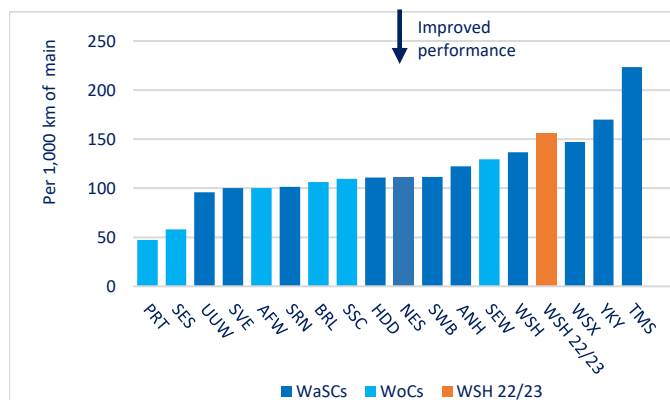
ODI Penalty

Summary Performance

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	138.8	140.2	136.6	156.2	n/a	n/a
Final Determination		138.9	137.0	135.1	133.1	131.2
ODI Penalty (£m)		£0.133	£0	£2.152		



Industry Performance 2021/22



Source: 2021/22 Industry datashare

Definition

This includes all physical repair work to mains from which water is lost.

It is reported as the number of mains repairs per thousand kilometres of the entire water main network (excluding communication and supply pipes).

Commentary

Our performance for the year was 156.2 which is worse than the Ofwat Final Determination target of 135.1.

Our performance was significantly impacted by the freeze thaw weather conditions in December 2022. Our operating area experienced a prolonged period of low temperature accompanied by some snowfall from 6 to the 17 December, as an Arctic Maritime air mass brought hard frosts with daytime temperatures struggling to rise above freezing in many areas. Daily minimum temperatures were amongst the coldest in the UK with many areas between -5°C and -10°C for several consecutive nights. We experienced a 300% increase in the number of mains bursts repaired in the period 11 December 2022 to 4 January 2023 compared to the previous year.

Please see appendix 2.iii, in this document, for details of the compliance checklist for this common performance measure.

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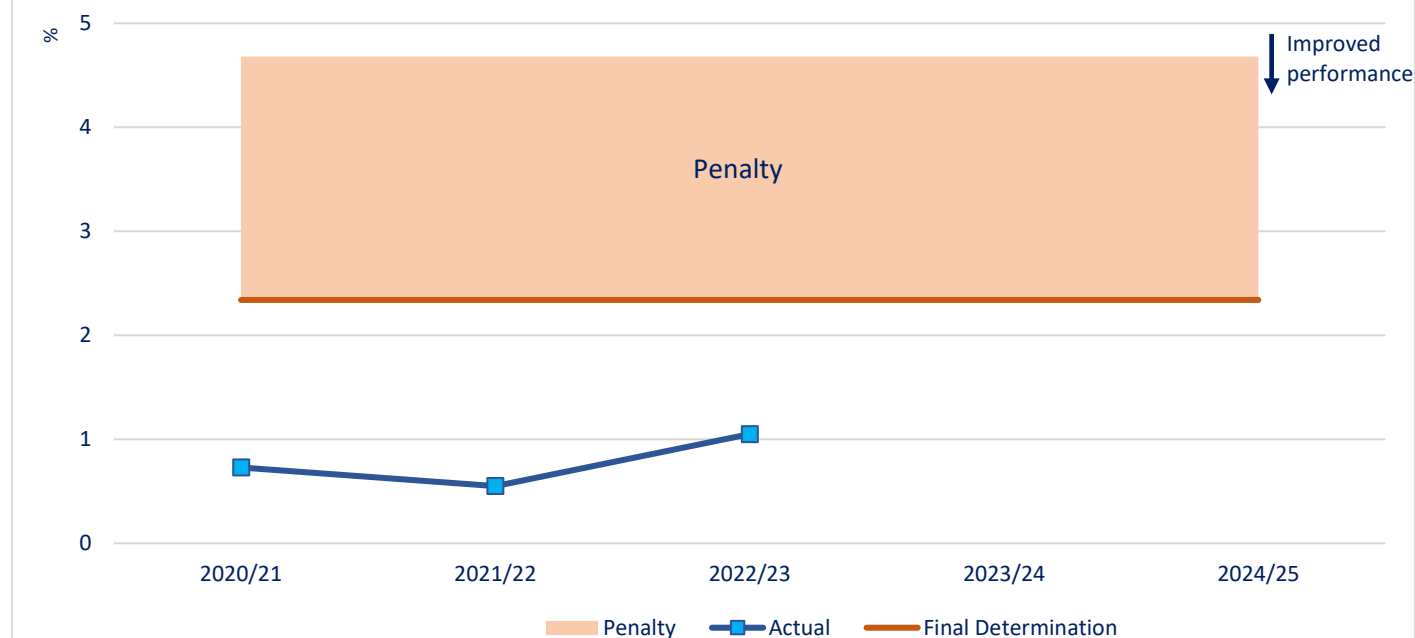
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Wt5 – Unplanned outage %

ODI Penalty

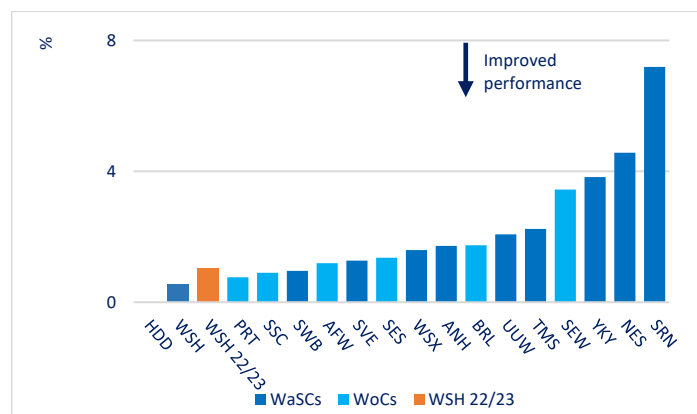
Summary Performance

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	0.13	0.73	0.55	1.05	n/a	n/a
Final Determination		2.34	2.34	2.34	2.34	2.34
ODI Penalty (£m)		£0	£0	£0		



Industry Performance 2021/22

Definition



Source: 2021/22 Industry datashare

This measure is a means of assessing asset health (primarily for above ground assets), for water abstraction and water treatment activities. It is defined as the annualised unavailable flow, based on the Peak Week Production Capacity (PWPC). This measure is proportionate to both the frequency of asset failure as well as the criticality and scale of the assets that are causing an outage.

Commentary

Our performance of 1.05% is better than the Ofwat Financial Determination target of 2.34%, but worse than our performance of 0.55% in 2021/22.

Performance has declined from last year due to outages at Glascoed WTW and Trecastell WTW, as well as the continuation of an event at Llwyn Onn WTW.

The most significant unplanned outage for Production is at Llwyn Onn WTW, where first stage filters are out of service due to failed valves. This contributed to 36% of the unplanned outage total, with a sum of 1,825ML in reduced production, equal to 0.39%.

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Another notable unplanned loss of production was at Glascoed WTW, where elevated raw water taste and odour compounds required capping of the works flow to maximise the effectiveness of the treatment process for removal, using granular activated carbon filtration, as well as powdered activated carbon dosing. This resulted in lost production of 1,375ML, equal to 0.29%.

Finally, Trecastell WTW was offline for 171 days after a sink-hole was found next to the final water tank. A total of 530ML production was lost, equal to 0.11%.

Please see appendix 2.iv for details of the compliance checklist for this common performance measure.

The following table reports our current company level peak week production capacity, our unplanned and planned outage in ML/d.

Reporting Methodology			
Peak Week Production Capacity (PWPC) [Max]	ML/Day (Megalitres per day)		
	1,313.01		
Total	ML /Year		
	479,249		
Total Planned Outage	ML /Year	%	MLD
	14,750	3.08	40.41
Total Unplanned Outage	ML /Year	%	MLD
	5,044	1.05	13.82

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En1 – Treatment works compliance %

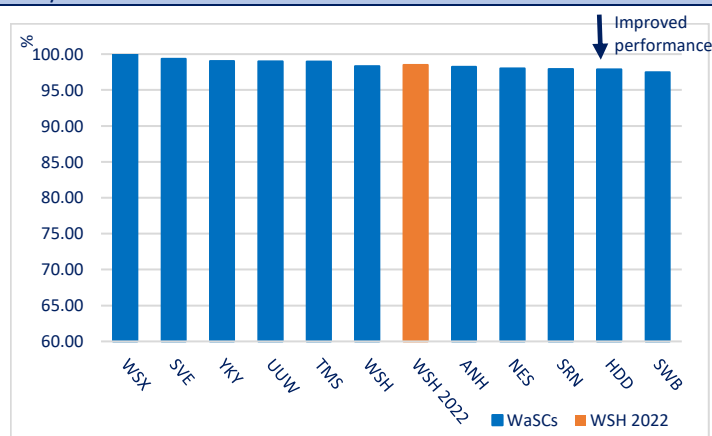
ODI Penalty

Summary Performance

	2019	2020	2021	2022	2023	2024
Actual	98.18	99.66	98.32	98.50	n/a	n/a
Final Determination		100.00	100.00	100.00	100.00	100.00
ODI Penalty (£m)		£0	£0.476	£0.350		



Industry Performance 2021



Source: 2021 Industry datashare

Definition

For our water and wastewater treatment works there is a permit which regulates the quality of wastewater the Company is allowed to discharge into rivers and coastal waters, which is regulated by Natural Resources Wales. The measure is reported as the number of failing sites (as a percentage of the total number of discharges) and not the number of failing discharges. This measure is reported on a calendar year basis.

Commentary

Our performance for the year was 98.50% which is worse than the Ofwat Final Determination target of 100%. This is better than our performance of 98.32% last year.

There were nine non-compliant works (six wastewater treatment works and three water treatment works) out of a total of 602 permitted water and wastewater treatment works.

During the summer of 2022, we witnessed one of the most severe droughts on record which required significant intervention and mitigation work at our treatment works to maintain compliance and ensure we minimise the impact of effluent discharges on rivers.

There is an improvement plan in place to target those treatment works that are not meeting their environmental permits.

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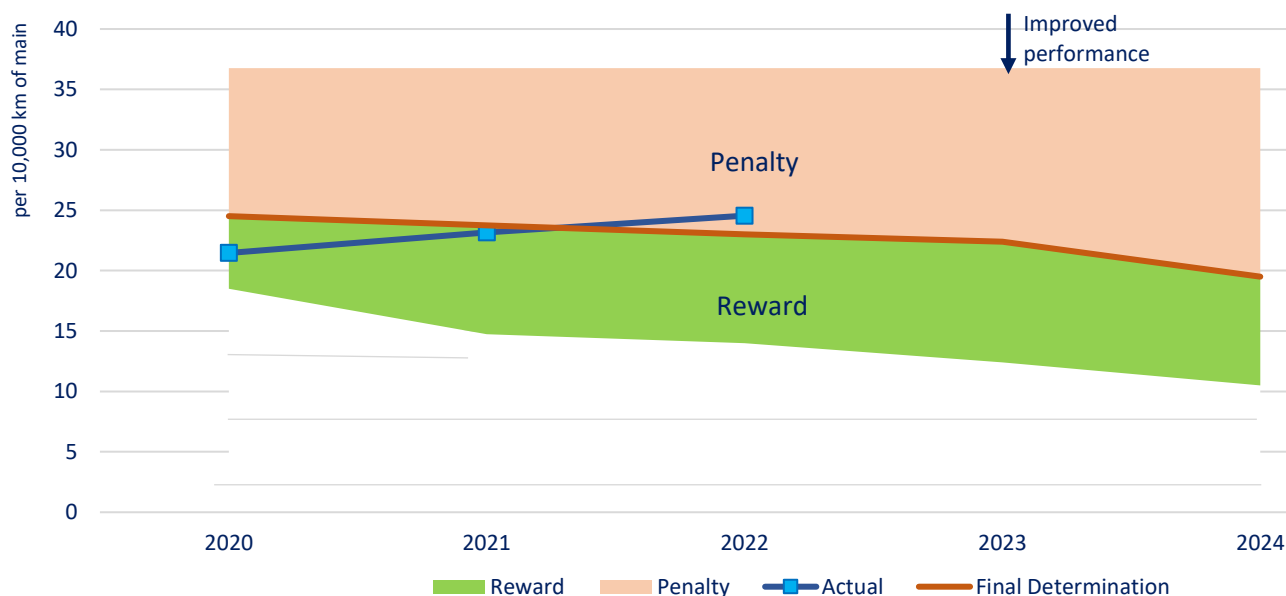
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En3 – Pollution incidents

ODI Reward & Penalty

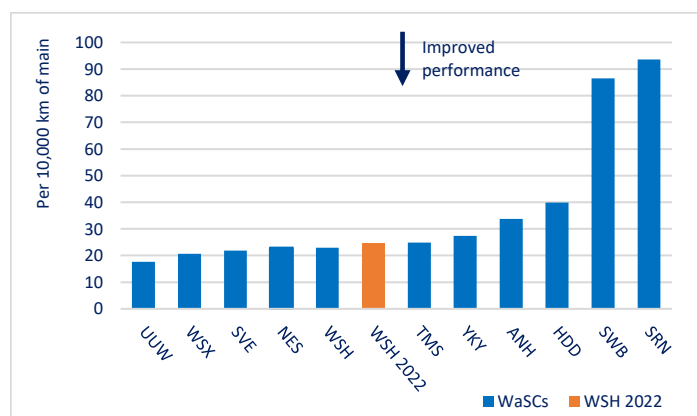
Summary Performance

	2019	2020	2021	2022	2023	2024
Actual	26.20	21.46	22.90	24.55	n/a	n/a
Final Determination		24.51	23.74	23.00	22.40	19.50
ODI Reward/Penalty (£m)		£0.543	£0.150	£0.333		



Industry Performance 2021

Definition



Source: 2021 Industry datashare

The total number of pollution incidents per 10,000 km of sewer length (caused by blockages or collapsed sewers). Pollution incidents are categorised as category 1, 2 or 3 incident and reported by Natural Resources Wales and the Environment Agency.

- Category 1 (High – Major) – are the most severe and have a major or serious impact on the environment, people or property.
- Category 2 (High – Significant) – significant impact or effect on the environment, people or property.
- Category 3 (Low) – minor or minimal impact on the environment, people or property.

This measure is reported on a calendar year basis.

Commentary

Our performance for the year was 24.55 which is worse than the Ofwat Final Determination target of 23.00, and worse than our performance of 22.90 last year. This equates to 89 pollution incidents (five of which are categorised as high significant (category 2)), compared to 83 incidents in 2021.

The five high-significant pollution incidents were:

- A storm tank overflowing after a period of heavy rain into the River Tawe;
- An emergency overflow spilling in Haverfordwest as a result of pump failure which was exacerbated by third party trade discharge;
- A blockage of rags in a sewer causing a pumping station to spill from a manhole in Narbeth;
- A blockage of rags and fat causing a spill into a surface water sewer which discharged into a river in Coychurch; and
- A new housing estate connected to a previously abandoned sewer causing a spill in Barry.

Please note that our reported performance is provisional until signed off by Natural Resources Wales.

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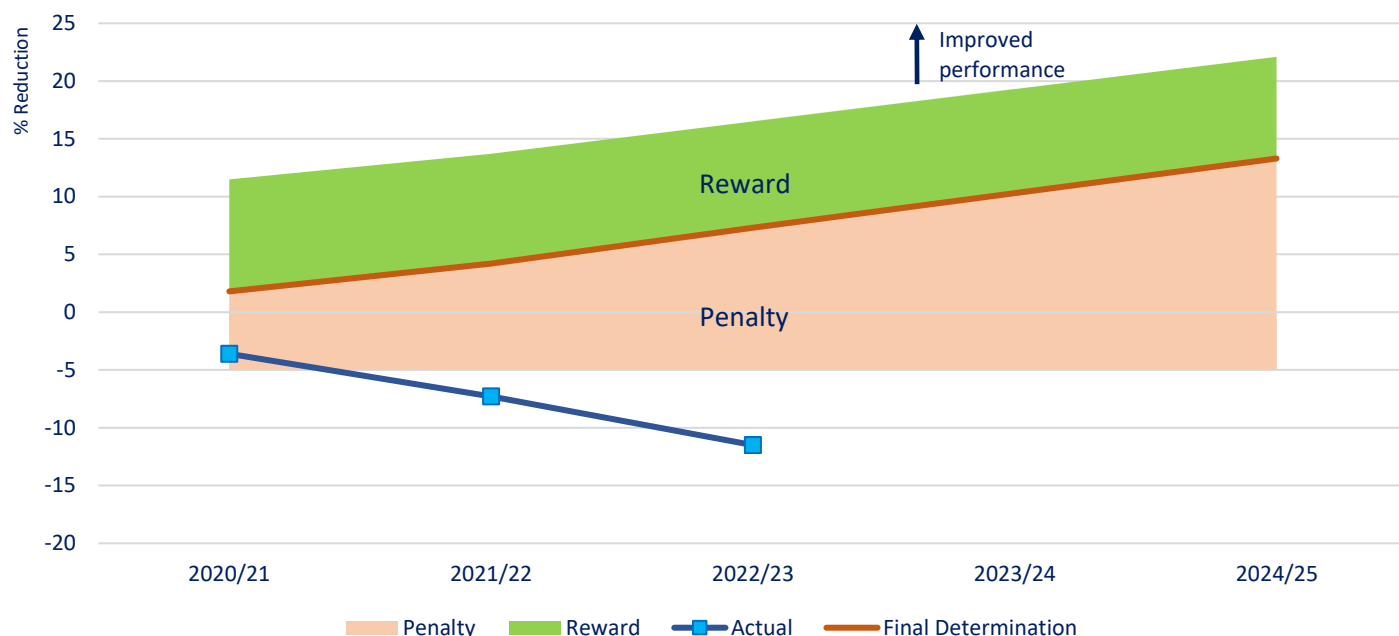
Annual Performance Report 2022/23

En4 – Leakage

ODI Reward & Penalty

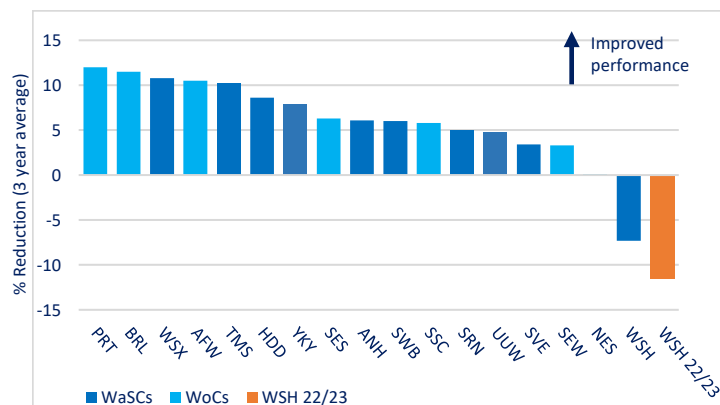
Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	-3.6	-7.3	-11.5	n/a	n/a
Final Determination	1.8	4.2	7.3	10.3	13.3
ODI Reward/Penalty (£m)	£1.982	£3.360	£4.486		



Industry Performance 2021/22

Definition



The percentage reduction of three year average leakage in megalitres per day (ML/d) from the 2019/20 starting baseline.

Source: 2021/22 Industry datashare

Commentary

Overview

Significant improvements in our Leakage and PCC reporting have been implemented this year. Following our internal end of year audit process last year we engaged in a comprehensive review of the data components, methodologies and reported outcomes for both Leakage and PCC. This process has resulted in the identification and implementation of a number of improvements across data sources and reporting methodologies, and human resources that contribute to our performance outcomes. The impact of these changes are significant and have led to a greatly improved understanding of true performance and a subsequent need to restate reported performance for prior years in this AMP.

All components of our restated Leakage and PCC methodologies are scored Green against the Ofwat Consistent Reporting Guidance 'RAG status'.

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While the Company's robust assurance process identified the issue, there were failures in governance and management processes that should have identified the issue sooner. Changes have been made to how leakage reduction activities are managed, and reporting and governance processes have been strengthened, including the creation of a Leakage and PCC Reporting Technical Oversight Committee. An additional £54 million has been allocated to support intensive leakage reductions in the remaining 2 years of this AMP. Furthermore, all customers will be credited with £10 to their accounts due to this misreporting and its effects.

On 25 May 2023 Ofwat announced it is launching an investigation into our reporting of leakage and per capita consumption. We have shared with Ofwat the findings of our internal investigations, the remedial actions we have taken and our customer redress proposals. We will continue to cooperate fully with Ofwat through-out the investigation.

Performance this year

For 2022-23 we have not met our Leakage PCL of 7.3% reporting a performance level of -11.5%.

Part of the increased leakage has been driven by the extreme weather events we've experienced this year. The hot summer caused soil shrinkage which increased the volume of burst water distribution pipes. Further, the significant freeze/thaw event also caused distribution pipes to bursts leading to a significant increase in leakage.

The number of bursts increased in our cement-lined asbestos cement (AC) pipes across our rural areas of mid and west Wales. These bursts present a particular challenge to repair due to the difficulties in accessing remote areas, and the need for the pipes to be fully cut out without an alternative water supply due to the lack of network interconnectivity.

We have increased the level of leakage-reduction resources in our plans to target reduced leakage from both trunk mains and smaller leaks over the coming 2 years. For minor leaks, we will increase our detection and repair teams, who will focus on repairing the damage caused to our network by the winter freeze/thaw event.

We are also increasing the level of investment in our 'upstream losses' project that targets large trunk mains, and will do this in 3 stages:

- i. targeting leaks through data and metering,
- ii. detecting leaks on site with a variety of techniques, and
- iii. repairing leaks using the latest technology.

Restatement of previous years' data

In last year's APR we noted that the leakage and per capita consumption data was subject to an ongoing review.

As part of our annual data assurance process, the data used in our Annual Performance Report to Ofwat is subject to a thorough review by an independent external assurance specialist company. In May 2021, as part of the preparation of our Annual Performance Report to Ofwat, the year-end assurance processes identified some non-material issues with the reporting of leakage and per capita consumption, and Welsh Water's Regulation Team requested that these issues be the subject of a "deep dive" in 2021-22.

An independent report was provided to Welsh Water in March 2022 which identified two areas of non-compliance with the prescribed methodology for reporting leakage and PCC. These findings were corroborated by a second independent review which was completed in December 2022 and recommended improvements to the robustness of the company's reporting of Leakage and PCC performance.

The reviews concluded that leakage had been understated for FY 21 and FY 22 and that per capita consumption had been overstated for the same periods. A full review of the components and reporting methodologies has taken place. An improved and fully compliant approach has been implemented for reporting performance across all years of this AMP. Leakage and PCC performance for APR20 and APR21 have been restated and the tables below show the data as originally published and our restated position that has been shared with Ofwat.

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Leakage - Originally published	2017-18	2018-19	2019-20	2020-21	2021-22	
Annual Average	175.42	172.88	173.11	163.62	157.41	
Base Line			173.8	173.8	173.8	
3-Yr Ave			173.8	169.87	164.71	
Reported PCL Red.					2.3%	5.2%
Target PCL Reduction					1.8%	4.2%

Leakage - Restated	2017-18	2018-19	2019-20	2020-21	2021-22	
Annual Average	208.9	216.6	225.8	232.7	240.3	
Base Line			217.1	217.1	217.1	
3-Yr Ave			217.1	225	232.9	
Reported PCL Red.					-3.6%	-7.3%
Target PCL Reduction					1.8%	4.2%

In APR21 and APR22 we reported leakage performance of 163.62 MI/d and 157.41 MI/d giving 3-year average performances exceeding our targets. The reported performance resulted in ODI outperformance reward payments of £0.114m for 2020-21. We did not report any under or outperformance payments in 2021/22.

Following restatement, we have amended the reported leakage performance to 232.7 MI/d for APR21 and 240.3 MI/d for APR22 giving 3-year average performances which does not meet our targets. The restated reported performance resulted in ODI penalty payments of £1.982m for APR21, an increase of £2.069m, and £ 3.360m for APR22.

Please see appendix 2.v for details of the compliance checklist for this common performance measure.

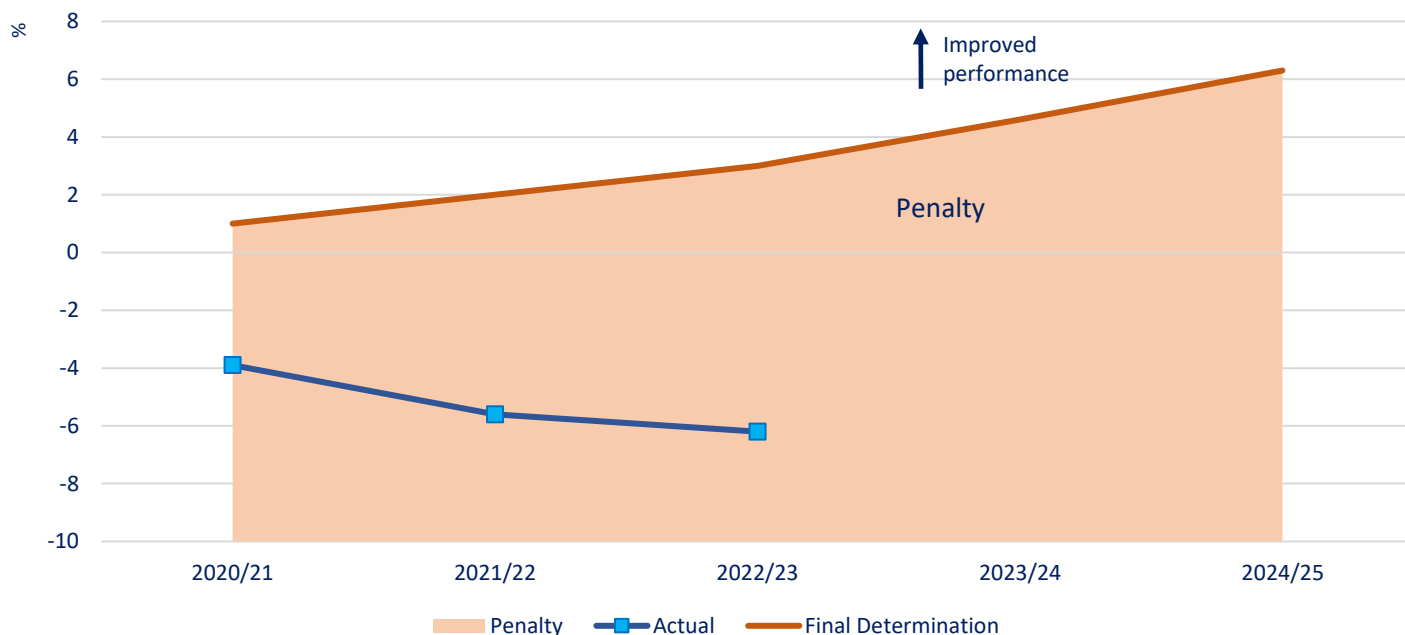
Annual Performance Report 2022/23

En5 – Per capita consumption

ODI Penalty

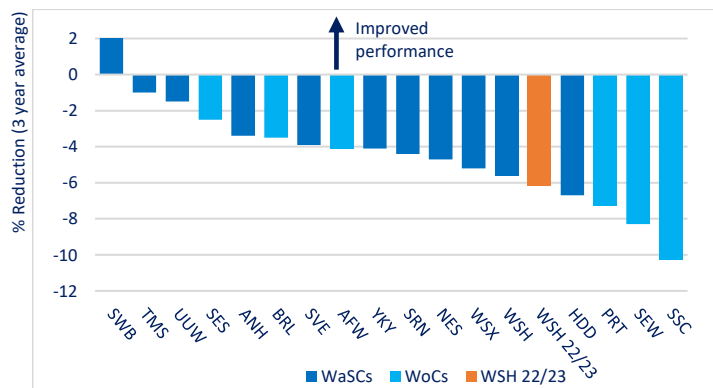
Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	-3.9	-5.6	-6.2	n/a	n/a
Final Determination	1.0	2.0	3.0	4.6	6.3
ODI Penalty (£m)	£0.000 (£0.972 Penalty end of AMP)	£0.000 (£1.485 Penalty end of AMP)	£0.000 (£1.823 Penalty end of AMP)		



Industry Performance 2021/22

Definition



Annual average per capita consumption (PCC) is defined as the sum of measured and unmeasured household consumption divided by the total household population. This measure is reported as a % reduction of our three year average PCC from the 2019/20 starting baseline.

Source: 2021/22 Industry datashare

Commentary

Overview

Significant improvements in our Leakage and PCC reporting have been implemented this year. Following our internal end of year audit process last year we engaged in a comprehensive review of the data components, methodologies and reported outcomes for both Leakage and PCC. This process has resulted in the identification and implementation of a number of improvements across data sources and reporting methodologies, and human resources that contribute to our performance outcomes. The impact of these changes are significant and have led to a greatly improved understanding of true performance and a subsequent need to restate reported performance for prior years in this AMP.

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All components of our restated Leakage and PCC methodologies are scored Green against the Ofwat Consistent Reporting Guidance 'RAG status'.

While the Company's robust assurance process identified the issue, there were failures in governance and management processes that should have identified the issue sooner. Changes have been made to how leakage reduction activities are managed, and reporting and governance processes have been strengthened, including the creation of a Leakage and PCC Reporting Technical Oversight Committee. An additional £54 million has been allocated to support intensive leakage reductions in the remaining 2 years of this AMP. Furthermore, all customers will be credited with £10 to their accounts due to this misreporting and its effects.

On 25 May 2023 Ofwat announced it is launching an investigation into our reporting of leakage and per capita consumption. We have shared with Ofwat the findings of our internal investigations, the remedial actions we have taken and our customer redress proposals. We will continue to cooperate fully with Ofwat through-out the investigation.

Performance this year

We have not met our PCC PCL of 3.0 % and report a performance level of -6.2%. We are not reporting any under or outperformance payments for this reporting year in line with the planned PCC PCL review at the end of the control period as outlined in Ofwat IN 23/03. (Based on the previous ODI approach this year's performance would result in an ODI penalty of £1.82m and current forecast end of AMP position of a total penalty of £6.78m.)

In terms of PCC, household demand is influenced by external factors which to a certain extent are out of direct control of the company. We are only now seeing demand return back to pre-covid levels and a "sustained" level may now be the new norm in light of hybrid working patterns, contrary to baseline PCC estimates which does not reflect that shift.

