

Cost Wastewater PR24 data tables commentary

PR24 Draft Determination Representations – August 2024



Costs (wholesale) Wastewater PR24 Data Table Commentary

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Overview of changes to costs of wholesale wastewater tables

We have updated our data tables to reflect our Draft Determination Representations in accordance with Ofwat requirements, including updating 2023-24 forecasts with actuals for both APR aligned and non-APR aligned data.

We have provided commentary on material changes made to the data in the tables. Please refer to our original data table commentary (ANH07 to ANH18) if more information is required.

We have made changes to the following Cost of Wholesale Wastewater tables since submitting the version of our data tables that our Draft Determination is based on (ANH03 Data tables - March 2024 update). Please see the Change Log in ANH_DD_004 - v7 Main data tables for a more detailed summary and the individual tables themselves for changes in red font:

- CWW1
- CWW1a
- CWW2
- CWW3
- CWW4
- CWW5
- CWW6
- CWW7a
- CWW7b
- CWW7c
- CWW8
- CWW9
- CWW10
- CWW11
- CWW12
- CWW13
- CWW14
- CWW15
- CWW16
- CWW17
- CWW18
- CWW19
- CWW20
- CWW22

CWW1 Totex analysis - wastewater network+ and bioresources (post frontier shift and real price effects)

Base costs

Our costs reported in line 1, Base Operating expenditure, and line 8, Base Capital expenditure, have been aligned with the DD allowances with the exception of the items included in our representations. Please refer to the 'Driving cost efficiency - base' chapter for more detail (ANH_DD_001). These items have been allocated to the Price Controls and split between Base Operating and Capital expenditure as follows:

Table 1 DD representation cost allocation Post RPE and Frontier Shift (£m)

	Wastewater Network+		Bioresources	
	Opex	Capex	Opex	Capex
Energy	96		(6)	
Permit fees	38			
DWMP Alignment CAC				
Enhancement rates	19			
Modelling update to include 2024 data	(2)	(1)	(28)	(6)
Totals	151	(1)	(34)	(6)

In addition to the above we have also included costs for the Drainage and Wastewater Management Plan Alignment CAC. This is not shown within the above table as this is treated as part of 'botex plus' and therefore is included within CWW3.

The enhancement rates line above is due to the increase in asset stock not being included within the DD business rate allowance, these costs represent the increase in rates as a result of our AMP8 enhancement program. As a result of the response

to query OFW-IBQ-ANH-046, it was confirmed that the costs should be included within CWW10 and line 7 of CWW2. As such, we have increased the DD allowance for this item.

As a result of the above, the opex/capex split differs from that published by Ofwat in the DD. In Chapter 14 Risk and Return (ANH_DD_001) we discuss the impact of opex and capex splits on the Pay as you go rates. As Ofwat makes any final changes to our Totex submission it is thus crucial that these are also reflected in the final PAYG rates, such that they continue to reflect the natural rate for each price control.

Developer Services activities

Developer Services activities for Wastewater expenditure and revenue includes infrastructure charges, site-specific services and diversions.

The data populated correlates with data presented in tables DS1e for wastewater revenue, DS3 for wastewater expenditure and table CWW11 wastewater diversions.

Years 3 & 4 (2022-23 & 2023-24) for AMP7 has been populated in line with our APR submission. All future years have been reported based on forecast shown in table DS4. All data has been populated to report in 'Network+ sewerage collection' only. Similarly, from AMP8, we have only reported under 'Foul' sewerage as we do not consider we will have standalone 'Surface Water' or 'Highway Drainage' schemes to be reported.

The data populated here is inclusive of frontier shift and real price effect.

Enhancement expenditure

Please refer to the commentary within CWW3 for details of enhancement expenditure.

CWW2 Base expenditure analysis - wastewater network + and bioresources

Please refer to the base operating expenditure commentary within CWW1 for commentary in relation to CWW2.

CWW3 Enhancement expenditure - wastewater network+ and bioresources

We have provided detailed business cases to support our planned enhancement expenditure. Each line of expenditure in the table is cross referenced to an enhancement case included in our plan as an appendix. We have developed a comprehensive evidence base covering all our enhancement expenditure and aligned the structure of our enhancement cases to the evidential requirements set out by Ofwat in the Final Methodology Appendix 9, Annex 1.