Reduction of per capita consumption in the long-run requires us to influence the consumption behaviour of our customers, and to develop more efficient household water distribution systems. We will achieve these outcomes by:

- Increasing the number of meters that customers have, because our existing data shows that customers on meters tend to consume less water.
- Developing a behavioural change campaign that explains the links between the water our customers consume and the environment around them, including the carbon footprint and costs to them. It is essential to our strategy that we increase awareness, providing our customers with the information they need to consider the role they need to play.
- Advocating changes to building regulations that move towards grey water harvesting and more efficient customer-side supply systems.
- Promoting the introduction of labelling white goods with their water efficiency to provide customers with the right information to make informed decisions about the efficiency of household appliances.

Restatement of previous years' data

In last year's APR we noted that the leakage and per capita consumption data was subject to an ongoing review.

As part of our annual data assurance process, the data used in our Annual Performance Report to Ofwat is subject to a thorough review by an independent external assurance specialist company. In May 2021, as part of the preparation of our Annual Performance Report to Ofwat, the year-end assurance processes identified some non-material issues with the reporting of leakage and per capita consumption, and Welsh Water's Regulation Team requested that these issues be the subject of a "deep dive" in 2021-22.

An independent report was provided to Welsh Water in March 2022 which identified two areas of non-compliance with the prescribed methodology for reporting leakage and PCC. These findings were corroborated by a second independent review which was completed in December 2022 and recommended improvements to the robustness of the company's reporting of Leakage and PCC performance.

The reviews concluded that leakage had been understated for FY 21 and FY 22 and that per capita consumption had been overstated for the same periods. A full review of the components and reporting methodologies has taken place. An improved and fully compliant approach has been implemented for reporting performance across all years of this AMP. Leakage and PCC performance for APR20 and APR21 have been restated and the tables below show the data as originally published and our restated position that has been shared with Ofwat.

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PCC – Originally Published	17/18	18/19	19/20	20/21	21/22
Annual Average	151.7	157.5	156.5	176.0	174.7
Base Line			155.2	155.2	155.2
PCC three year rolling average			155.2	163.3	169.0
Reported PCL Red.				-5.2%	-8.9%
Target PCL Reduction				1.00	2.00

PCC - Restated	17/18	18/19	19/20	20/21	21/22
Annual Average	143.7	147.6	145.8	160.9	154.8
Base Line			145.7	145.7	145.7
PCC three year rolling average			145.7	151.4	153.8
Reported PCL Red.				-3.9%	-5.6%
Target PCL Reduction				1.00	2.00

Line	Line Description	2020/21 Original number	2020/21 restated number	2021/22 Original number	2021/22 restated number
3F.4	Household consumption (Ml/d)	524.67	479.76	534.26	473.53

In APR21 and APR22 we reported PCC performance of 176.0 l/head/d and 174.7 l/head/d giving 3-year average performances which do not meet our targets. The reported performance resulted in ODI underperformance penalty payments of £1.310m for APR21. We did not report any under or outperformance payments for APR22 in line with the planned PCC PCL review at the end of the control period as outlined in Ofwat IN 23/03.

Following restatement, we have amended the reported PCC performance to 160.9 l/head/d for APR21 and 154.8 l/head/d for APR22 giving 3-year average performances which does not meet our targets. We have not reported restated under or outperformance payments for APR21 and APR22 in line with the planned PCC PCL review at the end of the control period as outlined in Ofwat IN 23/03. (Based on the previous ODI approach the restated reported performance would result in ODI penalty payments of £ 0.972 for APR21, a decrease of £0.34m, and £1.485 for APR22.)

Please see appendix 2.v for details of the compliance checklist for this common performance measure.

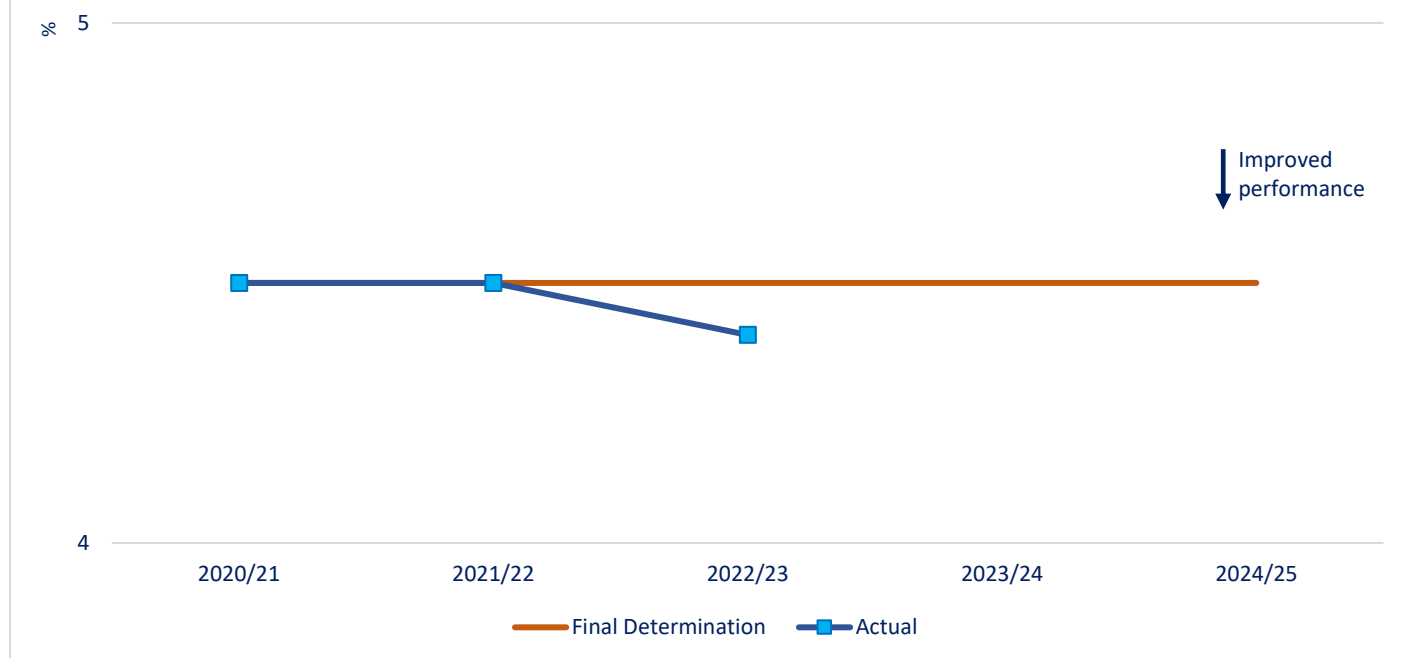
Annual Performance Report 2022/23

Ft1 – Risk of severe restrictions in a drought %

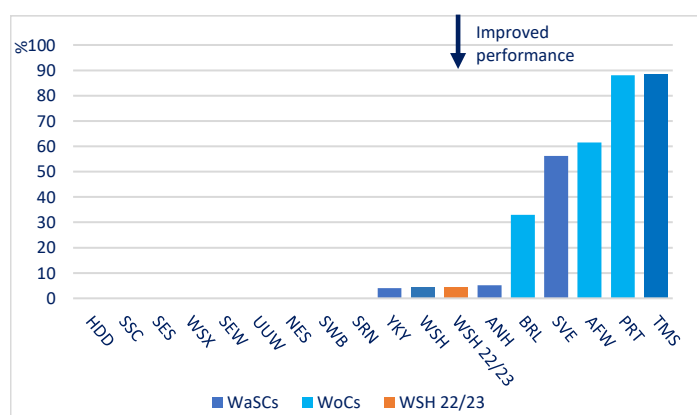
Reputational

Summary Performance

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	4.5	4.5	4.5	4.4	n/a	n/a
Final Determination		4.5	4.5	4.5	4.5	4.5



Industry Performance 2021/22



Source: 2021/22 Industry datashare

Definition

The overall metric is the percentage of the customer population at risk of experiencing severe restrictions in a 1-in-200 year drought, on average, over 25 years.

Commentary

Our performance for the year was 4.4% which is better than the Ofwat Final Determination target of 4.5% and better than our performance last year.

The improvement in the percentage of population at risk is due to our improved understanding of drought resilience in Tywyn Aberdyfi zone and we are now confident that our existing supplies are resilient to a 1 in 200 year drought event.

Given the long-term nature of this metric, the process uses the actual population data for 2022/23 and also forecast population, as per the Ofwat guidance.

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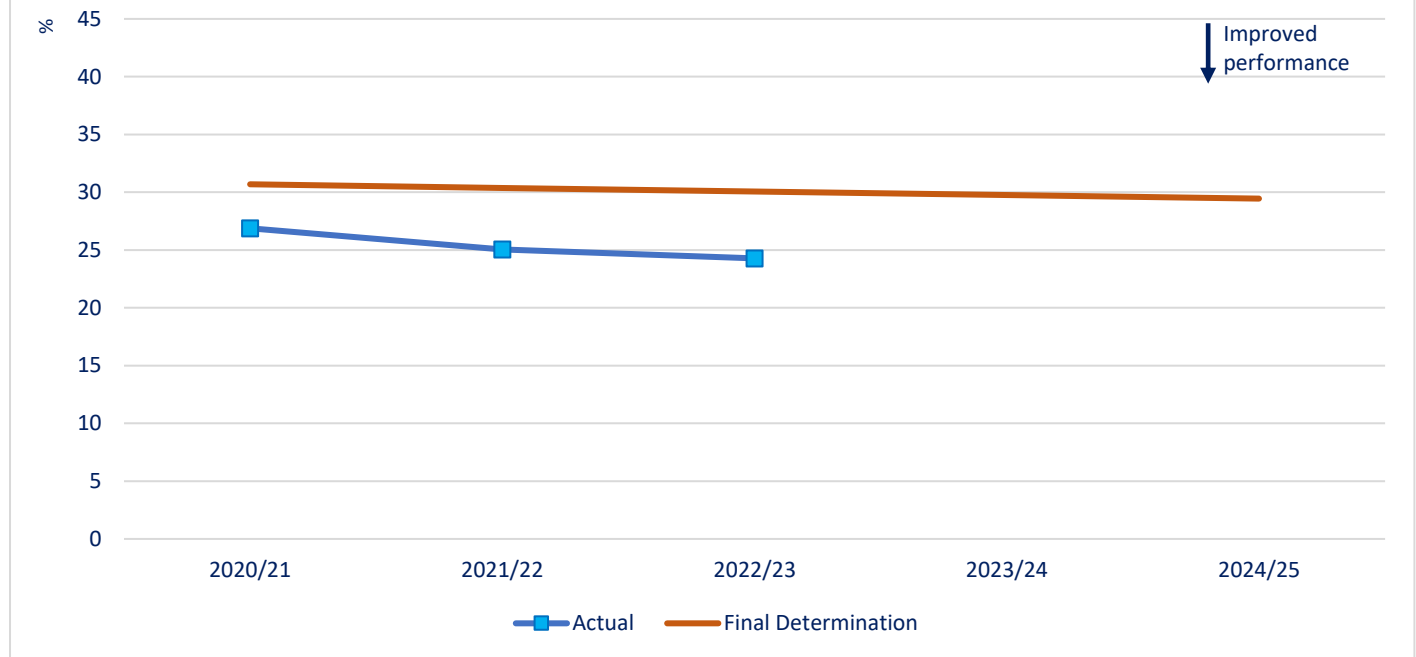
Annual Performance Report 2022/23

Ft2 – Risk of sewer flooding in a storm %

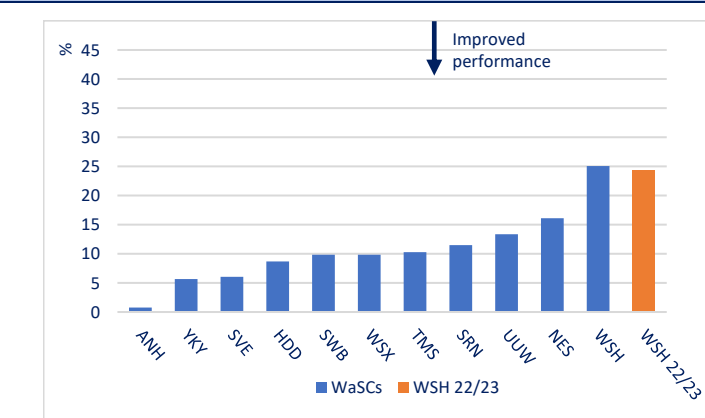
Reputational

Summary Performance

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	41.81	26.88	25.05	24.28	n/a	n/a
Final Determination		30.69	30.38	30.07	29.76	29.45



Industry Performance 2021/22



Source: 2021/22 Industry datashare

Definition

This measure will record the percentage of the region's population at risk from internal hydraulic sewer flooding from a 1 in 50-year storm, based on modelled predictions.

Commentary

Our performance for the year was 24.28% which is better than the Ofwat Final Determination target of 30.07% and last years' performance of 25.05%. The increase can be attributed to increased hydraulic model coverage and additional flood routing assessment.

This year, no changes have been made to the catchment vulnerability assessment. Sixteen new catchments have been modelled and moved from the 1a to the 1b assessment.

It is important to note that it is not anticipated that there will be any additional model coverage increases until cycle two of the DWMP.

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Rt1 – Internal sewer flooding

ODI Reward & Penalty

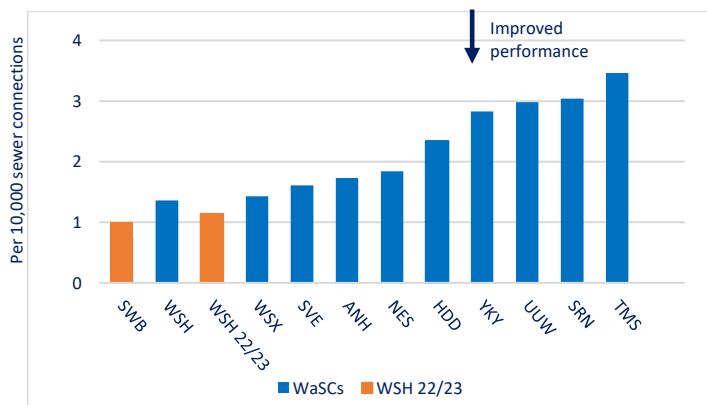
Summary Performance

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	1.75	2.05	1.36	1.14	n/a	n/a
Final Determination		1.68	1.63	1.58	1.44	1.34
ODI Reward/Penalty (£m)		£1.581	£1.154	£1.880		



Industry Performance 2021/22

Definition



The measure is calculated as the number of internal sewer flooding incidents normalised per 10,000 sewer connections including sewer flooding due to severe weather events.

Commentary

Our performance for the year was 1.14 which is better than the Ofwat Final Determination target of 1.58, measured per 10,000 sewer connections. This is equivalent to 169 properties this year and 201 in 2021/22.

As part of our investigation process onsite, we have identified, and self-reported 25 internal flooding incidents (15%). Customers have had to proactively call us for 85% of our internal flooding performance.

The year overall was relatively dry, with 92% of the average rainfall and no named storms that affected Wales in 2022-23. As a result, we saw less than 4% of our internal sewer flooding attributed to Hydraulic Overload.

Sewer defects and blockages caused 87% of our internal flooding incidents in the year. Reducing the blockages (and underlying defects) that cause flooding to properties is therefore a key part of our strategy. Reports have been adjusted to be more focused around the

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sewers that have the biggest impact on customers, so we can focus investigations and investment based on impact to our customers. We have launched all-Wales flooding champion roles and strategy groups which focus on our strategy and ensure best practices. Through these groups, we have improved our investigation process and operational strategy so that we are being more thorough at finding the root cause to prevent flooding.

Part of our flooding strategy is to improve and increase our proactive tools and smart network management through better data and alarm systems. We have trialled and installed a new 'CSA' alarm at key sites in our network across Wales, which have currently turned out a 91% success rate from the alarms received. This trial has already successfully prevented 46 incidents that would have caused flooding, 10 of these prevented internal flooding. Alongside the CSA installations, we have also improved our proactive modelling and utilised the dry start to the year to proactively go out and stop flooding. Of the sites identified, 58% found either blockages which were proactively cleared, or further remedial work being required to prevent future risk of flooding incidents. We hope to utilise and expand on both of these initiatives in the next year after their initial success.

Please see appendix 2.vii, in this document, for details of the compliance checklist for this common performance measure. We are reporting all components as Green assessments as listed.

Annual Performance Report 2022/23

Rt3 – Sewer collapses

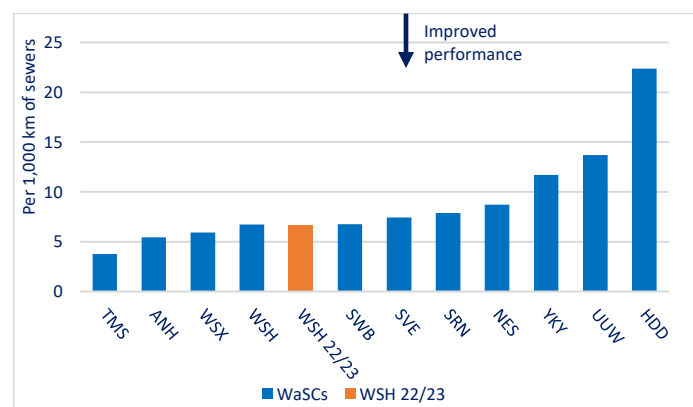
ODI Penalty

Summary Performance

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	7.23	7.69	6.71	6.68	n/a	n/a
Final Determination		7.20	7.20	7.20	7.20	7.20
ODI Penalty (£m)		£0.069	£0	£0		



Industry Performance 2021/22



Source: 2021/22 Industry datahare

Definition

The number of sewer collapses per 1,000 kilometres of all sewers causing an impact on service to customers or the environment.

A sewer collapse is where a structural failure has occurred to the pipe that results in a service impact to a customer or the environment and where action is taken to replace or repair the pipe to reinstate normal service.

Commentary

Our performance for the year was 6.68 which is better than the Ofwat Final Determination target of 7.20 measured per 1000km of sewers, based on a total sewer length of 37,125km. This equates to a total of 248 collapses (151 on gravity sewers, 97 rising main bursts).

The number of incidents on our gravity sewers have slightly improved compared to previous years' performance from 162 in 2021-22 to 151 in 2022-23. This aligns with the focused approach on better monitoring and maintenance on those assets most likely to flood or impact the environment. This alongside looksee cameras being used on nearly all attendance means we are better able to intervene once a failure has occurred and prevent a repeat incident.

In addition to the 248 incidents reported under Rt3 Sewer collapses, we have reported 411 incidents under 'patch repairs and relining' in the APR table 3I Line 4 (as per Ofwat query response log number 101, dated 14/4/21). These incidents are also reported as sewer

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blockages in the Annual Performance Report table 7C line 5. This is an improvement on 2021-22 reported performance of 466 'patch repairs and relining' under the same APR line 3I line 4.

Please see appendix 2.vi, in this document, for details of the compliance checklist for this common performance measure. We are reporting all components as green assessments as listed.

Annual Performance Report 2022/23

Sv1 – C-MeX

ODI Reward & Penalty

Summary Performance

Item	Unit	2019/20	2020/21	2021/22	2022/23
Annual customer satisfaction score for the customer service survey	Number		83.11	80.72	80.41
Annual customer satisfaction score for the customer experience survey	Number		87.19	85.14	85.43
Annual C-MeX score	Number	82.47	85.15	82.93	82.92
Annual net promoter score	Number		51.50	44.50	47.00
Total household complaints	Number		18,041	4,181	7,449
Total connected household properties	Number		1,477,758	1,487,857	1,493,368
Total household complaints per 10,000 connections	Number		122.08	28.158	49.881
Confirmation of communications channels offered	TRUE or FALSE		TRUE	True	True
ODI Reward / Penalty	£m		£2.018	£1.600	£2.191

Industry comparison

Source: 2021 Industry datashare

Company	2022/23		2021/22	
	C-MeX scores	Rank	C-MeX scores	Rank
NES	83.74	1	84.46	2
PRT	83.17	2	83.76	3
WSX	82.99	3	84.82	1
WSH	82.92	4	82.93	5
UUW	81.26	5	82.01	7
BRL	80.68	6	82.86	6
HDD	80.03	7	78.78	11
SSC	79.87	8	83.38	4
SVE	79.08	9	80.61	8
ANH	78.77	10	80.43	9
YKY	78.25	11	80.41	10
SWB	76.45	12	78.48	12
SES	76.03	13	76.35	15
AFW	74.59	14	76.57	14
SEW	73.47	15	76.59	13
SRN	69.77	16	72.00	16
TMS	67.06	17	68.86	17

Definition

C-MeX is a customer measure of experience and customer satisfaction. It is comprised of two survey elements:

- Customer Experience Survey – a customer satisfaction survey amongst a random sample of the water company's customers; and
- Customer Service Survey – a customer satisfaction survey amongst a random sample of those customers who have contacted their water company.

The scores of each of the two surveys are weighted equally to produce the combined C-MeX measure.

Commentary

Our performance for the year was 82.92 which placed us in 4th position against all of the other water companies. This overall C-MeX score can be broken down into two components:

- Customer Service Survey (CSS) - our score for the year was 80.41, which placed us 6th amongst all other companies.
- Customer Experience Survey (CES) - our score for the year was 85.15, which placed us 1st amongst all the other companies.

There is a 3 point out of 100 deduction if fewer than five communication channels are offered, of which three must be online. During the year we have offered seven channels, four of which are digital. These are:

- Non Digital – Telephone, Written and Visits
- Digital – Emails, Social Media, Webform and Live Chat.

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Sv2 – D-MeX

ODI Reward & Penalty

Summary Performance

Item	Unit	2019/20	2020/21	2021/22	2022/23
Qualitative component annual results	Number		67.78	67.96	69.41
Quantitative component annual results	Number		97.61	99.92	99.95
D-MeX score	Number	84.38	82.69	83.94	84.68
Developer services revenue (water)	£m		16.035	19.245	17.823
Developer services revenue (waterwater)	£m		7.724	7.196	11.450
ODI Reward / Penalty	£m		£0.353	£0.139	£1.127

Industry comparison

Source: 2021 Industry datashare v3

Company	2022/23		2021/22	
	D-MeX Score	Rank	D-MeX Score	Rank
HDD	92.88	1	91.27	1
PRT	92.67	2	90.56	3
SVE	91.40	3	90.90	2
BRL	89.99	4	85.26	9
WSX	89.89	5	89.65	4
NES	89.85	6	88.56	5
SSC	87.56	7	84.40	11
UUW	87.43	8	88.40	6
ANH	87.26	9	87.54	7
AFW	86.36	10	85.54	8
SWB	86.02	11	84.99	10
SES	84.91	12	77.39	16
WSH	84.68	13	83.94	12
SEW	82.74	14	81.34	13
SRN	80.56	15	77.78	15
TMS	80.46	16	79.64	14
YKY	80.26	17	55.08	17

Definition

D-MeX is a measure of customer satisfaction for Developer Services.

The D-MeX score is calculated from two components that contribute equally:

- Qualitative D-MeX score, based on the ratings provided by developer services customers who transacted with the company throughout the reporting year to a customer satisfaction survey; and
- Quantitative D-MeX score, based on the company's performance against a set of selected Water UK performance metrics throughout the reporting year.

Commentary

Our performance outcome for D-MeX is 84.68 placing us in 13th position in the league table with all other companies.

Quantitative measure

Our end of year performance places us in 3rd position overall (1st compared to WaSCs) for the period compared to all companies.

Quantitative performance has remained consistent throughout this reporting period and since implementation of the Water UK measures in 2015, we have consistently remained in upper quartile position. We have delivered our best D-MeX quantitative score this year since the measure's implementation achieving 1st position compared to all WaSC's.

A number of water companies are re-stating their data which may alter our end of year position in the league table and performance payment outcomes.

Qualitative measure

Our performance for the year places us in 13th position overall for the period compared to all companies. Performance has continued to increase since implementation of this component of measure, however other companies are improving at a rate which has widened the gap, impacting on performance outcomes. The qualitative score is directly linked to those activities reported for the purposes of

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quantitative performance and therefore the restatement of this data by many companies would not just alter the quantitative score, it will also lead to either changes to the qualitative score or it being based on incorrect data.

We have used the quarterly anonymous developer survey feedback to identify areas of improvement based on customer comments from the seven question survey and have a Customer Improvement Group in place with a detailed action plan to progress areas of opportunity.

80% of our qualitative survey work relates to the New Water Connections process. We have referenced our improvements within our Business plan and several targeted improvements are under way to improve performance.

Several of those actions under way to support performance improvement include:

- Implementation of actions following an end-to-end review of the New Water Connection journey as outlined in the 23/24 Business plan.
- Revised KPI's with our partners to incentivise improved performance.
- Proactive customer contact throughout the customer journey for all services.
- Customer Stakeholder Strategy – to continually engage with customers at the level and frequency they want to include facilitating Developer Forums.
- We have challenged ourselves and are exceeding Levels of service targets internally.

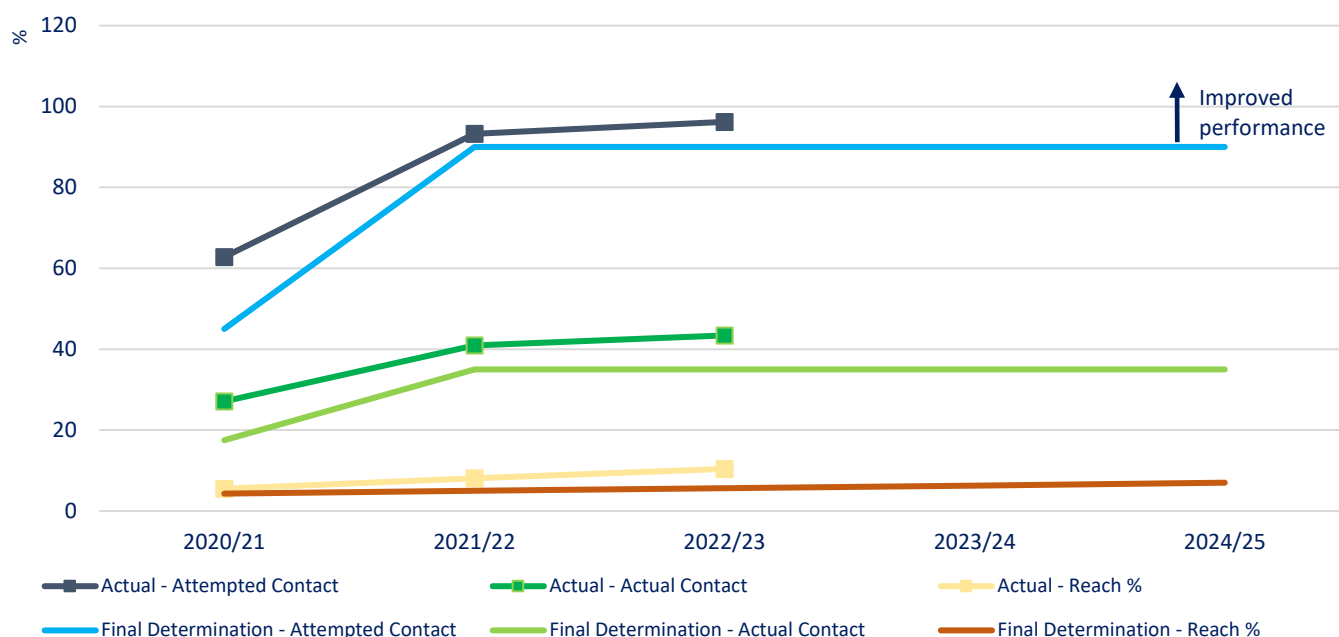
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Sv5 – Priority services for customers in vulnerable circumstances

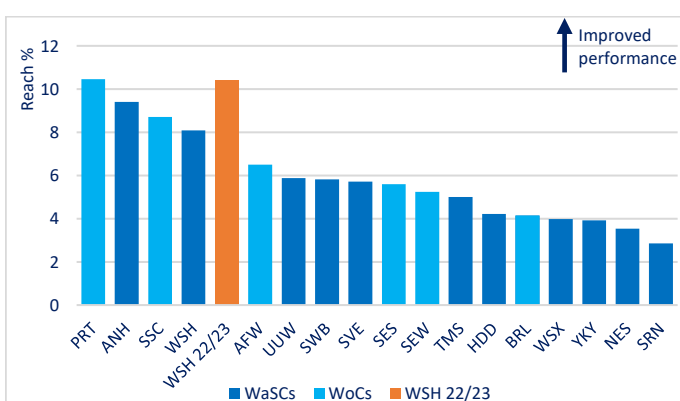
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Summary Performance

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual - Attempted Contact %	92.4	62.8	93.2	96.2	n/a	n/a
Actual - Actual Contact %	57.6	27.1	40.9	43.4	n/a	n/a
Actual - Reach %	4.0	5.5	8.1	10.4	n/a	n/a
Final Determination – Attempted Contact %		45.0	90.0	90.0	90.0	90.0
Final Determination – Actual Contact %		17.5	35.0	35.0	35.0	35.0
Final Determination – Reach %		4.3	5.0	5.6	6.3	7.0

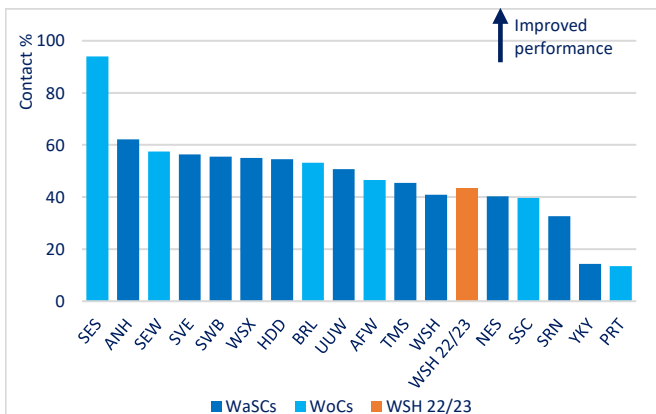


Industry Performance 2021/22 – Reach %



Source: 2021/22 Industry datashare

Industry Performance 2021/22 – Actual Contact %



Source: 2021/22 Industry datashare

Definition

We provide special assistance to those customers in vulnerable circumstances who are registered on our Priority Services Register (PSR). This measure reports on the number of households on the Company's PSR as a proportion of all households in the Company's region.

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Commentary

For 2022/23 we are reporting there are 144,933 household customers on our Priority Services Register (PSR) as of 31 March 2023. This is an increase of 24.63% on last year's figure of 116,290.

Welsh Water's Priority Services scheme offers additional practical services to customers who may for example be disabled, chronically sick, of pensionable age, parents with young children, on dialysis, or have sight or hearing impairment. A summary of services provided is:

- 2,150 household receive support with communication;
- 1,332 households received support with mobility and access restrictions;
- 144,905 households receive support with supply interruptions;
- 4,774 households receive support with security; and
- 5,972 households receive support with other needs.

These total to more than 144,905 as some households are registered for more than one service.

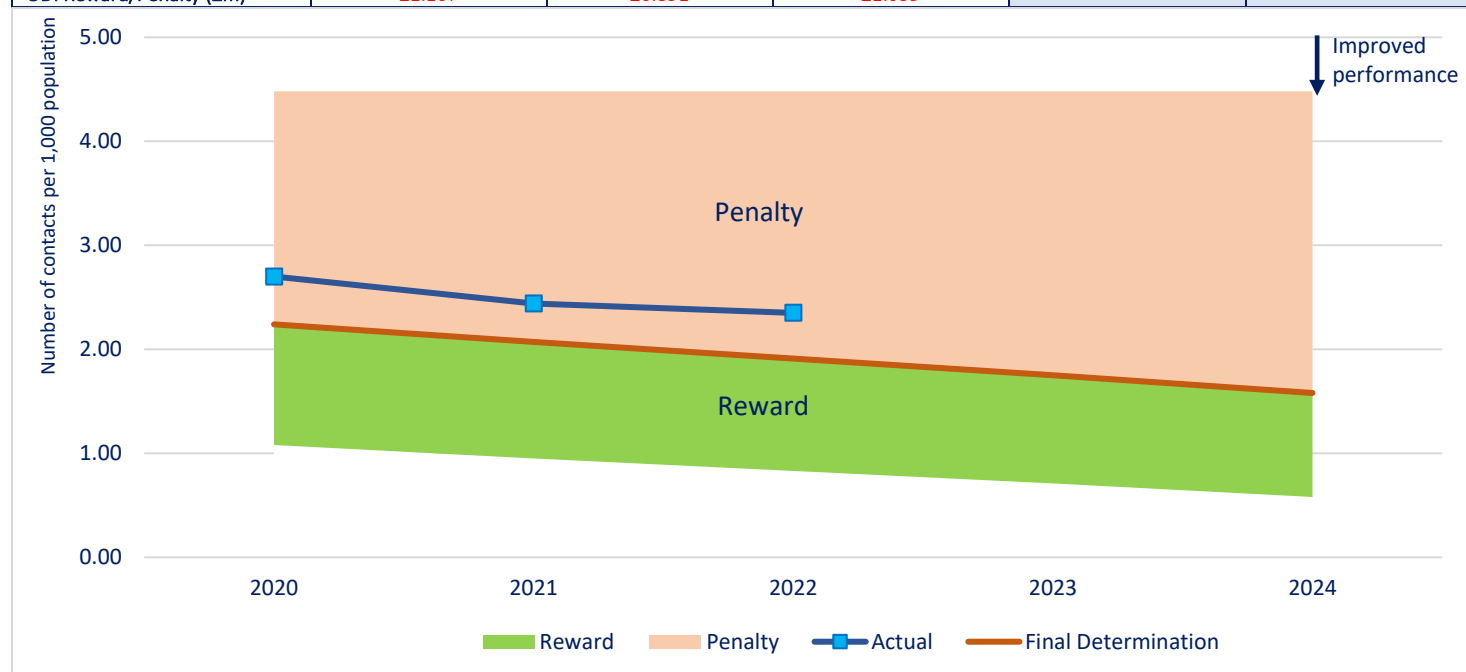
- 10.4% of our households were registered for priority services (as of 31 March). The total number of household connections used at 31 March 2023 for this calculation was 1444,375 and excludes void properties.
- As at 31 March 2023 there were 69,638 households which had been on the register for more than 2 years and which were in scope for data checking. Contact was attempted with 67,021 (96.2%) of those households over the last 2 years.
- As at 31 March 2023, 30,236 (43.4%) of households which have been on the PSR for more than two years have had an actual contact in the last two year period.

Wt3 – Acceptability of drinking water

ODI Reward & Penalty

Summary Performance

	2020	2021	2022	2023	2024
Actual	2.70	2.44	2.35	n/a	n/a
Final Determination	2.24	2.07	1.91	1.75	1.58
ODI Reward/Penalty (£m)	£1.107	£0.891	£1.059		



Definition

The number of times the company is contacted by consumers due to the taste and odour of drinking water, or due to drinking water not being clear, reported per 1,000 population. This measure is reported on a calendar year basis.

Commentary

Our performance for the year was 2.35 contacts per 1,000 population which is worse than the Ofwat Final Determination target of 1.91, but better than last year's performance of 2.44.

During 2022 we received 7,408 contacts from our customers related to the acceptability of drinking water.

Our performance was largely achieved through the continued delivery of our Acceptability of Water strategy which follows a Source to Tap approach, supported by innovation and investment. However, delivery of this was hampered by the exceptionally dry summer period where we received the highest number of customer contacts (909) during the year. Warmer drier temperatures lead to less water in the reservoirs which causes algal blooms and concentrates nutrients/metals leading to treatment issues and possibly customer contacts. From a distribution perspective, warmer weather leads to higher water usage and potentially supply issues. Also, increased usage leads to higher velocities in the mains, which can cause an increase in discolouration contacts due to scouring.

The Acceptability of Water strategy contains a number of key deliverables for the period 2020-25, including:

- using our in-house predictor tool to provide an understanding of water quality for future years;
- improved monitoring at water treatment works to reduce the levels of Manganese going into supply;
- continuation of our Zonal Studies Programme to clean and replace cast iron pipes and investment;
- improving communication with customers related to water quality, e.g. simplified customers leaflets and social media content; and
- continued locking down vulnerable parts of our network from third party use, 3,000 locking caps have been installed in the year.

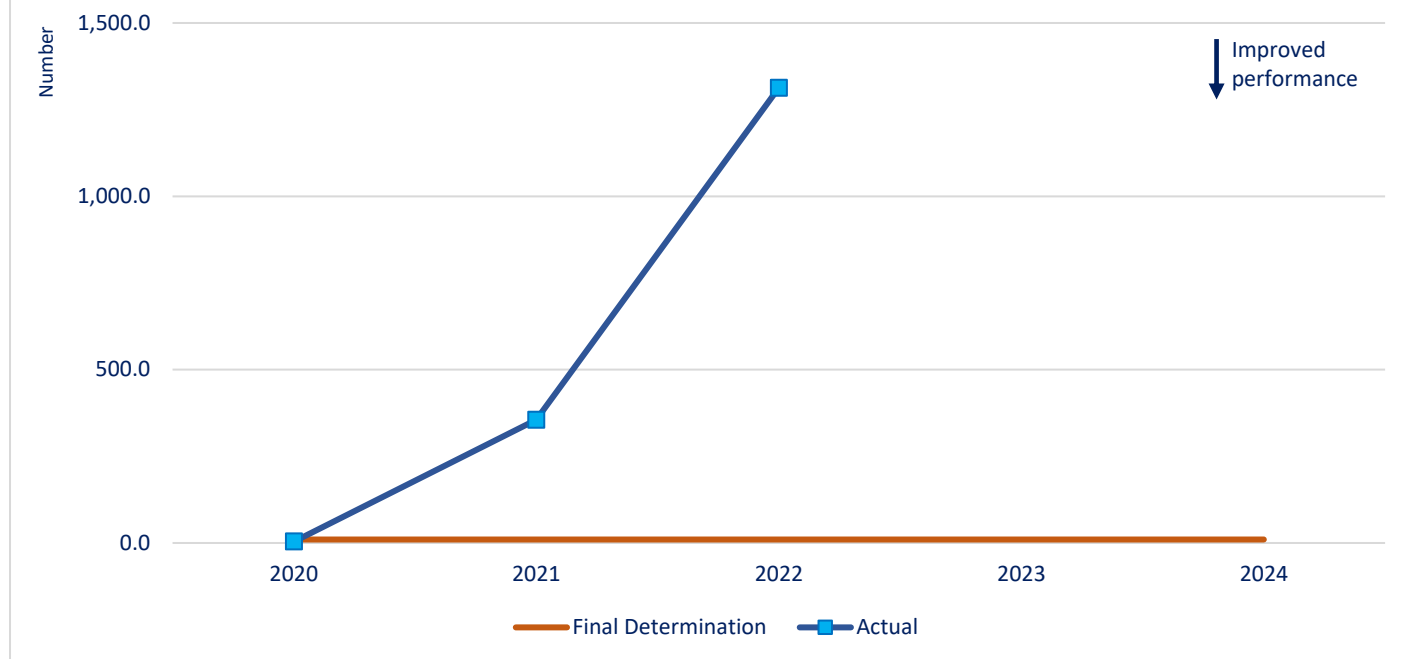
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Wt6 – Tap water quality event risk index (ERI)

Reputational

Summary Performance

	2019	2020	2021	2022	2023	2024
Actual	25.881	3.903	355.169	1,313.064	n/a	n/a
Final Determination		10.000	10.000	10.000	10.000	10.000



Definition

The Event Risk Index (ERI) is a measure of the risk arising from water quality events, as defined by the Drinking Water Inspectorate (DWI). This measure is reported on a calendar year basis.

Commentary

For 2022, a provisional ERI score was calculated as 1313.604. This will remain provisional until confirmed data is published by DWI in April 2024 once all outstanding events have been closed.

Performance is worse than 2021 (ERI = 355.169). This can be attributed to 3 significant events:

- A Media Interest event relating to taste and odour in Blaenavon in October 2022 with a duration of 1348 hours – ERI Score of 895 (estimated). This score includes a population figure and duration figure quoted by DWI that has been challenged. In response, DWI have stated that this is a “worst case” score and may be revised following assessment.
- A Discolouration event in the Neath Valley in July 2022 – ERI Score of 196 (estimated).
- A widespread loss of supply event due to the freeze thaw period in December 2022 – ERI Score of 146.

The combined ERI score of 1,237 for these three events contributed 94% of the total for the year.

The above figure (1313.064) will remain provisional until confirmation by the DWI in April 2024.

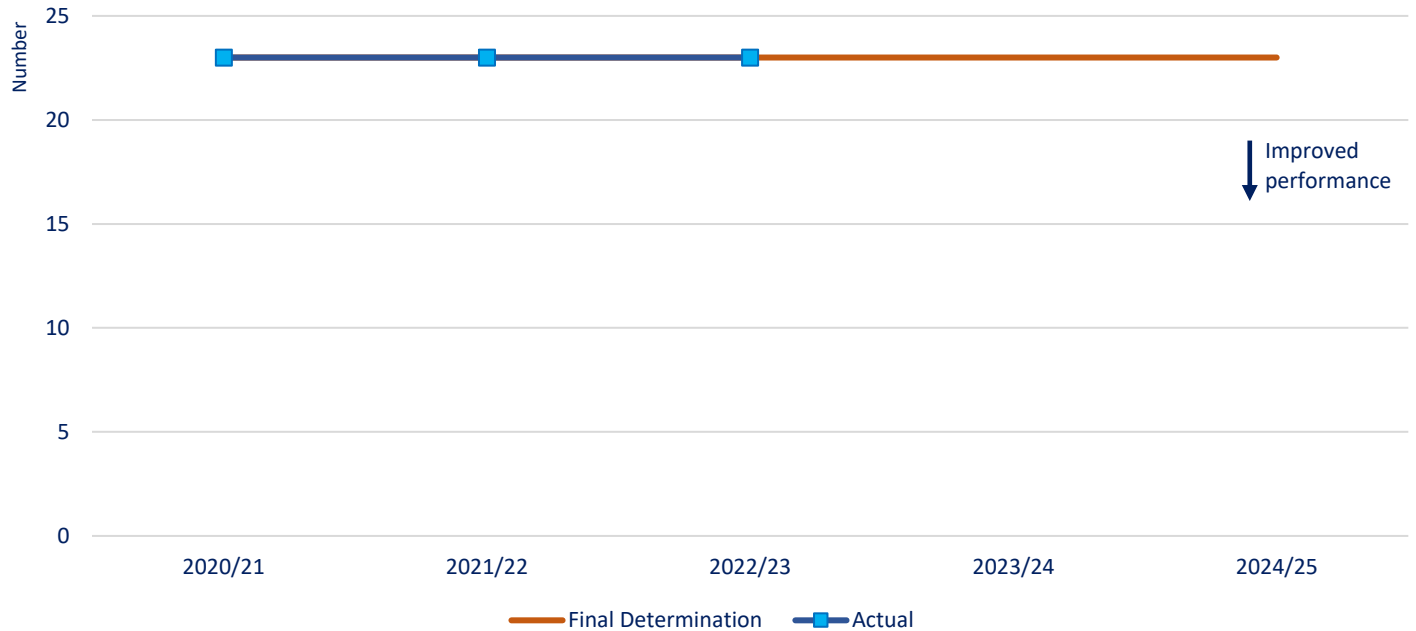
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Wt7 – Water catchments improved

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	23	23	23	n/a	n/a
Final Determination	23	23	23	23	18



Definition

The number of water treatment works with catchments designated as Safeguard Zones under the Water Framework Directive (WFD) as in effect at the time of the Ofwat Final Determination publication.

Drinking Water Safeguard Zones are designated areas where raw water quality has been deemed to be 'at risk' of deterioration.

Commentary

The de-designation of the five Safeguard Zones will be by agreement from Natural Resources Wales and the Environment Agency, following the successful submission of evidence that demonstrates catchment improvements have been achieved by 2024/25.

As stated in our Final Determination we have published a standalone annual progress report alongside this document.

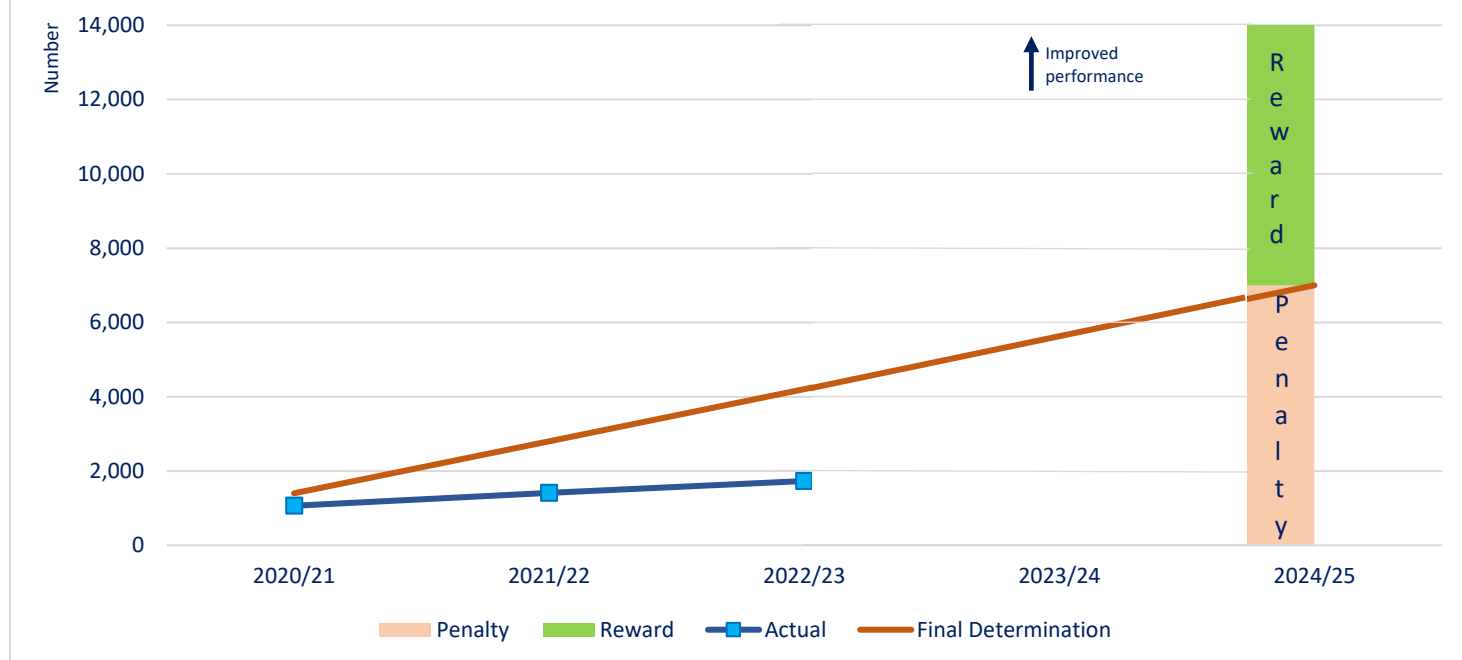
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Wt8 – Lead pipes replaced

ODI Reward & Penalty

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	1,065	1,410	1,731	n/a	n/a
Final Determination	1,400	2,800	4,200	5,600	7,000
ODI Reward/Penalty (£m)	Calculated on 31 March 2025				



Definition

This performance commitment measures number of lead pipes replaced by the Company. The number of pipes reported as replaced is cumulative over the period 2020/25. The financial implications associated with underperformance or outperformance with this Performance Commitment will be assessed in 2025, which is the end of this five year reporting cycle.

Commentary

Our performance for the year was 1,731 lead pipe replacements which is worse than the Final Determination target of 4,200.

Following the 2021/22 APR, DWI requested information in relation to meterage of lead pipes replaced since April 2020. To capture this information, we undertook a review of all completed orders to date. Whilst gathering data for this request, we identified errors in our underlying data where incorrect abort codes had been added to work orders by our contractors. As a result of this finding, the decision was taken to review all orders previously closed by our contractors since 1 April 2020.

Upon conclusion of this review, a total of 59 errors were identified and remedied. The results of this review on previously reported APR data is shown below.

Lead pipes replaced (cumulative)	Original number	Restated number
2020/21	1,097*	1,065
2021/22	1,462	1,410

*Please note this number was restated in the APR 2021/22 to 1,099.

There is no impact on ODI reward/penalty as this is calculated at the end of the AMP.

We appointed a new contractor in February 2022 to support the lead programme as a dedicated contractor to this work. Since the programme has accelerated, performance issues have been identified with this contractor, specifically around safe working practices and customer service. Improvement to these areas is being supported by our teams but has resulted in periods of 'stop' which has interrupted the programme. The team structure has recently been reviewed and additional resources have been agreed to support this

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programme going forward. We are committed to achieving the FD target of 7,000 lead replacements by the end of the AMP where we will see an increase in delivery over years 4 and 5 through developing and understanding the most efficient way to deliver the programme.

There are occasions when customers refuse our offer to renew their private lead supply pipes at the time of us completing work on the communication pipe. In these events, we are able to count these towards our performance. Here, we use an abortive code (AB05) in SAP to ensure this information is captured. There are occasions when customers don't engage with us and a contact method is adopted to ensure best efforts are made to liaise with the customer. This method includes several attempts to call the customer and also a letter asking for contact within 10 days. Should we not receive contact back from the customer, an assumption is made that they are refusing this work and it's closed down on our SAP records as refused (AB98). Should the customer change their mind in the future, this process does not eliminate the possibility of us returning to complete this work at a future date. We have an internal written methodology statement which documents the process for reporting against this Performance Commitment which has been reviewed by our Reporter, Jacobs on 23 December 2020. This review was undertaken by Jacobs using a 24 point scoring mechanism. This includes a check that the process is consistent with the definition in the PR19 final determination. Our Reporter undertakes an annual review of our reported performance in May each year and during these reviews sample a number of lead pipes replacements to check they are reported in line with the PR19 definition.

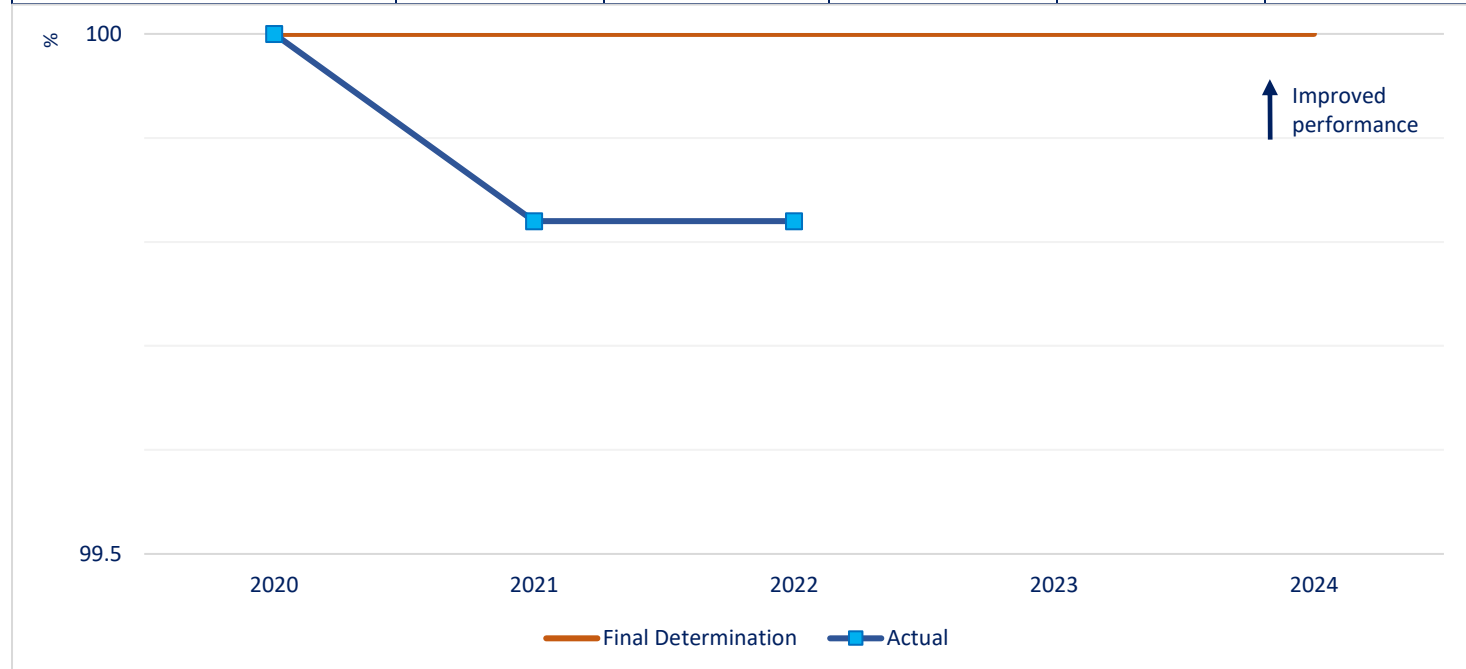
To note - we have utilised the override function within the Ofwat ODI model so that any associated out or under performance payments are calculated on 31 March 2025.

En2 – Wastewater treatment works ‘look-up table’ compliance %

Reputational

Summary Performance

	2020	2021	2022	2023	2024
Actual	100	99.82	99.82	n/a	n/a
Final Determination	100	100	100	100	100



Definition

Percentage of wastewater treatment works that comply with the following:

- Sanitary Look Up Table limits on permits for Biological Oxygen Demand (BOD), Total suspended solids (TSS) and ammonia.
- Annual average Phosphorus limits.
- Urban Wastewater Treatment Directive (UWWTD) Look up table limits for BOD and Chemical Oxygen Demand (COD).
- UWWTD annual average Phosphorus limits.
- UWWTD annual average Nitrogen limits.

These are set by Natural Resource Wales or the Environment Agency as appropriate.

This measure is reported on a calendar year basis.

Commentary

Our performance for the year was 99.82% which is worse than the Ofwat Final Determination target of 100%.

There was one non-compliant wastewater treatment works out of a total of 562 permitted wastewater treatment works.

During the summer of 2022, we witnessed one of the severest droughts on record which required significant intervention and mitigation work at our treatment works to maintain compliance and ensure that our effluent discharges did not impact low river levels.

There is an improvement plan in place to target those treatment works that are not meeting their environmental permits.

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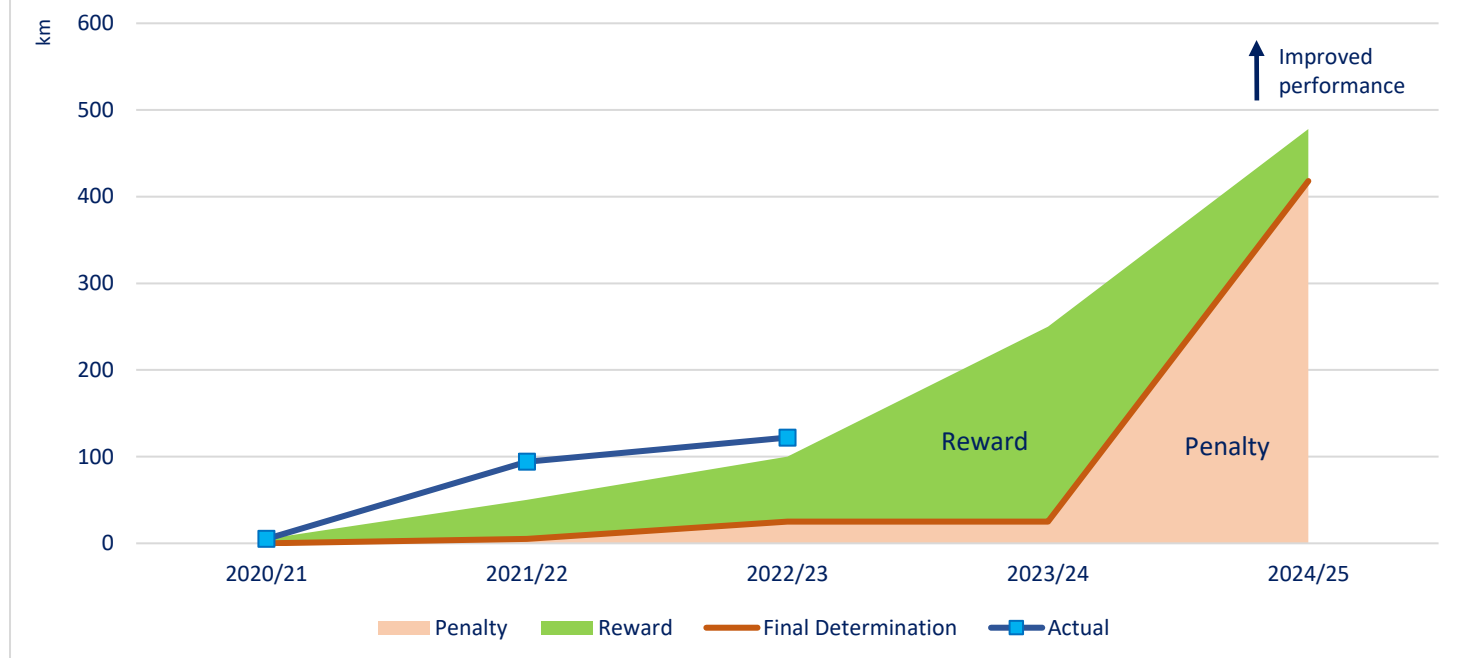
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En6 – Km of river improved

ODI Reward & Penalty

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	5	94	122	n/a	n/a
Final Determination	0	5	25	25	418
ODI Reward/Penalty (£m)	Calculated on 31 March 2025				



Definition

The cumulative length of river improved as a result of the Company's action and as a consequence of regulatory and legislative drivers. The length can only be counted once the Environment Agency and/or Natural Resources Wales has agreed all schemes to achieve the improvement have been delivered and each scheme meets the requirements.

The measure is defined as the length (in km) of river with improved water quality, as a result of Welsh Water action. The financial implications associated with underperformance or outperformance with this Performance Commitment will be assessed in 2025, which is the end of this five year reporting cycle.

Commentary

Our cumulative performance reported this year is 122km of river improved which is better than the Ofwat Final Determination target of 25 km.

The measure includes improvements resulting from Water Industry National Environment Program (WINEP)/National Environment Programme (NEP) Water Quality and Water Resources schemes.

Natural Resources Wales have issued a business performance letter dated 7 June 2023 confirming our reported performance of 28km of river improved during 2022/23 (cumulative 122km).

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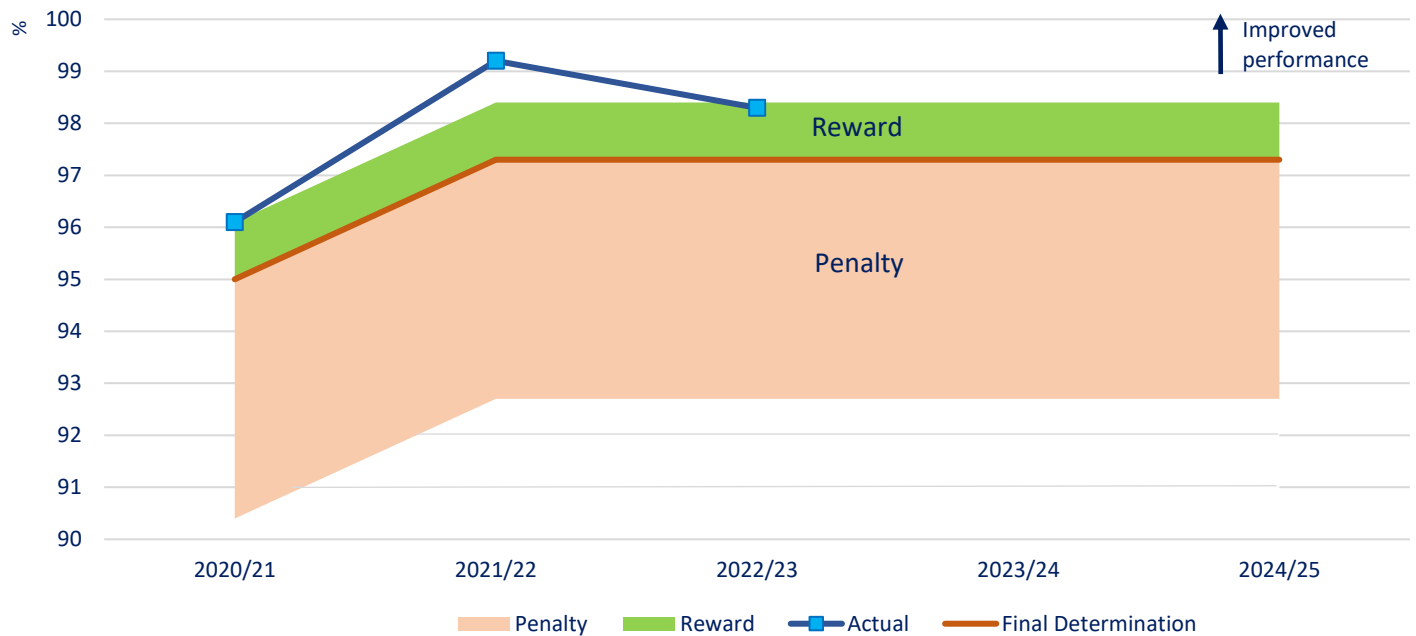
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En7 – Bioresources product quality %

ODI Reward & Penalty

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	96.1	99.2	98.3	n/a	n/a
Final Determination	95.0	97.3	97.3	97.3	97.3
ODI Reward/Penalty (£m)	£0.454	£0.454	£0.413		



Definition

Percentage of total wastewater sludge treated that is processed through Advanced Anaerobic Digestion facilities and recycled to land meeting certification requirement of the Biosolids Assurance Scheme. Any sludge imported from third parties will be included within the measure.