Other enhancement (Freeform lines - by exception) Lines 3.130 - 3.139

Table 2 Additional lines description

Line reference		
Additional line 1	AMP7 use	This line was used for AMP7 costs, please refer to table 'AMP7 additional lines reconciliation' table above for breakdown of costs associated with this line.
Additional line 2	SROs	Discrete investment that is outside of price control and has been requested by Ofwat to be put into this line.
Additional line 3	Bioresources Resilience	Discrete investment linked to Bioresources which were previously covered under WINEP now requiring separate investment lines
Additional line 4	Bioresources - Non WINEP cake pads	Discrete investment linked to Bioresources which were previously covered under WINEP now requiring separate investment lines
Additional line 5	Bioresources - IED and Reg changes	Discrete investment linked to Bioresources which were previously covered under WINEP now requiring separate investment lines

CWW4 Wastewater network+ - Functional expenditure

There has been no change in the methodology used in our previous submission.
Variances in cost are a result of the overall change in our opex figures within CWW1.

CWW5 Wastewater network+ - Large sewage treatment works

Sewage treatment works - Functional expenditure Lines 5.11 - 5.16

There has been no change in the methodology used in our previous submission.
Variances in cost are a result of the overall change in our opex figures within CWW1.

CWW6 Wastewater network+ - Sewer and volume data

Wastewater network

The data tables for lines CWW6 6.14/7C.14 and 6.15/7C.15 have now been updated to reflect the Y4 APR actuals, as well as the re-forecast for Y5. The Y5 forecast is now inclusive of delays to Y4 schemes (owing to planning issues) and the additional projected outputs from investment as a result of the pollution overdrive funding provided by the shareholders for FY 2024-2025. Below, is a summary table showing the approximate lengths that have now been added to the original Y5 forecast (rounded as per the guidelines)

Table 3

Y4 delayed into Y5	Sewer	1km
Y4 delayed into Y5	Rising main	2km
Pollution overdrive	Sewer	9km
Pollution overdrive	Rising main	23km

As outlined in the previous PR24 commentary, it is important to note that the pollution overdrive figures are also based on our company's systems/databases designed for investment promotion and are not reflective of actuals/final delivery/updated design, making them low confidence at this stage (i.e. figures are very likely to change; Y5 APR data will reflect actual delivered values).

The data for FY 2025-2030 has remained unchanged for both lines.

CWW7b Wastewater network+ - Sewage treatment works data UV permits

Lines CWW7b.4 to CWW7b.6 Average number of days that UV permits applies per year

The revised figures provided have been changed as a result of our updated microbiological treatment representation in ANH020 Part 4 Enabling sustainable economic and housing growth. The figures now include 4 additional schemes compared to our October 2023 Business Plan submission (Sudbury, Maningtree, Oakham and Haslingfield. Easton has a microbiological submission in our business plan but the solution is pump away and thus does not factor into these UV outputs/permits).

The current UV target doses are based on an initial analysis done by Stantec using provisional dilution factor assessments provided by Intertek. These target doses may change at a later date, depending on the UV validated dose approach/methodology results and EA approval for permit conditions (in line with the new EA validated dose guidance)."

CWW8 Wastewater network+ - Energy consumption and other data

Other Lines CWW8.1 - 8.6

The values in line CWW8.5 (Number of monitors for flow monitoring at STWs) comprise the total number of individual flow monitors installed or forecast to be installed within the boundaries of STWs under WINEP drivers UMON3 and UMON4 for each reporting year. These values have been aligned with those in table CWW20.

Energy consumption Lines 8.7 - 8.9

There has been no change to the methodology used to calculate the forecast of energy consumption for Sewage Collection and Sewage Treatment, rather the lines have been advanced by one year with updated information.

The energy consumption figures in lines CWW8.7, CWW8.8 and CWW8.9 have been updated for the following:-

- The forecast for 2023/24 has been updated with the final APR 2023/24 figures;
- The updated forecast for 2024/25 is now based upon our budgeted forecast for that year for electricity and gas, including forecasts of 'behind the meter' renewable electricity from solar arrays and wind turbines;
- The revised phasing of capital investment schemes in the updated Plan; and
- Updated population forecasts which we have used to adjust consumption forecasts.

Forecasts of on-site fuel consumption and transport utilise the actual figures used in APR 2023/24. The allocation to different business units has been determined by the split of electricity in our 2024/25 budget and this allocation has remained constant in the forecasts through to the end of AMP8.

There has been no change to the allocation of optimisation efficiencies.

CWW10 Wholesale wastewater local authority rates

Figures have been updated to reflect the Ofwat DD publication, where costs were calculated based on the rateable values set at the 2023 revaluation and the 2023-24 multiplier set by central government.

Ofwat have not included increases due to asset stock in our draft determinations business rates allowance, however it was confirmed that companies should include all business rates costs in tables CW10 and CWW10, as well as line 7 of tables CW2 and CWW2. As such, we have included the increase in rates as a result of our capital enhancement program in AMP8.

CWW11 Third party costs by business unit for the wholesale wastewater service

Third party costs ~ operating expenditure Lines 11.1 - 11.13

This data is pre-frontier shift and real price effect.