Commentary

Our performance for the year was 98.3% which is better than the Ofwat Final Determination target of 97.3%. All sludge is processed through our four Advanced Anaerobic Digestion sites at Cardiff, Afan (Port Talbot), Cog Moors (Dinas Powys) and Five Fords (Wrexham).

A small percentage of sludge was unable to be processed due to limitations in capacity as a result of downtime for maintenance and reactive repairs. This was sent to a third-party contractor for lime treatment and recycling.

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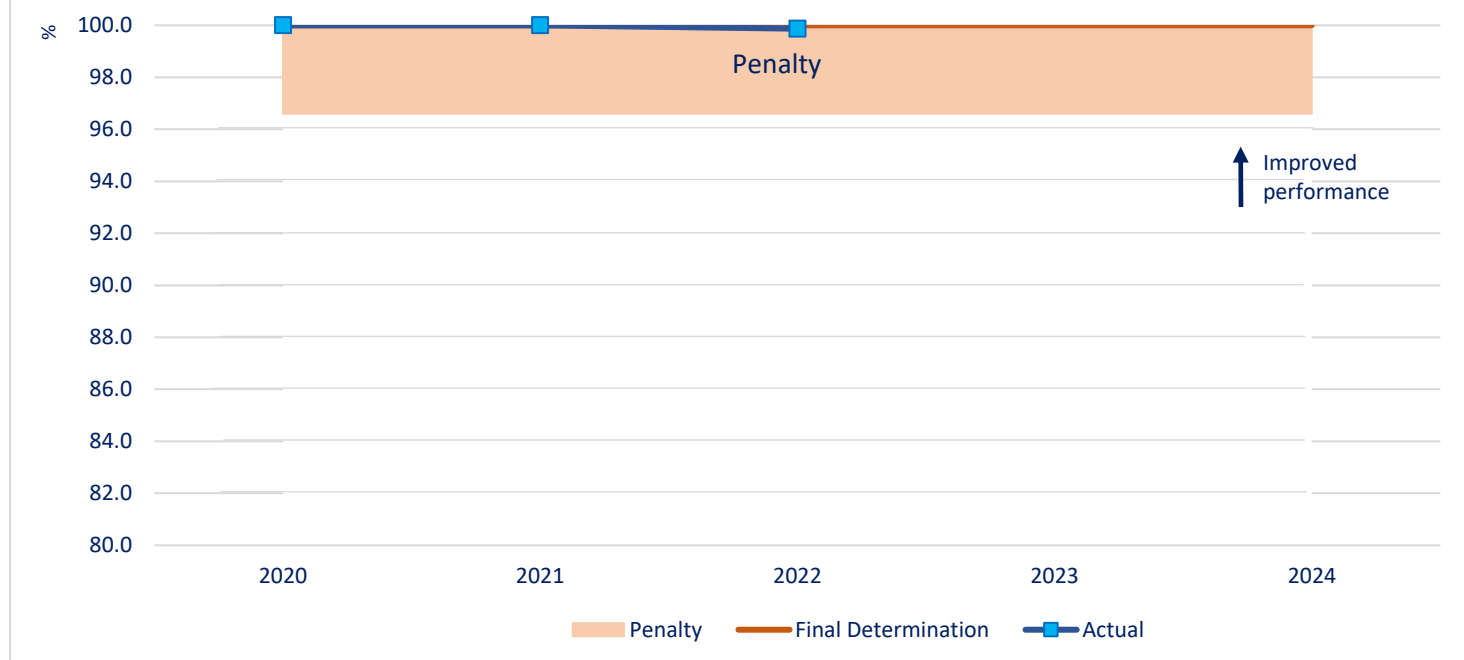
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En8 – Bioresources disposal compliance %

ODI Penalty

Summary Performance

	2020	2021	2022	2023	2024
Actual	100	100	99.87	n/a	n/a
Final Determination	100	100	100	100	100
ODI Penalty (£m)	£0	£0	£0.013		



Definition

The overall percentage of company sludge satisfactorily used or disposed of in line with version 3 of the Natural Resource Wales and Environment Agency's Environmental Performance Assessment methodology (published November 2017). This measure is reported on a calendar year basis.

Commentary

Our performance for the year was 98.87% which is below the OFWAT final determination target.

During the year any biosolids which fail to meet the enhanced standard are held in quarantine and re treated prior to being recycled. Our slight deterioration in performance this year was as a result of a release of a small amount of quarantined product to the surrounding area during an extreme weather event. This release has since been recovered and re treated with the impacted area being returned to its original state.

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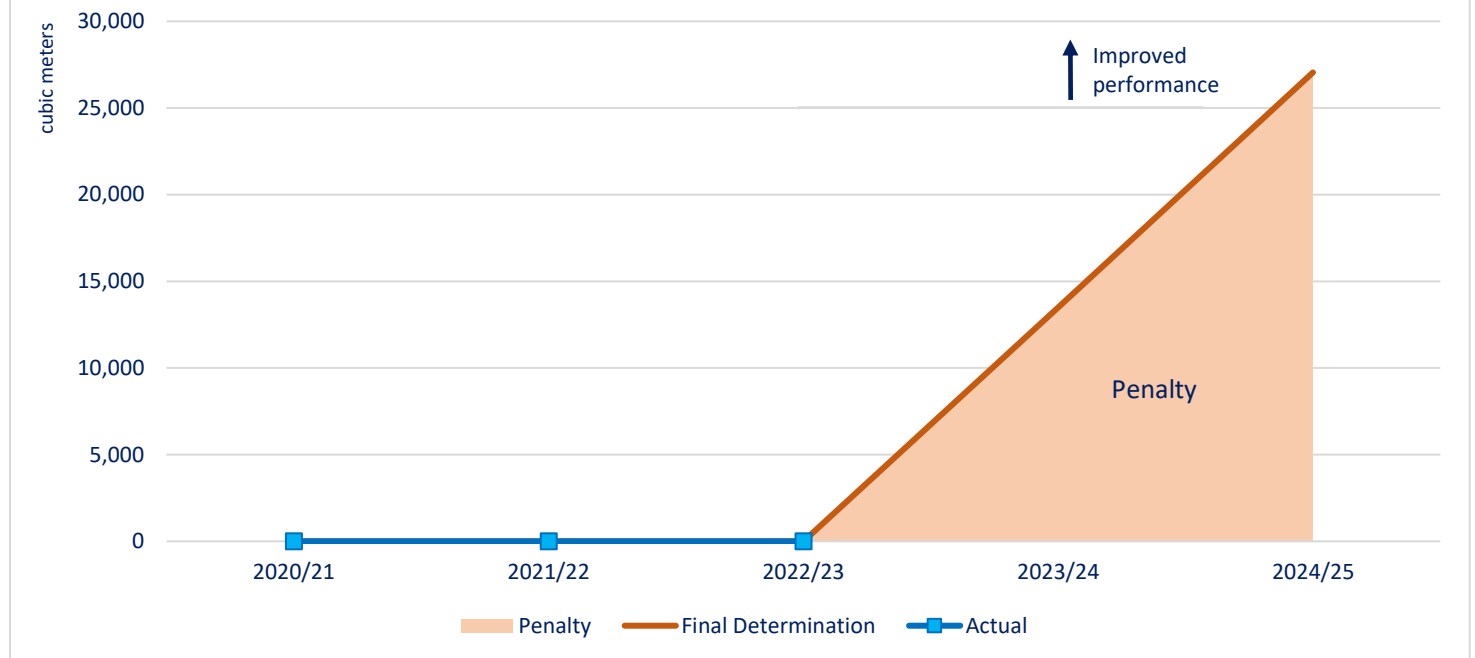
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En9 – Combined sewer overflow storage systems

ODI Penalty

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	0	0	0	n/a	n/a
Final Determination	0	0	0	13,500	27,049
ODI Penalty (£m)	Calculated on 31 March 2025				



Definition

The cumulative additional effective volume of storage delivered by the Company under the National Environment Programme (NEP) obligations. The financial implications associated with underperformance or outperformance with this Performance Commitment will be assessed in 2025, which is the end of this five year reporting cycle.

Commentary

During the year we have not delivered any schemes to increase combined sewer overflow storage systems which is in line with the Ofwat Final Determination target.

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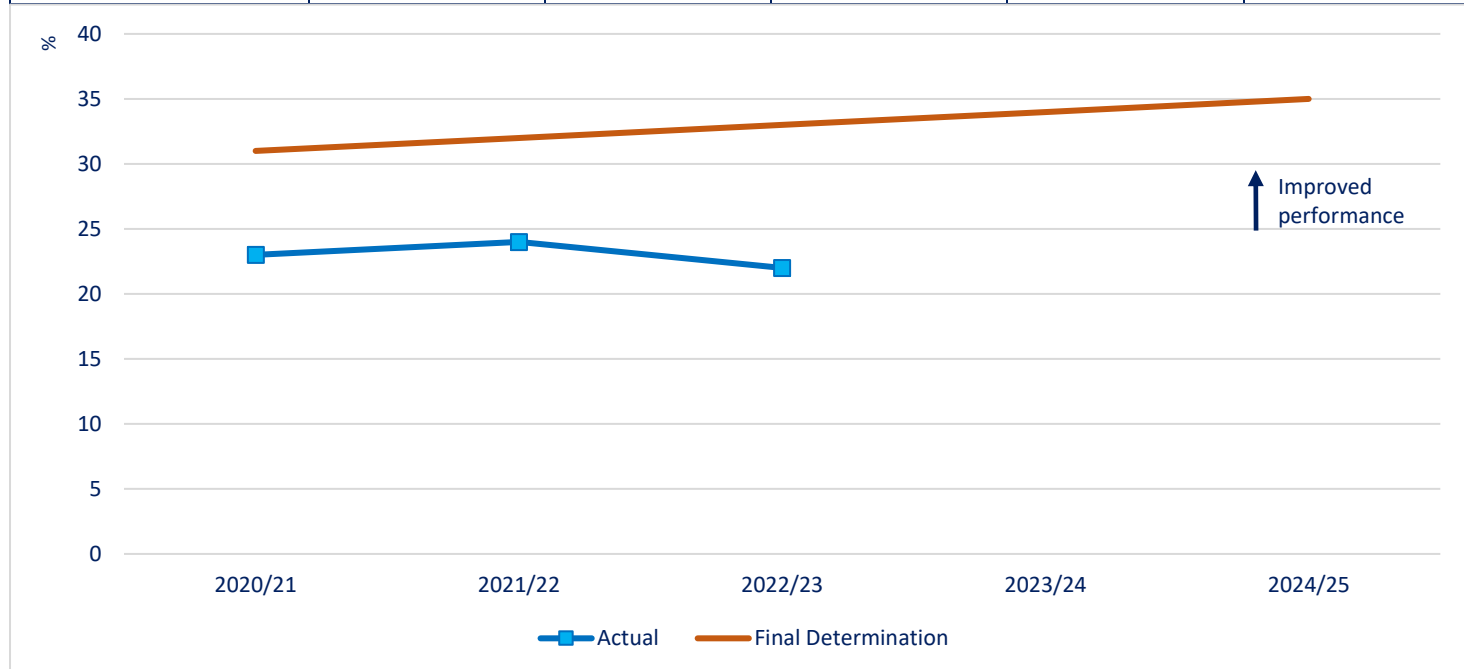
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Ft3 – Energy self-sufficiency %

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	23	24	22	n/a	n/a
Final Determination	31	32	33	34	35



Definition

Electricity generated and gas injected to grid as a percentage of all electricity and gas consumed by the company, with gas being presented as a gigawatt hours (GWh) equivalent.

Commentary

Our performance for the year was 22% which is worse than the Ofwat Final Determination target of 33%. This was impacted by the following key factors:

- Comparatively low rainfall reduced hydro-electric generation by around 8 GWh;
- Reactive issues with combined heat and power (CHP) engines, particularly at Cardiff WwTW and solar sites; and
- Our Solar PV project in Chester that was delayed by Covid-19 remains outstanding.

For transparency petrol / diesel consumption is not included within the calculation, or the Ofwat Final Determination definition, of this bespoke performance commitment.

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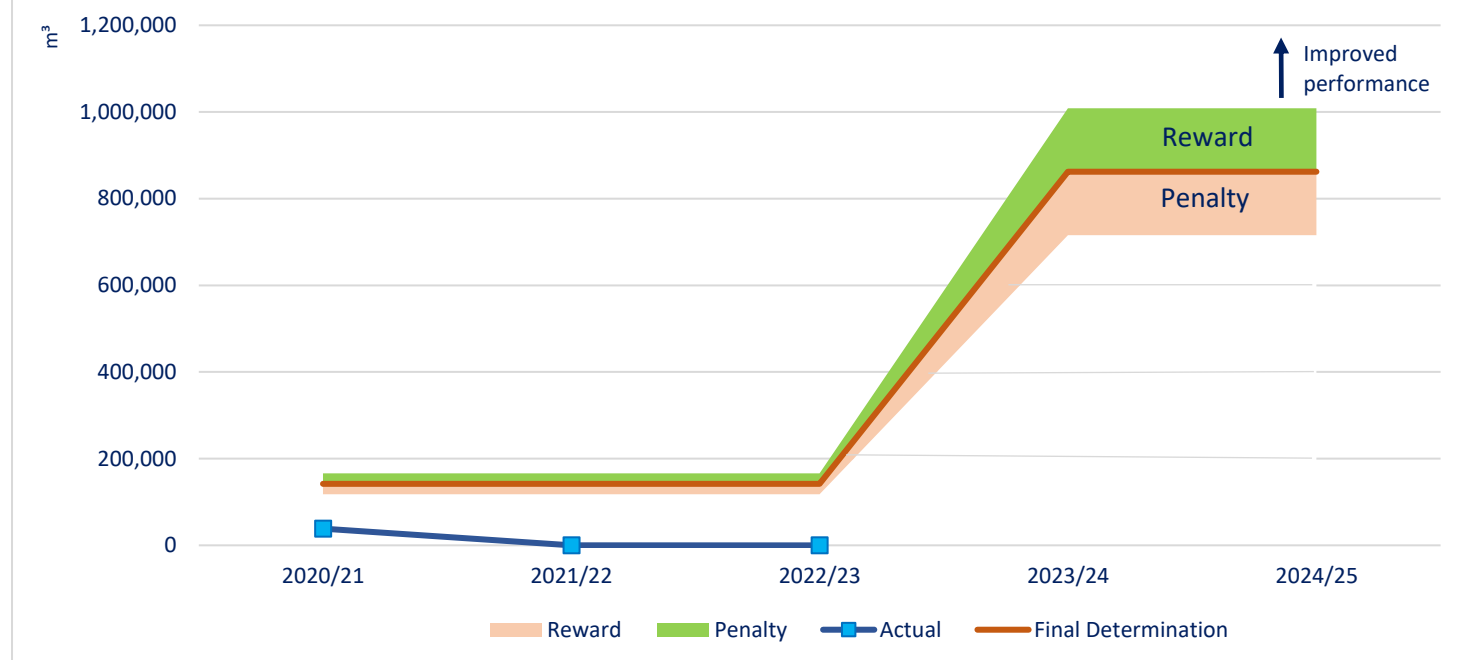
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Ft4 – Surface water removed from sewers (m³)

ODI Reward & Penalty

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	38,473	0	10,752	n/a	n/a
Final Determination	141,900	141,900	141,900	862,150	862,150
ODI Reward/Penalty (£m)	£0.050	£0.050	£0.050		



Definition

Reduction in volume (m³) of surface water entering the surface or combined sewer network through sustainable urban drainage approaches.

Solutions include sustainable urban drainage approaches to slow down and reduce the volume of water entering the network.

Commentary

Our performance for the year was 10,752m³ which is worse than the Ofwat Final Determination target of 141,900m³.

One surface-water removal scheme has been delivered in the year, removing a total volume of 10,752 cubic metres. The scheme was related to redevelopment of a brownfield site in Prestatyn, disconnecting impermeable area drainage from the combined public sewer. This was reconnected to a separate surface water sewer via new pipework, in line with Welsh Government's national standards for sustainable drainage.

We are continuing to explore opportunities to remove surface water from our network, particularly through the Storm Overflow Assessment Framework (SOAF) programme. We expect outputs against the performance commitment to increase in 2023-24.

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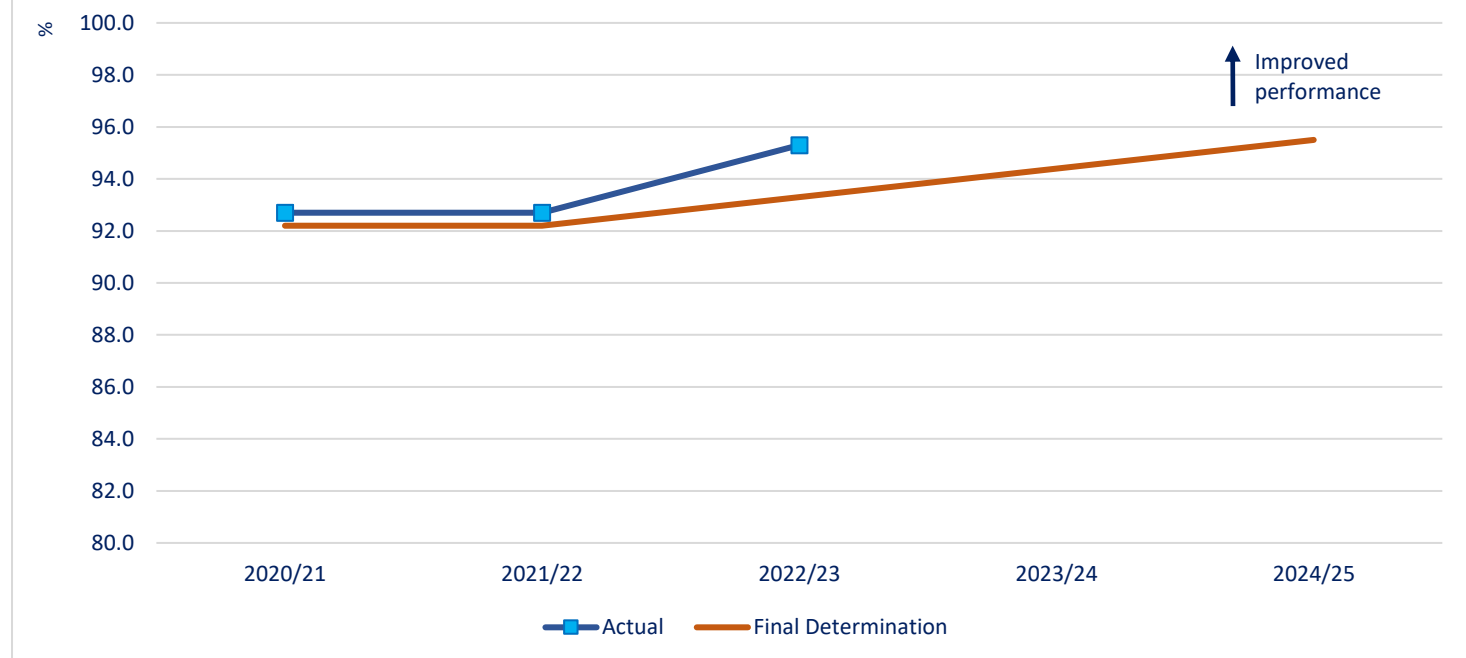
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Ft5 – Asset resilience (reservoirs) %

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	92.7	92.7	95.3	n/a	n/a
Final Determination	92.2	92.2	93.3	94.4	95.5



Definition

This performance commitment is defined as a resilience score for critical impounding reservoirs based on a defined resilience scorecard. Critical assets are those for which failure would have a major impact on service to customers or on the environment.

Commentary

Our performance for the year was 95.3% which is better than the Ofwat Final Determination target of 93.3%.

For the year, 39 of our reservoirs were categorised as critical assets with no change in the failure resilience score.

Improvement work has commenced at the three reservoirs below. This work is being carried out as a result of statutory safety measures under the Reservoirs Act 1975 (as amended). On completion of this work, it is expected these will deliver improved resilience scores.

- Llyn Celyn A major project is underway to construct a new overflow spillway at this site in AMP8.
- Llandegfedd This work has now been completed it involved concrete repair work and improvements to drawdown capacity following recent changes in industry guidance.
- Upper Carno This work is substantially complete and involved major rehabilitation of the dam, pipework, and valves.

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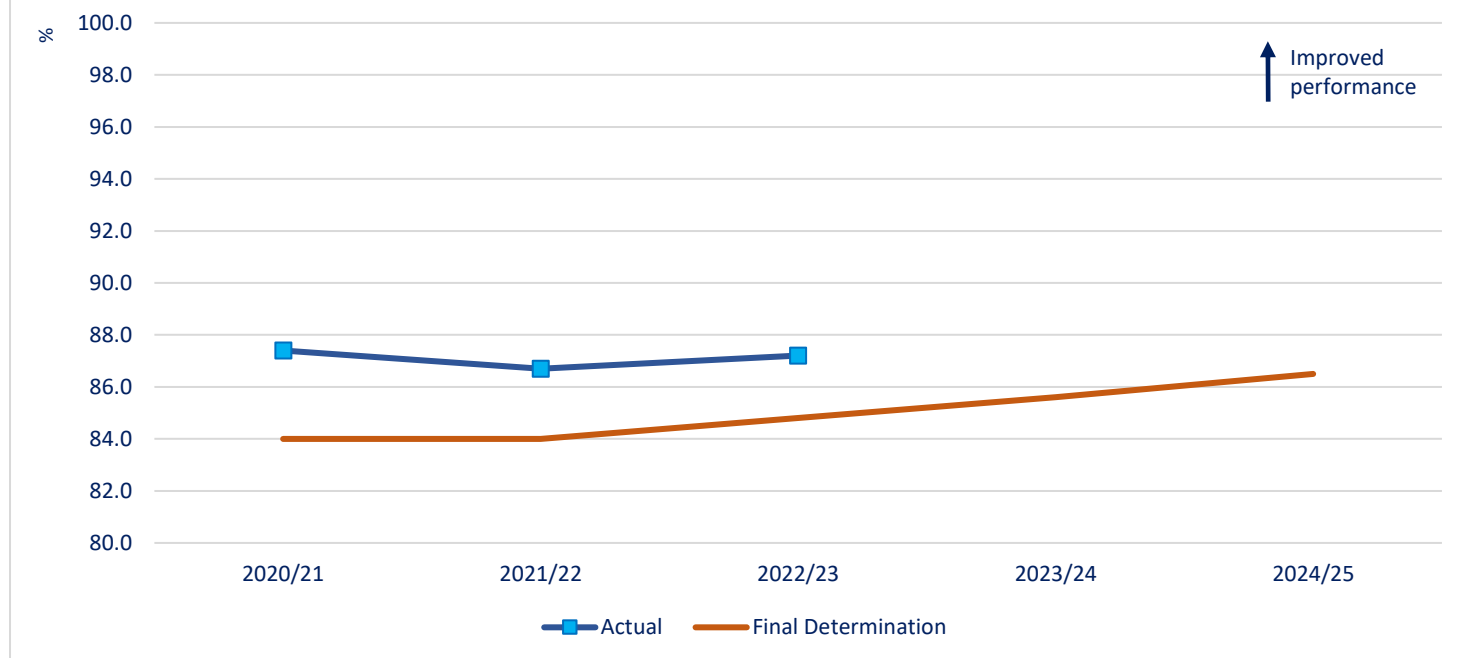
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Ft6 – Asset resilience (water network+ above ground) %

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	87.4	86.7	87.2	n/a	n/a
Final Determination	84.0	84.0	84.8	85.6	86.5



Definition

This performance commitment is defined as a resilience score for critical water network plus above ground assets based on a defined resilience scorecard. Critical assets are those for which failure would have a major impact on service to customers or on the environment.

Commentary

Our performance for the year was 87.2% which is better than the Ofwat Final Determination target of 84.8%.

This has primarily been due to resilience improvements made on critical assets.

During 2022/23 a total of four assets have been removed that no longer meet the criteria of Ft6. A total of five assets have been added to the asset list that now meet the criteria. This provides a new total of 37 assets - an increase of one asset from the 36 reported during 2021/22.

The average resilience performance % and targets levels for Ft6 and Ft7 have been calculated using a weighted average % approach (FD guidance states average %). The weighted average calculation was used to determine the original base target and performance level for these measures and therefore has continued to be applied during the 2022/23 reporting year to ensure consistency in reporting and performance comparison.

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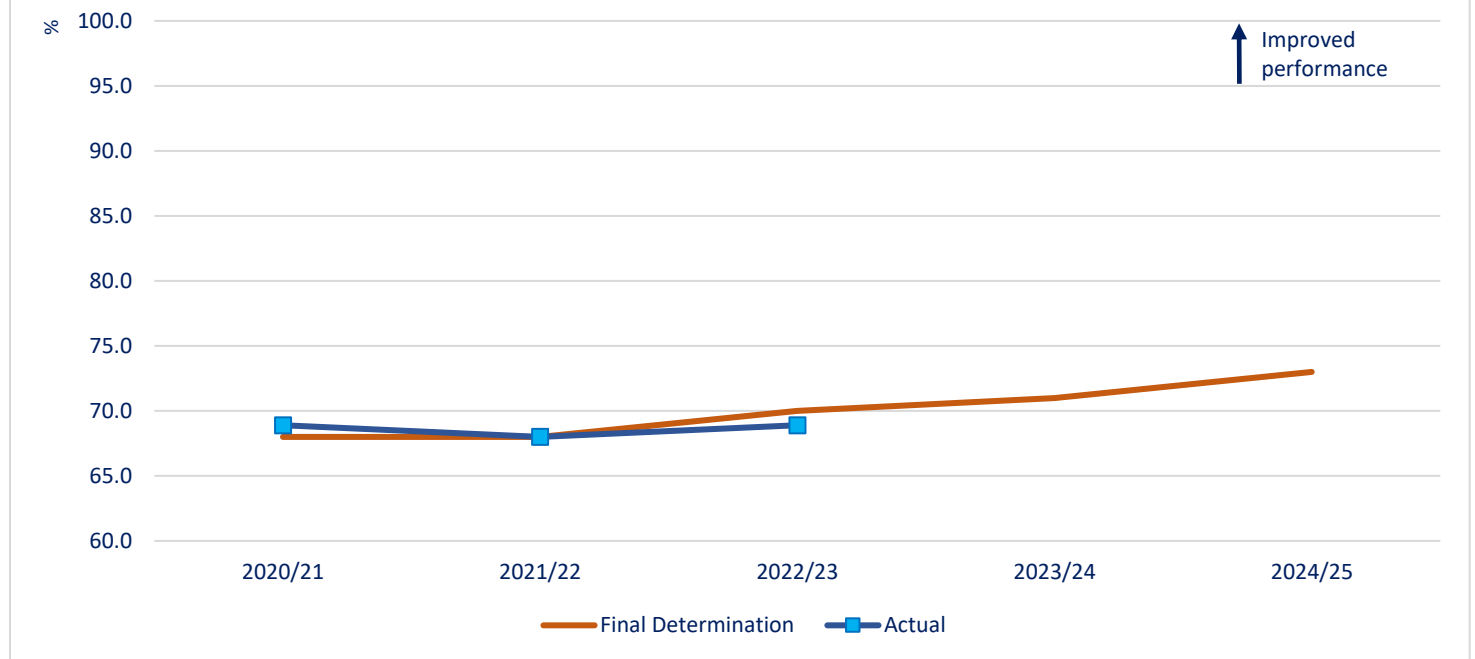
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Ft7 – Asset resilience (water network+ below ground) %

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	68.9	68.0	68.9	n/a	n/a
Final Determination	68.0	68.0	70.0	71.0	73.0



Definition

This performance commitment is defined as a resilience score for critical water network plus below ground assets based on a defined resilience scorecard. Critical assets are those for which failure would have a major impact on service to customers or on the environment.

Commentary

Our performance for the year was 68.9% which is below the Ofwat Final Determination target of 70.0%.

During 2022/23 there has been an increase in resilience scores across a number of assets for reasons including Control, Temporary Works and Storage. There has also been a change to the asset list as a result of new GIS data availability.

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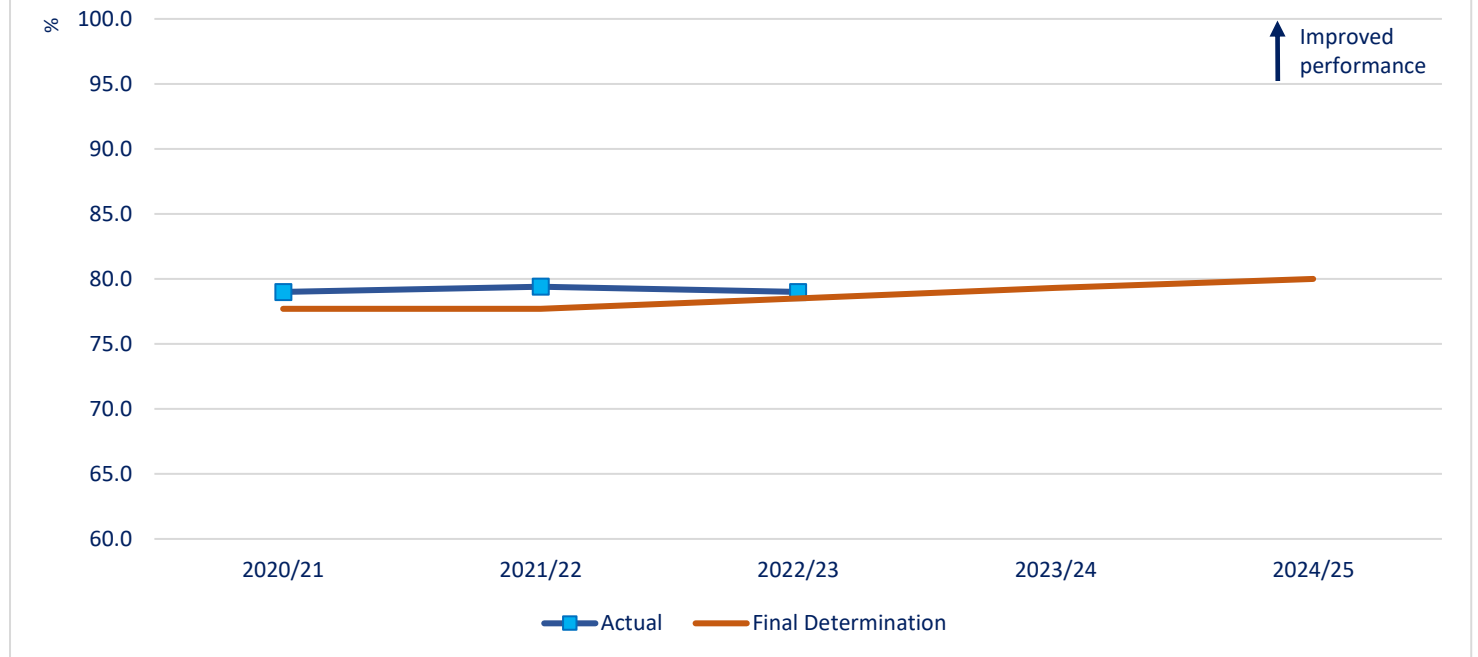
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Ft8 – Asset resilience (wastewater network+ above ground) %

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	79.0	79.4	79.0	n/a	n/a
Final Determination	77.7	77.7	78.5	79.3	80.0



Definition

This performance commitment is defined as a resilience score for critical waste network plus above ground assets based on a defined resilience scorecard. Critical assets are those for which failure would have a major impact on service to customers or on the environment.

Commentary

Our performance for the year was 79.0% which is better than the Ofwat Final Determination target of 78.5%. The scores for each asset were reviewed and updated to reflect any changes in the year.

There were improvements to scores for a few assets, a couple where Security and Emergency Measure Direction (SEMD) work had been completed at the assets. There were also some improvements made to Power, Control and access resilience scores.

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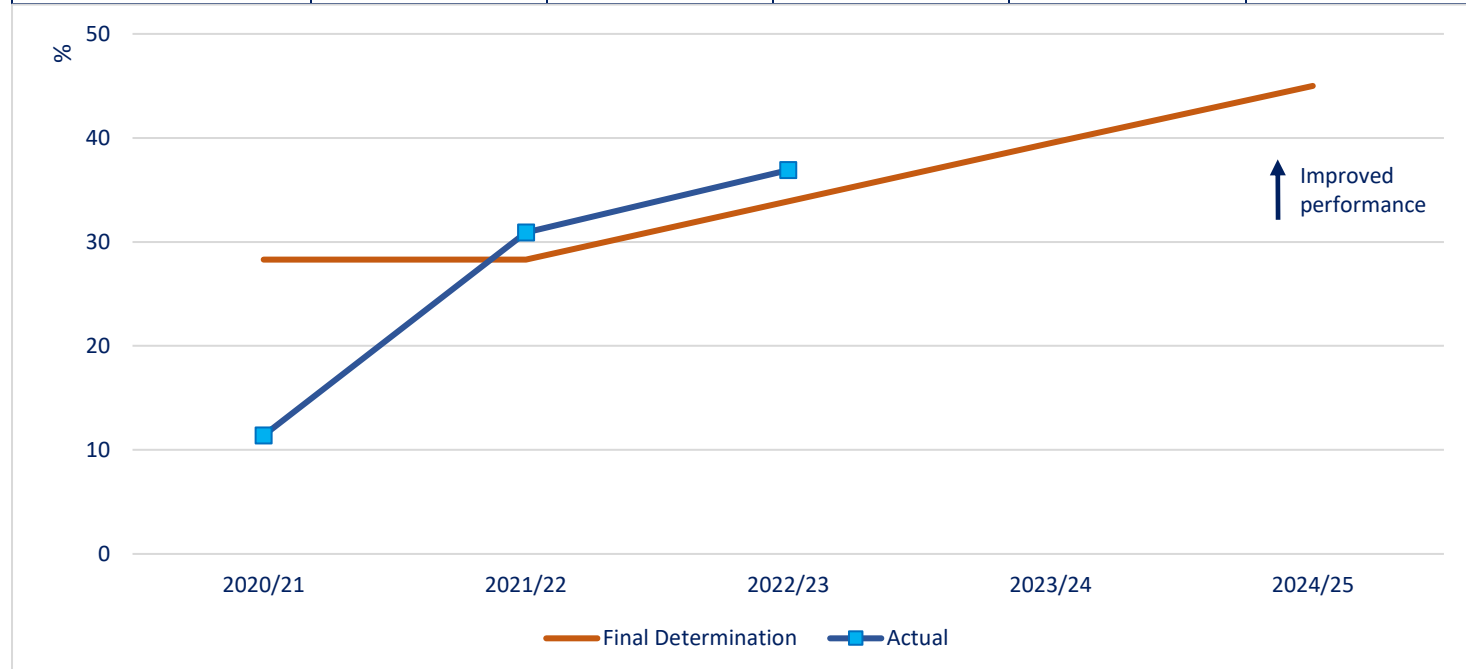
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Ft9 – Asset resilience (wastewater network+ below ground) %

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	11.4	30.9	36.9	n/a	n/a
Final Determination	28.3	28.3	33.9	39.5	45.0



Definition

This performance commitment is defined as a resilience score for critical water network plus below ground assets based on a defined resilience scorecard. Critical assets are those for which failure would have a major impact on service to customers or on the environment.

Commentary

Our performance for the year was 36.9% which is better than the Ofwat Final Determination target of 33.9%, and an improvement on our 2021/22 performance of 30.9%.

We have 360 assets reported within this performance commitment that are deemed Critical (349) or Unknown (11) when assessed against the criticality definition.

Sites visits have continued in 2022/23 to further assess against the critical asset definition. To date 239 site visits have been completed. This has resulted in the confirmation of the score for these assets. These site visits have provided the ability to assess those previously unknown assets that were added at the start of 2020/21, and provide high confidence in our scoring assessment, with evidence to support. In addition, the asset condition element of the scorecard has seen an increase score following some targeted CCTV surveys.

The process of validating existing scores and assessing the new additions to the refreshed dataset for 2020/25 will continue into 2023/24 with site visits and the collation of the supporting evidence documentation. In addition, we will be looking to further assess the asset condition by continuing with the programme of works to CCTV a selection of the identified critical assets.

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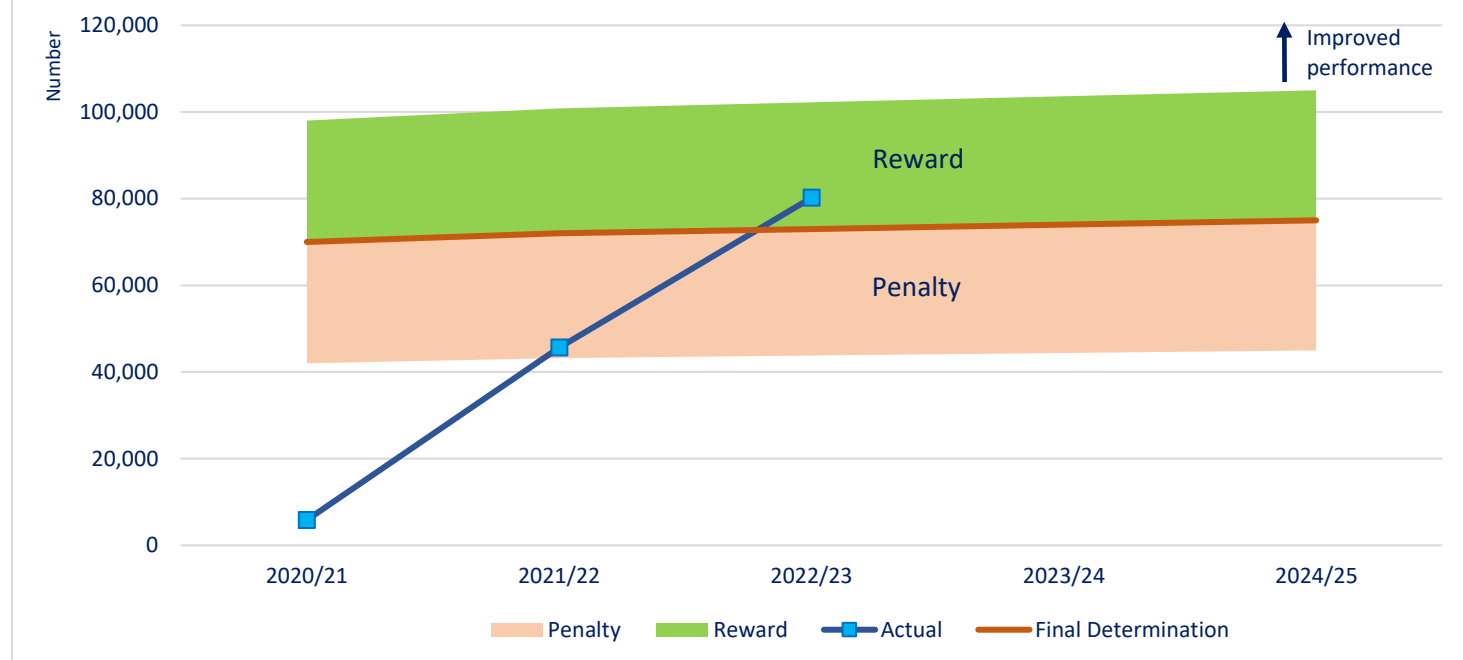
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Ft10 – Community education

ODI Reward & Penalty

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	5,834	45,655	80,194	n/a	n/a
Final Determination	70,000	72,000	73,000	74,000	75,000
ODI Reward/Penalty (£m)	£0.112	£0.105	£0.014		



Definition

The total number of children and adults who have participated in the Company's educational programme each year.

Commentary

Our performance for the year was 80,194 which is better than the Ofwat Final Determination target of 73,000.

The reported performance is the result of sessions delivered both through our school outreach visits and through class visits to our outdoor environmental education centre. The outreach activities predominantly involve face-to-face delivery (whole-school assembly, classroom workshop), whilst it also includes some online, live sessions to help provide widespread access to our provision. In addition to tracking and recording participants involved in one of our sessions for more than 15 minutes, we also record the amount of time our dedicated team of teachers spend with pupils. During this reporting year, 1,186 hours were spent with pupils and the team delivered 789 education sessions. 99% of all completed teacher evaluation forms, confirmed schools were 'very satisfied' with the quality of provision delivered.

A breakdown of the type of sessions that have contributed to this reporting figure, can be found below:

- Participants that have visited the Education Centre: 2,703
- Participants that have received an assembly: 52,444
- Participants that have received a workshop: 23,287
- Participants that have received a live, online session: 1,760

There is a significant change between this year, and the previous reporting year (2021/22). 2022/23 sees a return to levels which are comparable to pre-pandemic figures. The 2020/21 and 2021/22 reporting years were low in comparison, owing to the Covid restrictions on large school-hall gatherings, which are a key feature of our strategy.

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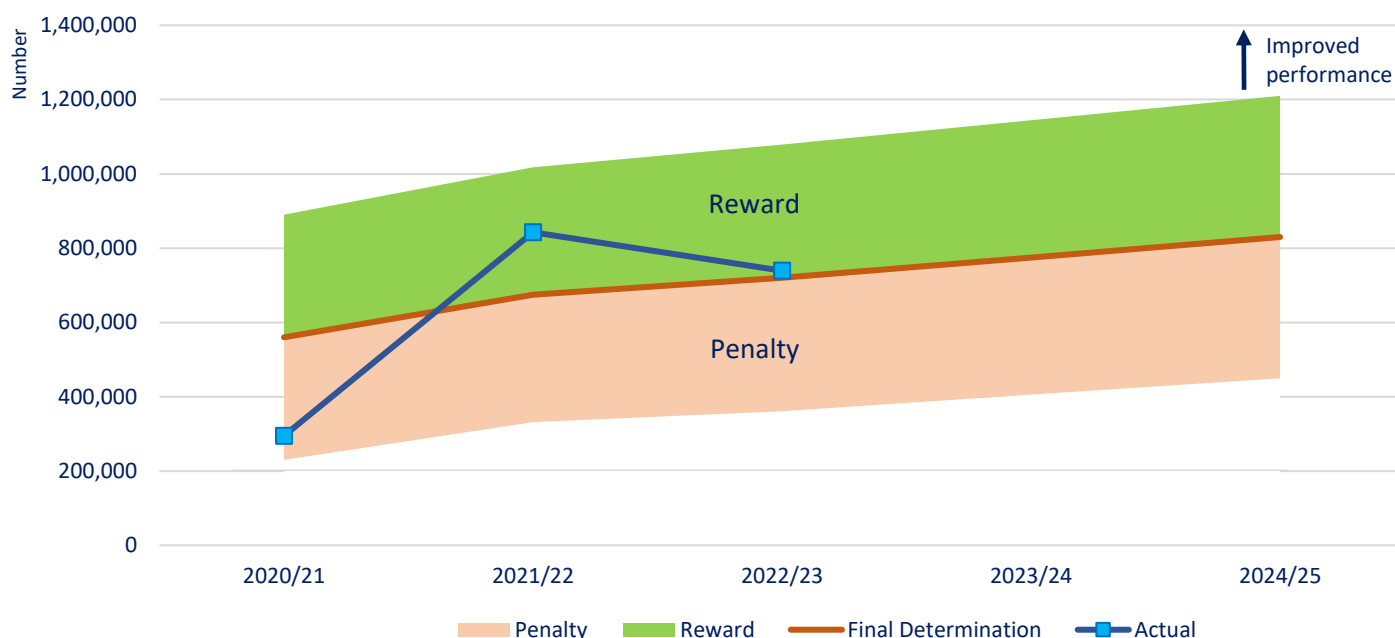
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Ft11 – Visitors to recreational facilities

ODI Reward & Penalty

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	294,763	842,701	739,294	n/a	n/a
Final Determination	560,000	675,000	720,000	775,000	830,000
ODI Reward/Penalty (£m)	£0.530	£0.168	£0.019		



Definition

The total number of visitors to the Company's recreational sites each year.

The Company's recreational sites are Llyn Brenig, Elan Valley, Llandegfedd and Llys y Fran. A new visitor centre is planned at the site of Lisvane and Llanishen reservoirs in North Cardiff. Any further recreational sites developed during the 2020/25 period will be included within this measure.

Commentary

Our performance for the year was 739,294 which is better than the Ofwat Final Determination target of 720,000.

We saw 739,294 visitors to our four visitor centres at Llyn Brenig in north Wales, Elan Valley in mid Wales, Llandegfedd in south east Wales, Llys y Fran in the west, as well as two sites which provide recreational access at Lliw and Swiss Valley Reservoirs also in the west. Visitor numbers by site:

Site	Number of visitors
Elan Valley	180,311
Llyn Brenig	126,928
Llandegfedd	163,426
Llys Y Fran	100,713
Lliw	64,625
Swiss Valley	103,291
Total	739,294

Our new visitor centre at the Llanishen/Lisvane reservoirs site in North Cardiff is due to open in 2023 and visitor numbers will be included in next years reported number.

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Whilst the UK regulations on restrictions due to the Corona Virus pandemic had been lifted by April 2022, the legacy of the pandemic and apprehensions, by some, to visit attractions has continued to impact upon visitor numbers. The lockdown restrictions on domestic and air travel boosted domestic holidays and day trips in 2021/22, increasing visitor numbers as restrictions lifted. This was reversed in 2022/23 with the resumption of holidays abroad negatively impacting domestic holiday travel. Visitors from overseas has taken time to recover and are still very low to Visitor Attractions. Similarly, coach tours have been slow to recover and are significantly down on pre pandemic levels, which impacts Elan Valley as a significant coach tour destination site compared with other locations.

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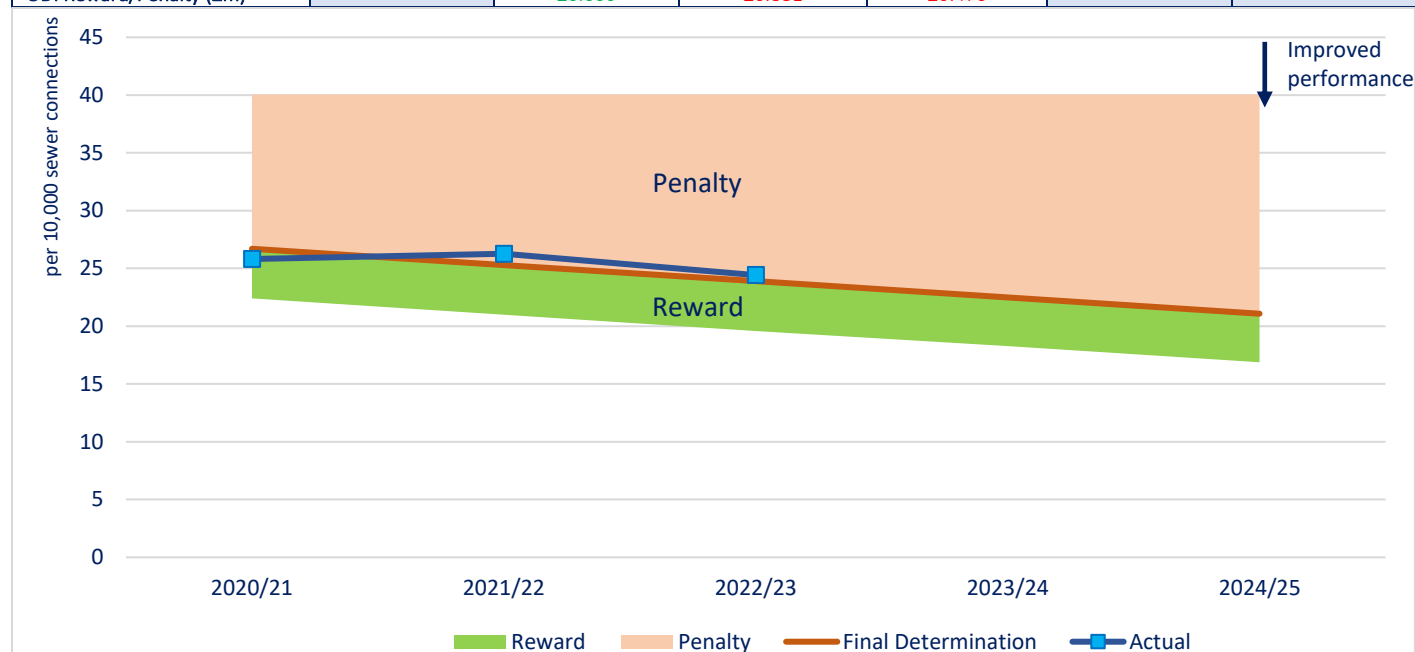
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Rt2 – Sewer flooding on customer property (external)

ODI Reward & Penalty

Summary Performance

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	30.85	25.82	26.27	24.42	n/a	n/a
Final Determination		26.70	25.29	23.89	22.48	21.08
ODI Reward/Penalty (£m)		£0.660	£0.881	£0.476		



Definition

The measure is calculated as the number of external sewer flooding incidents normalised per 10,000 sewer connections including sewer flooding due to severe weather events. External flooding incidents are those that have occurred within the boundary of residential or non-residential properties.

Commentary

We are reporting a total of 3,634 external flooding incidents in 2022/23 which is a rate of 24.42 per 10,000 sewer connections. which is worse than the Ofwat Final Determination target of 23.89. This compares to a total of 3,889 (26.27 per 10,000) in 2021/22.

Sewer defects and blockages caused 96% of our external flooding incidents in 2022/23. Reducing the blockages (and underlying defects) that cause flooding to properties is therefore a key part of our strategy. Reports have been adjusted to be more focused around the sewer performance that have the biggest impact on customers, so we can focus investigations and investment based on impact to our customers. We have also launched all-Wales flooding champion roles and strategy groups which focus on our strategy and ensure best practices. Through these groups, we have improved our investigation process and operational strategy so that we are being more thorough at finding the root cause to prevent flooding.

Part of our flooding strategy is to improve and increase our proactive tools and smart network management through better data and alarm systems. We have trialled and installed a new 'CSA' alarm at key sites in our network across Wales, which have currently turned out a 91% success rate from the alarms received. This trial has already successfully saved 46 incidents that would have caused flooding. We hope to utilise and expand on both of these initiatives in the next year after their initial success.

We will continue to focus on the completion of Look-See CCTV inspections following repeat blockages which will identify additional issues such as defects that can be reactively repaired or maintained to prevent flooding from occurring. The strategy to reduce the risk of repeat incidents, through improved understanding of our networks, better data, and first-time fix of issues identified following incident investigation, has led to a focused approach to preventing internal sewer flooding and managing the risk of external flooding occurring.

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Rt4 – Total complaints

ODI Reward & Penalty

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	122.1	28.2	49.9	n/a	n/a
Final Determination	86.5/UQ	UQ	30.2/UQ	UQ	UQ
ODI Reward/Penalty (£m)	£0.054	£0.000	£0.030		

Definition

The total complaints by household customers received by the Company per 10,000 connections. It includes the combined total of unwanted contacts (i.e. telephone complaints), written complaints (letter and email), and contacts via new contact channels (such as social media or webchat). This aligns with the data submitted and published by the Consumer Council for Water (CCW) in its annual reports on household complaints.

Commentary

During the year we reported 7,449 total complaints from household customers, which equates to 49.9 per 10,000 connections. This is worse than the upper quartile target of 30.2 (which has been agreed with Ofwat). Written household complaints totalled 2,936 and non-written, telephone, web chat and social media, totalled 4,513.

The increase in the number of complaints compared to last year is a result of a number of challenges during the year, which have included a Temporary Use Ban starting in August 2022, a Freeze Thaw incident in December 2022, and the cost-of-living crisis. As a result of these we have undertaken several lessons learnt sessions which continue, enabling us to identify opportunities to improve performance.

We have a number of initiatives to improve customer service and reduce complaints, some examples are:

- Continuation of our Customer Led Success programme with the aim to empower our people, and contract partners, to make the right decision for the customer and be given the time and resources to see our customer queries through from start to finish;
- We are also encouraging an 'Own it, Sort it' culture to ensure colleagues fully resolve queries on the first contact, where possible and escalating to a manager/supervisor if they are unable to resolve the issue
- A review of our Customer Journeys is ongoing to understand the drivers for complaints, including the introduction of new customer journeys where a need is identified;
- Regular reminder and training sessions to ensure that colleagues are able to own and resolve non-written complaints and know when to escalate to ensure the customer's issue is directed to the appropriate person
- Targeted investment on our water network to resolve issues for our 'worst-served' customers and benchmarking with other industries to identify areas of best practice.

We have used the override function in the ODI model to update the reported penalty of £0.030. Performance – UQ Target (49.9 – 30.2) * 0.00152 = £0.030m.

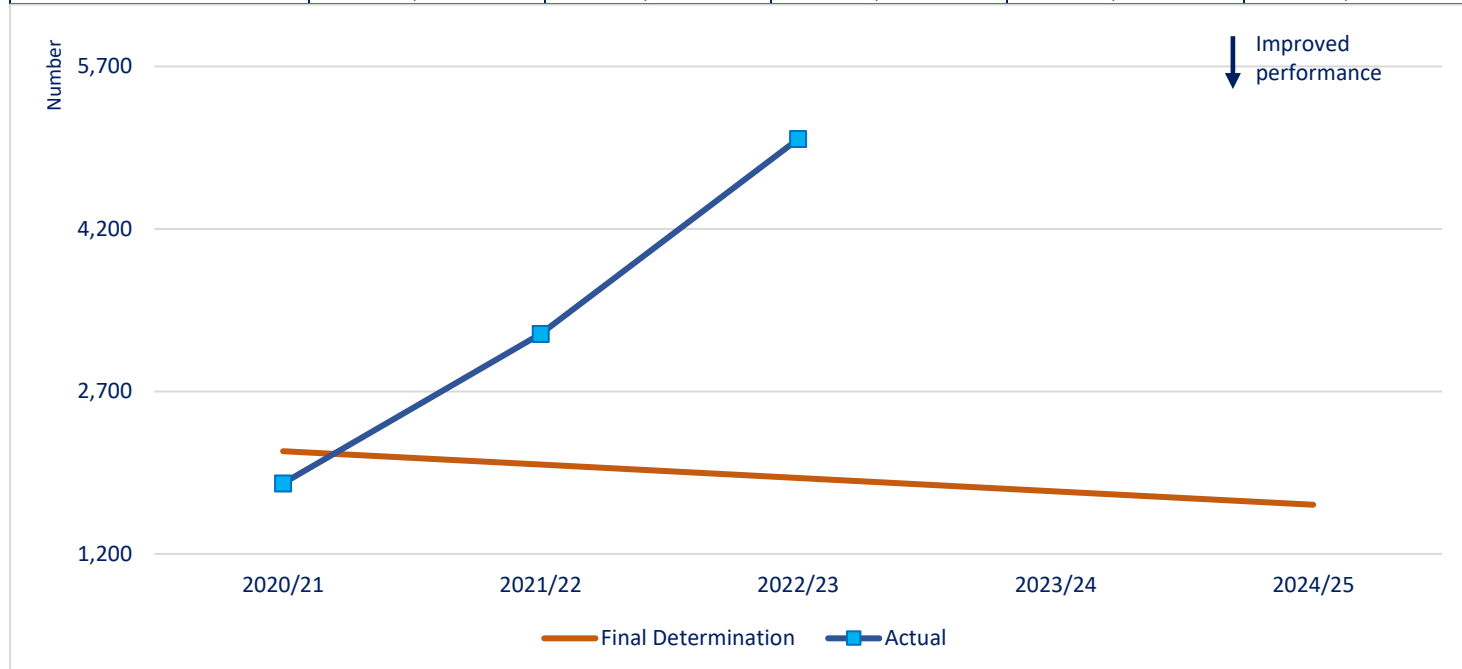
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Rt5 – Worst served customers for water service

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	1,852 *	3,230	5,029	n/a	n/a
Final Determination	2,148	2,025	1,901	1,778	1,654



Definition

This measure identifies those properties (household or non-household) who consistently receive a poor level of service.

The measure consists of three elements:

1. Properties that have had their water supply repeatedly interrupted over a 2 year period. Those properties who have had their water supply interrupted at least once in year one and experienced more than two interruptions in year two.
2. Properties that have had their water supply repeatedly interrupted over a 3 year period. Those properties who have had their water supply interrupted at least once in year one, year two and year three.
3. Properties that received low pressure below the agreed level of service for 3 years or more. Those properties are captured on the Low Pressure longstanding register.

Commentary

Our performance for the year was 5,029 properties which is worse than the Ofwat Final Determination target of 1,901 properties. The breakdown of the three elements of this measure is shown below.

Worst Served	2021/22 Performance	2022/23 Performance
1. Interruptions (over a 2 year period)	852	1,158
2. Interruptions (over a 3 year period)	2,337	3,829
3. Low Pressure	41	42
Water Services (Total)	3,230	5,029

Following an unprecedented year due to extreme weather events such as the summer drought and the freeze thaw during the Winter, we have seen a significant increase in the number of water supply interruptions. This has caused a significant impact on this performance commitment, see additional detail in commentary related to Wt2 Water supply interruptions.

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In addition, 454 properties have been included within this performance commitment because of three burst mains, causing supply interruptions in February 2021, August 2021 and May 2022, in Deri, Bargoed. This is currently our worst affected area and a scheme is currently ongoing to rectify this issue.

Taking a precautionary approach, we have included 265 properties within the reported number where a site visit is required to confirm the connection status of the property.

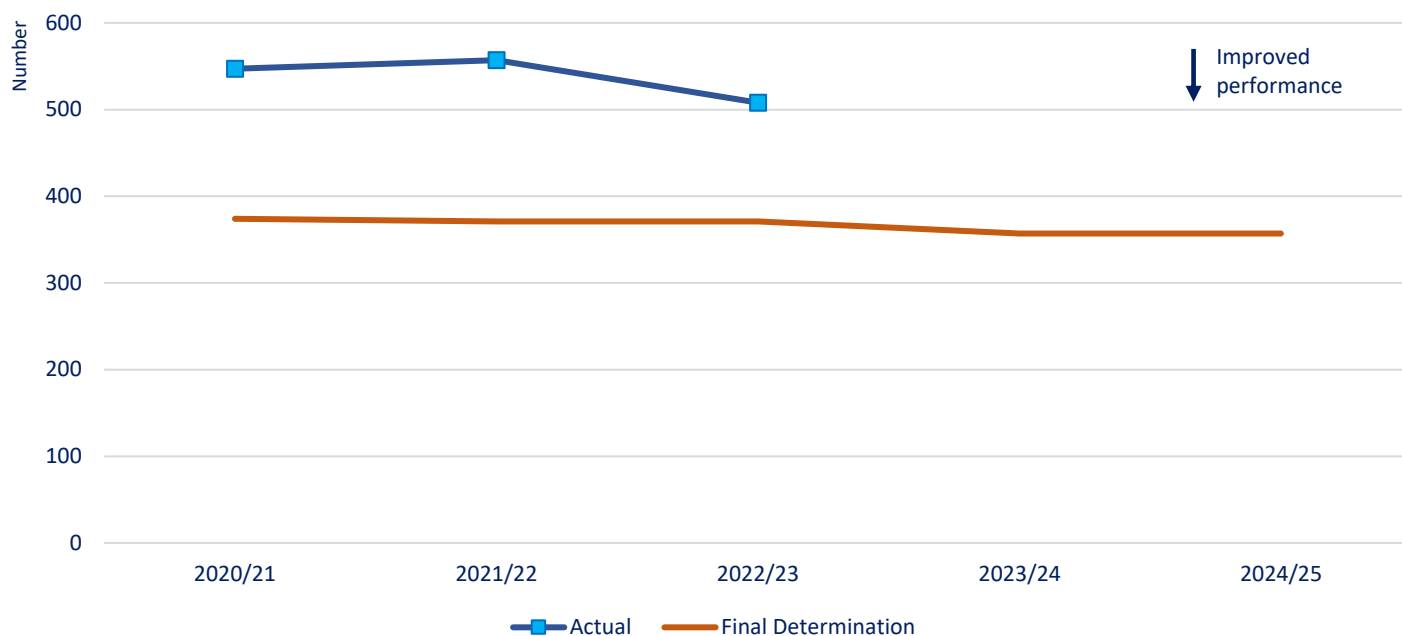
At Welsh Water, we have a Water Fair scheme to ensure that customers who fall into the 'worst-served' category for water or for wastewater are not charged for that service.