Third party costs ~ capital expenditure Lines 11.14 - 11.26

For AMP8 we have used two different models to understand this; linear projection, based on prior AMP diversion activity, and AMP7 base level activity model. The data in this table is pre-frontier shift and real price effect.

CWW12 Transitional expenditure - wastewater network+ and bioresources

EA/NRW environmental programme wastewater (WINEP/NEP) Lines 12.1 - 12.130

In our October Business Plan submission we have proposed £68.8 million of expenditure across 2023/24 and 2024/25 broken down in the table below.

Table 4

Transition programme	Water (£m)	Water Recycling (£m)
AID CW(W) 17	12.14	18.98
Non-AID CW(W)12	15.48	22.20
Total	27.62	41.18

In our DD representation this has changed slightly to reflect actuals for 2023/24 as well as an updated forecast for 2024/25. We have updated the and provided an overview of the new cost breakdown in the table below. Our current actuals and forecast see us spending £81.9 million in 2023/24 and 2024/25.

In addition to forecasts we have also reviewed our list of schemes that we have submitted previously and have exchanged some schemes. All of our schemes align with the PR24 final methodology for transition spending.

Table 5

Transition programme	Water (£m)	Water Recycling (£m)
AID CW(W) 17	23.46	22.03
Non-AID CW(W)12	9.07	27.34
Total	32.53	49.37

Data Tables changes resulting from the alterations we have made to the schemes in our transition programme.

Data Table lines where new investments were included:

- CWW12.1 - Event duration monitoring at intermittent discharges (WINEP/NEP) wastewater capex
- CWW12.10 - MCERTs monitoring at emergency sewage pumping station overflows (WINEP/NEP) wastewater capex
- CWW12.22 - Storage schemes to reduce spill frequency at CSOs etc - grey solution; (WINEP/NEP) wastewater capex
- CWW12.52 - Chemicals and emerging contaminants monitoring, investigations, options appraisals; (WINEP/NEP) wastewater capex
- CWW12.64 - Treatment for phosphorus removal (chemical) (WINEP/NEP) wastewater capex
- CWW12.73 - Treatment for tightening of sanitary parameters (WINEP/NEP) wastewater capex
- CWW12.106 - Investigations, other (WINEP/NEP) - survey, monitoring or simple modelling wastewater capex
- CWW12.109 - Investigations; (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water capex

Data Table lines where investments were removed

- CWW12.61 - Nitrogen technically achievable limit monitoring, investigation or options appraisal; (WINEP/NEP) wastewater capex
- CWW12.109 - Investigations; (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water capex

CWW13 Best value analysis (enhancement expenditure) - wastewater network+ and bioresources

There has been no change in the methodology used from our previous submission.
Variances in cost are a result of the overall change in our DD Representations.

CWW14 Best value analysis of alternative option (enhancement expenditure) - wastewater network+ and bioresources

We used Copperleaf, our investment management system, to report on the leastcost alternatives to populate the CWW14 table, following the Ofwat guidance.

Out of the 3,570 investments in our PR24 plan (Water and Waste), there are 441 that had an alternative that was least cost but not the preferred option. This is a reduction from 479 investments in the same position in our October Business Plan.

Our approach to determining best value option to put forward is described in "Our approach to Best Value Planning and Cost Benefit appraisal" (page 35 onwards) in ANH10 Cost Wastewater data table commentary.

We have considered multiple alternatives throughout the optioneering process and used the best data that is available to us. Please see our Enhancement Strategies for information on our proposed investments.

- ANH_DD_018 Resilient to flood PR24 DD Representation enhancement strategy
- ANH_DD_019 Ecological quality PR24 DD Representation enhancement strategy
- ANH_DD_020 Carbon neutral PR24 DD Representation enhancement strategy
- ANH_DD_021 Sustainable growth PR24 DD Representation enhancement strategy

CWW15 and CWW16 Best value analysis benefits

Please refer to our enhancement case documents ANH_DD18 to ANH_DD_022 for details of the enhancement benefits in these tables.

The same methodology was used as described in our October Business Plan (ANH10). There are significant changes from the previous set of tables as these now reflect our DD Representations.

The value-based decision making used to select options in our plan was based on our own updated PR24 value framework in combination with the EA's outcome measures, rather than Ofwat's. Therefore in some instances the valuations may differ from the Ofwat valuations used in tables CWW15 and CWW16, resulting in some areas of the least cost plan appearing to offer better value than their least cost alternatives in these tables.

Some least cost alternatives have shorter implementation periods than their best value alternatives resulting in earlier delivery of benefits than their best value counterparts. For this reason in some instances a greater level of benefit may be seen in the period covered by the tables.