Rt6 – Worst served customers for wastewater service

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	547	557	508	n/a	n/a
Final Determination	374	371	371	357	357



Definition

This measure identifies those properties (of household or non-household customers) that consistently receive a poor level of service and experience repeat sewer flooding incidents i.e. 'worst-served' customers. The measure is comprised of the four categories, outlined below. Two of the categories relate to sewer flooding due to hydraulic overload (HO) and two relate to flooding due to other causes (OC).

1. Properties recorded as being at active risk of flooding internally due to hydraulic overload in the 2-in-10 year risk category (expected probability that sewer flooding will occur two or more times in ten years).
2. Properties recorded as being at active risk of Serious External Flooding due to hydraulic overload in the 2-in-10 year risk category.
3. Properties which have flooded internally more than once in the ten years prior to 31 March in the reporting year due to 'other causes'.
4. Properties which have suffered, on average, more than one Serious External Flooding due to 'other causes' in the three years prior to 31 March in the reporting year.

Commentary

Our performance for the year was 508 properties which is worse than the Ofwat Final Determination target of 371 properties. The breakdown of the four elements of this measure is shown below.

Worst Served	2021/22 Year end	2022/23 Year end
1. Internal Flooding (hydraulic overload)	108	69
2. Serious External Flooding (hydraulic overload)	280	276
3. Internal Flooding (other causes)	172	165
4. Serious External Flooding (other causes)	0	1
Waste Services (Total)	557*	508**

Note

* Note three properties at year-start qualify under both hydraulic overload and other cause categories, but each is only counted once in the overall total.

** Note three properties at year-end qualify under both hydraulic overload and other cause categories, but each is only counted once in the overall total.

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Wet weather and named storms have driven additions to the worst served register.

We have completed four capital schemes and seven minor-works schemes to remove worst-served customers in 2022-23. This includes completion of a £4.1m scheme in Cardigan, which has removed flood-risk for 34 worst-served customers

All customers deserve a good level of service, and we are working towards this goal over the long term. At present, the disproportionate cost of solutions to address problems for very small numbers of customers is an obstacle to progress, especially in the face of wider challenges. We continue to engage with customers and stakeholders on striking an appropriate balance between competing priorities. Our 'WaterFair' scheme provides discounts on bills for customers who remain on our worst served registers.

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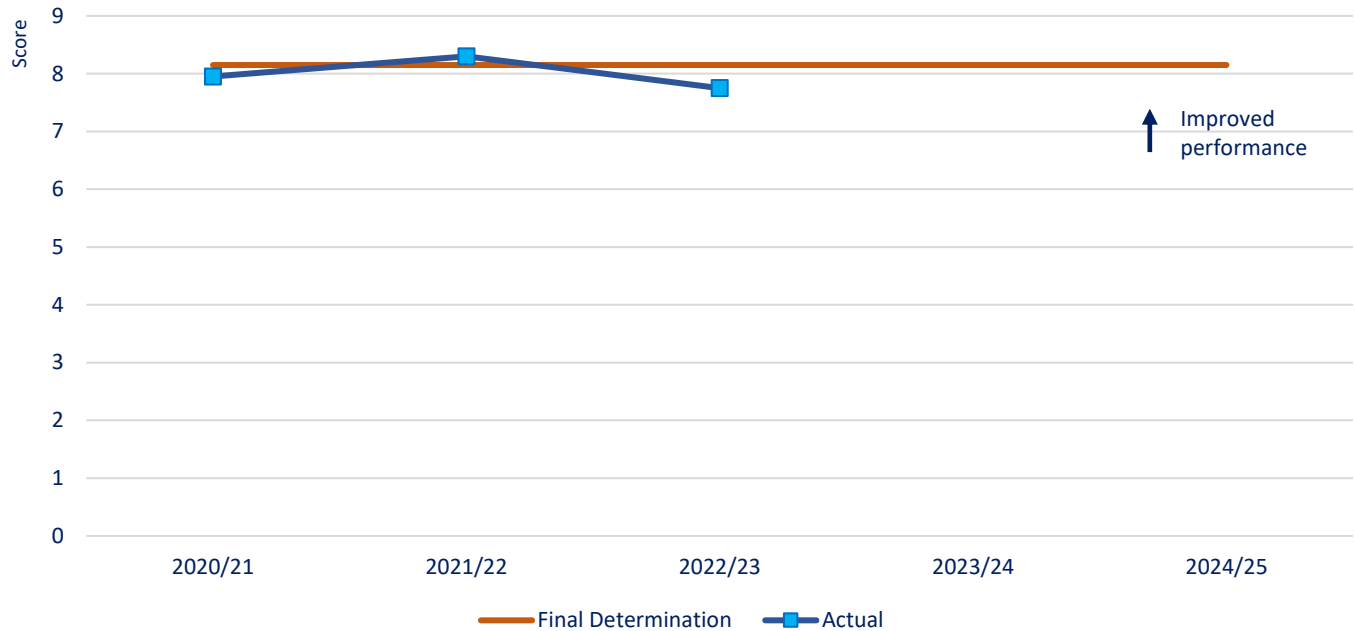
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Sv3 – Customer Trust

Reputational

Summary Performance

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	8.20	7.95	8.30	7.75	n/a	n/a
Final Determination		8.15	8.15	8.15	8.15	8.15



Definition

The average score of customers asked the question ‘How much do you trust your water and sewerage company?’ The response is on a scale of one to ten with one being ‘do not trust them at all’ and ten being ‘trust them completely’.

This performance commitment is calculated from the Consumer Council for Water’s (CCWater) survey.

This performance commitment will cease to apply if CCWater discontinues its annual question on the level of trust in water companies.

The CCWater “Water Matters” report is published in July annually. This means that the results will not be available for that year’s Annual Performance Report and the company will instead report the previous year’s result.

Commentary

Each year CCWater undertakes a survey asking customers for feedback on their water and sewerage company. This report is the Water Matters report and is usually published in July each year. Our performance reported for the year was 7.75 (July 2022 CCWater report) which placed us second out of the water and sewerage companies but is worse than the Ofwat Final Determination target of 8.15. The highest WASC score in 2022 was 7.81.

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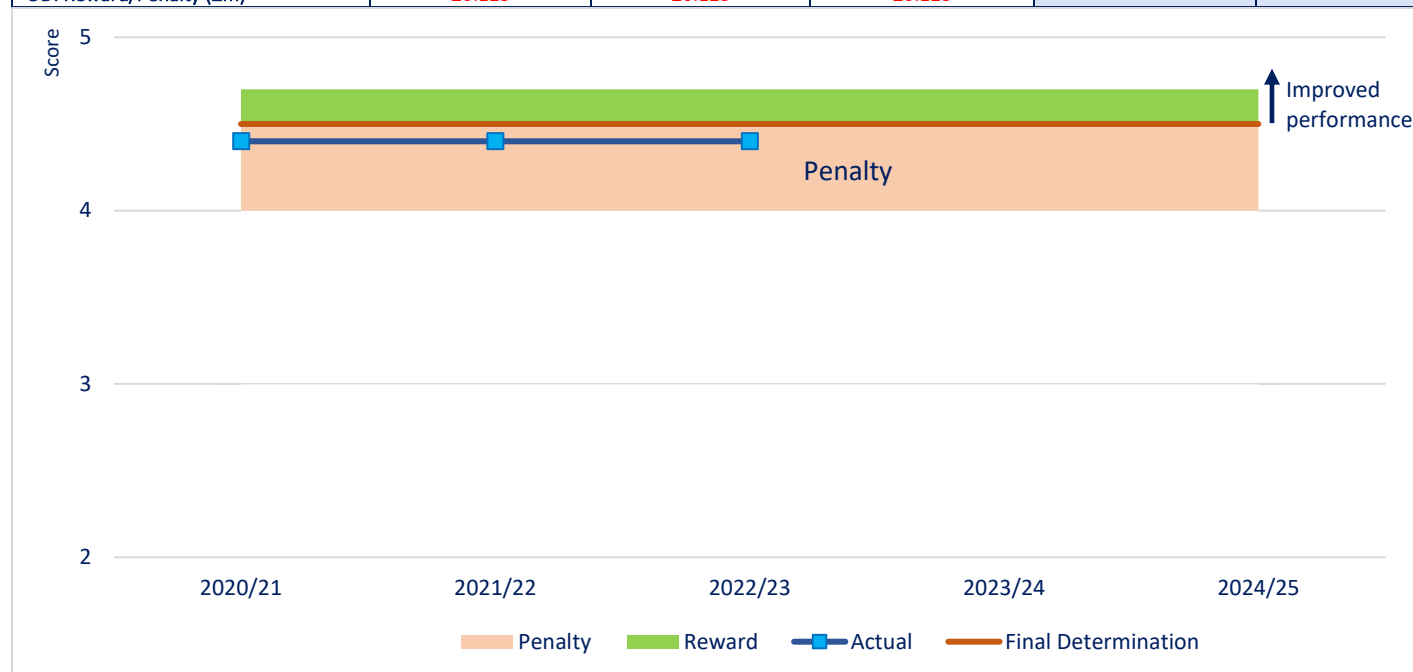
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Sv4 – Business customer satisfaction

ODI Reward & Penalty

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	4.4	4.4	4.4	n/a	n/a
Final Determination	4.5	4.5	4.5	4.5	4.5
ODI Reward/Penalty (£m)	£0.125	£0.125	£0.125		



Definition

This performance commitment measures the average customer score out of five from four quarterly business customer satisfaction surveys.

The Company will undertake a survey of 250 business customers per quarter (1,000 in total per year). It will survey a sample from all customers, not just those who have contacted the company.

Commentary

Our performance for the year was 4.4 (equivalent to 88% customer satisfaction) which is worse than the Ofwat Final Determination target of 4.5.

Our focus is to continue to improve the customer service for our customers and some planned improvements are:

- Enhance the 'Business' section of our website, including launching our 'My Account' platform for business customers to manage their water and sewerage accounts online.
- Revise the Business Customer Satisfaction Survey content, without impacting Sv4 methodology commitments, to generate better data and insight into customers' appetite for water efficiency.
- Continually improve delivery, and extend the range, of value-adding services that we offer to our business customers to match their appetite for water efficiency in 2023/24.

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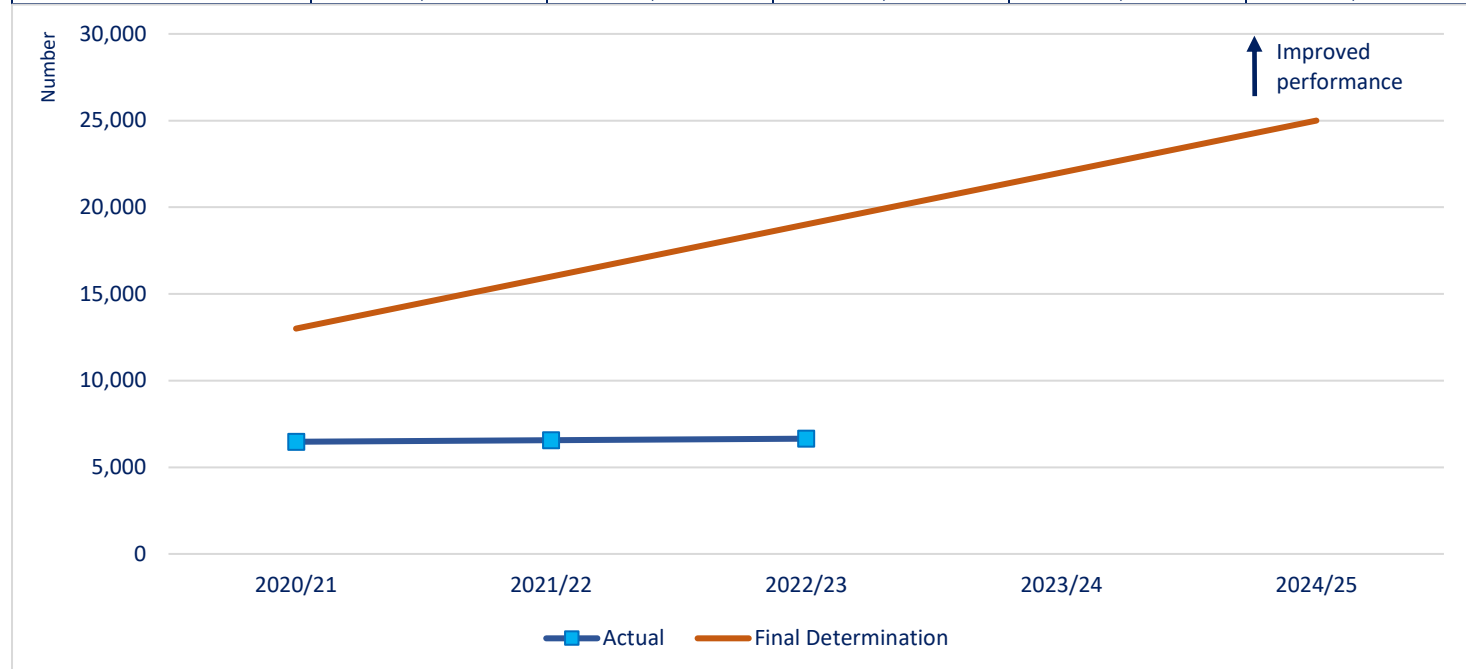
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Sv6 – Customers on Welsh language register

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	6,472	6,568	6,649	n/a	n/a
Final Determination	13,000	16,000	19,000	22,000	25,000



Definition

The number of customers registered for our Welsh language preference service.

Commentary

Our performance for the year was 6,649 which is worse than the Ofwat Final Determination target of 19,000. This is an increase of 81 compared to 2021/22.

In addition to this performance commitment, we offer a range of other Welsh language services (e.g. telephony, webchat, email and website services) which gives the overall picture of customers using our Welsh services.

We had 7,134 customers contact us in Welsh via another contact channel e.g. Webchat and on average, 7,068 customers visited the Welsh area of our website every month.

We are aiming to improve performance here by:

- Promoting at external events such as Royal Welsh/ Eisteddfod,
- Raising awareness through social media specific campaigns to sign up to Welsh language documentation,
- Highlighting during all contacts into our Welsh telephony team and chat agents,
- Promotion through our website, and
- Attending events with our community van.

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BI1 – Change in average household bill

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	-0.0%	-1.5%	-2.4%	n/a	n/a
Final Determination	<CPIH	<CPIH	<CPIH	<CPIH	<CPIH

Definition

The percentage increase in the average household bill from the bill in 2019/20.

The Company has committed to keeping bill increases below inflation as measured by the CPIH (Consumer Price Index including owner occupiers' housing costs).

Commentary

For 2022/23 our average bill increased below the rate of inflation.

This measure is the percentage change since 2019/20 in the average household combined bill before inflation is taken into account. The average household bill is calculated using the same methodology as used when reporting the Ofwat Average Household Bill template, summing water and wastewater to form a combined bill, as published on the Discover Water website.

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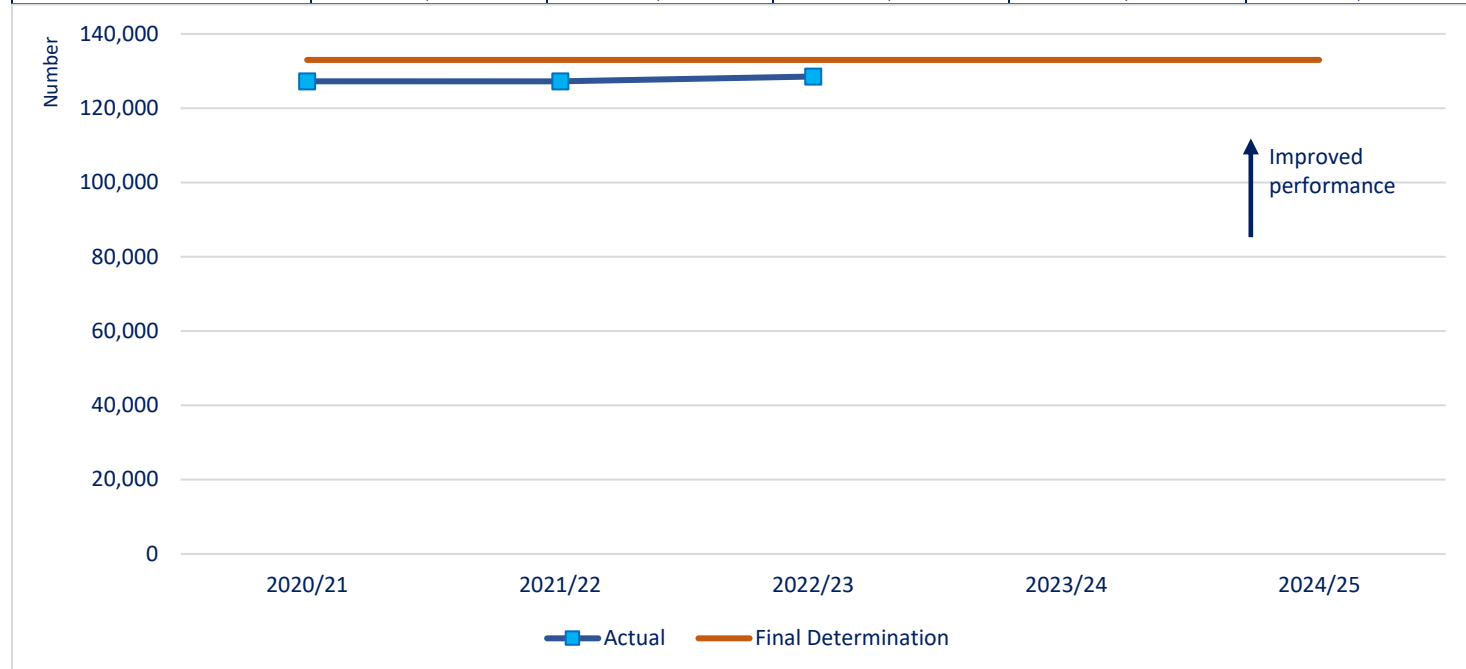
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BI2 – Vulnerable customers on social tariffs

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	127,238	127,247	128,531	n/a	n/a
Final Determination	133,000	133,000	133,000	133,000	133,000



Definition

The number of residential customers on social tariffs as at 31 March each year. This includes both the HelpU social tariff scheme and the WaterSure scheme.

Customers benefiting from Water Collect, Customer Assistance Fund and Water Direct customers are excluded from this measure unless they are also on a social tariff.

Commentary

Our performance for the year was 128,531 which is worse than the Ofwat Final Determination target of 133,000. At 31 March there were 95,137 customers on HelpU and 33,394 customers on WaterSure (includes customers on Welsh Water Assist as these tariffs have previously been combined).

During the year, we have accepted 16,973 customers onto a social tariff. Through natural attrition (e.g. customer moves where the applicant no longer qualifies, deceased customers and the new re application process) we have also removed 15,689 giving us a net increase of 1,284.

We will continue to audit customers benefiting from social tariffs to ensure eligibility and will remove customers who are no longer eligible.

Plans to ensure we reach our target next year include:

- Promotion of our social tariffs through our existing partners and relevant agencies;
- Rolling out more widely the Cymuned (Community) support scheme that provides short-term support for people who are not on means-tested benefit but are struggling to pay their bills
- Our mobile Community Hub activities are all about hyperlocal communications; taking a deep dive into local communities to raise awareness of our free support services for people in vulnerable circumstances;
- We have identified areas of high deprivation and are collaborating with communities there, hosting face-to-face pop-up sessions, and partnering with local representatives from organisations like Citizens Advice and Warm Wales; and

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- We have also created a Stakeholder toolkit which we share with local organisations ahead of our work in the community inviting them to help us raise awareness of our presence through their own communications channels.

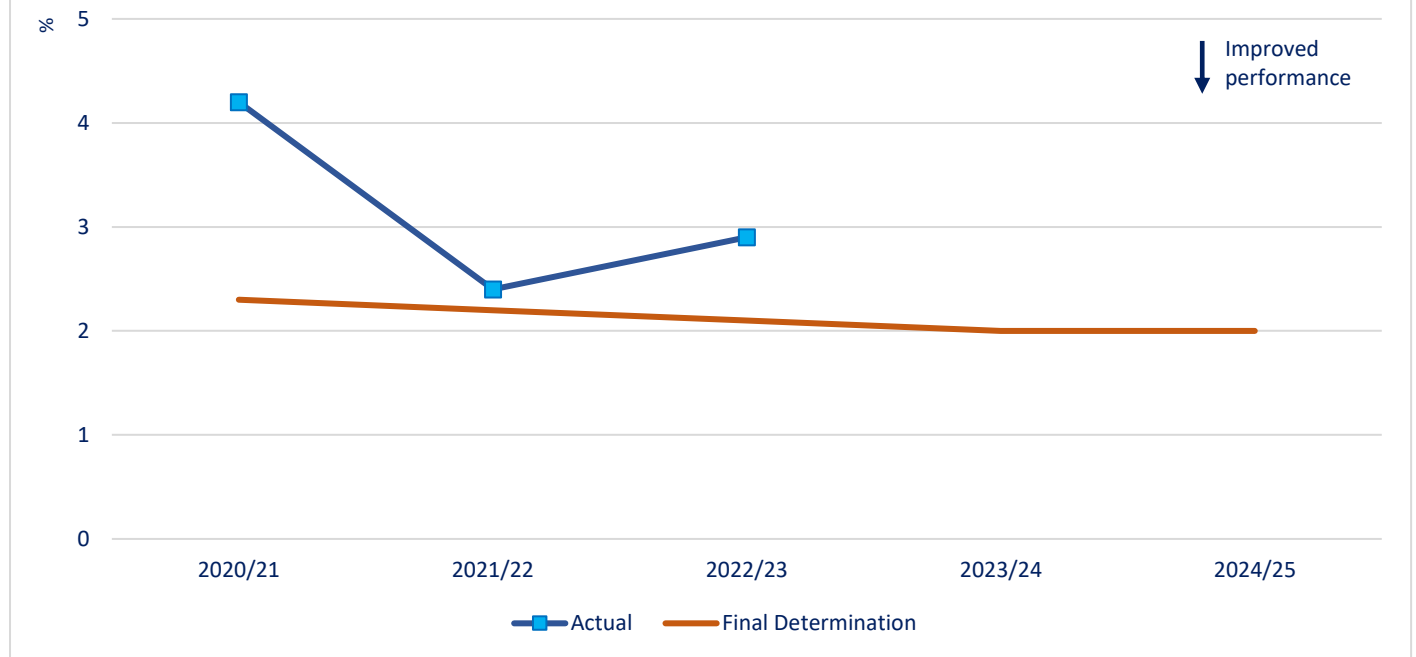
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BI3 – Company level of bad debt %

Reputational

Summary Performance

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	3.0	4.2	2.4	2.9	n/a	n/a
Final Determination		2.3	2.2	2.1	2.0	2.0



Definition

The Company level of bad debt is a measure of the total unpaid water and wastewater bills that are deemed uncollectable as a proportion of the total revenue billed in each reporting year.

Commentary

Our performance for the year is 2.9% which is worse than the Ofwat Final Determination target.

The bad debt metric has been calculated based on the retail element of the bad debt charge (Annual Performance Report (APR) Table 2C, Line 3: £24.2m) as a proportion of total appointed revenues (APR Table 1A, Line 1: £829.2m).

Cash collection rates have remained consistent throughout the 12 months to 31 March 2023 at around 97%. Our bad debt charge, as an absolute figure, has increased compared to prior years representing the correlation in the rise in appointed revenues, but our underlying bad debt charge as a percentage of revenue, when you remove one-off prior period adjustments, is consistent with prior years.

We have continued to factor in a £2m increase to our 31 March 2023 year-end provision for bad debt, equivalent to 1% deterioration in cash collection rates, providing for the current economic situation around the cost-of-living crisis.

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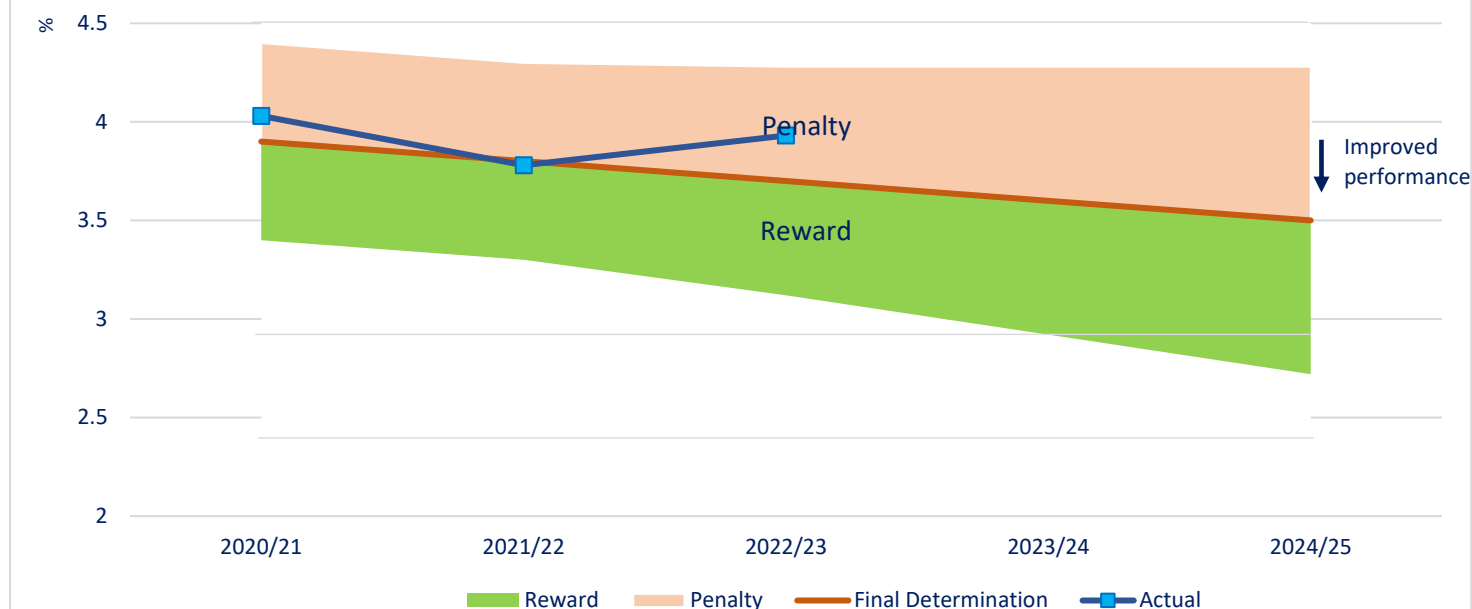
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BI4 – Unbilled properties (Voids) %

ODI Reward & Penalty

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	4.03	3.78	3.93	n/a	n/a
Final Determination	3.90	3.80	3.70	3.60	3.50
ODI Reward/Penalty (£m)	£0.340	£0.052	£0.601		



Definition

The number of household and non-household properties classified as void as a percentage of the total number of household and non-household properties served by the Company.

Void properties are defined as properties, within the company's supply area, which are connected for either a water service only, a sewerage service only or both services but do not receive a charge. This measure includes properties where other companies bill on our behalf.

Commentary

Our performance for the year was 3.93% which is worse than the Ofwat Final Determination target of 3.70%.

During the year void properties increased by more than we anticipated reaching as high as 64,162 in November 2022. There is no obvious single reason for this increase when considering the buoyant property and rental market, and customer move volumes were consistent with previous years. We therefore increased the number of void investigations undertaken to identify and bill unregistered occupiers, adopted a new electronic service to identify occupiers and increased the number of physical visits.

Detailed analysis is underway to understand the increased void volumes and a workstream of initiatives have been created. For example, we are expanding contact with Landlords having obtained Rent Smart Wales data and proactively contacting Registered Social Landlord organisations to reconcile their housing lists.

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BI5 – Financial resilience

Reputational

Summary Performance

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	High	High	High	High	n/a	n/a
Final Determination	-	High	High	High	High	High

Definition

This performance commitment indicates the financial resilience of the company as reflected in the credit ratings for senior class bonds, given by the three main credit rating agencies: Standard & Poor's (S&P), Moody's and Fitch. A score of 'High' represents a strong investment grade credit rating from at least two of the three credit rating agencies. A strong investment grade rating is defined as: Moody's: A3 or better, S&P: A- or better, Fitch: A- or better.

Commentary

During the year our senior bonds were rated A3/A-/A by Moody's S&P and Fitch. These continue to be among the best in the UK utility sector.

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BL6 – Delivery of our reservoirs enhancement programme

ODI Penalty

Summary Performance

APR reporting year	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Final Determination - cumulative number of schemes	0	8	13	17	26	29
Expected delivery date of schemes	2020	2021	2022	2023	2024	2025
Actual number of schemes	2	8	14			
ODI Penalty £m	£0	£0	£0			

Definition

Cumulative number of schemes delivered in the 2020/25 period against the regulatory programme of work for enhancing the safety of our reservoir assets. Work at each site will comprise:

- Reduction in 'Estimating Annual Probability of Dam Failure' due to works completed; and/or
- Completion of Section 10 measures in the interest of safety.

This will be assured by a third party All Reservoirs Panel Engineers.

Commentary

We have delivered six schemes this year, both of which appear in the Ofwat Final Determination programme list.

The improvements have been successfully completed at the following sites:

- Llyn Aled Isaf
- Castell Nos
- Llyn Alaw
- Llys y Fran
- Upper Neuadd
- Rhymney Bridge No. 1

These works followed Section 10 inspections under the Reservoirs Act 1975, which stipulated the work that was required at each site.

Since our Business Plan submission in 2018 our reservoir safety programme has been updated to reflect the latest risk information from ongoing investigations. We will continue to ensure the programme prioritises work to maximise the benefit in terms of improvements in safety in line with legal requirements. Over the AMP period the programme will deliver the same (at least) overall benefit as the original programme approved by Ofwat at PR19, and our expenditure on the programme will be at least as much as the figure stipulated at the price review. We will provide evidence to confirm these facts in future Annual Performance Report submissions to Ofwat.

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BI8 – Delivery of our water network improvement programme

ODI Penalty

Summary Performance

	Units	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	nr	0	2	2	n/a	n/a
Final determination	nr	0	0	0	0	17
ODI Penalty	£m	£0	£0	£0		

Definition

Cumulative number of schemes delivered to milestone 3 (completed programme of works) over the 2020 to 2025 period. This performance commitment captures the Company's obligations to meet the 17 notices served on it by the Drinking Water Inspectorate (DWI) in force as at 1 April 2020 to address concerns about discolouration of water. The financial implications associated with underperformance this performance commitment will be assessed in 2025, which is the end of this five year reporting cycle.

Commentary

No schemes were delivered this year. So far for the five-year period 2020/21 to 2024/25 we have delivered two schemes, which is better than the Ofwat Final Determination target.

We are investing to improve the appearance of drinking water supplied to our customers in 17 Water Quality Zones during the five year reporting period. Construction activities to date have been completed in two zones (Bridgend Pencoed and Cardiff Ely/Radyr). We are currently working on schemes in four zones, which are planned to be completed in 2023/24 (Aberystwyth, Port Talbot, Sketty Gower and Rhymney Bargoed).

Two of these schemes were due to be completed in 2022/23 but were delayed:

- Construction in Sketty Gower has been delayed by issues on the final connection on a major roundabout in the Swansea area, we are currently working with Swansea Council to mitigate water supply and transport disruption to the area; and
- Construction in Rhymney Bargoed has been delayed by the business decision to reallocate the construction team to deal with the severe weather events in 2022. The construction team is now back on site with construction activities due for completion by August.

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BI10 – Delivery of our South Wales Grid water supply resilience scheme

ODI Penalty

Summary Performance

	Units	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	%	0	0	2	n/a	n/a
Final determination	%	0	3	10	95	100
ODI Penalty	£m	£0	£0	£0		

Definition

Cumulative proportion of total expenditure (to zero decimal places) spent to deliver the South Wales Grid water supply resilience scheme over the 2020 to 2025 period. The financial implications associated with underperformance this performance commitment will be assessed in 2025, which is the end of this five year reporting cycle.

Commentary

For the three year period 2020/21 to 2022/23, £237,956 expenditure has been incurred which equates to 1.6% for this performance commitment. This is worse than the Final Determination target.

The programme delivery will provide bi-directional transfer of 30 Ml/d between the West (TCUS) and East (SEWCUS) conjunctive use systems.

Hydraulic modelling has been finalised and the project is progressing through the Investment Delivery Process to make decisions to progress investment through to solution.

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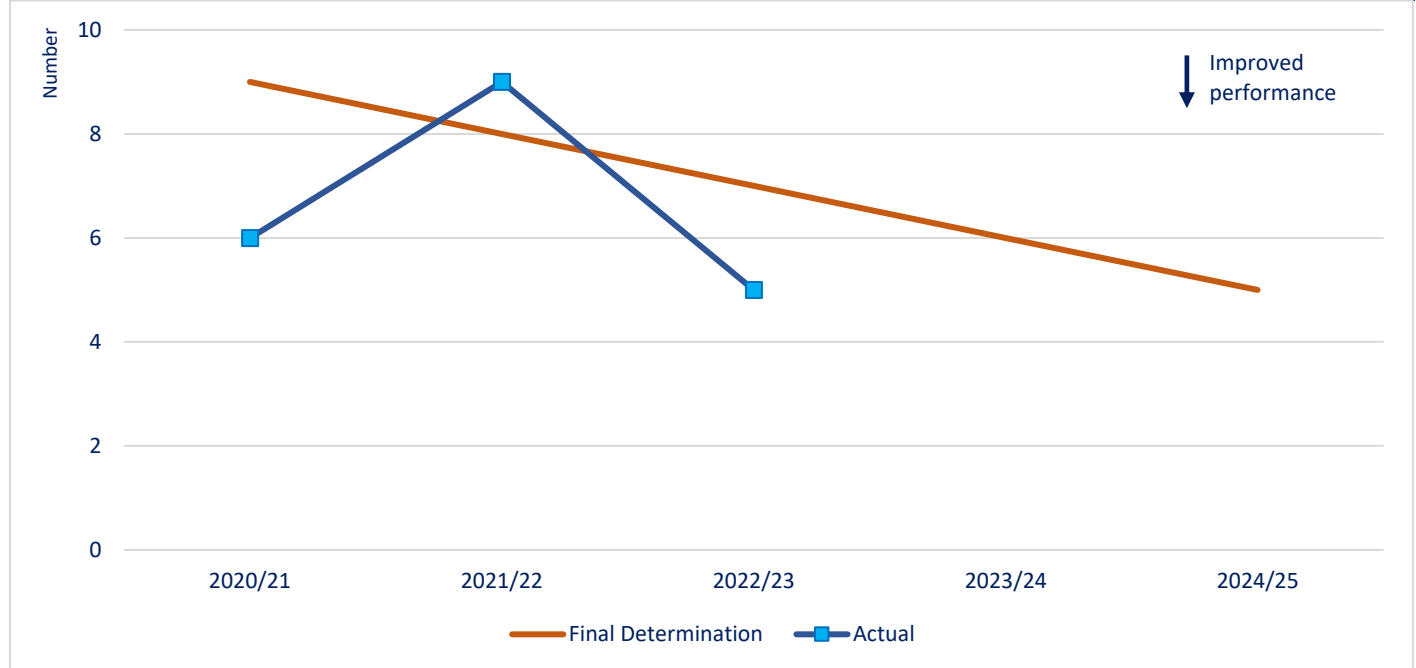
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Co1 – Reportable injuries

Reputational

Summary Performance

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	8	6	9	5	n/a	n/a
Final Determination		9	8	7	6	5



Definition

The number of individual injuries reported to the Health and Safety Executive under RIDDOR per annum.

Commentary

Our performance for the year was five which is better than the Ofwat Final Determination target of seven. This is an improvement on our performance of nine last year.

Two of the five injuries were due to 'Specified Injuries' compared to five of the nine injuries in 2021/22.

Three of the injuries were incurred by contractors. We will continue to work with our operational contract partners to share learning and best practice to help prevent injuries.

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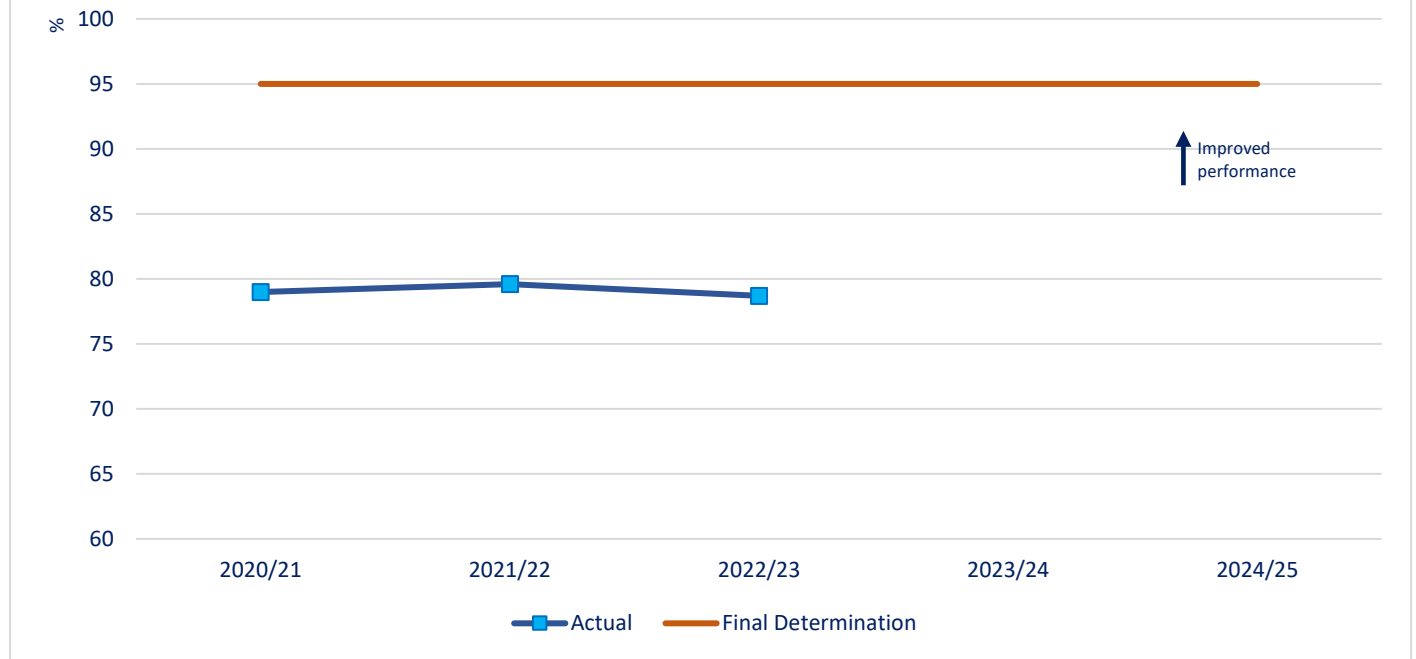
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Co2 – Employee training and expertise %

Reputational

Summary Performance

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	83.0	79.0	79.6	78.7	n/a	n/a
Final Determination		95.0	95.0	95.0	95.0	95.0



Definition

The percentage of the Company's employees that are evaluated as having the necessary skills, experience, and knowledge to carry out their specific role safely.

Commentary

Our performance for the year was 78.7% which is worse than the Ofwat Final Determination target of 95.0%.

In previous years the internal reporting process, shown below has been used to report the APR data to Ofwat, which is not in line with the FD definition. As a result, we will be requesting to restate previous year's figures to Ofwat. The restated figures are shown in the table below:

Year	Original number	Restated number
2020/21	85.0%	79.0%
2021/22	87.7%	79.6%

We remain committed to achieving our target. To help achieve this we have removed social distancing and increased the number of attendees on training courses. We have also put other measures in place, such as a new confined space rig to allow for extra training capacity. We have brought in a trainer to deliver some courses, and we are using external contractors to support with Confined Space training.

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Co3 – Employee engagement %

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	n/a	69	75	n/a	n/a
Final Determination	80	80	80	80	80

Definition

This performance commitment is designed to incentivise the company to maintain the employee engagement score derived from an annual survey of colleague sentiment.

Commentary

Our performance for the year was 75% which is slightly worse than the Ofwat Final Determination target of 80% but is better than last year's performance of 69%.

Our engagement is measured using four questions.

- I am proud to work for Welsh Water;
- I would recommend Welsh Water to people I know as a great place to work;
- I rarely think about looking for a new job with another company; and
- Welsh Water motivates me to go the extra mile.

Once the surveys are completed, Qualtrics provide the percentage positive score for each of those questions and calculate an average to create the engagement score for Welsh Water.

We set a response rate for this measure of 75%. Our response rate improved this year and arrived at 89%.

We will continue our work to achieve our action plans to further improve performance to move closer to the target of 80%.

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DPC01 – Direct procurement for customers: Cwm Taf Water supply strategy scheme (Underperformance)

ODI Penalty

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	0	0	0	n/a	n/a
Final determination	TBA	TBA	TBA	TBA	TBA
ODI Penalty £m	£0	£0	£0		

Definition

The performance commitment measures successful and timely delivery of key direct procurement for customer control points, the Outline Business Case submission, and the Full Business Case submission.

Commentary

We were required to submit for the Cwm Taf Water Supply Strategy a Strategic Outline Case (SOC) by no later than 31 December 2020; this was submitted on 18 December 2020.

We do not as yet have agreed targets for this measure.

DPC02 – Direct procurement for customers: Cwm Taf Water supply strategy scheme (Outperformance)

ODI Reward

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	TBC	TBC	TBC	n/a	n/a
Final determination	TBA	TBA	TBA	TBA	TBA
ODI Reward £m	£0	£0	£0		

Definition

Where DCWW successfully completes an agreed procurement process and, following approval by Ofwat, awards the Cwm Taf Water supply strategy scheme to a competitively appointed provider such that the contract is signed and fully effective in accordance with its terms.

Commentary

We were required to submit for the Cwm Taf Water Supply Strategy a Strategic Outline Case (SOC) by no later than 31 December 2020; this was submitted on 18 December 2020.

We do not as yet have agreed targets for this measure.

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VIS01 – Delivery of a new visitor centre

ODI Penalty

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	n/a	n/a	n/a	n/a	n/a
Final determination	n/a	n/a	n/a	n/a	Delivered
ODI Penalty £m	£0	£0	£0		

Definition

The performance commitment measures successful delivery of the project to construct a new visitor centre at the Llanishen/Lisvane reservoirs site. The financial implications associated with underperformance this performance commitment will be assessed in 2025, which is the end of this five year reporting cycle.

Commentary

Work is progressing well to deliver a new visitor centre at Llanishen/Lisvane, the project remains on track to be delivered by 2025.

Construction of the visitor centre started in January 2022 and the site is currently planned to open to the public in Summer 2023.

We have used the override function within the Ofwat ODI model as this is an end of period Performance Commitment.

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DWMPs – Drainage and wastewater management plans

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	0	0	0	n/a	n/a
Final determination	0	0	100	100	100

Definition

The cumulative percentage of catchments in which Welsh Water operates, the company implements the Level 1 water company DWMP in accordance with the guideline: A framework for the production of Drainage and Wastewater Management Plans, published September 2018 and updated May 2019.

Commentary

This measure was designed to develop voluntary drainage and wastewater management plans. Our plan will identify how we will extend, improve and maintain a robust and resilient drainage and wastewater system in light of facing the pressures of climate change, population growth and growing customer expectations.

In order to achieve this Performance Commitment, Ofwat required companies to publish their plans by the 31st of May 2023. Whilst our plan is drafted, it is awaiting Board sign-off before we can publish. Therefore, we have not met this Performance Commitment.

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NEP01 – Delivery of Environment programme requirements

Reputational

Summary Performance

	2020/21	2021/22	2022/23	2023/24	2024/25
Actual	met	met	met	n/a	n/a
Final determination	met	met	met	met	met

Definition

This measure tracks the completion of required schemes in each year, as per the latest WINEP/NEP programme published by DEFRA and Natural Resources Wales.

Has the Company 'met' or 'not met' all of its requirements for Water Industry National Environment Program (WINEP)/National Environment Program (NEP), in the reporting year.

Commentary

We have met the Performance Commitment for 2022/23. The table below shows the claims across the three drivers. Natural Resources Wales have issued a business performance letter dated 7 June 2023 confirming our reported performance. The Environment Agency has provided sign off via the DEFRA SharePoint site for measures that contribute towards this Performance Commitment.

Regulator	Schemes	Monitors	Investigations	Water Resources
EA	0	8	1 (1 Catchment Team)	Included in columns to left.
NRW	4	2	15 (inclusive of 2 Water Resources)	Included in columns to left.
Total of 30 claims				

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3. Assurance

Assurance processes adopted in preparing this report.

The Company has established appropriate processes and systems of control that provide the necessary assurance in respect of the information contained within and underpinning this report. The following paragraphs summarise the processes and systems of control in place.

Policies and Procedures

- Key processes and systems of control are documented, and the quality of systems used for generating regulatory information are continually assessed. These processes have been followed to produce this part 3 of the Annual Performance Report. Although we are no longer required to produce a June Return, we have used the same processes as in previous years and retained the concept of 'data ownership'.
- Methodology Statements are in place for performance commitments reported in this part of the Annual Performance Report and these have either been assessed by the Reporter or subjected to internal review within the year.
- As part of targeted due diligence, each data owner was required to confirm that they had completed the relevant table in accordance with the relevant Methodology Statement. Any changes to the procedures are kept up to date and are published on our intranet Source.
- We have in place a policy document which outlines the formal process to be undertaken and, inter alia, the roles and responsibilities of key people including data owners, the Regulation Department, Dŵr Cymru Executive Directors (collectively and individually), the Audit Committee and the Board.
- A 'Code of Conduct' detailing the behavioural framework required around regulatory data and whistle-blowing was issued in 2014, with updated versions issued in 2018 and 2020.
- Ownership and responsibility for each relevant data item has been clearly defined. Each individual was responsible for adhering to all appropriate Ofwat guidance in the compilation of accurate and complete data, providing associated commentary and arranging colleague / management checks. This also involved formal 'sign off' by the individual, verifying that the data had been completed in line with the latest Methodology Statement. In addition, confirmation was required that any material judgements or assumptions had been highlighted and documented, ensuring a robust and transparent audit trail, with a review of confidence grades also carried out where applicable.
- Ownership and responsibility is also allocated to the Head of Service, who is also involved in the formal 'sign off' to confirm that they are satisfied the data owner has completed the process and that they have carried out relevant checks to ensure the integrity and accuracy of the data submitted.
- Allocation of overall responsibility for individual data items and associated commentaries was also assigned to the appropriate member of the Dŵr Cymru Executive (DCE). Each was responsible for the review and 'sign off' of their own data items at the DCE APR review meetings.
- A large proportion of the data processing is covered by our internal Integrated Management System which has accreditation to various ISO standards.

Implementation and Internal Review

- Production of training pack/slides by the Regulation Department ensured that all data owners had a single point of reference for all information necessary to undertake their specific

responsibilities. These ‘packs’ included a video introduction by the Director of Strategy and Regulation on the importance of regulatory data being reliable and accurate. Guidance was included on how to process the relevant data and populate tables, updates required to commentaries, methodology statements and risk matrices, information on confidence grades and details of where to locate previous Reporter’s reports.

- All of the information included within the training packs (described above) was made available on our intranet Source.
- Several informal question and answer sessions were held virtually for data owners in March 2023, where data owners were given the opportunity to raise any questions on the processes.
- Regular communication between the Regulation Department and all data owners was undertaken prior to and during the preparation of this report.
- There was regular reporting of key performance indicators to the Board, the Quality and Safety Committee (QSC) and the Dŵr Cymru Executive Directors throughout the year.
- A rigorous process of internal due diligence meetings was undertaken by the Regulation Department between April and June 2023 to challenge information, judgements and assumptions made and to ensure compliance with the relevant guidance.
- A review was undertaken by the Regulation Department to ensure consistency between the Annual Performance Report and the individual data items and the relevant commentaries.
- A management review meeting of non-financial measures reported in the Annual Performance Report, involving the Dŵr Cymru Executive Directors, took place on 30 May 2023 and 13 June 2023. This was also attended by the Reporter, an Internal Audit team member and data owners, where relevant. For each performance commitment, a summary containing current year’s performance, historical performance (where relevant) and data owner and reporter issues was produced and formed the basis of the discussions. Material issues were highlighted and discussed.

External Review and Board Engagement

- The Reporter carried out a formal review and certification of all non-financial measures and provided a detailed report commenting on compliance with reporting requirements and highlighted any issues with the reported figures.
- The Director of Strategy and Regulation reviewed and approved publication of Our Assurance Activities, which was published in April 2023.
- The Audit Committee received papers detailing the processes in place at meetings held on 30 January 2023 and 19 May 2023. Further progress updates were provided to the Audit Committee on 29 June 2022.
- As part of the external review of data, the Reporter also reviewed performance against the PR19 Final Determination Outcomes and Performance Commitments. The Reporter also attended the Dŵr Cymru Executive Directors meetings on the 30 May 2023 and 13 June 2023, the Audit Committee meetings on the 18 May 2022 and 29 June 2023 (where they provided verbal updates) and the Board meeting on 6 July 2023. The Reporter’s letter of assurance can be found in Appendix 3 of this document.
- The Internal Audit Team undertook a high-level review of governance processes put in place to ensure the accuracy and completeness of non-financial data reported in the Annual Performance Report for 2022-23. The report concluded that there was an effective governance framework for the completion, review and approval of Data Tables and assigned an overall rating of “Full Assurance”.

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- The Board meeting on 6 July 2023 reviewed the overall process, the operation of the systems of internal and external controls and reviewed the key judgements required in compiling the Annual Performance Report.
- Some of our key stakeholders (e.g. Natural Resources Wales, the Drinking Water Inspectorate and CCWater) also carry out audits and scrutiny of our data.

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4. Change Control

Date	Version	Reason for Change
15 July 2023	V1 – First Published	
15 November 2023	V2	Small change to performance for Wt5 unplanned outage to 1.05%, as a result of response to Ofwat query WSH-APR-IP-002.
		Amendment to penalty for Sv2 D-MeX as per Ofwat's final in-period determination.

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Appendix 1 - Performance Commitments Definitions.

Performance Commitment		Definition
Wt1	Water quality compliance (CRI)	A Compliance Risk Index (CRI) score is calculated for every individual compliance failure at water supply zones, supply points and treatment works, and service reservoirs. The annual CRI for a company, for any given calendar year, is the sum of the individual CRI scores for every compliance failure reported during the year.
Wt2	Water Supply Interruptions	The average number of minutes that customers are without water within our supply area (includes both planned and unplanned interruptions). It is calculated as the average number of minutes lost per customer for the whole customer base for interruptions that lasted three hours or more.
Wt3	Acceptability of drinking water	The number of times the company is contacted by consumers due to the taste and odour of drinking water, or due to drinking water not being clear, reported per 1,000 population. This measure is reported on a calendar year basis.
Wt4	Mains Repairs	This includes all physical repair work to mains from which water is lost. It is reported as the number of mains repairs per thousand kilometres of the entire water main network (excluding communication and supply pipes).
Wt5	Unplanned outage %	This measure is a means of assessing asset health (primarily for above ground assets), for water abstraction and water treatment activities. It is defined as the annualised unavailable flow, based on the peak week production capacity. This measure is proportionate to both the frequency of asset failure as well as the criticality and scale of the assets that are causing an outage.
Wt6	Tap water quality event risk index (ERI)	The Event Risk Index (ERI) is a measure of the risk arising from water quality events, as defined by the Drinking Water Inspectorate (DWI). This measure is reported on a calendar year basis.
Wt7	Water catchments improved	The number of water treatment works with catchments designated as Safeguard Zones under the Water Framework Directive (WFD) as in effect at the time of the Ofwat Final Determination publication. Drinking Water Safeguard Zones are designated areas where raw water quality has been deemed to be 'at risk' of deterioration.
Wt8	Lead pipes replaced	This performance commitment measures number of lead pipes replaced by the Company. The number of pipes reported as replaced is cumulative over the period 2020-25. The financial implications associated with underperformance or outperformance with this Performance Commitment will be assessed in 2025, which is the end of this five year reporting cycle.
En1	Treatment works compliance %	For our water and wastewater treatment works there is a permit which regulates the quality of wastewater the Company is allowed to discharge into rivers and coastal waters, which is regulated by Natural Resources Wales. The measure is reported as the number of failing sites (as a percentage of the total number of discharges) and not the number of failing discharges.

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Performance Commitment		Definition
		This measure is reported on a calendar year basis.
En2	Wastewater treatment works 'look-up table' compliance	<p>Percentage of wastewater treatment works that comply with the following:</p> <ul style="list-style-type: none"> Sanitary Look Up Table limits on permits for Biological Oxygen Demand (BOD), Total suspended solids (TSS) and ammonia. Annual average Phosphorus limits. Urban Wastewater Treatment Directive (UWWTD) Look up table limits for BOD and Chemical Oxygen Demand (COD). UWWTD annual average Phosphorus limits. UWWTD annual average Nitrogen limits. <p>These are set by Natural Resource Wales or the Environment Agency as appropriate.</p> <p>This measure is reported on a calendar year basis.</p>
En3	Pollution incidents (Per 10,000km of sewer)	<p>The total number of pollution incidents per 10,000 km of sewer length (caused by blockages or collapsed sewers). Pollution incidents are categorised as category 1, 2 or 3 incident and reported by Natural Resources Wales and the Environment Agency.</p> <ul style="list-style-type: none"> Category 1 - are the most severe and have a major or serious impact on the environment, people or property. Category 2 - significant impact or effect on the environment, people or property. Category 3 - minor or minimal impact on the environment, people or property. <p>This measure is reported on a calendar year basis.</p>
En4	Leakage (% reduction) – 3 year average	The percentage reduction of three year average leakage in megalitres per day (Ml/d) from the 2019/20 starting baseline.
En5	Per Capita Consumption (% reduction) – 3 year average	Annual average per capita consumption (PCC) is defined as the sum of measured and unmeasured household consumption divided by the total household population. This measure is reported as a % reduction of our three year average PCC from the 2019/20 starting baseline.
En6	Km of river improved	<p>The cumulative length of river improved as a result of the Company's action and as a consequence of regulatory and legislative drivers. The length can only be counted once the Environment Agency and/or Natural Resources Wales has agreed all schemes to achieve the improvement have been delivered and each scheme meets the requirements.</p> <p>The measure is defined as the length (in km) of river with improved water quality, as a result of Welsh Water action. The financial implications associated with underperformance or outperformance with this Performance Commitment will be assessed in 2025, which is the end of this five year reporting cycle.</p>
En7	Bioresources product quality	Percentage of total wastewater sludge treated that is processed through Advanced Anaerobic Digestion facilities and recycled to land meeting certification requirement of the Biosolids Assurance Scheme. Any sludge imported from third parties will be included within the measure.
En8	Bioresources disposal compliance	The overall percentage of company sludge satisfactorily used or disposed of in line with version 3 of the Natural Resource Wales and Environment Agency's Environmental Performance

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Performance Commitment		Definition
		Assessment methodology (published November 2017). This measure is reported on a calendar year basis.
En9	Combined sewer overflow storage systems	The cumulative additional effective volume of storage delivered by the Company under the National Environment Programme (NEP) obligations. The financial implications associated with underperformance or outperformance with this Performance Commitment will be assessed in 2025, which is the end of this five year reporting cycle.
NEP01	Delivery of Environment programme requirements	This measure tracks the completion of required schemes in each year, as per the latest WINEP/NEP programme published by DEFRA and Natural Resources Wales. Has the Company 'met' or 'not met' all of its requirements for Water Industry National Environment Program (WINEP)/National Environment Program (NEP), in the reporting year.
DWMPs	Drainage and wastewater management plans	The cumulative percentage of catchments in which Welsh Water operates, the company implements the Level 1 water company DWMP in accordance with the guideline: A framework for the production of Drainage and Wastewater Management Plans, published September 2018 and updated May 2019.
Sv1	C-MeX	C-MeX is a customer measure of experience and customer satisfaction. It is comprised of two survey elements: <ul style="list-style-type: none"> Customer Experience Survey – a customer satisfaction survey amongst a random sample of the water company's customers; and Customer Service Survey – a customer satisfaction survey amongst a random sample of those customers who have contacted their water company. The scores of each of the two surveys are weighted equally to produce the combined C-MeX measure.
Sv2	D-MeX	D-MeX is a measure of customer satisfaction for Developer Services. The D-MeX score is calculated from two components that contribute equally: <ul style="list-style-type: none"> Qualitative D-MeX score, based on the ratings provided by developer services customers who transacted with the company throughout the reporting year to a customer satisfaction survey; and Quantitative D-MeX score, based on the company's performance against a set of selected Water UK performance metrics throughout the reporting year.
Sv3	Customer Trust	The average score of customers asked the question 'How much do you trust your water and sewerage company?' The response is on a scale of one to ten with one being 'do not trust them at all' and ten being 'trust them completely'. This performance commitment is calculated from the Consumer Council for Water's (CCWater) survey. This performance commitment will cease to apply if CCWater discontinues its annual question on the level of trust in water companies.
Sv4	Business customer satisfaction	This performance commitment measures the average customer score out of five from four quarterly business customer satisfaction surveys.

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Performance Commitment		Definition
		The Company will undertake a survey of 250 business customers per quarter (1,000 in total per year). It will survey a sample from all customers, not just those who have contacted the company.
Sv5	Priority Services for Customer in Vulnerable Circumstance	We provide special assistance to those customers in vulnerable circumstances who are registered on our Priority Services Register (PSR). This measure reports on the number of households on the Company's PSR as a proportion of all households in the Company's region.
Sv6	Customer on Welsh language register	The number of customers registered for our welsh language preference service.
Rt1	Internal sewer flooding (per 10,000 sewer connections)	The measure is calculated as the number of internal sewer flooding incidents normalised per 10,000 sewer connections including sewer flooding due to severe weather events.
Rt2	Sewer flooding on customers property (external)	The measure is calculated as the number of external sewer flooding incidents normalised per 10,000 sewer connections including sewer flooding due to severe weather events. External flooding incidents are those that have occurred within the boundary of residential or non-residential properties.
Rt3	Sewer collapses (Per 1,000 km of sewers)	The number of sewer collapses per 1,000 kilometres of all sewers causing an impact on service to customers or the environment. A sewer collapse is where a structural failure has occurred to the pipe that results in a service impact to a customer or the environment and where action is taken to replace or repair the pipe to reinstate normal service.
Rt4	Total Complaints	The total complaints by household customers received by the Company per 10,000 connections. It includes the combined total of unwanted contacts (i.e. telephone complaints), written complaints (letter and email), and contacts via new contact channels (such as social media or webchat). This aligns with the data submitted and published by the Consumer Council for Water (CCW) in its annual reports on household complaints.
Rt5	Worst served customers for water service	This measure identifies those properties (household or non-household) who consistently receive a poor level of service. The measure consists of three elements: <ol style="list-style-type: none"> 1. Properties that have had their water supply repeatedly interrupted over a 2 year period. Those properties who have had their water supply interrupted at least once in year one and experienced more than two interruptions in year two. 2. Properties that have had their water supply repeatedly interrupted over a 3 year period. Those properties who have had their water supply interrupted at least once in year one, year two and year three. 3. Properties that received low pressure below the agreed level of service for 3 years or more. Those properties are captured on the Low Pressure longstanding register.
Rt6	Worst served customers for wastewater service	This measure identifies those properties (of household or non-household customers) that consistently receive a poor level of service and experience repeat sewer flooding incidents i.e. 'worst-served' customers. The measure is comprised of the four categories, outlined below. Two of the categories relate to sewer

Performance Commitment		Definition
		<p>flooding due to hydraulic overload (HO) and two relate to flooding due to other causes (OC).</p> <ol style="list-style-type: none"> 1. Properties recorded as being at active risk of flooding internally due to hydraulic overload in the 2-in-10 year risk category (expected probability that sewer flooding will occur two or more times in ten years). 2. Properties recorded as being at active risk of Serious External Flooding due to hydraulic overload in the 2-in-10 year risk category. 3. Properties which have flooded internally more than once in the ten years prior to 31 March in the reporting year due to 'other causes'. 4. Properties which have suffered, on average, more than one Serious External Flooding due to 'other causes' in the three years prior to 31 March in the reporting year.
Ft1	Risk of severe restrictions in a drought %	The overall metric is the percentage of the customer population at risk of experiencing severe restrictions in a 1-in-200 year drought, on average, over 25 years.
Ft2	Risk of sewer flooding in a storm %	This measure will record the percentage of the region's population at risk from internal hydraulic sewer flooding from a 1 in 50-year storm, based on modelled predictions.
Ft3	Energy self-sufficiency	Electricity generated and gas injected to grid as a percentage of all electricity and gas consumed by the company, with gas being presented as a gigawatt hours (GWh) equivalent.
Ft4	Surface water removed from sewers	<p>Reduction in volume (m³) of surface water entering the surface or combined sewer network through sustainable urban drainage approaches.</p> <p>Solutions include sustainable urban drainage approaches to slow down and reduce the volume of water entering the network.</p>
Ft5	Asset resilience (reservoirs)	This performance commitment is defined as a resilience score for critical impounding reservoirs based on a defined resilience scorecard. Critical assets are those for which failure would have a major impact on service to customers or on the environment.
Ft6	Asset resilience (water network+ above ground)	This performance commitment is defined as a resilience score for critical water network plus above ground assets based on a defined resilience scorecard. Critical assets are those for which failure would have a major impact on service to customers or on the environment.
Ft7	Asset resilience (water network+ below ground)	This performance commitment is defined as a resilience score for critical water network plus below ground assets based on a defined resilience scorecard. Critical assets are those for which failure would have a major impact on service to customers or on the environment.
Ft8	Asset resilience (wastewater network+ above ground)	This performance commitment is defined as a resilience score for critical waste network plus above ground assets based on a defined resilience scorecard. Critical assets are those for which failure would have a major impact on service to customers or on the environment.
Ft9	Asset resilience (wastewater network+ below ground)	This performance commitment is defined as a resilience score for critical water network plus below ground assets based on a defined resilience scorecard. Critical assets are those for which failure would have a major impact on service to customers or on the environment.