CWW17 Accelerated programme expenditure - wastewater network+ and bioresources

EA/NRW environmental programme wastewater (WINEP/NEP) Lines 17.1 - 17.130

As explained in the table commentary for CWW12, we have included transition expenditure in accordance with the published guidelines in the PR24 Final Methodology.

The Accelerated Infrastructure Deliver (AID) programme has been run as a separate process to achieve early benefit for customers and provide confidence of Ofwat's support for the early start for this expenditure. Ofwat's Final Decision for AID was published at the end of June: Accelerated Infrastructure Delivery Project - Ofwat

Since October 2023 we have worked closely with our internal delivery teams and partners in the supply chain to advance these schemes.

The changes to the AID water costs in our plan are due to actual costs for 2023/24 and renewed forecasts for 2024/25. Additionally, we have pushed 4 schemes back for start in 25/26. These are highlighted in the table below.

The impact of these changes can be seen in the table commentary for CWW12.

Table 6

WINEP Scheme	Data Table lines where investments were removed
Ulceby WRC EnvActIMP4	CWW17.19 - Increase storm system attenuation / treatment on a STW - green solution; (WINEP/NEP) wastewater capex
Grimsby Riby Street EnvIMP4	CWW17.22 - Storage schemes to reduce spill frequency at CSOs etc - grey solution; (WINEP/NEP) wastewater capex
Ipswich Cliff Quay (SE Sewr) WRC EnvIMP4	CWW17.34 - Storm overflow - sustainable drainage / attenuation in the network; (WINEP/NEP) wastewater capex
Kings Lynn-Gaywood CSO - EnvIMP4 and SW-ND	CWW17.43 - Storm overflow - sewer flow management and control; (WINEP/NEP) wastewater capex

CWW18 Cost adjustment claims - base expenditure: wastewater network+ and bioresources

We no longer believe it will be possible to tolerate the risk in relation to our Drainage and Wastewater Management Plan because we have new evidence that suggests property growth and climate change will impact our networks in AMP8. Therefore in response to our improved understanding of risk we have accelerated into AMP8 investment on network reinforcement and sewer flooding that was previously deferred through the LTDS into AMP9. In these areas our plan now matches that in our DWMP in keeping with the Ofwat PR24 methodology. We propose one Water Recycling Cost Adjustment Claim (CAC) for DWMP Alignment related costs. The details of this CAC can be found in ANH_DD_012 while its key features are set out in our Base cost efficiency chapter of our main Representations ANH_DD_001.

CWW19 Wastewater network+ - WINEP phosphorus removal scheme costs and cost drivers

As we have progressed through delivering our PR19 obligations we have been learning and analysing additional data on the design scope and equipment requirements to deliver our PR24 obligations. Across many schemes planned in AMP8 our new information on scope, solutions and costs associated with projects indicated that we would see a material impact on the current scope submitted in the October business plan. We highlighted this in a letter in May 2024 outlining several areas where we estimate that the additional scope required would result in higher costs to deliver the programme in PR24.

These cost updates have now been reflected in in the latest CWW19 data table. Further changes to the WINEP programme following the October submission have resulted in several schemes no longer required for deliver in AMP8. These schemes have been re-profiled for a later delivery date and as part of the reporting requirements are no longer included within the AMP8 submission.

Business Rate and Sludge Transport Costs

We highlighted in our October submission that we had included business rates and bioresources within the our Opex rates. We have now removed these rates in the latest submission for all of the schemes listed in the table.

CWW20 Wastewater network+ - Sewage treatment works population, capacity and network data

Sewage treatment data

STW Flow monitors and schemes Line CWW20.32 - CWW20.35

Flow monitor deliverables have been updated for 2023/24 and 2024/25. These do not align with APR reporting, which specifically asks for UMON4 only, whereas CWW20 implies all monitors delivered at the water recycling centre (those recording overflows, and those recording FFT). For that reason, data for both UMON3 and UMON4 WINEP obligations is presented.

Network / Storm overflow data

Number of continuous water quality monitor installations Line CWW20.49

Following the completion of a programme prioritisation exercise with the Environment Agency, the number of monitor outputs has been confirmed in order to achieve the 523 obligations in the WINEP. This output has been reconciled against the requested enhancement costs, as is reflected within the draft determination representations.

Other data

Number of WINEP/NEP investigations Lines CWW20.62 - CWW20.63

Following the published version of the WINEP in July 2024, water recycling investigations have been re-categorised in CWW20. These numbers include all chemical investigation outputs, as well as all investigations referenced within the investigations enhancement case. Water investigations are not included within CWW20, being instead captured in RES8.

The number of investigations categorised as “complex” has increased in line with information provided in the enhancement cases.

CWW22 Wastewater - net zero enhancement schemes

Please see ANH_DD_020 Carbon neutral PR24 DD Representation enhancement strategy for information on our approach to net zero for DD Representations.



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