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Performance Commitment		Definition
Ft10	Community Education	The total number of children and adults who have participated in the Company's educational programme each year.
Ft11	Visitors to recreational facilities	The total number of visitors to the Company's recreational sites each year. The Company's recreational sites are Llyn Brenig, Elan Valley, Llandegfedd and Llys y Fran. A new visitor centre is planned at the site of Lisvane and Llanishen reservoirs in North Cardiff. Any further recreational sites developed during the 2020-25 period will be included within this measure.
Bl1	Change in average household bill	The percentage increase in the average household bill from the bill in 2019/20. The Company has committed to keeping bill increases below inflation as measured by the CPIH (Consumer Price Index including owner occupiers' housing costs).
Bl2	Vulnerable customers on social tariffs	The number of residential customers on social tariffs as at 31 March each year. This includes both the HelpU social tariff scheme and the WaterSure scheme. Customers benefiting from Water Collect, Customer Assistance Fund and Water Direct customers are excluded from this measure unless they are also on a social tariff.
Bl3	Company level of bad debt	The Company level of bad debt is a measure of the total unpaid water and wastewater bills that are deemed uncollectable as a proportion of the total revenue billed in each reporting year.
Bl4	Unbilled properties	The number of household and non-household properties classified as void as a percentage of the total number of household and non-household properties served by the Company. Void properties are defined as properties, within the company's supply area, which are connected for either a water service only, a sewerage service only or both services but do not receive a charge. This measure includes properties where other companies bill on our behalf.
Bl5	Financial resilience	This performance commitment indicates the financial resilience of the company as reflected in the credit ratings for senior class bonds, given by the three main credit rating agencies: Standard & Poor's (S&P), Moody's and Fitch. A score of 'High' represents a strong investment grade credit rating from at least two of the three credit rating agencies. A strong investment grade rating is defined as: Moody's: A3 or better, S&P: A- or better, Fitch: A- or better.
Bl6	Delivery of our reservoir's enhancement programme	Cumulative number of schemes delivered in the 2020/25 period against the regulatory programme of work for enhancing the safety of our reservoir assets. Work at each site will comprise: <ul style="list-style-type: none"> Reduction in 'Estimating Annual Probability of Dam Failure' due to works completed; and/or Completion of Section 10 measures in the interest of safety. This will be assured by a third party All Reservoirs Panel Engineers.
Bl8	Delivery of our water network improvement programme	Cumulative number of schemes delivered to milestone 3 (completed programme of works) over the 2020 to 2025 period. This performance commitment captures the Company's obligations to meet the 17 notices served on it by the Drinking Water Inspectorate (DWI) in force as at 1 April 2020 to address concerns about discolouration of water.

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Performance Commitment		Definition
		The financial implications associated with underperformance this performance commitment will be assessed in 2025, which is the end of this five year reporting cycle.
Bl10	Delivery of our South Wales grid water supply resilience scheme	Cumulative proportion of total expenditure spent to deliver the South Wales Grid water supply resilience scheme over the 2020 to 2025 period. The financial implications associated with underperformance this performance commitment will be assessed in 2025, which is the end of this five year reporting cycle.
Co1	Reportable injuries	The number of individual injuries reported to the Health and Safety Executive under RIDDOR per annum.
Co2	Employee training and expertise	The percentage of the Company's employees that are evaluated as having the necessary skills, experience and knowledge to carry out their specific role safely.
Co3	Employee engagement	This performance commitment is designed to incentivise the company to maintain the employee engagement score derived from an annual survey of colleague sentiment.
VIS01	Delivery of our new visitor's centre	The performance commitment measures successful delivery of the project to construct a new visitor centre at the Llanishen/Lisvane reservoirs site. The financial implications associated with underperformance this performance commitment will be assessed in 2025, which is the end of this five year reporting cycle.
DCP01	Direct procurement for customers: Cwm Taf Water supply strategy scheme (Underperformance).	The performance commitment measures successful and timely delivery of key direct procurement for customer control points, the Outline Business Case submission, and the Full Business Case submission.
DCP02	Direct procurement for customers: Cwm Taf Water supply strategy scheme (Outperformance).	Where DCWW successfully completes an agreed procurement process and, following approval by Ofwat, awards the Cwm Taf Water supply strategy scheme to a competitively appointed provider such that the contract is signed and fully effective in accordance with its terms.

Appendix 2 – Common performance measures – Compliance Checklists

i. Leakage

	Component / Element	Component R/A/G	Element R/A/G	Reason for any non-compliant components	Confidence Grade
1	1. Coverage	Green			A1
1a	95% of all properties have continuous night flow monitoring through the year		Green		
2	2. Availability	Green			A1
2a	At least 90% of all properties within continuous night flow monitoring networks available for reporting night flow data through the year		Green		
3	3. Properties	Green			A2
3a	All properties mapped to defined zones or DMAs using geo-location or similar methods		Green		
3b	Consistency of property numbers contained within DMAs or zones with company billing system. Valid differences explained		Green		
3c	Properties that are defined as void excluded from night use allowances unless evidence for use or losses from illegal occupation is available		Green		
3d	Leakage allowance applied for properties not within DMAs or monitored zones consistent with other leakage estimates		Green		
3e	Property data updated at least annually		Green		
4	4. Night flow period and analysis	Green			A2
4a	Night flow data frequency at least every 15 minutes		Green		
4b	Leakage derived from a fixed period during the night of at least a one hour period and up to two hours		Green		
4c	If the fixed period is varied during the year for some or all DMAs or zones to address significant changes to night use patterns such as during Ramadan evidence for this is provided		Green		
4d	Leakage allowance applied for properties not within DMAs or monitored zones consistent with other leakage estimates		Green		
4e	Data infilling for a single DMA or zone does not use more than six months of historic data before moving to area average		Green		
4f	Data infilling where historic data is not available uses the area average in which the DMA is located		Green		
4g	When a DMA is restored to operability, the subsequent leakage data is used to retrospectively update the data infilling interpolating between pre- and post- data over at least one month		Green		

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4h	Where NHH properties are continuously monitored, the actual values of flow over the night flow period are used in place of estimates within the night flow analysis		Green		
4i	Weekly leakage estimates are used for annual reporting with no exclusions for summer months		Green		
4j	Negative leakage values are used in compiling values of annual average leakage		Green		
4k	The reasons for any prolonged periods of negative leakage are investigated and explained		Green		
5	5. Household night use	Green			B2
5a	The time period for HHNU is the same time period as used for night flow and NHHNU		Green		
5b	Own data or shared data with proximate companies is used for HHNU		Green		
5c	Plumbing losses are included and based on own data		Green		
5d	Evidence that survey is representative (based on demography, property type or other factors) of the company as a whole		Green		
5e	Sample size is sufficient to capture continuous and intermittent night use with reasonable confidence		Green		
5f	Continual monitoring and maintenance of IHMs (individual household monitors) and SAMs (small area monitors)		Green		
5g	HHNU is derived daily with regular, adjustment of values on a weekly or monthly frequency to reflect actual seasonal use. This may be done retrospectively		Green		
6	6. Non-household night use	Green			B2
6a	The time period for NHHNU is the same time period as used for night flow and HHNU		Green		
6b	Own data or shared data with proximate companies is used for NHHNU		Green		
6c	1999 UKWIR methodology with the appropriate time window as used for the night flow and the published outcome of further methodology development is applied		Green		
6d	Stratification of non-households to a number of groups and consumption bands is representative of the varying characteristics of commercial and industrial properties		Green		
6e	Sample size is sufficient to capture night use by stratification with reasonable confidence		Green		

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6f	Reliable and representative average billed volume (ABV) model based on data logging of the representative sample sufficient to capture demand variations with further seasonal logging where relevant. Continuously logged properties not part of the sample.		Green		
6g	ABV model linked to billing system or replacement database of billed volumes. Average billed volumes updated at least annually		Green		
6h	Continuous monitoring of selected non-households is carried out where average demand of an individual non-household has a material impact on the ability for a DMA or zone to provide valid and consistent data within operability limits		Green		
7	7. Hour to day conversion	Green			B2
7a	The hour-to-day factor is derived separately for each DMA or zone using pressure logging within each DMA or zone. The factors are updated at least annually or where there are any significant changes to pressure regimes		Green		
7b	As an alternative, hydraulic models reflecting latest network configuration and pressure changes, are used if they dis-aggregate in sufficient detail at sub-zone level		Green		
7c	Evidence based N1 value used. Expected range is 1.0 to 1.20		Green		
8	8. Annual distribution leakage	Green			A2
8a	Average weekly data is derived from valid daily values of leakage using data points which are representative of the week. Backfilling using the methods described in Section 5.4 – night flow analysis - is done when valid data is not available for three or more data points		Green		
8b	The annual value of leakage expressed as MI/d is derived from an average of the 52 week data		Green		
9	9. Trunk main losses	Green			B3
9a	Company-specific data is used to assess the value of trunk main leakage		Green		
9b	Proactive leakage monitoring approach applied where trunk main losses form a significant element of total leakage or the MLE water balance gap is greater than +/- 2%		Green		

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9c	If trunk main losses greater than 5% of total leakage estimates reviewed annually		Green		
10	10. Service reservoir losses	Green			B3
10a	Company-specific data is used to assess the value of service reservoir losses;		N/A		
10b	Reservoirs with known high leakage, structural deficiencies or at risk of water quality failures are investigated on an individual basis		N/A		
10c	Drop tests (12 hour duration depending on size) carried out every five or ten years. All valves checked for tight close; and losses through overflows investigated. Appropriate monitoring arrangements in place to control and minimise overflow events.		N/A		
11	11. Distribution input	Green			A2
11a	Distribution input to the system is metered with at least daily readings at all defined locations		Green		
11b	Meters are appropriate size for the flow to be measured and located at appropriate inputs to the network confirmed by record plans. Any treatment works take-off downstream of a meter are excluded from the DI calculations		Green		
11c	Data validity checks are carried out at least monthly		Green		
11d	Missing data is infilled using both pre- and post- data for the location over at least one month, extrapolated from pump hours or use of upstream or downstream meters		Green		
11e	The data transfer systems from meter output to central database are checked and validated on a risk-based frequency from one up to two years		Green		
11f	Flow checks are carried out on DI meters consistent with the principles of the document 'EA Abstraction Good Metering Guide' and in particular the frequency of flow checking defined in table 6.2 of the EA guide		Green		
12	12. Measured consumption	Green			A2
12a	Metered data is derived from own billing system or from CMOS for non-households		Green		
12b	Estimate of supply pipe losses is included for internally metered properties consistent with own current assumption of supply pipe losses		Green		
12c	Inclusion of any leakage allowance is included where a rebate has been applied to a customer's bill		Green		

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12d	Meter under-registration (MUR) is applied consistent with own estimates. Evidence of MUR available especially for MUR above 3%.		Green		
12e	Meter replacement consistent with own replacement programme		Green		
13	13. Unmeasured consumption	Green			B2
13a	Monitors follow principles set out in the UKWIR Report 'Best Practice for unmeasured per-capita consumption monitors 1999' and the more recent report 'Future Estimation of Unmeasured Household Consumption', UKWIR 2017		Green		
13b	Consumption is derived from own individual household monitor or small area surveys		Green		
13c	Evidence that survey is representative (based on demography, property type or other factors) of the company as a whole; valid data available from at least 80% of monitors as an annual average measure		Green		
13d	<p>For companies using SAMs – SAM (small area monitor) comprises a representative sample of customer characteristics. The sample size is sufficient to provide a statistically representative sample after allowing for outages. Where the proportion of metered properties in an area exceeds 50% of total properties then further data validity tests are applied.</p> <p>For companies using IHMs – IHM (individual household monitor) comprises representative sample of customer characteristics. The sample is at least 1000 properties.</p>		Green		
13e	Uncertainty allocated to unmeasured household consumption is estimated and justified		Green		
13f	There is continual monitoring and maintenance of IHMs and SAM monitors		Green		
13g	Meters are selected to provide sufficient granularity to detect low continuous flows indicative of plumbing losses or leakage short duration flow variations. The value of meter under registration is less than the company's average meter stock		Green		
13h	Estimate of plumbing losses is based on own data		Green		
13i	Where unmeasured non-household reported volume is less than 2% of total non-household demand, data from a per property consumption study is refreshed every five years		Green		
13j	Where unmeasured non-household reported volumes are greater than 2% of non-household demand, data from a property study is refreshed every two years		Green		
14	14. Company own water use	Green			B2

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14a	All sewage treatment sites and other sites and assets supplied downstream of the DI meters using greater than 10 m ³ /d (0.01 Ml/d) are metered		Amber	Some sites not metered (c250+) - but these will include some sites without water supplies and also less than 10m3d. AMP8 programme to address this	
14b	An estimate of total company own use is included in the water balance, based on a clear methodology and actual data		Green		
14c	Estimate of distribution operational use is evidence based and not greater than 0.6% of distribution input		Green		
15	15. Other water use	Green			B2
15a	Other use components are based on own data		Green		
15b	Estimate of water delivered unbilled (legally and illegally) is evidence based and not greater than 1.8% of distribution input		Green		
15c	Estimates are updated when there is a material increase or decrease to volumes		Green		
16	16. Water balance and MLE	Green			B2
16a	Fully measured components have a range from 2% to 4%		Green		
16b	Mainly measured with some estimated adjustments have a range from 2.5% to 5%		Green		
16c	Estimated using detailed and reliable methods have a range from 8% to 12%		Green		
16d	Broad estimates not fully detailed or reliable have a range from 20% to 50%		Green		
16e	Water balance discrepancy: <2% = Green >2% and <3% = Amber >3% = Red		Green		

ii. Supply Interruptions

	Component	Compliant (R/A/G)	Reason for any non-compliant components	Confidence Grade
1	Property Counts	Green		B2
2	Start Time	Green		B2
a	Evidence to support start time	Green		B2
b	Treatment of 3m pressure definition	Green		A2
c	Treatment of blocks of flats	Amber	This component has been particularly challenging to implement although we have progressed in accommodating this request. Industry benchmarking was carried out to understand how other companies (notably those shown a 'G' compliance status) were delivering this component. Subsequently, we've adopted a similar principle to other companies in implementing an additional geographical topography product provided by ordnance survey called 'OS MasterMap Building Height Attribute'. This essentially provides the height of a property enabling formulation in the determination of the number of stories in a building. The implementation has been lengthy due to the data provision from OS being technically dissonant with our internal systems although we have been able to find a solution. As of April 2023, a proof-of-concept sample was provided for review and devise a reporting process to accommodate this component. Although, due to unprecedented volumes (a residual impact following the freeze/ thaw in December 2022) this action has been further delayed with the aim to revise focus post year end submission. As per previous comments, the determination of flats with private pumps still remains a factor yet, we'll continue to take precautionary principle until a full resolution can be found.	B3
3	Stop Time	Green		B2
a	Evidence to support stop time	Green		B2
b	Treatment of 3m pressure definition	Green		A2
c	Treatment of blocks of flats	Amber	As per 2c.	B3
4	Short Term Restoration of Supply	Green		A2
5	Exclusions	Green		A2
6	Calculation of Performance	Green		A2
7	Application of Precautionary Principle	Green		A2
8	Records	Green		A2
9	Properties affected >1 interruption in year	Green		B2

iii. Mains Repairs

	Component	Compliant (R/A/G)	Reason for any non-compliant components	Confidence Grade
1	Mains burst repair work	Green		A2
2	Mains Length	Green		A2
3	Records	Green		A2
4	Methodology Statement	Green		A2

iv. Unplanned Outages

	Component	Compliant (R/A/G)	Reason for any non-compliant components	Confidence Grade
1	Peak Week Production Capacity (PWPC)			A2
1a	PWPC Annual review			A2
1b	PWPC by site			A2
1c	PWPC by water resource zone PWPC			A2
2	Asset failure / unplanned outage			B3
2a	Source Data			B3
3	Planned Outages			A3
3a	Source data – programme of works			A3
4	Duration			B3
4a	Start time			B3
4b	End time			B3
4c	Rounding			B2
5	Reduction in capacity			A3
5a	Reduced capacity			A3
5b	Total outage			A3
6	Exclusions			A2
6a	Outside normal water quality band			A2
6b	Evidence of water quality events			A2

Overall, we envisage reporting performance commitment wt5, at a confidence grade of B2 for 2022/23.

v. Per Capita Consumption

	Component / Element	Component R/A/G	Element R/A/G	Reason for any non-compliant components	Confidence Grade
1	1. Household population estimates	Green			A2
1a	Household population derived using WRMP methodology		Green		
1b	Evidence for adjustments for clandestine population if any		Green		
1c	Household population updated annually		Green		
1d	Exclusion of non-household population in accordance with WRMP methods		Green		
2	2. Household property estimates	Green			A1
2a	Definition of household / non-household consistent with eligibility under market separation		Green		
2b	Evidence of void properties updated annually		Green		
2c	Property figures annually updated		Green		
3	3. Measured household consumption	Green			B2
3a	Metered data is derived from own billing system		Green		
3b	If leakage allowances are applied the process and evidence for this is clearly set out		Green		
3c	Average SPL (supply pipe leakage) deductions for externally metered households using company own data updated annually		Green		
3d	Company own estimate of MUR (meter under-registration) for revenue meters which is updated annually		Green		
3e	Meter replacement consistent with own replacement programme		Green		
4	4. Unmeasured household consumption	Green			B2
4a	Monitors follow principles set out in the UKWIR report 'Best Practice for unmeasured per-capita consumption monitors 1999' and the more recent report 'Future Estimation of Unmeasured Household Consumption', UKWIR 2017		Green		
4b	Consumption is derived from own IHM (individual household monitor) or SAM (small area monitor) or evidence to support other method appropriate for high meter penetration companies		Green		

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4c	Evidence that survey is representative (based on demography, property type or other factors) of the company as a whole; Valid data available from at least 80% of monitors as an annual average measure		Green		
4d	For companies using SAMs - SAM (small area monitor) comprises a representative sample of customer' characteristics. The sample size is sufficient to provide a statistically representative sample after allowing for outages. Where the proportion of metered properties in an area exceeds 50% of total properties then further data validity tests are applied For companies using IHMs – IHM (individual household monitor) comprises representative sample of customer characteristics. The sample is at least 1000 properties.		Green		
4e	Uncertainty allocated to unmeasured household consumption is estimated and justified		Green		
4f	There is continual monitoring and maintenance of IHM and SAM monitors		Green		
4g	Meters are selected to provide sufficient granularity to detect low continuous flows indicative of plumbing losses or leakage short duration flow variations. The value of meter under registration is less than the company's average meter stock		Green		
4h	Estimate of plumbing losses is based on own data		Green		
4i	Where unmeasured non-household reported volume is less than 2% of total non-household demand, data from a per property consumption study is refreshed every five years		Green		
4j	Where unmeasured non-household reported volumes are greater than 2% of non-household demand, data from a property study is refreshed every two years		Green		
4k	Company own estimate of MUR (meter under-registration) for monitor meters which is updated annually		Green		
4l	Meter replacement consistent with own replacement programme		Green		

vi. Sewer Collapses

	Component	Compliant (R/A/G)	Reason for any non-compliant components	Confidence Grade
1	Number of Collapses	Green		B2
2	Sewer Length	Green		B2
a	Length excluding transferred sewers	Green		B2
b	Length of sewers transferred under the Private Sewer Regulations 2011	Green		B2

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vii. Internal and External Sewer Flooding

	Component	Compliant (R/A/G)	Reason for any non-compliant components	Confidence Grade
1	Assets causing flooding	Green		B2
2	Severe weather	Green		N/A
a	Individual rainfall events > 1 in 20 years	Green		N/A
b	Multiple rainfall events	Green		N/A
c	Surface water run-off not originated from public sewer	Green		B2
d	River levels > 1 in 100 year return period	Green		B2

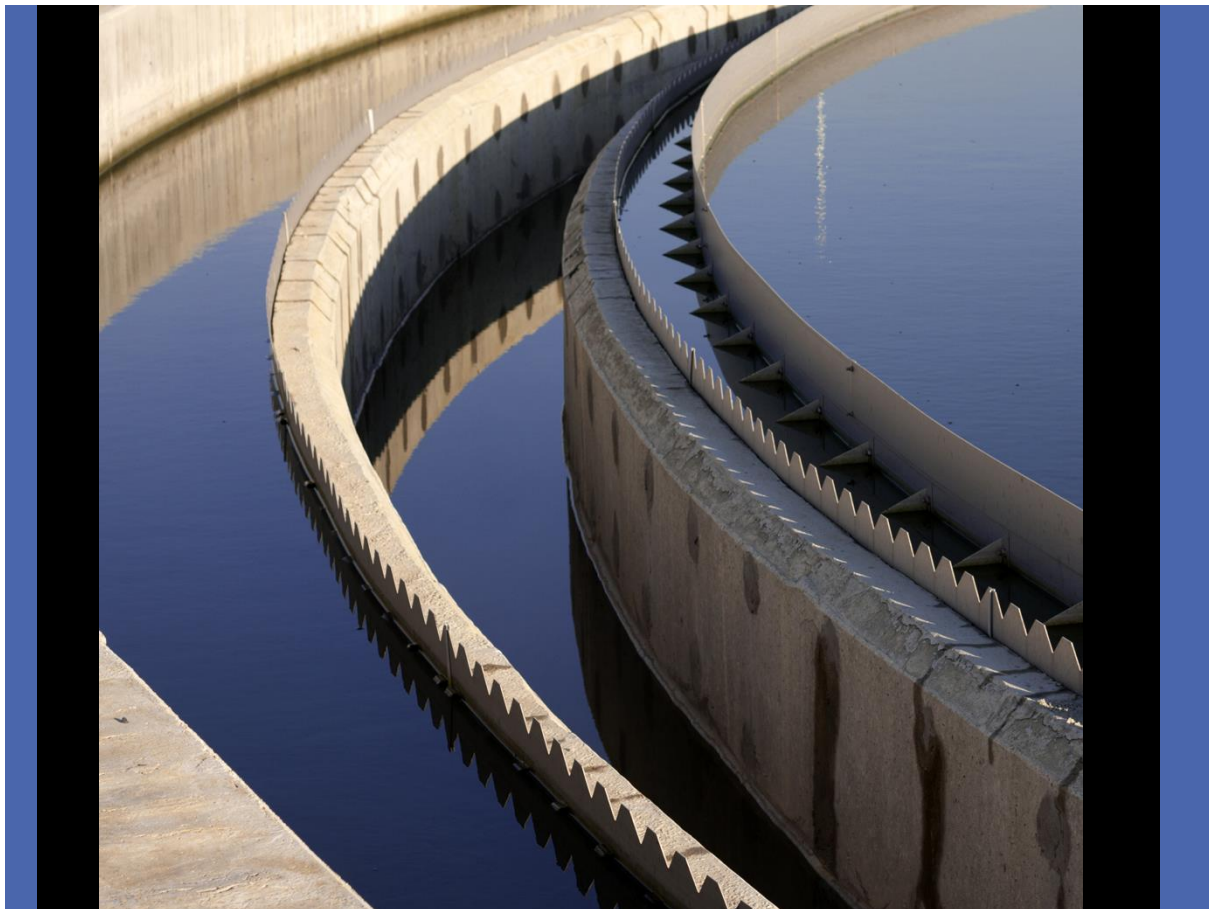
Appendix 3 - Reporter's Letter of Assurance

APR23 Part 3 Assurance Letter

Revision no: 0.3

Dŵr Cymru Welsh Water

Non-financial Assurance Services Framework
30 June 2023



APR23 Part 3 Assurance Letter

Client name: Dŵr Cymru Welsh Water
Project name: Non-financial Assurance Services Framework
Client reference: **Project no:** B2271302
Document no: **Project manager:** Jose Colino
Revision no: 0.3 **Prepared by:** James Luger
Date: 30 June 2023 **File name:** APR23 Part 3 Assurance Letter
Doc status: Final

Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
0.1	08/06/2023	Draft for client comment	JL	AKM	AKM	
0.2	16/06/2023	Final draft for client comment	JL	AKM	AKM	
0.3	30/06/2023	Final issue	JL	AKM	AKM	JC

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30 June 2023

Attn: The Board, Dŵr Cymru Welsh Water

Project name: Non-financial Assurance Services Framework
Project no:

Subject: Part 3 Assurance

Overview

This letter provides an overview of our assurance activity relevant to your submission for Part 3 of the Annual Performance Report (APR) for 2022/23.

We have provided separate assurance letters for Parts 4 to 11 of the APR, for your Risk and Compliance Statement and for the Bioresources Market Information Return.

Scope of our assurance

You asked us to undertake a risk-based review to check the robustness and accuracy of the data you intend to submit for Part 3 of the APR, including the calculation of ODI values and the in-period ODI determination model. Our assurance of your data is designed to support your own first and second line assurance activity. The data audits build on the Method Statement process audits we undertook during the year for some of your performance commitments including:

- NRW/EA Data template
- Sv2 D-Mex
- Ft1 Risk of severe restrictions in a drought
- Rt1 Internal sewer flooding
- Wt5 Unplanned outage
- Wt6 Tap water quality event risk index
- Wt3 Acceptability of drinking water quality
- Wt4 Mains repair
- Wt2 Water supply interruptions (postponed due to freeze-thaw event)

You did not ask us to review the following performance commitments;

- BL3 Company level of bad debt;
- BL5 Financial resilience.

Our assurance approach

All data reviews were held in May and June 2023 and have taken place remotely using Microsoft Teams. When reviewing your performance figures, we have taken a risk-based approach (via sampling) to the completeness, reliability and accuracy of the source data, the robustness of the reported performance figure and the appropriateness of the confidence grade the team had assigned. Where available we also checked consistency of your teams' internal commentaries with the data we reviewed and ensured that they did not contain any obviously misleading or false statements.

After each data audit we provided you with detailed feedback that explained our assessment of the risk associated with the reported performance figure and listed any actions.

APR23 Part 3 Assurance Letter

In addition to the reviews of the performance data we also held separate meetings with your teams in early June to review the calculations of the ODI values and the in-period ODI determination model.

Reporting for the following performance commitments is dependent on data from third parties (DWI, NRW and a designated supplier) and this was not finalised in time for our audit¹. We assured the data that you had available at the time and confirmed that the approach taken to calculate performance was reasonable.

- 3A.1 Wt1 Water Quality Compliance (CRI);
- 3B.2 En3 Pollution Incidents
- 3D.1,3 Sv2 D-MeX.
- 3E.6 Wt6 Tap water quality event risk index
- En1/2 Treatment Works Compliance, and
- En6 Km of river improved

We note that across the items we reviewed, where we identified any issues we considered may have a material impact on the APR data, you either requested we complete follow up audits or asked your teams to respond to the issues via email. In such cases, we focused on whether we considered your teams had addressed the issues and sense checked the impact. In some cases, we re-checked the data to ensure material issues had been addressed and resolved.

Findings

During the course of our audits we identified the following material issues:

Ref	Material Issue	Resolution
3E 24	Employee training and expertise The initial audit (09/05/23) identified that the current method to calculate the reported value was not consistent with the Ofwat definition as stated in the PR19 Financial Determination.	Resolved – Team recalculated the reported value using the Ofwat formula. Final figures and commentary checked and agreed at second audit. Performance figures for APR21 and APR22 will be restated
Ft4	Surface water removed from sewers (m3) One scheme has been delivered in the year. A redeveloped site, Home Bargains, has been disconnected from the combined sewers and is now connected to the company's surface water sewer via drains on the site. Since the performance measure is based on water removed from the sewer network (which includes removal of water from the combined sewer network) via sustainable urban drainage schemes it is not clear the scheme qualifies for the measure since it is not a SuDs solution. We conclude that there is a risk that Ofwat might challenge the volume reported under this scheme.	Resolved –The team provided post-audit evidence of the scheme being compliant with mandatory Welsh Government standards for sustainable drainage and approval for the scheme by the SuDS Approving Body (Denbighshire County Council). This evidence was verbally shared with Jacobs on 13 th June and hard copy subsequently provided. On this basis the scheme can be considered as qualifying under this PC.

We identified no material issues with the remaining data that we reviewed for Part 3 which therefore presents a low or low-to-medium level of reporting risk.

¹ **UPDATE 29 June 2023:** Post-audit confirmation of performance was received from NRW for En1/2 on 27 June 2023 and En6 on 29 June 2023. This has resulted in minor changes (non-material) to reported values for En1/2 and corresponding updates have been made to our assurance feedback and to DCWW's APR tables and commentary. En6 sign-off from NRW saw no changes to the reported number.

We note that you have restated the baselines and performance data for En4 (leakage) and En5 (PCC) this year to address compliance issues identified during last year's assurance. The performance data for APR23 we assured is in line with the revised approach adopted for restatement and we found no material issues. We confirm that we consider your approach to be compliant with the reporting guidance.

Assurance Statement

Overall, for the data we covered, other than the issues identified above, we consider:

- all individuals within the approval process have signed-off the data;
- data is competently sourced, processed and fit for purpose;
- any rewards/penalties are calculated in line with FD requirements; and
- your teams' internal commentaries were consistent with the data we saw at the time of reviewing them and did not contain any obviously false or misleading statements in relation to that data.

Yours sincerely,



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